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|--------------------|--------------|
| Total Project Cost | \$ 2,030,983 |
| Approval Level: | Full FLMC |

SCHEMATIC DESIGN APPROVAL REQUEST

TO: Pat Gamble
President

THROUGH: Kit Duke *11.12.13*
AVP Facilities and Land Management

THROUGH: Brian Rogers
Chancellor *[Signature]*

THROUGH: Pat Pitney *Pat Pitney*
Vice Chancellor

THROUGH: Scott Bell, P.E. *SWB 10/25/13*
Associate Vice Chancellor

THROUGH: Gary Johnston *[Signature] 10/25/13*
Director

FROM: Mary Pagel, P.E. *MP 10/25/13*
Project Manager

DATE: October 25, 2013

SUBJECT: Project Type: Renewal and Replacement
Project Name: Road Improvements FMATS Street Light Conversion Stage III
Project No.: 2013016 RISLC

cc: RISLC (101)



UNIVERSITY
of ALASKA
Many Traditions One Alaska

Non- Academic Project Program Resource Planning Status Report

UAF Street Light Conversion Project – Schematic Design Approval

This project is a minor Deferred Maintenance and Renewal of existing facilities. This project is a joint venture with the Alaska Department of Transportation, the Alaska Division Office of the Federal Highway Administration and the UAF campus with the goal of reducing energy consumption by street lights on the UAF campus.

Milestone #0

Mission Area Analysis: (Goal approved in UAF CMP)
Statement of Need:

Date: N/A
Date: N/A

Milestone #1

SAC Review:

Date: N/A

Milestone #2

Preliminary Administrative Approval:

Date: 10/08/12

Milestone #3

Statement of Requirements: (Developed in conjunction with FPA)

Date: 09/26/13

Milestone#4

Business and Financing Plan:

Date: N/A

Operating Budget Request

Date: N/A

Capital Budget Request:

Date: N/A

(This project is funded through Federal Grants with 10% UAF Operating Funds match.)

Milestone #5

Formal Project Approval:

Date: 09/26/13

Schematic Design Approval:

Date: 12/12/13

Milestone #6

Construction Started:

Date: _____

Construction Completed:

Date: _____

Beneficial Occupancy:

Date: _____

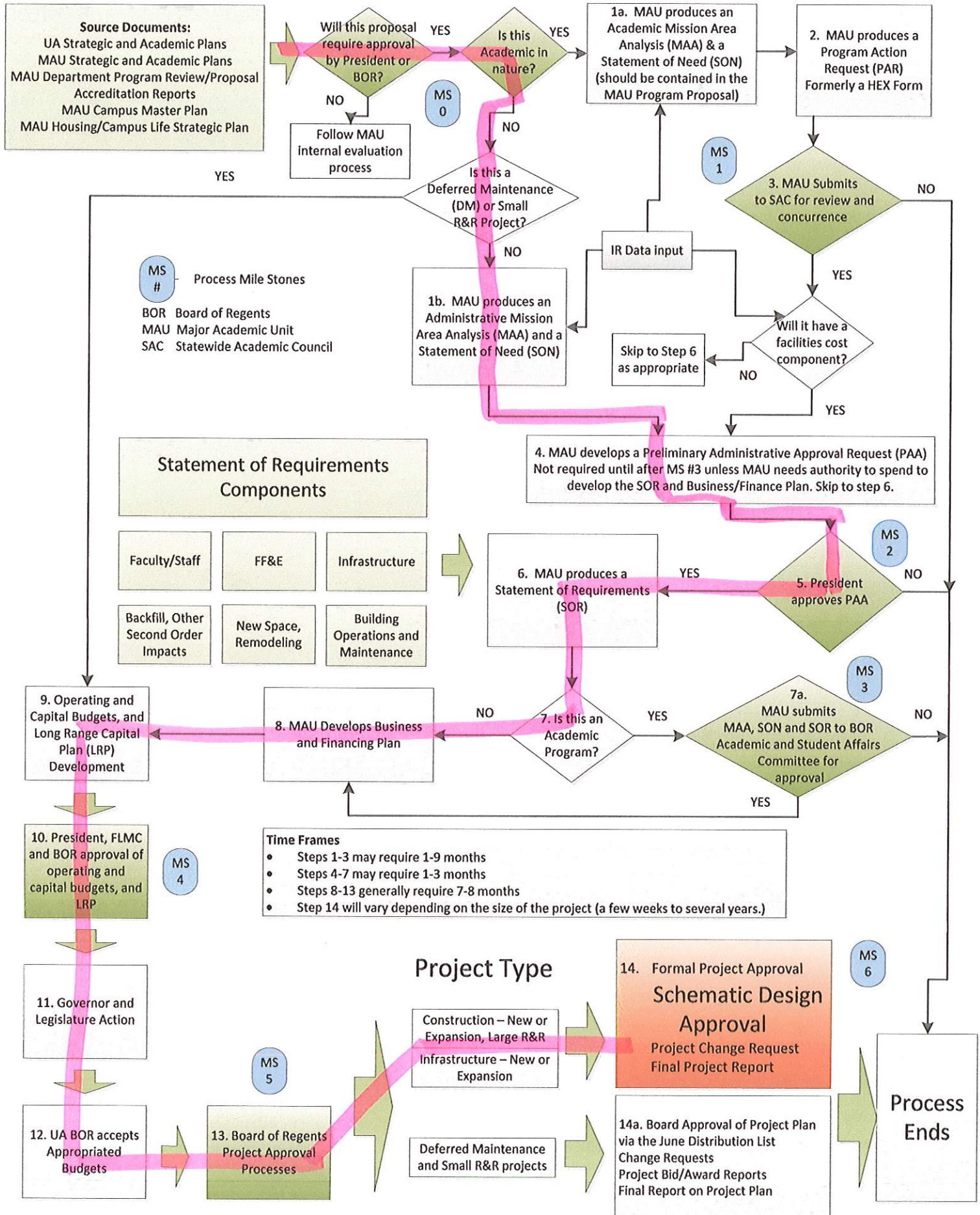
Final Project Report:

Date: _____

University of Alaska Program Resource Planning

Academic, Budget and Project Planning Process

Rev. 9-8-11





SCHEMATIC DESIGN APPROVAL

Name of Project: Roadway Improvements Fairbanks Metropolitan Area Transportation System Street Light Conversion

Project Type: Renewal and Replacement

Location of Project: UAF, Fairbanks Campus, Street Lights, Fairbanks

Project Number: 2013016 RISLC

Date of Request: October 25, 2013

| | | |
|----------------------------|--|---------------------------|
| Total Project Cost: | \$2,030,983 | |
| Approval Required: | FLMC | |
| Prior Approvals: | Preliminary Administrative Approval | October 8, 2012 |
| | Formal Project Approval | September 26, 2013 |

A Schematic Design Approval (SDA) is required for all Capital Projects with a Total Project Cost in excess of \$250,000.

SDA represents approval of the location of the facility, its relationship to other facilities, the functional relationship of interior areas, the basic design including construction materials, mechanical, electrical, technology infrastructure and telecommunications systems, and any other changes to the project since formal project approval. Unless otherwise designated by the approval authority or a material change in the project is subsequently identified, SDA also represents approval of the proposed cost of the next phases of the project and authorization to complete the design development process, to bid and award a contract within the approved budget, and to proceed to completion of project construction. Provided however, if a material change in the project is subsequently identified, such change will be subject to the approval process.

Action Requested

The Facilities and Land Management Committee approves the Schematic Design Approval request for the University of Alaska Fairbanks Roadway Improvements, Fairbanks Metropolitan Area Transportation System Street Light Conversion as presented in compliance with the campus master plan, and authorizes the university administration to complete construction bid documents to bid and award a contract within the approved budget, and to proceed to completion of project construction not to exceed a Total Project Cost of \$2,030,983. This motion is effective December 12, 2013.

Project Abstract

The Alaska Department of Transportation and Public Facilities (DOT&PF) and the Alaska Division Office of the Federal Highway Administration (FHWA) in cooperation with UAF, will convert campus roadway illumination fixtures to light emitting diode (LED) or other appropriate technology under Stage III of the FMATS Streetlight Conversion Project.

Pilot studies conducted by the City of Fairbanks on city streetlight systems determined that over 60 percent of the City of Fairbanks' energy consumption was due solely to the operation of its street light system. Stage I of this project replaced 1,800 city streetlight fixtures in 2010 and Stage II replaced an additional 1,000 city streetlight fixtures. Both projects have provided for significant energy savings for the City of Fairbanks. UAF also hopes to significantly reduce campus energy consumption through Stage III of this project. An estimated 201 road luminaires may receive new fixtures.

RATIONALE AND REASONING

Background

The project goal is to reduce energy and maintenance costs associated with the operation of the UAF campus roadway lighting system. Estimates of energy reduction prepared by the City of Fairbanks on a similar project are in the range of 50 percent. Because LED fixtures last four times longer than HPS (high pressure sodium), the manpower necessary for re-lamping will be reduced by 75 percent.

Project Scope

UAF, through the attached Memorandum of Agreement for Local Match Contribution and Maintenance (MOA) with DOT&PF, will manage the design phase of this project. DOT&PF is the project owner and all design standards and design processes must meet approval of the DOT&PF project representative. DOT&PF will manage the construction phase of the project.

This project will ultimately provide UAF with lighting fixture conversions on all illumination systems associated with campus roadways. The conversions will require grounding wire upgrades, and UAF expects that some new luminaire pole installations will be required for lighting coverage at critical intersections.

Work tasks and requirements are expected to include:

- Verification of project luminaires and circuits
- Inventory and analysis of existing conditions including age and structural integrity
- Assessment of grounding needs
- Completed work in accordance with the 2001 American Association of State Highway and Transportation Officials (AASHTO) – A Policy on Geometric Design of Highways, UAF Street Lighting Standards and State of Alaska, Department of Transportation Highway Preconstruction Manual. Typical Pre-Construction manual requirements include preparing a Design Study Report, Erosion and Sediment Control Plan, Traffic Control Plan, Construction Sequence Plan, Design Notebook, etc.
- Supporting UAF and DOT & PF as needed for Public Involvement
- Coordination of design standards with DOT & PF and UAF Lighting Master Plan team
- Preparation of design documents and engineers estimate
- Attendance at review meetings
- DOT & PF development of the Environmental Document
- No anticipated field surveying
- DOT & PF management of the construction

Project Impacts

Project impacts will be experienced during the construction phase in the form of noise, dust and use of temporary closures. The Alaska Department of Transportation is responsible for project management and will administer the construction contract. All reasonable measures and standards of care will be employed during construction to minimize project impacts.

