



MASTER CONTRACTOR AGREEMENT

This Master Contractor Agreement (the "Agreement"), executed this 6th day of January 2026, ("Effective Date") by and between

LYT Communications, LLC

 23013 Buena St

 Galveston, TX 77554

 Telephone: 281-832-8058

 Federal Tax I.D. # 33-3772842

(hereinafter, "Contractor"), and

MetroNet Technologies, LLC

 3701 Communications Way

 Evansville, IN 47715

 Attn: Director of Contractor Relations

(hereinafter, "Company")

WHEREAS, Company is engaged in the business of providing telecommunication services and intends to obtain services for the design, engineering, procurement, construction, and relocation of various telecommunications network projects within the United States (hereinafter referred to as "Project"); and

WHEREAS, Contractor, operating as an independent contractor, is engaged in the business of design, engineering, procurement, construction, and/or relocation of various telecommunications network projects and desires to provide such services to Company for a portion of the Project; and

WHEREAS, each scope of work shall be set forth in a Work Order ("Work Order") in a form substantially similar to the one attached hereto as Attachment A or in such other form as may be adopted or implemented by Company; and

WHEREAS, Company and Contractor desire to establish the general terms and conditions under which the Work will be performed by Contractor.

NOW, THEREFORE, in consideration of the mutual covenants and other consideration contained herein, the Contractor and Company hereto agree as follows:

SECTION 1. CONTRACTOR SERVICES; TERM. Contractor, operating as an independent contractor, shall provide and furnish, as required by Company, all labor, supervision, equipment, materials and expertise and do all things necessary for the proper performance of the Work as described in a Work Order. Each Work Order shall contain detailed description of the services and materials to be provided by the Contractor ("Scope of Work" or "Work"), the work order price (the "Work Order Price"), project schedule (the "Project Schedule"), and any bonding requirements. Each Work Order and its' respective Scope of Work stands alone, and serves as the complete, integrated agreement for the services order under it, and replaces all other oral or written communications regarding those services, except as set forth in this Agreement. Contractor agrees to prosecute the Work in accordance with the terms and conditions this Agreement and other Contract Documents (as defined below).

Contractor will perform the Work in a high quality, professional, timely and workmanlike manner. Materials furnished but not installed by Contractor shall be delivered F.O.B. job site unless otherwise specified in writing by Company.

The initial term of this Agreement shall be for three (3) years commencing on the Effective Date. After the initial term, this Agreement shall automatically renew from year to year under the same terms and conditions as stated herein and as may be modified by mutual agreement of the parties from time to time, unless (i) either party terminates this Agreement by giving the other party written notice of termination at least thirty (30) days prior to the end of the initial term or renewal term or (ii) this Agreement is earlier terminated pursuant to the terms of this Agreement. Notwithstanding any other provision of this Agreement or any Work Order, the Company may terminate this Agreement and/or any Work Order at any time with or without cause on three (3) days written notice to Contractor. Notwithstanding any such termination, this Agreement shall remain in full force and effect, and shall continue to govern, with respect to any then-existing Work Order for so long as such Work Order is in effect.

SECTION 2. CONTRACT DOCUMENTS. The "Contract Documents" (and each a "Contract Document") shall mean and consist of:

- (a) This Agreement;
- (b) Any executed Work Order;
- (c) Exhibit A-(Supplementary Terms and Conditions);
- (d) Exhibit B (Project Specifications)
- (e) Any other Exhibit or attachment referenced herein or attached hereto; and
- (f) Company's duly executed Notice to Proceed.

In the event of a conflict between one or more provisions of the Contract Documents, including the method and manner of performance, the most stringent provisions, as reasonably determined by Company, will govern. In resolving any other conflict, the Contract Documents will be given precedence in the order outlined in this Section (2).

Contractor is responsible for the performance of its subcontractors, employees and agents with respect to the performance of the Contractor's obligations and responsibilities under this Agreement and other Contract Documents.

SECTION 3. PAYMENT

- (a) As full compensation for the Work and all other obligations to be performed by Contractor under the Contract Documents, Company agrees to pay Contractor the established Work Order Price as further defined in each Work Order, subject to additions and deductions for Changes as set forth below in Section 5. Payment shall be made at the following times and in the following manner:
 - 1) Payment to Contractor shall not become due Contractor until thirty (30) days after Company has verified Contractor's Work is complete and has been performed to the Company's satisfaction ("Verified Work"). Unless otherwise stipulated in a Work Order, Company approval and payment shall not exceed 90% (or such greater amount as may be set forth in the Work Order or required by law) of the amount due for the Verified Work. No partial payment to Contractor (i.e. payment for less than an entire Project) shall operate as approval or acceptance of Work furnished hereunder.
 - 2) No payments shall be made unless Contractor has completed the bonding requirements specified in Section fourteen (14) to Company's satisfaction.
- (b) Contractor is responsible for prompt payment to its subcontractors and material suppliers who provided the labor and/or materials for that portion of the Work, in whatever amount the relevant subcontractor or material supplier is entitled under the terms of Contractor's contract with said subcontractor or material supplier. Contractor shall, by appropriate agreement with each subcontractor, require each subcontractor to make payments to its sub-subcontractors and material suppliers in a similar manner.
- (c) Within three (3) business days after Contractor's receipt of payment from Company, Contractor shall deliver to Company full and final releases and waivers of lien, in a form acceptable to Company, for Contractor and its subcontractors, material suppliers and labor suppliers for and with respect to, and to the extent of, the payment so made. Releases and waivers shall include releases and waivers of liens on any property owned by Company, its parent company, affiliated companies, customers and any other person or entity (e.g. utility) upon whose infrastructure or facilities may be utilized for installation work (such infrastructure and facilities, herein after "Infrastructure" and the owners of such Infrastructure, hereinafter collectively "Infrastructure Owners"). Contractor agrees that Company shall have the right to refuse to pay for Work unless such releases and waivers of lien have been delivered to Company with respect to all prior payments made by Company.

- (d) Contractor warrants that: (1) title to the Work, materials, documents, and equipment will pass to Company either by incorporation in the construction or upon receipt of payment by Contractor, whichever occurs first; (2) the Work, Infrastructure, materials and equipment are free and clear of liens, claims, security interests, or encumbrances or interests of third parties in any way connected to or with the Work; and (3) no Work, materials or equipment acquired by Contractor or any other person performing Work are subject to agreements under which an interest therein or lien thereon is retained by the seller or otherwise imposed by Contractor or such other person.
- (e) The remaining ten percent (10%) (or lower percentage if set forth in a Work Order or required by law) of the payment for the Work will be retained until all the requirements incident to final payment set forth herein have been satisfied.
- (f) The final payment and amounts retained shall be paid by Company to Contractor within thirty (30) days after the last of the following events to occur: 1) all Work has been completed, accepted by Company and the Agreement and other Contract Documents have been fully performed; 2) receipt of any and all final lien releases and waivers requested by Company; 3) consent of surety, if any, to final payment; 4) an affidavit that payrolls, bills for material and equipment, and other indebtedness connected with the Project for which Company's or any other Infrastructure Owners' property might be liable have been paid or otherwise satisfied; and 5) if required by Company, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens to the extent and in such form as may be designated by Company.
- (g) In addition to the requirements set forth in this section, and without limitation upon the right of Company to require other documents, it is specifically understood that Work will not be approved until Contractor has furnished Company with all of the following documents:
 - 1) "Red-lined Construction" drawings, maintenance instructions or other documentation required by the Contract Documents or reasonably required by Company;
 - 2) any warranties or guarantees required by the Contract Documents, which warranties and guarantees shall inure to the benefit of Company and its affiliated companies;
 - 3) an affidavit, in a form approved by Company, stating that the Work has been fully completed in compliance with the Contract Documents, that all subcontractors, laborers and material suppliers who supplied the labor and materials for the Work have been paid in full, and that any liens that have been filed have been discharged of record or waived along with documents evidencing discharge or waiver attached;
 - 4) certificate of inspection and approval with respect to the Work that may be required by governmental authorities as a condition for issuance of a certificate of occupancy or certificate of completion for the Project; and
 - 5) notarized releases and waivers of lien from Contractors, subcontractors, material suppliers and all labor suppliers for all labor and material provided in connection with the performance of the Work.
- (h) The making of any payment, including final payment, shall not constitute a waiver of claims by Company, including those arising from (a) unreleased liens; (b) faulty or defective Work; (c) failure of the Work to comply with the requirements of the Contract Documents; or (d) terms of warranties required by the Contract Documents.
- (i) Acceptance of final payment shall constitute a waiver of all claims by Contractor except those previously made in writing and identified by Company as unsettled at the time of approval of the final payment.
- (j) Notwithstanding any other provision in any Contract Document, in the event of any breach by Contractor of any provision or obligation of any Contract Document, or in the event of the assertion by other parties of any claim or lien against Company, the Infrastructure, Infrastructure Owners or the Project arising out of Contractor's performance of any Contract Document or the performance of any of its subcontractors, Company shall have the right to retain out of any payments due or to become due to Contractor, an amount sufficient to protect Company and its affiliates, and their officers, directors, agents, representatives and employees (collectively the "Company Parties"), in Company's sole discretion, from any and all loss, damage, or expense therefrom, until the Contractor has remedied or resolved the situation to Company's satisfaction.

