

THE COLLEGE OF NEW JERSEY CAMPUS FIRE ALARM PROJECT CABLE, HARDWARE, AND SOFTWARE UPGRADES

2000 PENNINGTON ROAD
EWING, NJ 08618

PART A - CABLE INFRASTRUCTURE UPGRADE

- Set Consisting Of G And FA Drawings Detailing Campus Fiber Cable Upgrades
- Drawing List On Sheet G001

PART B - HARDWARE AND SOFTWARE UPDATES

- Set Consisting Of E Drawings Detailing Building Fire Alarm Hardware And Software Upgrades
- Drawing List On Sheet E001

ISSUES AND REVISIONS:

- May 2020

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30442

| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/03/2020 | ISSUED FOR BID | | | |



dlb associates
CONSULTING ENGINEERS, P.C.
265 Industrial Way West, Eatontown, N.J. 07724

Questions For DLB Call: **Anthony Laskosky**
DLB Project ID: 47211 Phone: 732-927-5038

project
TCNJ - CAMPUS FIRE ALARM PROJECT

2000 PENNINGTON ROAD,
EWING NJ, 08618

title
COVER SHEET

scale AS SHOWN drawn by SC checked by SG date 5/03/2020

dwg. no.
C000

THE COLLEGE OF NEW JERSEY CAMPUS FIRE ALARM PROJECT PART A - CABLE INFRASTRUCTURE UPGRADES

2000 PENNINGTON ROAD
EWING, NJ 08618



SITE LOCATION



AERIAL IMAGE

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| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | | | | | | | | | | | | |
|----|--|-------------|-------------------|---|---|--|---|---|---|---|--|-------------|-------------------|-------------------------------|---|-------------------------------|-----------------------------|---|----|------------------|---|----|---|--|--|--|--|---|--|--|--|--|
| 1 | TREE REPLACEMENT GUIDELINES | | | | | PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION | | | | | PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION (CONTINUED) | | | | | TOPSOILING (CONTINUED) | | | | | | | | | | | | | | | | |
| | <ol style="list-style-type: none"> Prior To Removal, All Trees Must Be Tagged And Approved For Removal By The TCNJ Grounds Crew. All Trees That Have The Root System Disturbed, But Are Not To Be Removed Shall Have An Arborist Perform Root Pruning Along The Trenched Side Of The Root System. No Stockpiling Of Excavated Dirt Shall Be Stored On The Root System Within 15 Feet Of The Base Of Remaining Trees. Prior To Trenching Contact TCNJ Grounds Crew To Mark Out A Radius As A Guide For Stock Piled Dirt Along The Trench. Several Excavation Areas Contain Site Lighting Near Streets And Sidewalks. In The Event That Site Lighting Fixtures, Conduit, Or Supports Are Disturbed During Construction Or Tree Removal Process The General Contractor Must Repair As Required To Maintain Existing Conditions. Unless Otherwise Noted, Trees Shall Be Replaced 1 For 1 With A Tree Of The TCNJ Ground Crew's Choosing. TCNJ's Specified Replacement Guide Is Listed On This Plan For Reference. General Contractor Shall Visit The Site Prior To Bidding And Notify TCNJ/DLB Of Discrepancies In An RFI During The Questions Period Of The Bid Milestone Schedule. | | | | | Topsoil Stripping And Stockpiling <ol style="list-style-type: none"> Field Exploration Should Be Made To Determine Whether Quantity And / Or Quality Of Surface Soil Justifies Stripping. A 6-Inch Stripping Depth Is Typical, But May Vary Depending On The Particular Soil Structure Or Pre-Existing Use. Stockpiles Should Be Located So As To Not Obstruct Natural Drainage Or Cause Off-Site Environmental Damage, And Shall Be Delineated On The Certified Soil Erosion And Sediment Control Plan And Be Constructed In Accordance With The Topsoil Stockpile Detail. Stockpiles Should Be Temporarily Stabilized According To The Standards. Site Preparation <ol style="list-style-type: none"> Install Erosion Control Measures And Facilities Such As Silt Fence, Diversions, Sediment Basins, And Channel Stabilization. Grade As Needed And Feasible To Permit The Use Of Conventional Equipment For Seedbed Preparation, Seeding, Mulch Application, Tacking, And Maintenance. All Grading Shall Be In Accordance With Standard For Land Grading, 19-1. The Contractor Responsible For Site Preparation, Seeding, And Mulching Shall Have A Minimum Of 5 Years Professional Experience. Seedbed Preparation <ol style="list-style-type: none"> Topsoil Required: <ul style="list-style-type: none"> Minimum Depth: 6" (Unsettled) pH: 6.0 To 8.0 Organic Matter Content: 2.75% Minimum Nitrate N2: 50 Pounds Per Acre (50% Water Insoluble) Phosphorous: 100 Pounds Per Acre Potassium: 50 Pounds Per Acre The Contractor Should Be Aware Of The Possibility, Depending Upon The Site Conditions, That All Topsoil May Have To Be Provided From An Off-Site Source. Topsoil Should Be Handled Only When Dry Enough To Work Without Damaging Soil Structure. Apply A Uniform 6 Inches (Unsettled) Of Topsoil On All Disturbed Areas. Soils With A pH Of 4.0 Or Less Or Containing Iron Sulfide Shall Be Covered With A Minimum Depth Of 12 Inches Of Soil Having A pH Of 5.0 Or More And The Top 5 Inches Shall Conform To The Topsoil Standard And Shall Be Limed According To The Specifications. If The Topsoil Becomes Compacted, The Surface Must Be Scarified 6" To 12" To Provide Good Seed-To-Soil Bond. Apply Limestone And Fertilizer According To Soil Test Recommendations Such As Those Offered By Rutgers University Cooperative Extension. If Soil Testing Is Not Feasible, Fertilizer (10-20-10) With 50% Water Insoluble Nitrogen Should Be Applied At The Typical Rate Of 500 Pounds Per Acre Or 11 Pounds Per 1,000 Square Feet. Apply Limestone Equivalent To 50% Calcium Plus Magnesium Oxides (Pulverized Dolomitic Limestone Is Preferred For Most Soils South Of The New Brunswick - Trenton Fall Line) As Follows: <table border="1"> <thead> <tr> <th>SOIL TEXTURE</th> <th>TONS / ACRE</th> <th>LBS / 1000 SQ. FT</th> </tr> </thead> <tbody> <tr> <td>CLAY, CLAY LOAM, HIGH ORGANIC</td> <td>3</td> <td>135</td> </tr> <tr> <td>SANDY LOAM, LOAM, SILT LOAM</td> <td>2</td> <td>90</td> </tr> <tr> <td>LOAMY SAND, SAND</td> <td>1</td> <td>45</td> </tr> </tbody> </table> Work Lime And Fertilizer Into Soil To A Depth Of 4 Inches. The Final Harrowing Or Disc Operation Should Be On The General Contour. Continue Tillage Until A Uniform, Fine Seedbed Is Prepared. Remove From The Surface All Stones 2 Inches Or Larger In Any Dimension, And Other Objectionable Stones Or Debris Such As Wire, Tree Roots, Pieces Of Concrete, Clods, Lumps, Or Other Unsuitable Material. Seeding <ol style="list-style-type: none"> Select A Seed Mixture Approved By The Mercer County Soils Conservation District. Apply Seed Uniformly By Hand, Cyclones, Drop Seeder, Drill Cultipacker, Or Hydroseeder. The Latter May Be Justifiable For Large, Steep Areas Where Conventional Applications Are Not Feasible. Hydroseeding Shall Be A Two Step Process: Mulch Shall Not Be Mixed With The Seed; The Seed Must Be Applied First To Assure Proper Seed To Soil Contact. The Hydromulch Is Then Sprayed Over The Seeding. For Optimum Results, The Seed Should Be Incorporated Into The Soil To A Depth Of 1/4 To 1/2 Inch Depending Upon Species. After Seeding, The Soil Should Be Packed With A Corrugated Roller. When Performed On The Contour, Rolling Will Minimize Sheet Erosion And Maximize Water Conservation. | | | | | SOIL TEXTURE | TONS / ACRE | LBS / 1000 SQ. FT | CLAY, CLAY LOAM, HIGH ORGANIC | 3 | 135 | SANDY LOAM, LOAM, SILT LOAM | 2 | 90 | LOAMY SAND, SAND | 1 | 45 | Mulching <ol style="list-style-type: none"> Unrotted Straw, Hay Free Of Seeds, Or Salt Hay Is Required On All Seeding At A Rate Of 1.5 To 2 Tons Per Acre, (70 To 90 Pounds Per 1,000 Square Feet), Except Where A Crimper Is Used Instead Of A Liquid Mulch-Binder, Then The Rate Of Application Is 3 Tons Per Acre. Mulch Anchoring Should Be Accomplished Immediately After Placement To Minimize Loss Due To Wind Or Water. This May Be Done According To The Following Methods: <ul style="list-style-type: none"> Wood-Fiber Or Paper-Fiber Mulch At The Rate Of 1,500 Pounds Per Acre Applied By The Hydroseeder. Use Is Limited To Only The Optimum Seeding Season. Synthetic Or Organic Binders Peg And Twine, Mulch Netting, And Mechanical Crimping. Crimping Requires A Higher Mulch Rate (3 Tons Per Acre) Note <ol style="list-style-type: none"> One Bale Of Hay Weighs 40-60 Pounds Depending On How It Was Baled. A 1,500 Tank Of Hydromulch Covers 0.5 Acres. Temporary Seeding Mixes <ol style="list-style-type: none"> Mix: Early Spring / Late Summer To Early Fall <ul style="list-style-type: none"> 100% Perennial Ryegrass Rate: 100 Pounds Per Acre Mix: Mid-Summer <ul style="list-style-type: none"> 40% Pearl Millet 40% Millet (German Or Hungarian) 20% Weeping Lovegrass Rate: 100 Pounds Per Acre Permanent Seeding Mixes <ol style="list-style-type: none"> Optimum Seeding Dates: March 1 To May 15 And August 15 To October 15 <ul style="list-style-type: none"> Application Rate: 200 Pounds Per Acre 70% Turf Type Tall Fescue 20% Perennial Ryegrass 10% Kentucky Bluegrass | | | | | <ol style="list-style-type: none"> Employ Needed Erosion Control Practices Such As Diversions, Grade Stabilization Structures, Channel Stabilization Measures, Sedimentation Basins, And Waterways. Applying Topsoil <ol style="list-style-type: none"> Topsoil Should Be Handled Only When It Is Dry Enough To Work Without Damaging Soil Structure; i.e., Less Than Field Capacity. A Uniform Application To A Depth Of 6 Inches (Unsettled) Is Required. Soils With A pH Of 4.0 Or Less Or Containing Iron Sulfide Shall Be Covered With A Minimum Depth Of 12 Inches Of Topsoil Having A pH Of 5.0 Or More, In Accordance With The Standard For Management Of High Acid Producing Soil. Topsoil Should Be Finely Graded With Low Ground Pressure Equipment Or By Hand When Practical And Feasible To Reduce The Potential For Re-Compacting The Subsoil. | | | | |
| | SOIL TEXTURE | TONS / ACRE | LBS / 1000 SQ. FT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CLAY, CLAY LOAM, HIGH ORGANIC | 3 | 135 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SANDY LOAM, LOAM, SILT LOAM | 2 | 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LOAMY SAND, SAND | 1 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | SOIL EROSION AND SEDIMENT CONTROL NOTES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Soil And Erosion Control Shall Comply With The Requirements Of The Mercer County Soil Conservation District With The Following Additional Requirements: <ol style="list-style-type: none"> The Contractor Shall Only Excavate That Portion Of The Trench That The Contractor Can Install The Pipe, Backfill The Trench And Stabilize In A Day. Where A Portion Of The Trench Is Required To Remain Open. Erosion And Sediment Control Devices (Silt Fence And Silt Sack For Inlets As Indicated) Shall Be Installed Along Level Sections Of The Project. The Contractor Shall Not Commence Excavation During Periods Of Expected Poor Weather Conditions. Mud And Sediment Shall Be Washed Off Of The Construction Equipment While On Site To Prevent Migration Of Sediment From The Site. Stabilization Of The Backfilled Trench Shall Conform To The Requirements Of The Mercer County Soil's Requirements For Permanent Vegetative Cover For Soil Stabilization. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | MANAGEMENT OF HIGH ACID PRODUCING SOILS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | General Requirements <ol style="list-style-type: none"> Limit The Excavation Area And Exposure Time When High Acid Producing Soils Are Encountered. Topsoil Stripped From The Site Shall Be Stored Separately From Temporarily Stockpiled High Acid-Producing Soils. Stockpiles Of High Acid-Producing Soils Should Be Located On Level Land To Minimize Its Movement, Especially When This Material Has High Clay Content. Temporarily Stockpiled High Acid-Producing Soil Material To Be Stored More Than 48 Hours Should Be Covered With Properly Anchored, Heavy Grade Sheets Of Polyethylene Where Possible. If Not Possible, Stockpiles Should Be Covered With A Minimum Of 3 To 6 Inches Of Wood Chips To Minimize Erosion Of The Stockpile. Silt Fence Shall Be Installed At The Toe Of The Slope To Contain Movement Of The Stockpiled Material. Topsoil Shall Not Be Applied To The Stockpiles To Prevent Topsoil Contamination With High Acid-Producing Soil. High Acid-Producing Soils With A pH Of 4.0 Or Less Or Containing Iron Sulfide (Including Borrow Cuts Or Dredged Sediment) Shall Be Ultimately Placed Or Buried With Limestone Applied At The Rate Of 10 Tons Per Acre (Or 450 Pounds Per 1,000 Square Feet Of Surface Area) And Covered With A Minimum Of 12 Inches Of Settled Soil With A pH Of 5.0 Or More Except As Follows: <ul style="list-style-type: none"> Disposal Areas Shall Not Be Located Within 24 Inches Of Any Surface Of A Slope Or Bank, Such As Berms, Stream Banks, Ditches, And Others, To Prevent Potential Lateral Leaching Damages. Equipment Used For Movement Of High Acid-Producing Soils Should Be Cleaned At The End Of Each Day To Prevent Spreading Of High Acid-Producing Soil Materials To Other Parts Of The Site, Into Streams Or Stormwater Conveyances, And To Protect Machinery From Accelerated Rusting. Non-Vegetative Erosion Control Practices (Stone Tracking Pads, Strategically Placed Limestone Check Dam, Sediment Barrier, Wood Chips) Should Be Installed To Limit The Movement Of High Acid-Producing Soils From, Around, Or Off The Site. Following Burial Or Removal Of High Acid-Producing Soil, Topsoiling And Seeding Of The Site (See Temporary Vegetative Cover For Soil Stabilization, Permanent Vegetative Cover For Soil Stabilization, And Topsoiling). Monitoring Must Continue For A Minimum Of 6 Months To Ensure There Is Adequate Stabilization And That No High Acid-Producing Soil Problems Emerge. If Problems Still Exist, The Affected Area Must Be Treated As Indicated Above To Correct The Problem. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Any Existing Bushes Or Shrubs That Are In The Path Of Any New Underground Duct Bank Routing Shall Be Removed And Replaced In Kind.

EXISTING TREES ① ②

- Bradford Pear
- Flowering Dogwood
- Pine
- Red Maple
- Cherry Tree

TREE REPLACEMENT GUIDE ① ②

Replace Removed Trees With One Of The Following (Coordinate Selection With TCNJ):

- Cornus Florida (Flowering Dogwood) - 2" Caliper
- Prunus Kwanzan (Japanese Cherry) - 2" Caliper
- Prunus Serrulata (Japanese Flowering Cherry) - 2" Caliper
- Ilex Opaca (American Holly) - 2" Caliper
- Cercis Canadensis (Eastern Redbud) - 2" Caliper
- Replace In Kind - 2" Caliper
- Aristocrat Pear - 2" Caliper
- Eastern Pine - 2" Caliper
- Scotch Pine - 2" Caliper

CAMPUS TREE PLAN Scale: NTS

Drawing: **G002** Detail: **01**

dlb associates
CONSULTING ENGINEERS, P.C.
265 Industrial Way West, Eatontown, N.J. 07724

Questions For DLB Call: **Anthony Lasosky** Phone: 732-927-5038

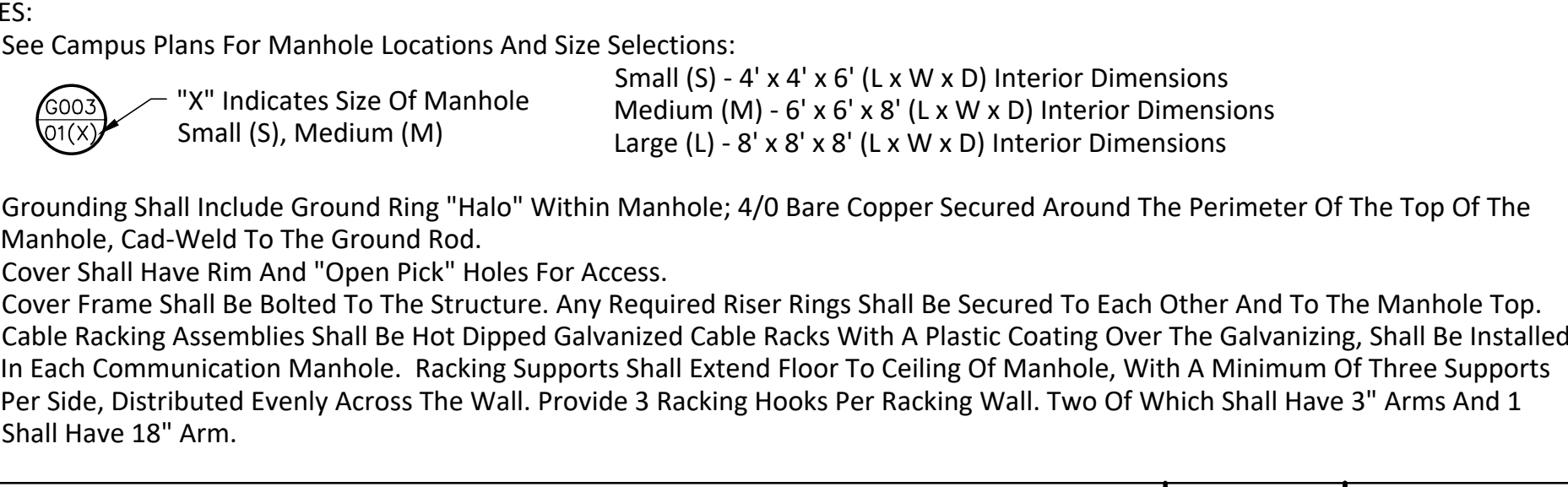
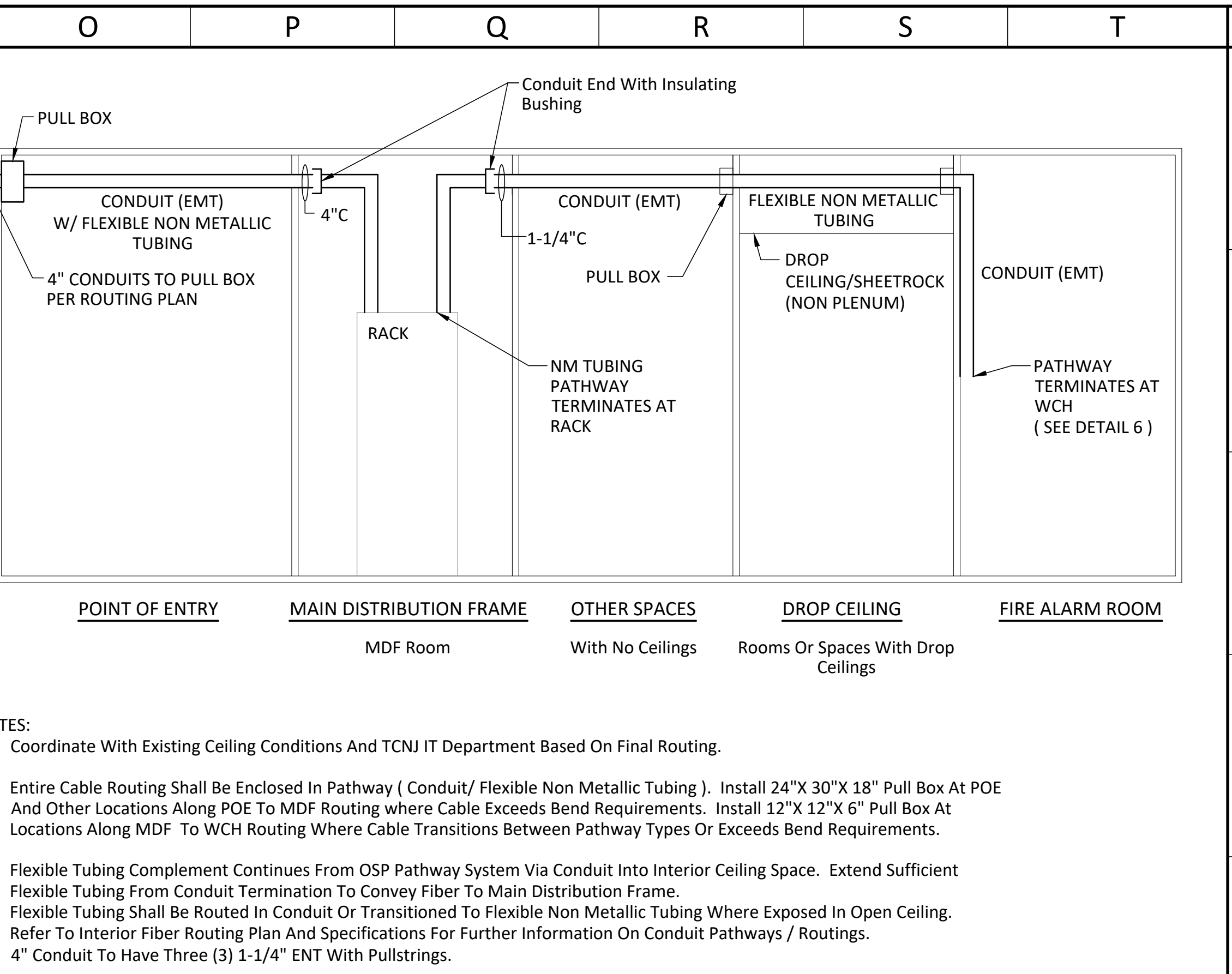
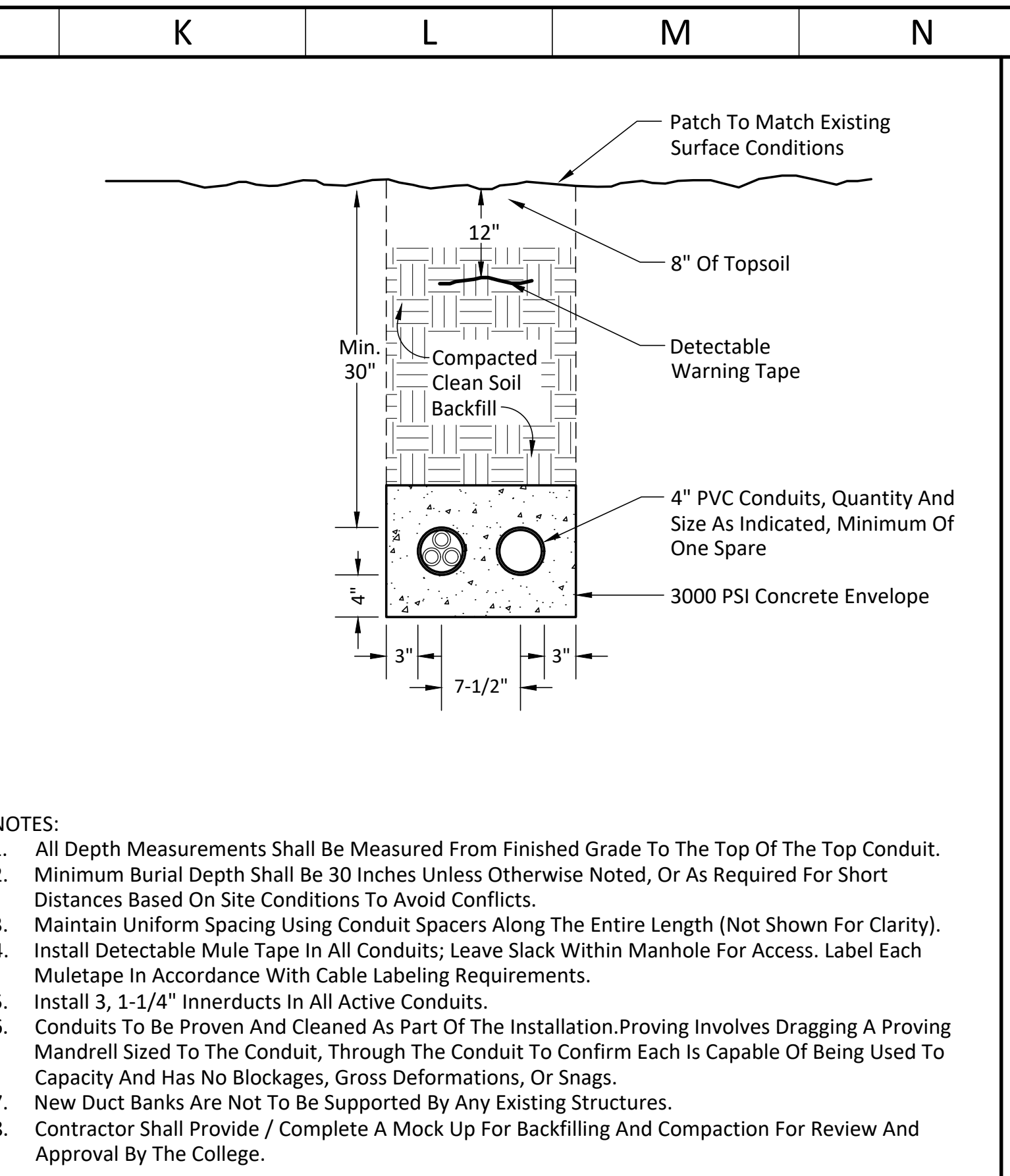
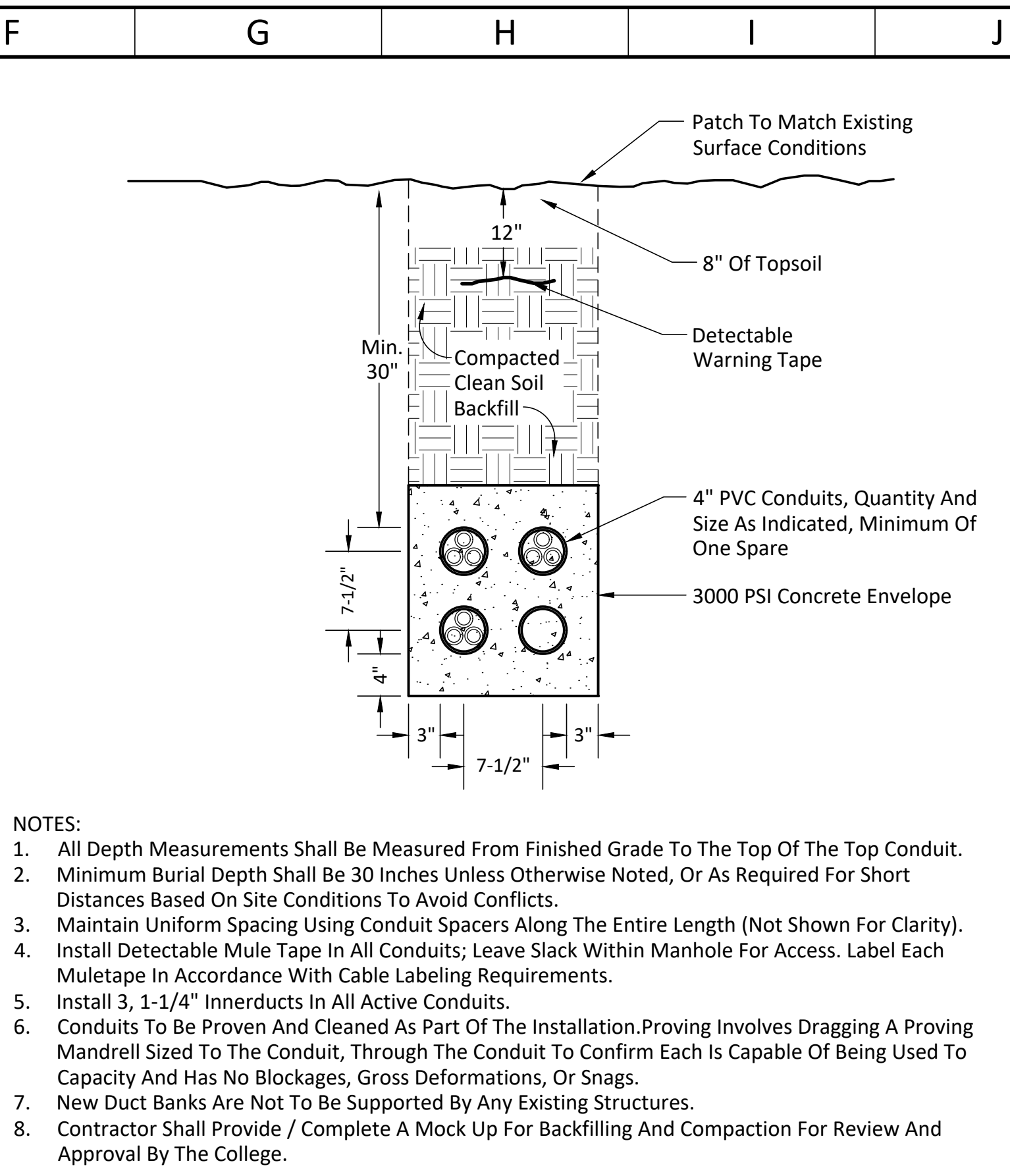
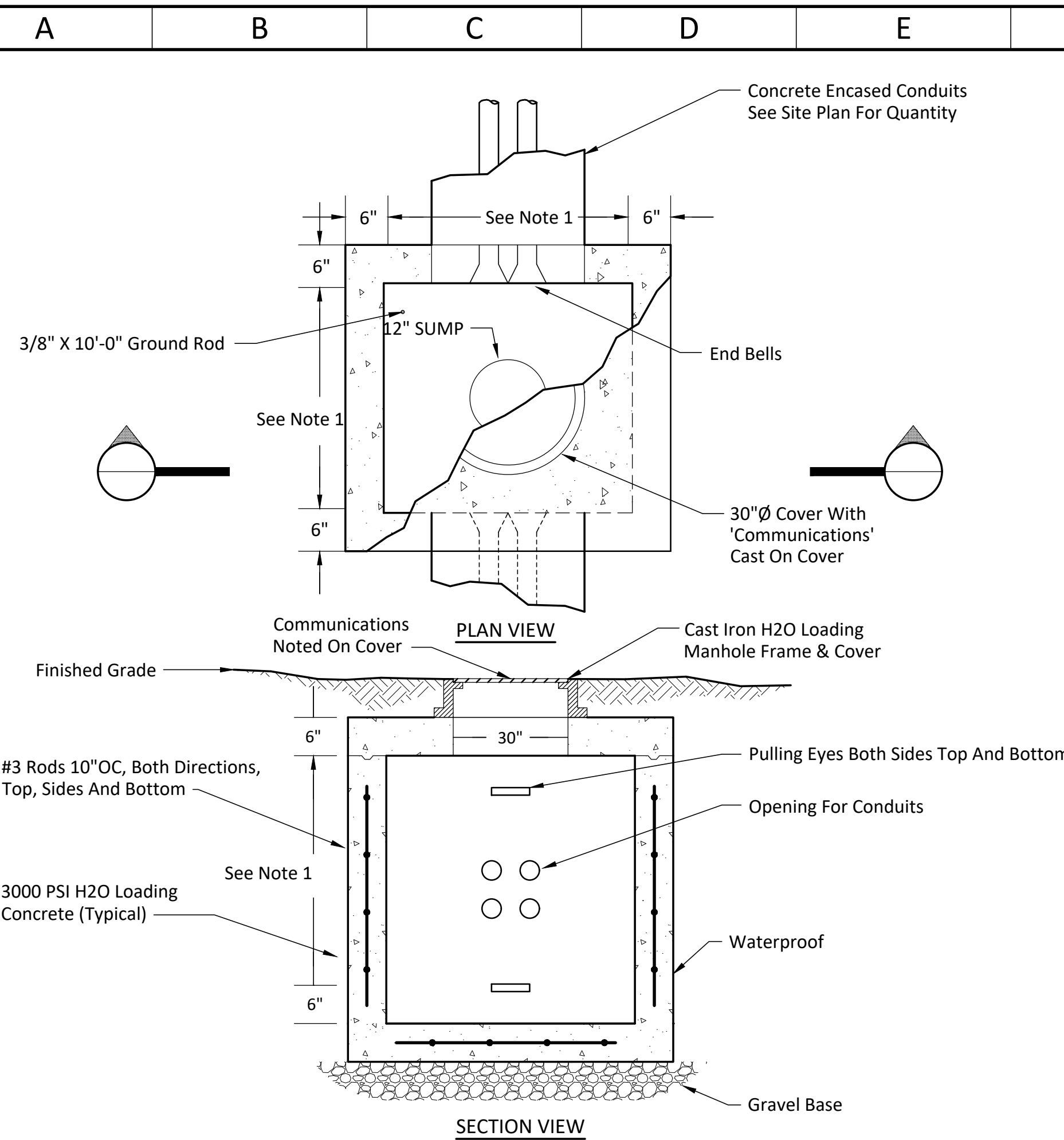
project: **TCNJ - CAMPUS FIRE ALARM PROJECT PART A - CABLE INFRASTRUCTURE UPGRADES**

2000 PENNINGTON ROAD, EWING NJ, 08618

title: **GENERAL INFORMATION**

scale: AS SHOWN drawn by: SC checked by: SG date: 05/03/2020

dwg. no.: **G002**



DUCT BANK DETAIL Scale: NTS Drawing: **G003** Detail: **02**

DUCT BANK DETAIL Scale: NTS Drawing: **G003** Detail: **03**

TYPICAL FIBER PATHWAY ROUTING Scale: NTS Drawing: **G003** Detail: **04**

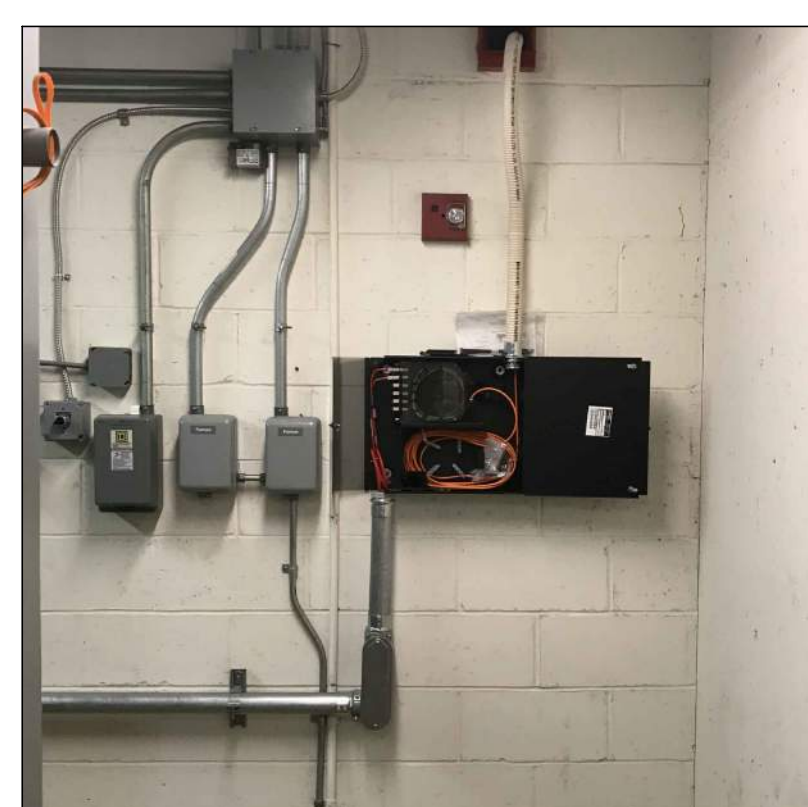
COMMUNICATION CONCRETE MANHOLE DETAIL Scale: NTS Drawing: **G003** Detail: **01**



SCIENCE COMPLEX FACP
Fiber Installed In The Science Complex Building Installed Per TCNJ Standards



SCIENCE COMPLEX FACP
Fiber Installed In The Science Complex Building Installed Per TCNJ Standards



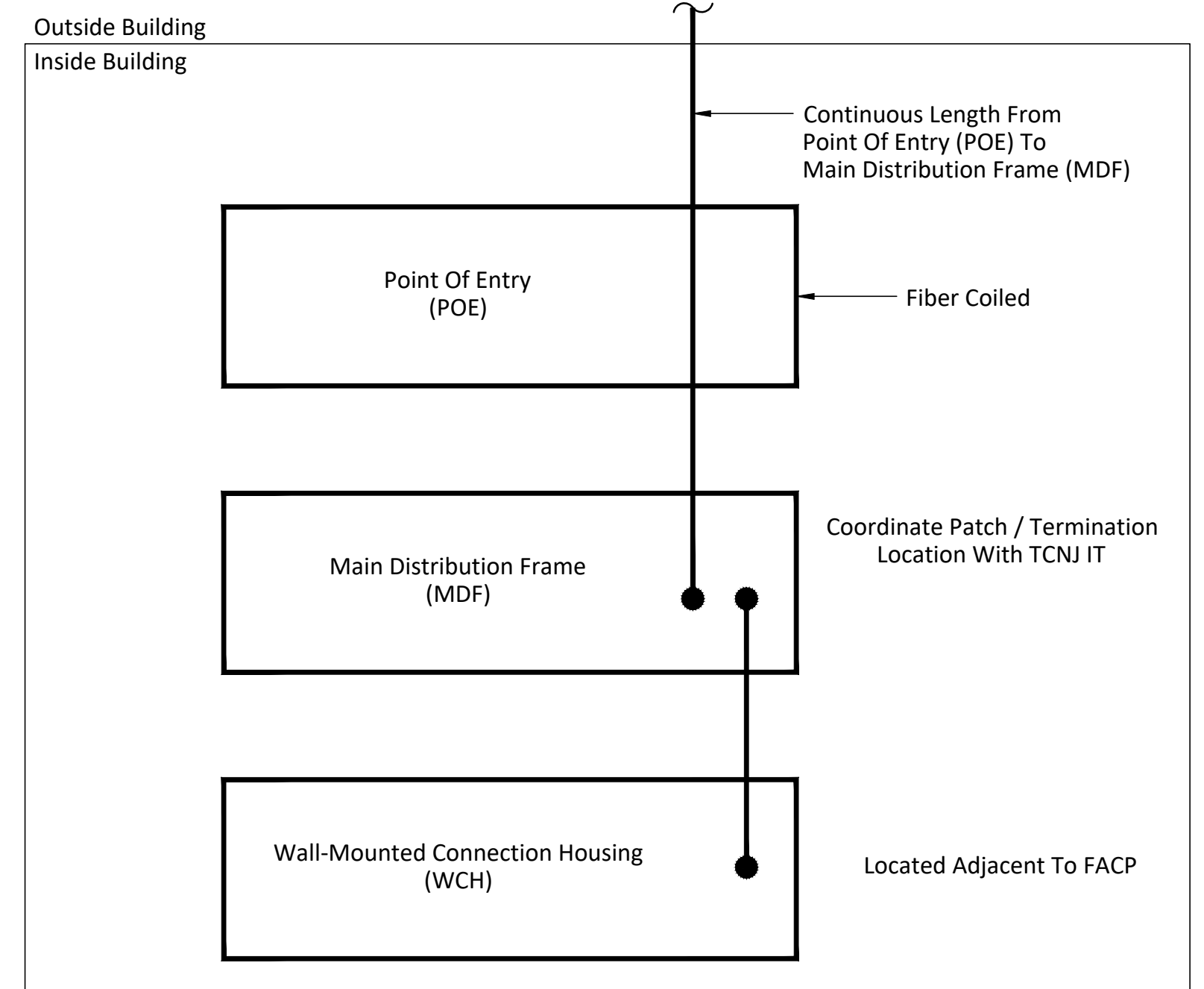
WALL MOUNT CONNECTOR HOUSING
An Example Of WCH Mounted On The Wall Within The Stem Building



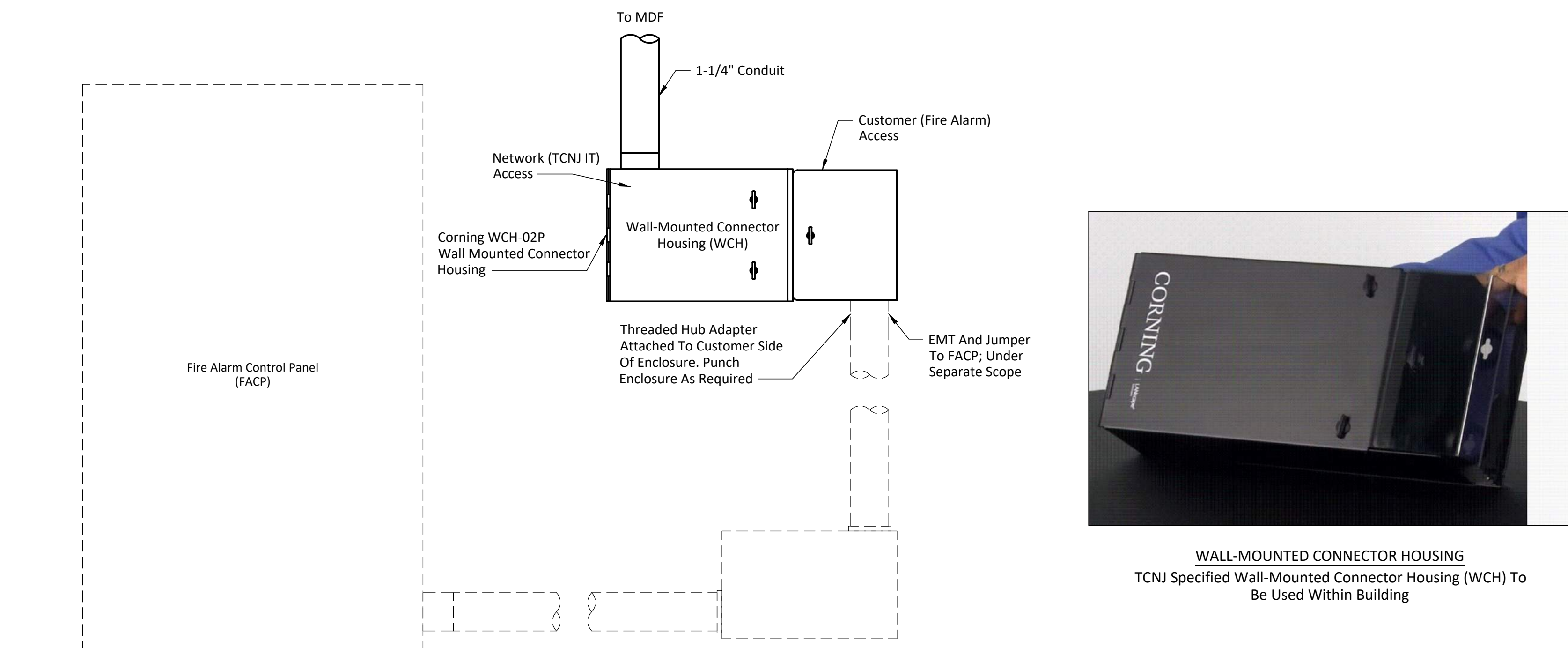
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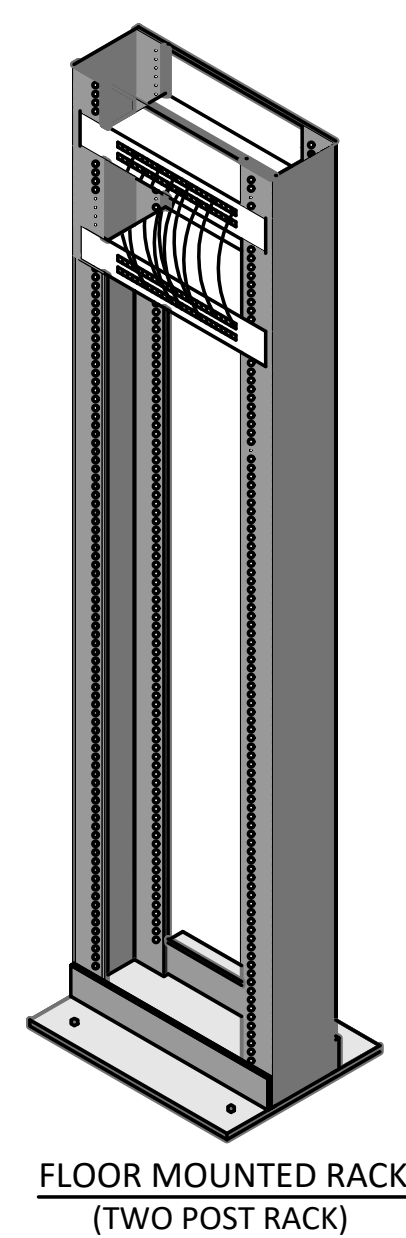
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FIRE ALARM FIBER ENCLOSURE INSTALLATION BLOCK DIAGRAM Scale: NTS Drawing: **G003** Detail: **05**



FIRE ALARM FIBER ENCLOSURE INSTALLATION Scale: NTS Drawing: **G003** Detail: **06**



FLOOR MOUNTED RACK
(TWO POST RACK)