Variances

N/A

Total Project Cost and Funding Sources

Approximately 90 percent of the funding for this project is provided by the Federal Highway Administration through a Fairbanks Metropolitan Area Transportation System (FMATS) grant.

| <u>Funding Title</u> | <u>Fund Account</u> | <u>Amount</u> |
|---------------------------|---------------------|--------------------|
| AK DOT&PF Funding | FHWA | \$1,811,493 |
| FY14 UAF Operating Funds | 515270-50216 | \$219,490 |
| Total Project Cost | | \$2,030,983 |

Annual Program and Facility Cost Projections

| <u>Cost Type</u> | <u>Amount</u> |
|---|-----------------|
| Maintenance & Repair (expected reduction) | \$4,000 |
| Utilities (identify any expected reduction) | \$30,000 |
| Total Annual O&M Cost Savings | \$34,000 |

Project Schedule

DESIGN

| | |
|---|----------------|
| Conceptual Design | July 2013 |
| Formal Project Approval | September 2013 |
| Schematic Design Approval | December 2013 |
| Schematic Design and Construction Documents Completed | March 2014 |

BID & AWARD

| | |
|-----------------------------|------------|
| Advertise and Bid | March 2014 |
| Construction Contract Award | June 2014 |

CONSTRUCTION

| | |
|------------------------------|--------------|
| Start of Construction | July 2014 |
| Construction Complete | October 2014 |
| Date of Beneficial Occupancy | N/A |
| Warranty Period | 1 Year |

Project Delivery Method

Design-Bid-Build is the project delivery method selected by the Alaska DOT & PF.

Supporting Documents

One-page Budget, prepared by DOT & PF – Estimated Design Fee
 One-page Budget prepared by DOT & PF – Actual Design Fee
 Design Narrative Document – Abbreviated Design Study Report
 Memorandum of Agreement with DOT & PF
 Overall Plan Drawing: E001 Overall Plan
 E101 Section 1
 E102 Section 2
 E103 Section 3
 E104 Section 4
 E105 Section 5
 E106 Section 6
 E107 Section 7
 E108 Section 8 & 9
 E201 Details

Affirmation

This project complies with Regents' Policy and the campus master plan.

Approvals

The level of approval required for SDA shall be based upon the estimated TPC as follows:

- TPC > \$4.0 million will require approval by the board based on the recommendations of the Facilities and Land Management Committee (FLMC).
- **TPC > \$2.0 million but not more than \$4.0 million will require approval by the FLMC.**
- TPC > \$1.0 million but not more than \$2.0 million will require approval by the Chair of the FLMC.
- TPC ≤ \$1.0 million will require approval by the AVP of Facilities and Land Management.

FMATS Street Light Conversion, Stage III: DOT & PF

2013016 RISLC

PROJECT BUDGET

(Estimated Design Fee)

PHASE II

| Item | Cost | Notes | Estimate source |
|--|-----------|--|----------------------------|
| Design | \$141,000 | Performed by a consultant managed by UAF | Mary Pagel, PM/UAF DDC |
| Owner Activities | \$36,500 | UAF management and administrative costs | Mary Pagel, PM/UAF DDC |
| ADOT&PF Environmental Document | \$20,000 | ADOT&PF will complete the environmental document | Jeff Organek, PM/ADOT & PF |
| ADOT&PF Management | \$35,000 | ADOT&PF administration and management | Jeff Organek, PM/ADOT & PF |
| Indirect Cost Allocation Plan (ICAP) 4.79% | \$11,137 | | |

Estimated Total \$243,637

UAF match (9.03%) \$22,000

Uaf Phase II Contignecy (50% x 9.03%) \$11,000

Total UAF Phase 2 Match \$33,001

PHASE IV

| Item | Cost | Notes | Estimate source |
|--|-------------|-------------------------|----------------------------|
| Construction | \$1,460,000 | Performed by contractor | Mary Pagel, PM/UAF DDC |
| Construction Engineeering 15% | \$219,000 | Performed by ADOT & PF | Jeff Organek, PM/ADOT & PF |
| Construction + CENG | \$1,679,000 | | Jeff Organek, PM/ADOT & PF |
| Indirect Cost Allocation Plan (ICAP) 4.79% | \$80,424 | | Jeff Organek, PM/ADOT & PF |

Estimated Total \$1,759,424

UAF match (9.03%) \$158,876

Uaf Phase IV Contignecy (15% x 9.03%) \$23,831

Total UAF Phase IV Match \$182,707

Total Project Cost \$2,003,061

Total UAF Match \$215,708

FMATS Street Light Conversion, Stage III: DOT & PF

2013016 RISLC

PROJECT BUDGET

(Actual Design Fee)

PHASE II

| Item | Cost | Notes | Estimate source |
|--|------------------|--|----------------------------|
| Design | \$168,922 | Performed by a consultant managed by UAF | Mary Pagel, PM/UAF DDC |
| Owner Activities | \$36,500 | UAF management and administrative costs | Mary Pagel, PM/UAF DDC |
| ADOT&PF Environmental Document | \$20,000 | ADOT&PF will complete the environmental document | Jeff Organek, PM/ADOT & PF |
| ADOT&PF Management | \$35,000 | ADOT&PF administration and management | Jeff Organek, PM/ADOT & PF |
| Indirect Cost Allocation Plan (ICAP) 4.79% | \$11,137 | | |

Estimated Total \$271,559

UAF match (9.03%) \$24,522

Uaf Phase II Contingency (50% x 9.03%) \$12,261

Total UAF Phase 2 Match \$36,783

PHASE IV

| Item | Cost | Notes | Estimate source |
|--|-------------|-------------------------|----------------------------|
| Construction | \$1,460,000 | Performed by contractor | Mary Pagel, PM/UAF DDC |
| Construction Engineering 15% | \$219,000 | Performed by ADOT & PF | Jeff Organek, PM/ADOT & PF |
| Construction + CENG | \$1,679,000 | | Jeff Organek, PM/ADOT & PF |
| Indirect Cost Allocation Plan (ICAP) 4.79% | \$80,424 | | Jeff Organek, PM/ADOT & PF |

Estimated Total \$1,759,424

UAF match (9.03%) \$158,876

Uaf Phase IV Contingency (15% x 9.03%) \$23,831

Total UAF Phase IV Match \$182,707

| | |
|---------------------------|--------------------|
| Total Project Cost | \$2,030,983 |
| Total UAF Match | \$219,490 |

**ABBREVIATED DESIGN STUDY REPORT
FOR
FMATS LED STREET LIGHT CONVERSION STAGE III**

**FEDERAL PROJECT NO.: STP-0002(274)
STATE PROJECT NO.: 61954**

OCTOBER 2013

**FOR
ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
NORTHERN REGION PRECONSTRUCTION**

**BY
DESIGN ALASKA, INC.
601 COLLEGE ROAD
FAIRBANKS, ALASKA 99701**

PREPARED BY: JEFFREY M. LEONELLI, E.I.T.

UNDER THE SUPERVISION OF: ELIZABETH T.B. JOHNSTON, P.E.



Introduction/History

The Alaska Department of Transportation and Public Facilities (ADOT&PF) in cooperation with the Alaska Division of the Federal Highway Administration (FHWA) and University of Alaska Fairbanks (UAF) are proposing to convert existing street light units to light-emitting diode (LED) technology under Stage III of the Fairbanks Metropolitan Area Transportation System (FMATS) Street Light Conversion Project. The purpose of the project is to reduce the energy consumption of the street lighting system.

Previous stages I and II replaced street lighting throughout the City of Fairbanks and City of North Pole with LEDs. A study conducted by the City of Fairbanks in 2008 comparing High Pressure Sodium (HPS) against LEDs revealed that with similar illumination performances the LEDs used less than half the amount of power and provided a better color temperature and light quality. Stage I of this project replaced 1,800 street lights in 2010 and saved \$135,000 in energy costs during 2011.

Manufacturer reports and testing data indicate LED units last upwards of 100k hours compared to the lamp life of HPS at 24k hours and metal halide at 15k-20k hours. Also, as rated life is approached for HPS, the probability of complete lamp burnout increases exponentially. LEDs do not have a burning filament and light output will fade with time as opposed to complete failure.

Preliminary power estimates of the existing street lights suggest that the lighting load is roughly 40kW with an average daily use of 11 hours. This equates to 160,600 kWh per year. Based on the study conducted by the City of Fairbanks, which showed a 50 percent reduction in energy use, UAF could have a projected annual energy savings of 80,300 kWh.

Project Description

The project scope is to replace the existing street lights throughout the campus area with LED units up to roadways maintained by ADOT&PF (Geist Road, University Avenue and Farmer's Loop Road). The grounding and bonding means and methods to supply a low impedance ground fault return path for the street lighting system will be addressed. Structural deficiencies of existing pole bases and damaged pole components will also be addressed. The scope is limited to existing pole locations only and roadway sections that do not contain street lights will not receive new light poles.

All street light fixtures will undergo replacement with a unit that utilizes a slip fitter mounting system. This will allow all poles to be retrofit with a tenon mounting arm, suitable for street lighting. Existing poles and pole bases will be assessed on an individual basis and be replaced if they display structural damage or any deficiencies that present a hazard or risk. Preliminary investigations indicate 19 poles should be replaced for structural reasons. The grounding system that utilizes driven ground rods as the only means of ground fault return will be replaced to provide an equipment grounding conductor (EGC) back to its power source.

Trenching activity will potentially be required between fixtures to replace conductors when an EGC cannot be easily retrofitted. A mechanical trencher will be used to trench conduit between street light poles at the edge of pavement, back of sidewalk. The anticipated width of the trenches is approximately eight inches, and the maximum depth is 48 inches. Backfilled trenches and resurfacing with topsoil and seeding will match the current ground cover.

MEMORANDUM OF AGREEMENT

Between

THE STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

And

THE UNIVERSITY OF ALASKA, FAIRBANKS, FACILITY SERVICES

Project: FMATS Street Light Conversion Stage III

Agreement No. 025-3-1-013

Date Prepared: October 9, 2010

Federal Project No. NA

State Project No. 61954

This Memorandum of Agreement (MOA) is made and entered into this ___ day of October 2012 by and between the State of Alaska, acting by and through the Department of Transportation and Public Facilities, hereinafter called the "Department", and the University of Alaska, Fairbanks Facility Services, hereinafter called "UAF."

By this agreement the Department hires UAF to complete the subject work stipulated under the MOA for the FMATS Street Light Conversion Stage III project, hereinafter called the "project."

Project Scope:

Convert HPS (High Pressure Sodium) street lights on the UAF campus to LED (Light Emitting Diode) street lights or other appropriate lighting technology, excluding roadways owned by the Department. Replacement of light poles and upgrades to the grounding system will occur as necessary in order to achieve code compliance.

UAF shall complete all Preliminary Engineering through Final PS&E and provide support during construction. At the discretion of the Department, this will include preparation of any documents needed for a possible Revised Final or Addenda during the advertising and award period of the project. UAF shall not perform any work outside the authority level approved by the Federal Highway Administration (FHWA). This Agreement may be amended to include support during construction, if construction funds become available.