SECTION 4. TITLE. Title to all Work, materials, documents, and equipment performed and/or provided by Contractor hereunder will pass to and vest in Company or an affiliated company upon the earlier to occur of: (i) incorporation of same into the construction, or (ii) receipt of the relevant payment for same by Contractor. Title to all materials supplied by Company or an affiliated company in accordance with the Contract Documents shall remain in the name of Company or such affiliated company.

SECTION 5. CHANGES. Company may at any time by written order of Company's authorized representative, without notice to Contractor's sureties, and without nullifying this Agreement or any of the Contract Documents, make changes in, additions to and deletions from the Work to be performed under the Contract Documents and Contractor shall promptly proceed with the performance of the Contract Documents as so changed. Any such change will be reflected in a written change order provided to the Contractor by Company (individually, a "Change Order" and collectively, the "Change Orders"). Proposed adjustments to a Work Order, if any, resulting from such changes shall be set forth in Company's written Change Order. No such adjustments shall be made for any changes performed by Contractor that have not been pre-approved in writing by Company. If Contractor disputes Company's proposed adjustments, Company and Contractor shall negotiate in good faith regarding the appropriate equitable adjustment of this Agreement and other Contract Documents; provided that, such dispute and negotiation shall not relieve Contractor of its duty to promptly proceed with the performance of this Agreement and other Contract Documents, as changed.

SECTION 6. PROJECT SCHEDULE. Time is of the essence. Contractor shall perform the Work when and as directed by Company and in accordance with the conditions set forth in the Project Schedule, as may be amended from time to time by Company pursuant to the terms set forth in the Contract Documents and any Change Orders.

SECTION 7. NOTICE TO PROCEED. Company shall issue a written Notice to Proceed within a reasonable time after this Agreement and related Work Order has been executed and all insurance, and if required bonding, provisions have been fulfilled by the Contractor. The Work shall commence on the date specified in the Notice to Proceed. In no case shall any Work begin prior to the Notice to Proceed being issued by Company to the Contractor.

SECTION 8. PROSECUTION OF WORK.

- (a) Contractor shall furnish, at Contractor's expense, all labor, supervision, tools, equipment, materials, consumables, facilities, transportation, storage and supplies necessary or appropriate for the performance of the Work in a proper, efficient, and workmanlike manner, using only qualified workers, in strict conformity with the Contract Documents. Contractor shall prosecute the Work undertaken in a prompt and diligent manner whenever such Work, or any part of it, becomes available, or at such other time or times as Company may direct, and so as to promote the general progress of the Work, and shall not, by delay or otherwise, interfere with or hinder Company's Project or the work of any other contractor of Company or any of its employees. Any materials that are to be furnished by Contractor hereunder shall be furnished in sufficient time to enable Contractor to perform and complete the Work within the time or times provided for in the Contract Documents. The time of performance of the Work by Contractor is of the essence. Contractor also agrees to pay to Company any increased costs or other damages Company may sustain by reason of delay by Contractor, whether or not liquidated or actual damages. The payment of such damages shall not release Contractor from its obligation to otherwise fully perform the Work under this Agreement and the other Contract Documents. Upon written request by Company, Contractor shall furnish to Company such evidence as Company may require relating to Contractor's ability to perform this Agreement and the other Contract Documents in the manner and within the time specified herein.
- (b) Contractor shall keep on the Project site during the progress of the Work a competent representative, acceptable to Company, who shall be the authorized agent of the Contractor. Directions and communications to such representative from Company in connection with the Work shall be treated as directions and communications to Contractor.
- (c) Contractor agrees that Company may, upon three (3) days written notice to Contractor, terminate this Agreement and/or other Contract Documents in whole or in part for Company's convenience. Contractor's remedy for termination for convenience is limited by the following (all of which shall be subject to satisfaction of all the conditions for payment of amounts due to Contractor, e.g. provision of releases and lien waivers):
 - 1) Contractor shall be entitled to be paid for all Work performed to Company's satisfaction prior to termination;
 - 2) Partial payment shall be made for lump sum items of Work based on the percentage of such items completed at the time of termination;
 - 3) Contractor shall be reimbursed for reasonable close-out costs incurred; and
- (d) Contractor shall not be entitled to any compensation for loss of anticipated profits or unallocated overhead.
- (e) Contractor recognizes the relationship of trust and confidence established between it and Company by the Contract Documents and agrees to furnish its best skill and judgment in the performance of its obligations and responsibilities. Contractor agrees to furnish efficient business administration and supervision, and to use

commercially reasonable efforts to minimize expense to Company, while promoting the progress of the Work in the most expeditious and economical manner consistent with the interests of Company.

- (f) If at any time during the term of this Agreement, Contractor fails (or reasonably anticipates it will fail) to meet the Project Schedule established by the Contract Documents or any date set forth therein, Contractor shall take all necessary steps, including but not limited to working overtime or adding additional resources, to prosecute the Work in accordance with the terms hereof and the Project Schedule, at no additional cost to Company.

SECTION 9. WARRANTY; GUARANTEE. Contractor warrants and guarantees to Company that the Work provided under the Contract Documents will be free from defects in workmanship and material and will conform to the specifications set forth in the Contract Documents, for no less than a period of one (1) year from the date Company pays Contractor the final payment for the Work. Any defective Work or Work failing to conform to the Contract Documents which is rejected by Company within one (1) year of Company's final payment for the Work hereunder (whether such defects are observed before or after Company's acceptance of the Work) shall be promptly corrected by Contractor, the warranty period for the corrected Work shall equal the remaining warranty period described above or ninety (90) days, whichever is longer. Furthermore, all warranties of vendors, manufacturers or suppliers shall be assigned by the Contractor, its subcontractors or suppliers to Company or an affiliated company.

SECTION 10. DELAYS. In the event Contractor's performance of the Contract Documents is delayed or interfered with by acts of Company and/or other contractors or suppliers, or by other events for which Contractor may request an extension of the time for the performance of the Work as hereinafter provided, Contractor may request an extension of time from Company to complete Contractor's Work, but Contractor shall not be entitled to any increase in the Work Order Price or to damages or any other additional compensation as a consequence of such delays or interference.

No allowance for an extension of time for any cause whatsoever shall be claimed by, or granted to, Contractor unless Contractor shall have made written request upon Company for such extension within forty-eight (48) hours after the event giving rise to such request. No allowance of an extension of time shall, in any event, be made to Contractor for delay by Contractor in preparing drawings or in securing approval of Company thereto when such drawings are not properly prepared or when Contractor, by the exercise of reasonable diligence and judgment, could have anticipated and avoided the delay.

SECTION 11. LABOR. Contractor, in connection with all Work covered by the Contract Documents, may be required to comply with and be bound by any labor agreements executed by Company or on Company's behalf. Failure at any time to comply with any of the provisions of such agreements will, at the option of Company, be cause for immediate termination of this Agreement and other Contract Documents for default. If, by reason of strikes, picketing or disputes of any nature between Contractor and any individual, group or organization, Contractor should be persistently, repeatedly, or for a period of five (5) consecutive days, unable to supply enough properly skilled workers or proper materials to execute the Work defined in the Contract Documents, Company may terminate Contractor for default.

SECTION 12. APPROVALS AND COMMUNICATION. Plans, specifications, drawings of Contractor, if any, shall be submitted through Company and all other communications with respect to the Work shall be transmitted through Company only.