RACK MOUNTED CABINET

EQUIPMENT RACK DETAIL Scale: NTS Drawing: **G003** Detail: **07**

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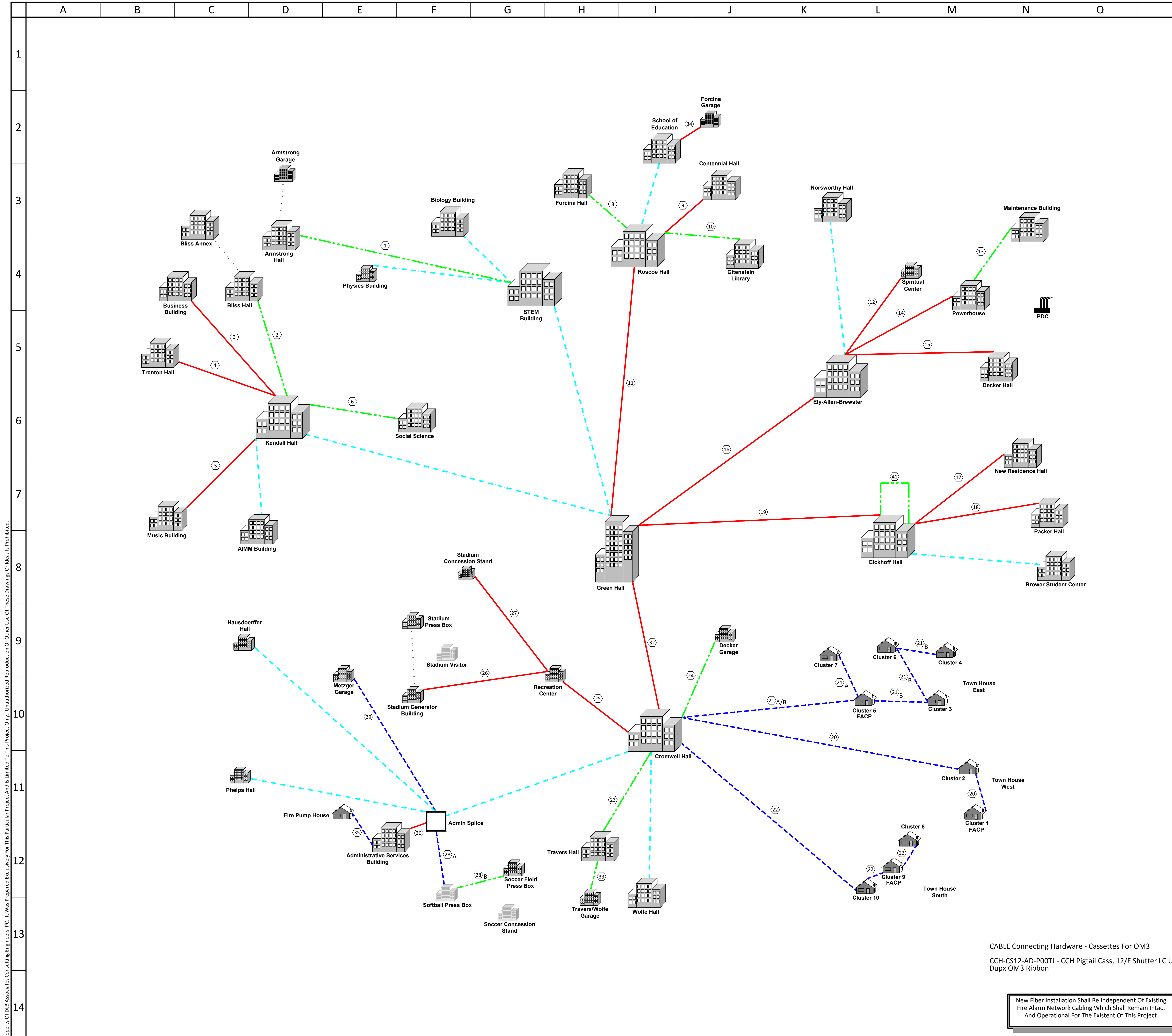
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project
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title
DETAILS
scale AS SHOWN drawn by SC checked by SG date 05/03/2020
dwg. no.
G003

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30x42



| Fiber Routing | | | | | |
|---------------|------------------------------|-------------------------|---------------|----------------|---------------|
| Span ID | Starting Building | Ending Building | Empty Conduit | Base Bid Cable | Type Of Cable |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 | OS2 / OM3 |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 | OS2 / OM3 |
| 3 | Business Building | Kendall Hall | No | 12/12 | OS2 / OM3 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 | OS2 / OM3 |
| 5 | Music Building | Kendall Hall | No | 12/12 | OS2 / OM3 |
| 6 | AIMM Building | Kendall Hall | N/A | 0* | OS2 / OM1 |
| 7 | Social Science | Kendall Hall | Yes | 12/12 | OS2 / OM3 |
| 8 | Kendall Hall | Green Hall | Yes | 0* | OS2 / OM3 |
| 9 | Chemistry Building | STEM Building | N/A | 0* | |
| 10 | Physics Building | STEM Building | N/A | 0* | OS2 / OM1 |
| 11 | Biology Building | STEM Building | N/A | 0* | OS2 / OM1 |
| 12 | STEM Building | Green Hall | N/A | 0* | OS2 / OM1 |
| 13 | Forcina Hall | Roscoe Hall | Yes | 12/12 | OS2 / OM3 |
| 14 | Education Building | Roscoe Hall | N/A | 0* | OS2 / OM1 |
| 15 | Centennial Hall | Roscoe Hall | No | 12/12 | OS2 / OM3 |
| 16 | Gitenstein Library | Roscoe Hall | No | 12/12 | OS2 / OM3 |
| 17 | Roscoe Hall | Green Hall | No | 12/12 | OS2 / OM3 |
| 18 | Norsworthy Hall | Ely-Allen-Brewster | N/A | 0* | OS2 / OM1 |
| 19 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 | OS2 / OM3 |
| 20 | Maintenance Building | Powerhouse | Yes | 12/12 | OS2 / OM3 |
| 21 | Powerhouse | Ely-Allen-Brewster | No | 12/12 | OS2 / OM3 |
| 22 | Decker Hall | Ely-Allen-Brewster | No | 12/12 | OS2 / OM3 |
| 23 | Ely-Allen-Brewster** | Green Hall | No | 12/12 | OS2 / OM3 |
| 24 | New Residence Hall | Eickhoff Hall | No | 12/12 | OS2 / OM3 |
| 25 | Packer Hall | Eickhoff Hall | No | 12/12 | OS2 / OM3 |
| 26 | Brower Student Center | Eickhoff Hall | N/A | 0* | OS2 / OM1 |
| 27 | Eickhoff Hall | Green Hall | No | 12/12 | OS2 / OM3 |
| 28 | TH1 (Town House West) | Cromwell Hall | No | 48/48 | OS2 / OM3 |
| 29 | TH3 21A/B (Town House East) | Cromwell Hall | No | (2) 36/36 | OS2 / OM3 |
| 30 | TH9 (Town House South) | Cromwell Hall | No | 48/48 | OS2 / OM3 |
| 31 | Travers Hall | Cromwell Hall | Yes | 12/12 | OS2 / OM3 |
| 32 | Wolfe Hall | Cromwell Hall | N/A | 0* | |
| 33 | Decker Garage | Cromwell Hall | Yes | 12/12 | OS2 / OM3 |
| 34 | Recreation Center | Cromwell Hall | No | 12/12 | OS2 / OM3 |
| 35 | Stadium Generator Building | Recreation Center | No | 12/12 | OS2 / OM3 |
| 36 | Soccer Field Press Box 28A/B | Admin Splice | No | 24/24 | OS2 / OM1 |
| 37 | Metzger Garage | Admin Splice | No | 24/24 | OS2 / OM1 |
| 38 | Phelps Hall | Admin Splice | N/A | 0* | OS2 / OM1 |
| 39 | Hausdoerffer Hall | Admin Splice | N/A | 0* | OS2 / OM1 |
| 40 | Cromwell Hall | Green Hall | No | 12/12 | OS2 / OM3 |
| 41 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 | OS2 / OM3 |
| 42 | Forcina Garage | Education Building | No | 12/12 | OS2 / OM1 |
| 43 | Fire Pump House | Admin Services Building | No | 12/12 | OS2 / OM1 |
| 44 | Admin Services Building | Admin Splice | N/A | 36/36 | OS2 / OM1 |
| 45 | Eickhoff Room 227 | Eickhoff Room 337 | No | - | OS2 / OM3 |

NOTES
 1. * - Spare Capacity Is Available In Existing Fiber Located At The MDF For Fire Alarm.
 2. ** - New Pathway For This Route Installed Under Domestic Water Project.
 3. Contractor To Terminate All Fiber Strands On Both Ends Of Cable

GENERAL NOTES
 1. All New Cables Shall Be Tested From MDF In One Building To MDF In Another.
 2. All Existing Cables For This Project Shall Be Tested. Existing Fiber Shall Be Tested According To The Specifications For Testing New Fiber. Contractor Shall Provision And Provide Testing For A 12/12 Fiber For Each Span Noted To Have Existing Fibers Available
 3. Type Of Hybrid Cable Designation Has Been Added To The Table Above For Reference And To Clarify Types To Be Utilized For The Base Bid. All Fiber Spans Including Interior Building Routed Fiber, Connectors, Cassettes, Etc. Shall Be Per The Cable Performance Type Noted. All Fiber Spans Including Interior Building Routed Fiber, Connectors, Cassettes, Etc. Shall Have The Performance Type Identified In The Table Above. The Performance Types Indicated Shall Be Utilized For Interior Building Fiber With The Exception Of Green Which Will Utilize OS2/OM3.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description |
|------------|--|
| | Existing Open Fiber Strands Available |
| | Existing Conduit Pathway Available For New Fiber Installation |
| | Remove Existing Fiber And Pull New Fiber Through Empty Conduit Pathway |
| | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required |
| | Fire Alarm Devices Fed From Panel Located In Another Building |

CABLE Connecting Hardware - Cassettes For OM3
 CCH-CS12-AD-P00TJ - CCH Pigtail Cass, 12/F Shutter LC UPC Dupx OM3 Ribbon

New Fiber Installation Shall Be Independent Of Existing Fire Alarm Network Cabling Which Shall Remain Intact And Operational For The Existence Of This Project.

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30x42

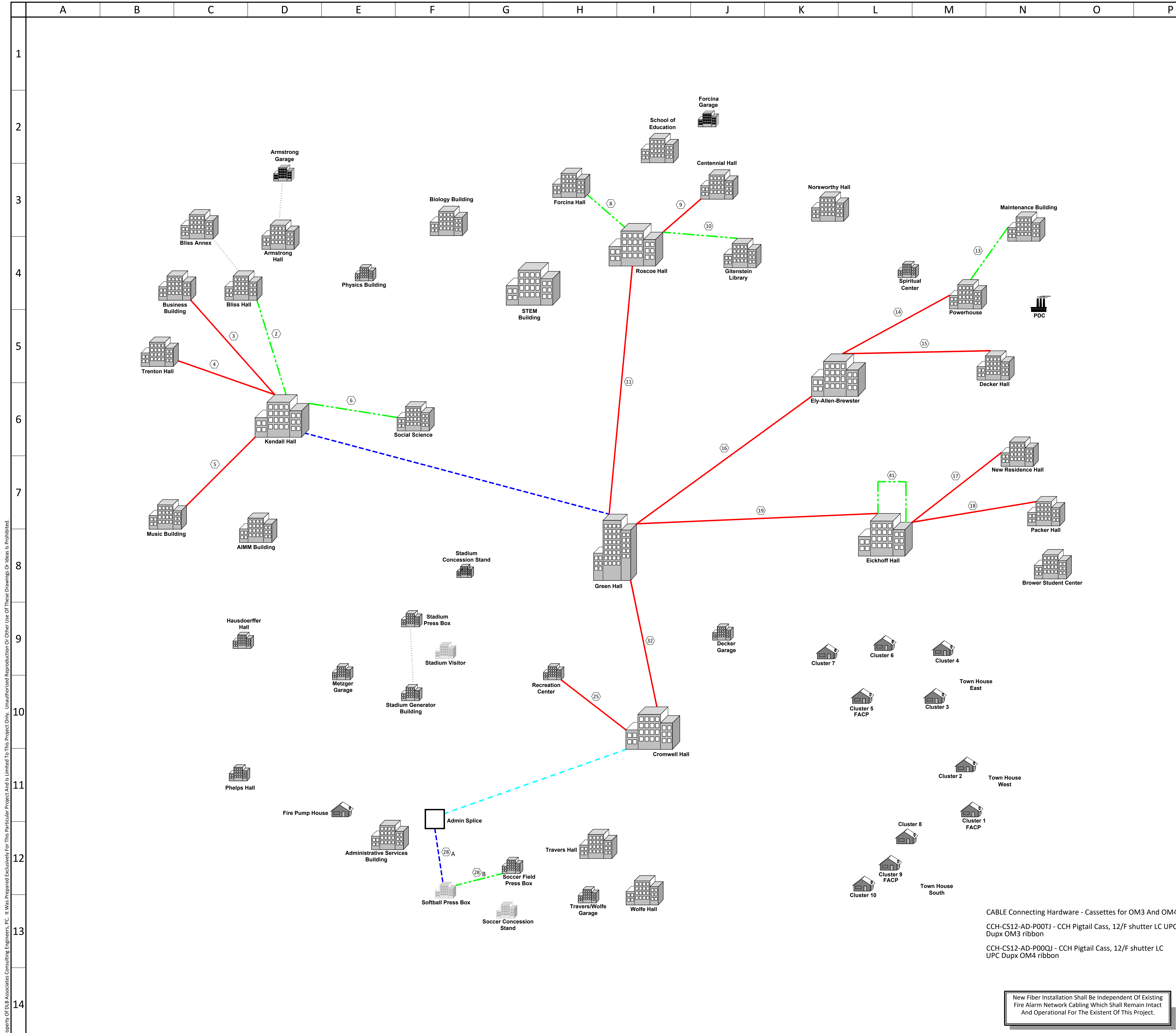
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| title | project |
|--------------------------------|---|
| FIBER NETWORK OVERVIEW DIAGRAM | TCNJ - CAMPUS FIRE ALARM PROJECT PART A - CABLE INFRASTRUCTURE UPGRADES 2000 PENNINGTON ROAD, EWING NJ, 08618 |

dlb associates
 CONSULTING ENGINEERS, P.C.
 265 Industrial Way West, Eatontown, N.J. 07724
 Questions For DLB Call: Anthony Laskosky
 DLB Project ID: 47211 Phone: 732-927-5038

| scale | drawn by | checked by | date |
|----------|----------|------------|------------|
| AS SHOWN | SC | SG | 09/18/2019 |

dwg. no. **G004**
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| Fiber Routing | | | | |
|---------------|------------------------------|-------------------------|---------------|---------------|
| Span ID | Starting Building | Ending Building | Empty Conduit | Alternate #1 |
| | | | Cable | Type Of Cable |
| 1 | Armstrong Hall** | STEM Building | Yes | |
| 2 | Bliss Hall | Kendall Hall | Yes | 48/48 |
| 3 | Business Building | Kendall Hall | No | 24/24 |
| 4 | Trenton Hall | Kendall Hall | No | 36/36 |
| 5 | Music Building | Kendall Hall | No | 24/24 |
| 6 | AIMM Building | Kendall Hall | N/A | |
| 7 | Social Science | Kendall Hall | Yes | 144/144 |
| 8 | Forcina Hall | Roscoe Hall | Yes | 24/24 |
| 9 | Centennial Hall | Roscoe Hall | No | 24/24 |
| 10 | Gitenstein Library | Roscoe Hall | No | 36/36 |
| 11 | Roscoe Hall | Green Hall | No | 96/96 |
| 12 | Norsworthy Hall | Ely-Allen-Brewster | N/A | |
| 13 | Spiritual Center | Ely-Allen-Brewster | No | |
| 14 | Maintenance Building | Powerhouse | Yes | 24/24 |
| 15 | Powerhouse | Ely-Allen-Brewster | No | 48/48 |
| 16 | Decker Hall | Ely-Allen-Brewster | No | 36/36 |
| 17 | New Residence Hall | Green Hall | No | 144/144 |
| 18 | Packer Hall | Eickhoff Hall | No | 36/36 |
| 19 | Eickhoff Hall | Green Hall | No | 96/96 |
| 20 | TH1 (Town House West) | Cromwell Hall | No | |
| 21 | TH5 21A/B (Town House East) | Cromwell Hall | No | |
| 22 | TH9 (Town House South) | Cromwell Hall | No | |
| 23 | Travers Hall | Cromwell Hall | Yes | |
| 24 | Wolfe Hall | Cromwell Hall | N/A | |
| 25 | Recreation Center | Cromwell Hall | No | 36/36 |
| 26 | Stadium Generator Building | Recreation Center | No | |
| 27 | Stadium Concession Stand | Recreation Center | No | |
| 28 | Soccer Field Press Box 28A/B | Admin Splice | No | 36/36 |
| 29 | Metzger Garage | Admin Splice | No | |
| 30 | Phelps Hall | Admin Splice | N/A | |
| 31 | Hausdoerffer Hall | Admin Splice | N/A | |
| 32 | Cromwell Hall | Green Hall | No | 144/144 |
| 33 | Travers/Wolfe Garage | Travers Hall | Yes | |
| 34 | Forcina Garage | Education Building | No | |
| 35 | Fire Pump House | Admin Services Building | No | |
| 36 | Admin Services Building | Admin Splice | N/A | |
| 41 | Eickhoff Room 227 | Eickhoff Room 337 | No | 48/48 |

- NOTES
- * - Spare Capacity Is Available In Existing Fiber Located At The MDF For Fire Alarm.
 - ** - New Pathway For This Route Installed Under Domestic Water Project.
 - Contractor To Terminate All Fiber Strands On Both Ends Of Cable

- GENERAL NOTES
- All New Cables Shall Be Tested From MDF In One Building To MDF In Another.
 - All Existing Cables For This Project Shall Be Tested. Existing Fiber Shall Be Tested According To The Specifications For Testing New Fiber. Contractor Shall Provision And Provide Testing For A 12/12 Fiber For Each Span Noted To Have Existing Fibers Available.
 - Type Of Hybrid Cable Designation Has Been Added To The Table Above For Reference And To Clarify Types To Be Utilized For The Add Alternate. Refer To Detail FA009/07 For Further Information On Add Alternate For Span Between Green And Kendall. All Fiber Spans Including Interior Building Routed Fiber, Connectors, Cassettes, Etc Shall Utilize The Performance Type Identified In The Table Above. The Cable Performance Types Indicated Shall Be Utilized For Interior Building Fiber With The Exception Of Green Which Will Utilize OS2/OM3 For Interior Fiber.
 - The Existing Fiber Cable Between Green And Kendall Shall Be Replaced With Size Indicated In The Table Above Utilizing Existing Conduit. Coordinate Existing Fiber Removal / Replacement With The College IT Department.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description |
|------------|--|
| | Existing Open Fiber Strands Available |
| | Existing Conduit Pathway Available For New Fiber Installation |
| | Remove Existing Fiber And Pull New Fiber Through Empty Conduit Pathway |
| | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required |
| | Fire Alarm Devices Fed From Panel Located In Another Building |

CABLE Connecting Hardware - Cassettes for OM3 And OM4
 CCH-CS12-AD-P00TJ - CCH Pigtail Cass, 12/F shutter LC UPC Dupx OM3 ribbon
 CCH-CS12-AD-P00QJ - CCH Pigtail Cass, 12/F shutter LC UPC Dupx OM4 ribbon

New Fiber Installation Shall Be Independent Of Existing Fire Alarm Network Cabling Which Shall Remain Intact And Operational For The Existence Of This Project.

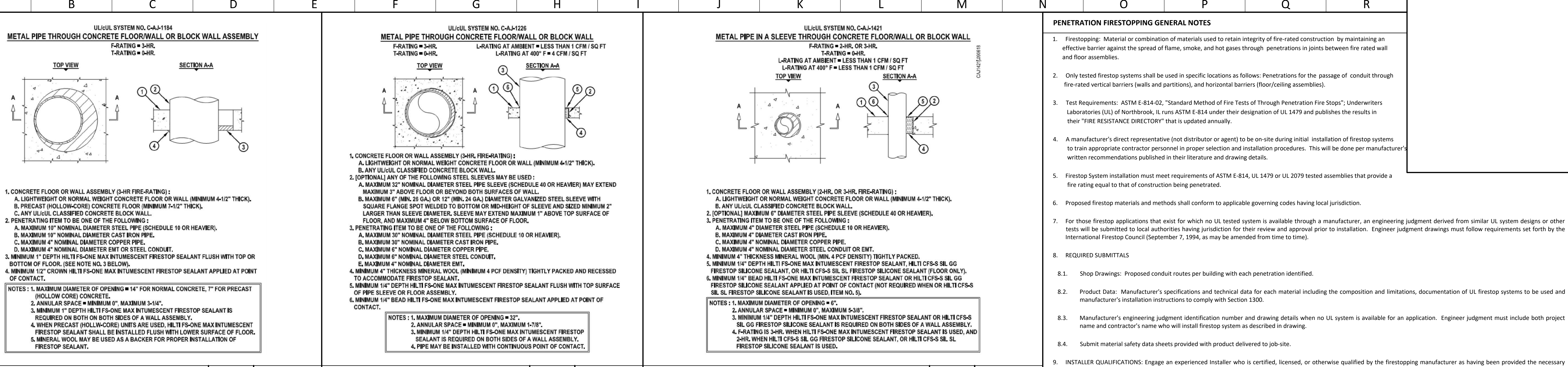
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| 1 | 05/01/2020 | ISSUED FOR BID | | | |

This Drawing Is Being Added To Provide Clarification On Add Alternate #1 In Regards To The Base And Alternate Scopes. The Shaded Rows In The Table Above Indicate Spans With Modified Fiber Cable Counts And Associated Cable Performance Type.

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 265 Industrial Way West, Eatontown, N.J. 07724
 Questions For DLB Call: Anthony Laskosky
 DLB Project ID: 47211 Phone: 732-927-5038

project
 TCNJ - CAMPUS FIRE ALARM PROJECT
 PART A - CABLE INFRASTRUCTURE UPGRADES
 2000 PENNINGTON ROAD,
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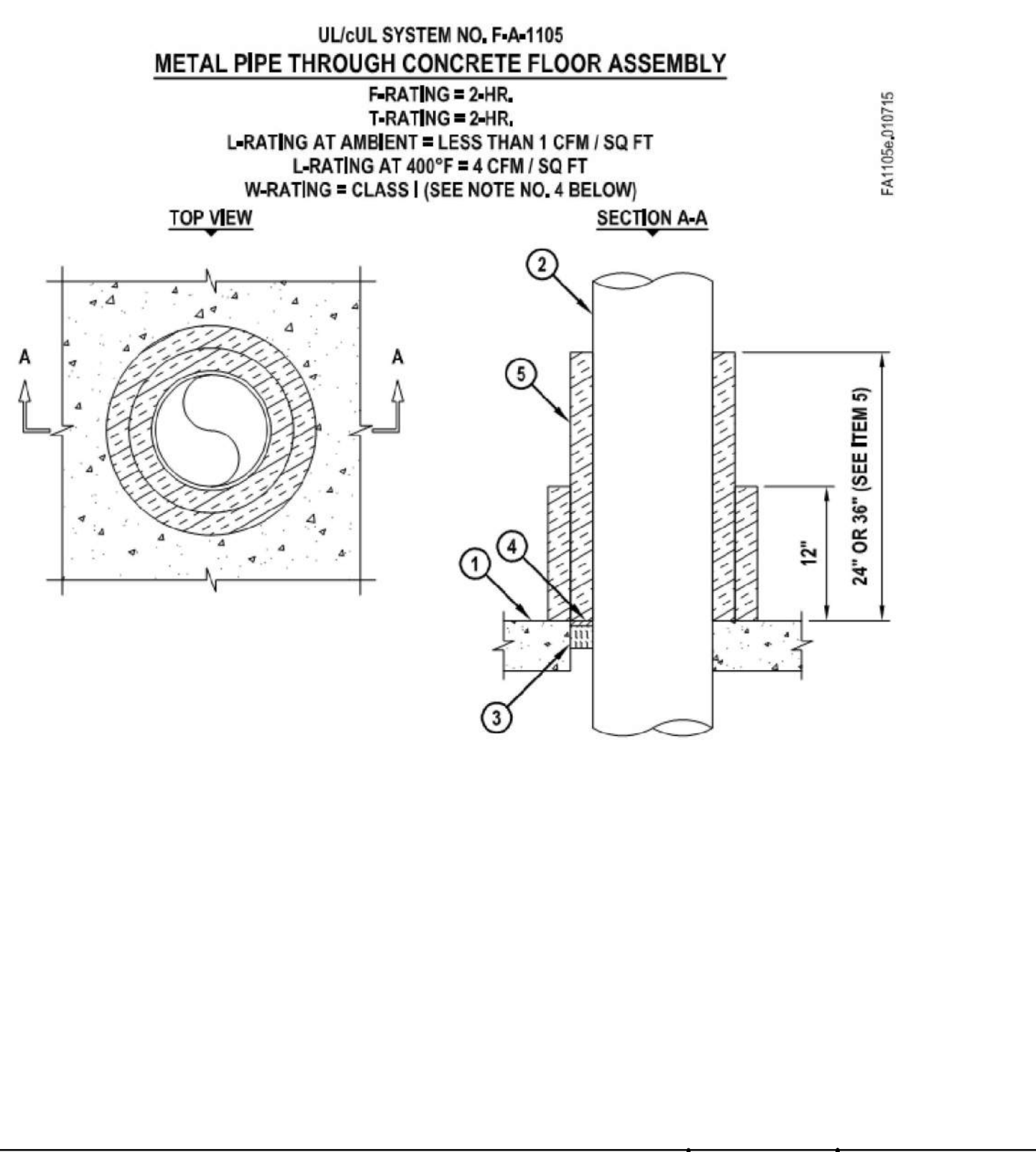
title
FIBER NETWORK OVERVIEW DIAGRAM (ADD ALT)
 scale AS SHOWN
 drawn by SC
 checked by SG
 date 09/18/2019
 dwg. no.
G004A



CONCRETE PIPE THROUGH FLOOR / WALL Scale: NTS Drawing: G005 Detail: 01

METAL PIPE THROUGH CONCRETE FLOOR / WALL Scale: NTS Drawing: G005 Detail: 02

METAL PIPE IN A SLEEVE THROUGH CONCRETE FLOOR / WALL OR BLOCK WALL Scale: NTS Drawing: G005 Detail: 03

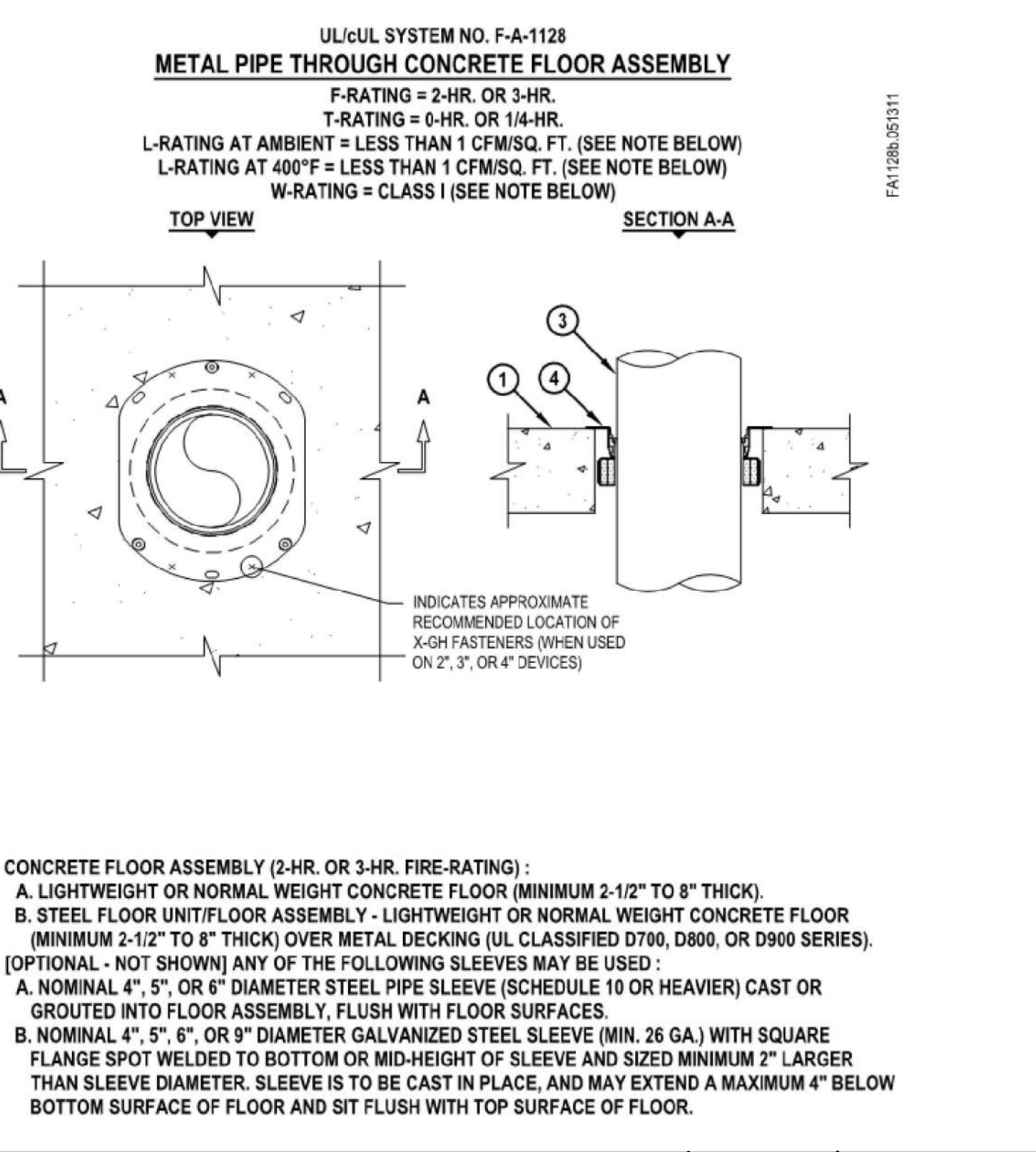


METAL PIPE THROUGH CONCRETE FLOOR ASSEMBLY Scale: NTS Drawing: G005 Detail: 04

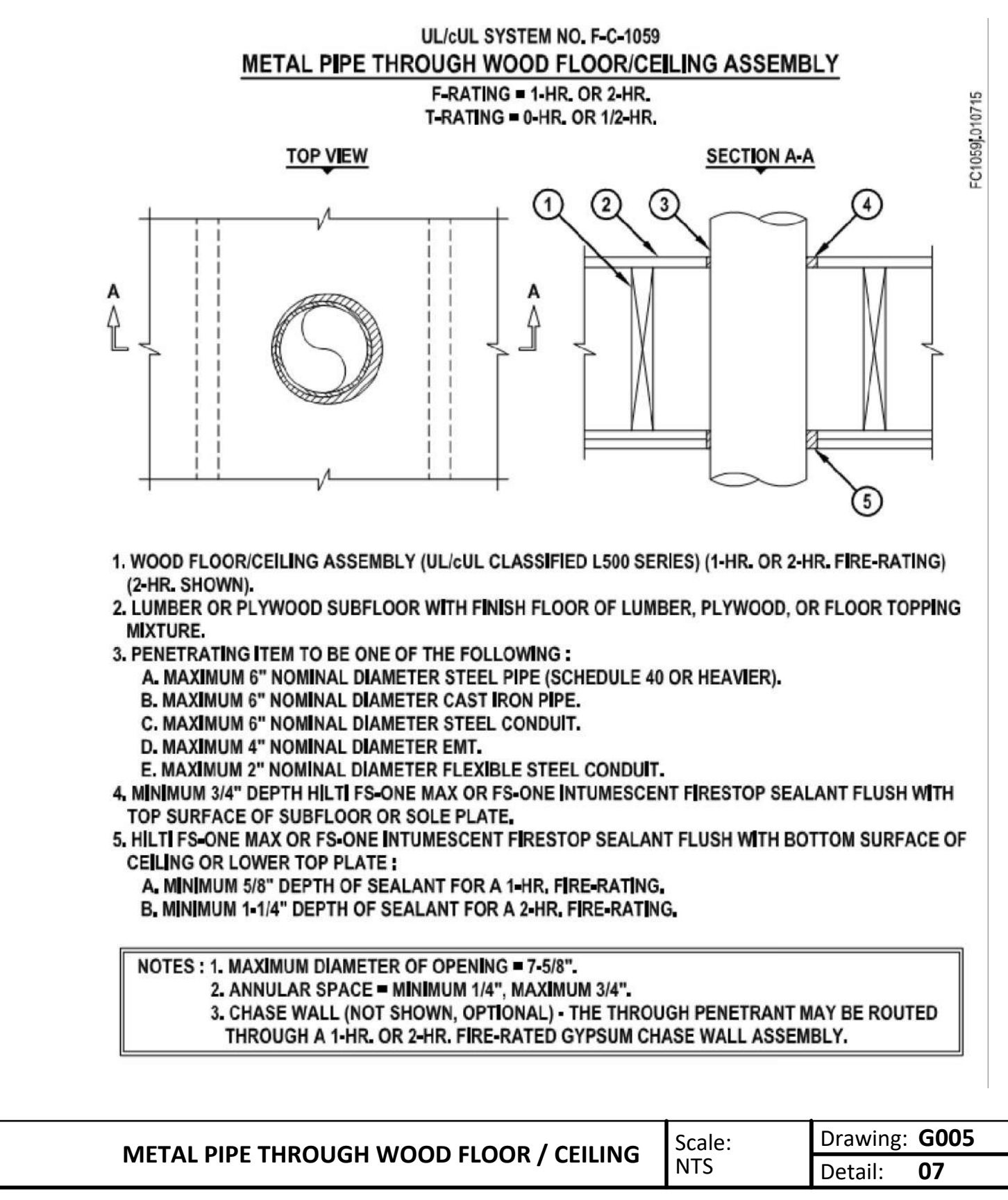
METAL PIPE THROUGH GYPSUM WALL ASSEMBLY Scale: NTS Drawing: G005 Detail: 05

SCHEDULE OF FIREPROOFING OF WALL & FLOOR / CEILING PENETRATIONS

| Location | Penetrated Item | Fire Resistance Rating in Hours (min.) | Penetrating Item | Applicable UL System Detail(s) |
|-----------------|------------------------|--|---------------------|---|
| Wall | Metal Stud and Drywall | 2 | 1" - 4" Metal (EMT) | W-L-1054; W-L-1441 |
| Wall | Wood Stud and Drywall | 2 | 1" - 4" Metal (EMT) | W-L-1054; W-L-1441 |
| Wall | Brick Masonry | 2 | 1" - 4" Metal (EMT) | C-AJ-1184; C-AJ-1226; C-AJ-1421 |
| Wall | CMU | 2 | 1" - 4" Metal (EMT) | C-AJ-1184; C-AJ-1226; C-AJ-1421 |
| Wall | Concrete | 2 | 1" - 4" Metal (EMT) | C-AJ-1184; C-AJ-1226; C-AJ-1421 |
| Floor / Ceiling | Wood Floor | 2 | 1" - 4" Metal (EMT) | F-C-1059 |
| Floor / Ceiling | Concrete Floor | 2 | 1" - 4" Metal (EMT) | C-AJ-1184; C-AJ-1226; F-A-1105; F-A-1128; C-AJ-1421 |



METAL PIPE THROUGH CONCRETE FLOOR ASSEMBLY Scale: NTS Drawing: G005 Detail: 06



METAL PIPE THROUGH WOOD FLOOR / CEILING Scale: NTS Drawing: G005 Detail: 07

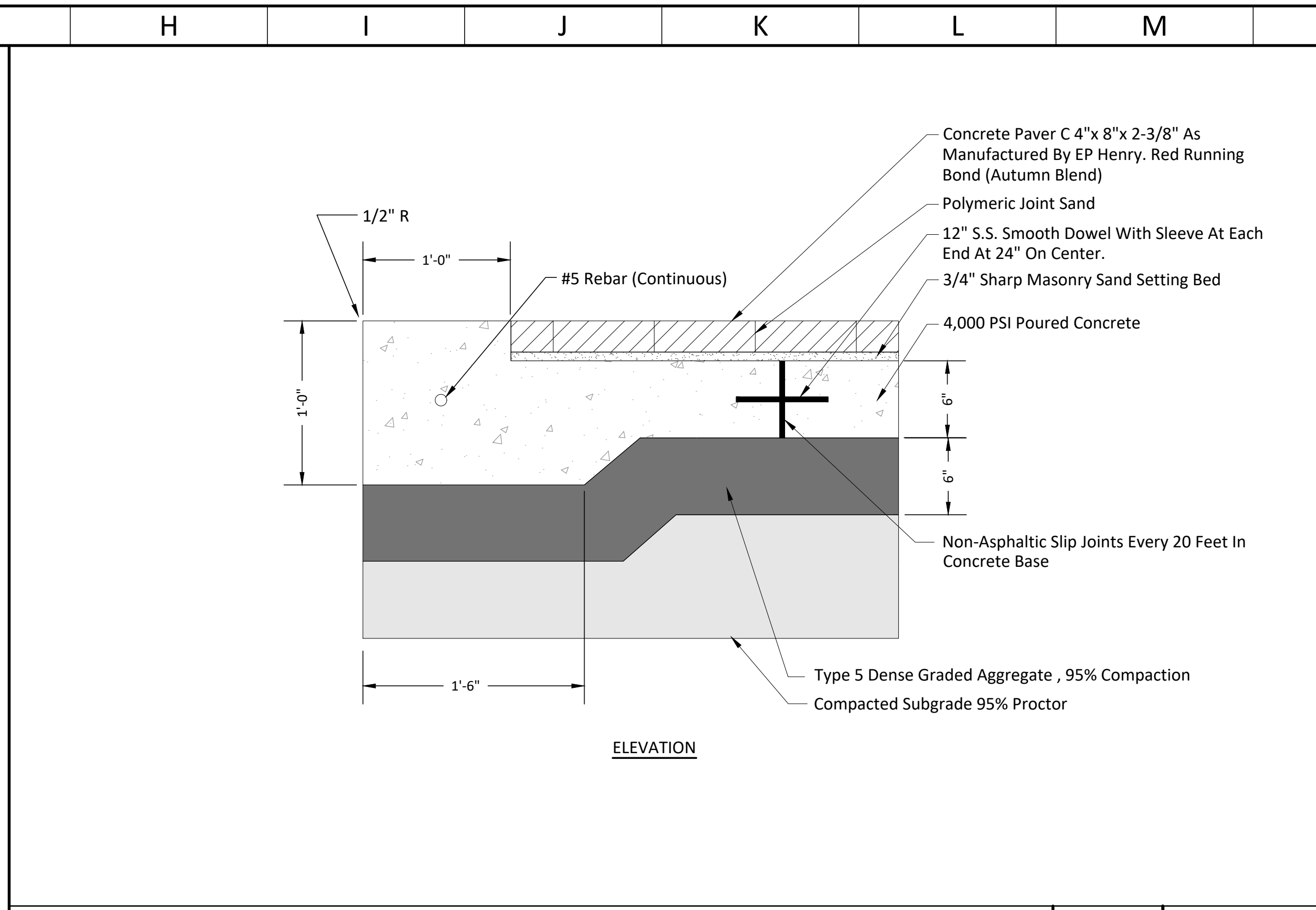
PENETRATION FIRESTOPPING GENERAL NOTES

- Firestopping: Material or combination of materials used to retain integrity of fire-rated construction by maintaining an effective barrier against the spread of flame, smoke, and hot gases through penetrations in joints between fire rated wall and floor assemblies.
- Only tested firestop systems shall be used in specific locations as follows: Penetrations for the passage of conduit through fire-rated vertical barriers (walls and partitions), and horizontal barriers (floor/ceiling assemblies).
- Test Requirements: ASTM E-814-02, "Standard Method of Fire Tests of Through Penetration Fire Stops"; Underwriters Laboratories (UL) of Northbrook, IL runs ASTM E-814 under their designation of UL 1479 and publishes the results in their "FIRE RESISTANCE DIRECTORY" that is updated annually.
- A manufacturer's direct representative (not distributor or agent) to be on-site during initial installation of firestop systems to train appropriate contractor personnel in proper selection and installation procedures. This will be done per manufacturer's written recommendations published in their literature and drawing details.
- Firestop System installation must meet requirements of ASTM E-814, UL 1479 or UL 2079 tested assemblies that provide a fire rating equal to that of construction being penetrated.
- Proposed firestop materials and methods shall conform to applicable governing codes having local jurisdiction.
- For those firestop applications that exist for which no UL tested system is available through a manufacturer, an engineering judgment derived from similar UL system designs or other tests will be submitted to local authorities having jurisdiction for their review and approval prior to installation. Engineer judgment drawings must follow requirements set forth by the International Firestop Council (September 7, 1994, as may be amended from time to time).
- REQUIRED SUBMITTALS
 - Shop Drawings: Proposed conduit routes per building with each penetration identified.
 - Product Data: Manufacturer's specifications and technical data for each material including the composition and limitations, documentation of UL firestop systems to be used and manufacturer's installation instructions to comply with Section 1300.
 - Manufacturer's engineering judgment identification number and drawing details when no UL system is available for an application. Engineer judgment must include both project name and contractor's name who will install firestop systems as described in drawing.
 - Submit material safety data sheets provided with product delivered to job-site.
- INSTALLER QUALIFICATIONS: Engage an experienced installer who is certified, licensed, or otherwise qualified by the firestopping manufacturer as having been provided the necessary training to install manufacturer's products per specified requirements. A supplier's willingness to sell its firestopping products to the Contractor or to an Installer engaged by the Contractor does not in itself confer qualification on the buyer.
- DELIVERY, STORAGE, AND HANDLING
 - Deliver materials undamaged in manufacturer's clearly labeled, unopened containers, identified with brand, type, and UL label where applicable.
 - Coordinate delivery of materials with scheduled installation date to allow minimum storage time at job-site.
 - Store materials under cover and protect from weather and damage in compliance with manufacturer's requirements, including temperature restrictions.
 - Comply with recommended procedures, precautions or remedies described in material safety data sheets as applicable.
 - Do not use damaged or expired materials.
- PROJECT CONDITIONS
 - Do not use materials that contain flammable solvents.
 - Schedule installation of firestopping after completion of penetrating item installation but prior to covering or concealing of openings.
 - Verify existing conditions and substrates before starting work. Correct unsatisfactory conditions before proceeding.
 - Weather conditions: Do not proceed with installation of firestop materials when temperatures exceed the manufacturer's recommended limitations for installation printed on product label and product data sheet.
 - During installation, provide masking and drop cloths to prevent firestopping materials from contaminating any adjacent surfaces.
- Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the firestopping under conditions of service and application, as demonstrated by the firestopping manufacturer based on testing and field experience.
- Provide components for each firestopping system that are needed to install fill material. Use only components specified by the firestopping manufacturer and approved by the qualified testing agency for the designated fire-resistance-rated systems.
- MATERIALS
 - Use only firestop products that have been UL 1479, ASTM E-814, or UL 2079 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.
 - Provide a firestop system with a "R" Rating as determined by UL 1479 or ASTM E814 which is equal to the time rating of construction being penetrated.
 - Provide a firestop system with an Assembly Rating as determined by UL 2079 which is equal to the time rating of construction being penetrated.
- PREPARATION
 - Verification of Conditions: Prior to beginning the work, examine areas and conditions under which work is to be performed and identify conditions detrimental to proper or timely completion.
 - Verify penetrations are properly sized and in suitable condition for application of materials.
 - Surfaces to which firestop materials will be applied shall be free of dirt, grease, oil, rust, laitance, release agents, water repellents, and any other substances that may affect proper adhesion.
 - Provide masking and temporary covering to prevent soiling of adjacent surfaces by firestopping materials.
 - Comply with manufacturer's recommendations for temperature and humidity conditions before, during and after installation of firestopping.
 - Do not proceed until unsatisfactory conditions have been corrected.
- INSTALLATION
 - Regulatory Requirements: Install firestop materials in accordance with UL Fire Resistance Directory or Omega Point Laboratories Directory.
 - Manufacturer's Instructions: Comply with manufacturer's instructions for installation of through-penetration and construction joint materials.
 - Seal all holes or voids made by penetrations to ensure an air and water resistant seal.
 - Protect materials from damage on surfaces subjected to traffic.
 - FIELD QUALITY CONTROL
 - Examine sealed penetration areas to ensure proper installation before concealing or enclosing areas.
 - Keep areas of work accessible until inspection by applicable code authorities.
 - Inspection of through-penetration firestopping shall be performed in accordance with ASTM E 2174, "Standard Practice for On-Site Inspection of Installed Fire Stops" or other recognized standard.
 - Perform under this section patching and repairing of firestopping caused by cutting or penetrating of existing firestop systems already installed by other trades.
- ADJUSTING AND CLEANING
 - Remove equipment, materials and debris, leaving area in undamaged, clean condition.
 - Clean all surfaces adjacent to sealed holes and joints to be free of excess firestop materials and soiling as work progresses.