A. Agency Obligations:

The Department and UAF agree to accept the following responsibilities for each respective agency and to complete the work in the manner and general time frame required by this agreement:

UAF Obligations:

1. Unless specifically noted otherwise, UAF shall be responsible for completing all items of work required to develop the construction PS&E assembly. UAF shall be responsible for all items of work required to submit all necessary documents in support of a request for advertising and award for construction. UAF will also provide support during construction.
2. UAF shall meet the deliverables schedule listed in Part D of this MOA.
3. While not limited to these, the following items are of particular concern, and must be addressed when performing the work:
 - A. All construction plans must be developed in accordance with the Department's most current drafting standards and similar in form and quality to examples provided by the Department. The Department will provide drafting standards as well as any electronic standards, templates, and examples needed for UAF to conform to this requirement.
 - B. All work shall be conducted in strict conformance and full compliance with the same regulations, procedures, standards, guidelines, laws and document formats as those required of the Department, unless specifically exempted by the Department.
 - C. The limits of the design work obligations under this MOA are based on the following project limits and assumptions:

Upgrade existing street lights within the UAF boundary (excluding roadways owned by the Department) from HPS to LED or other energy efficient lighting technologies.

Project Termini: UAF boundary.

D. Submittal Requirements:

All documents submitted by UAF throughout the design process, inclusive of plans, specifications, cost estimates, and reports shall be developed on the following software and shall be submitted in hard-copy form along with an electronic copy on computer CD in the format the document was originally created in, of the related file. Drawings shall be submitted with one (1) unbound copy suitable for reproduction. Reports shall be submitted with one (1) unbound copy suitable for reproduction. The

computer file will directly and exactly reflect that shown on the hard copy print. No hand drafting will be allowed. Use of software other than that specified will be allowed, but all files shall be translated to the applicable formats noted below, and shall be 100% compatible with such formats. Incompatible files shall be rejected and UAF shall provide files in the specified formats.

The software and file format requirements are:

| Brand Name | File Format | Items |
|--|--------------------|---|
| AutoCAD (release 2010 or higher) | .dwg | Plan sheets, Report Drawings, etc. |
| Microsoft Word (Release 2007 or higher) | .docx | Contract, Specifications, Design Study Report Correspondence, etc. |
| DOT& PF BIDTAB | Citrix based | Engineer's Estimate, Preliminary Cost Estimates, etc. |

UAF will be granted access to the DOT&PF's web based "BIDTAB" program which shall be used when developing the cost estimates.

E. All work shall be completed in accordance with:

- State of Alaska, Department of Transportation Highway Preconstruction Manual
- State of Alaska, Department of Transportation Standard Specifications for Highway Construction, 2004 Edition
- 2001 American Association of State Highway and Transportation Officials (AASHTO) – A Policy on Geometric Design of Highways and Streets Alaska Standard Drawings
- UAF street lighting standards

F. All quantity computations shall be separated by individual bid items. All computations shall clearly show the data basis, assumptions, methods, and results. They shall be organized so as to allow a reviewer to ascertain by inspection exactly how each individual sheet total, sub-total, and grand total shown in the computations or on the plans, was derived. All computations and analyses shall be checked by at least one individual (other than their originator) with sufficient technical acumen to provide a check of both the technical concepts involved and the arithmetic accuracy of the computations. All computations shall bear the date the work was performed, the name of the individual performing the computations along with the name of the individual checking the work. Parallel computations developed by a second individual as a check on the original computations will not be allowed. All superseded calculations or portions thereof shall be clearly voided.

All original calculations and analyses shall be compiled as the Designer's Notebook and be delivered to the Department's Project Manager with the delivery of the Final PS&E assembly. Provide the Department with two copies of the Designer's Notebook to make available for viewing during project advertising

- G. UAF will be responsible for submitting a draft Project Management Plan on the Department's supplied forms within one month after the MOA is approved. The Department will provide input necessary to finalize the Project Management Plan.
- H. Upon receiving all final signatures of the approved environmental document, prepare and submit a Draft Design Study Report (DSR). The DSR must identify and define UAF's street lighting design standards. Provide a resolution to reviewer comments of the Draft DSR. The comment resolutions must be incorporated into the Final DSR documents and subsequent submittal in support of the request for Design Approval.
- I. UAF will be responsible for development of the Design plans, Specifications, and Engineers Estimate and related submittal documents for the Plans-In-Hand/ Review PS&E, Review Resolution, Final PS&E and any other related documents. The reviews will be conducted through the Department's Contracts section. Review Resolution will include written responses to comments.
- J. Prior to submittal of the Final PS&E, UAF will certify that all improvements designed and included in the Final PS&E will be constructed in conformance with the approved Environmental Document's environmental commitments.
- K. Prior to submittal of the Final PS&E, UAF will certify that all improvements designed and included in the Final PS&E will be constructed upon lands owned by the University of Alaska.
- L. UAF will be responsible for the design and development of the Erosion Sediment Control Plan (ESCP), Traffic Control Plans (TCPs), Construction Sequence Plan (CSP), detail sheets, quantity compilation and summary sheets, illumination, specifications, Engineer's Estimate, and any other items needed in accordance with current requirements and as applicable to this project.
- M. UAF shall ensure all plans and specifications are in accordance with all Code of Federal Regulations (CFR) requirements, including the requirements of 23 CFR 635.411. When a patented or proprietary item is specified in the plans or contract, a minimum of two manufacturers must be listed and the words "or equal" included to ensure the broadest range of choice. UAF must perform research adequate to assure that a minimum of two manufacturers meet all of the contract requirements for any materials required on the project, regardless of whether a proprietary name is listed in the contract documents. If only one manufacturer meets the requirements, a proprietary item may be specified if a public interest finding is conducted and it is found to be in the public's best interest to use the proprietary product.

- N. It is not anticipated field surveying will be required to develop this project. If required, UAF will be responsible for all field surveying necessary to complete the project development through Final PS&E. Field survey shall be completed in accordance with accepted industry practice and shall include closeout of all instrument setups, and any and all hand entered field book notes necessary to supplement the electronic data collection files.
- O. UAF will coordinate with and assist the Department for all Public and Agency Involvement, including participation in the agency/public scoping meetings and the Local Planning Approval process, as applicable.
- P. UAF will be responsible for all necessary location of utilities and coordination with affected utility companies. UAF will be responsible to secure non-objection or other necessary commitments for relocation or adjustment of all affected utilities.
- Q. UAF will be responsible for the compilation of supporting documentation and development of all required reports, specifications and design details of work normally required for projects of this nature.
- R. UAF will be responsible for support of certain Department in-house activities:
 - 1. Participation in in-house scoping meeting.
 - 2. Participation in Design Hand-off meeting.
 - 3. Providing figures, conceptual design, and other resources in support of the environmental document.
- S. UAF shall submit monthly status reports identifying:
 - 1. Tasks completed to date,
 - 2. Tasks anticipated to be completed in the next month,
 - 3. Significant problems experienced or expected,
 - 4. Current costs and updated estimate of costs through final PS&E,
 - 5. Updated milestone dates showing key tasks completed and estimated completion dates for future key tasks.

Department Obligations:

- 1. The Department shall function in an oversight role and monitor the progress of the work, including reviewing and approving all documents developed by UAF. Final approval authority of all documents shall remain with the Department or the FHWA, as appropriate.
- 2. Unless specifically authorized otherwise by the Department's Engineering Manager, all documents requiring outside Department approval or review shall be delivered to the Department for submittal by the Department to the outside agency.

3. The Department shall make available to UAF any readily accessible existing information within the Department that is relevant to the subject work. This information will be available to UAF on an “as-is” basis. UAF shall obtain updates to the information or supplemental information needed to complete the work. Design manuals, reference manuals, guidelines, or regulations will not be supplied by the Department, but some may be available for purchase through the Department.
4. The Department will obtain any permits required for the project.
5. It is not anticipated additional rights of way will be required to construct these improvements. If required, the Department will complete and/or obtain the ROW title and plans, permanent utility easements, and construction easements/permits.
6. The Department will be responsible for development of the Environmental Document.
7. The Department will be responsible for obtaining local planning commission approval.

B. Project Management:

The Department’s designated Engineering Manager, Jeff Organek, shall be the official representative of the Department. All official direction from the Department, whether oral or written, shall be from and through the Department’s Engineering Manager. While UAF will and may deal directly with many individuals within the Department when completing the work, all contacts and instructions by such individuals shall be considered advisory only, unless specified by the Engineering Manager.

Mary Pagel, UAF project manager, shall be the single contact person and is designated in responsible charge of the project and is empowered to represent UAF’s interests concerning the subject project.

UAF shall assign sufficient manpower resources and shall perform the work in an efficient manner so as to ensure completion of the work in a timely manner and within the schedule and allocated budget.

C. Reimbursement:

The maximum amount payable under this agreement shall not exceed: One Hundred-Seventy-Seven-Thousand-Five-Hundred Dollars (\$177,500). Expenditures incurred in excess of that specifically authorized in this agreement shall not be allowed or paid for by the Department. It is incumbent upon UAF to monitor UAF expenditures in a timely manner to ensure there are no unauthorized overruns in the project.

UAF will be reimbursed for all authorized costs in the following manner:

- Direct labor costs (DLC) as shown on supporting documentation on a monthly basis, listing the employee's name, hours worked, salary rate, and Indirect Costs (IDC) (i.e. Overhead).
- IDC shall be applied at the rates in effect each audit year (7/1 through 6/30). The FY12 and FY 13 IDC rates are in accordance with the "FY13 Fringe Benefit Forward Pricing Proposal" dated March 31, 2012 and attached to this MOA. The F&A rate is 25% and will be applied only to the first \$25,000. At this time, an audited rate for the period 7/1/13 through 6/30/14 (FY14) is not available so the FY13 rate will be used until the new audited rate is issued. No amendment to this MOA is required when the IDC rate changes.
- No other in-house UAF costs (Other Direct Charges (ODC)), such as Xerox copies, phone bills, equipment overhead, etc. shall be billed directly to the project, rather are recovered under the IDC charge added to the negotiated DLC amount.

The term "authorized costs" shall be understood to mean those costs determined by the FHWA to be participating costs by the FHWA to the Department. Any costs submitted by UAF that are paid but subsequently determined to be non-participating by FHWA, shall be reimbursed to the Department by UAF.

UAF shall submit billings along with supporting documentation on at least a quarterly basis. Each billing shall list the project name and number, begin and end date of the billing period, recapitulation listing the total cost to date along with the total of previously approved billings and the balance due. Supporting documentation shall include copies of all monthly status reports for the billing period, a summary of the employees name, hours worked, salary rate, plus the stipulated amount of IDC.

If UAF elects to hire a Consultant to perform all or a portion of the subject work, the third party must be hired in strict conformance with UAF's procurement procedures for selecting and hiring such parties, subject to approval by the Department. The same stipulations allowing termination of the MOA between the Department and UAF shall be included in third party agreements, modified as necessary to accommodate the method of payment.

Third party agreement costs shall be paid by the Department to UAF as ODC. The Department and funding agency (FHWA), reserve the right to perform an audit of all records related to the project, prior to payment on any billing.

All project records pertinent to this agreement shall be made available for inspection, audit, or reproduction for a minimum of three years from the date of final payment or upon termination of this agreement.

The Department will not pay UAF for:

- Costs that cannot be adequately verified as valid for this project.
- Cost incurred prior to this MOA execution date.