SECTION 13. FORCE MAJEURE. It is specifically agreed that, unless otherwise specifically set forth in the Contract Documents and unless preventable by the timely and proper performance of their respective obligations under this Agreement, neither Contractor nor Company shall be held responsible or liable for nonperformance, late performance or any loss, damage, detention or delay due to causes beyond the reasonable control of such party, including but not limited to acts of God; acts of the public enemy; acts of a government, delay in or inability to obtain governmental or municipal approvals, authorizations, licenses, consents, permits, rights-of-way or franchises on commercially reasonable terms; acts of another contractor in the performance of a contract such contractor has with Company; fires; floods; freight embargoes, unusually severe weather which could not have been reasonably anticipated; or delays of Contractors or suppliers arising from causes beyond the control and without the fault or negligence of the delaying party that could not have been reasonably anticipated by the delaying party (collectively, "Force Majeure Events").

If either party is claiming the benefit of excusable delay due to a Force Majeure Event, then it shall state in writing to the other party within two (2) business days (or such other longer period as may be reasonable as a result of the Force Majeure Event) of the circumstances creating the delay, and provide (i) reasonable evidence of the Force Majeure Event and (ii) a statement of the impact such Force Majeure Event has had or is expected to have upon it and its ability to fulfill its obligations under the Contract Documents. Notwithstanding the foregoing, the party claiming the benefit of an

excusable delay due to a Force Majeure Event must use commercially reasonable efforts to recover from said Force Majeure Event and resume performance hereunder as soon as practicable. The time for performance of each affected portion of the Project shall be adjusted by a mutually agreed upon Change Order on account of the impact of such Force Majeure Event. In the event of an accepted Force Majeure Event, which delays the completion of the Project, Contractor will only be entitled to an extension of time, but not an increase in the Work Order Price.

SECTION 14. BONDING. If requested by Company or set forth in a Work Order, Contractor shall furnish, prior to commencement of the Work, and at all times thereafter maintain a Performance and Payment Bond in an amount equal to the Work Order Price. Such bond shall be in a form furnished by Company, and with a surety acceptable to Company. By submitting a bid or signing a Work Order, Contractor certifies that it has the resources and has made arrangements to purchase a Performance and Payment Bond prior to performance of the Work, and that obtaining a Performance and Payment Bond will not interfere with its timely commencement of the Work. Unless otherwise agreed to in writing, the cost of obtaining and maintaining said Performance and Payment Bond shall be included in the Work Order Price.

SECTION 15. INSURANCE. Prior to commencement of the Work, Contractor shall procure, at its own expense, and at all times thereafter maintain, with insurers acceptable to Company the following minimum insurance protecting Contractor, Company, Company affiliates and other parties named by Company against liability for damages because of injuries, including death, suffered by persons, including employees of Contractor, and liability for damage to property arising out of or resulting from Contractor's operations, including its subcontractor's operations, in connection with its performance of the Work and its obligations under the Contract Documents.

- (a) Coverage: Commercial General Liability including: Contractual Liability, Broad Form Property Damage and Independent Contractors. Limits: no less than \$2,000,000 General Aggregate; \$2,000,000 Products/Completed Operations Aggregate; \$1,000,000 Combined Single Limit Each Occurrence. This policy shall be endorsed to have the General Aggregate apply on a "Per Project Basis."
- (b) Coverage: Comprehensive Automobile Liability (including Owned, Hired and Non-owned Vehicles). Limits: no less than \$1,000,000 Combined Single Limit Each Occurrence
- (c) Coverage: Workers Compensation, in State(s) of operation and where applicable, U.S. Longshoremen's and Harbor Workers Compensation Act and Jones Act coverages. Limits: no less than Statutory requirements. Coverage: Employers' Liability. Limits: no less than \$500,000 Each Accident/Occurrence/Disease
- (d) Coverage: Umbrella or Excess Liability Insurance applying in excess of the primary coverages described in Sections 15(a) through 15(c) above. Limits: no less than \$5,000,000 per occurrence.
- (e) Coverage (if Company or an affiliate leases or supplies equipment to Contractor): Inland Marine and Property coverages with limits of liability acceptable to Company and naming Company and its affiliate, as applicable, as a loss payee on such equipment.

Company and all other parties required to be insured by the Contract Documents shall be listed as additional insured (and loss payee as applicable) on Contractor's policies. Policies shall be primary and non-contributory. Deductibles and co-insurance amounts shall be acceptable to Company. Contractor, and its subcontractors, hereby waive any and all rights to recover against Company, or against the officers, directors, shareholders, partners, joint ventures, employees, agents, customers, invitees or business visitors of Company or its affiliates for any loss or damage to Contractor, or its subcontractors, arising from any cause covered by an insurance policies require to be carried pursuant to this section or any other insurance policies actually carried by Contractor and/or its subcontractors. Contractor, from time to time, will cause its insurers to issue waiver of subrogation rights endorsements to all insurance policies carried in connection with this Agreement and other Contract Documents.

Contractor shall provide Company with certificates evidencing such insurance prior to beginning the Work. Such certificates shall provide for thirty (30) days advance written notice to Company of cancellation, material change, reduction of coverage or non-renewal. Contractor shall require its subcontractors to obtain insurance policies in the amounts shown above, naming Contractor, Company, Company affiliates and the parties named by Company, as additional insured, and shall provide evidence of such coverage to Company if requested.

SECTION 16. INDEMNIFICATION. To the fullest extent permitted by applicable law, Contractor specifically obligates itself to Company, the Company Parties and any other party required to be indemnified under the Agreement or other Contract Documents, jointly and severally, in the following respects:

- (a) to defend and indemnify them against and hold them harmless from any and all claims, suits, liabilities, expenses or damages for any alleged or actual infringement or violation of any copyright, patent or patented right, arising in connection with the Contract Documents and anything done by Contractor hereunder;

- (b) to defend and indemnify them against and hold them harmless from any and all claims, suits or liabilities for damage to property including loss of use thereof, injuries to persons, including death, and from any other claims, suits, liabilities, expenses, including costs of investigation and defense and reasonable attorneys' fees, whether or not involving a third-party claim (hereafter "Claims") on account of acts or omissions of Contractor, or any of its subcontractors, suppliers, officers, agents, employees or servants, provided, however, Contractor's duty hereunder shall not arise to the extent such Claims are directly caused by the negligence of a party indemnified hereunder; Contractor's obligation hereunder shall not be limited by the provisions of any Workers Compensation act or similar statute;
- (c) to pay for all materials furnished and Work and labor performed under the Contract Documents, and to satisfy Company thereupon whenever demand is made, and to defend and indemnify them and other indemnified parties against and save them and the Project harmless from any and all claims, suits, or liens therefor;
- (d) to defend and indemnify them and hold them harmless from, any and all losses, damages, costs, expenses and attorney's fees suffered or incurred on account of any breach of the aforesaid obligations and covenants, and any other provision or covenant of the Contract Documents.

Notwithstanding the foregoing, Company and the Company Parties at their sole discretion reserve the right to defend itself. Such election to defend by Company or any Company Party shall not in any way limit Contractor's responsibility to indemnify and hold harmless as provided herein.

SECTION 17. LIENS AND CLAIMS. Notwithstanding any other provision of this Agreement or Contract Document, no lien of any manner or type whatsoever may attach to any property, building, structure or other improvement of Company or any Infrastructure Owner. Contractor shall immediately cause any such improper lien to be released and discharged. Without limiting the generality of other provisions in this Agreement and other Contract Documents, Contractor shall, as and when requested by Company, furnish evidence satisfactory to Company that all amounts due for Work performed by Contractor in connection with performance of this Agreement and other Contract Documents have been paid, including union, health, welfare, and pension fund payments and payroll taxes. Such evidence shall be furnished in such form and manner as requested by Company, and all statements relative thereto shall, if required by Company, be made by sworn affidavit. Contractor shall furnish to Company releases of lien rights by persons who have furnished labor, material or other things in the performance of this Agreement and other Contract Documents, it being agreed that no payment shall be requested until such releases (subject only to conditions acceptable to Company) are furnished. Contractor shall deliver its Work free from all liens.

Without limiting the generality of other provisions in this Agreement and other Contract Documents, in the event a claim of lien or other encumbrance is filed against Company or Infrastructure Owner property by any of Contractor's employees, subcontractors or material suppliers, then in such event, Contractor agrees that within three (3) days after Company has notified Contractor of the filing of such claim of lien or other encumbrance, Contractor shall do whatever is necessary to cause the satisfaction or removal of said claim of lien or encumbrance, whether by transferring such claim or encumbrance to bond or otherwise. In the event such claim or encumbrance is not satisfied or removed within said three (3) day period, Contractor agrees that Company is authorized to pay such claim or encumbrance and to charge to Contractor the amount paid, plus reasonable attorney's fees and costs, from sums remaining due to Contractor. In the event the amount of the lien or encumbrance exceeds the amount due to Contractor, Contractor agrees to reimburse Company such amount, plus reasonable attorney's fees and costs, within ten (10) days after demand is made therefor.