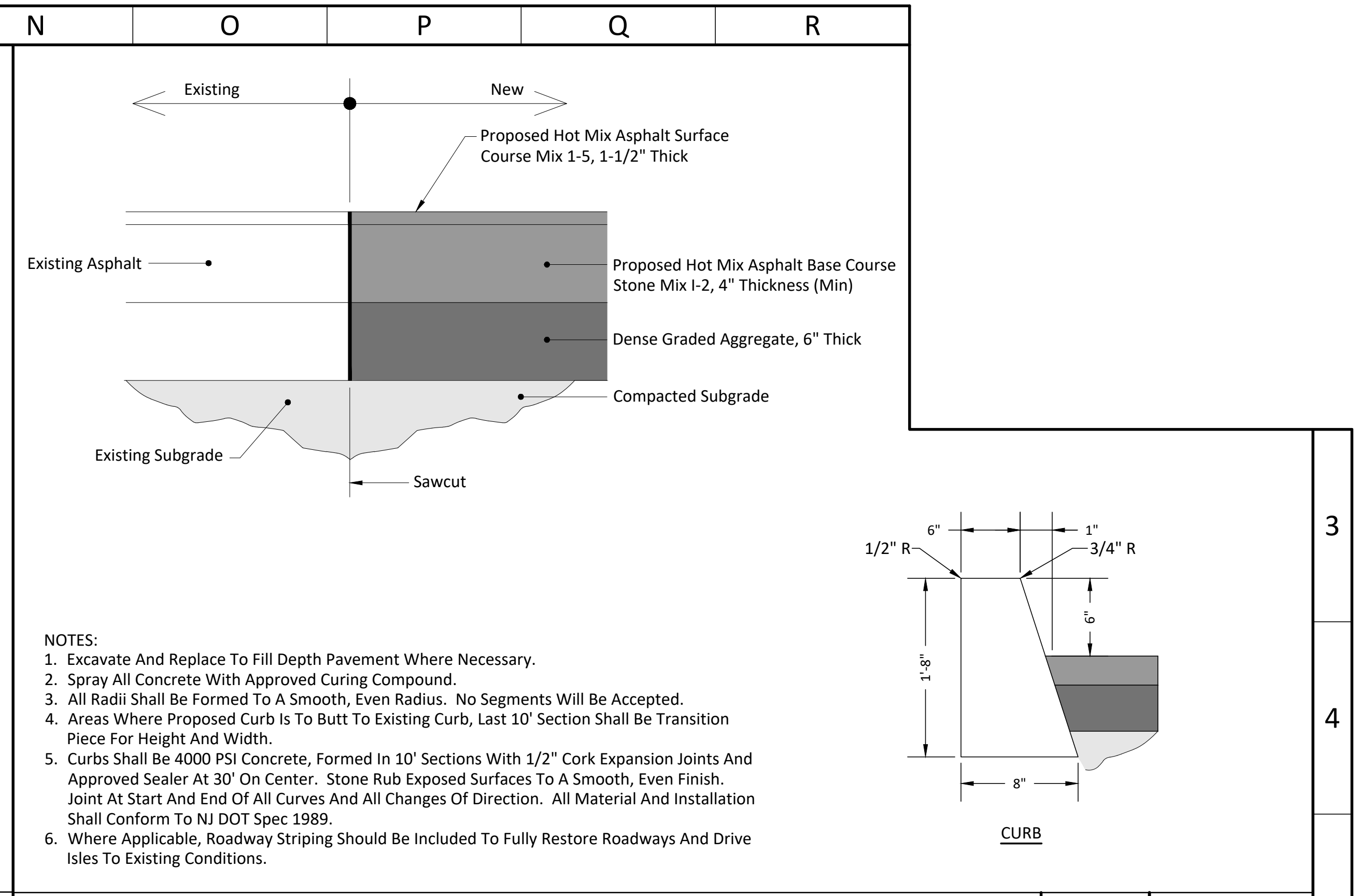
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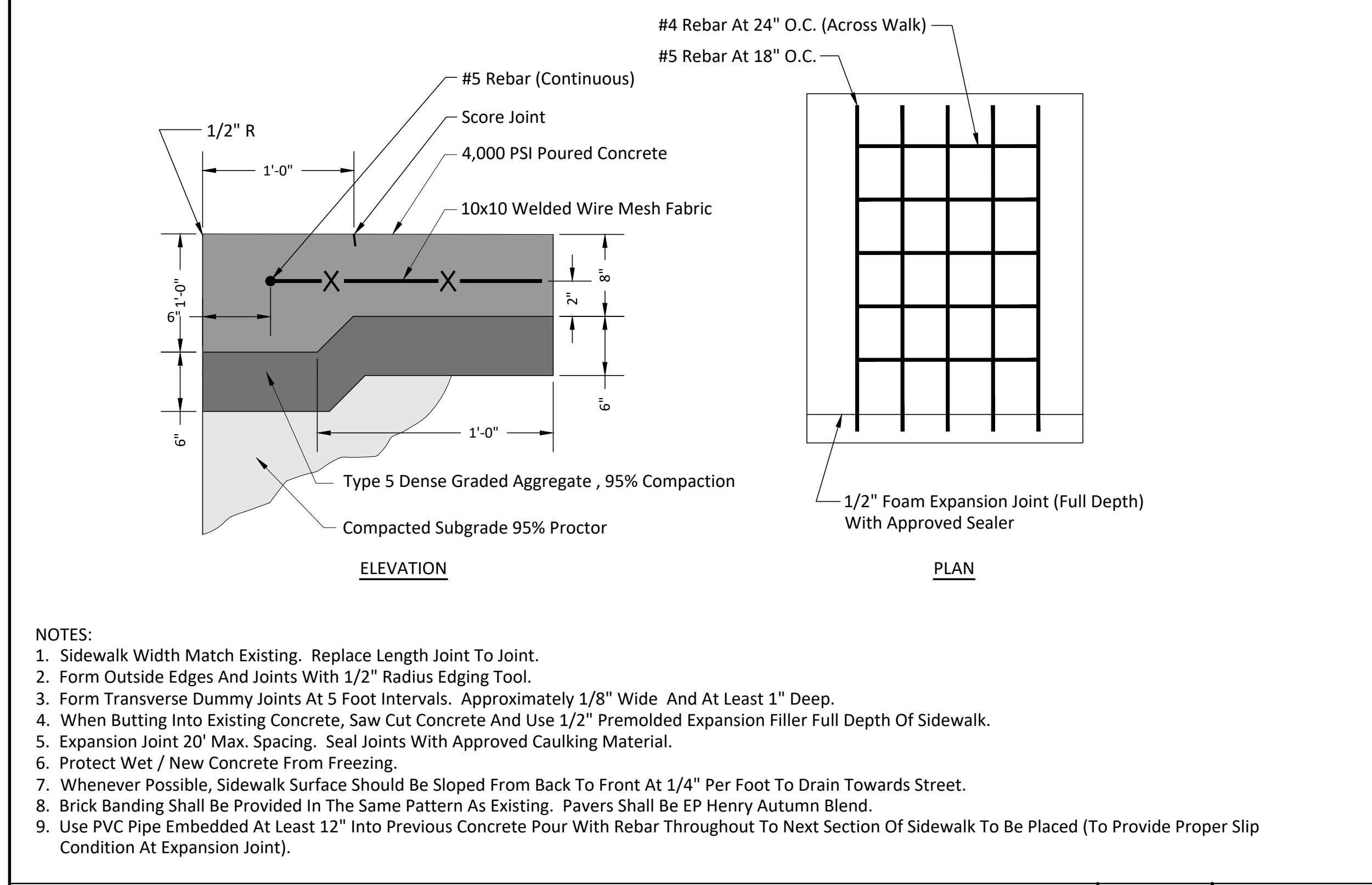
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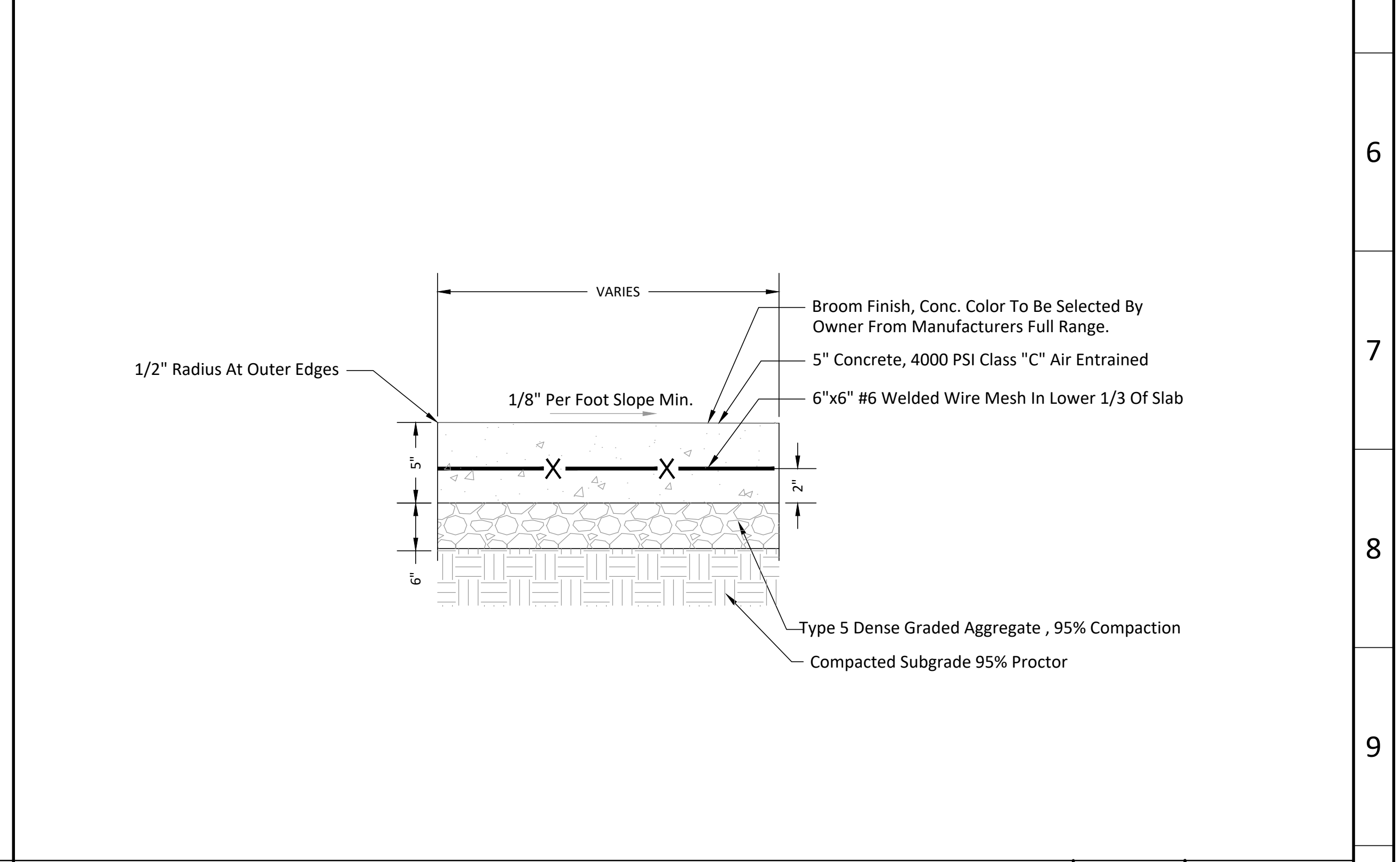
SIDEWALK WITH EMBEDDED PAVER REPAIR DETAIL Scale: NTS Drawing: **G006** Detail: **01**



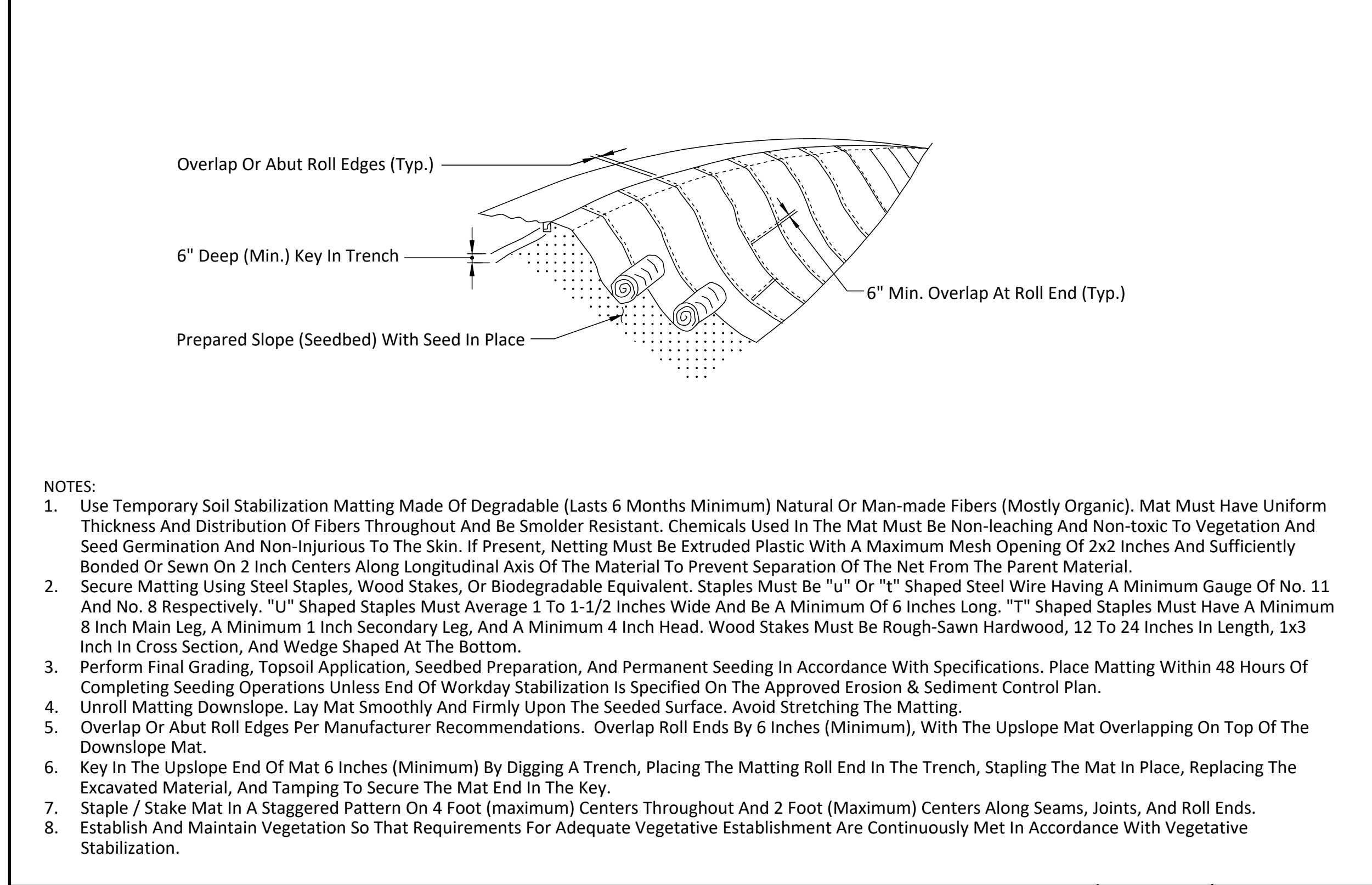
PAVEMENT REPAIR WITH EXISTING PAVEMENT Scale: NTS Drawing: **G006** Detail: **02**



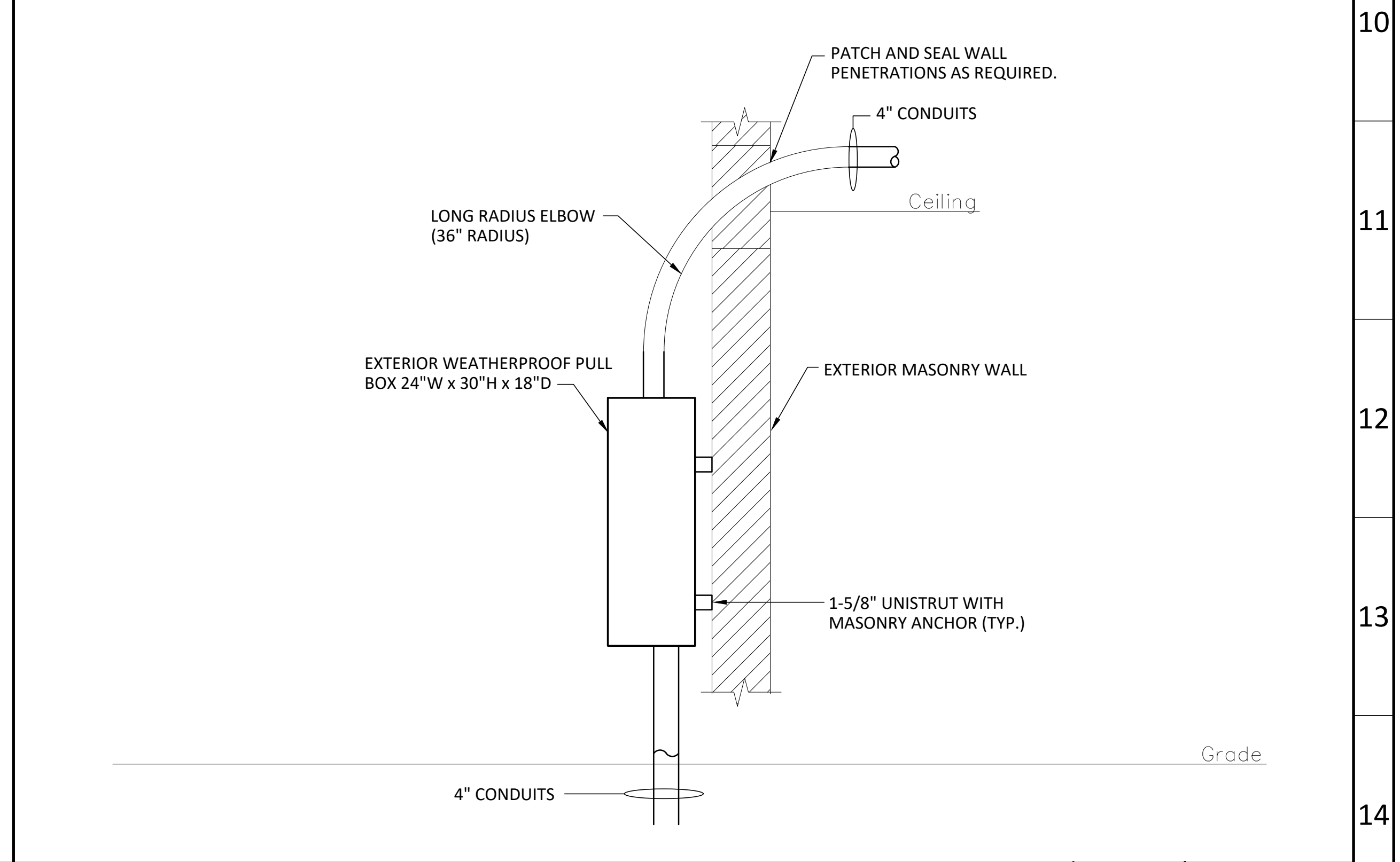
DRIVE ISLE SIDEWALK RESTORATION DETAIL Scale: NTS Drawing: **G006** Detail: **03**



NON-DRIVE ISLE SIDEWALK REPAIR DETAIL Scale: NTS Drawing: **G006** Detail: **04**



SLOPE STABILIZATION DETAIL Scale: NTS Drawing: **G006** Detail: **05**



EXTERIOR PULL BOX DETAIL Scale: NTS Drawing: **G006** Detail: **06**

| | | | | | | | | | | | | | | | | | | |
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| 30x42 | 1 | 05/01/2020 | ISSUED FOR BID | | | | | | | | | | | | | | | |
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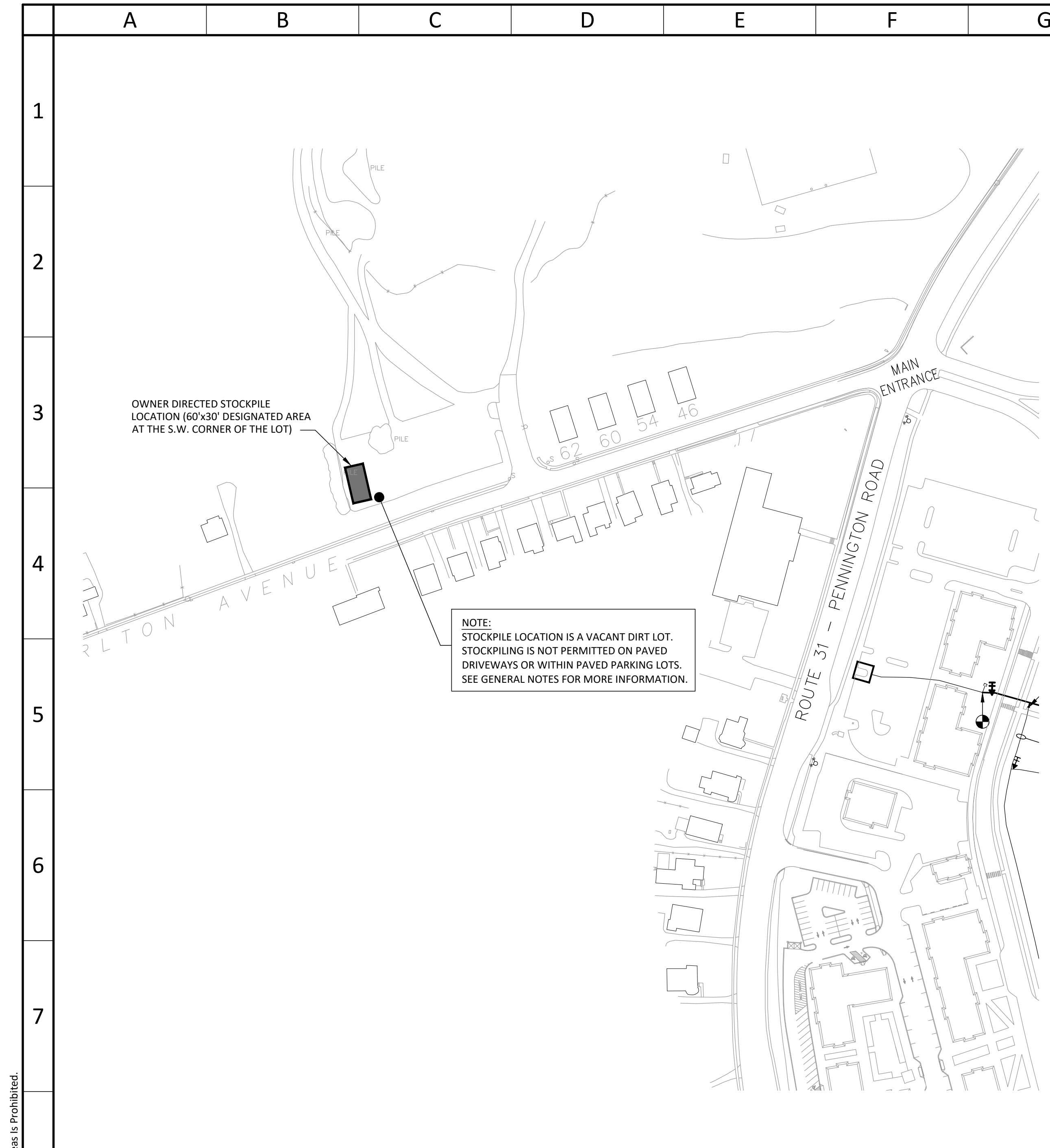
dlb associates
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Questions For DLB Call: Anthony Laskosky
DLB Project ID: 47211 Phone: 732-927-5038

PAUL B. ESTLOW, P.E.
LIC. # 24GE03660300
Date: MAY 01, 2020

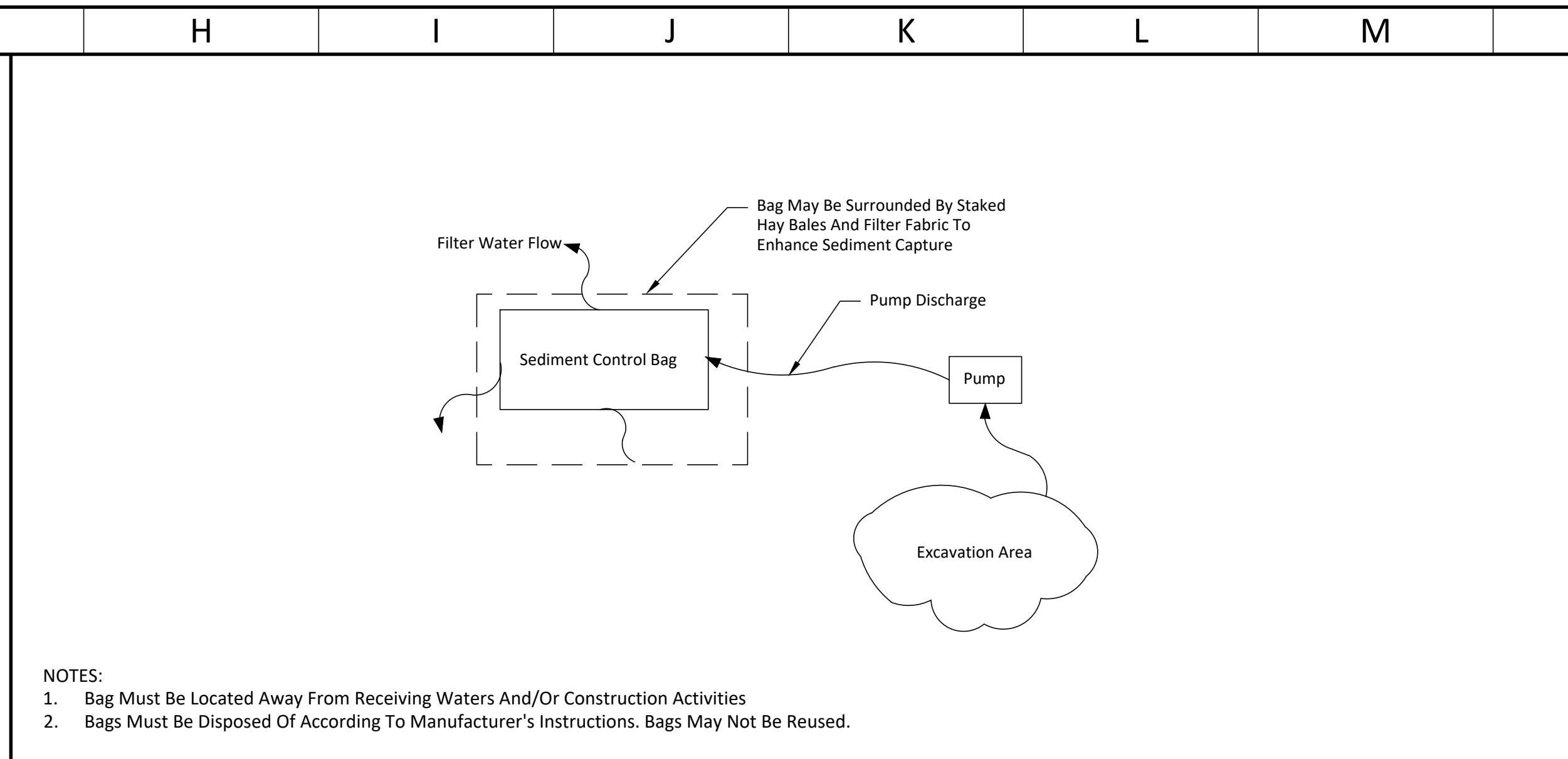
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PART A - CABLE INFRASTRUCTURE UPGRADES
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EWING NJ, 08618

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scale: AS SHOWN
drawn by: HF
checked by: ASL
date: 09/18/2019

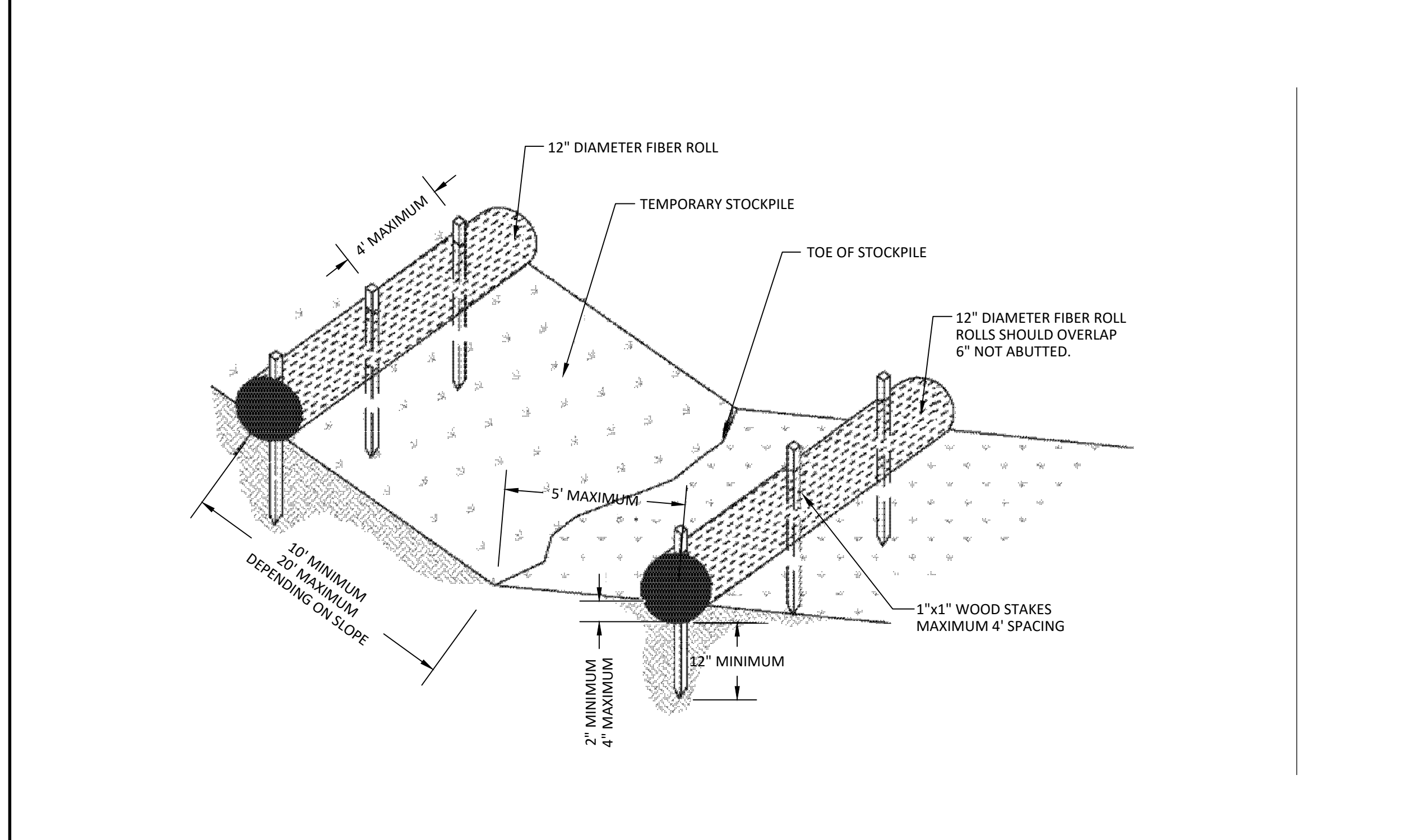
G006
dwg. no.



PARTIAL SITE PLAN Scale: 1/128" = 1' Drawing: G007 Detail: 01



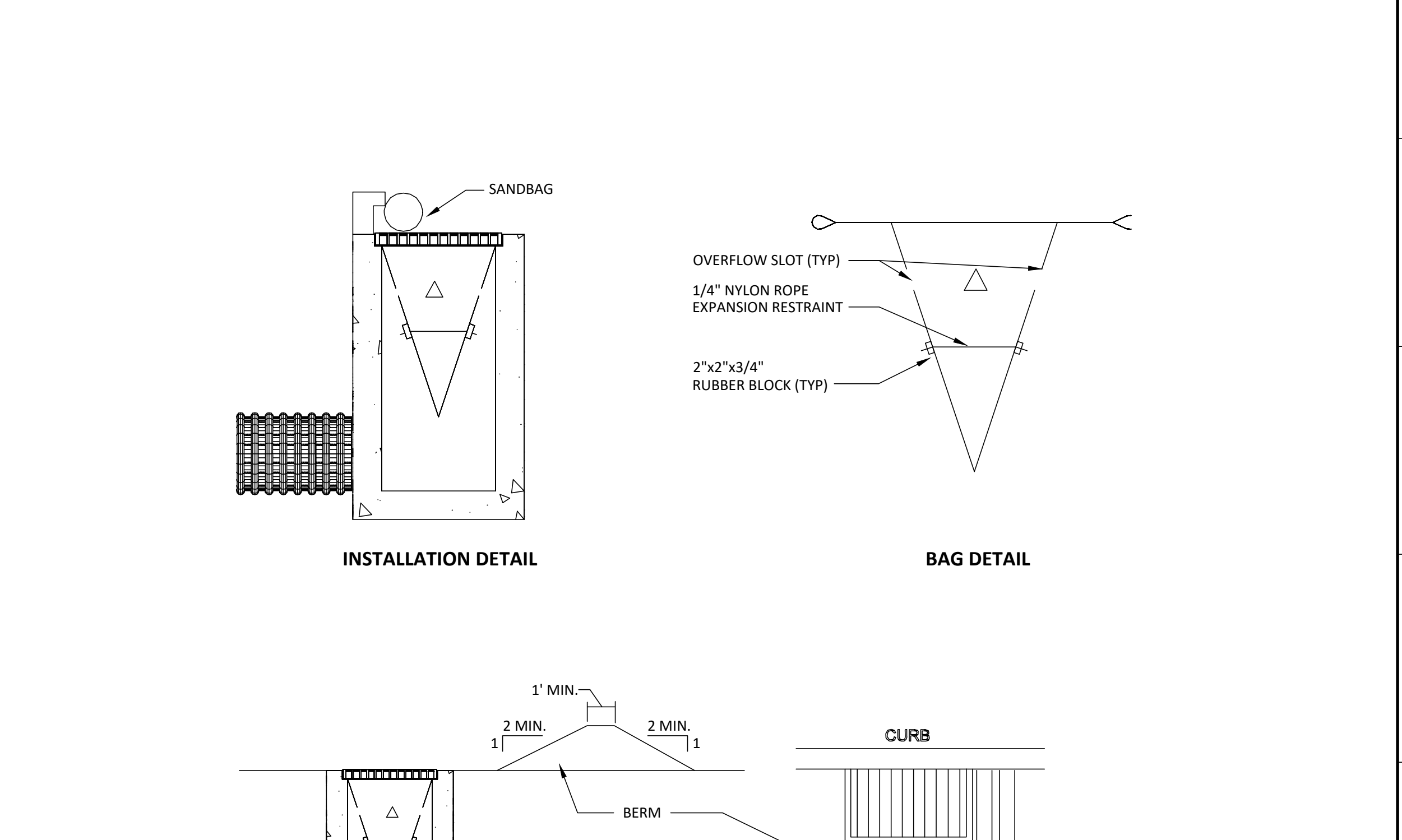
SEDIMENT CONTROL BAG FOR DEWATERING Scale: NTS Drawing: G007 Detail: 02



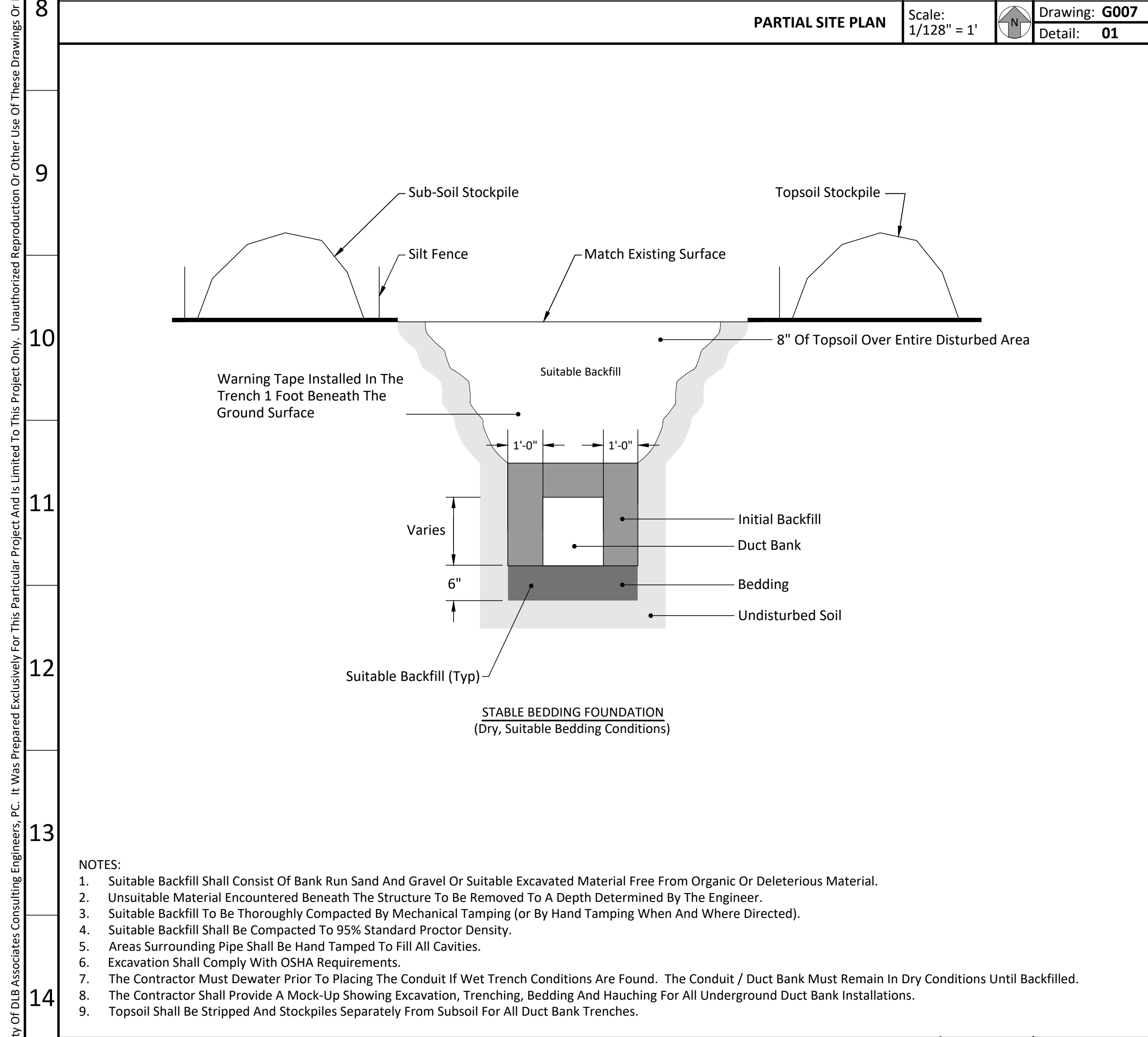
STOCKPILE PROTECTION PLAN Scale: NTS Drawing: G007 Detail: 03

- CONSTRUCTION SEQUENCE**
1. Install Silt Fence And Provide Inlet Protection - 5 Days
 2. Notify The Mercer County Soil Conservation District 48 Hours Prior To Any Disturbance
 3. Excavate Trenches Along Routings. Stockpile Topsoil Separately From Sub-Soil.
 4. Install Underground Duct Bank And Manholes
 5. Stabilize All Disturbed Areas Immediately After Conduit And Manhole Installations - (During The Duration Of Items #3 And 4)
 6. Maintain Soil Erosion And Sediment Control Measures
 7. Notify The Mercer County Soil Conservation District By Letter Requesting A Compliance Inspection
 8. Remove Inlet Protection And Silt Fence After All Disturbed Areas Have Been Stabilized - 5 Days
 9. Install Permanent Stabilization At All Areas Affected By Construction - 5 Days

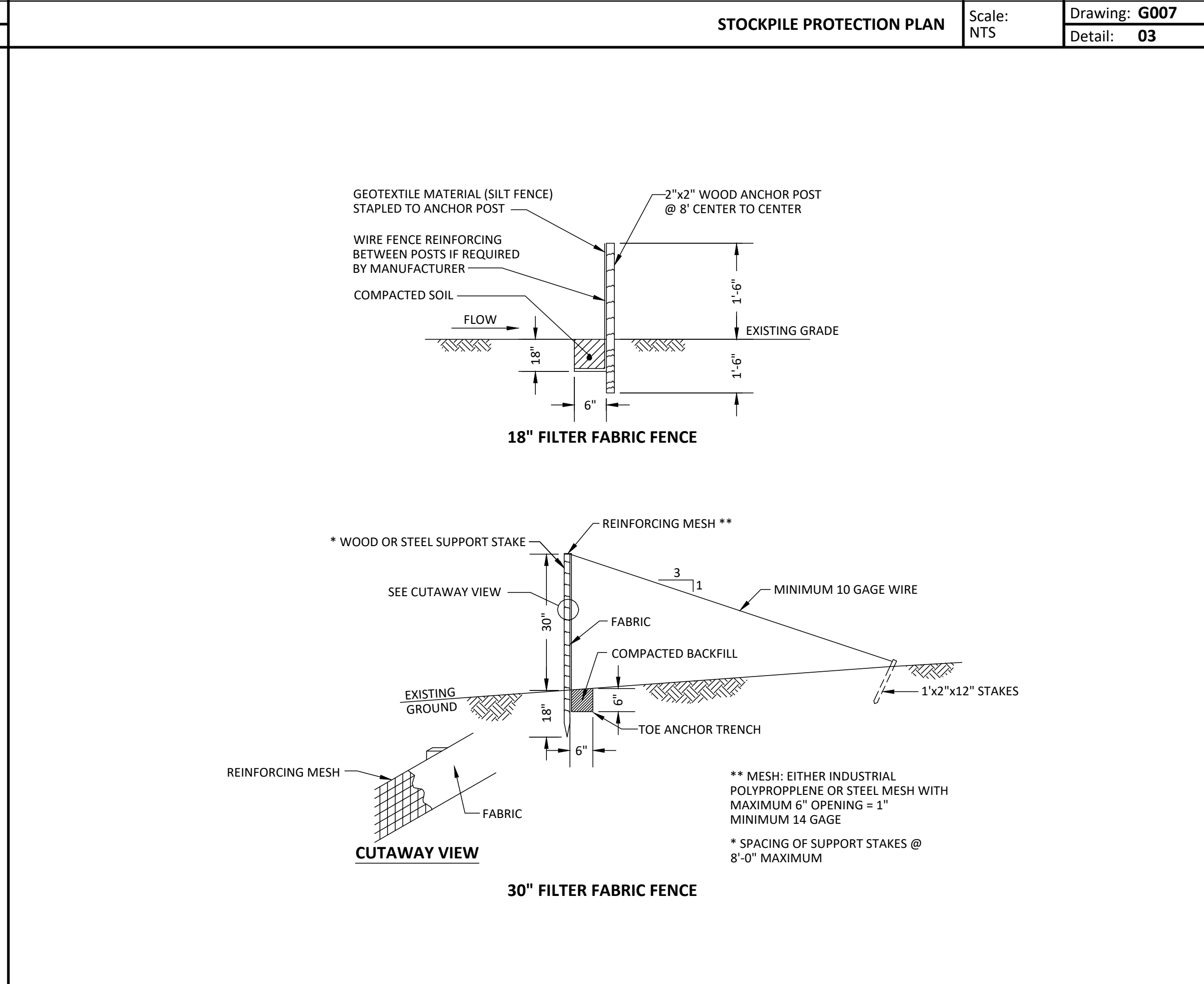
- GENERAL NOTES**
1. Unsuitable Soils Or Soils That Are Not Planned To Be Reused Shall Be Trucked Out And Dispose Of Immediately Upon Excavation. Soils Of This Category Shall NOT Be Stockpiled. Receipt For Proper Disposal Shall Be Provided To TCNJ Upon Removal.
 2. Where Practical, Soils Are Permitted To Be Stockpiled Next To The Trench As Shown In The Contract Documents. Soils Can Not Be Stockpiled Next To Trenches That Run Near Trees (Under Tree Drip Line) Or In Heavily Landscaped Areas.
 3. Upon Completion Of Excavation And Backfill, All Soils Related To The Work Performed Under This Scope Shall Be Removed From The Carlton Avenue Lot And Disposed Of In An Approved Manor. Provide Receipt Of Disposal To TCNJ For Record.
 4. The Carlton Avenue Lot Shall Be Restored To The Condition At The Time Of Bid Upon Completion Of The Project. This Includes Striping Where Damaged By Stockpiling.
 5. Prior To Use Of The Carlton Avenue Lot The Contractor Must Inspect And Provide Photo Documentation Of Existing Conditions For Restoration Purposes.
 6. Stockpile Is Only Permitted In Area Designated On This Plan. Carlton Avenue Lot Stockpile Shall Not Exceed The Noted 30'x60' Disruption Area At The South East Corner Of The Lot.