- Expenditures incurred in excess of that specifically authorized in this MOA or subsequent amendments to the MOA.

D. Schedule:

The contract completion date for this MOA is December 31, 2015. The schedule for deliverables is as follows and is contingent upon issuance date of Notice to Proceed:

- Project Management Plan: Within one month after MOA approval
- Environmental Document Complete: June 10, 2013
- Draft Design Study Report: September 9, 2013
- Final Design Study Report: November 11, 2013
- Combined Plans-in-Hand/Review PS&E Assembly: March 18, 2014
- Final PS&E Assembly: April 29, 2014

As of the date of this MOA, there are not any Phase 4 Construction funds programmed for these project improvements. This schedule may be adjusted by amendment as necessary to meet funding obligation deadlines if money becomes available.

The MOA may be amended to reflect scheduling and funding adjustments that may be required should the design work need to be packaged into multiple smaller PS&E assemblies to take advantage of any available construction funding.

E. Notice to Proceed (NTP):

Upon receipt of all required agreement signatures, the Department's Project Manager will issue UAF a "Notice to Proceed" letter authorizing UAF to begin work on the subject project. Work begun prior to the Notice to Proceed will not be paid for by the Department. The Notice to Proceed will authorize work consistent with the authority level granted by FHWA. The initial NTP will limit work to preliminary design in support of the environmental document.


F. Termination:

Subject to 15 calendar day's prior notice, the Department reserves the right to terminate this agreement at any time. UAF shall be reimbursed for all authorized costs incurred prior to the termination date.

Upon termination of this agreement or completion of the project, all project related material including notebooks, hardcopy and computer data and drawing files, computations, correspondence, etc, shall be stored in an adequate manner at UAF, but shall at all times be available for inspection or use upon 24 hours advance notice by the Department to UAF. The originals or copies, as appropriate, of all or portions of the project materials shall be delivered to the Department when requested.

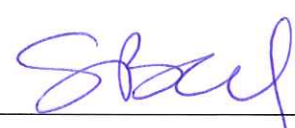
University of Alaska, Fairbanks, Facilities Services

Reviewed:

Signature:  Date 10/09/12

Name: Gary Johnston
Title: Director of Design and Construction

Approved:

Signature:  Date 10/12/12

Name: Scott Bell
Title: Associate Vice Chancellor for Facilities Services

Approved:

Signature:  Date 10-12-12

Name: Linda Zanazzo
Title: Contracting Officer for Facilities Services

**State of Alaska
Department of Transportation and Public Facilities
Northern Region Preconstruction**

Recommended:

Signature:  Date 10-19-12

Name: Jeffrey C. Organek, P.E.
Title: Engineering Manager

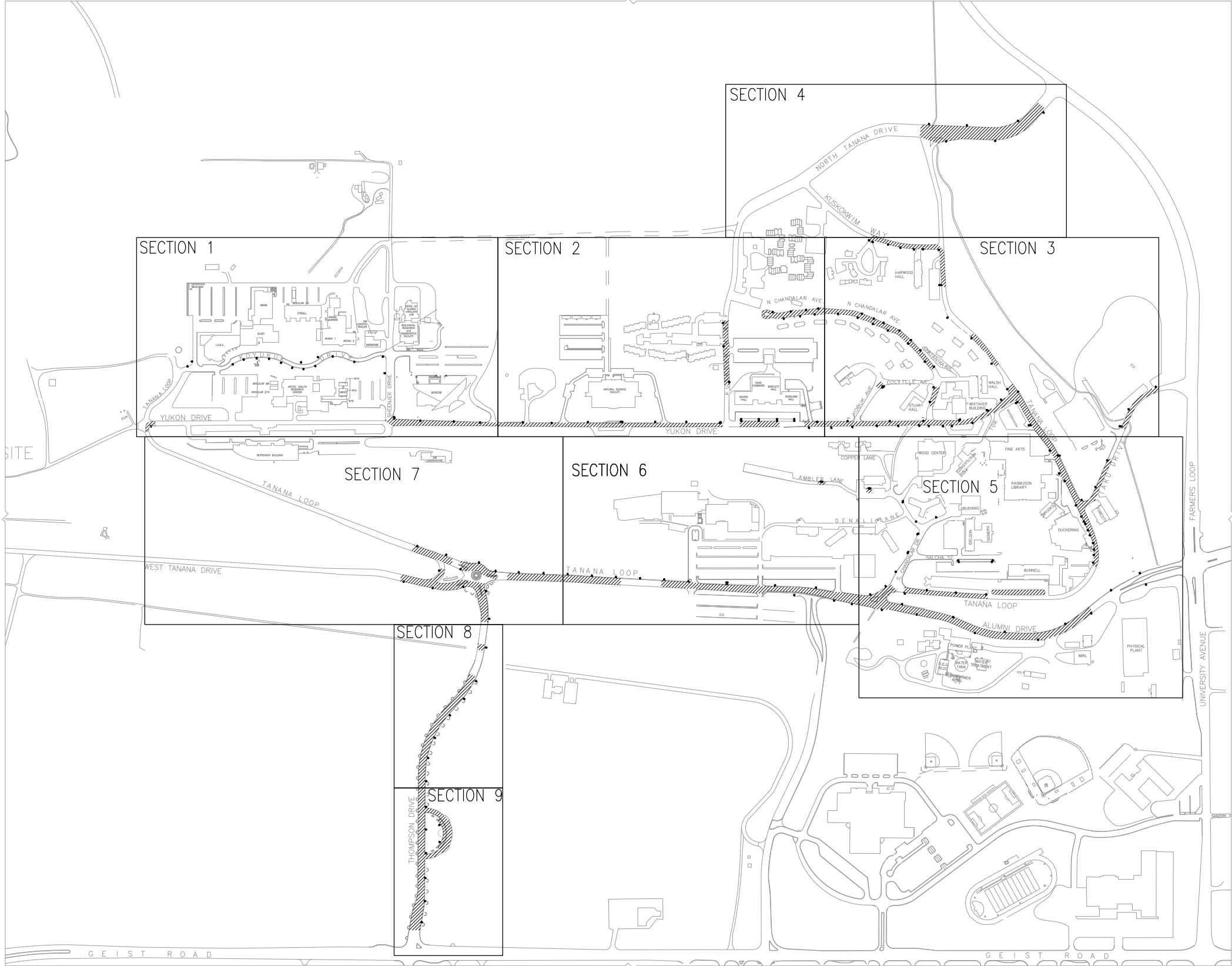
Approved:

Signature:  Date 10/19/12

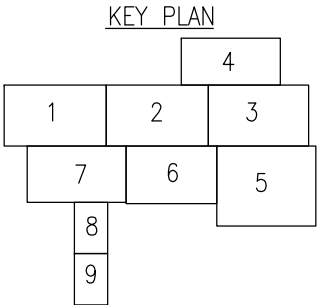
Name: Longin Krol, P.E.
Title: Preconstruction Engineer



| ELECTRICAL SYMBOL LEGEND | |
|--------------------------|--|
| | NOTE KEY – INDICATES NOTES APPLICABLE ON EACH SHEET |
| 493 | LIGHTING FIXTURE NUMBER – UNIVERSITY OF ALASKA FAIRBANKS STREETLIGHT INVENTORY LIST |
| | AREA LIGHTING FIXTURE |
| EG | EQUIPMENT GROUND PRESENT AT LIGHT FIXTURE |
| BG | BARE EQUIPMENT GROUND, ASSUMED TO REQUIRE GROUNDING REPLACEMENT. |
| NG | NO EQUIPMENT GROUND PRESENT AT LIGHT FIXTURE |
| | SOIL DISTURBANCE AREAS AS A RESULT OF STRUCTURAL DAMAGE TO LIGHT POLE, HAND HOLE DAMAGE, NO GROUNDING, IMPROPER GROUNDING OR BROKEN GROUNDING. AREAS NOT INDICATED ARE OTHERWISE DETERMINED AS HAVING SUFFICIENT ILLUMINANCE AND LUMINANCE VALUES OR ARE AREAS WHERE LIGHT POLE FIXTURES DO NOT EXIST. |



1 OVERALL PLAN
E001 1" = 300'



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ROAD
IMPROVEMENTS
FMATS STREET
LIGHT
CONVERSION
STAGE III

ISSUE DATE 15 MAR 2013
COMM. NUMBER 031224
DESIGNED BY ETJ
DRAWN BY JBR
SCALE 0" = 1"

OVERALL PLAN

E001

SPECIFIC NOTES

- 1 NOT USED.
- 2 NOT USED.
- 3 NOT USED.
- 4 NOT USED.
- 5 NOT USED.
- 6 NOT USED.



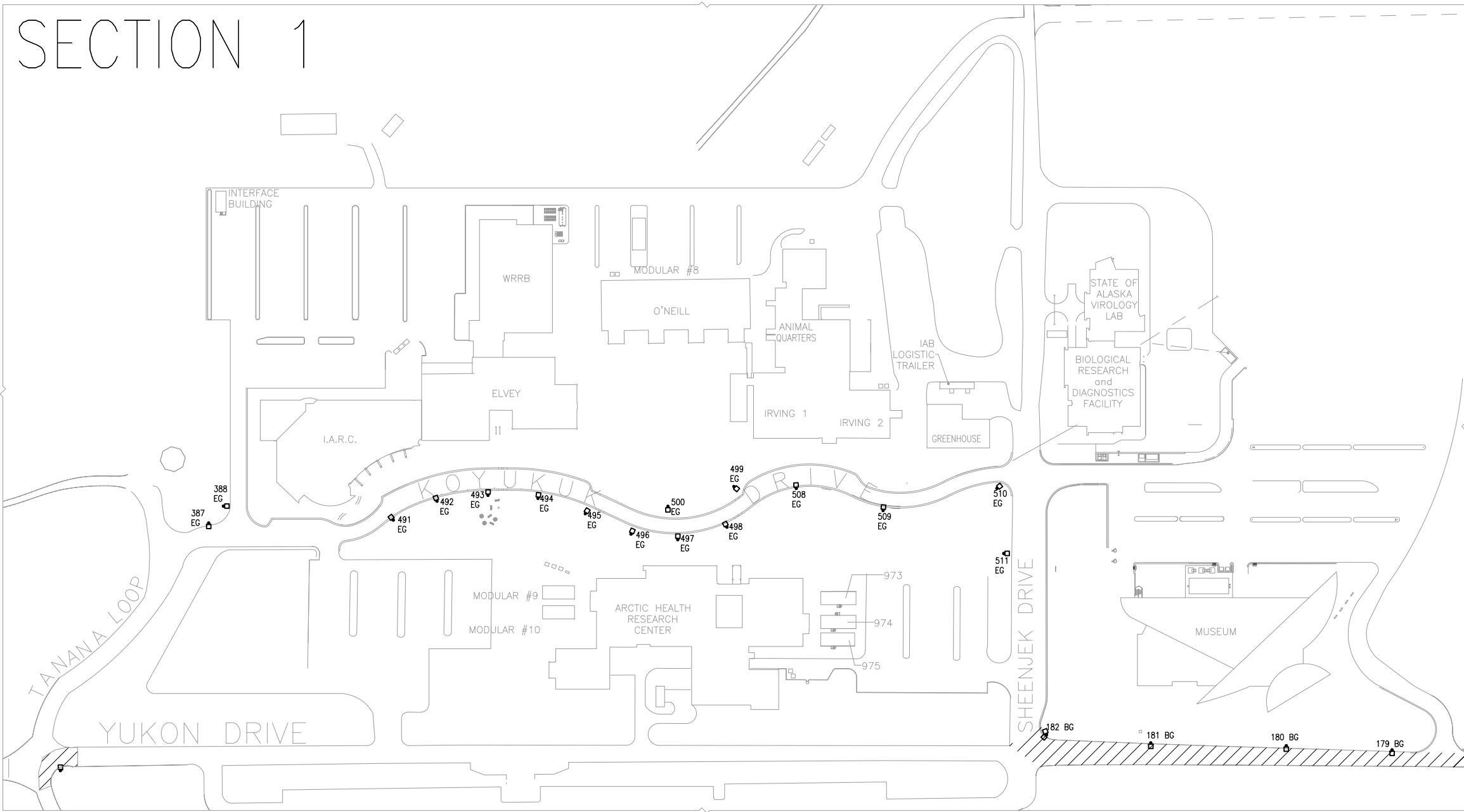
2013016 RISLC
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FMATS STREET
LIGHT
CONVERSION
STAGE III