SECTION 18. SITE CONDITIONS. Contractor has inspected the Work site and is familiar with the conditions of the Work site and agrees that no claim shall be made whatsoever for costs, damages or expenses as a result of the conditions of the Work site.

SECTION 19. HAZARDOUS MATERIALS. Contractor shall be responsible for the cleanup or any other cost, damage or liability arising from any toxic or hazardous materials generated or used by Contractor, its employees or subcontractors in the course of its performance of any Work under this Agreement and other Contract Documents. Contractor agrees in any event to cooperate fully with Company and to perform reasonable and customary investigations as to the existence of hazardous materials prior to the performance of any Work hereunder. Nothing in this Section shall be interpreted to require Company to perform any investigation as to the existence of hazardous materials.

SECTION 20. POSSESSION PRIOR TO COMPLETION. Whenever it may be useful or necessary for Company to do so, Company shall be permitted to occupy and/or use any portion of the Work which has been either partially or fully completed by Contractor before any final inspection and acceptance thereof by Company permitted by Contract Documents, but such use and/or occupation shall not relieve Contractor of its warranty or guarantee of said Work nor its

obligation to make good at its own expense any defect in the Work nor shall any use and/or occupation by Company constitute a waiver of any of Company's rights under this Agreement or any other Contract Document.

SECTION 21. OTHER CONTRACTS. It is understood and agreed that the Work provided for in this Agreement or any Work Order constitutes only a part of the Project being performed by Company and other contractors and suppliers. Contractor, therefore, agrees to perform the Work in such a manner that it will not injure, damage, or delay any other work performed by Company or any other contractor or supplier, and further agrees to pay or reimburse Company for any additional costs, damage or delay that may be caused to such other work of Company, contractor or suppliers by Contractor or by its subcontractors, agents or employees.

SECTION 22. APPROVALS. Contractor shall prepare and submit to Company all required sketches, specifications, models, calculations, shop drawings, submittal data, catalogs, and samples of materials to be incorporated into the Work, or any other documents that are necessary for satisfactory performance of the Work. Such items will be submitted as and when required by Company. Approval of such items by Company will not relieve Contractor of its obligations to perform the Work in strict accordance with the Contract Documents. All drawings, sketches, specifications, models, calculations, submittal data, catalogs and samples of materials of Contractor shall be submitted to Company for its written approval.

All documents and samples submitted by Contractor and approved by Company, including, but not limited to sketches, drawings, specifications, models, calculations, submittal data, catalogs and samples of materials to be incorporated into the Work, are instruments of the Work and are the property of Company or a Company affiliate.

SECTION 23. INDEPENDENT CONTRACTOR. Contractor and Company, expressly intending that no employment, agency, partnership or joint venture relationship is created by this Agreement or other Contract Documents, hereby agree as follows:

- (a) Contractor shall act at all times as an independent contractor hereunder;
- (b) Neither Contractor nor anyone employed by or acting on behalf of Contractor shall ever be or be construed as an employee or agent of Company nor shall Contractor or any such person represent themselves to be an employee or agent of Company and Company shall not be liable for, and Contractor shall indemnify, defend and hold Company harmless against, employment or withholding taxes respecting Contractor or any employee of Contractor; and
- (c) Contractor shall take all steps to ensure that Contractor and Contractor's employees are treated as independent contractors of Company; and
- (d) To the fullest extent permitted by law, Contractor, for Contractor and for anyone claiming through Contractor, waives any and all rights to any consideration, compensation or benefits, except as expressly provided for herein; and
- (e) Company shall have the right to conduct inspections and reviews of, and determine the satisfactory performance of, the Work; and
- (f) Contractor shall provide the tools, materials and equipment needed to perform the Work; and
- (g) Contractor shall not make any commitment or incur any charge or expense in the name of Company without prior written approval of Company; and
- (h) Contractor shall be free to contract with and provide services to parties other than Company during the term hereof.

SECTION 24. COMPLIANCE WITH LAW. Contractor agrees to obtain and pay for all occupational licenses and any permits required of Contractors to do work in the jurisdictional area of the Work site, licenses and official inspections necessary for the Work, and to comply with all applicable laws, ordinances, rules, regulations and orders whether federal, state, local or otherwise, bearing on the Work and performance thereof. Company shall supply agreements and authorizations to develop the property at no cost to Contractor. Contractor acknowledges that it is knowledgeable and aware of all existing and potential restrictions and/or conditions, including but not limited to noise abatement and traffic control, which may limit or restrict construction methods and/or hours of Work.

Contractor acknowledges that Contractor may perform Work in connection with the Company's contracts with governmental entities. Accordingly, Contractor represents and agrees that Contractor and its subcontractors will not and do not knowingly employ or contract with unauthorized aliens and that Contractor has enrolled, or will enroll and participate in the E-Verify Program. Furthermore, Contractor represents that neither Contractor nor any of its employees or subcontractors have been suspended or debarred from performing State and Federal work and that

Contractor will inform Company immediately if Contractor or any of its employees or subcontractors are suspended or debarred. Suspension or debarment may lead to immediate removal or Contractor or its subcontractor(s) from Work and termination of this Agreement, any Contract Document and/or any other agreement between Contractor and the Company or an affiliate of the Company.

SECTION 25. SAFETY. Contractor shall take all reasonable safety precautions pertaining to the Work and the conduct thereof. Without limiting the generality of the foregoing, Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders, whether federal, state, local or otherwise, including, but not limited to, the National Electrical Safety Code and occupational safety and health legislation and, in addition, the safety measures called for by Company and the Infrastructure Owners. Company shall have access to the Contractors existing safety program. In the event of unsafe acts performed at the Project site by the Contractor, Company shall have the right to halt the Work until an investigation can be completed and if necessary corrective action taken by the Contractor.

SECTION 26. PROTECTION OF WORK. Contractor specifically agrees that it is responsible for the protection of the Work until final completion and acceptance thereof by Company and Contractor will make good or replace, at no expense to Company, any damage to the Work which occurs prior to such final completion and acceptance.

SECTION 27. DEFAULT

- (a) In the event Contractor fails to observe or perform, or becomes unable to observe or perform, in any material respect any covenant, warranty or guarantee required to be observed or performed under the Contract Documents or any agreement with an affiliate of Company, including, but not limited to, performing the Work in accordance with the Project Schedule, or payment for all materials furnished and Work and labor performed under the Contract Documents, then Company, by contract or otherwise, may without prejudice to any other right or remedy, immediately terminate this Agreement, other Contract Documents, and/or affiliate agreement for default and/or take over and complete the performance of the Contract Documents directly, by contract or otherwise. If Company takes over the Work or terminates this Agreement, other Contract Documents, and/or affiliate agreement pursuant to this section, it is specifically agreed that Company may, in addition to any other rights it may have, take possession of the premises, equipment, and all materials at the Work site or Contractor's facilities for the purpose of completing the Work covered by the Contract Documents, and Contractor shall be liable for any additional costs incurred by Company to complete the Work.
- (b) Contractor acknowledges that if Contractor becomes insolvent, or institutes or has instituted against it bankruptcy proceedings, or makes a general assignment for the benefit of creditors, or if a receiver is appointed for the benefit of its creditors, or if a receiver is appointed on account of its insolvency, such event or events could impair or frustrate Contractor's performance of the Contract Documents. Accordingly, Contractor agrees that upon occurrence of any such event, Company shall be entitled to request of Contractor or its receiver or court-appointed successor adequate assurances of future performance. Contractor further agrees that pending receipt of adequate assurances of performance and actual performance in accordance therewith, Company shall be entitled to take over the Work pursuant to the provisions of Section 27 (a) above without further notice to Contractor.

SECTION 28. DISPUTE RESOLUTION PROCESS.

- (a) Contractor agrees to continue performance of the Work and shall proceed in accordance with the directives of Company in the event of a dispute or controversy, provided that Company shall continue to make payments as provided herein for that part of the Work which is not in dispute. Contractor's failure to so proceed shall constitute a material breach of this Agreement, regardless of the ultimate decision on the dispute, it being understood and agreed that any controversy between the parties shall not be deemed a basis to delay or suspend the Work, unless directed otherwise by Company.
- (b) The parties plan to use due diligence and use their reasonable best efforts and work together to implement the Agreement and other Contract Documents and amicably resolve their differences. However, the parties understand that issues and conflicts may arise where they reach an impasse. The parties acknowledge their desire to reach a working solution by using good faith attempts to resolve such issues and conflicts. Any claim or controversy related to or arising out of the Agreement or any other Contract Document, whether in contract or in tort ("Dispute"), will be resolved on a confidential basis, according to the following process, which either party may start by delivering to the other party a written notice describing the Dispute and the amount involved ("Demand").