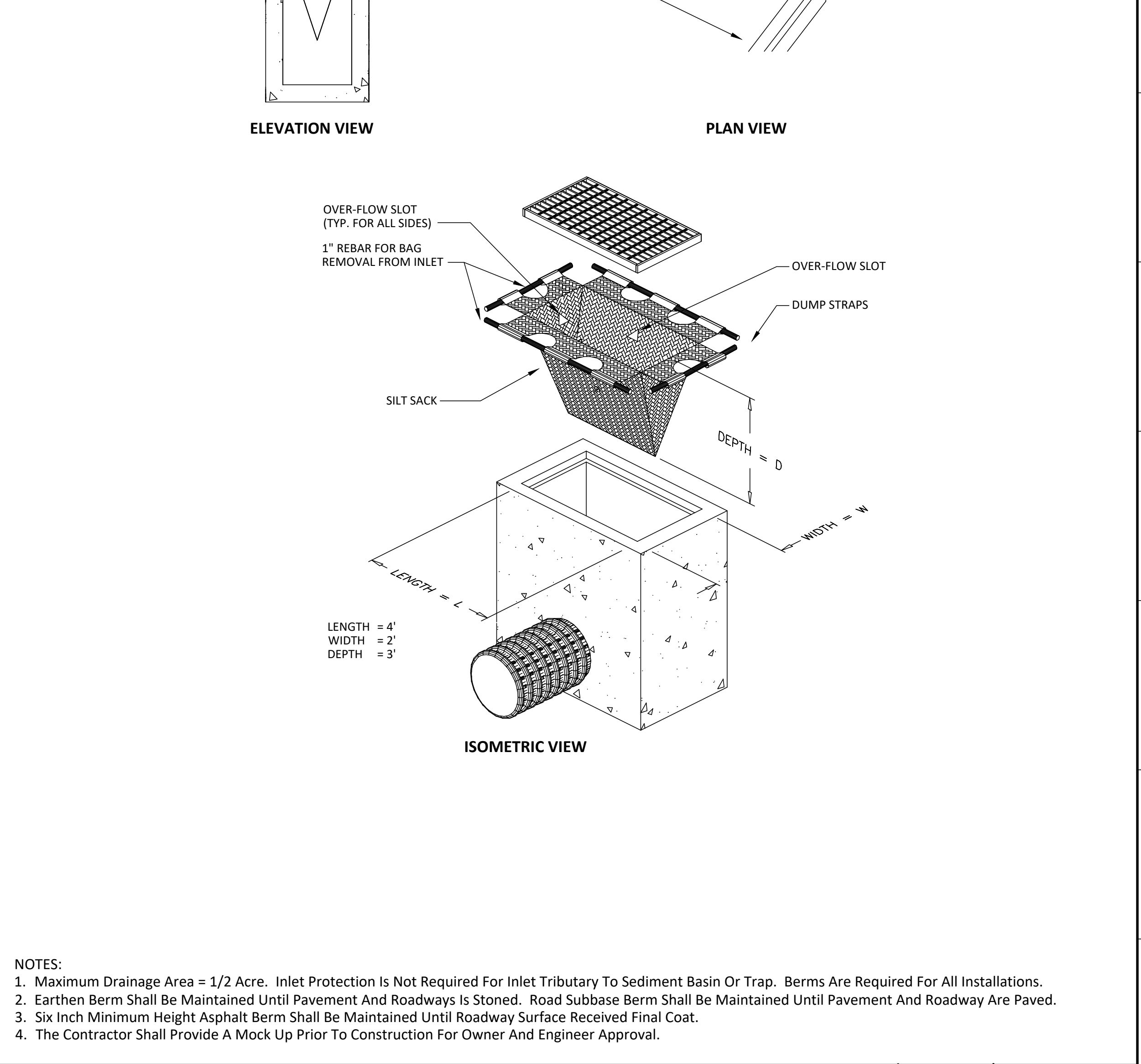
INSTALLATION DETAIL Scale: NTS Drawing: G007 Detail: 04



TRENCH STOCKPILE DETAIL Scale: NTS Drawing: G007 Detail: 04



FILTER FABRIC DETAIL Scale: NTS Drawing: G007 Detail: 05



EXISTING DRAINAGE SILK SACK DETAIL Scale: NTS Drawing: G007 Detail: 06

| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

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CONSULTING ENGINEERS, P.C.
265 Industrial Way West, Eatontown, N.J. 07724

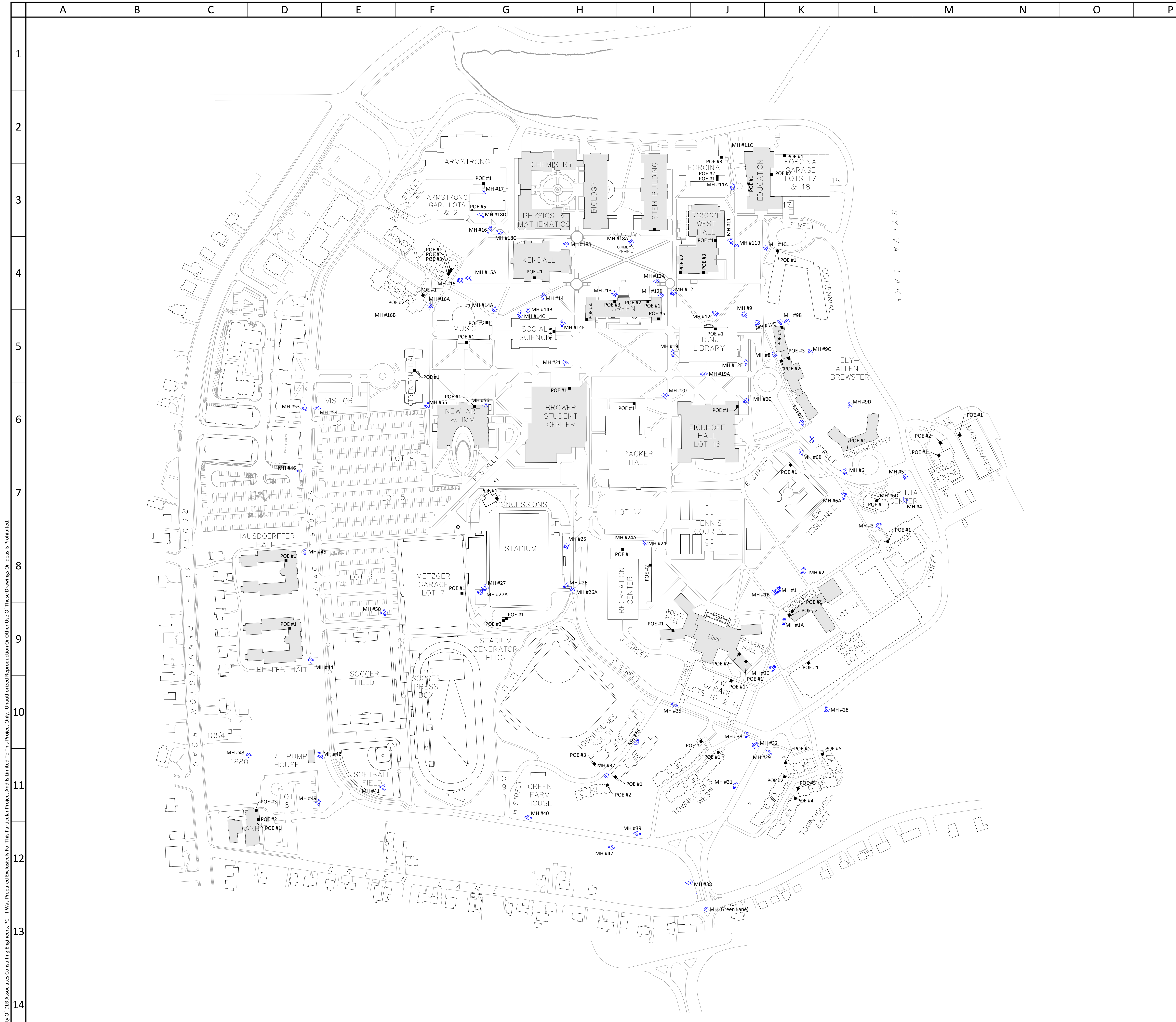
Questions For DLB Call: Anthony Laskosky
DLB Project ID: 47211 Phone: 732-927-5038

project: TCNJ - CAMPUS FIRE ALARM PROJECT
PART A - CABLE INFRASTRUCTURE UPGRADES
2000 PENNINGTON ROAD,
EWING NJ, 08618

title: SOIL STORAGE AND PROTECTION INFORMATION

scale: AS SHOWN drawn by: HF checked by: ASL date: 05/03/2020

dwg. no.: **G007**



| Fiber Routing | | | |
|---------------|-----------------------------|----------------------------|------------------------------|
| Span ID | Starting Building | Ending Building | Hybrid Cable To Be Installed |
| 1 | Armstrong Hall** | STEM Building | Yes 12/12 |
| 2 | Bliss Hall | Kendall Hall | Yes 12/12 |
| 3 | Business Building | Kendall Hall | No 12/12 |
| 4 | Trenton Hall | Kendall Hall | No 12/12 |
| 5 | Music Building | Kendall Hall | No 12/12 |
| 6 | AIMM Building | Kendall Hall | N/A 0* |
| 7 | Social Science | Kendall Hall | Yes 12/12 |
| 8 | Kendall Hall | Green Hall | Yes 0* |
| 9 | Chemistry Building | STEM Building | N/A 0* |
| 10 | Physics Building | STEM Building | N/A 0* |
| 11 | Biology Building | STEM Building | N/A 0* |
| 12 | STEM Building | Green Hall | N/A 0* |
| 13 | Forcina Hall | Roscoe Hall | Yes 12/12 |
| 14 | Education Building | Roscoe Hall | N/A 0* |
| 15 | Centennial Hall | Roscoe Hall | No 12/12 |
| 16 | Gitenstein Library | Roscoe Hall | No 12/12 |
| 17 | Roscoe Hall | Green Hall | No 12/12 |
| 18 | Norsworthy Hall | Ely-Allen-Brewster | N/A 0* |
| 19 | Spiritual Center | Ely-Allen-Brewster | No 12/12 |
| 20 | Maintenance Building | Powerhouse | Yes 12/12 |
| 21 | Powerhouse | Ely-Allen-Brewster | No 12/12 |
| 22 | Decker Hall | Ely-Allen-Brewster | No 12/12 |
| 23 | Ely-Allen-Brewster** | Green Hall | No 12/12 |
| 24 | New Residence Hall | Eickhoff Hall | No 12/12 |
| 25 | Packer Hall | Eickhoff Hall | No 12/12 |
| 26 | Brower Student Center | Eickhoff Hall | N/A 0* |
| 27 | Eickhoff Hall | Green Hall | No 12/12 |
| 28 | TH1 (Town House West) | Cromwell Hall | No 48/48 |
| 29 | TH5 21A/B (Town House East) | Cromwell Hall | No (2) 36/36 |
| 30 | TH9 (Town House South) | Cromwell Hall | No 48/48 |
| 31 | Travers Hall | Cromwell Hall | Yes 12/12 |
| 32 | Wolfe Hall | Cromwell Hall | N/A 0* |
| 33 | Decker Garage | Cromwell Hall | Yes 12/12 |
| 34 | Recreation Center | Cromwell Hall | No 12/12 |
| 35 | Stadium Generator Building | Recreation Center | No 12/12 |
| 36 | Stadium Concession Stand | Recreation Center | No 12/12 |
| 37 | Stadium Press Box | Stadium Generator Building | No 12/12 |
| 38 | Soccer Field Press Box | Admin Splice | No 24/24 |
| 39 | Admin Services Building | Admin Splice | N/A 36/36 |
| 40 | Metzger Garage | Admin Splice | No 24/24 |
| 41 | Pheps Hall | Admin Splice | N/A 0* |
| 42 | Hausdoerffer Hall | Admin Splice | N/A 0* |
| 43 | Cromwell Hall | Green Hall | No 12/12 |
| 44 | Travers/Wolfe Garage | Travers Hall | Yes 12/12 |
| 45 | Forcina Garage | Education Building | No 12/12 |
| 46 | Fire Pump House | Admin Services Building | No 12/12 |

NOTES
 1. * - Existing Fiber Spare Capacity Available At MDF For Fire Alarm Cable.
 2. ** - New Pathway For This Route Installed As Part Of Domestic Water Project.
 3. Contractor To Terminate All Fiber Strands On Both Ends Of Cable

GENERAL NOTES
 1. This Sheet's Purpose Is To Show An Overview Of Buildings That Have Spare Existing Fiber Capacity At The MDF For The Fire Alarm Panel. Refer To The Building Drawing Series For Scope Of Work Inside These Buildings. Those Buildings Are Identified By The Shaded Rows In The Table Above.

| PARTIAL SYMBOLS & ABBREVIATIONS | | | |
|---------------------------------|------------------|------------|--------------------------------|
| Identifier | Description | Identifier | Description |
| | Existing Manhole | MDF | Main Distribution Frame |
| | | MH | Manhole |
| | | MH#XX | Manhole Identification Tag |
| | | POE | Point Of Entry |
| | | WCH | Wall-Mounted Connector Housing |

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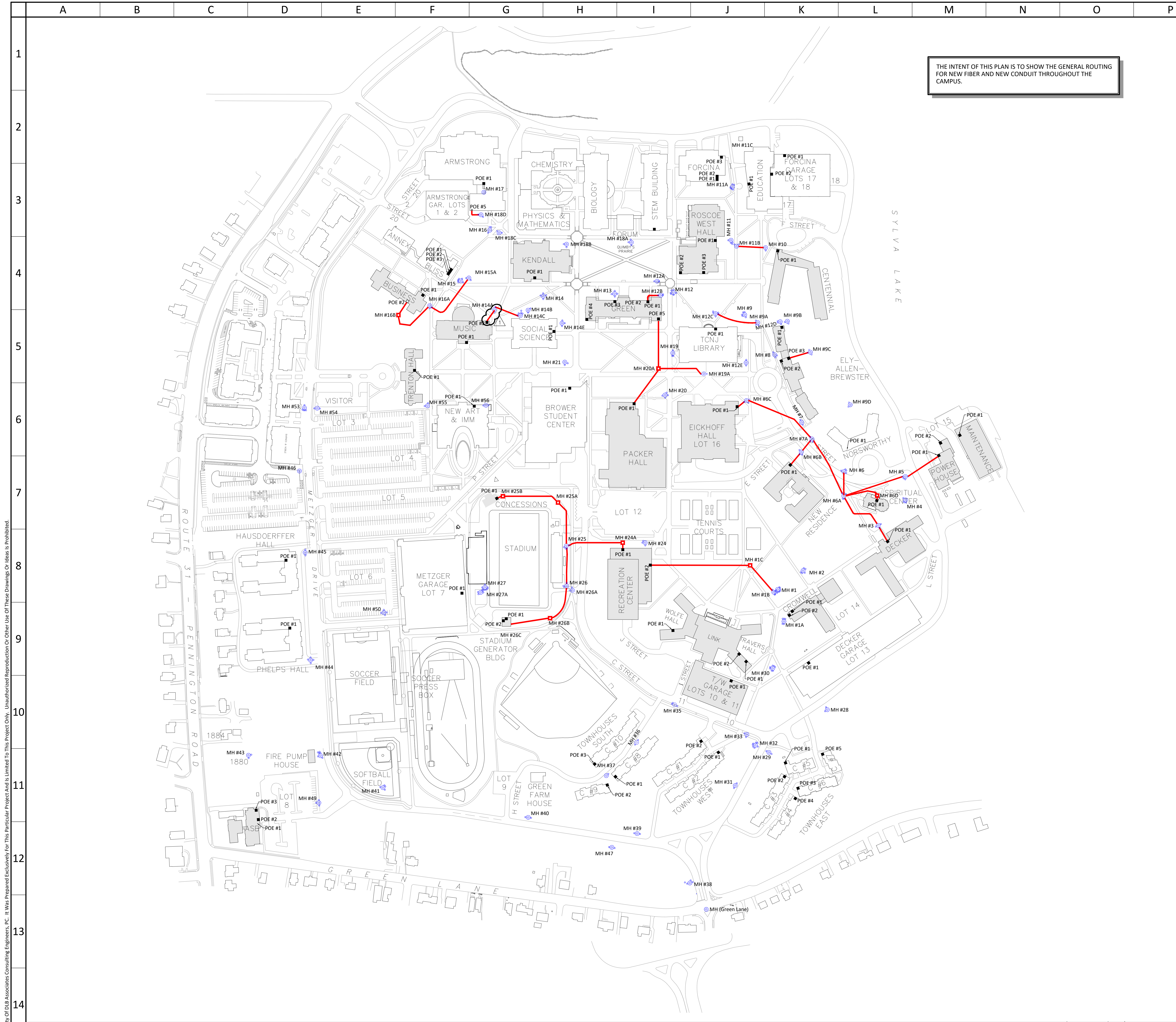
30x42

| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

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 CONSULTING ENGINEERS, P.C.
 265 Industrial Way West, Eatontown, N.J. 07724
 Questions For DLB Call: Anthony Laskosky
 DLB Project ID: 47211 Phone: 732-927-5038

CAMPUS PLAN Scale: 1" = 150'-0"
 Drawing: FA001
 Detail: 01
 project: TCNJ - CAMPUS FIRE ALARM PROJECT
 PART A - CABLE INFRASTRUCTURE UPGRADES
 2000 PENNINGTON ROAD,
 EWING NJ, 08618

title: CAMPUS OVERVIEW EXISTING FIBER
 scale: SC drawn by: SG checked by: SG date: 05/03/2020
 drawing no.: FA001
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THE INTENT OF THIS PLAN IS TO SHOW THE GENERAL ROUTING FOR NEW FIBER AND NEW CONDUIT THROUGHOUT THE CAMPUS.

| Fiber Routing | | | | |
|---------------|-----------------------------|----------------------------|---------------|------------------------------|
| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 |
| 3 | Business Building | Kendall Hall | No | 12/12 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 |
| 5 | Music Building | Kendall Hall | No | 12/12 |
| 6 | AIMM Building | Kendall Hall | N/A | 0* |
| 7 | Social Science | Kendall Hall | Yes | 12/12 |
| 8 | Kendall Hall | Green Hall | Yes | 0* |
| 9 | Chemistry Building | STEM Building | N/A | 0* |
| 10 | Physics Building | STEM Building | N/A | 0* |
| 11 | Biology Building | STEM Building | N/A | 0* |
| 12 | STEM Building | Green Hall | N/A | 0* |
| 13 | Forcina Hall | Roscoe Hall | Yes | 12/12 |
| 14 | Education Building | Roscoe Hall | N/A | 0* |
| 15 | Centennial Hall | Roscoe Hall | No | 12/12 |
| 16 | Gitenstein Library | Roscoe Hall | No | 12/12 |
| 17 | Roscoe Hall | Green Hall | No | 12/12 |
| 18 | Norsworthy Hall | Ely-Allen-Brewster | N/A | 0* |
| 19 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 |
| 20 | Maintenance Building | Powerhouse | Yes | 12/12 |
| 21 | Powerhouse | Ely-Allen-Brewster | No | 12/12 |
| 22 | Decker Hall | Ely-Allen-Brewster | No | 12/12 |
| 23 | Ely-Allen-Brewster** | Green Hall | No | 12/12 |
| 24 | New Residence Hall | Eickhoff Hall | No | 12/12 |
| 25 | Packer Hall | Eickhoff Hall | No | 12/12 |
| 26 | Broder Student Center | Eickhoff Hall | N/A | 0* |
| 27 | Eickhoff Hall | Green Hall | No | 12/12 |
| 28 | TH1 (Town House West) | Cromwell Hall | No | 48/48 |
| 29 | TH5 21A/B (Town House East) | Cromwell Hall | No | (2) 36/36 |
| 30 | TH9 (Town House South) | Cromwell Hall | No | 48/48 |
| 31 | Travers Hall | Cromwell Hall | Yes | 12/12 |
| 32 | Wolfe Hall | Cromwell Hall | N/A | 0* |
| 33 | Decker Garage | Cromwell Hall | Yes | 12/12 |
| 34 | Recreation Center | Cromwell Hall | No | 12/12 |
| 35 | Stadium Generator Building | Recreation Center | No | 12/12 |
| 36 | Stadium Concession Stand | Recreation Center | No | 12/12 |
| 37 | Stadium Press Box | Stadium Generator Building | No | 12/12 |
| 38 | Soccer Field Press Box | Admin Splice | No | 24/24 |
| 39 | Admin Services Building | Admin Splice | N/A | 36/36 |
| 40 | Metzger Garage | Admin Splice | No | 24/24 |
| 41 | Pheps Hall | Admin Splice | N/A | 0* |
| 42 | Hausdoerffer Hall | Admin Splice | N/A | 0* |
| 43 | Cromwell Hall | Green Hall | No | 12/12 |
| 44 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 |
| 45 | Forcina Garage | Education Building | No | 12/12 |
| 46 | Fire Pump House | Admin Services Building | No | 12/12 |

NOTES
 1. * - Existing Fiber Spare Capacity Available At MDF For Fire Alarm Cable.
 2. ** - New Pathway For This Route Installed As Part Of Domestic Water Project.
 3. Contractor To Terminate All Fiber Strands On Both Ends Of Cable

GENERAL NOTES

- This Sheet's Purpose Is To Show An Overview Of All The New Underground Conduit Duct Banks For The Campus. Those Buildings Are Identified By The Shaded Rows In The Table Above.
- Contractor Shall Engage Private Utility Locating Service To Obtain Markout Of Existing Underground Utilities Using EM Scanning And GPR Methods. Provide TCNJ With Mapping Results Prior To Excavation.
- Contractor Shall Open And Verify Entry Locations For New Conduit In Existing Manholes Prior To Excavation.
- Duct Bank Routing Shown On This Plan Is Diagrammatic. Contractor Shall Be Responsible For Submitting A Routing Plan For Review. The Routing Plan Shall Include Proposed Routings For New Ducts And Entry Locations Into Buildings And Manholes. Routings Shall Be Based On GPR (Ground Penetrating Radar) And Field Conditions Conducted Prior To Excavation.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description | Identifier | Description |
|------------|--|------------|--------------------------------|
| | Existing Manhole | MDF | Main Distribution Frame |
| | New Manhole | MH | Manhole |
| | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required | MH#XX | Manhole Identification Tag |
| | Building To Building Span Number | POE | Point Of Entry |
| | Building With New Conduit Connections | WCH | Wall-Mounted Connector Housing |

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30x42

| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

dlb associates
 CONSULTING ENGINEERS, P.C.
 265 Industrial Way West, Eatontown, N.J. 07724
 Questions For DLB Call: Anthony Laskosky
 DLB Project ID: 47211 Phone: 732-927-5038

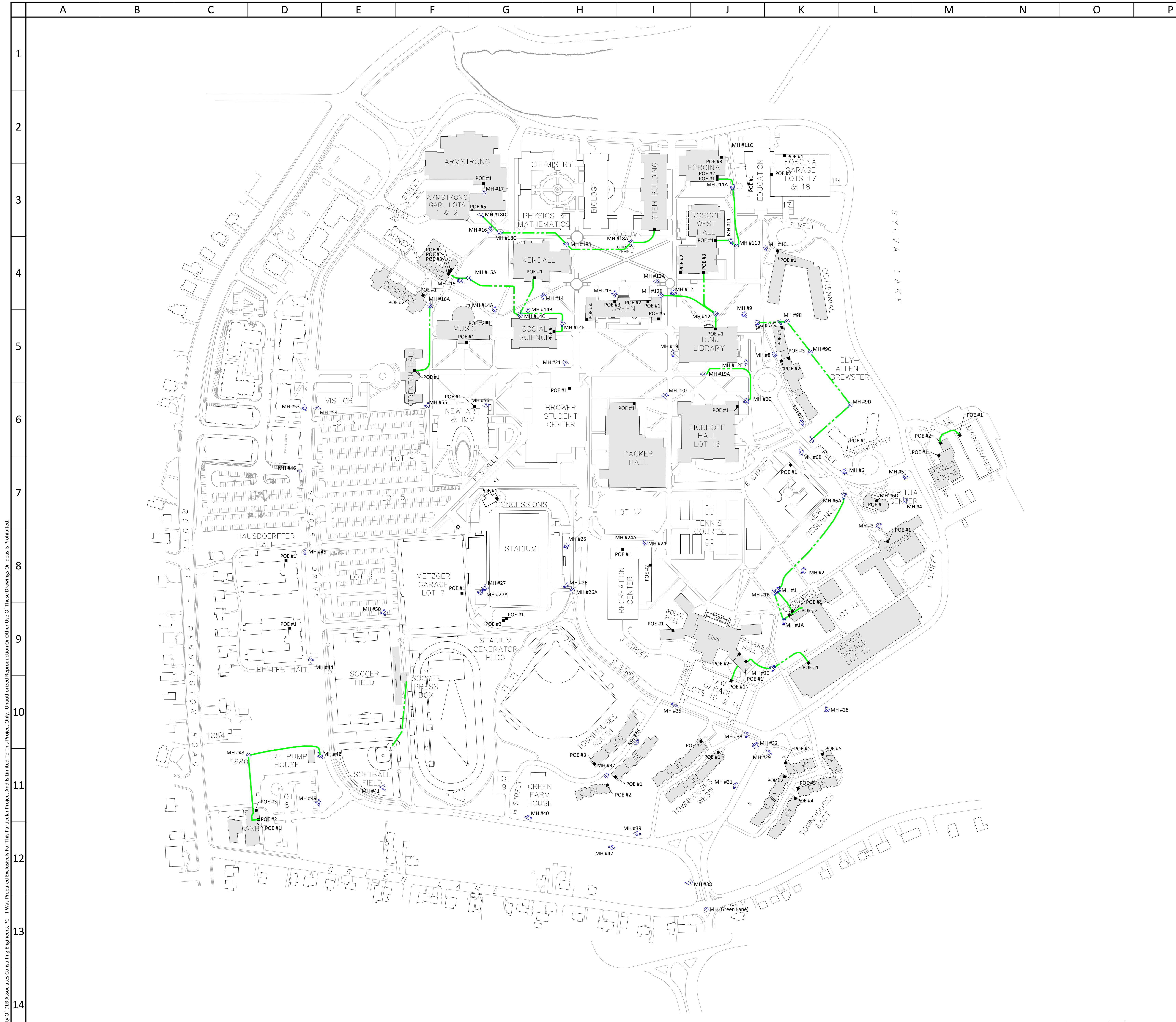
CAMPUS PLAN Scale: 1" = 150'-0"
 Drawing: FA002
 Detail: 01

project: TCNJ - CAMPUS FIRE ALARM PROJECT
 PART A - CABLE INFRASTRUCTURE UPGRADES
 2000 PENNINGTON ROAD,
 EWING NJ, 08618

title: CAMPUS OVERVIEW
 NEW FIBER & NEW CONDUIT

scale: AS SHOWN
 drawn by: SC
 checked by: SG
 date: 05/03/2020

dwg. no.: **FA002**



| Fiber Routing | | | | |
|---------------|-----------------------------|----------------------------|---------------|------------------------------|
| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 |
| 3 | Business Building | Kendall Hall | No | 12/12 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 |
| 5 | Music Building | Kendall Hall | No | 12/12 |
| 6 | AIMM Building | Kendall Hall | N/A | 0* |
| 6 | Social Science | Kendall Hall | Yes | 12/12 |
| 6 | Kendall Hall | Green Hall | Yes | 0* |
| 6 | Chemistry Building | STEM Building | N/A | 0* |
| 6 | Physics Building | STEM Building | N/A | 0* |
| 6 | Biology Building | STEM Building | N/A | 0* |
| 6 | STEM Building | Green Hall | N/A | 0* |
| 8 | Forcina Hall | Roscoe Hall | Yes | 12/12 |
| 9 | Education Building | Roscoe Hall | N/A | 0* |
| 9 | Centennial Hall | Roscoe Hall | No | 12/12 |
| 10 | Gitenstein Library | Roscoe Hall | No | 12/12 |
| 11 | Roscoe Hall | Green Hall | No | 12/12 |
| 12 | Norsworthy Hall | Ely-Allen-Brewster | N/A | 0* |
| 12 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 |
| 13 | Maintenance Building | Powerhouse | Yes | 12/12 |
| 14 | Powerhouse | Ely-Allen-Brewster | No | 12/12 |
| 15 | Decker Hall | Ely-Allen-Brewster | No | 12/12 |
| 16 | Ely-Allen-Brewster** | Green Hall | No | 12/12 |
| 17 | New Residence Hall | Eickhoff Hall | No | 12/12 |
| 18 | Packer Hall | Eickhoff Hall | No | 12/12 |
| 19 | Brower Student Center | Eickhoff Hall | N/A | 0* |
| 19 | Eickhoff Hall | Green Hall | No | 12/12 |
| 20 | TH1 (Town House West) | Cromwell Hall | No | 48/48 |
| 21 | TH5 21A/B (Town House East) | Cromwell Hall | No | (2) 36/36 |
| 22 | TH9 (Town House South) | Cromwell Hall | No | 48/48 |
| 23 | Travers Hall | Cromwell Hall | Yes | 12/12 |
| 24 | Wolfe Hall | Cromwell Hall | N/A | 0* |
| 25 | Decker Garage | Cromwell Hall | Yes | 12/12 |
| 26 | Recreation Center | Cromwell Hall | No | 12/12 |
| 26 | Stadium Generator Building | Recreation Center | No | 12/12 |
| 27 | Stadium Concession Stand | Recreation Center | No | 12/12 |
| 28 | Stadium Press Box | Stadium Generator Building | No | 12/12 |
| 28 | Soccer Field Press Box | Admin Splice | No | 24/24 |
| 36 | Admin Services Building | Admin Splice | N/A | 36/36 |
| 29 | Metzger Garage | Admin Splice | No | 24/24 |
| 29 | Pheps Hall | Admin Splice | N/A | 0* |
| 29 | Hausdoerffer Hall | Admin Splice | N/A | 0* |
| 32 | Cromwell Hall | Green Hall | No | 12/12 |
| 33 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 |
| 34 | Forcina Garage | Education Building | No | 12/12 |
| 35 | Fire Pump House | Admin Services Building | No | 12/12 |

NOTES
 1. * - Existing Fiber Spare Capacity Available At MDF For Fire Alarm Cable.
 2. ** - New Pathway For This Route Installed As Part Of Domestic Water Project.
 3. Contractor To Terminate All Fiber Strands On Both Ends Of Cable

GENERAL NOTES
 1. This Sheet's Purpose Is To Show An Overview Of The Existing Underground Conduit Duct Banks With Available Spare Conduits That Are Proposed To Be Utilized For New Fiber Cables. Those Buildings Are Identified By The Shaded Rows In The Table Above.
 2. Contractor Shall Clean The Existing Conduits Using Wire Brush Mandrill And Rubber Duct Swab Prior To Cable Installation.

| PARTIAL SYMBOLS & ABBREVIATIONS | | | |
|---------------------------------|---|------------|--------------------------------|
| Identifier | Description | Identifier | Description |
| | Existing Manhole | MDF | Main Distribution Frame |
| | New Manhole | MH | Manhole |
| | Existing Conduit Pathway Available For New Fiber Installation | MH#XX | Manhole Identification Tag |
| | Building To Building Span Number | POE | Point Of Entry |
| | Building With New Conduit Connections | WCH | Wall-Mounted Connector Housing |

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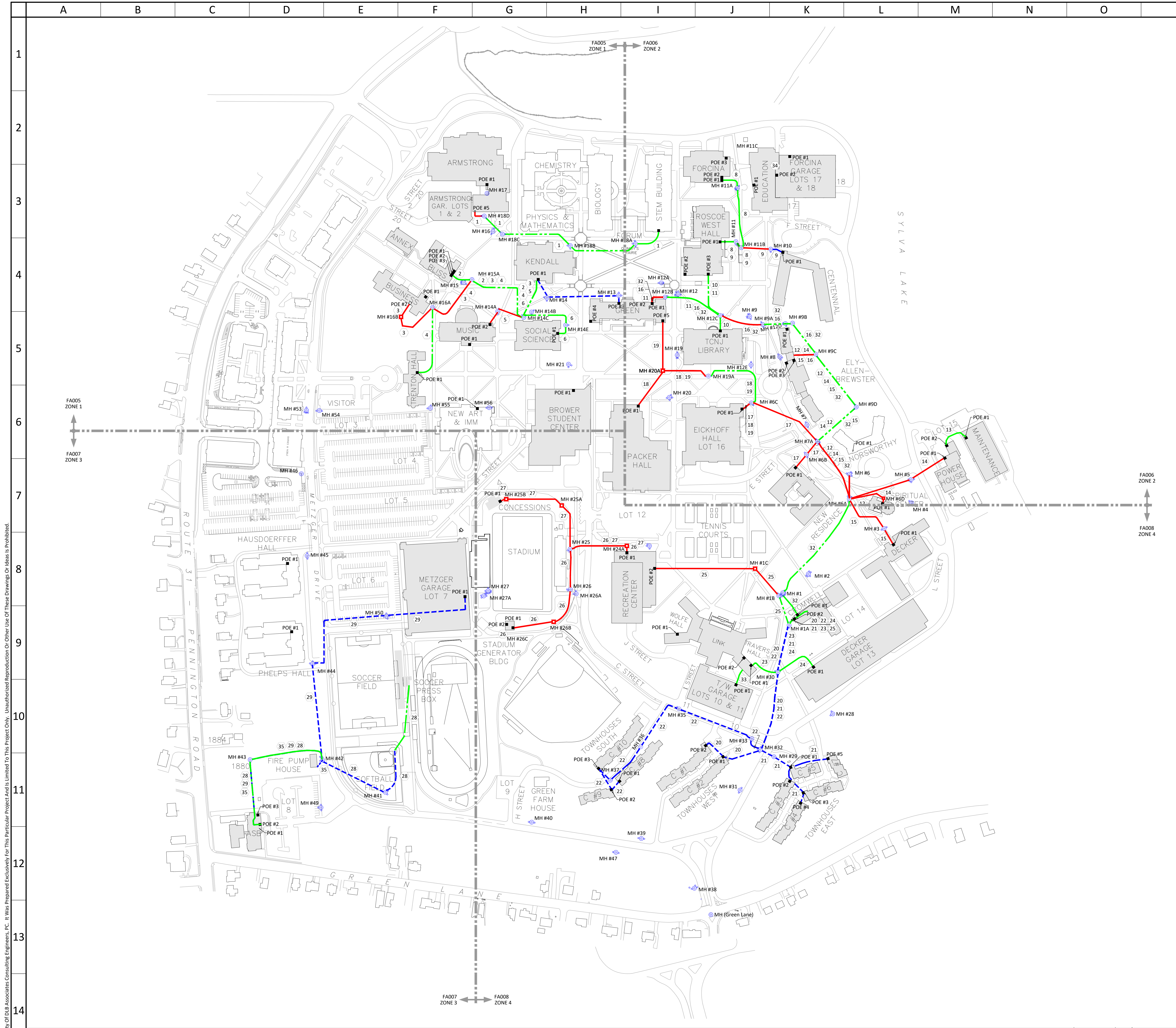
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| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

dlb associates
 CONSULTING ENGINEERS, P.C.
 265 Industrial Way West, Eatontown, N.J. 07724
 Questions For DLB Call: Anthony Laskosky Phone: 732-927-5038

CAMPUS PLAN Scale: 1" = 150'-0"
 Drawing: FA003 Detail: 01
 project: TCNJ - CAMPUS FIRE ALARM PROJECT
 PART A - CABLE INFRASTRUCTURE UPGRADES
 2000 PENNINGTON ROAD,
 EWING NJ, 08618

title: CAMPUS OVERVIEW
 NEW FIBER IN EXISTING EMPTY CONDUIT
 scale: AS SHOWN drawn by: SC checked by: SG date: 05/03/2020
 drawing no.: FA003



| Fiber Routing | | | | |
|---------------|-----------------------------|----------------------------|---------------|------------------------------|
| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 |
| 3 | Business Building | Kendall Hall | No | 12/12 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 |
| 5 | Music Building | Kendall Hall | No | 12/12 |
| 6 | AIMM Building | Kendall Hall | N/A | 0* |
| 6 | Social Science | Kendall Hall | Yes | 12/12 |
| | Kendall Hall | Green Hall | Yes | 0* |
| | Chemistry Building | STEM Building | N/A | 0* |
| | Physics Building | STEM Building | N/A | 0* |
| | Biology Building | STEM Building | N/A | 0* |
| | STEM Building | Green Hall | N/A | 0* |
| 8 | Forcina Hall | Roscoe Hall | Yes | 12/12 |
| | Education Building | Roscoe Hall | N/A | 0* |
| 9 | Centennial Hall | Roscoe Hall | No | 12/12 |
| 10 | Gitenstein Library | Roscoe Hall | No | 12/12 |
| 11 | Roscoe Hall | Green Hall | No | 12/12 |
| | Norsworthy Hall | Ely-Allen-Brewster | N/A | 0* |
| 12 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 |
| 13 | Maintenance Building | Powerhouse | Yes | 12/12 |
| 14 | Powerhouse | Ely-Allen-Brewster | No | 12/12 |
| 15 | Decker Hall | Ely-Allen-Brewster | No | 12/12 |
| 16 | Ely-Allen-Brewster** | Green Hall | No | 12/12 |
| 17 | New Residence Hall | Eickhoff Hall | No | 12/12 |
| 18 | Packer Hall | Eickhoff Hall | No | 12/12 |
| | Brower Student Center | Eickhoff Hall | N/A | 0* |
| 19 | Eickhoff Hall | Green Hall | No | 12/12 |
| 20 | TH1 (Town House West) | Cromwell Hall | No | 48/48 |
| 21 | TH5 21A/B (Town House East) | Cromwell Hall | No | (2) 36/36 |
| 22 | TH9 (Town House South) | Cromwell Hall | No | 48/48 |
| 23 | Travers Hall | Cromwell Hall | Yes | 12/12 |
| | Wolfe Hall | Cromwell Hall | N/A | 0* |
| 24 | Decker Garage | Cromwell Hall | Yes | 12/12 |
| 25 | Recreation Center | Cromwell Hall | No | 12/12 |
| 26 | Stadium Generator Building | Recreation Center | No | 12/12 |
| 27 | Stadium Concession Stand | Recreation Center | No | 12/12 |
| | Stadium Press Box | Stadium Generator Building | No | 12/12 |
| 28 | Soccer Field Press Box | Admin Splice | No | 24/24 |
| 36 | Admin Services Building | Admin Splice | N/A | 36/36 |
| 29 | Metzger Garage | Admin Splice | No | 24/24 |
| | Pheps Hall | Admin Splice | N/A | 0* |
| | Hausdoerffer Hall | Admin Splice | N/A | 0* |
| 32 | Cromwell Hall | Green Hall | No | 12/12 |
| 33 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 |
| 34 | Forcina Garage | Education Building | No | 12/12 |
| 35 | Fire Pump House | Admin Services Building | No | 12/12 |

NOTES
 1. * - Existing Fiber Spare Capacity Available At MDF For Fire Alarm Cable.
 2. ** - New Pathway For This Route Installed As Part Of Domestic Water Project.
 3. Contractor To Terminate All Fiber Strands On Both Ends Of Cable

GENERAL NOTES

1. This Sheet's Purpose Is To Show An Overview Of All The New And Existing Duct Bank Routing Within Scope For The Campus. Those Buildings Are Identified By The Shaded Rows In The Table Above.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description | Identifier | Description |
|------------|--|------------|--------------------------------|
| | Existing Manhole | | Detail Identifier |
| | New Manhole | | Detail # (Detail Location) |
| | Remove Existing Fiber And Pull New Fiber Through Empty Conduit Pathway | | Photo Identification Tag |
| | Existing Conduit Pathway Available For New Fiber Installation | MDF | Main Distribution Frame |
| | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required | MH | Manhole |
| | Building To Building Span Number | MH#XX | Manhole Identification Tag |
| | Building With New Conduit Connections | POE | Point Of Entry |
| | | WCH | Wall-Mounted Connector Housing |

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| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

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 CONSULTING ENGINEERS, P.C.
 265 Industrial Way West, Eatontown, N.J. 07724
 Questions For DLB Call: Anthony Laskosky Phone: 732-927-5038

CAMPUS PLAN Scale: 1"=150'-0"
 Drawing: FA004 Detail: 01
 project: TCNJ - CAMPUS FIRE ALARM PROJECT
 PART A - CABLE INFRASTRUCTURE UPGRADES
 2000 PENNINGTON ROAD,
 EWING NJ, 08618

title: CAMPUS FIRE ALARM FIBER OVERVIEW
 scale: AS SHOWN
 drawn by: SC
 checked by: SG
 date: 05/03/2020
 dwg. no.: **FA004**

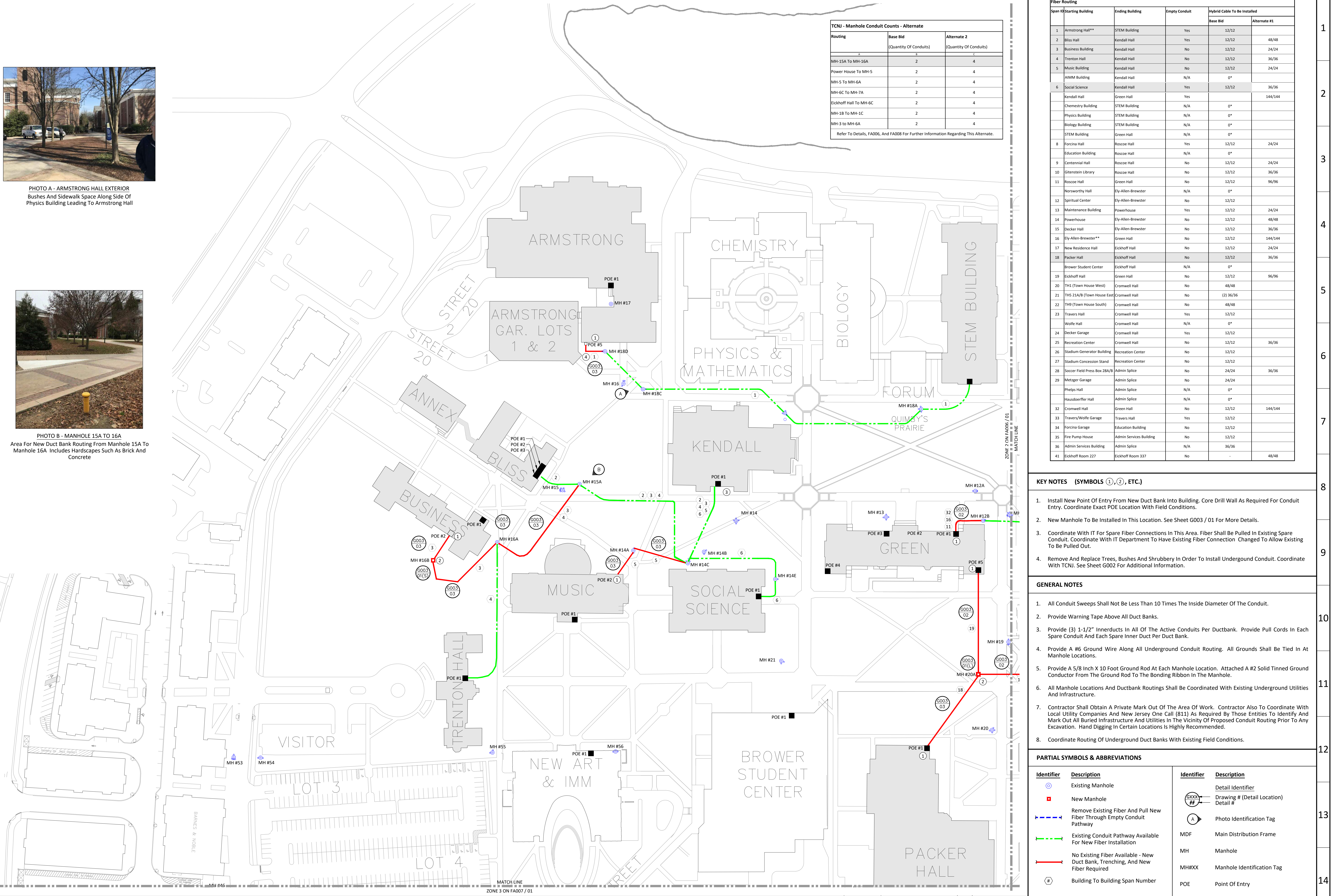


PHOTO A - ARMSTRONG HALL EXTERIOR
Bushes And Sidewalk Space Along Side Of
Physics Building Leading To Armstrong Hall



PHOTO B - MANHOLE 15A TO 16A
Area For New Duct Bank Routing From Manhole 15A To
Manhole 16A Includes Hardscapes Such As Brick And
Concrete

| TCNJ - Manhole Conduit Counts - Alternate | | |
|---|------------------------------------|---------------------------------------|
| Routing | Base Bid (Quantity Of Conduits) | Alternate 2 (Quantity Of Conduits) |
| MH-15A To MH-16A | 2 | 4 |
| Power House To MH-5 | 2 | 4 |
| MH-5 To MH-6A | 2 | 4 |
| MH-6C To MH-7A | 2 | 4 |
| Eickhoff Hall To MH-6C | 2 | 4 |
| MH-18 To MH-1C | 2 | 4 |
| MH-3 To MH-6A | 2 | 4 |

Refer To Details, FA006, And FA008 For Further Information Regarding This Alternate.

| Fiber Routing | | | | | |
|---------------|------------------------------|-------------------------|---------------|------------------------------|--------------|
| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed | |
| | | | | Base Bid | Alternate #1 |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 | |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 | 48/48 |
| 3 | Business Building | Kendall Hall | No | 12/12 | 24/24 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 | 36/36 |
| 5 | Music Building | Kendall Hall | No | 12/12 | 24/24 |
| 6 | AJMM Building | Kendall Hall | N/A | 0* | |
| 6 | Social Science | Kendall Hall | Yes | 12/12 | 36/36 |
| | Kendall Hall | Green Hall | Yes | | 144/144 |
| | Chemistry Building | STEM Building | N/A | 0* | |
| | Physics Building | STEM Building | N/A | 0* | |
| | Biology Building | STEM Building | N/A | 0* | |
| | STEM Building | Green Hall | N/A | 0* | |
| 8 | Forcina Hall | Roscoe Hall | Yes | 12/12 | 24/24 |
| | Education Building | Roscoe Hall | N/A | 0* | |
| 9 | Centennial Hall | Roscoe Hall | No | 12/12 | 24/24 |
| 10 | Gleinstein Library | Roscoe Hall | No | 12/12 | 36/36 |
| 11 | Roscoe Hall | Green Hall | No | 12/12 | 96/96 |
| | Norsworthy Hall | Ely-Allen-Brewster | N/A | 0* | |
| 12 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 | |
| 13 | Maintenance Building | Powerhouse | Yes | 12/12 | 24/24 |
| 14 | Powerhouse | Ely-Allen-Brewster | No | 12/12 | 48/48 |
| 15 | Decker Hall | Ely-Allen-Brewster | No | 12/12 | 36/36 |
| 16 | Ely-Allen-Brewster** | Green Hall | No | 12/12 | 144/144 |
| 17 | New Residence Hall | Eickhoff Hall | No | 12/12 | 24/24 |
| 18 | Packer Hall | Eickhoff Hall | No | 12/12 | 36/36 |
| | Brower Student Center | Eickhoff Hall | N/A | 0* | |
| 19 | Eickhoff Hall | Green Hall | No | 12/12 | 96/96 |
| 20 | TH1 (Town House West) | Cromwell Hall | No | 48/48 | |
| 21 | TH3 21A/B (Town House East) | Cromwell Hall | No | [2] 36/36 | |
| 22 | TH9 (Town House South) | Cromwell Hall | No | 48/48 | |
| 23 | Travers Hall | Cromwell Hall | Yes | 12/12 | |
| | Wolfe Hall | Cromwell Hall | N/A | 0* | |
| 24 | Decker Garage | Cromwell Hall | Yes | 12/12 | |
| 25 | Recreation Center | Cromwell Hall | No | 12/12 | 36/36 |
| 26 | Stadium Generator Building | Recreation Center | No | 12/12 | |
| 27 | Stadium Concession Stand | Recreation Center | No | 12/12 | |
| 28 | Soccer Field Press Box 28A/B | Admin Splice | No | 24/24 | 36/36 |
| 29 | Metzger Garage | Admin Splice | No | 24/24 | |
| | Phelps Hall | Admin Splice | N/A | 0* | |
| | Hausdoerffer Hall | Admin Splice | N/A | 0* | |
| 32 | Cromwell Hall | Green Hall | No | 12/12 | 144/144 |
| 33 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 | |
| 34 | Forcina Garage | Education Building | No | 12/12 | |
| 35 | Fire Pump House | Admin Services Building | No | 12/12 | |
| 36 | Admin Services Building | Admin Splice | N/A | 36/36 | |
| 41 | Eickhoff Room 227 | Eickhoff Room 337 | No | | 48/48 |

- KEY NOTES (SYMBOLS ①, ②, ETC.)**
1. Install New Point Of Entry From New Duct Bank Into Building. Core Drill Wall As Required For Conduit Entry. Coordinate Exact POE Location With Field Conditions.
 2. New Manhole To Be Installed In This Location. See Sheet G003 / 01 For More Details.
 3. Coordinate With IT For Spare Fiber Connections In This Area. Fiber Shall Be Pulled In Existing Spare Conduit. Coordinate With IT Department To Have Existing Fiber Connection Changed To Allow Existing To Be Pulled Out.
 4. Remove And Replace Trees, Bushes And Shrubby In Order To Install Underground Conduit. Coordinate With TCNJ. See Sheet G002 For Additional Information.