ISSUE DATE 15 MAR 2013
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SCALE 0" = 1"

SECTION 1

E101

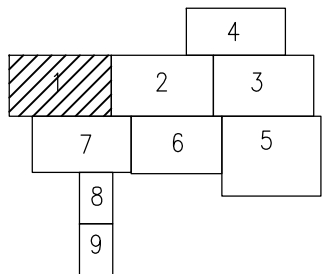
SECTION 1



1 SECTION 1 PLAN
E101 1" = 80'

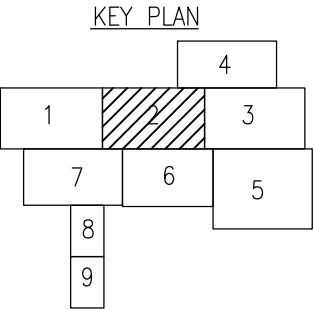
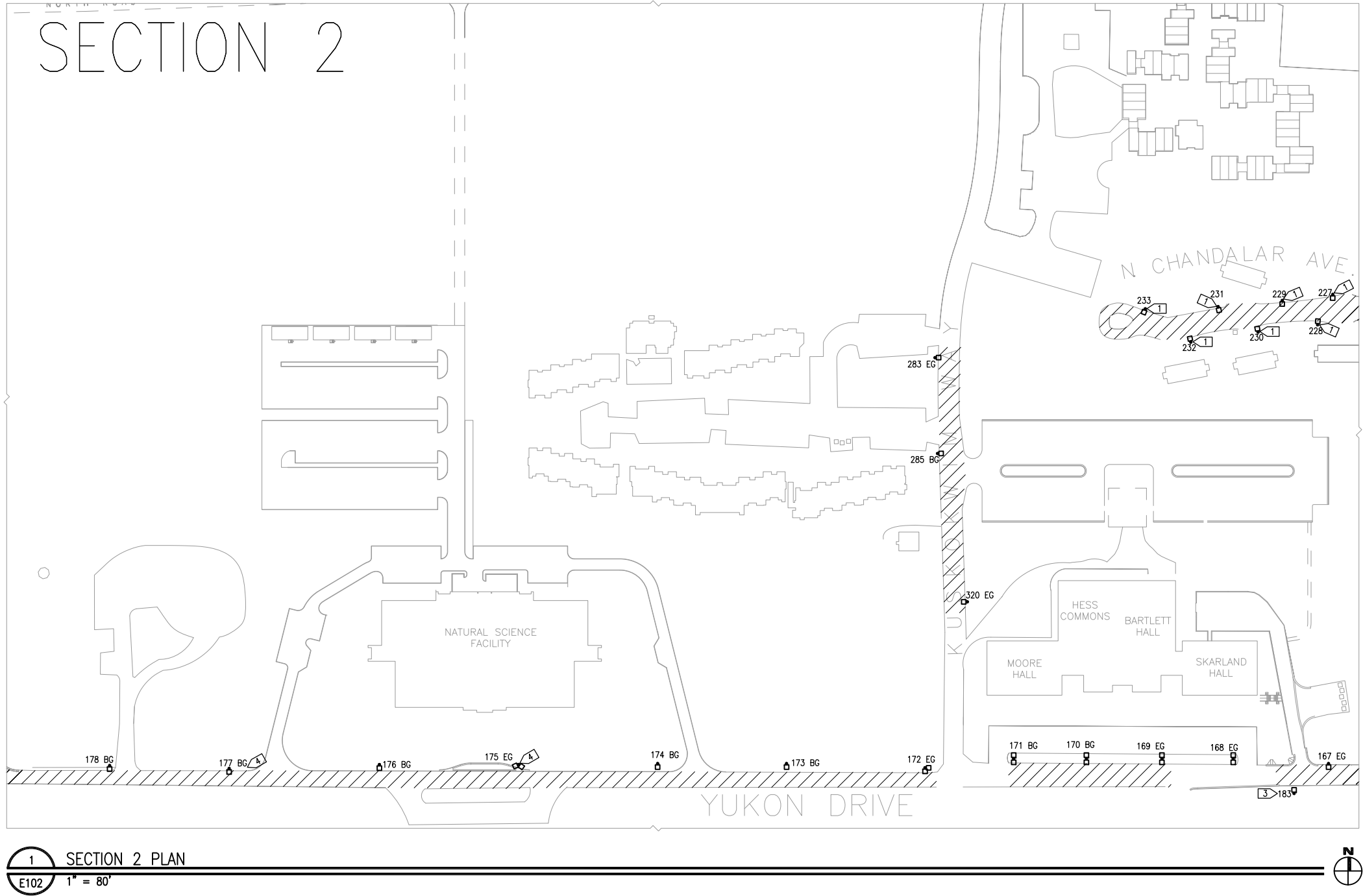


KEY PLAN



SPECIFIC NOTES

- 1 HANDHOLE COULD NOT BE OPENED. ASSUMED TO BE DAMAGED. REQUIRES POLE REPLACEMENT.
- 2 NOT USED.
- 3 NO EQUIPMENT GROUNDING CONDUCTOR. REQUIRES PROPER GROUNDING INSTALLATION.
- 4 STRUCTURAL DAMAGE TO POLE BASE. REQUIRES NEW POLE BASE INSTALLATION.
- 5 NOT USED.
- 6 NOT USED.



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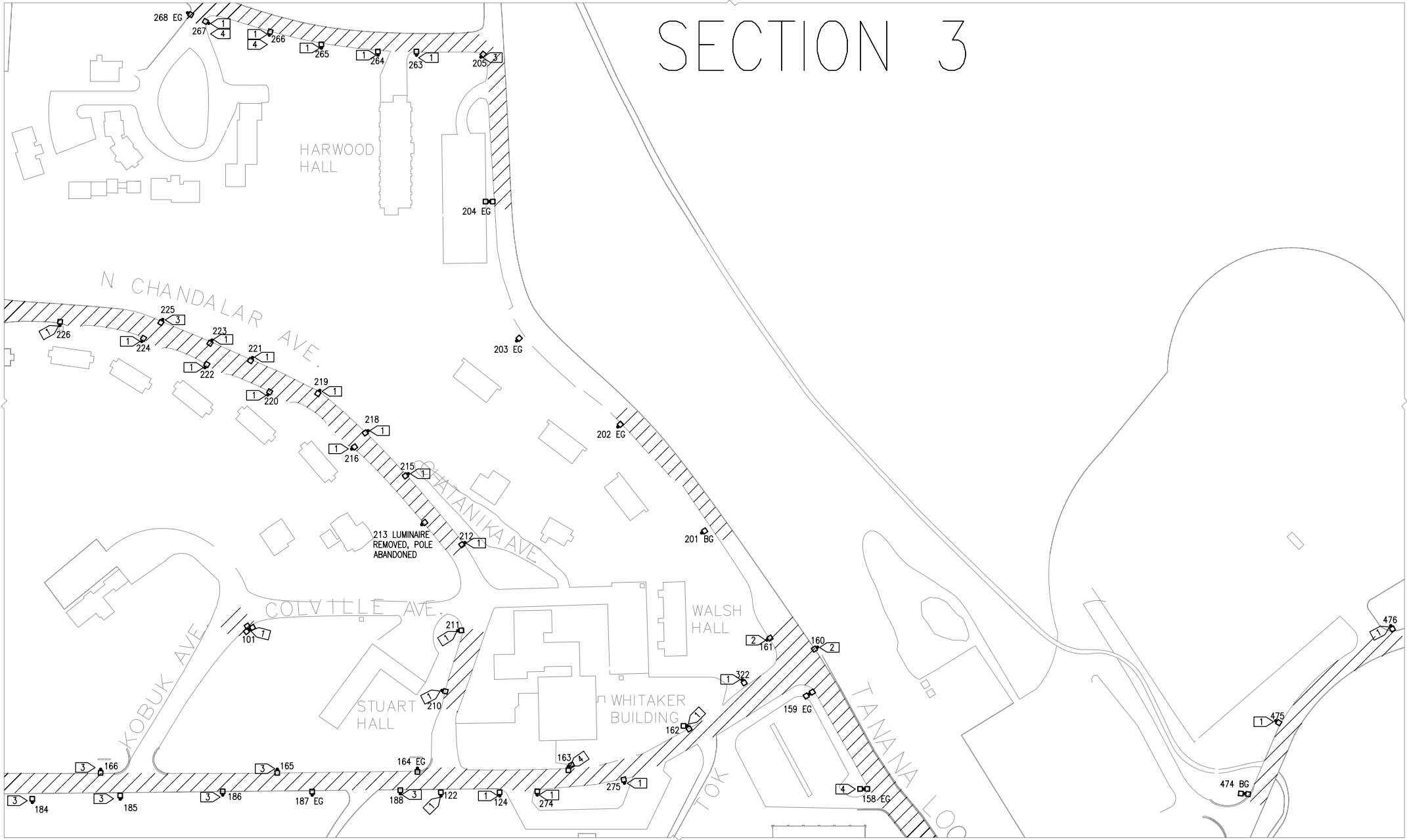
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SECTION 2

E102

SPECIFIC NOTES

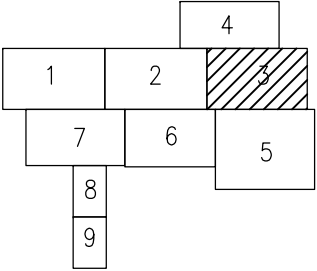
- 1 HANDHOLE COULD NOT BE OPENED. ASSUMED TO BE DAMAGED. REQUIRES POLE REPLACEMENT.
- 2 HANDHOLE DAMAGED, COULD NOT BE OPENED. REQUIRES POLE REPLACEMENT.
- 3 NO EQUIPMENT GROUNDING CONDUCTOR. REQUIRES PROPER GROUNDING INSTALLATION.
- 4 STRUCTURAL DAMAGE TO POLE BASE. REQUIRES NEW POLE BASE INSTALLATION.
- 5 NOT USED.
- 6 NOT USED.