After receipt of a Demand, authorized representatives of the parties will meet at a mutually agreed upon time and place to try to resolve the Dispute by negotiation. If the Dispute remains unresolved thirty (30) days after receipt of the Demand, either party may start binding arbitration in Evansville, Indiana. The parties will use their reasonable best efforts to conclude the arbitration as expeditiously as possible and, if possible, within sixty (60) days following commencement of any arbitration proceeding. The arbitration will be before a three-arbitrator panel. Each party will each select one partial arbitrator, in its sole discretion, to represent its interest at its sole expense. The partial arbitrator may be an employee, director, officer or principal of the party. The final arbitrator, who shall be impartial, will be selected by the two partial arbitrators. In the event the two partial arbitrators shall fail to select an impartial arbitrator, either party may apply to a court of law to have a judge select an impartial arbitrator. The primary objective of the impartial arbitrator is to endeavor to get all three arbitrators to agree on a final disposition of the Dispute. If this cannot be attained, then the three arbitrators by majority ruling may adopt such procedures as they deem efficient and appropriate for making the determinations submitted to them for adjudication. The parties agree that no court shall have the power to interfere with the proceedings and judgments of the arbitrators other than to enforce the final determination of the arbitrators. No statements by, or communications between, the parties during negotiation or mediation, or both, will be admissible for any purpose in arbitration. Each party shall each bear its internal expenses and its attorney's fees and expenses, and jointly share the cost of the impartial arbitrator. No interest shall be applied to any arbitration award. It is the intent of the parties to first allow the arbitrators an opportunity to meet and negotiate a unanimous decision. However, if a unanimous agreement cannot be reached through negotiation, then the decision(s) of a majority of the arbitrators shall be final and binding on the parties.

Notwithstanding the foregoing, either party hereto may resort to a court by applying for interim relief, without the requirement to post a bond or security, if such party reasonably determines that such relief is necessary because claims for money are not adequate to prevent irreparable injury to it or to a third party. The venue for any such proceeding shall be in Evansville, Indiana.

The powers of the arbitrators are to interpret and apply the terms of the Agreement and other Contract Documents as negotiated by the parties. The arbitrators shall have no power to add to, subtract from or modify the terms of the Agreement or other Contract Documents as negotiated by the parties.

SECTION 29. THIRD PARTY BENEFICIARIES. The provisions of the Contract Documents and the rights and obligations created thereunder are intended for the sole benefit of Contractor and Company, and except as expressly stated in the Contract Documents, do not create any right, claim or benefit on the part of any person not a party to the Contract Documents.

SECTION 30. TAXES. Contractor shall pay all taxes, licenses and fees of every nature which may be imposed or charged by any governmental authority upon the labor, materials or other things used in the performance of the Work or in connection with this Agreement and other Contract Documents between Company and Contractor. Company reserves the right to request all data establishing payment satisfaction of said obligations.

SECTION 31. FURNISHED MATERIAL. In the event that Company, or their suppliers or other contractors, elect to furnish material to Contractor for use in connection with this Agreement or other Contract Document, unless otherwise provided in the Scope of Work, then the cost of handling, storing and installing such materials shall be considered as included in the Work Order Price. Contractor shall be and become responsible for all such materials upon delivery to Contractor, whether delivered F.O.B. point of origin or F.O.B. job site (except that any transportation charges paid by Contractor, in the event of delivery F.O.B. point of origin, shall be reimbursed to Contractor) and shall pay all demurrage and storage charges which accrue after delivery. Furnished material lost or damaged after delivery, from any cause whatsoever, shall be replaced by or at the expense of Contractor. Contractor shall, within twenty-four (24) hours after delivery of furnished material, inspect the same and immediately report, in writing to Company, any shortages, damages or defects therein which are reasonably observable by proper inspection. Failure to inspect or report as specified shall be treated as unqualified acceptance by Contractor of the materials involved.

SECTION 32. EMPLOYEE QUALIFICATION. All Contractor employees shall have the skill and experience required to perform the Work assigned to them. If any person employed by Contractor or any of its subcontractors is performing the Work in an improper, uncooperative or incompetent manner which affects the progress of the Work, then at the written request of Company, Contractor shall immediately remove such person and such person shall not be re-employed on the Project without the prior written approval of Company.

SECTION 33. ASSIGNMENT AND SUBCONTRACTING. Contractor shall obtain the written consent of Company prior to assigning, in whole or in part, any Contract Document or any of the Work. Contractor may subcontract the Work or any portion thereof to subcontractors pre-approved in writing by Company; provided that, Contractor represents to Company that all its labor, suppliers, and other creditors for the Work will be paid and Contractor will require all subcontractors to be bound to all terms included in this Agreement and other Contract Documents (flow down) as conditions of performing any portion of the Work. Any subcontract shall not relieve Contractor of its duties or obligations set forth in any Contract Documents. Company expressly reserves the right to examine any Contractor related agreements, including any agreements Contractor has with subcontractors, for inclusion of the terms and conditions of this Agreement and other Contract Documents. Notwithstanding, failure to examine any such agreement, including any subcontractor agreement, shall not be construed as a waiver or relinquishment of this condition or any other rights or remedies available to Company.

SECTION 34. CONFIDENTIALITY. All information provided to Contractor by Company or any of its affiliates for the performance of Work or in connection with this Agreement and other Contract Documents will be treated as confidential and proprietary by Contractor and not disclosed to any third party (including subcontractors and suppliers) without the express written consent of Company. Contractor will exercise the same degree of care to protect Company's confidential and proprietary information as it does to protect Contractor's own proprietary and confidential information but no event less than reasonable care. Contractor will not use Company confidential and proprietary information for any purpose other than to perform the Work. Notwithstanding the foregoing, Contractor will not be responsible for the disclosure of any Company information if such information: (i) is or becomes lawfully available to the public from a source other than Contractor before or during the period of this Agreement; (ii) is released in writing by Company without restrictions; (iii) is lawfully obtained by Contractor from a third party or parties without obligation of confidentiality; (iv) is lawfully known by Contractor prior to such disclosure; or (v) is at any time lawfully developed by Contractor completely independently of any such disclosure or disclosures from Company. In addition, Contractor will not be liable for the disclosure of any proprietary and confidential information which it receives from Company under this Agreement or other Contract Document pursuant to judicial action or decree, or pursuant to any requirement of any government or any agency or department thereof having jurisdiction over Contractor, provided that in the reasonable opinion of counsel of Contractor such disclosure is required, and provided further that Contractor to the extent reasonably practical shall have given Company notice prior to such disclosure. This provision shall survive termination of the Agreement. Upon written request of Company, Contractor will return or destroy all Company confidential and proprietary information and will cause an officer of Contractor to certify the return or destruction of same.

SECTION 35. NON-SOLICITATION. Contractor agrees not to directly solicit the business, contractors or employees of Company or any affiliate of Company during the term of this Agreement and for a one (1) year period thereafter.

SECTION 36. ADVERTISE/PUBLISH. Contractor shall not publish or use advertising or disseminate other communication that utilizes Company's or its affiliates' name or logo without the prior written consent from Company's Legal Department.

SECTION 37. COMPANY'S REPRESENTATIVE. The words "Company's representative" or an authorized representative of Company as used herein include Company's project manager or any person or entity appointed by Company in writing to supervise the work of Company on behalf of Company.

SECTION 38. ENTIRE AGREEMENT. This Agreement, together with all other Contract Documents, embodies the entire agreement and understanding between Contractor and Company with respect to the subject matter of this Agreement and the other Contract Documents and supersedes all prior oral or written agreements and understandings relating to the subject matter of the Contract Documents. No statement, representation, warranty, covenant or agreement of any kind not expressly set forth in the Contract Documents will affect, or be used to interpret, change or restrict, the express terms and provisions of the Contract Documents. Company assumes no responsibility for any understandings or representations made by any of its officers or agents prior to the execution of this Agreement, unless such understandings or representations by Company are expressly stated in this Agreement or other Contract Document.