- GENERAL NOTES**
1. All Conduit Sweeps Shall Not Be Less Than 10 Times The Inside Diameter Of The Conduit.
 2. Provide Warning Tape Above All Duct Banks.
 3. Provide (3) 1-1/2" Innerducts In All Of The Active Conduits Per Ductbank. Provide Pull Cords In Each Spare Conduit And Each Spare Inner Duct Per Duct Bank.
 4. Provide A #6 Ground Wire Along All Underground Conduit Routing. All Grounds Shall Be Tied In At Manhole Locations.
 5. Provide A 5/8 Inch X 10 Foot Ground Rod At Each Manhole Location. Attached A #2 Solid Tinned Ground Conductor From The Ground Rod To The Bonding Ribbon In The Manhole.
 6. All Manhole Locations And Ductbank Routings Shall Be Coordinated With Existing Underground Utilities And Infrastructure.
 7. Contractor Shall Obtain A Private Mark Out Of The Area Of Work. Contractor Also To Coordinate With Local Utility Companies And New Jersey One Call (811) As Required By Those Entities To Identify And Mark Out All Buried Infrastructure And Utilities In The Vicinity Of Proposed Conduit Routing Prior To Any Excavation. Hand Digging In Certain Locations Is Highly Recommended.
 8. Coordinate Routing Of Underground Duct Banks With Existing Field Conditions.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description | Identifier | Description |
|------------|--|------------|--------------------------------|
| ⊙ | Existing Manhole | ⊙ | Detail Identifier |
| ■ | New Manhole | ⊙ | Detail # (Detail Location) |
| ⚡ | Remove Existing Fiber And Pull New Fiber Through Empty Conduit Pathway | ⊙ | Detail # |
| ⚡ | Existing Conduit Pathway Available For New Fiber Installation | ⊙ | Photo Identification Tag |
| ⚡ | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required | MDF | Main Distribution Frame |
| ⊙ | Building To Building Span Number | MH | Manhole |
| | | MH#XX | Manhole Identification Tag |
| | | POE | Point Of Entry |
| | | WCH | Wall-Mounted Connector Housing |

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30442

| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

dlb associates
CONSULTING ENGINEERS, P.C.
265 Industrial Way West, Eatontown, N.J. 07724
Questions For DLB Call: Anthony Laskosky
DLB Project ID: 47211 Phone: 732-927-5038

CAMPUS FIBER PART PLAN Scale: 1/64"=1'-0"
16' 32' 64' 128'
Drawing: FA005 Detail: 01

project
TCNJ - CAMPUS FIRE ALARM PROJECT
PART A - CABLE INFRASTRUCTURE UPGRADES
2000 PENNINGTON ROAD,
EWING NJ, 08618

title
CAMPUS CONDUIT ROUTING PLAN
ZONE 1
scale AS SHOWN drawn by SC checked by SG date 05/03/2020

dwg. no.
FA005
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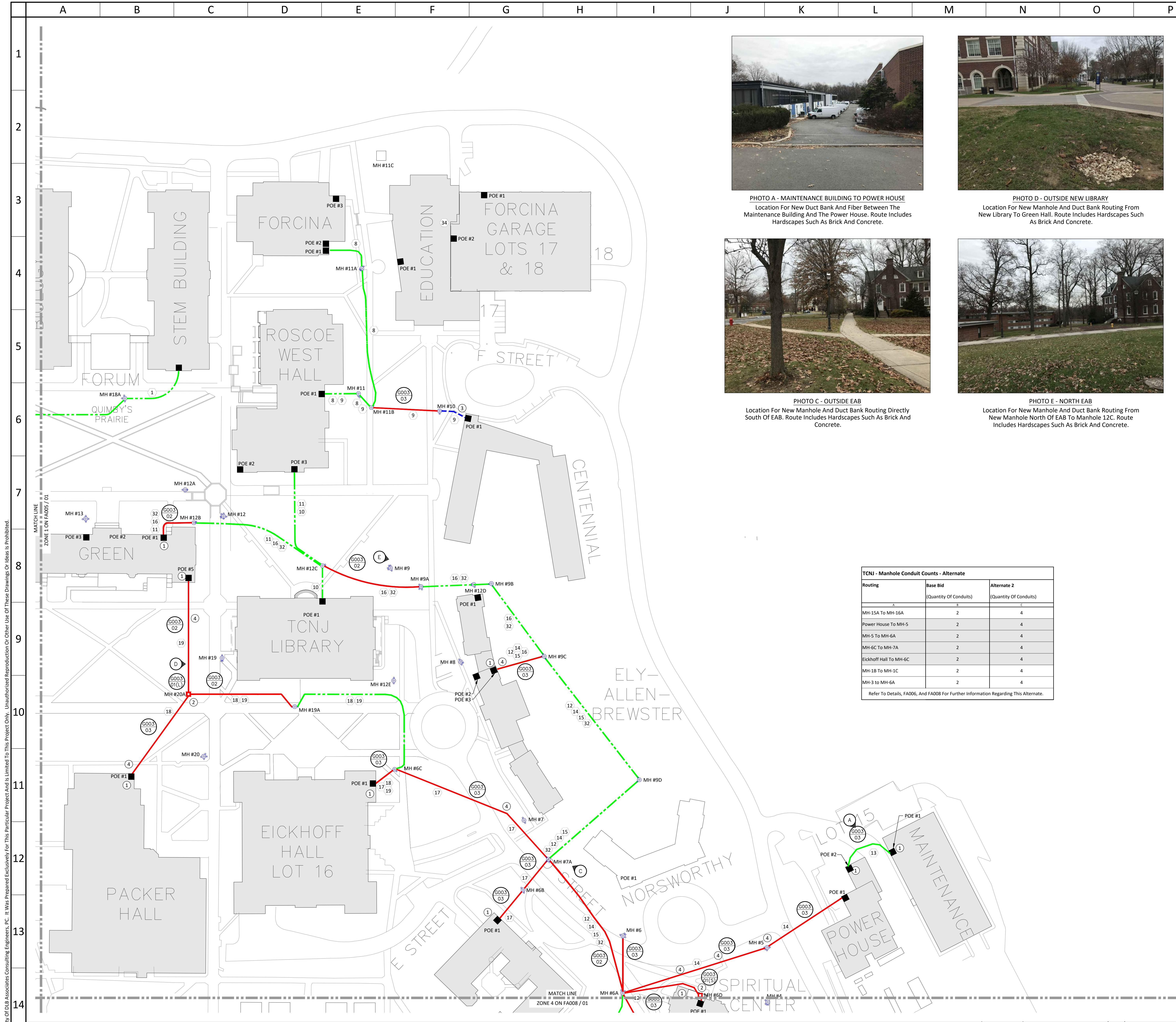


PHOTO A - MAINTENANCE BUILDING TO POWER HOUSE
Location For New Duct Bank And Fiber Between The Maintenance Building And The Power House. Route Includes Hardscapes Such As Brick And Concrete.



PHOTO D - OUTSIDE NEW LIBRARY
Location For New Manhole And Duct Bank Routing From New Library To Green Hall. Route Includes Hardscapes Such As Brick And Concrete.



PHOTO C - OUTSIDE EAB
Location For New Manhole And Duct Bank Routing Directly South Of EAB. Route Includes Hardscapes Such As Brick And Concrete.



PHOTO E - NORTH EAB
Location For New Manhole And Duct Bank Routing From New Manhole North Of EAB To Manhole 12C. Route Includes Hardscapes Such As Brick And Concrete.

TCNJ - Manhole Conduit Counts - Alternate

| Routing | Base Bid (Quantity Of Conduits) | Alternate 2 (Quantity Of Conduits) |
|------------------------|------------------------------------|---------------------------------------|
| MH-15A To MH-16A | 2 | 4 |
| Power House To MH-5 | 2 | 4 |
| MH-5 To MH-6A | 2 | 4 |
| MH-6C To MH-7A | 2 | 4 |
| Eickhoff Hall To MH-6C | 2 | 4 |
| MH-1B To MH-1C | 2 | 4 |
| MH-3 to MH-6A | 2 | 4 |

Refer To Details, FA006, And FA008 For Further Information Regarding This Alternate.

Fiber Routing

| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed | |
|---------|------------------------------|-------------------------|---------------|------------------------------|--------------|
| | | | | Base Bid | Alternate #1 |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 | |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 | 48/48 |
| 3 | Business Building | Kendall Hall | No | 12/12 | 24/24 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 | 36/36 |
| 5 | Music Building | Kendall Hall | No | 12/12 | 24/24 |
| | ANMM Building | Kendall Hall | N/A | 0* | |
| 6 | Social Science | Kendall Hall | Yes | 12/12 | 36/36 |
| | Kendall Hall | Green Hall | Yes | | 144/144 |
| | Chemistry Building | STEM Building | N/A | 0* | |
| | Physics Building | STEM Building | N/A | 0* | |
| | Biology Building | STEM Building | N/A | 0* | |
| | STEM Building | Green Hall | N/A | 0* | |
| 8 | Forcina Hall | Roscoe Hall | Yes | 12/12 | 24/24 |
| | Education Building | Roscoe Hall | N/A | 0* | |
| 9 | Centennial Hall | Roscoe Hall | No | 12/12 | 24/24 |
| 10 | Gilstein Library | Roscoe Hall | No | 12/12 | 36/36 |
| 11 | Roscoe Hall | Green Hall | No | 12/12 | 96/96 |
| | Norsworthy Hall | Ely-Allen-Brewster | N/A | 0* | |
| 12 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 | |
| 13 | Maintenance Building | Powerhouse | Yes | 12/12 | 24/24 |
| 14 | Powerhouse | Ely-Allen-Brewster | No | 12/12 | 48/48 |
| 15 | Decker Hall | Ely-Allen-Brewster | No | 12/12 | 36/36 |
| 16 | Ely-Allen-Brewster** | Green Hall | No | 12/12 | 144/144 |
| 17 | New Residence Hall | Eickhoff Hall | No | 12/12 | 24/24 |
| 18 | Packer Hall | Eickhoff Hall | No | 12/12 | 36/36 |
| | Brower Student Center | Eickhoff Hall | N/A | 0* | |
| 19 | Eickhoff Hall | Green Hall | No | 12/12 | 96/96 |
| 20 | TH1 (Town House West) | Cromwell Hall | No | 48/48 | |
| 21 | TH3 21A/B (Town House East) | Cromwell Hall | No | (2) 36/36 | |
| 22 | TH9 (Town House South) | Cromwell Hall | No | 48/48 | |
| 23 | Travers Hall | Cromwell Hall | Yes | 12/12 | |
| | Wolfe Hall | Cromwell Hall | N/A | 0* | |
| 24 | Decker Garage | Cromwell Hall | Yes | 12/12 | |
| 25 | Recreation Center | Cromwell Hall | No | 12/12 | 36/36 |
| 26 | Stadium Generator Building | Recreation Center | No | 12/12 | |
| 27 | Stadium Concession Stand | Recreation Center | No | 12/12 | |
| 28 | Soccer Field Press Box 28A/B | Admin Splice | No | 24/24 | 36/36 |
| 29 | Metzger Garage | Admin Splice | No | 24/24 | |
| | Phelps Hall | Admin Splice | N/A | 0* | |
| | Hausdoerffer Hall | Admin Splice | N/A | 0* | |
| 32 | Cromwell Hall | Green Hall | No | 12/12 | 144/144 |
| 33 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 | |
| 34 | Forcina Garage | Education Building | No | 12/12 | |
| 35 | Fire Pump House | Admin Services Building | No | 12/12 | |
| 36 | Admin Services Building | Admin Splice | N/A | 36/36 | |
| 41 | Eickhoff Room 227 | Eickhoff Room 337 | No | | 48/48 |

KEY NOTES (SYMBOLS ①, ②, ETC.)

1. Install New Point Of Entry From New Duct Bank Into Building. Core Drill Wall As Required For Conduit Entry. Coordinate Exact POE Location With Field Conditions.
2. New Manhole To Be Installed In This Location. See Sheet G003 / 01 For More Details.
3. Coordinate With IT For Spare Fiber Connections In This Area. Fiber Shall Be Pulled In Existing Spare Conduit. Coordinate With IT Department To Have Existing Fiber Connection Changed To Allow Existing To Be Pulled Out.
4. Remove And Replace Trees, Bushes And Shrubbery In Order To Install Underground Conduit. Coordinate With TCNJ. See Sheet G002 For Additional Information.

GENERAL NOTES

1. All Conduit Sweeps Shall Not Be Less Than 10 Times The Inside Diameter Of The Conduit.
2. Provide Warning Tape Above All Duct Banks.
3. Provide (3) 1-1/2" Innerducts In All Of The Active Conduits Per Ductbank. Provide Pull Cords In Each Spare Conduit And Each Spare Inner Duct Per Duct Bank.
4. Provide A #6 Ground Wire Along All Underground Conduit Routing. All Grounds Shall Be Tied In At Manhole Locations.
5. Provide A 5/8 Inch X 10 Foot Ground Rod At Each Manhole Location. Attached A #2 Solid Tinned Ground Conductor From The Ground Rod To The Bonding Ribbon In The Manhole.
6. All Manhole Locations And Ductbank Routings Shall Be Coordinated With Existing Underground Utilities And Infrastructure.
7. All Ductbanks Shall Be Encased In Flowable Fill.
8. Contractor Shall Obtain A Private Mark Out Of The Area Of Work. Contractor Also To Coordinate With Local Utility Companies And New Jersey One Call (811) As Required By Those Entities To Identify And Mark Out All Buried Infrastructure And Utilities In The Vicinity Of Proposed Conduit Routing Prior To Any Excavation. Hand Digging In Certain Locations Is Highly Recommended.
9. Coordinate Routing Of Underground Duct Banks With Existing Field Conditions.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description | Identifier | Description |
|------------|--|------------|--------------------------------|
| ⊙ | Existing Manhole | ⓧ | Detail Identifier |
| ■ | New Manhole | ⓧ | Drawing # (Detail Location) |
| ⚡ | Remove Existing Fiber And Pull New Fiber Through Empty Conduit Pathway | ⓧ | Detail # |
| ⚡ | Existing Conduit Pathway Available For New Fiber Installation | ⓧ | Photo Identification Tag |
| ⚡ | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required | MDF | Main Distribution Frame |
| ⓧ | Building To Building Span ID | MH | Manhole |
| | | MH#XX | Manhole Identification Tag |
| | | POE | Point Of Entry |
| | | WCH | Wall-Mounted Connector Housing |

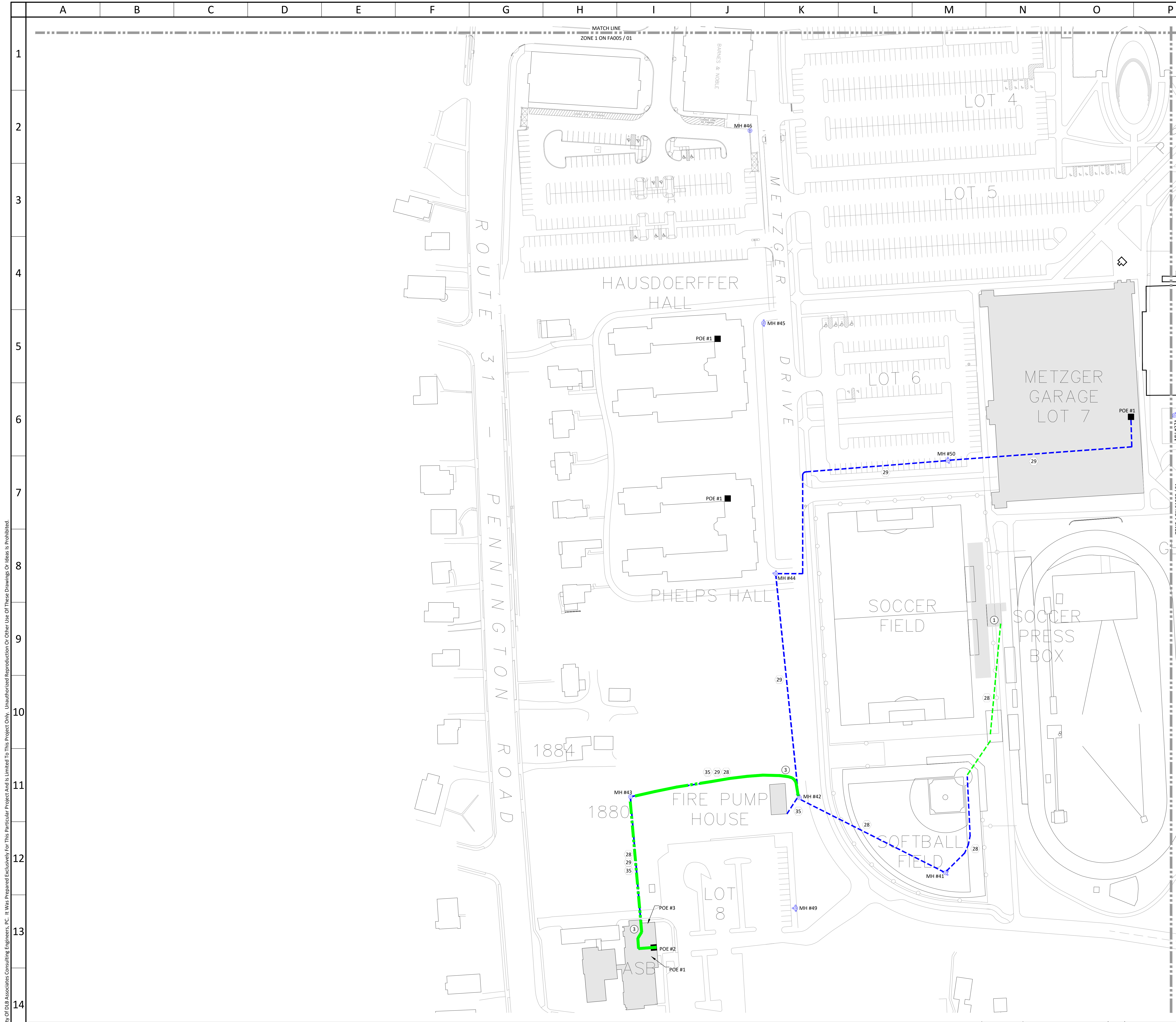
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| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

dlb associates
CONSULTING ENGINEERS, P.C.
265 Industrial Way West, Eatontown, N.J. 07724
Questions For DLB Call: Anthony Laskosky
DLB Project ID: 47211 Phone: 732-927-5038

CAMPUS FIBER PART PLAN
Scale: 1/64"=1'-0"
16' 32' 64' 128'
Drawing: FA006
Detail: 01
project
TCNJ - CAMPUS FIRE ALARM PROJECT
PART A - CABLE INFRASTRUCTURE UPGRADES
2000 PENNINGTON ROAD,
EWING NJ, 08618

title
CAMPUS CONDUIT ROUTING PLAN
ZONE 2
scale AS SHOWN
drawn by SC
checked by SG
date 05/03/2020
dwg. no.
FA006
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| Fiber Routing | | | | | |
|---------------|------------------------------|-------------------------|---------------|------------------------------|--------------|
| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed | |
| | | | | Base Bid | Alternate #1 |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 | |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 | 48/48 |
| 3 | Business Building | Kendall Hall | No | 12/12 | 24/24 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 | 36/36 |
| 5 | Music Building | Kendall Hall | No | 12/12 | 24/24 |
| | AJMM Building | Kendall Hall | N/A | 0* | |
| 6 | Social Science | Kendall Hall | Yes | 12/12 | 36/36 |
| | Kendall Hall | Green Hall | Yes | | 144/144 |
| | Chemistry Building | STEM Building | N/A | 0* | |
| | Physics Building | STEM Building | N/A | 0* | |
| | Biology Building | STEM Building | N/A | 0* | |
| | STEM Building | Green Hall | N/A | 0* | |
| 8 | Forcina Hall | Roscoe Hall | Yes | 12/12 | 24/24 |
| | Education Building | Roscoe Hall | N/A | 0* | |
| 9 | Centennial Hall | Roscoe Hall | No | 12/12 | 24/24 |
| 10 | Gilstein Library | Roscoe Hall | No | 12/12 | 36/36 |
| 11 | Roscoe Hall | Green Hall | No | 12/12 | 96/96 |
| | Norworthy Hall | Ely-Allen-Brewster | N/A | 0* | |
| 12 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 | |
| 13 | Maintenance Building | Powerhouse | Yes | 12/12 | 24/24 |
| 14 | Powerhouse | Ely-Allen-Brewster | No | 12/12 | 48/48 |
| 15 | Decker Hall | Ely-Allen-Brewster | No | 12/12 | 36/36 |
| 16 | Ely-Allen-Brewster** | Green Hall | No | 12/12 | 144/144 |
| 17 | New Residence Hall | Eickhoff Hall | No | 12/12 | 24/24 |
| 18 | Packer Hall | Eickhoff Hall | No | 12/12 | 36/36 |
| | Brower Student Center | Eickhoff Hall | N/A | 0* | |
| 19 | Eickhoff Hall | Green Hall | No | 12/12 | 96/96 |
| 20 | TH1 (Town House West) | Cromwell Hall | No | 48/48 | |
| 21 | TH5 21A/B (Town House East) | Cromwell Hall | No | (2) 36/36 | |
| 22 | TH9 (Town House South) | Cromwell Hall | No | 48/48 | |
| 23 | Travers Hall | Cromwell Hall | Yes | 12/12 | |
| 24 | Wolfe Hall | Cromwell Hall | N/A | 0* | |
| 24 | Decker Garage | Cromwell Hall | Yes | 12/12 | |
| 25 | Recreation Center | Cromwell Hall | No | 12/12 | 36/36 |
| 26 | Stadium Generator Building | Recreation Center | No | 12/12 | |
| 27 | Stadium Concession Stand | Recreation Center | No | 12/12 | |
| 28 | Soccer Field Press Box 28A/B | Admin Splice | No | 24/24 | 36/36 |
| 29 | Metzger Garage | Admin Splice | No | 24/24 | |
| | Phelps Hall | Admin Splice | N/A | 0* | |
| | Hausdoerffer Hall | Admin Splice | N/A | 0* | |
| 32 | Cromwell Hall | Green Hall | No | 12/12 | 144/144 |
| 33 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 | |
| 34 | Forcina Garage | Education Building | No | 12/12 | |
| 35 | Fire Pump House | Admin Services Building | No | 12/12 | |
| 36 | Admin Services Building | Admin Splice | N/A | 36/36 | |
| 41 | Eickhoff Room 227 | Eickhoff Room 337 | No | - | 48/48 |

- KEY NOTES (SYMBOLS ①, ②, ETC.)**
1. Install New Point Of Entry From New Duct Bank Into Building. Core Drill Wall As Required For Conduit Entry. Coordinate Exact POE Location With Field Conditions.
 2. New Manhole To Be Installed In This Location. See Sheet G003 / 01 For More Details.
 3. Coordinate With IT For Spare Fiber Connections In This Area. Fiber Shall Be Pulled In Existing Spare Conduit. Coordinate With IT Department To Have Existing Fiber Disconnection To Allow Existing To Be Pulled Out.
 4. Remove And Replace Trees, Bushes And Shrubbery In Order To Install Underground Conduit. Coordinate With TCNJ. See Sheet G002 For Additional Information.

- GENERAL NOTES**
1. All Conduit Sweeps Shall Not Be Less Than 10 Times The Inside Diameter Of The Conduit.
 2. Provide Warning Tape Above All Duct Banks.
 3. Provide (3) 1-1/2" Innerducts In All Of The Active Conduits Per Ductbank. Provide Pull Cords In Each Spare Conduit And Each Spare Inner Duct Per Duct Bank.
 4. Provide A #6 Ground Wire Along All Underground Conduit Routing. All Grounds Shall Be Tied In At Manhole Locations.
 5. Provide A 5/8 Inch X 10 Foot Ground Rod At Each Manhole Location. Attached A #2 Solid Tinned Ground Conductor From The Ground Rod To The Bonding Ribbon In The Manhole.
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 7. Contractor Shall Obtain A Private Mark Out Of The Area Of Work. Contractor Also To Coordinate With Local Utility Companies And New Jersey One Call (811) As Required By Those Entities To Identify And Mark Out All Buried Infrastructure And Utilities In The Vicinity Of Proposed Conduit Routing Prior To Any Excavation. Hand Digging In Certain Locations Is Highly Recommended.
 8. Coordinate Routing Of Underground Duct Banks With Existing Field Conditions.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description | Identifier | Description |
|------------|--|------------|--------------------------------------|
| ⊙ | Existing Manhole | Ⓧ | Detail Identifier |
| ■ | New Manhole | Ⓧ# | Drawing # (Detail Location) Detail # |
| --- | Remove Existing Fiber And Pull New Fiber Through Empty Conduit Pathway | ⓐ | Photo Identification Tag |
| --- | Existing Conduit Pathway Available For New Fiber Installation | MDF | Main Distribution Frame |
| --- | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required | MH | Manhole |
| Ⓜ | Building To Building Span Number | MH#XX | Manhole Identification Tag |
| | | POE | Point Of Entry |
| | | WCH | Wall-Mounted Connector Housing |

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30442

CAMPUS FIBER PART PLAN Scale: 1/64"=1'-0" 16' 32' 64' 128' Drawing: FA007 Detail: 01

dlb associates
CONSULTING ENGINEERS, P.C.
265 Industrial Way West, Eatontown, N.J. 07724
Questions For DLB Call: Anthony Laskosky Phone: 732-927-5038

project
TCNJ - CAMPUS FIRE ALARM PROJECT
PART A - CABLE INFRASTRUCTURE UPGRADES
2000 PENNINGTON ROAD,
EWING NJ, 08618

title
CAMPUS CONDUIT ROUTING PLAN
ZONE 3
scale AS SHOWN drawn by SC checked by SG date 05/03/2020
dwg. no.
FA007

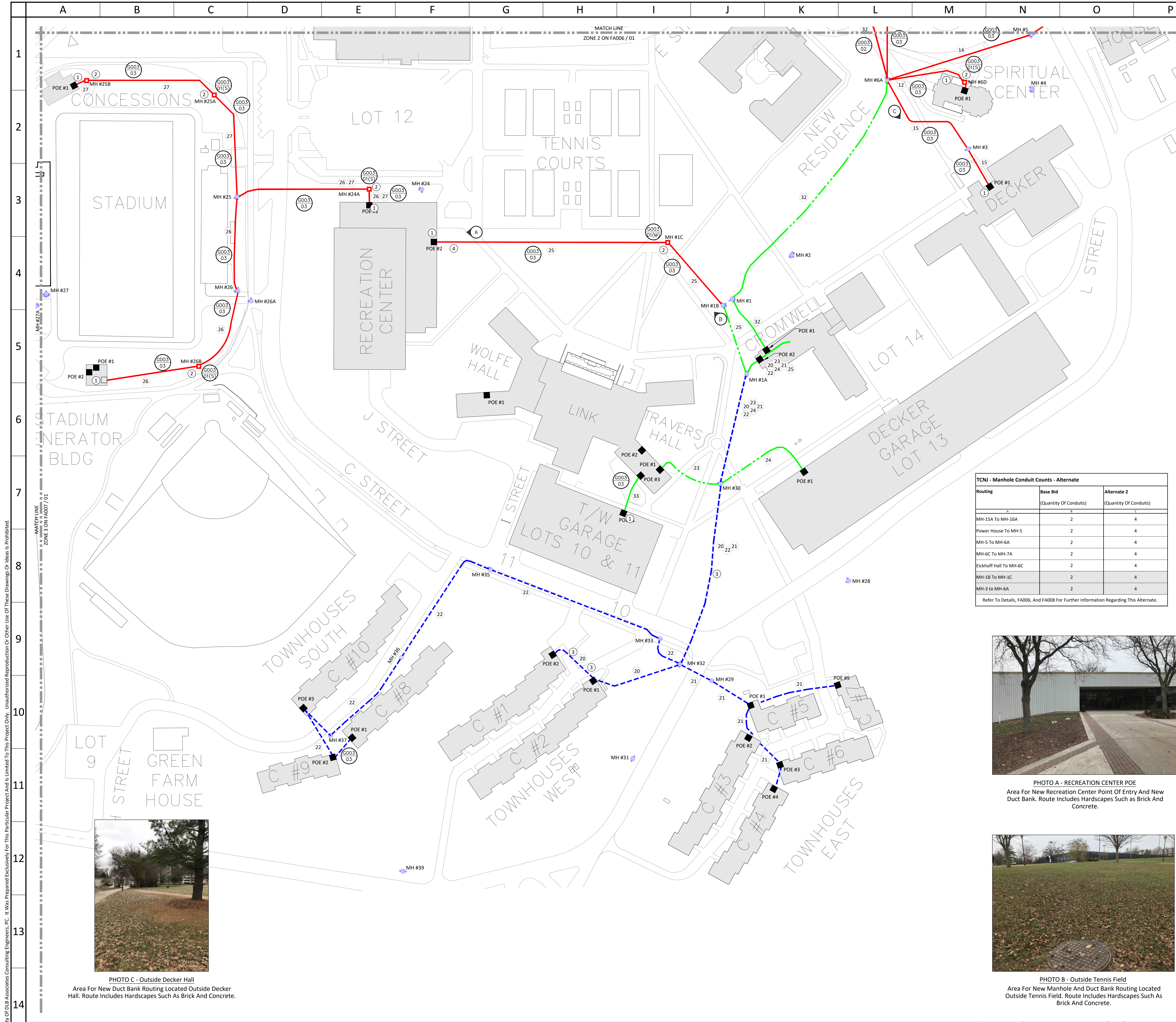


PHOTO C - Outside Decker Hall
Area For New Duct Bank Routing Located Outside Decker Hall. Route Includes Hardscapes Such As Brick And Concrete.



PHOTO A - RECREATION CENTER POE
Area For New Recreation Center Point Of Entry And New Duct Bank. Route Includes Hardscapes Such As Brick And Concrete.



PHOTO B - Outside Tennis Field
Area For New Manhole And Duct Bank Routing Located Outside Tennis Field. Route Includes Hardscapes Such As Brick And Concrete.

TCNJ - Manhole Conduit Counts - Alternate

| Routing | Base Bid (Quantity Of Conduits) | Alternate 2 (Quantity Of Conduits) |
|------------------------|------------------------------------|---------------------------------------|
| MH-15A To MH-16A | 2 | 4 |
| Power House To MH-5 | 2 | 4 |
| MH-5 To MH-6A | 2 | 4 |
| MH-6C To MH-7A | 2 | 4 |
| Eickhoff Hall To MH-6C | 2 | 4 |
| MH-1B To MH-3C | 2 | 4 |
| MH-3 To MH-6A | 2 | 4 |

Refer To Details, FA006, And FA008 For Further Information Regarding This Alternate.

Fiber Routing

| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed | |
|---------|------------------------------|-------------------------|---------------|------------------------------|--------------|
| | | | | Base Bid | Alternate #1 |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 | |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 | 48/48 |
| 3 | Business Building | Kendall Hall | No | 12/12 | 24/24 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 | 36/36 |
| 5 | Music Building | Kendall Hall | No | 12/12 | 24/24 |
| 6 | AJMM Building | Kendall Hall | N/A | 0" | |
| 6 | Social Science | Kendall Hall | Yes | 12/12 | 36/36 |
| | Kendall Hall | Green Hall | Yes | | 144/144 |
| | Chemistry Building | STEM Building | N/A | 0" | |
| | Physics Building | STEM Building | N/A | 0" | |
| | Biology Building | STEM Building | N/A | 0" | |
| | STEM Building | Green Hall | N/A | 0" | |
| 8 | Forcina Hall | Roscoe Hall | Yes | 12/12 | 24/24 |
| | Education Building | Roscoe Hall | N/A | 0" | |
| 9 | Centennial Hall | Roscoe Hall | No | 12/12 | 24/24 |
| 10 | Gilstein Library | Roscoe Hall | No | 12/12 | 36/36 |
| 11 | Roscoe Hall | Green Hall | No | 12/12 | 96/96 |
| | Norsworthy Hall | Ely-Allen-Brewster | N/A | 0" | |
| 12 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 | |
| 13 | Maintenance Building | Powerhouse | Yes | 12/12 | 24/24 |
| 14 | Powerhouse | Ely-Allen-Brewster | No | 12/12 | 48/48 |
| 15 | Decker Hall | Ely-Allen-Brewster | No | 12/12 | 36/36 |
| 16 | Ely-Allen-Brewster** | Green Hall | No | 12/12 | 144/144 |
| 17 | New Residence Hall | Eickhoff Hall | No | 12/12 | 24/24 |
| 18 | Packer Hall | Eickhoff Hall | No | 12/12 | 36/36 |
| | Brower Student Center | Eickhoff Hall | N/A | 0" | |
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| 22 | TH9 (Town House South) | Cromwell Hall | No | 48/48 | |
| 23 | Travers Hall | Cromwell Hall | Yes | 12/12 | |
| | Wolfe Hall | Cromwell Hall | N/A | 0" | |
| 24 | Decker Garage | Cromwell Hall | Yes | 12/12 | |
| 25 | Recreation Center | Cromwell Hall | No | 12/12 | 36/36 |
| 26 | Stadium Generator Building | Recreation Center | No | 12/12 | |
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| 28 | Soccer Field Press Box 28A/B | Admin Splice | No | 24/24 | 36/36 |
| 29 | Metzger Garage | Admin Splice | No | 24/24 | |
| | Phelps Hall | Admin Splice | N/A | 0" | |
| | Hausdoerffer Hall | Admin Splice | N/A | 0" | |
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| 41 | Eickhoff Room 227 | Eickhoff Room 337 | No | - | 48/48 |

KEY NOTES (SYMBOLS ①, ②, ETC.)

- New Point Of Entry From New Duct Bank Into Building. Core Drill Wall As Required For Conduit Entry. Coordinate Exact POE Location With Field Conditions.
- New Manhole To Be Installed In This Location. See Sheet G003 / 01 For More Details.
- Contractor Shall Coordinate With College IT Department To Disconnect The Existing Fiber Cable Before Pulling Out Cable. Once The Cable Has Been Disconnected And Removed, Contractor Shall Utilize Pathway To Pull In Replacement Fiber Cable.
- Remove And Replace Trees, Bushes And Shrubbery In Order To Install Underground Conduit. Coordinate With TCNJ. See Sheet G002 For Additional Information.

GENERAL NOTES

- All Conduit Sweeps Shall Not Be Less Than 10 Times The Inside Diameter Of The Conduit.
- Provide Warning Tape Above All Duct Banks.
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- Provide A #6 Ground Wire Along All Underground Conduit Routing. All Grounds Shall Be Tied In At Manhole Locations.
- Provide A 5/8 Inch X 10 Foot Ground Rod At Each Manhole Location. Attached A #2 Solid Tinned Ground Conductor From The Ground Rod To The Bonding Ribbon In The Manhole.
- All Manhole Locations And Ductbank Routings Shall Be Coordinated With Existing Underground Utilities And Infrastructure.
- All Ductbanks Shall Be Encased In Flowable Fill.
- Contractor Shall Obtain A Private Mark Out Of The Area Of Work. Contractor Also To Coordinate With Local Utility Companies And New Jersey One Call (811) As Required By Those Entities To Identify And Mark Out All Buried Infrastructure And Utilities In The Vicinity Of Proposed Conduit Routing Prior To Any Excavation. Hand Digging In Certain Locations Is Highly Recommended.
- Coordinate Routing Of Underground Duct Banks With Existing Field Conditions.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description | Identifier | Description |
|------------|--|------------|---|
| ⊙ | Existing Manhole | ⊙ | Detail Identifier |
| ■ | New Manhole | ⊙ | Drawing # (Detail Location) Detail # |
| --- | Remove Existing Fiber And Pull New Fiber Through Empty Conduit Pathway | Ⓜ | Photo Identification Tag |
| --- | Existing Conduit Pathway Available For New Fiber Installation | MDF | Main Distribution Frame |
| --- | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required | MH | Manhole |
| Ⓜ | Building To Building Span ID | MH#XX | Manhole Identification Tag |
| | | POE | Point Of Entry |
| | | WCH | Wall-Mounted Connector Housing |

CAMPUS FIBER PART PLAN Scale: 1/64"=1'-0" Drawing: FA008 Detail: 01

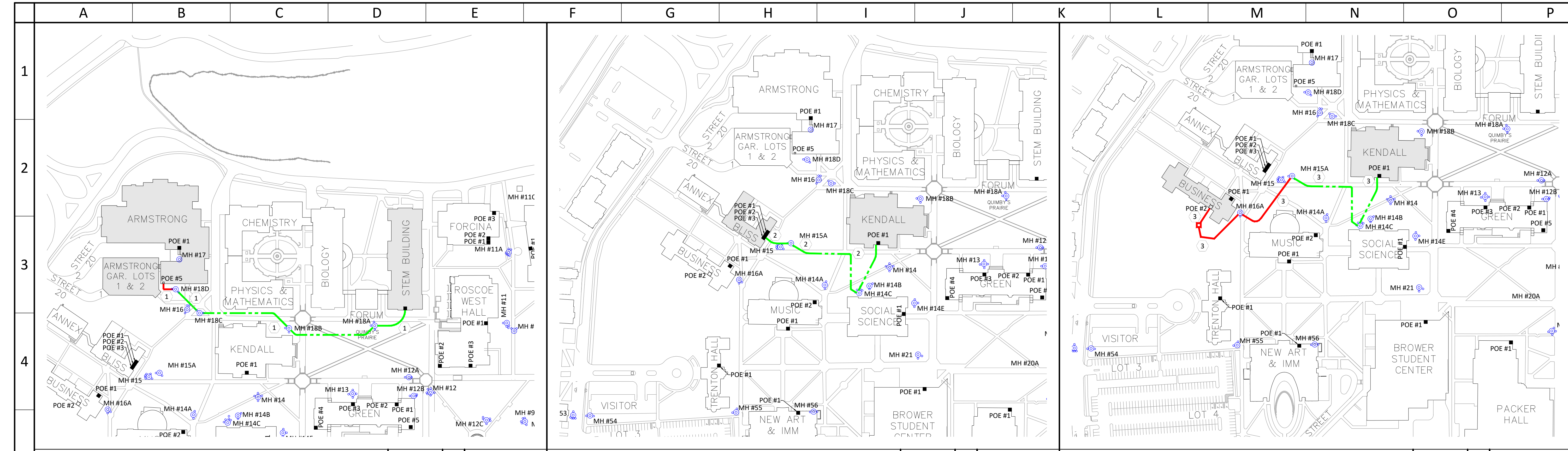
dlb associates
CONSULTING ENGINEERS, P.C.
265 Industrial Way West, Eatontown, N.J. 07724
Questions For DLB Call: Anthony Laskosky
DLB Project ID: 47211 Phone: 732-927-5038

project
TCNJ - CAMPUS FIRE ALARM PROJECT
PART A - CABLE INFRASTRUCTURE UPGRADES
2000 PENNINGTON ROAD,
EWING NJ, 08618

title
CAMPUS CONDUIT ROUTING PLAN
ZONE 4
scale AS SHOWN drawn by SC checked by SG date 05/03/2020
dwg. no.
FA008

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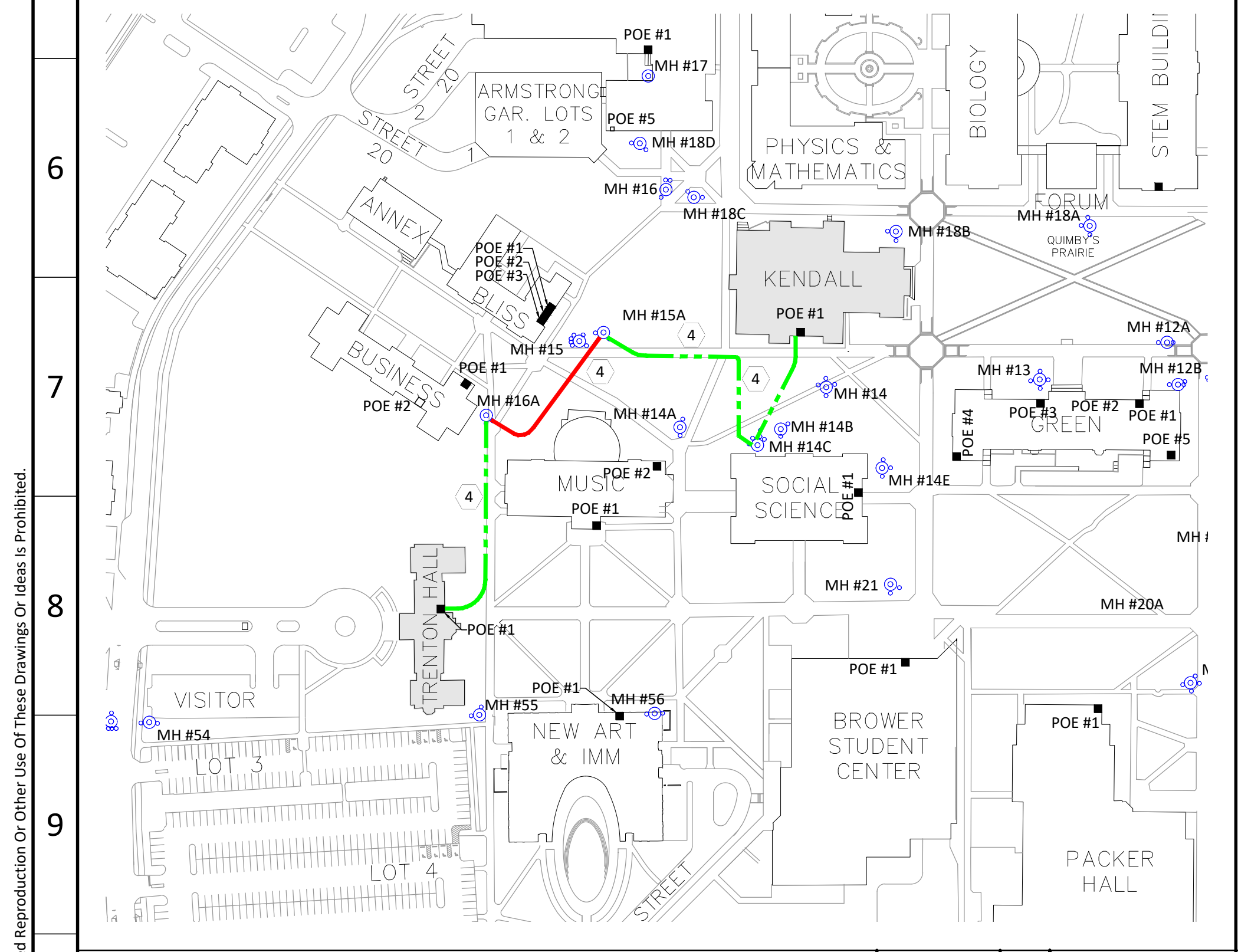
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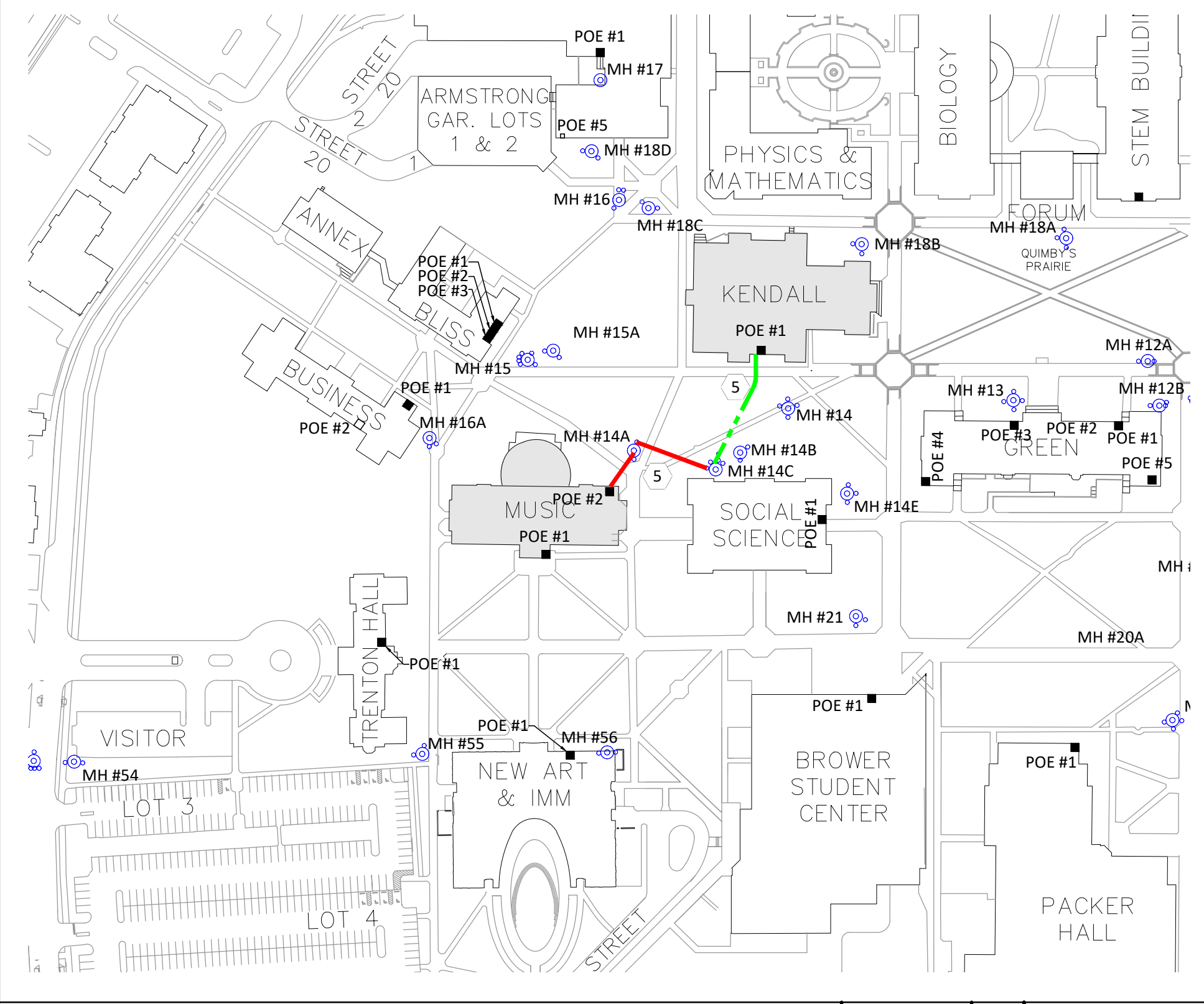
FIBER ROUTING - ARMSTRONG HALL TO STEM BUILDING Scale: 1" = 150' Drawing: FA009 Detail: 01