1 SECTION 3 PLAN
E103 1" = 80'



KEY PLAN



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SECTION 3

E103

SPECIFIC NOTES

- 1 NOT USED.
- 2 NOT USED.
- 3 NO EQUIPMENT GROUNDING CONDUCTOR. REQUIRES PROPER GROUNDING INSTALLATION.
- 4 NOT USED.
- 5 NOT USED.
- 6 NOT USED.

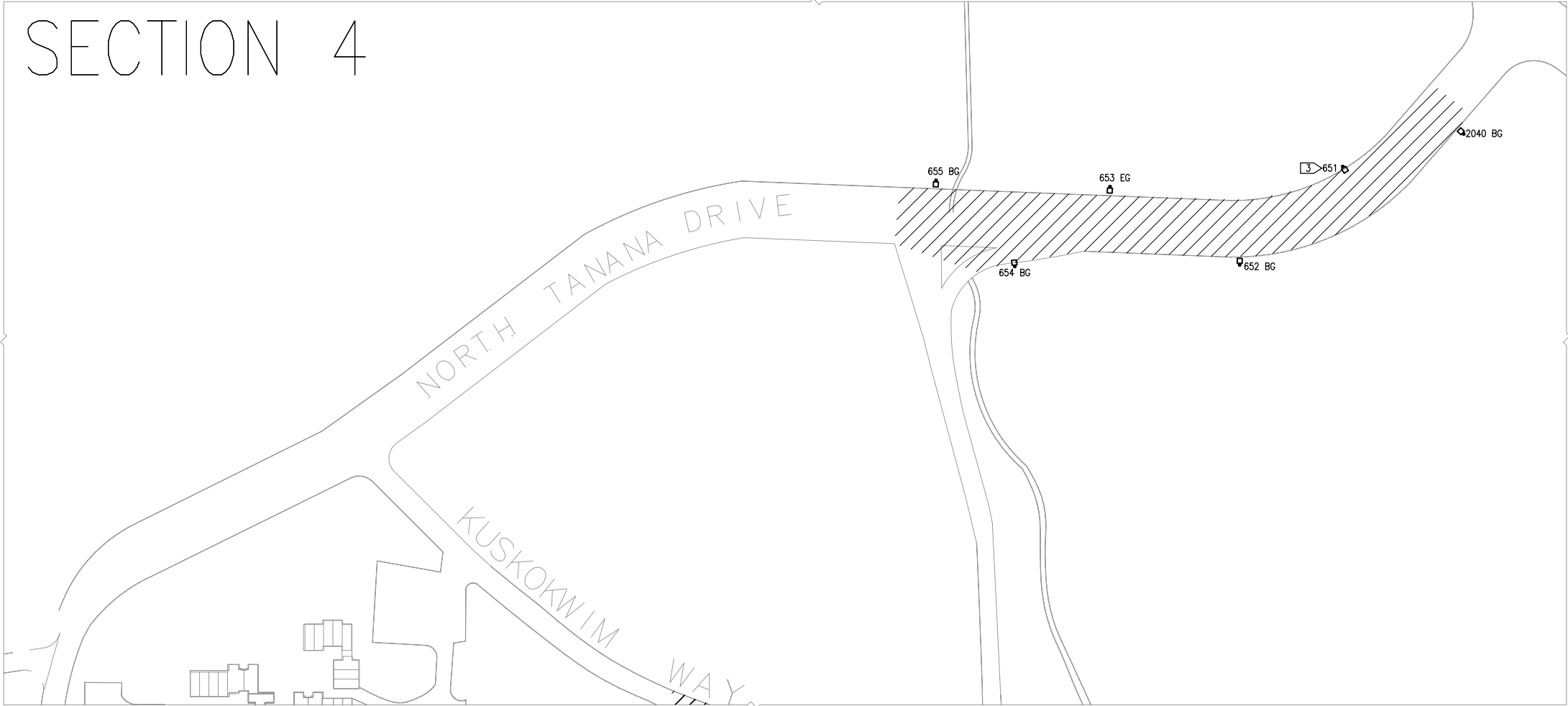


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SECTION 4

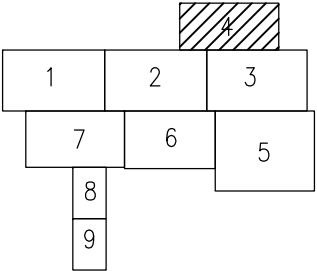
E104



1 SECTION 4 PLAN
E104 1" = 80'



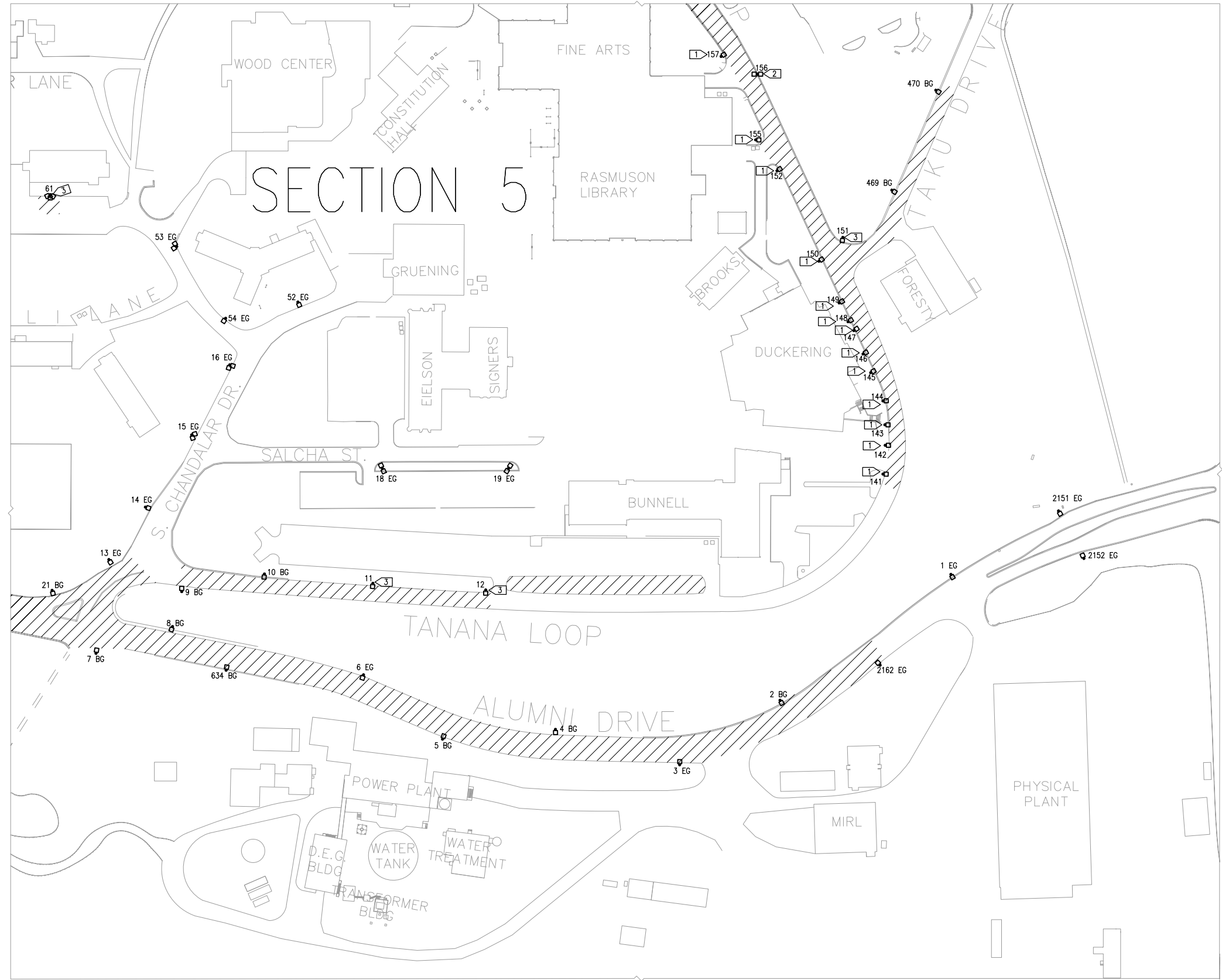
KEY PLAN





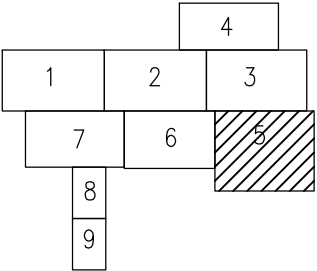
SPECIFIC NOTES

- 1 HANDHOLE COULD NOT BE OPENED. ASSUMED TO BE DAMAGED. REQUIRES POLE REPLACEMENT.
- 2 HANDHOLE DAMAGED, COULD NOT BE OPENED. REQUIRES POLE REPLACEMENT.
- 3 NO EQUIPMENT GROUNDING CONDUCTOR. REQUIRES PROPER GROUNDING INSTALLATION.
- 4 NOT USED.
- 5 NOT USED.
- 6 NOT USED.