SECTION 39. SEVERABILITY AND WAIVER. The illegality or unenforceability of any provision of this Agreement or of any other Contract Document shall not affect the legality or enforceability of any other provision or portion hereof or thereof. If any provision or portion of this Agreement or of any other Contract Document is deemed illegal or unenforceable for any reason by a court of competent jurisdiction, there shall be deemed to be made such minimum change in such provision or portion as is necessary to make it valid and enforceable as so modified. This Agreement and any other Contract Document is voidable by Company if modified by Contractor without the written or initialed

consent of an authorized officer of Contractor. The failure of either party to insist, in any one or more instances, upon the performance of any of the terms, covenants or conditions of this Agreement or any other Contract Document, or to exercise any right herein, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right as respects further performance.

SECTION 40. NO CONSTRUCTION AGAINST DRAFTER. The parties acknowledge that the Contract Documents and all the terms and conditions contained therein have been fully reviewed and negotiated by the parties and that each party has been represented by legal counsel. Having acknowledged the foregoing, the parties agree that any principle of construction or rule of law that provides that, in the event of any inconsistency or ambiguity, an agreement shall be construed against the drafter of the agreement shall have no application to the terms and conditions of the Contract Documents.

SECTION 41. CAPTIONS. The captions at the beginning of each Section of this Agreement and other Contract Documents are for convenience only and are to be given no weight in construing the provisions of this Agreement and other Contract Documents.

SECTION 42. NOTICES. All notices shall be in writing addressed to the parties at the addresses set out in this Agreement unless subsequently changed by written notice to the other party and shall be considered as delivered on the third business day after the date of mailing if sent certified mail or when received in all other cases, including courier, telecopy or other printed electronic medium, or personal delivery. With respect to notices sent to the Company, copies shall be sent to: MetroNet Technologies, LLC, 11880 College Boulevard, Suite 100, Overland Park, KS 66210, Attn: Legal Department.

SECTION 43. GOVERNING LAW. This Agreement and other Contract Documents shall be governed by the law of the State of Indiana.

SECTION 44. COUNTERPARTS; ELECTRONIC SIGNATURES. The Contract Documents may be executed in two or more counterparts, each of which shall constitute an original, but all of which shall constitute one and the same instrument. In the event that any signature is delivered by facsimile or by email of a ".pdf" format data file, such signature shall create a valid and binding obligation of such party with the same force and effect as if such facsimile or ".pdf" signature page were an original thereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their proper officers or duly authorized agents.

LYT Communications, LLC

By:

Matthew Roy (Jan 7, 2026 08:54:00 CST)

Name:

Matthew Roy

Title:

Owner

Date:

01/07/26

METRONET TECHNOLOGIES, LLC

By:

Daniel Shoop (Jan 16, 2026 07:18:08 EST)

Name:

Daniel Shoop

Title:

Director of Contractor Relations

Date:

01/16/26

Katlyn Hattabrough

Katlyn Hattabrough (Jan 7, 2026 11:04:11 EST)

Authorization Verification

ATTACHMENT A

SAMPLE WORK ORDER

Agreement Number: **MCA2190**

PO/WO Number:

Project Number: _____

Contractor

Name:

Address:

City, State, Zip: _____

Pursuant to Section 1 of the Master Contractor Agreement executed by between MetroNet Technologies, LLC (hereinafter "Company") and the Contractor, set forth below in this Work Order is the Scope of Work, Project Schedule and Work Order Price:

Scope of Work:

- 1) Detailed Scope of Work:
 - 2) General Requirements:
 - a. All work described herein shall be performed in strict accordance with the Contract Documents and construction drawings produced by Company as part of this Work Order, and all applicable laws, ordinances, rules and regulations. The aforementioned laws, ordinances, rules and regulations are hereby incorporated and become a part of the Contract Documents as though they were written herein.
 - b. Contractor has the responsibility to test fiber optic cable and equipment before accepting it from Company to verify the integrity and quality of the fiber and equipment. If Contractor does not notify Company in writing within five (5) days of Contractors receipt of the fiber optic cable or equipment, such fiber and equipment shall be deemed accepted by Contractor and of good integrity and quality.
 - c. Materials provided by Contractor shall comply with specifications and requirements set forth in the Contract Documents.
 - d. Contractor shall keep on the Project site during the progress of the Work a competent representative, acceptable to Company, who shall be the authorized agent of the Contractor. Directions and communications to such representative from Company in connection with the Work shall be treated as directions and communications to Contractor.
 - e. Contractor shall immediately notify Company if hazardous or contaminated materials are uncovered, encountered, revealed, or introduced at the Project site. When corrective action or remediation of hazardous or contaminated material is made necessary or is caused by Contractor's fault or negligence, Contractor shall be responsible for all costs associated with the contamination and any subsequent cleanup cost.
 - f. Company shall have access to the Contractors existing safety program. In the event of unsafe acts performed at the Project site by the Contractor, Company shall have the right to halt the Work until an investigation can be completed and if necessary corrective action taken by the Contractor.
 - 3) Company Supplied Materials:
 - 4) Construction drawing and Route Diagram:

Project Schedule: The project shall be completed no later than _____ calendar days following receipt of a formal Notice to Proceed.

Work Order Price:

Contractor agrees to perform all work in accordance with the Contract Documents including but not limited to all the plans, drawings, specifications, documentation, attachments, and Exhibits of this Work Order for the price(s) as stated below, which includes but is not limited to cost for all supervision, labor, non-Company supplied materials, tools, equipment, transportation, insurance, bond, restoration, consumables, safety supplies, miscellaneous materials and all other costs necessary to complete the Work.

The Parties to this Work Order agree that Contractor shall be compensated for Work fully performed on a unit rate, "not to exceed" basis unless a change has been approved in writing by Company's project manager. As stipulated in Section 5 of the Agreement, Company may at any time by written order of Company's authorized representative, without notice to Contractor's sureties, and without nullifying this Work Order or any of the Contract Documents, make changes in, additions to and deletions from the Work to be performed under this Work Order and Contractor shall promptly proceed with the performance of the Contract Documents as so changed. The rate set forth below is bundled rate, which includes but is not limited to cost for all supervision, labor, materials, tools, equipment, transportation, insurance, consumables, safety supplies and all other costs necessary to complete the Services.

Insert Unit Rate, Description of Services, and Not To Exceed Amount

Bonding: Performance and Payment Bond Required (Yes or No) _____

Retainage: In the event retainage is not withheld from Contractors' partial payments, Contractor agrees that no payment will be processed until the Project has been completed and other requirements stipulated in the Agreement and Contract Documents have been satisfied.

Retainage Withheld on Partial Payments (Yes or No)

Retainage Percentage _____

IN WITNESS WHEREOF, the parties hereto have executed this Work Order by their duly authorized representatives this _____ day of _____ 2021.

LYT Communications, LLC

MetroNet Technologies, LLC.

By: _____
(Signature)

By: _____
(Signature)

Name: _____
Title: _____
Date: _____

Name: _____
Title: _____
Date: _____

EXHIBIT A

EXHIBIT A

SUPPLEMENTAL CONDITIONS

Supplemental Condition regarding Locates.

For efficiency purposes, Company may perform data entry of tickets for locates through the online ticket entry system of Indiana 811, Kentucky 811, JULIE and/or other similar system, as applicable. Contractor authorizes Company to use Contractor's login credentials to access and enter such tickets into the system. Contractor understands and agrees that Company's assistance will be limited to data entry and that Contractor will not be required to pay Company for performing this data entry. Company's performance of data entry will not reduce Contractor's responsibility. Contractor understands that, before digging, Contractor shall be responsible to (1) notify Company of the locations where Contractor intends to dig, (2) confirm that a locate ticket has been provided for the digging location, (3) confirm that the locate ticket has not expired, and (4) investigate if a location does not have locate markings or if locate markings appear inadequate. Contractor will defend, indemnify and hold Company harmless for any liability arising out of data entry into the locate system, the locate tickets, and the locate markings (including misplacement of locates, insufficiency of locates and missing locates). Upon Company's request, Contractor will provide written confirmation of this authorization to Indiana 811, Kentucky 811, JULIE and/or other similar system, as applicable. Contractor authorizes Company to provide these Supplemental Conditions to Indiana 811, Kentucky 811, JULIE, and/or other similar system as valid authorization to use Contractor's credentials.