FIBER ROUTING - BLISS HALL & ANNEX TO KENDALL HALL Scale: 1" = 150' Drawing: FA009 Detail: 02

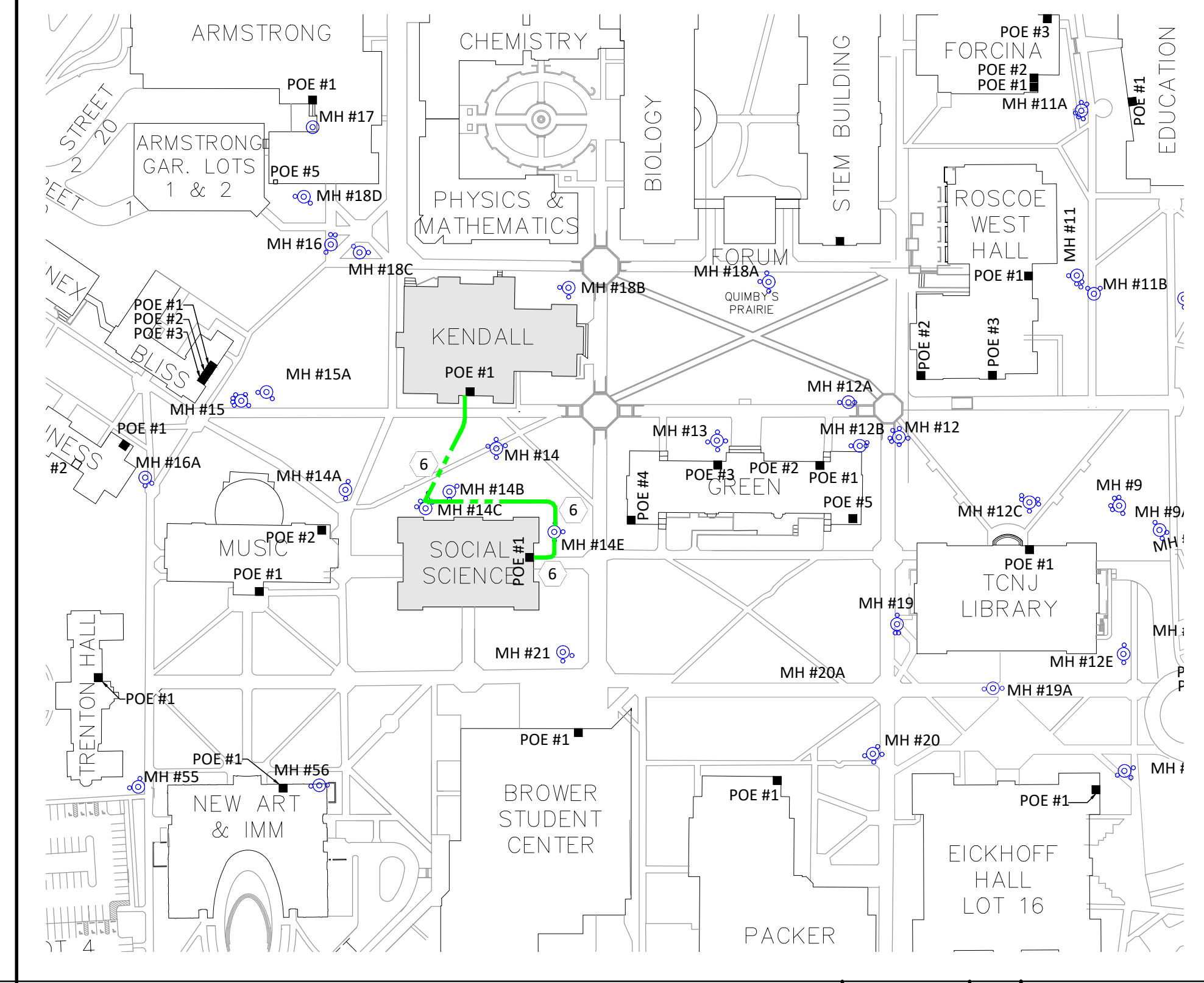
FIBER ROUTING - BUSINESS BUILDING TO KENDALL HALL Scale: 1" = 150' Drawing: FA009 Detail: 03



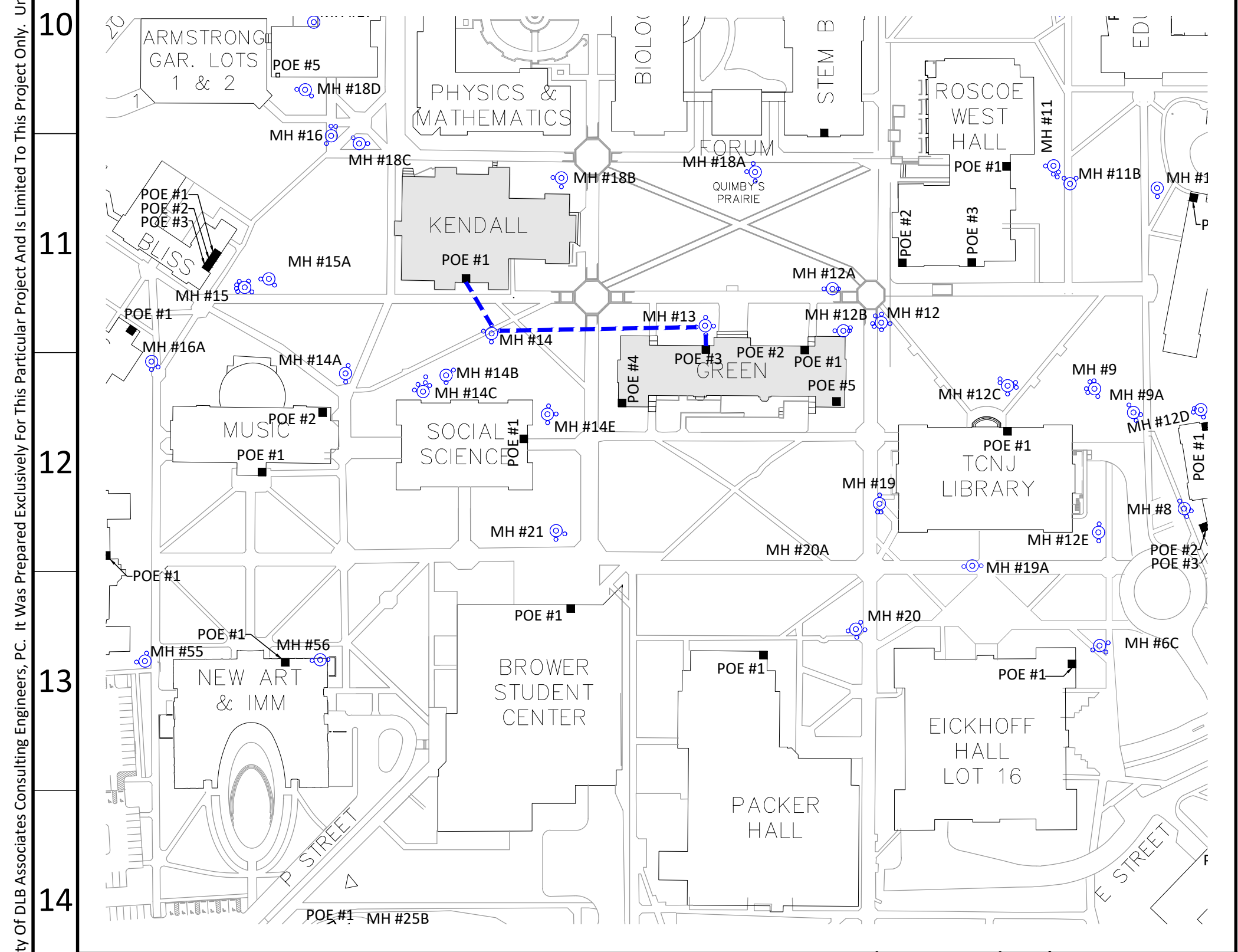
FIBER ROUTING - TRENTON HALL TO KENDALL HALL Scale: 1" = 150' Drawing: FA009 Detail: 04



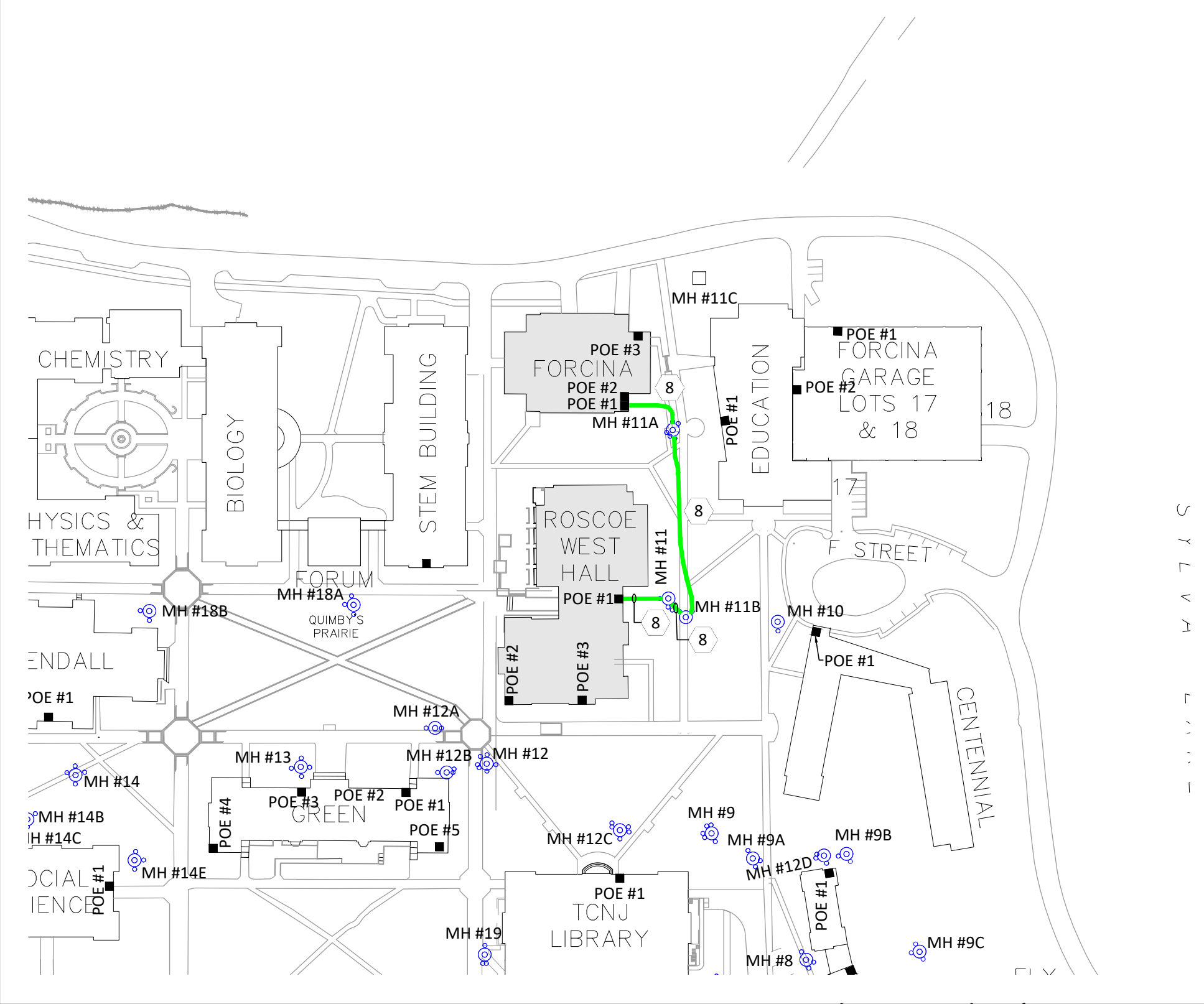
FIBER ROUTING - MUSIC BUILDING TO KENDALL HALL Scale: 1" = 150' Drawing: FA009 Detail: 05



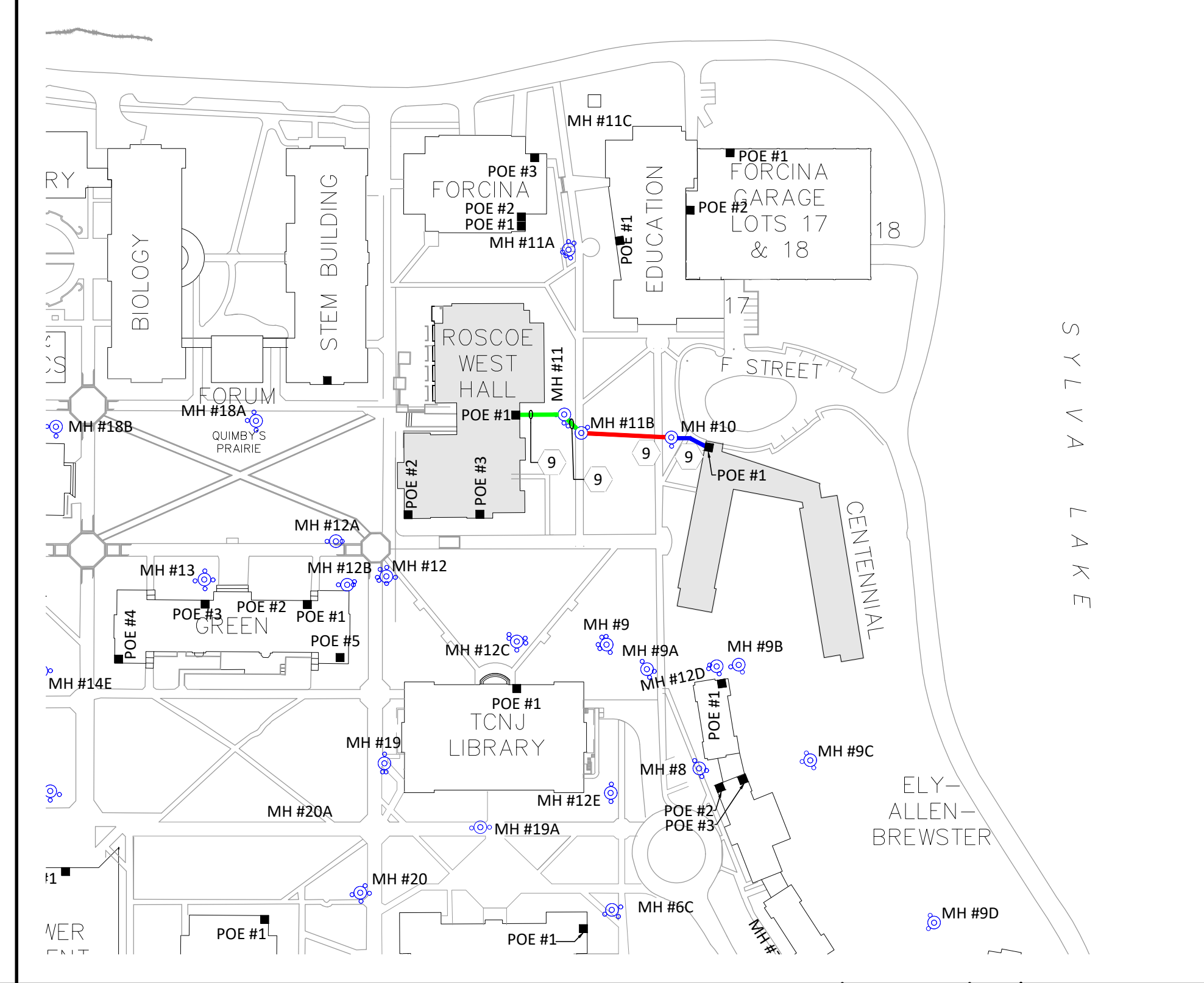
FIBER ROUTING - SOCIAL SCIENCE TO KENDALL HALL Scale: 1" = 150' Drawing: FA009 Detail: 06



FIBER ROUTING - KENDALL HALL TO GREEN HALL (ADD ALT) Scale: 1" = 150' Drawing: FA009 Detail: 07



FIBER ROUTING - FORCINA HALL TO ROSCOE HALL Scale: 1" = 150' Drawing: FA009 Detail: 08



FIBER ROUTING - CENTENNIAL HALL TO ROSCOE HALL Scale: 1" = 150' Drawing: FA009 Detail: 09

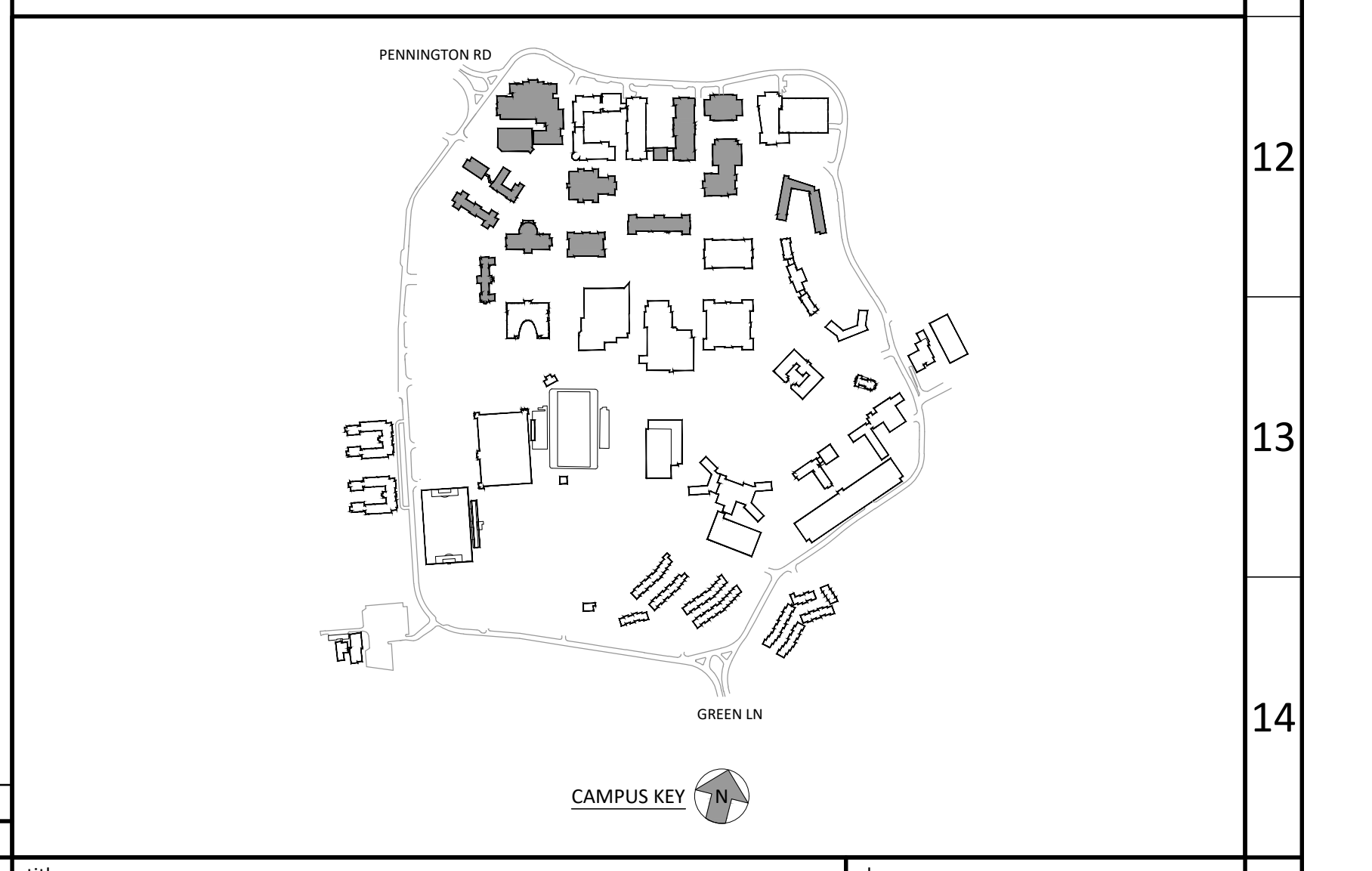
| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed | |
|---------|------------------------------|-------------------------|---------------|------------------------------|--------------|
| | | | | Base Bid | Alternate #1 |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 | |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 | 48/48 |
| 3 | Business Building | Kendall Hall | No | 12/12 | 24/24 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 | 36/36 |
| 5 | Music Building | Kendall Hall | No | 12/12 | 24/24 |
| 6 | ANMM Building | Kendall Hall | N/A | 0" | |
| 7 | Social Science | Kendall Hall | Yes | 12/12 | 36/36 |
| 8 | Kendall Hall | Green Hall | Yes | 12/12 | 144/144 |
| 9 | Chemistry Building | STEM Building | N/A | 0" | |
| 10 | Physics Building | STEM Building | N/A | 0" | |
| 11 | Biology Building | STEM Building | N/A | 0" | |
| 12 | STEM Building | STEM Building | N/A | 0" | |
| 13 | Forcina Hall | Roscoe Hall | Yes | 12/12 | 24/24 |
| 14 | Education Building | Roscoe Hall | N/A | 0" | |
| 15 | Centennial Hall | Roscoe Hall | No | 12/12 | 24/24 |
| 16 | Gilstein Library | Roscoe Hall | No | 12/12 | 36/36 |
| 17 | Roscoe Hall | Green Hall | No | 12/12 | 96/96 |
| 18 | Norworthy Hall | Ely-Allen-Brewster | N/A | 0" | |
| 19 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 | |
| 20 | Maintenance Building | Powerhouse | Yes | 12/12 | 24/24 |
| 21 | Powerhouse | Ely-Allen-Brewster | No | 12/12 | 48/48 |
| 22 | Decker Hall | Ely-Allen-Brewster | No | 12/12 | 36/36 |
| 23 | Ely-Allen-Brewster** | Green Hall | No | 12/12 | 144/144 |
| 24 | New Residence Hall | Eickhoff Hall | No | 12/12 | 24/24 |
| 25 | Packer Hall | Eickhoff Hall | No | 12/12 | 36/36 |
| 26 | Brower Student Center | Eickhoff Hall | N/A | 0" | |
| 27 | Eickhoff Hall | Green Hall | No | 12/12 | 96/96 |
| 28 | TH1 (Town House West) | Cromwell Hall | No | 48/48 | |
| 29 | THS 21A/B (Town House East) | Cromwell Hall | No | (2) 36/36 | |
| 30 | TH9 (Town House South) | Cromwell Hall | No | 48/48 | |
| 31 | Travers Hall | Cromwell Hall | Yes | 12/12 | |
| 32 | Wolfe Hall | Cromwell Hall | N/A | 0" | |
| 33 | Decker Garage | Cromwell Hall | Yes | 12/12 | |
| 34 | Recreation Center | Cromwell Hall | No | 12/12 | 36/36 |
| 35 | Stadium Generator Building | Recreation Center | No | 12/12 | |
| 36 | Stadium Concession Stand | Recreation Center | No | 12/12 | |
| 37 | Soccer Field Press Box 28A/B | Admin Splice | No | 24/24 | 36/36 |
| 38 | Metzger Garage | Admin Splice | No | 24/24 | |
| 39 | Phelps Hall | Admin Splice | N/A | 0" | |
| 40 | Hausdoerffer Hall | Admin Splice | N/A | 0" | |
| 41 | Cromwell Hall | Green Hall | No | 12/12 | 144/144 |
| 42 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 | |
| 43 | Forcina Garage | Education Building | No | 12/12 | |
| 44 | Fire Pump House | Admin Services Building | No | 12/12 | |
| 45 | Admin Services Building | Admin Splice | N/A | 36/36 | |
| 46 | Eickhoff Room 227 | Eickhoff Room 337 | No | - | 48/48 |

GENERAL NOTES

- This Sheet's Purpose Is To Show The Fiber Pathway Between Buildings Where New Fiber Will Be Provided. See FA005-FA008 For Further Campus Routing Information. See The Building Drawing Series For Further Building Routing Information.
- Each Fiber Run To Be One Continuous Run From MDF TO MDF Without Any Splices.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description |
|------------|--|
| ⊙ | Existing Manhole |
| ■ | New Manhole |
| --- | Remove Existing Fiber And Pull New Fiber Through Empty Conduit Pathway |
| --- | Existing Conduit Pathway Available For New Fiber Installation |
| --- | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required |
| # | Building To Building Span Number |



| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

dlb associates
CONSULTING ENGINEERS, P.C.
265 Industrial Way West, Eatontown, N.J. 07724

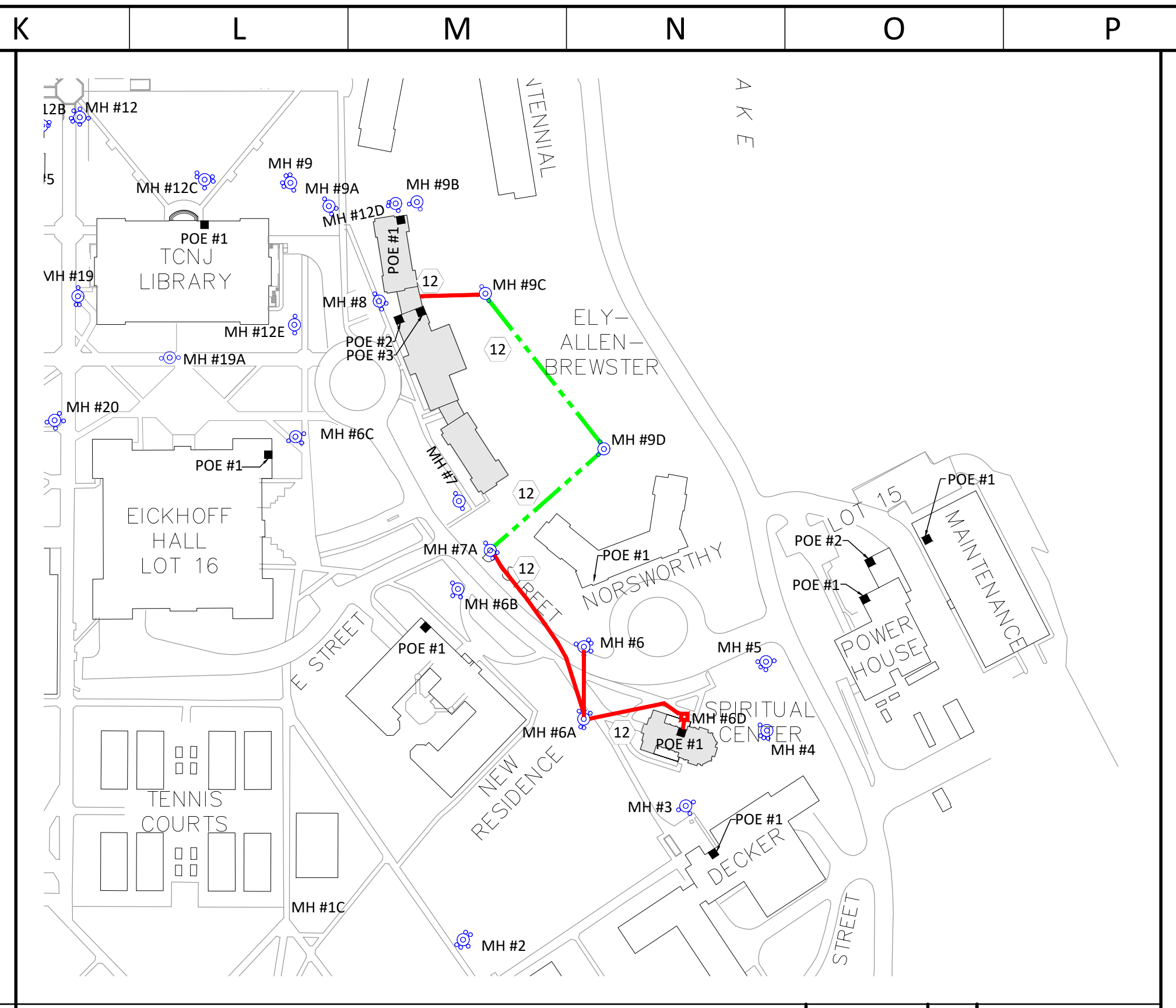
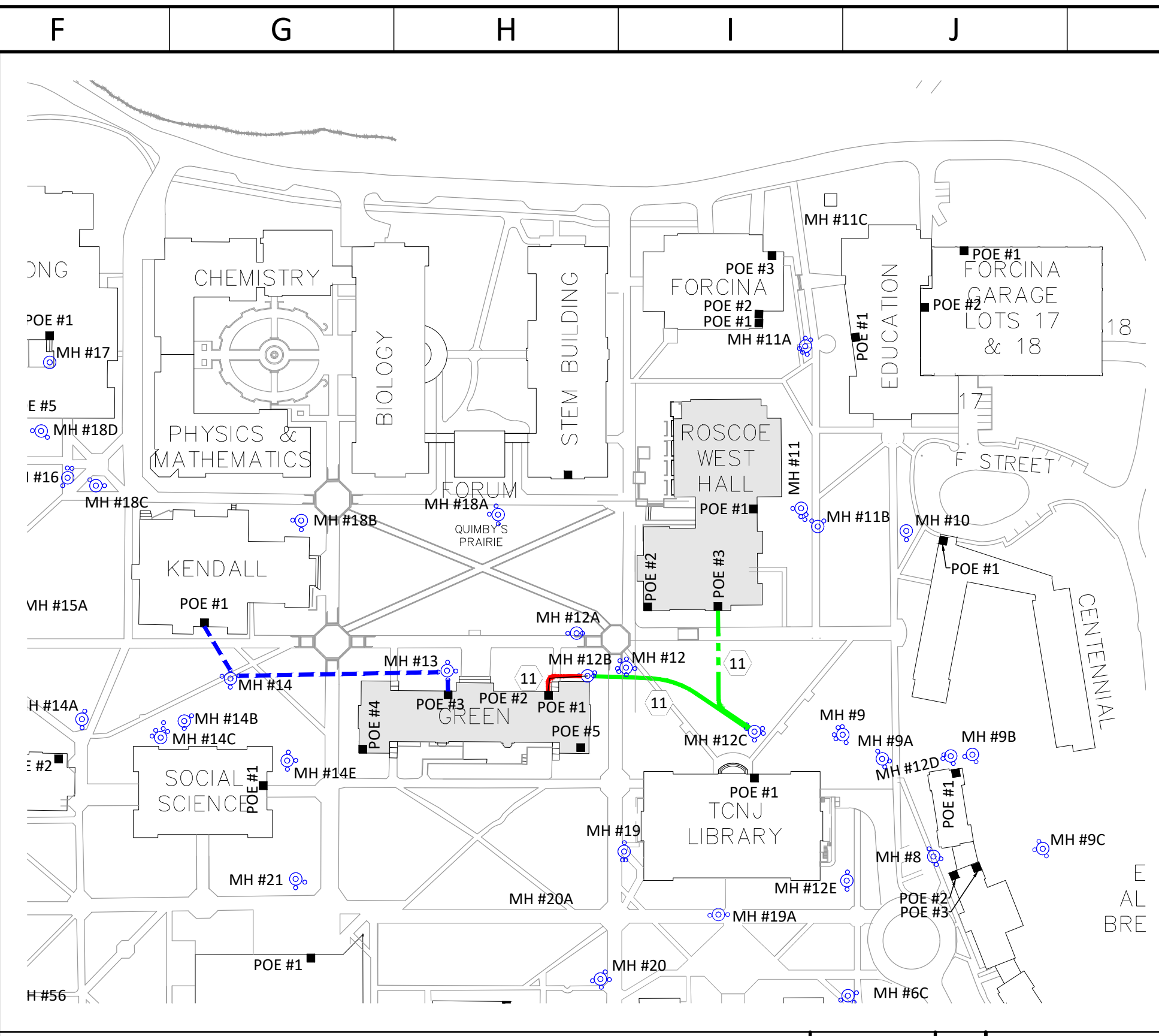
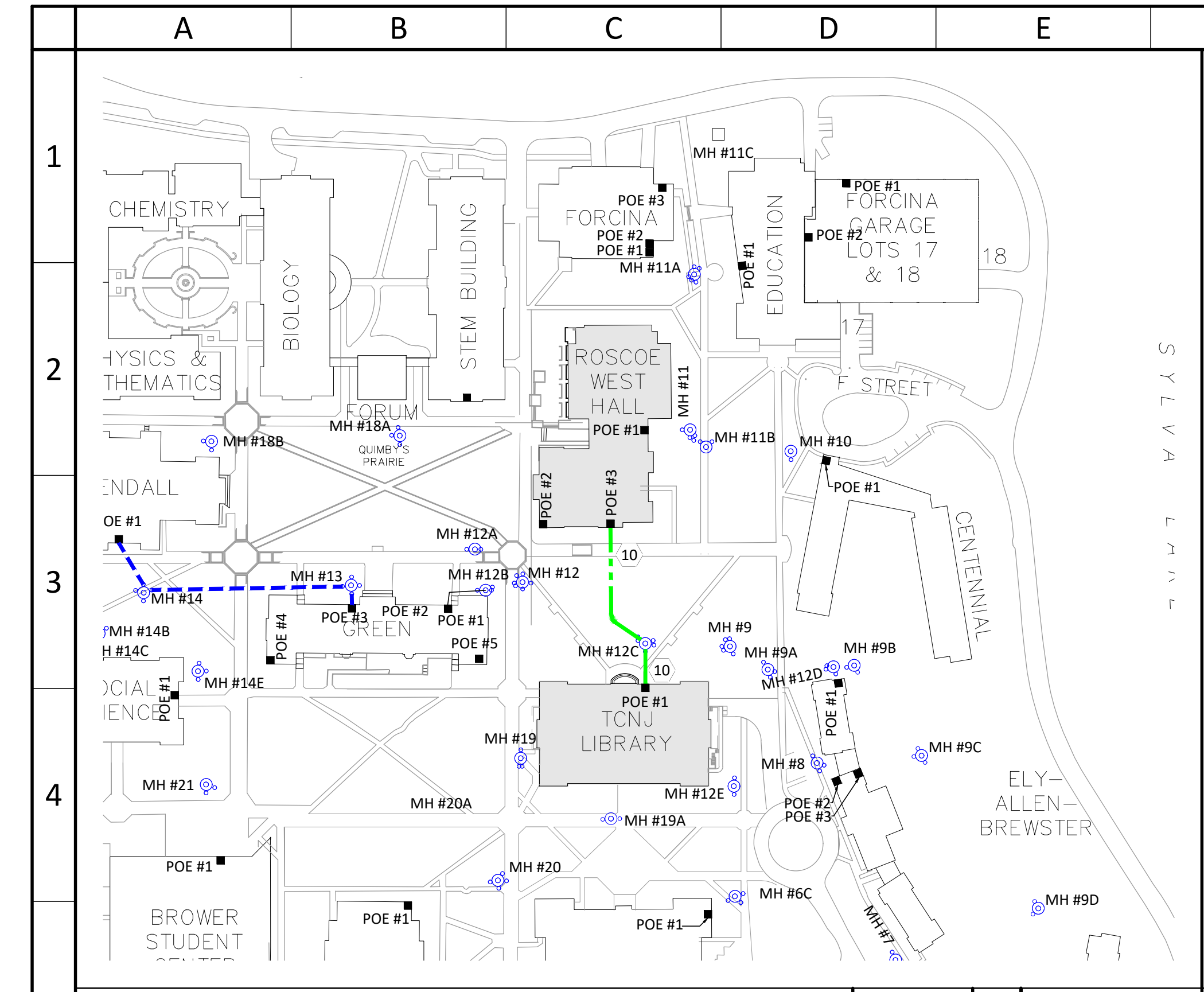
project
TCNJ - CAMPUS FIRE ALARM PROJECT
PART A - CABLE INFRASTRUCTURE UPGRADES
2000 PENNINGTON ROAD,
EWING NJ, 08618

Questions For DLB Call:
DLB Project ID: 47211
Anthony Laskosky
Phone: 732-927-5038

title
BUILDING FIBER ROUTING

dwg. no.
FA009

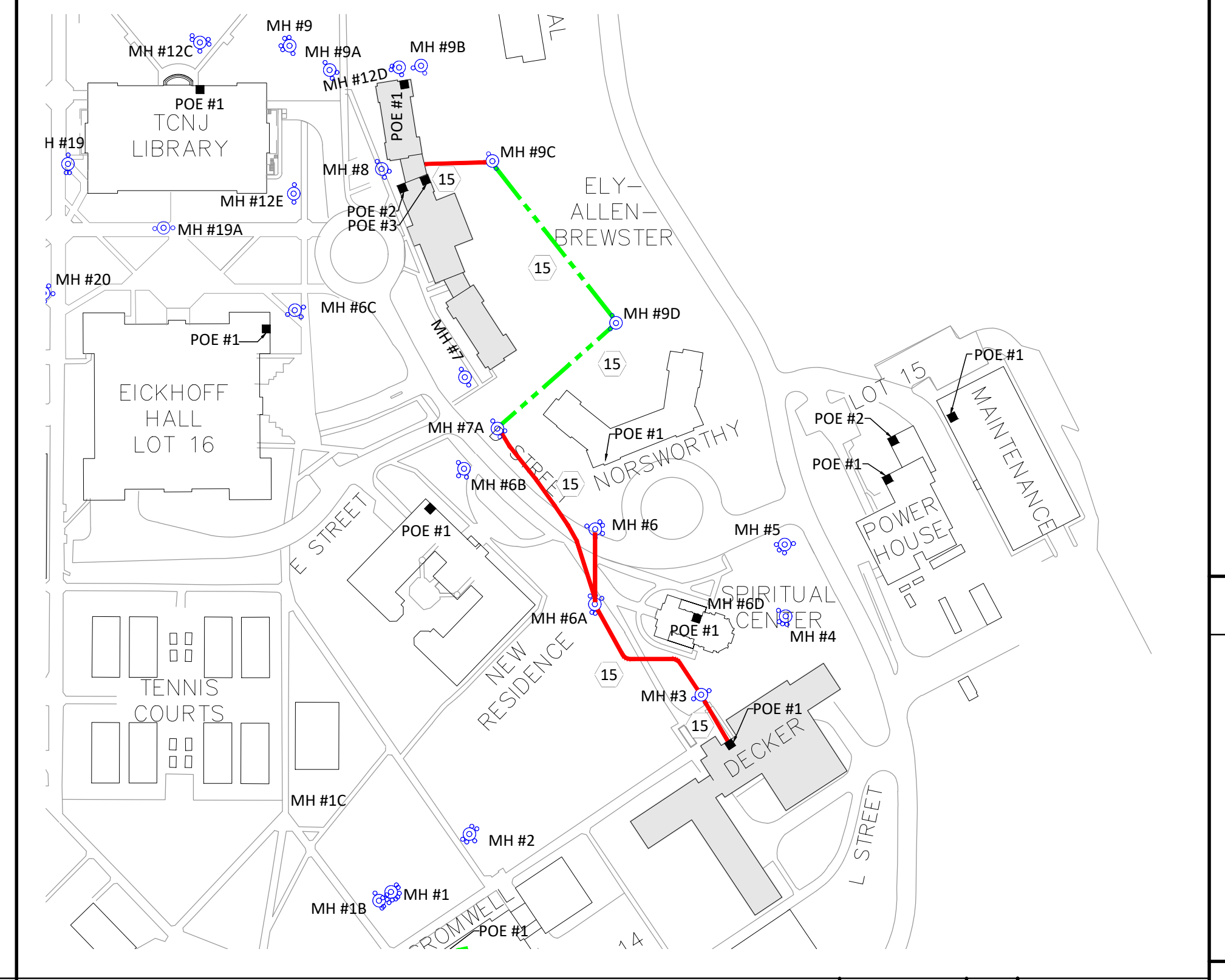
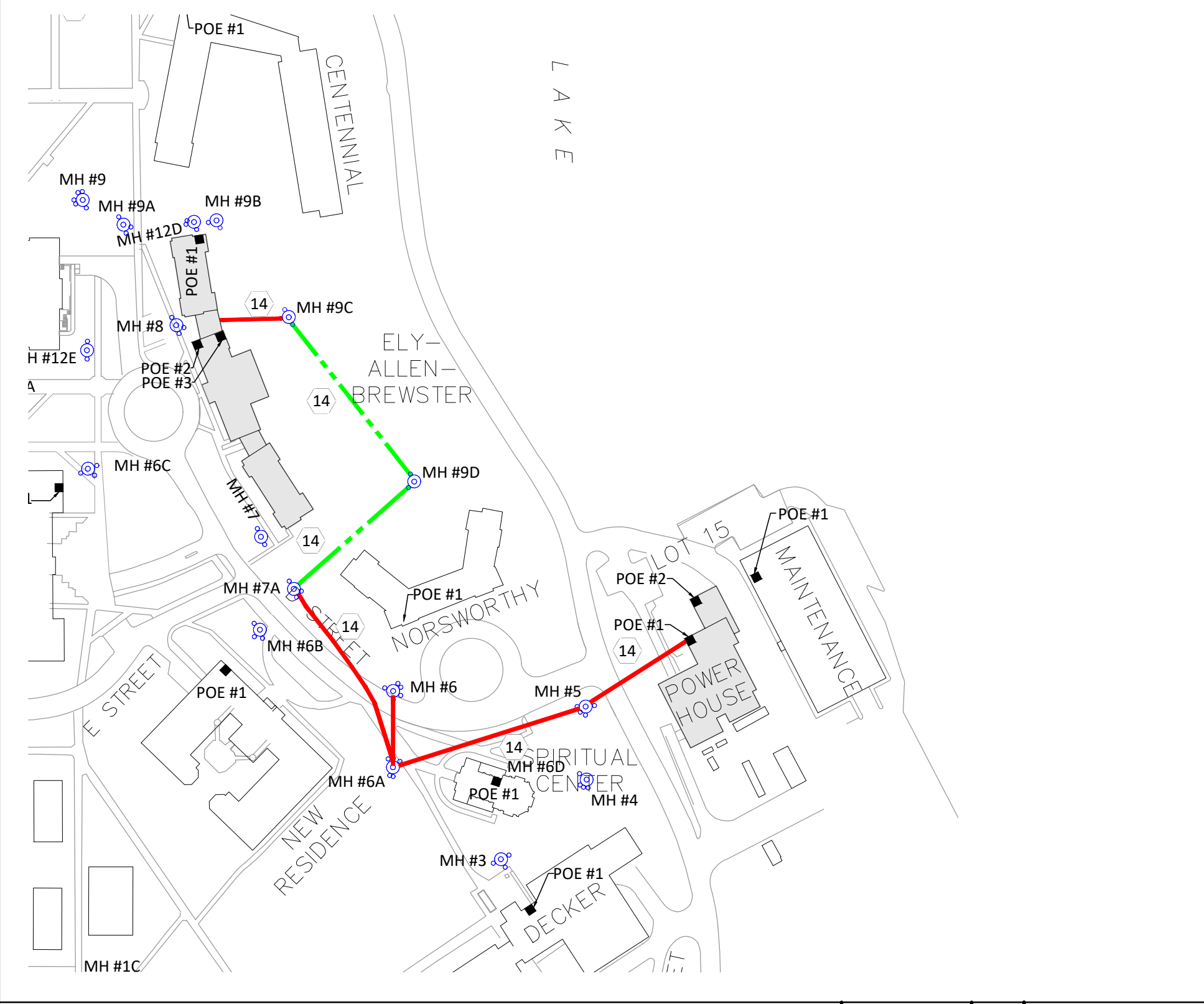
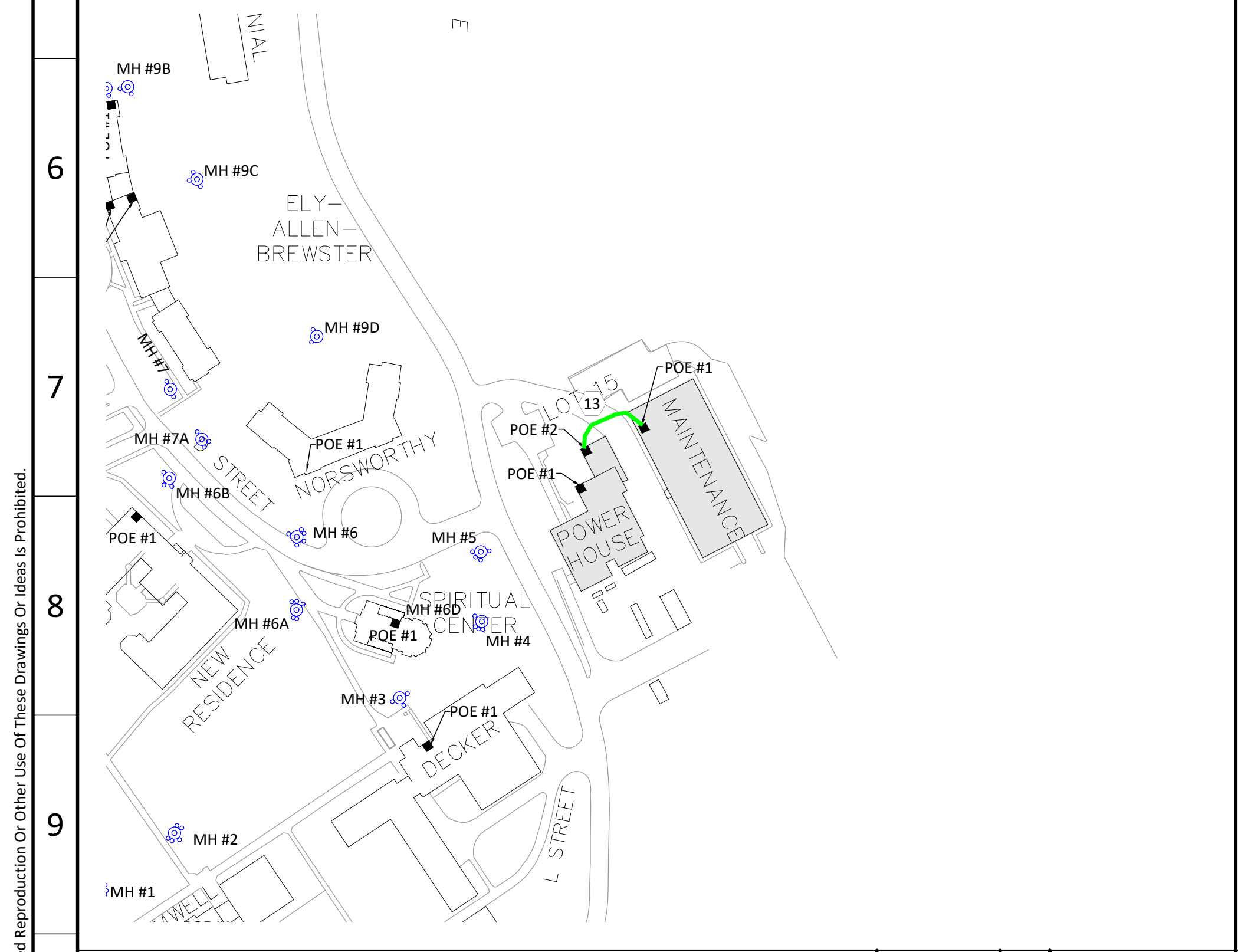
scale AS SHOWN
drawn by SC
checked by SG
date 05/03/2020