1 SECTION 5 PLAN
E105 1" = 80'

KEY PLAN



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STAGE III

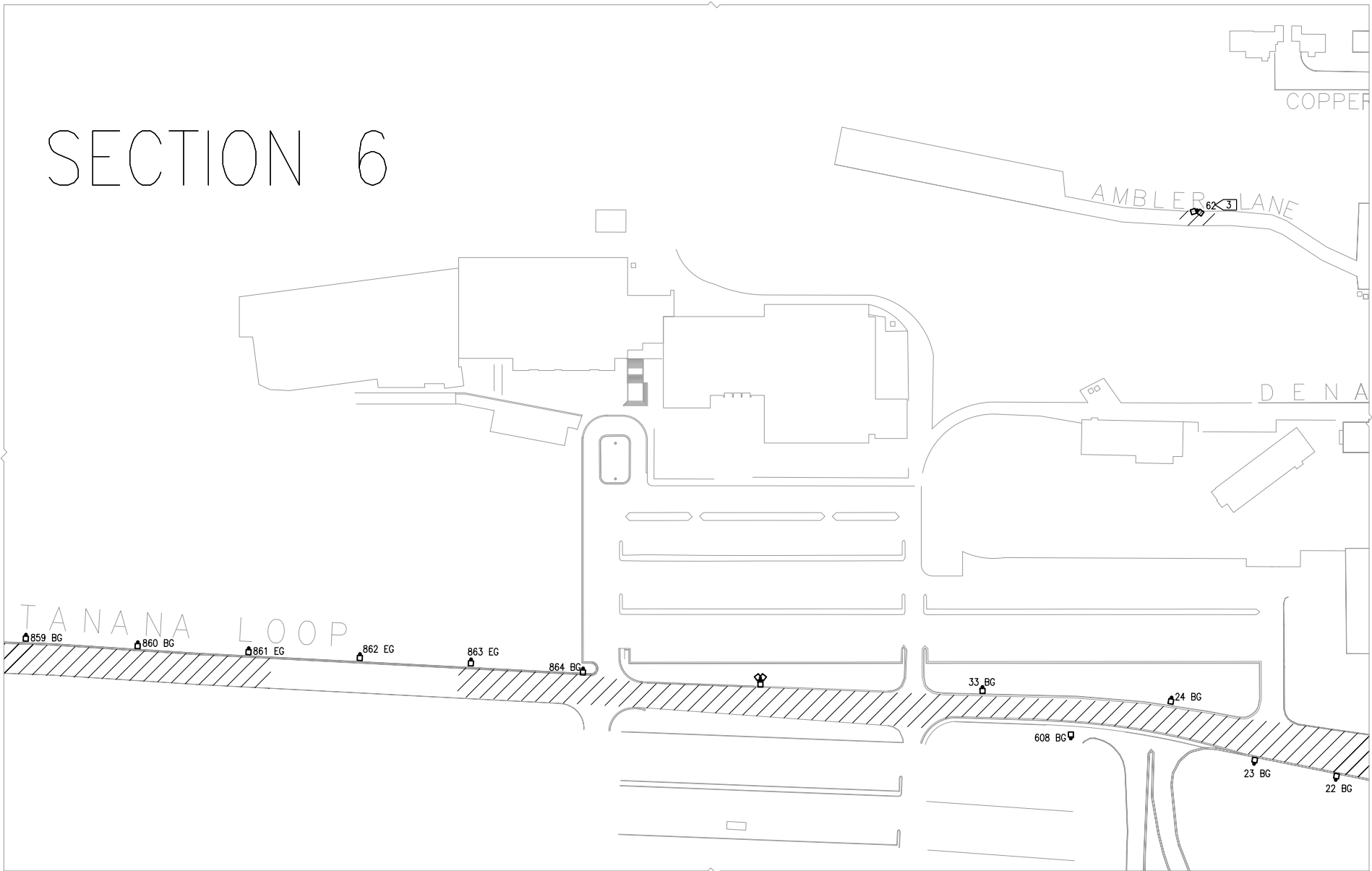
ISSUE DATE 15 MAR 2013
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DESIGNED BY ETJ
DRAWN BY JBR
SCALE 0" = 1"

SECTION 5

E105

SPECIFIC NOTES

- 1
- NOT USED.
- 2
- NOT USED.
- 3
- NO EQUIPMENT GROUNDING CONDUCTOR. REQUIRES PROPER GROUNDING INSTALLATION.
- 4
- NOT USED.
- 5
- NOT USED.
- 6
- NOT USED.



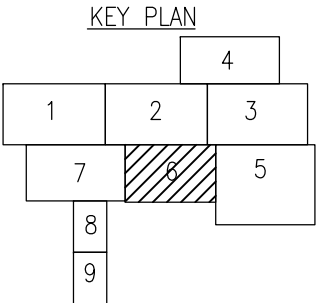
1

SECTION 6 PLAN

E106

1" = 80'

N



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SCALE 0" = 1"

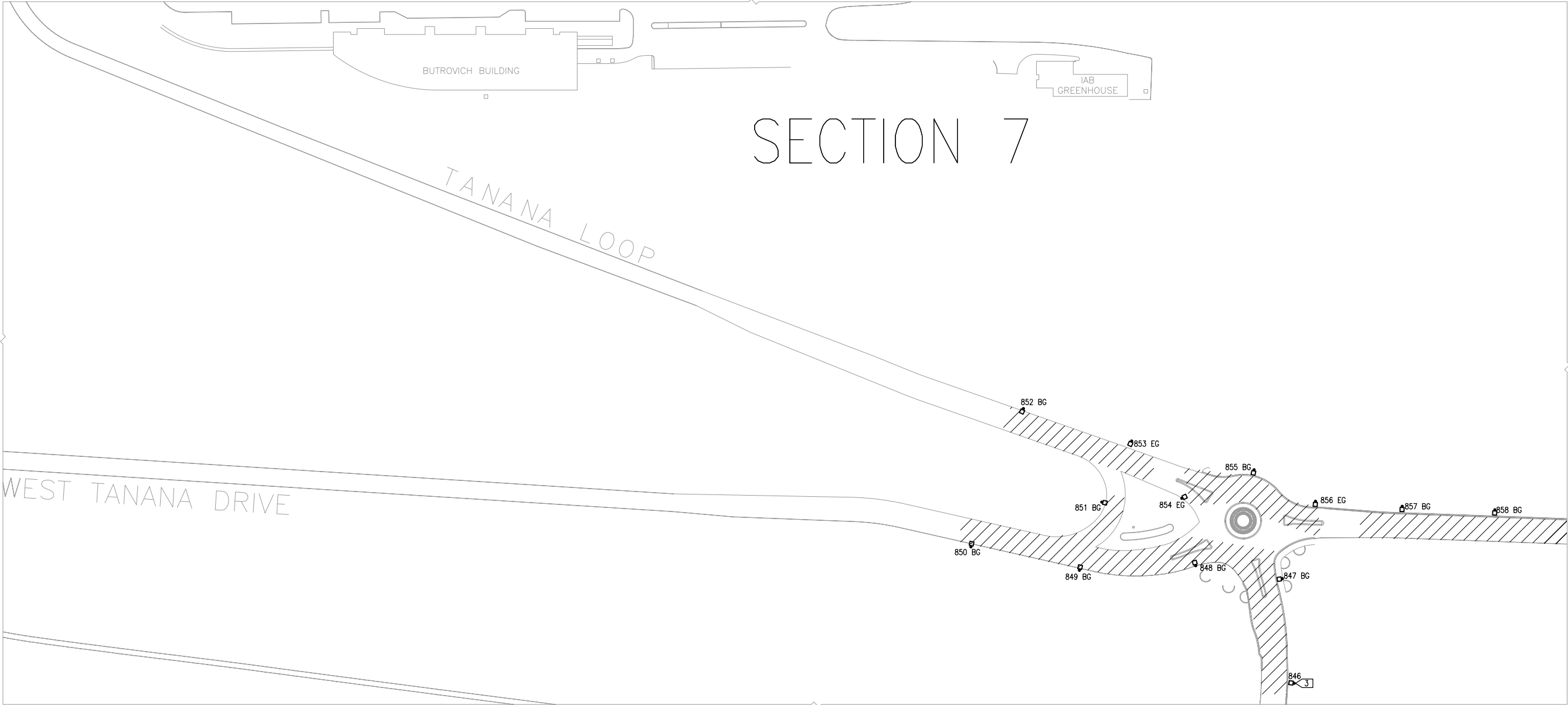
SECTION 6

E106



SPECIFIC NOTES

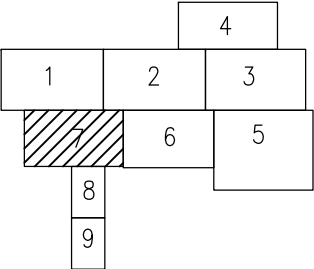
- 1 > NOT USED.
- 2 > NOT USED.
- 3 NO EQUIPMENT GROUNDING CONDUCTOR. REQUIRES PROPER GROUNDING INSTALLATION.
- 4 > NOT USED.
- 5 > NOT USED.
- 6 > NOT USED.



1 SECTION 7 PLAN
E107 1" = 80'



KEY PLAN



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STAGE III

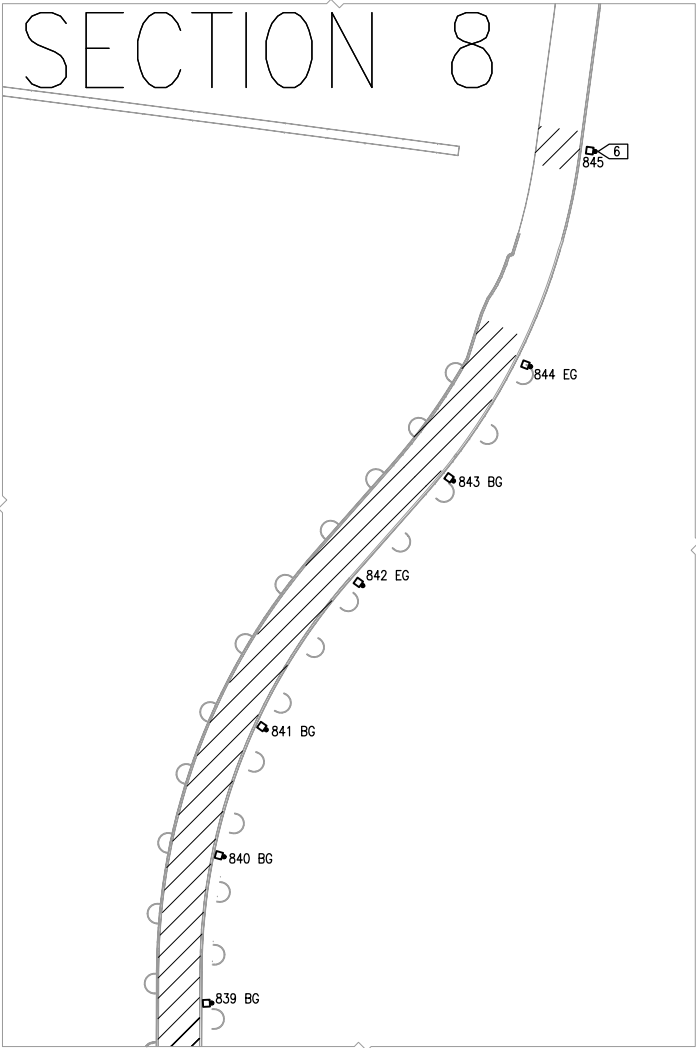
ISSUE DATE 15 MAR 2013
COMM. NUMBER 031224
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DRAWN BY JBR
SCALE 0" = 1"