EXHIBIT B

CONSTRUCTION SPECIFICATIONS

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GENERAL CONDITIONS

1.1. DEFINITIONS

- 1.1.1. RIGHT-OF-WAY (ROW) shall mean the surface, the areas below the surface and the air space above the surface of the entire right-of-way granted by permits, licenses, or easements.
- 1.1.2. Jurisdictional Authority or Jurisdictional Authorities shall mean federal, state, local, or foreign government, any political subdivision or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, body or entity. Entities with Jurisdictional Authorities shall include the above referenced entities and shall include, but are not limited to, the following (herein after referred to as "Jurisdictional Authorities"):
 - 1.1.2.1. AASHTO – American Association of State Highway Transportation Officials
 - 1.1.2.2. ANSI – American National Standards Institute
 - 1.1.2.3. ASTM – American Society for Testing of Materials
 - 1.1.2.4. DOT – State or County Department of Transportation, or similar
 - 1.1.2.5. DPW – City or County Department of Public Works, or similar

- 1.1.2.6. NEC – National Electrical Code
 - 1.1.2.7. NEMA – National Electric Manufacturer's Association
 - 1.1.2.8. NESC – National Electrical Safety Code
 - 1.1.2.9. OSHA – Occupational Safety and Health Act
 - 1.1.2.10. RR-Railroads
 - 1.1.2.11. DNR-Department of Natural Resources
 - 1.1.2.12. ACE-Army Corp. of Engineers
 - 1.1.3. SUBSTANTIAL COMPLETION shall mean the date when the complete scope of work from starting point to end points including testing or proofing of the Work is completed to a point that would allow Company full availability and utilization for the entire system.
 - 1.1.4. ACCEPTANCE OR COMPLETION shall mean that Contractor has completed all work contained in, and in accordance with, the Contracts Documents and when Contractor has corrected all deficiencies to the satisfaction of Company and the Jurisdictional Authorities and Company has signed a completion letter for the specific work in question.
 - 1.1.5. CONTRACT DRAWINGS shall mean all graphic and pictorial descriptions of the Work that must be accomplished in accordance with the Construction Documents showing the design, location, and dimensions of the Work including plans and typical details.
- 1.2. GENERAL REQUIREMENTS
- 1.2.1. All work described herein shall be performed in strict accordance with the Contract Documents, Construction Drawings, construction typicals, specifications, and all applicable ordinances, rules, laws and regulations of all Jurisdictional Authorities. The aforementioned laws, ordinances, rules and regulations are hereby incorporated into and become a part of the Contract Documents as though they were written herein. **NOT WITH-STANDING ANY OTHER PROVISION OF ANY CONTRACT DOCUMENT, IF A JURISDICTION OF AUTHORITY REQUIRES COMPLIANCE WITH AN ORDINANCE, RULE, LAW OR REGULATION THAT MANDATES OR IMPOSES REQUIREMENTS MORE STRINGENT THAN THE REQUIREMENTS STATED IN ANY CONTRACT DOCUMENT, CONTRACTOR SHALL COMPLY WITH SUCH ORDINANCE, RULE LAW OR REGULATION EVEN IF COMPLIANCE WITH SUCH REQUIREMENTS IS NOT EXPRESSLY MENTIONED.**
 - 1.2.2. Contractor is required to excavate test pits (potholes) to verify sub- surface structures and locations of existing utilities prior to commencing work in the area to prevent damage to such existing facilities. All areas affected by the Work shall be restored to original or better condition.
 - 1.2.3. Supplied engineering plans are for informational purposes only. The Contractor must inspect the routes and verify actual field conditions.
 - 1.2.4. No work shall commence until Company has issued Contractor a **written Notice to Proceed**.
 - 1.2.5. No work shall commence until Contractor has provided Company with certification of insurance compliant with the Contract insurance requirements. Contractor shall be held responsible that their subcontractors provide a certificate of insurance per the Contract insurance requirements and submit such certification to Company prior to the Subcontractor beginning work.
 - 1.2.6. Performance and Payment Bonds will only be required if specifically identified in a Work Order, or as required by a governing agency. **If Bonding is a requirement in a Work Order, no work shall commence on such Work Order until Contractor has provided Company with a 100% performance and payment bond in the amount of the total Work Order price on the form as supplied by Company.**
 - 1.2.7. Contractor has full responsibility for the alignment and any required stake out of the system running line in accordance with Jurisdictional Authorities and as shown in the Contract Documents.
 - 1.2.8. Contractor may make field adjustments to the running line ONLY with prior written approval from qualified Company representative and Jurisdictional Authorities, with any such adjustments

being shown on the red-line drawings. Contractor is encouraged to suggest alternate installation methods in an effort to avoid excessive traffic control, increase productivity, and/or provide additional protection of all associated patrons and construction personnel.

- 1.2.9. Contractor shall ensure that the work sites are accessible for work including but not limited to preventing vehicles from parking on site, removing snow, pumping manholes, and scheduling work to avoid delays by road construction, repair, or other outside party projects.
- 1.2.10. Contractor's employees shall limit their activities to the construction site and governing rights-of-way. Trespassing in or on private property or other locations outside the rights-of-way shall not be permitted.
- 1.2.11. Contractor shall have the responsibility to make their own investigation as to the availability of public or private roads and of clearances, restrictions, bridge load limits, bond requirements, permits and other limitations that may affect Contractor's transportation for equipment, materials and manpower ingress and egress to the job site.
- 1.2.12. Contractor shall not begin any extra work without the written authorization of Company's Project Manager.
- 1.2.13. Contractor shall adhere to the specifications imposed by the owner of any facilities/ property upon which Contractor is performing work.
- 1.2.14. Contractor shall ensure that all of their activities are performed within the approved utility ROW – specifically avoiding any encroachment on private Rights of Way. This includes all equipment and vehicle movement, setup or operation as well as personnel and materials.

1.3. MATERIALS AND SERVICES

- 1.3.1. Company shall supply the materials as specified in Exhibit A (Scope of Work). Any additional material not specified as Company supplied material shall be the responsibility of the Contractor.
- 1.3.2. Company reserves the right to direct ship any/all Company supplied materials to Contractor. Contractor shall forward via (email or facsimile) legible copies of the packing list, bill of lading, and any shipping discrepancies to Company's office with the original documents.
- 1.3.3. Contractor shall be solely responsible for all materials upon and after the receipt from Company until final completion and acceptance of the Work.
- 1.3.4. Unless otherwise agreed in a Work Order, Contractor shall pick up and sign for materials supplied by Company, which are not directly shipped to the Contractor, at the Company designated storage facility. It is the Contractor's responsibility to make arrangements to pick up materials from the Company designated storage facility at such times as Company establishes. Company requires a minimum of twenty-four (24) hour notice prior to all material pick-ups. The Contractor shall remove all associated packing crates and shipping materials from the Company designated storage facility when removing materials.
- 1.3.5. Contractor shall maintain an inventory log of all Company supplied materials for Company's periodic inspection and for Contractor's weekly submittal to Company. Upon completion of the Work, excess Company furnished material shall be returned by the Contractor at their sole cost to Company designated storage facility or as directed by Company.
- 1.3.6. Contractor shall return all empty returnable reels to the approved Company designated storage facility or as directed by Company in a timely manner.
- 1.3.7. Contractor is responsible for all disposals of scrap, waste material and non-returnable reels. Job site shall be maintained in a safe and organized condition at all times. No scrap materials or waste is to be disposed of at any of Company's facilities (unless approved by the Company Project Manager), nor at the worksite or Right-of-Way (R.O.W).
- 1.3.8. The Contractor shall provide all other items (not provided by Company) including but not limited to restoration materials, select fill, concrete, asphalt, consumables, equipment, tools, grass seed, vegetation, straw, aggregates, rip rap, erosion control materials, foam, duct sealant, jet line, attachment hardware and all other materials and incidentals necessary for a complete installation. Materials provided by Contractor shall comply with specifications and requirements provided by Company and other Jurisdictional Authorities.