FIBER ROUTING - GITENSTEIN LIBRARY TO ROSCOE HALL Scale: 1" = 150' Drawing: FA010 Detail: 01

FIBER ROUTING - ROSCOE HALL TO GREEN HALL Scale: 1" = 150' Drawing: FA010 Detail: 02

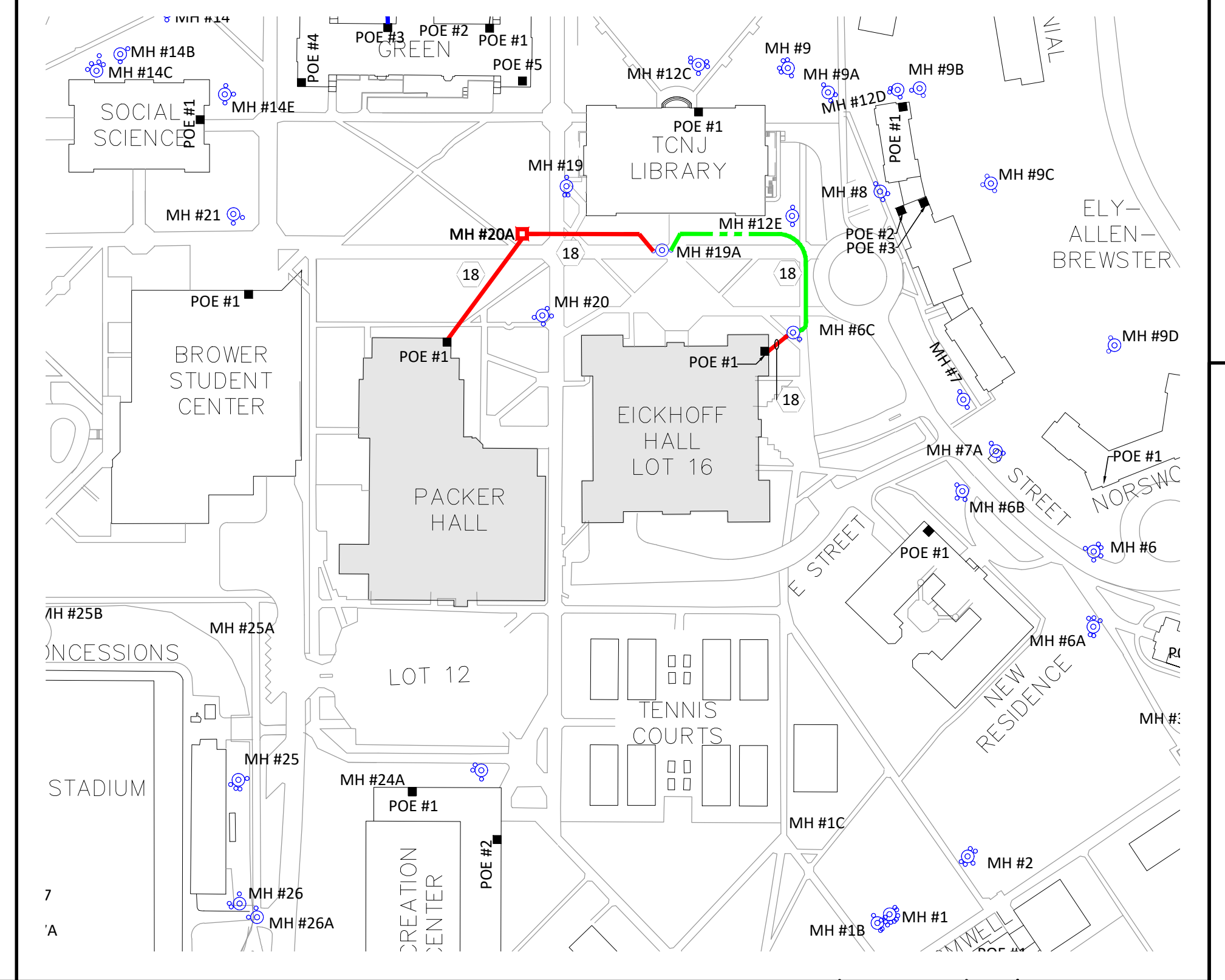
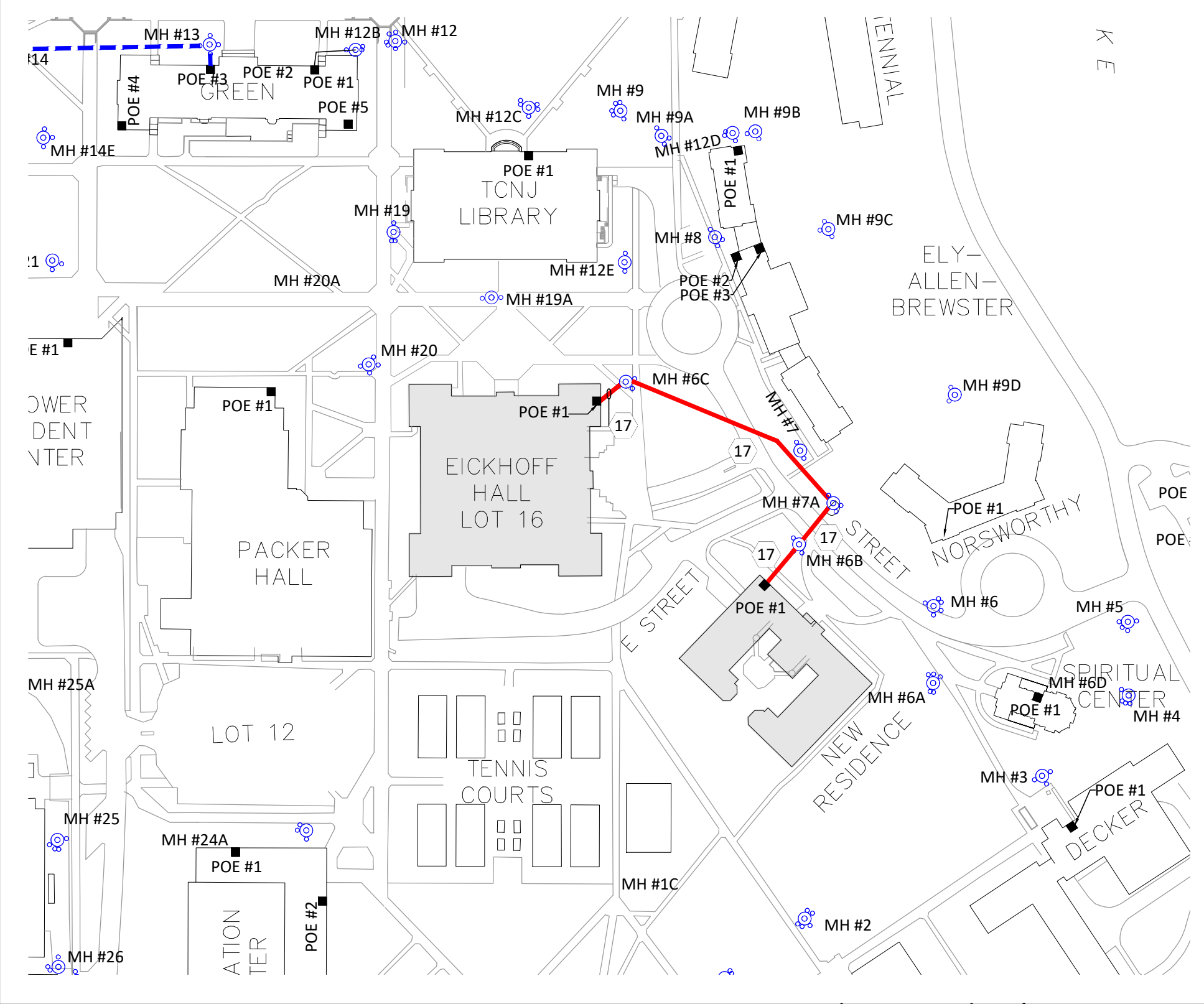
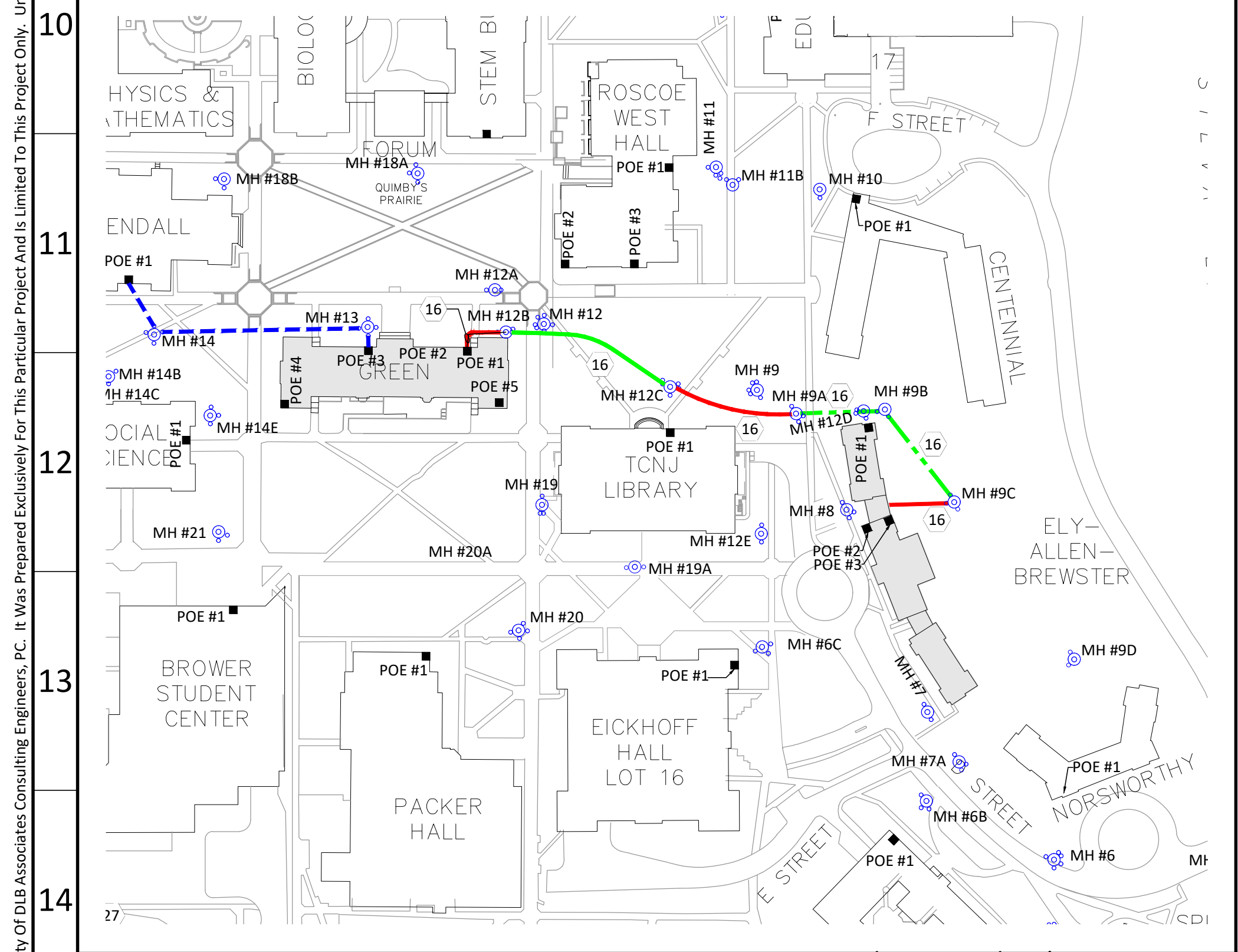
FIBER ROUTING - SPIRITUAL CENTER TO ELY-ALLEN-BREWSTER Scale: 1" = 150' Drawing: FA010 Detail: 03



FIBER ROUTING - MAINTENANCE BUILDING TO POWERHOUSE Scale: 1" = 150' Drawing: FA010 Detail: 04

FIBER ROUTING - POWERHOUSE TO ELY-ALLEN-BREWSTER Scale: 1" = 150' Drawing: FA010 Detail: 05

FIBER ROUTING - DECKER HALL TO ELY-ALLEN-BREWSTER Scale: 1" = 150' Drawing: FA010 Detail: 06



FIBER ROUTING - ELY-ALLEN-BREWSTER TO GREEN HALL Scale: 1" = 150' Drawing: FA010 Detail: 07

FIBER ROUTING - NEW RESIDENCE HALL TO EICKHOFF HALL Scale: 1" = 150' Drawing: FA010 Detail: 08

FIBER ROUTING - PACKER HALL TO EICKHOFF HALL Scale: 1" = 150' Drawing: FA010 Detail: 09

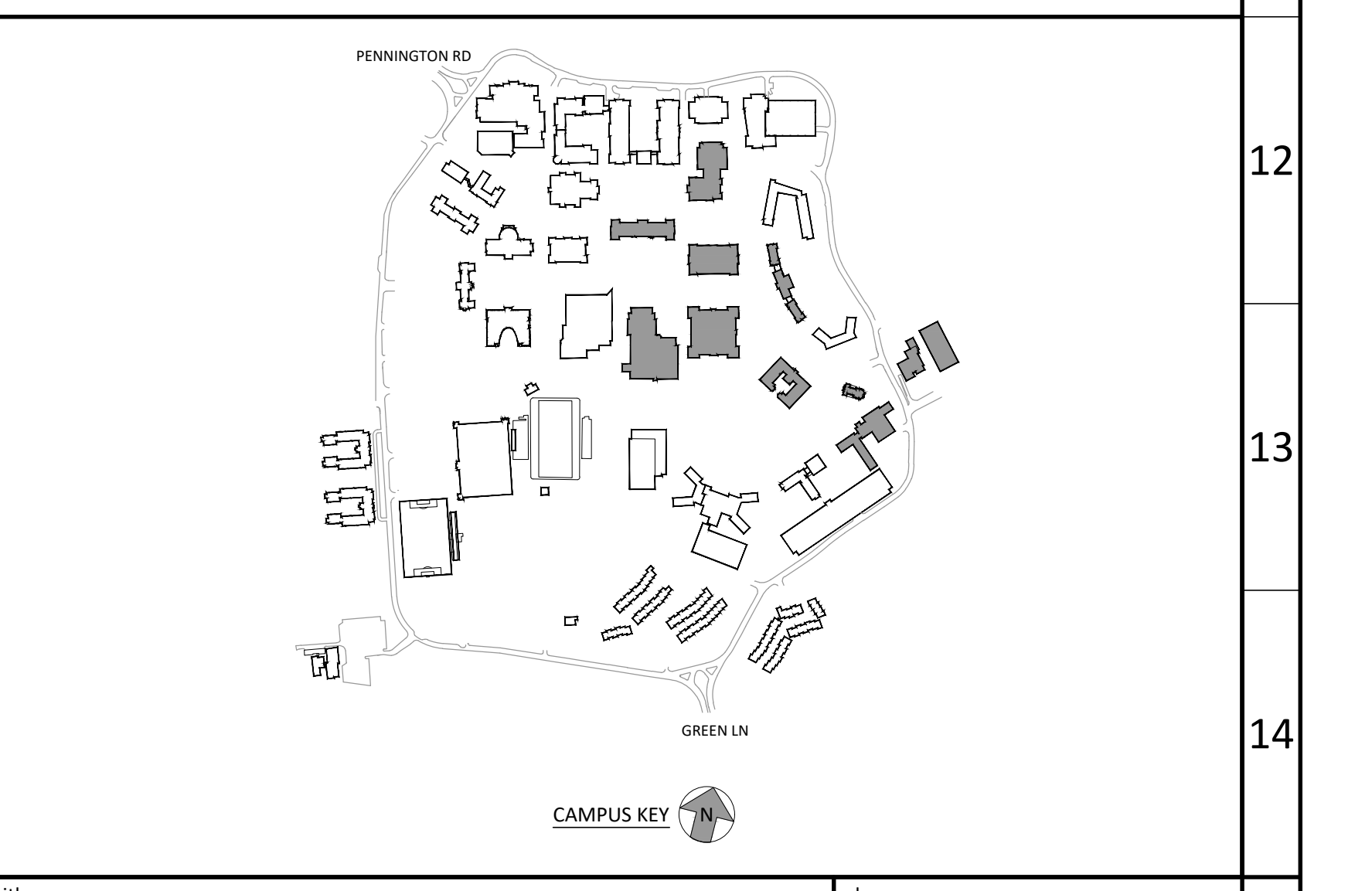
| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed | |
|---------|------------------------------|-------------------------|---------------|------------------------------|--------------|
| | | | | Base Bid | Alternate #1 |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 | |
| 2 | Bless Hall | Kendall Hall | Yes | 12/12 | 48/48 |
| 3 | Business Building | Kendall Hall | No | 12/12 | 24/24 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 | 36/36 |
| 5 | Music Building | Kendall Hall | No | 12/12 | 24/24 |
| 6 | ASMM Building | Kendall Hall | N/A | 0* | |
| 6 | Social Science | Kendall Hall | Yes | 12/12 | 36/36 |
| | Kendall Hall | Green Hall | Yes | 144/144 | |
| | Chemistry Building | STEM Building | N/A | 0* | |
| | Physics Building | STEM Building | N/A | 0* | |
| | Biology Building | STEM Building | N/A | 0* | |
| | STEM Building | Green Hall | N/A | 0* | |
| 8 | Forcina Hall | Roscoe Hall | Yes | 12/12 | 24/24 |
| | Education Building | Roscoe Hall | N/A | 0* | |
| 9 | Centennial Hall | Roscoe Hall | No | 12/12 | 24/24 |
| 10 | Gitenstein Library | Roscoe Hall | No | 12/12 | 36/36 |
| 11 | Roscoe Hall | Green Hall | No | 12/12 | 96/96 |
| | Norsworthy Hall | Ely-Allen-Brewster | N/A | 0* | |
| 12 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 | |
| 13 | Maintenance Building | Powerhouse | Yes | 12/12 | 24/24 |
| 14 | Powerhouse | Ely-Allen-Brewster | No | 12/12 | 48/48 |
| 15 | Decker Hall | Ely-Allen-Brewster | No | 12/12 | 36/36 |
| 16 | Ely-Allen-Brewster** | Green Hall | No | 12/12 | 144/144 |
| 17 | New Residence Hall | Eickhoff Hall | No | 12/12 | 24/24 |
| 18 | Packer Hall | Eickhoff Hall | No | 12/12 | 36/36 |
| | Brower Student Center | Eickhoff Hall | N/A | 0* | |
| 19 | Eickhoff Hall | Green Hall | No | 12/12 | 96/96 |
| 20 | TH1 (Town House West) | Cromwell Hall | No | 48/48 | |
| 21 | THS 21A/B (Town House East) | Cromwell Hall | No | 12/36/36 | |
| 22 | TH9 (Town House South) | Cromwell Hall | No | 48/48 | |
| 23 | Travers Hall | Cromwell Hall | Yes | 12/12 | |
| 24 | Wolfe Hall | Cromwell Hall | N/A | 0* | |
| 24 | Decker Garage | Cromwell Hall | Yes | 12/12 | |
| 25 | Recreation Center | Cromwell Hall | No | 12/12 | 36/36 |
| 26 | Stadium Generator Building | Recreation Center | No | 12/12 | |
| 27 | Stadium Concession Stand | Recreation Center | No | 12/12 | |
| 28 | Soccer Field Press Box 28A/B | Admin Splice | No | 24/24 | 36/36 |
| 29 | Metzger Garage | Admin Splice | No | 24/24 | |
| | Phelps Hall | Admin Splice | N/A | 0* | |
| | Hausdoerffer Hall | Admin Splice | N/A | 0* | |
| 32 | Cromwell Hall | Green Hall | No | 12/12 | 144/144 |
| 33 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 | |
| 34 | Forcina Garage | Education Building | No | 12/12 | |
| 35 | Fire Pump House | Admin Services Building | No | 12/12 | |
| 36 | Admin Services Building | Admin Splice | N/A | 36/36 | |
| 41 | Eickhoff Room 227 | Eickhoff Room 337 | No | | 48/48 |

GENERAL NOTES

- This Sheet's Purpose Is To Show The Fiber Pathway Between Buildings Where New Fiber Will Be Provided. See FA005-FA008 For Further Campus Routing Information. See The Building Drawing Series For Further Building Routing Information.
- Each Fiber Run To Be One Continuous Run From MDF TO MDF Without Any Splices.

PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description |
|------------|--|
| | Existing Manhole |
| | New Manhole |
| | Existing Conduit Pathway Available For New Fiber Installation |
| | No Existing Fiber Available - New Duct Bank, Trenching, And New Fiber Required |
| | Building To Building Span Number |

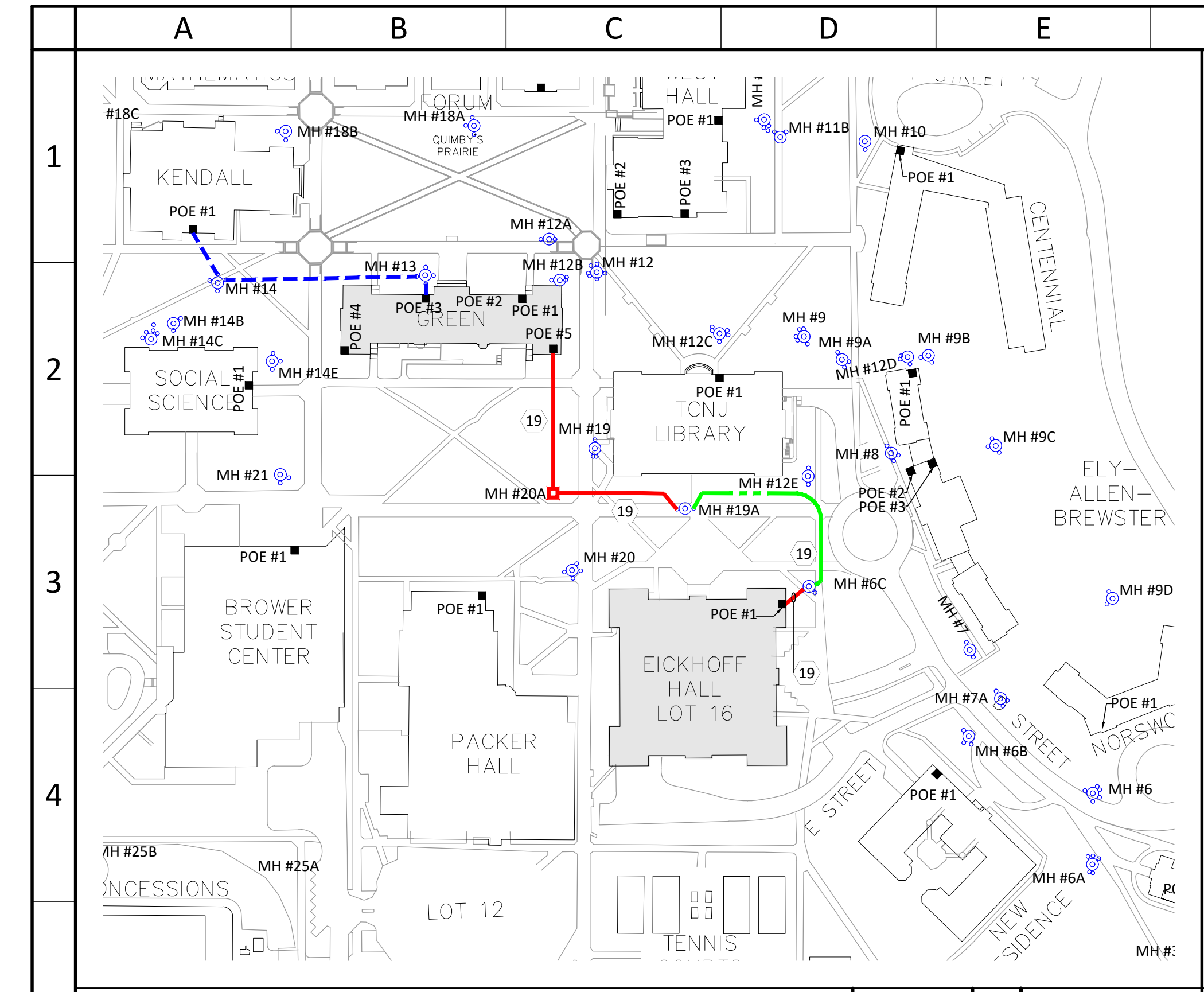


| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

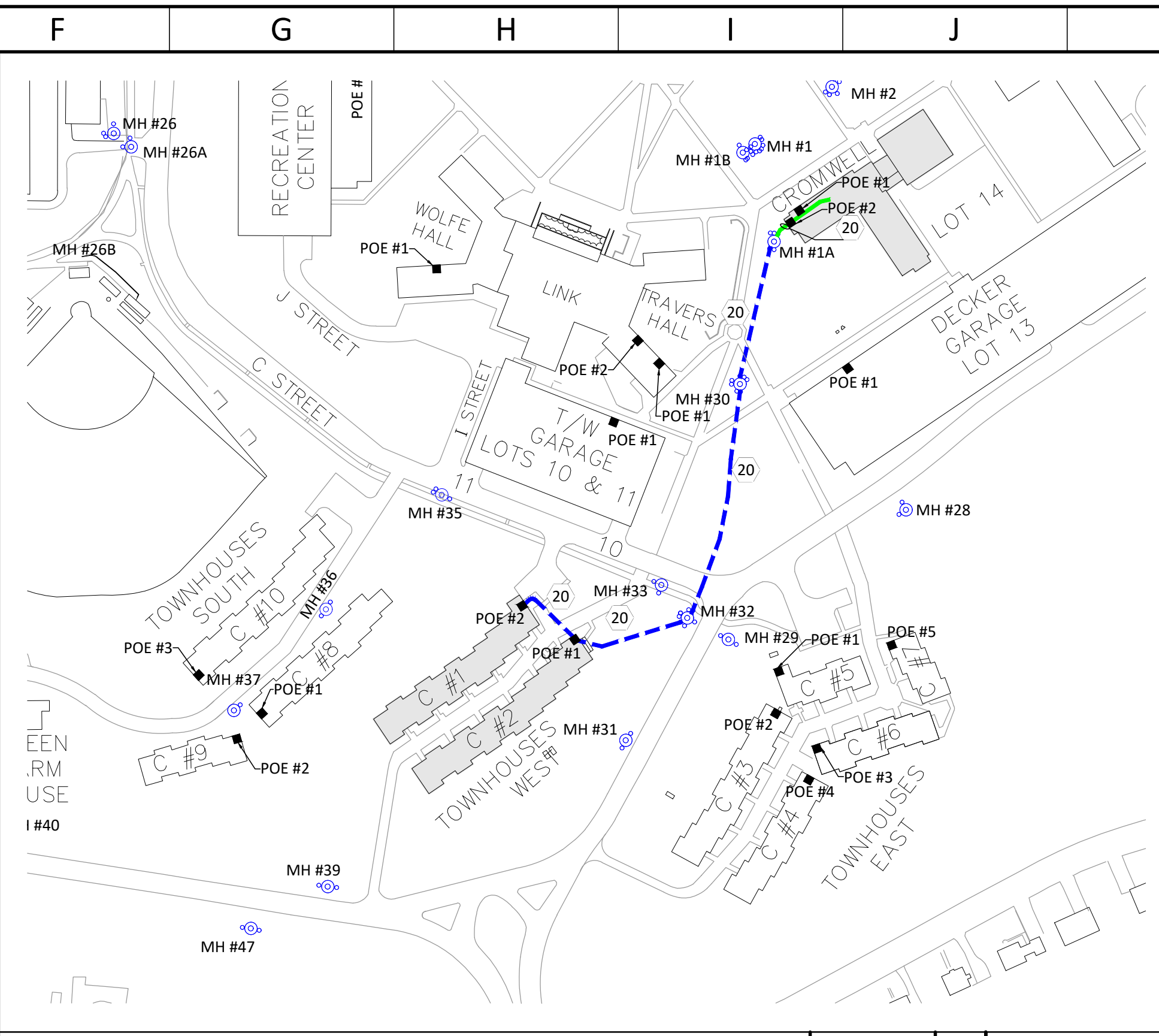
dlb associates
CONSULTING ENGINEERS, P.C.
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project
TCNJ - CAMPUS FIRE ALARM PROJECT
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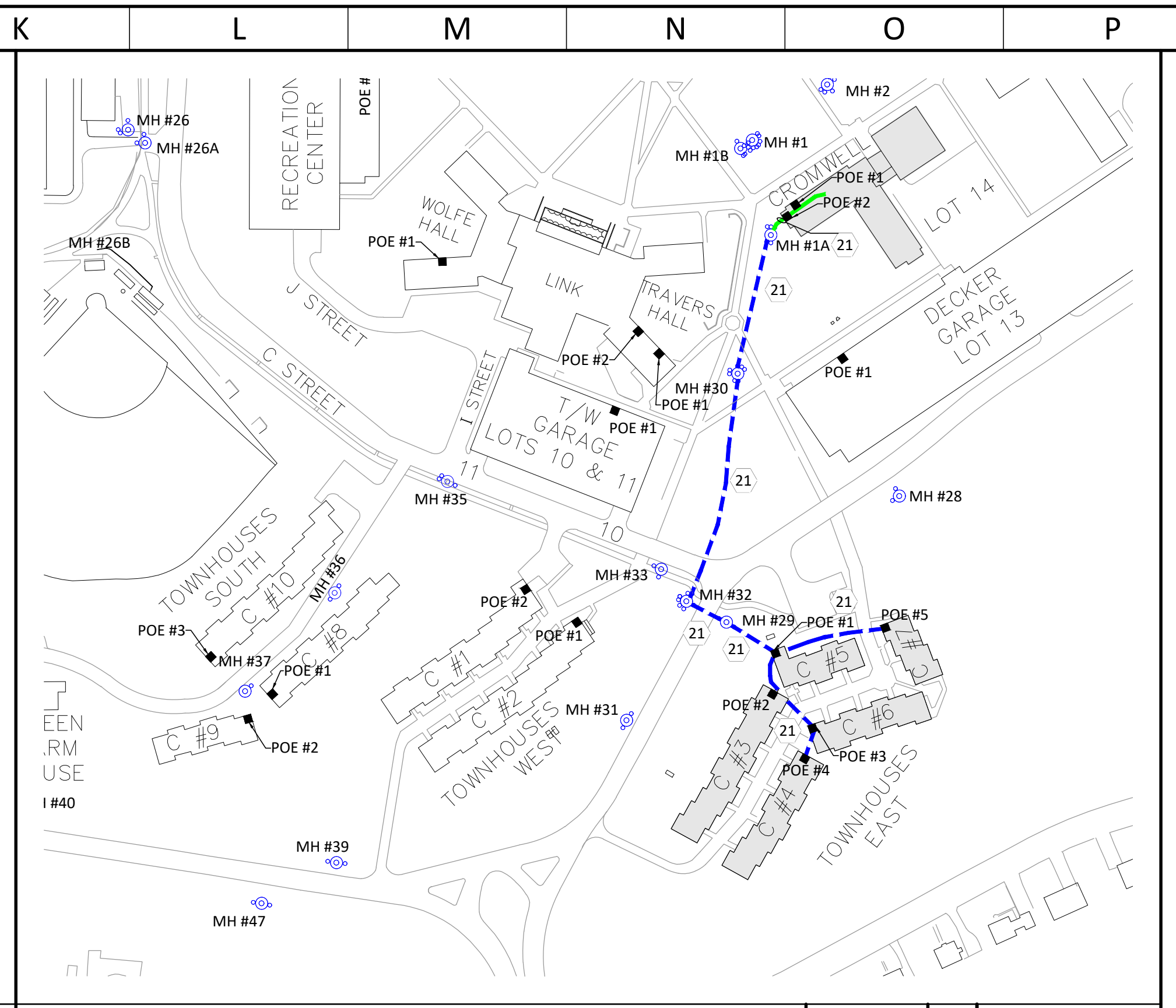
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drawn by SC
checked by SG
date 05/03/2020
dwg. no.
FA010
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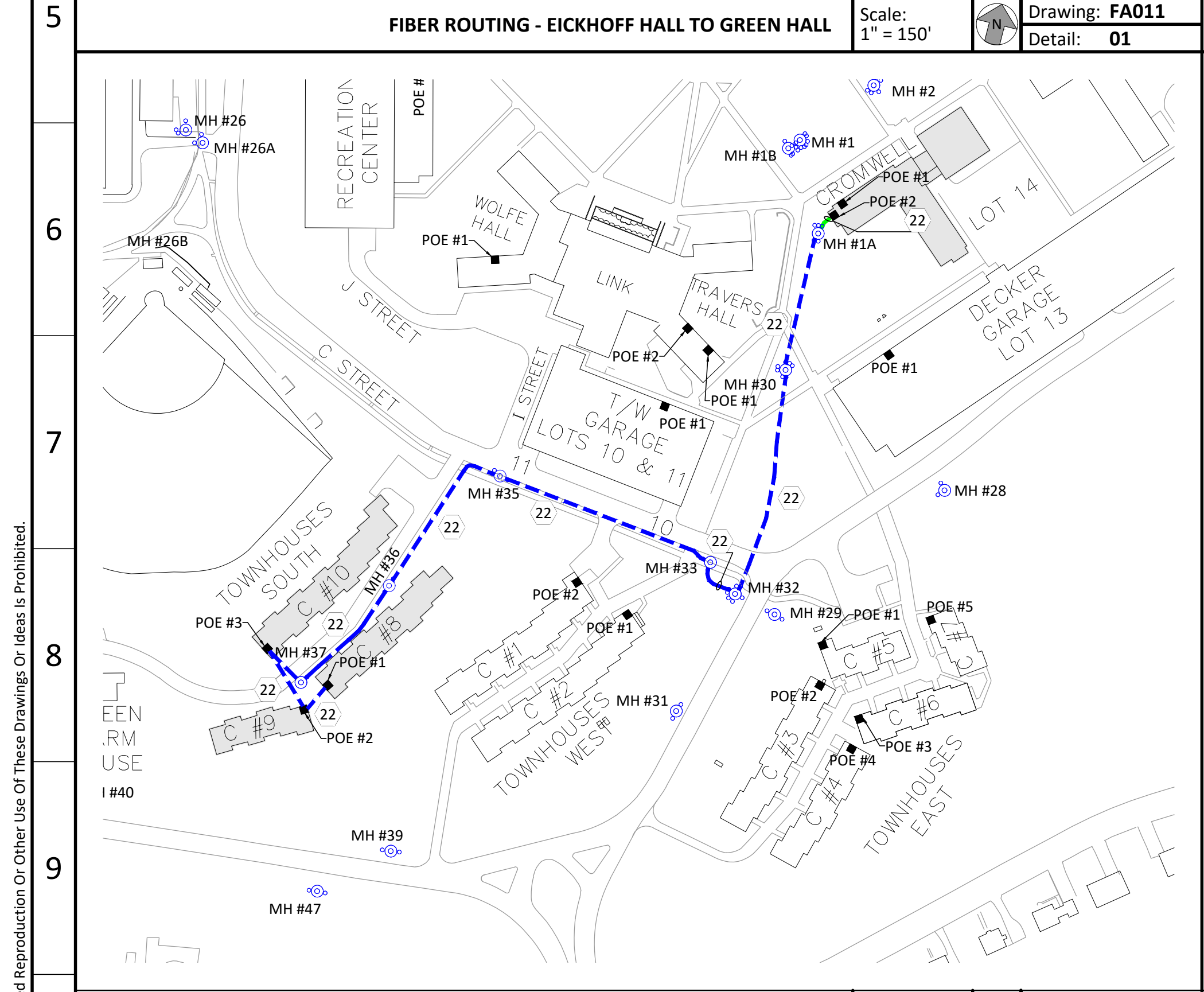
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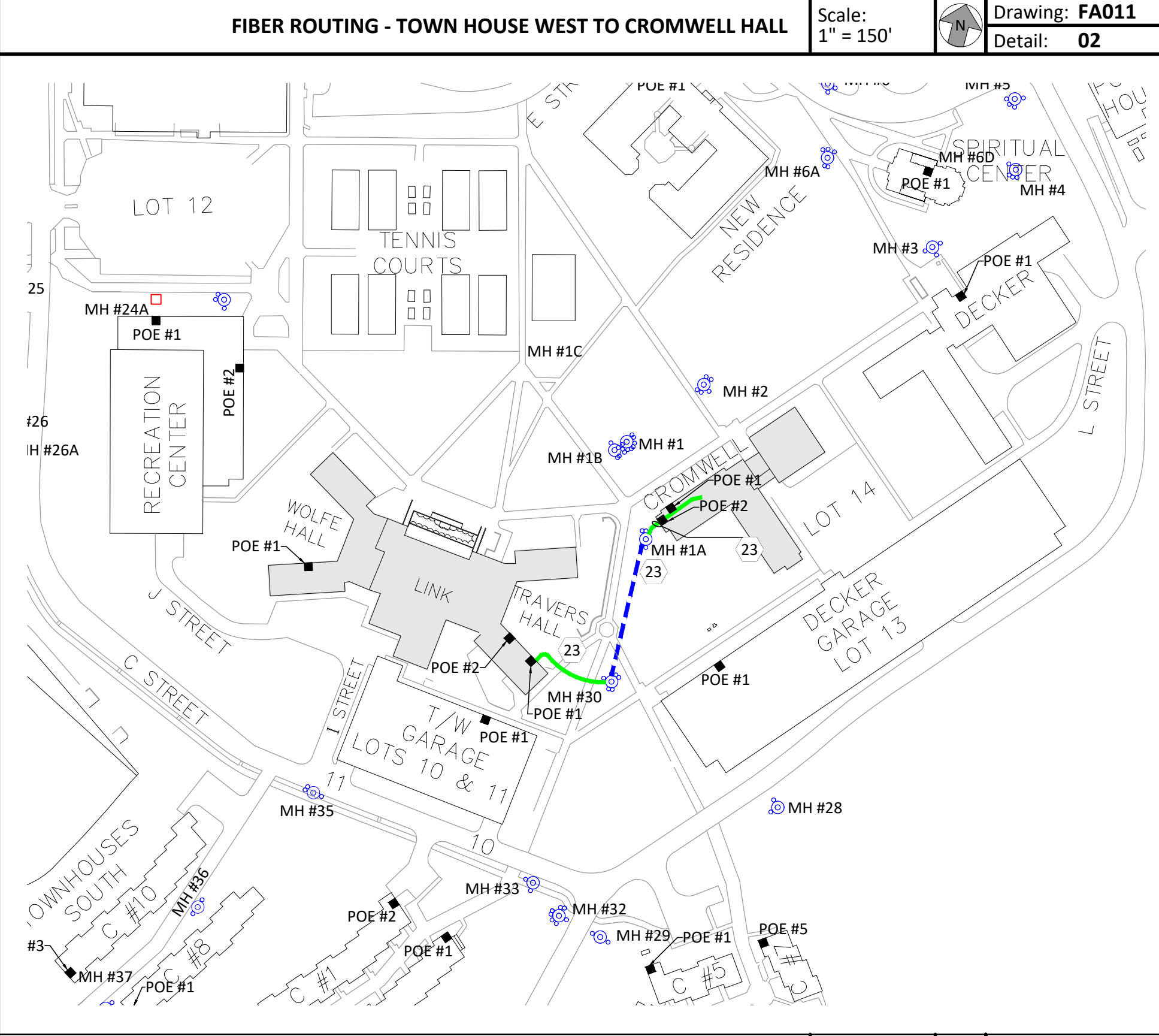
FIBER ROUTING - TOWN HOUSE WEST TO CROMWELL HALL Scale: 1" = 150' Drawing: FA011 Detail: 02



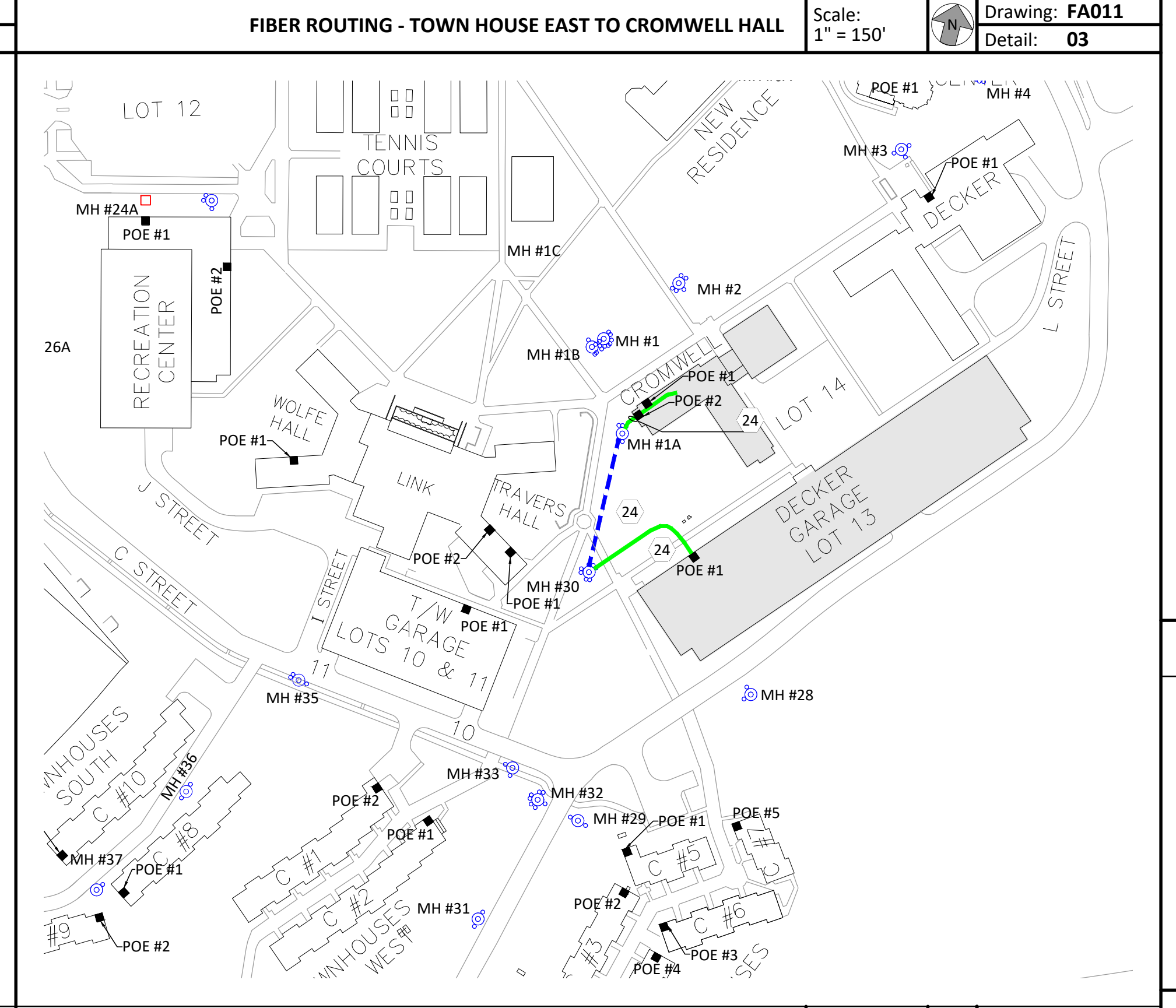
FIBER ROUTING - TOWN HOUSE EAST TO CROMWELL HALL Scale: 1" = 150' Drawing: FA011 Detail: 03