SECTION 7

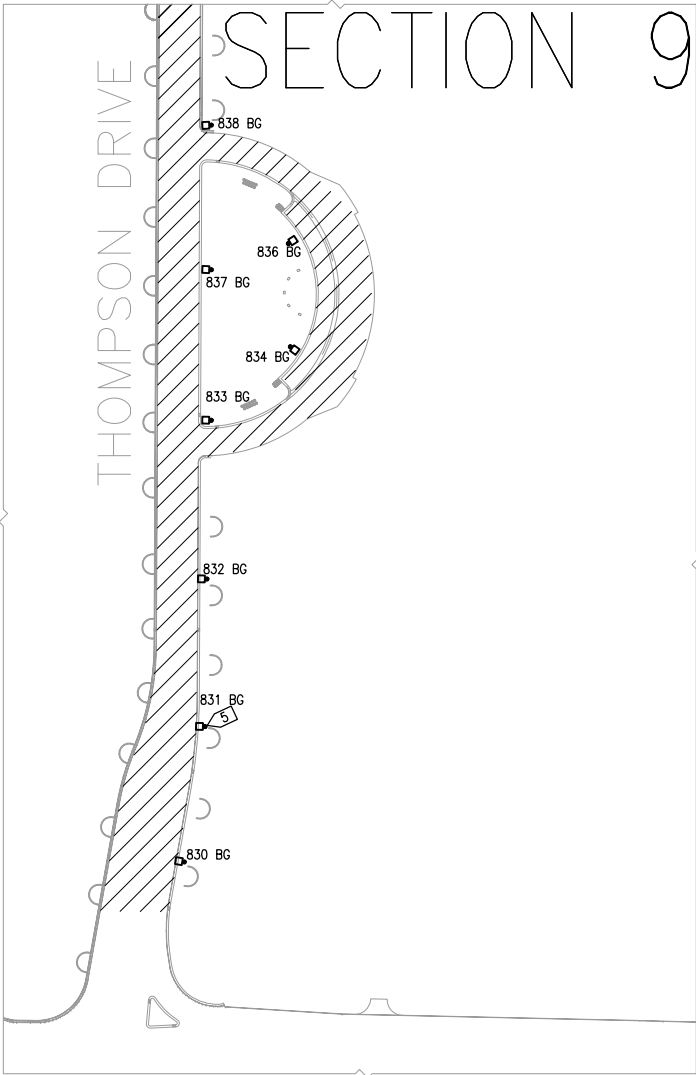
E107

SPECIFIC NOTES

- 1 NOT USED.
- 2 NOT USED.
- 3 NO EQUIPMENT GROUNDING CONDUCTOR. REQUIRES PROPER GROUNDING INSTALLATION.
- 4 NOT USED.
- 5 BROKEN OR DISCONNECTED GROUND WIRE. RECONNECT GROUND WIRE TO POLE HOUSING.
- 6 LIGHT FIXTURE NOT INSPECTED DUE TO INACCESSIBLE LOCATION. ASSUMED BARE GROUND INSTALLATION PER TYPICAL ADJACENT LIGHT FIXTURES. REQUIRES PROPER GROUNDING INSTALLATION.

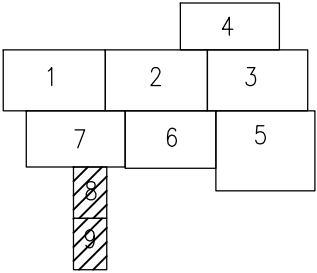


1 SECTION 8 PLAN
E108 1" = 80'



2 SECTION 9 PLAN
E108 1" = 80'

KEY PLAN

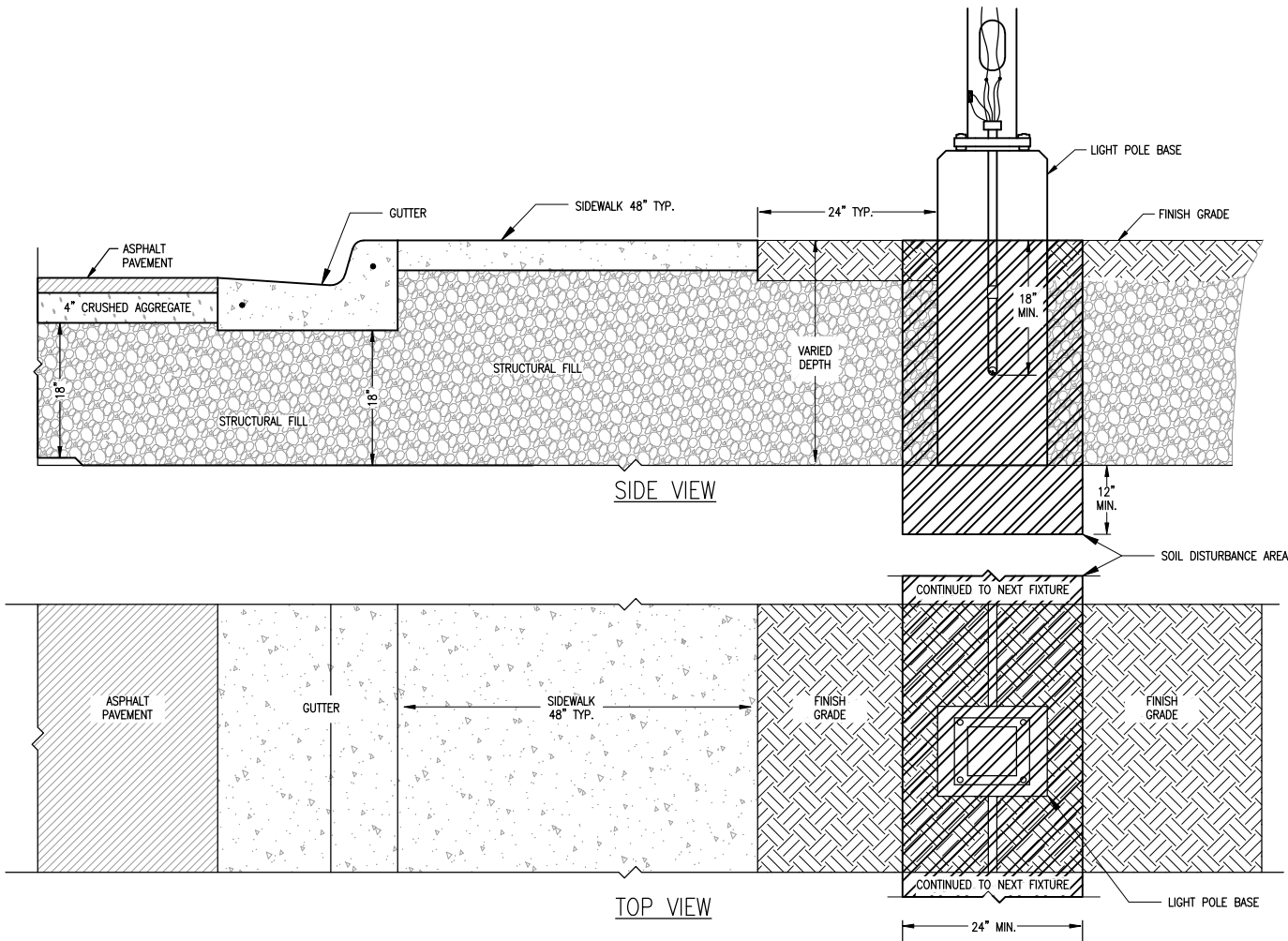


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SECTIONS 8 AND 9

E108

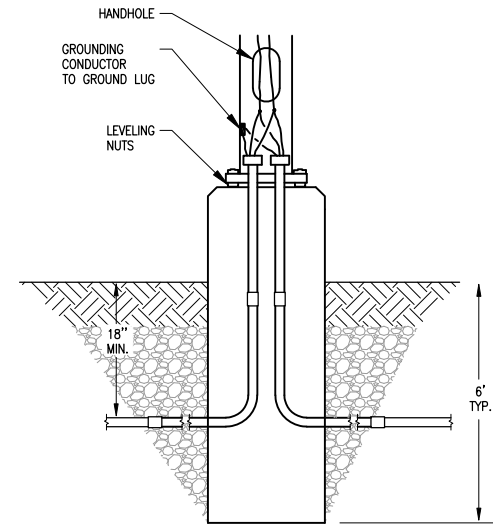


GENERAL SHEET NOTES

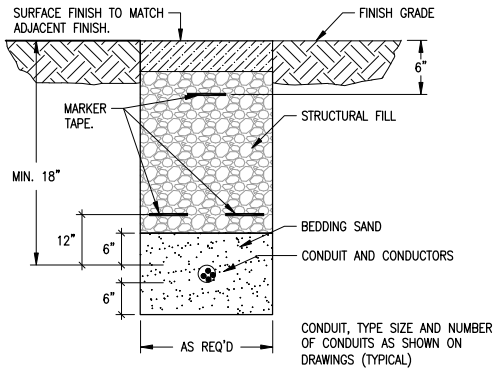
SOIL DISTURBANCE AREAS ABOUT THE POLE BASE VARY DEPENDANT ON ISSUE BEING RESOLVED AS DESCRIBED BELOW:

1. STRUCTURAL DAMAGE TO POLE OR HANDHOLE (INCLUDING UNABLE TO OPEN HANDHOLE):
 - A. REPLACE POLE. REMOVE POLE FROM POLE BASE AND LAY ON SOIL ADJACENT TO BASE. PREPARE NEW POLE WITH LIGHT REPLACEMENT FIXTURE, SET, RAISE AND MOUNT NEW POLE.
2. STRUCTURAL DAMAGE TO BASE:
 - A. REMOVE SOIL DOWN TO 1' BELOW BOTTOM OF BASE IN A 2' PERIMETER ABOUT THE EDGE OF THE POLE BASE. REMOVE IMMEDIATE ADJACENT POLES FROM RESPECTIVE BASES UPSTREAM AND DOWNSTREAM OF BASE WITH STRUCTURAL DAMAGE AND LAY POLE ON SOIL. CUT CONDUIT AND CONDUCTORS AT PENETRATION INTO POLE BASE. REMOVE AND REPLACE BASE WITH NEW BASE PER DETAIL. EXTEND EXISTING CONDUIT TO NEW POLE BASE. INFILL SOIL ABOUT POLE BASE PER DETAIL. PULL NEW CONDUCTORS FROM ADJACENT FIXTURES TO NEW POLE BASE. SET, RAISE AND MOUNT LIGHT FIXTURES AND POLES TO THEIR RESPECTIVE BASES.
3. INCOMPATIBLE MOUNTING OF EXISTING POLE TO BASIS OF DESIGN LIGHT FIXTURE:
 - A. REPLACE POLE. REMOVE POLE FROM POLE BASE AND LAY ON SOIL ADJACENT TO BASE. PREPARE NEW POLE WITH LIGHT REPLACEMENT FIXTURE, SET, RAISE AND MOUNT NEW POLE.
4. BARE OR NO EQUIPMENT GROUNDING CONDUCTOR:
 - A. FIXTURE IS ASSUMED TO OR DOES NOT HAVE PROPER GROUNDING. REMOVE POLES FROM THEIR BASES BOTH UPSTREAM AND DOWNSTREAM UP TO AND INCLUDING THE FIXTURES THAT HAVE PROPER GROUNDING IN BOTH DIRECTIONS. FOR ADEQUATELY SIZED CONDUIT BETWEEN BASES, REPULL CONDUCTORS WITH INCLUDED INSULATED EQUIPMENT GROUND. FOR CONDUITS DETERMINED TO BE UNDERSIZED, TRENCH BETWEEN POLE BASES WITH NEW CONDUIT AND CONDUCTORS PER DETAIL. SET, RAISE AND MOUNT LIGHT FIXTURES AND POLES TO THEIR RESPECTIVE BASES.

1 SOIL DISTURBANCE DETAIL
E201 NO SCALE



2 LIGHT POLE DETAIL TYP.
E201 NO SCALE



3 TRENCH DETAIL TYP.
E201 NO SCALE

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DETAILS

E201