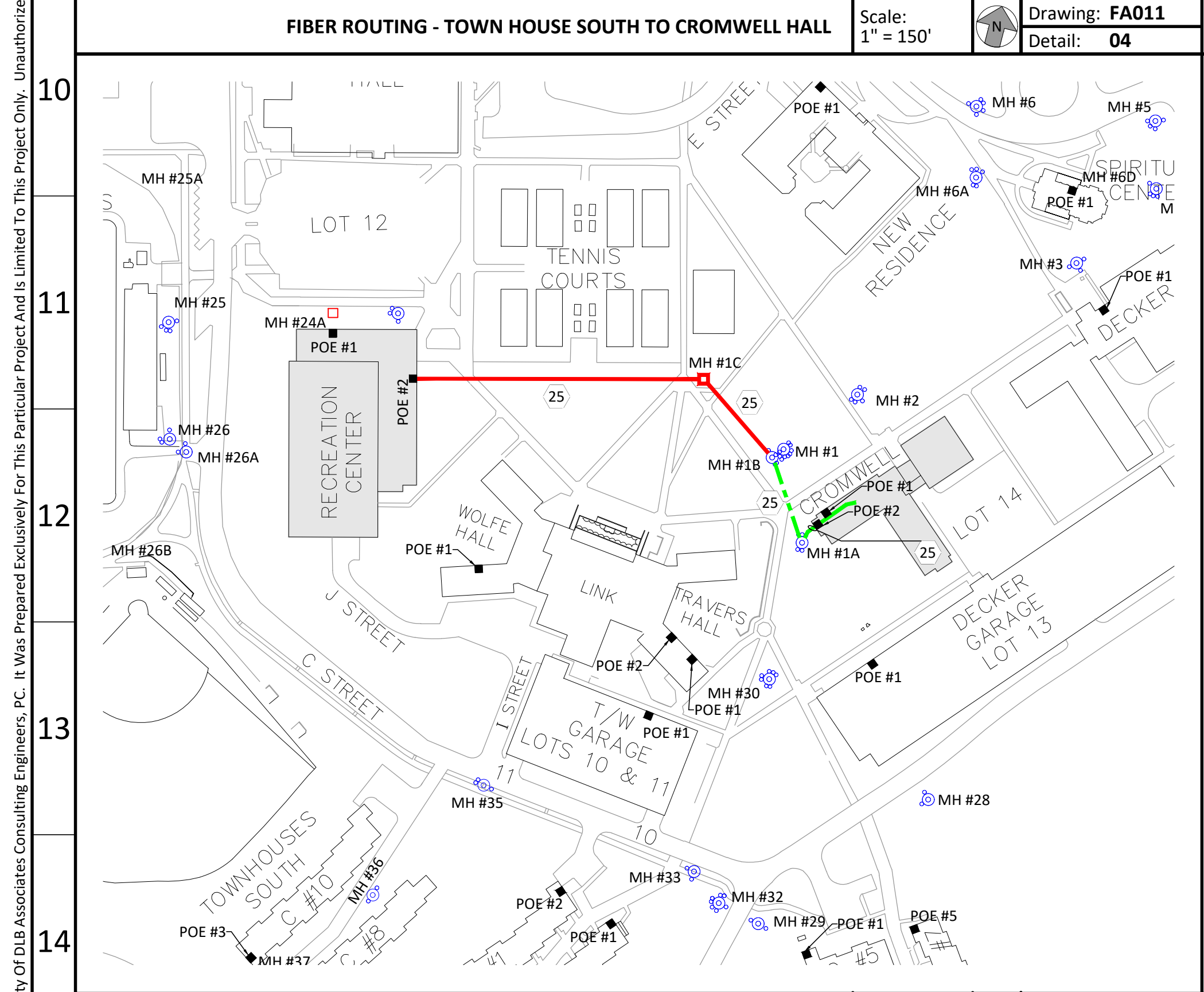
FIBER ROUTING - TOWN HOUSE SOUTH TO CROMWELL HALL Scale: 1" = 150' Drawing: FA011 Detail: 04



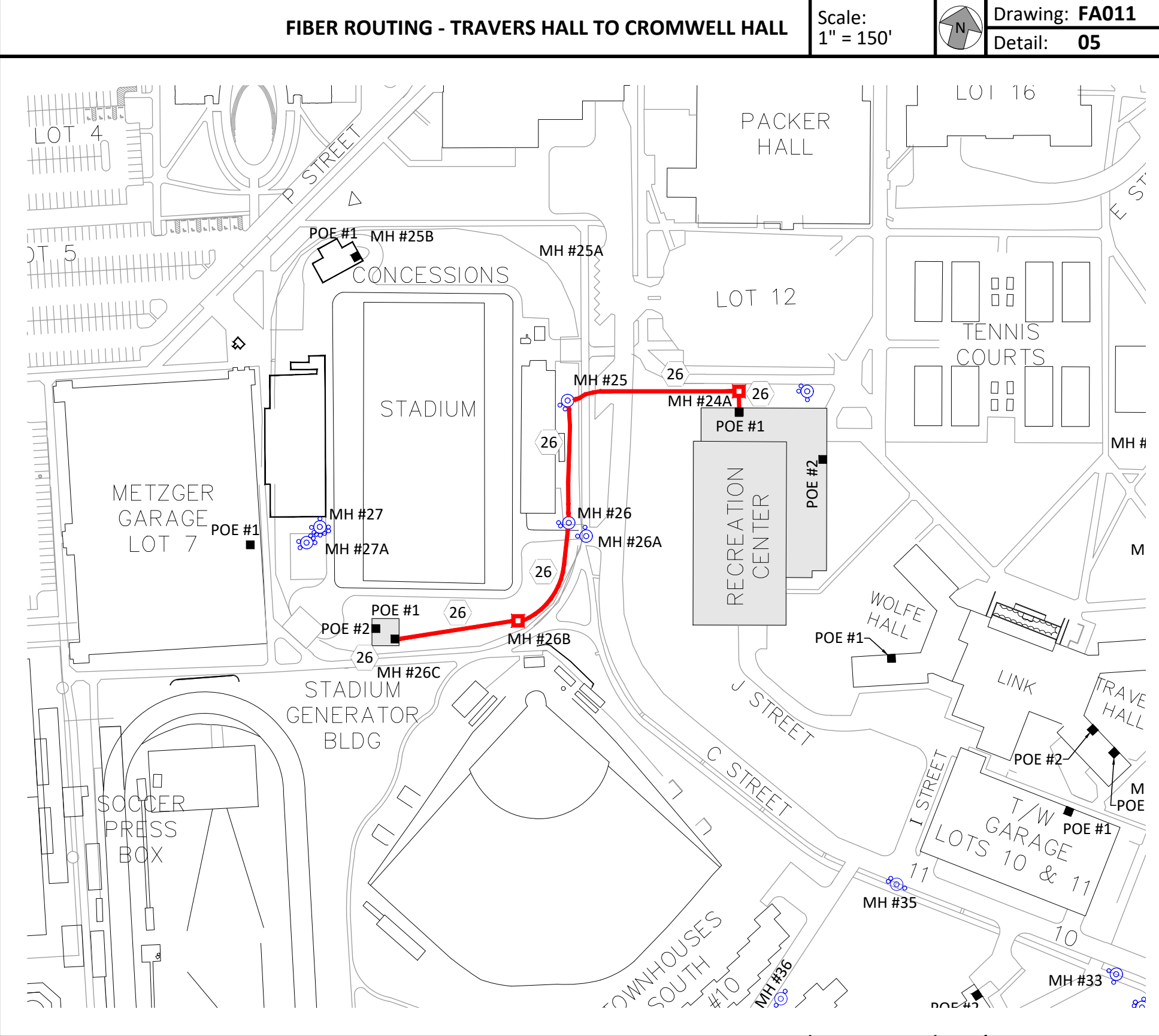
FIBER ROUTING - TRAVERS HALL TO CROMWELL HALL Scale: 1" = 150' Drawing: FA011 Detail: 05



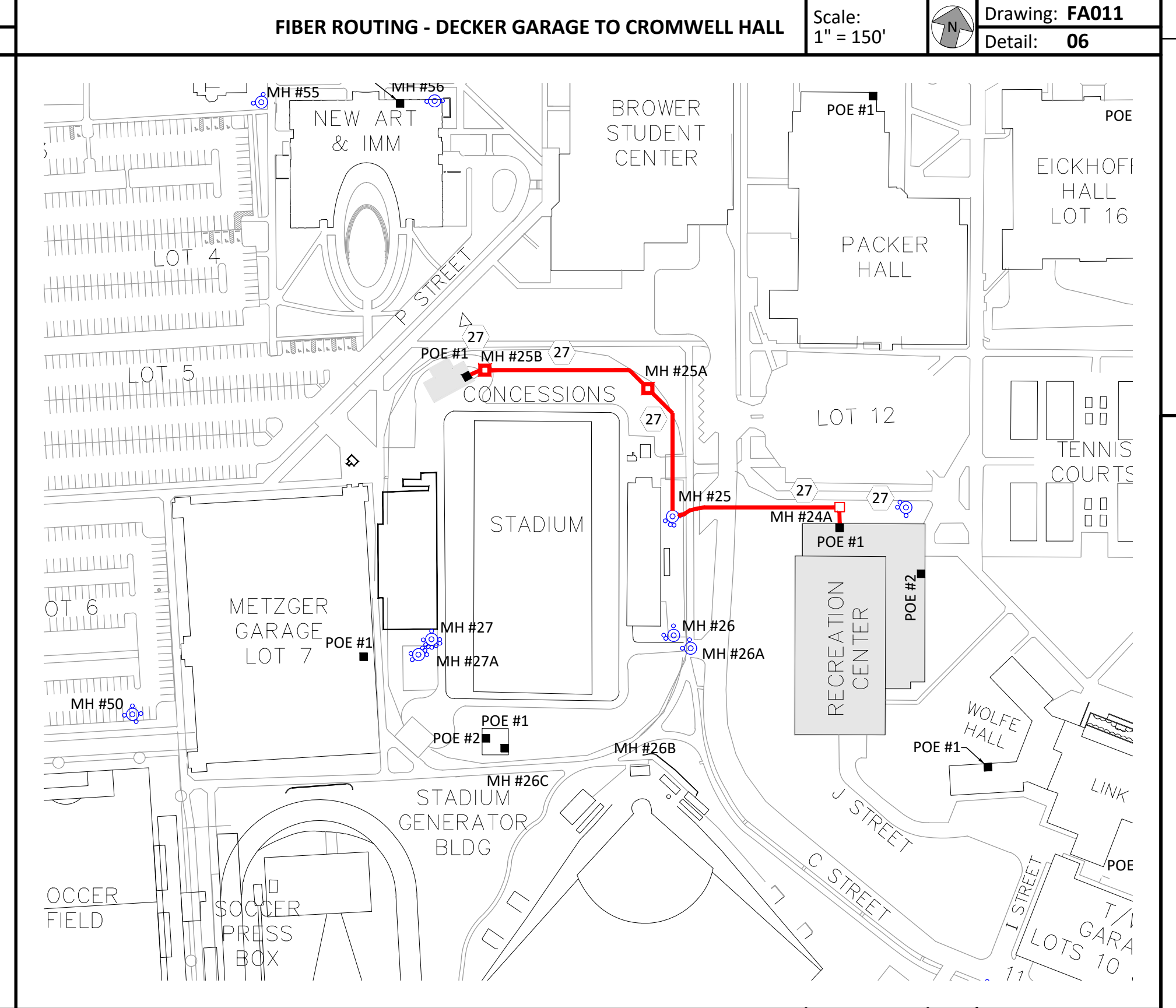
FIBER ROUTING - DECKER GARAGE TO CROMWELL HALL Scale: 1" = 150' Drawing: FA011 Detail: 06



FIBER ROUTING - RECREATION CENTER TO CROMWELL HALL Scale: 1" = 150' Drawing: FA011 Detail: 07



FIBER ROUTING - STADIUM GENERATOR BUILDING TO RECREATION CENTER Scale: 1" = 150' Drawing: FA011 Detail: 08



FIBER ROUTING - STADIUM CONCESSION STAND TO RECREATION CENTER Scale: 1" = 150' Drawing: FA011 Detail: 09

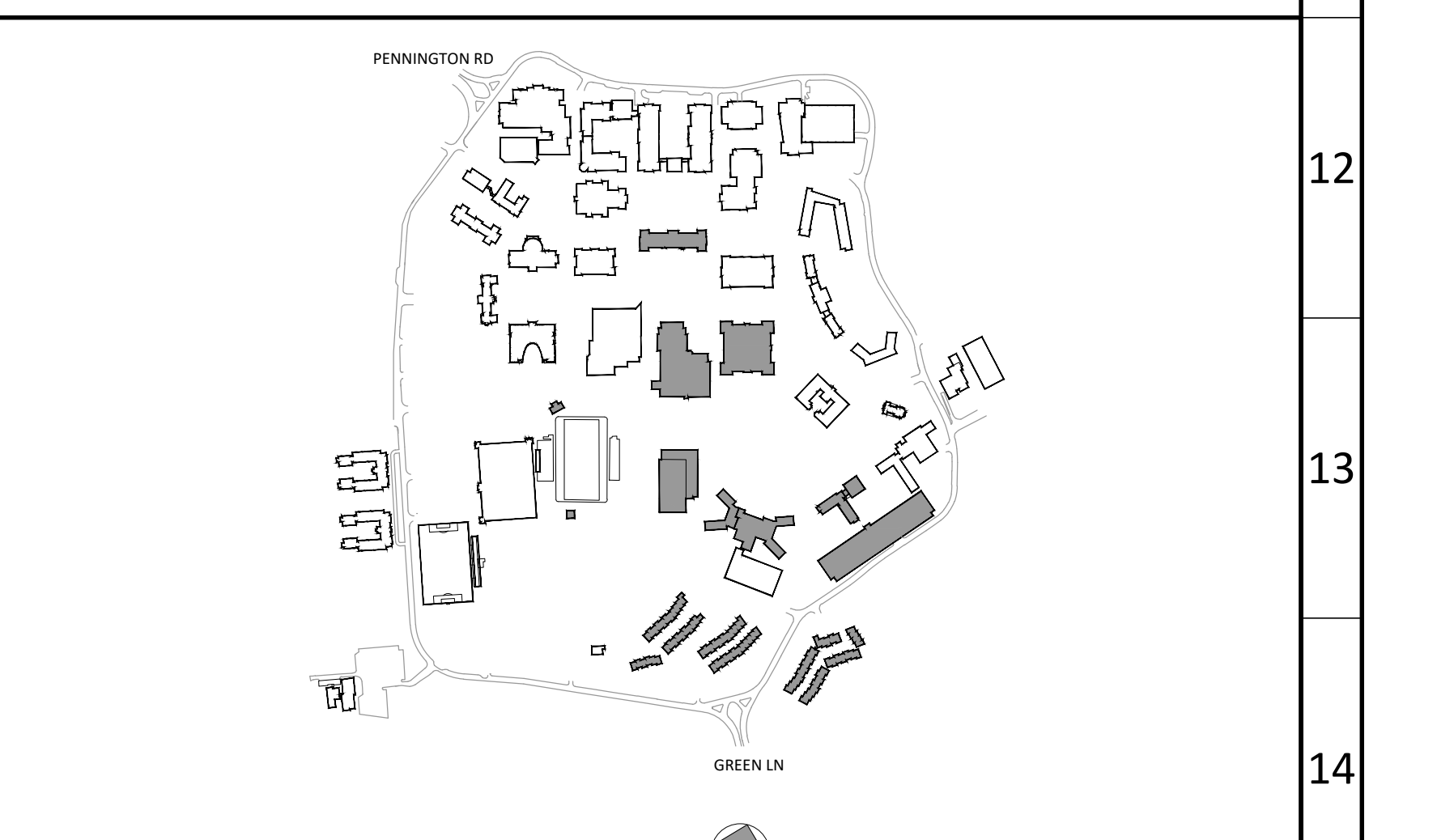
| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed | |
|---------|------------------------------|-------------------------|---------------|------------------------------|--------------|
| | | | | Base Bid | Alternate #1 |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 | |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 | 48/48 |
| 3 | Business Building | Kendall Hall | No | 12/12 | 24/24 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 | 36/36 |
| 5 | Music Building | Kendall Hall | No | 12/12 | 24/24 |
| 6 | AMM Building | Kendall Hall | N/A | 0* | |
| 7 | Social Science | Kendall Hall | Yes | 12/12 | 36/36 |
| 8 | Kendall Hall | Green Hall | Yes | 144/144 | |
| 9 | Chemistry Building | STEM Building | N/A | 0* | |
| 10 | Physics Building | STEM Building | N/A | 0* | |
| 11 | Biology Building | STEM Building | N/A | 0* | |
| 12 | STEM Building | STEM Building | N/A | 0* | |
| 13 | Forcina Hall | Roscoe Hall | Yes | 12/12 | 24/24 |
| 14 | Education Building | Roscoe Hall | N/A | 0* | |
| 15 | Centennial Hall | Roscoe Hall | No | 12/12 | 24/24 |
| 16 | Gilstein Library | Roscoe Hall | No | 12/12 | 36/36 |
| 17 | Roscoe Hall | Green Hall | No | 12/12 | 96/96 |
| 18 | Norsworthy Hall | Ely-Allen-Brewster | N/A | 0* | |
| 19 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 | 144/144 |
| 20 | Maintenance Building | Powerhouse | Yes | 12/12 | 24/24 |
| 21 | Powerhouse | Ely-Allen-Brewster | No | 12/12 | 48/48 |
| 22 | Decker Hall | Ely-Allen-Brewster | No | 12/12 | 36/36 |
| 23 | Ely-Allen-Brewster** | Green Hall | No | 12/12 | 144/144 |
| 24 | New Residence Hall | Eickhoff Hall | No | 12/12 | 24/24 |
| 25 | Packer Hall | Eickhoff Hall | No | 12/12 | 36/36 |
| 26 | Brower Student Center | Eickhoff Hall | N/A | 0* | |
| 27 | Eickhoff Hall | Green Hall | No | 12/12 | 96/96 |
| 28 | TH1 (Town House West) | Cromwell Hall | No | 48/48 | |
| 29 | THS 21A/B (Town House East) | Cromwell Hall | No | (2) 36/36 | |
| 30 | TH9 (Town House South) | Cromwell Hall | No | 48/48 | |
| 31 | Travers Hall | Cromwell Hall | Yes | 12/12 | |
| 32 | Wolfe Hall | Cromwell Hall | N/A | 0* | |
| 33 | Decker Garage | Cromwell Hall | Yes | 12/12 | |
| 34 | Recreation Center | Cromwell Hall | No | 12/12 | 36/36 |
| 35 | Stadium Generator Building | Recreation Center | No | 12/12 | |
| 36 | Stadium Concession Stand | Recreation Center | No | 12/12 | |
| 37 | Soccer Field Press Box 28A/B | Admin Splice | No | 24/24 | 36/36 |
| 38 | Metzger Garage | Admin Splice | No | 24/24 | |
| 39 | Phelps Hall | Admin Splice | N/A | 0* | |
| 40 | Hausdoerffer Hall | Admin Splice | N/A | 0* | |
| 41 | Cromwell Hall | Green Hall | No | 12/12 | 144/144 |
| 42 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 | |
| 43 | Forcina Hall | Education Building | No | 12/12 | |
| 44 | Fire Pump House | Admin Services Building | No | 12/12 | |
| 45 | Admin Services Building | Admin Splice | N/A | 36/36 | |
| 46 | Eickhoff Room 227 | Eickhoff Room 337 | No | - | 48/48 |

GENERAL NOTES

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PARTIAL SYMBOLS & ABBREVIATIONS

| Identifier | Description |
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| | Existing Manhole |
| | New Manhole |
| | Remove Existing Fiber And Pull New Fiber Through Empty Conduit Pathway |
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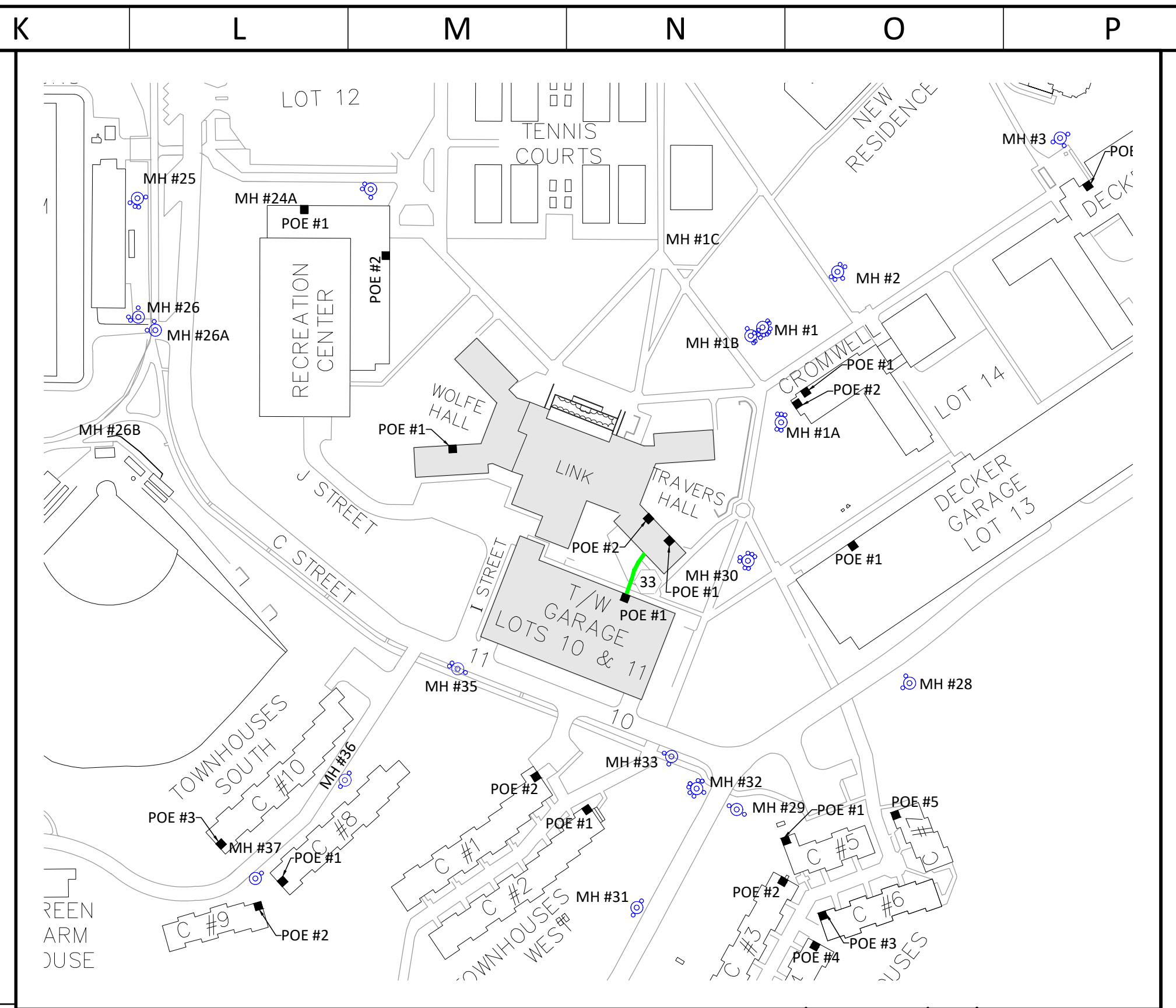
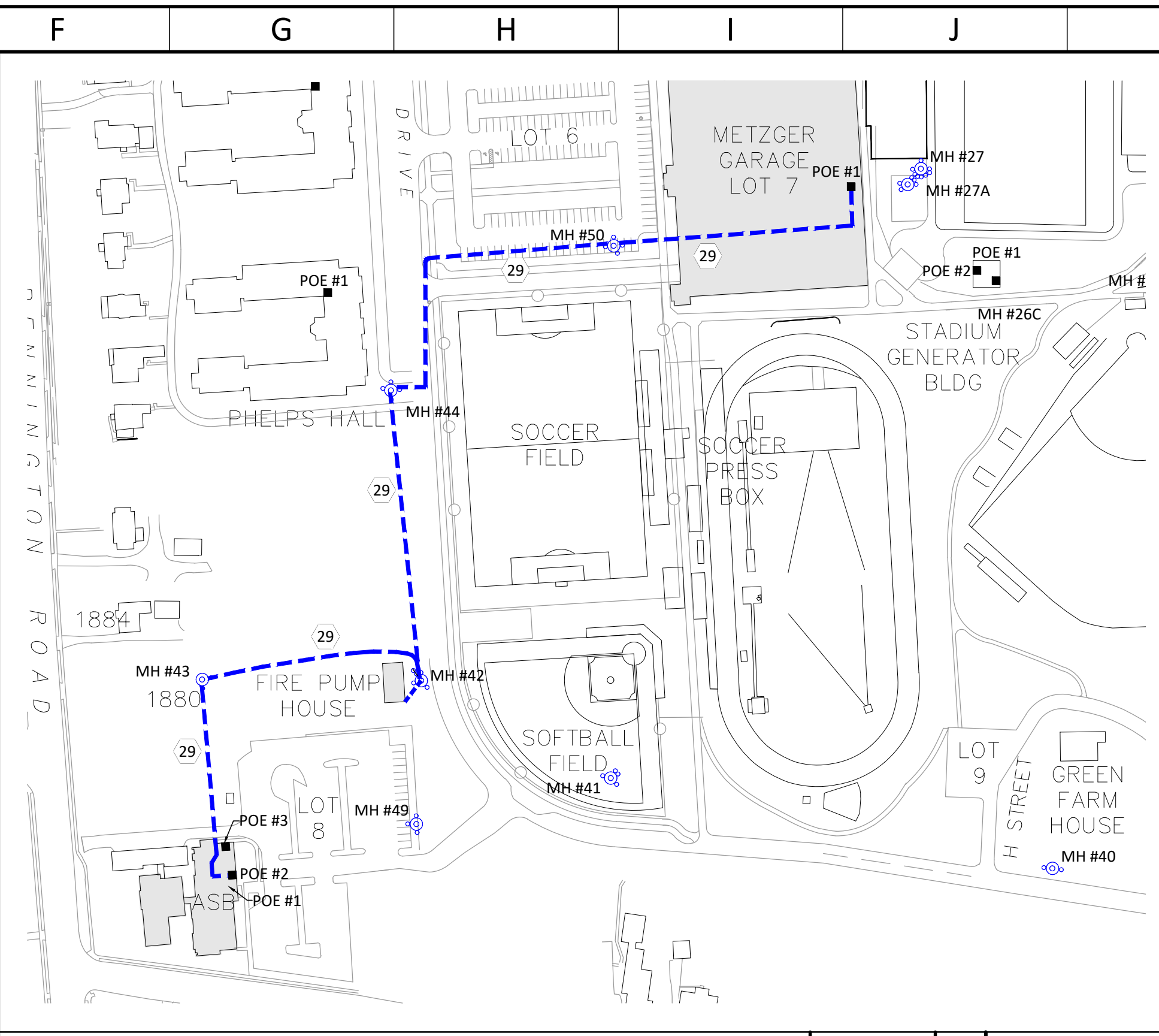
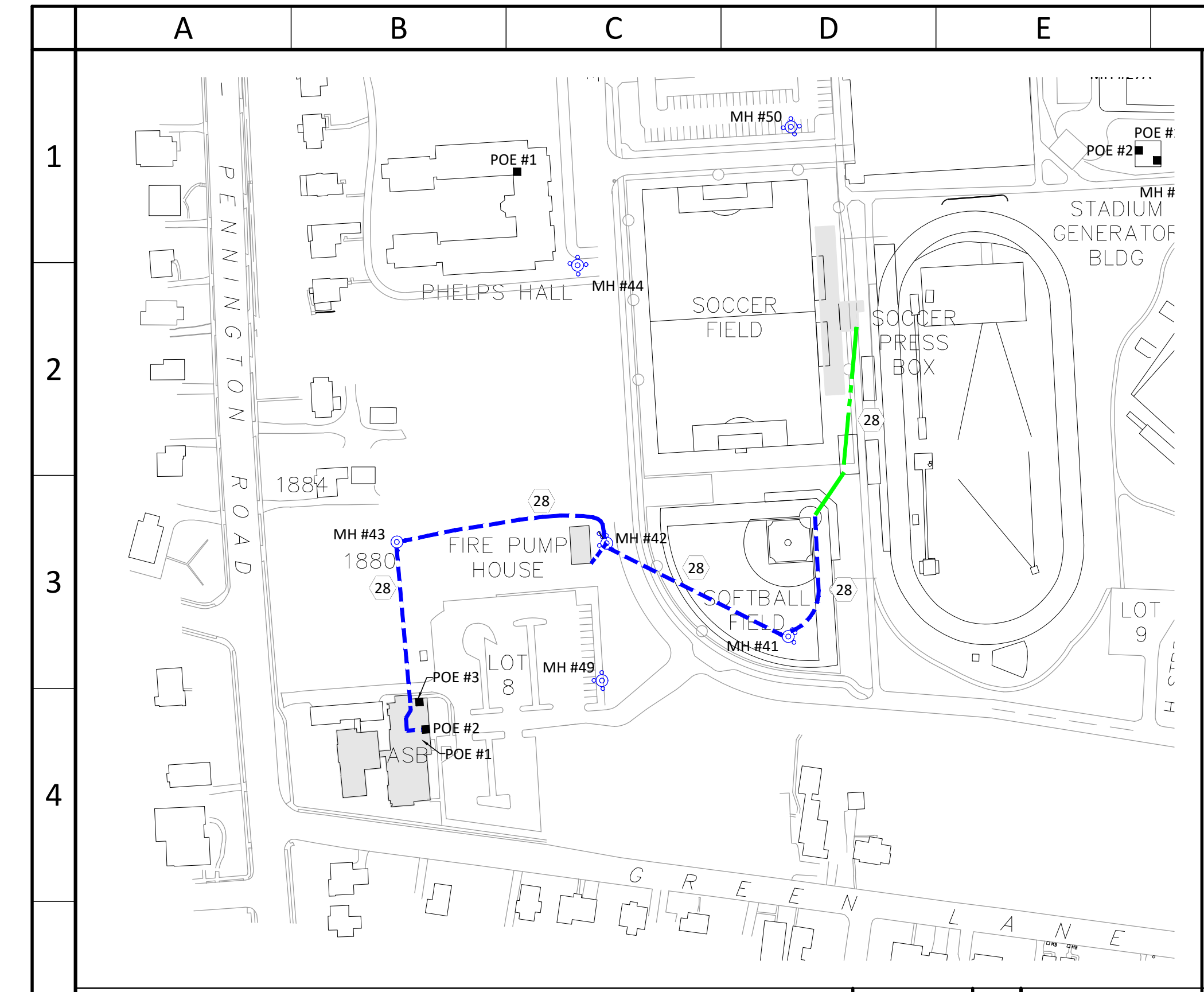


| ITEM | DATE | ISSUE DESCRIPTION | ITEM | DATE | ISSUE DESCRIPTION |
|------|------------|-------------------|------|------|-------------------|
| 1 | 05/01/2020 | ISSUED FOR BID | | | |

dlb associates
CONSULTING ENGINEERS, P.C.
265 Industrial Way West, Eatontown, N.J. 07724
Questions For DLB Call: Anthony Laskosky Phone: 732-927-5038

project
TCNJ - CAMPUS FIRE ALARM PROJECT
PART A - CABLE INFRASTRUCTURE UPGRADES
2000 PENNINGTON ROAD,
EWING NJ, 08618

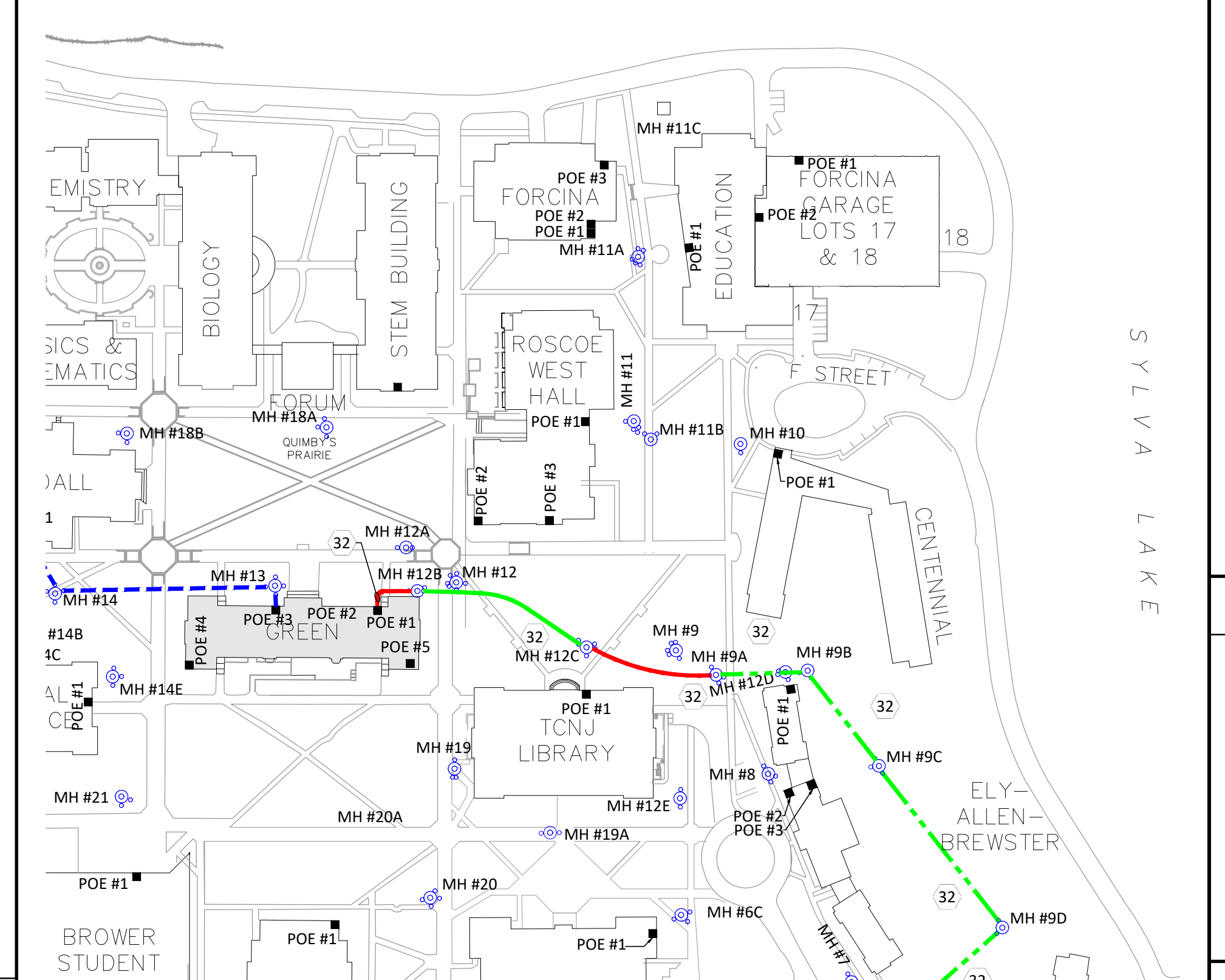
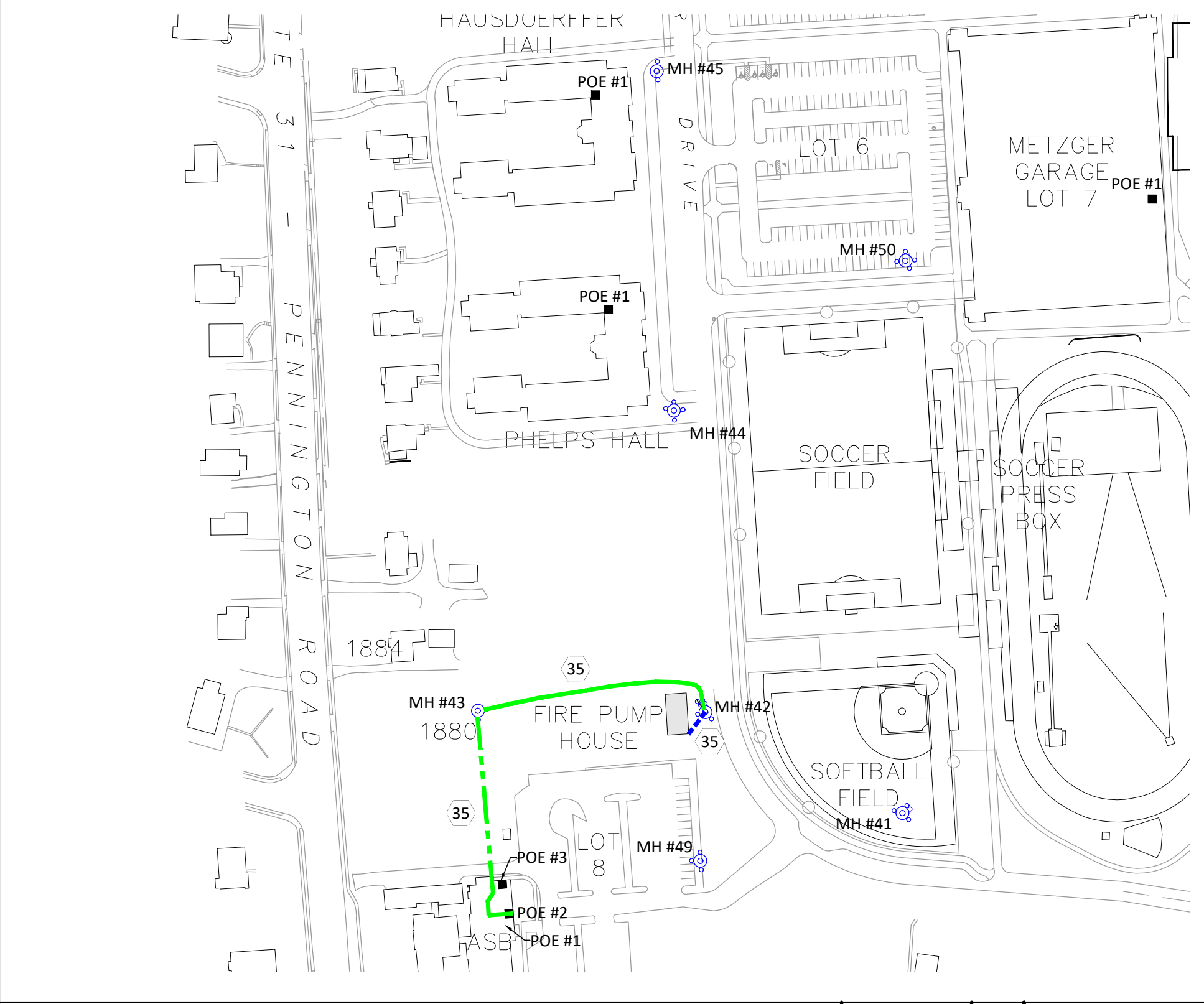
title
BUILDING FIBER ROUTING
dwg. no.
FA011
scale AS SHOWN drawn by SC checked by SG date 05/03/2020



FIBER ROUTING - SOCCER FIELD PRESS BOX TO ADMINISTRATIVE SERVICES BLDG Scale: 1" = 150' Drawing: FA012 Detail: 01

FIBER ROUTING - METZGER GARAGE TO ADMINISTRATIVE SERVICES BUILDING Scale: 1" = 150' Drawing: FA012 Detail: 02

FIBER ROUTING - TRAVERS/WOLFE GARAGE TO WOLFE HALL Scale: 1" = 150' Drawing: FA012 Detail: 03



FIBER ROUTING - FIRE PUMP HOUSE TO ADMIN SPLICE Drawing: FA012 Detail: 04

FIBER ROUTING - FIRE PUMP HOUSE TO ADMIN SPLICE Drawing: FA012 Detail: 04

FIBER ROUTING - CROMWELL HALL TO GREEN HALL Scale: 1" = 150' Drawing: FA012 Detail: 05

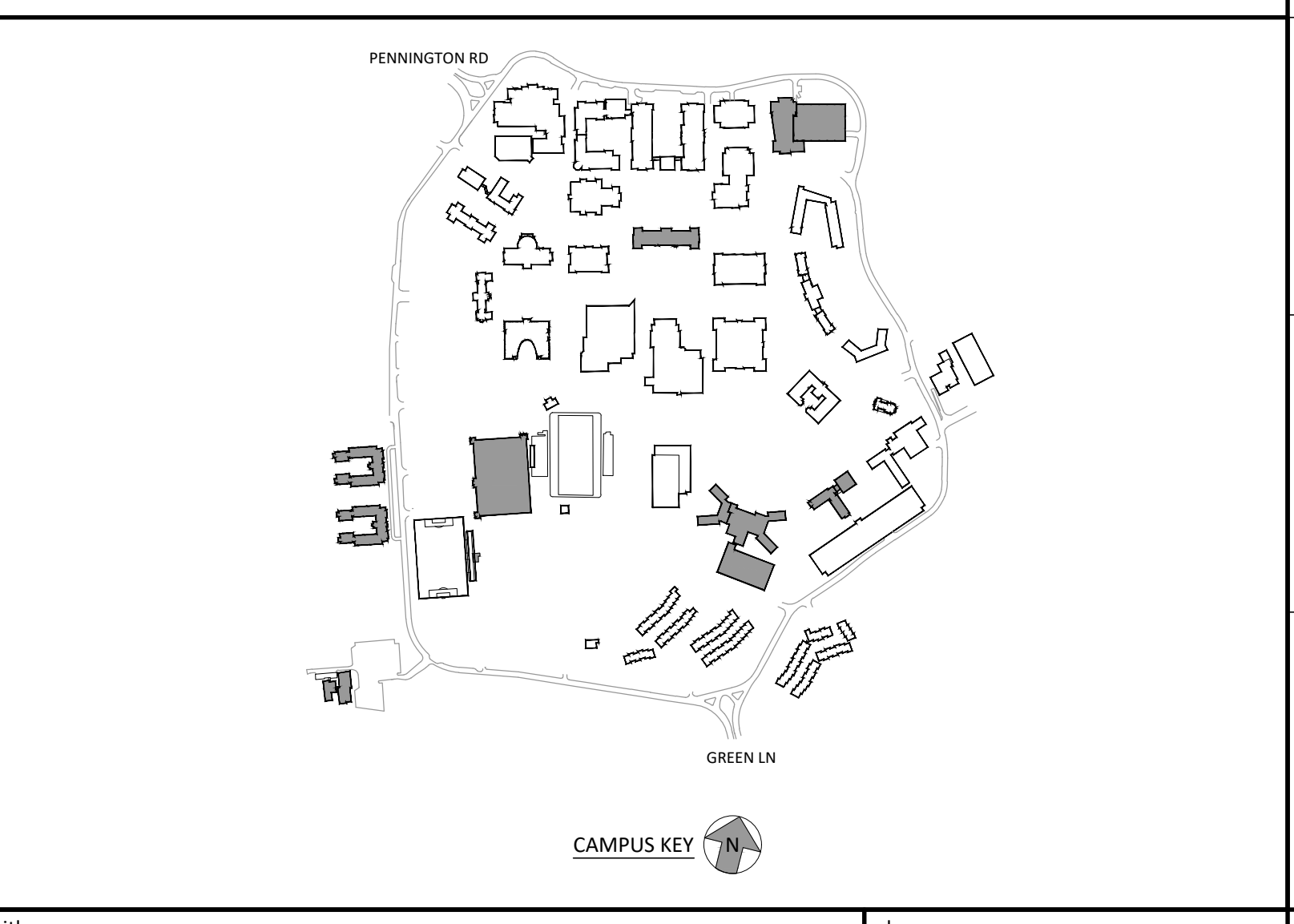
| Fiber Routing | | | | | |
|---------------|------------------------------|-------------------------|---------------|------------------------------|--------------|
| Span ID | Starting Building | Ending Building | Empty Conduit | Hybrid Cable To Be Installed | |
| | | | | Base Bid | Alternate #1 |
| 1 | Armstrong Hall** | STEM Building | Yes | 12/12 | |
| 2 | Bliss Hall | Kendall Hall | Yes | 12/12 | 48/48 |
| 3 | Business Building | Kendall Hall | No | 12/12 | 24/24 |
| 4 | Trenton Hall | Kendall Hall | No | 12/12 | 36/36 |
| 5 | Music Building | Kendall Hall | No | 12/12 | 24/24 |
| 6 | AJMM Building | Kendall Hall | N/A | 0* | |
| 6 | Social Science | Kendall Hall | Yes | 12/12 | 36/36 |
| | Kendall Hall | Green Hall | Yes | 144/144 | |
| | Chemistry Building | STEM Building | N/A | 0* | |
| | Physics Building | STEM Building | N/A | 0* | |
| | Biology Building | STEM Building | N/A | 0* | |
| | STEM Building | Green Hall | N/A | 0* | |
| 8 | Forcina Hall | Roscoe Hall | Yes | 12/12 | 24/24 |
| | Education Building | Roscoe Hall | N/A | 0* | |
| 9 | Centennial Hall | Roscoe Hall | No | 12/12 | 24/24 |
| 10 | Gilstein Library | Roscoe Hall | No | 12/12 | 36/36 |
| 11 | Roscoe Hall | Green Hall | No | 12/12 | 96/96 |
| | Norworthy Hall | Ely-Allen-Brewster | N/A | 0* | |
| 12 | Spiritual Center | Ely-Allen-Brewster | No | 12/12 | |
| 13 | Maintenance Building | Powerhouse | Yes | 12/12 | 24/24 |
| 14 | Powerhouse | Ely-Allen-Brewster | No | 12/12 | 48/48 |
| 15 | Decker Hall | Ely-Allen-Brewster | No | 12/12 | 36/36 |
| 16 | Ely-Allen-Brewster** | Green Hall | No | 12/12 | 144/144 |
| 17 | New Residence Hall | Eickhoff Hall | No | 12/12 | 24/24 |
| 18 | Packer Hall | Eickhoff Hall | No | 12/12 | 36/36 |
| | Brower Student Center | Eickhoff Hall | N/A | 0* | |
| 19 | Eickhoff Hall | Green Hall | No | 12/12 | 96/96 |
| 20 | TH1 (Town House West) | Cromwell Hall | No | 48/48 | |
| 21 | THS 21A/B (Town House East) | Cromwell Hall | No | (2) 36/36 | |
| 22 | TH9 (Town House South) | Cromwell Hall | No | 48/48 | |
| 23 | Travers Hall | Cromwell Hall | Yes | 12/12 | |
| | Wolfe Hall | Cromwell Hall | N/A | 0* | |
| 24 | Decker Garage | Cromwell Hall | Yes | 12/12 | |
| 25 | Recreation Center | Cromwell Hall | No | 12/12 | 36/36 |
| 26 | Stadium Generator Building | Recreation Center | No | 12/12 | |
| 27 | Stadium Concession Stand | Recreation Center | No | 12/12 | |
| 28 | Soccer Field Press Box 28A/B | Admin Splice | No | 24/24 | 36/36 |
| 29 | Metzger Garage | Admin Splice | No | 24/24 | |
| | Phelps Hall | Admin Splice | N/A | 0* | |
| | Hausdoerffer Hall | Admin Splice | N/A | 0* | |
| 32 | Cromwell Hall | Green Hall | No | 12/12 | 144/144 |
| 33 | Travers/Wolfe Garage | Travers Hall | Yes | 12/12 | |
| 34 | Forcina Garage | Education Building | No | 12/12 | |
| 35 | Fire Pump House | Admin Services Building | No | 12/12 | |
| 36 | Admin Services Building | Admin Splice | N/A | 36/36 | |
| 41 | Eickhoff Room 227 | Eickhoff Room 337 | No | | 48/48 |

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BUILDING FIBER ROUTING

scale AS SHOWN drawn by SC checked by SG date 05/03/2020

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FA012

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