- 1.3.9. Contractor shall not store any materials on the work site.
 - 1.3.10. Contractor shall not be entitled to extensions of time for any delays caused by the delivery of Contractor furnished material.
 - 1.3.11. Contractor is responsible for warranty on all Contractor supplied materials conforming to warranty requirements of the Contract Documents. Any warranties that extend for greater periods than contractually obligated shall be passed along to Company.
 - 1.3.12. The specific responsibilities of the Contractor relating to: acceptance, inventory, handling, and requisitions of Company supplied materials are referenced in the Contractor Material Plan.
 - 1.3.13. Company reserves the right, but has no obligation, to review, accept, or reject any Contractor furnished material.
- 1.4. PERMITS
- 1.4.1. Company shall secure the required road opening permits, environmental permits, and right-of-way agreements and/or easements to allow for the placement of the duct/conduit system and aerial fiber optic cable plant. Any additional permit requirements, agreements or easements (as a result of Contractor value engineering) shall be at Contractor's cost. All other permits or authorizations required are the responsibility of the Contractor. Delays in the prosecution of work caused by Company's acquisition of permits shall be excusable but not compensable.
 - 1.4.2. Prior to the start of work, Contractor shall obtain and pay for all work permits and all other permits required for Contractor's construction operations including but not limited to contractor's licenses, construction bonds, transportation, traffic control, equipment, labor and or other general permits. Delays in Contractor acquiring work permits shall not be the basis for an extension of time to the work schedule.
 - 1.4.3. Contractor shall be responsible for all notices required by the Jurisdictional Authorities and Company.
 - 1.4.4. Contractor shall be responsible to maintain a good standing relationship with the Jurisdictional Authorities that have issued permits or otherwise have jurisdiction over the project. Relinquishment of any permits caused by Contractors actions shall be cause for default by the Contractor.
 - 1.4.5. All Contractors are responsible for having a copy of the issued permit and available property plats on site during construction.
- 1.5. PROTECTION OF RIGHT-OF-WAY
- 1.5.1. Right-of-way lines provided on the Construction Documents are for informational purposes only. Contractor shall be responsible to verify the exact locations of right-of-way lines during prosecution of the Work. Contractor shall be responsible for all costs incurred as a result of leaving the proposed right-of-way and/or encroaching onto property, including repair of any damage to the right-of-way, sidewalks, roadways, utilities, or any other public or private property damaged by Contractor's forces.
 - 1.5.2. Contractor shall be responsible for the safety and protection of the public and of public and private property on and around the construction sites. Contractor shall notify Company immediately of any injury to persons or damage to any public or private properties on or around construction sites.
 - 1.5.3. Contractor shall protect all Contractor installed materials until final completion and Company acceptance.
 - 1.5.4. The Contractor shall be responsible for all damage to the infrastructure in, along, and adjacent to the ROW, such as damage to sidewalks, curbs, drainage grates; adjacent private property etc. caused as a result of Contractor's installation or other activities. All the repair and replacement costs (due to damaged areas) are the Contractors sole responsibility. In the event damage is irreparable, Contractor shall remove and replace such items at no additional cost to Company.

- 1.5.5. Existing fences on the right-of-way shall be removed by Contractor only upon written approval by Company. Contractor shall remove temporary fencing erected by Contractor as soon as practical.
 - 1.5.6. Contractor shall abide by any and all applicable rules and regulations of the Jurisdictional Authorities concerning working on the right-of-way. Any penalties and/or fines for violations incurred while working on or accessing the right-of-way shall be the sole responsibility of Contractor.
 - 1.5.7. Contractor shall verify all restoration or replacement requirements concerning working on the right-of-way with the Jurisdictional Authorities. Contractor shall be solely responsible for abiding by the requirements set forth by the Jurisdictional Authorities.
 - 1.5.8. Contractor shall protect the right-of-way and minimize damage from the construction operations. Contractor shall be governed by the Contract Documents and the Jurisdictional Authorities' regulations for construction practices and crew behavior in and around environmentally sensitive areas and cultural resource sites.
 - 1.5.9. Contractor shall keep the premises where the work is being performed in a neat, clean and orderly condition. Contractor shall remove all of its tools and equipment from the premises on a daily basis, and any debris shall be removed and disposed of by Contractor in an appropriate manner. All debris and waste materials removed shall become the property of the Contractor.
 - 1.5.10. The right-of-way shall be restored to original or better condition within forty-eight (48) hours following conduit/duct placement operations or such earlier time as Company may require.
 - 1.5.11. All rock and debris brought to the surface during construction operations shall be removed from the right-of-way and disposed of by the contractor in accordance with Company instructions and the Jurisdictional Authority's regulations.
 - 1.5.12. All terraces that were removed or damaged shall be replaced to original or better condition following the placing operations at Contractor's cost.
 - 1.5.13. Removed or damaged landscaping, lawns, shrubs, vegetation, and hedges shall be replaced with approved products and restored to original or better condition at Contractor's expense. Lawns shall be repaired by re-sodding with the same grasses.
 - 1.5.14. The Contractor shall promptly repair or replace any other property damaged during construction at Contractor's cost.
 - 1.5.15. Waste material including, but not limited to, refuse, garbage, sanitary wastes, oil and other petroleum products shall be removed from the construction areas and be properly disposed of by Contractor. Waste materials removed from the construction areas shall be dumped at an approved dumpsite. It shall be the responsibility of the Contractor to make any necessary arrangements with private parties and with County officials pertinent to locations and regulations of such dumping. Any fees for disposal of materials shall be the responsibility of the Contractor.
- 1.6. SUBMITTAL REQUIREMENTS**
- 1.6.1. RED-LINE/AS-BUILT DRAWINGS**
 - 1.6.1.1. Contractor shall create, maintain and provide red-line drawings during the course of construction to clearly and correctly depict the true location of installed work. These red-lines shall be updated in conjunction with Work progress.
 - 1.6.1.2. On a weekly basis, or more frequently if required by the local project team, Contractor shall forward these red-line drawings to Company or Company's Representatives for review and approval.
 - 1.6.1.3. Copies of the red-lines shall be kept at the job site for Company's review.
 - 1.6.1.4. Under no circumstances shall Contractor proceed with Work until acceptable redline drawings are received by Company for the previous week's work.

- 1.6.1.5. Should a Work shutdown occur due to the Contractor's inability to submit timely redlines, this will not become a basis for time extension nor shall it be grounds for additional compensation to complete the Work.
- 1.6.1.6. The purpose of the red-line drawings shall be to indicate any variations in construction from the Construction Documents included with the Contract Documents.
- 1.6.1.7. When required by permitting authorities, Red-line drawings shall include, but are not limited to, depth of conduit, conduit installation offset distances from landmarks such as milepost, edge of pavement, bridges, underpasses, handholes, manholes, or other landmarks.
- 1.6.1.8. When required by permitting authorities, Contractor shall indicate an offset from these landmarks. Where long stretches occur, offset distances shall be taken at intervals of no more than fifty feet (50'), unless governed more stringently by Jurisdictional Authorities or otherwise instructed by Company. In areas where the proposed route experiences significant bends, offsets and station identifications shall be taken at the start, midpoint and stop of each transition.
- 1.6.1.9. When required by permitting authorities, the station location of all crossed utilities shall be identified, while also indicating the type, diameter and depth of cover, as well as clearance of those other utilities.
- 1.6.1.10. When required by permitting authorities or building owners, Red-line drawings shall indicate the depth and/or height of the installation relative to finish grade, changes, and notes referencing any special construction such as irregular depth, height, steel plating, insulation barriers, concrete encasement, etc. Depth and/or height shall be indicated wherever offsets are required.
- 1.6.1.11. Contractor shall show wall to wall distances between manholes/handholes/buildings/structures on the red-line drawings as determined by the mule tape measurements.
- 1.6.1.12. In joint trench construction projects the red-line drawings shall include the total number of ducts, color, and size(s) of Company duct, and total number, color, and size of all other third party ducts.
- 1.6.1.13. Buried cable red-line drawings shall be completed by Contractor. Red line drawings shall include:
 - 1.6.1.13.1. At EVERY manhole and handhole, verification of the occupied duct (e.g. Orange duct entering, Orange duct leaving).
 - 1.6.1.13.2. At EVERY manhole and handhole, Contractor must record sequential footage markings at the manhole or handhole entry and exit points for each cable. There should be two separate footages at each location with the footage recorded being correctly labeled as to its direction and location (i.e. 5000' – North cable at Manhole POE; 3000' – South cable at Manhole POE).
 - 1.6.1.13.3. At EACH splice manhole and handhole, Contractor must write down sequential footage markings at the manhole or handhole entry and exit points and at the butt of the splice enclosure for each cable. There should be four separate footages at each butt splice location with each footage recorded being correctly labeled as to its direction and location (i.e. 5005' – North cable at Manhole POE; 5000' – North cable at entrance of splice enclosure; 3005' – South cable at Manhole POE; 3010 – South cable at entrance of splice enclosure).
 - 1.6.1.13.4. At each manhole/handhole, Contractor shall indicate the footage of the slack coil.
 - 1.6.1.13.5. At the beginning and ending of the cable reel (at the manhole/handhole) the cable reel number shall be noted.

1.6.1.14. Aerial cable red-line drawings shall be completed by Contractor. Red-line drawings shall include:

- 1.6.1.14.1. At EVERY pole, the reel number(s) and sequential number(s) at each pole.
- 1.6.1.14.2. At EACH slack loop, the sequential number entering and leaving the slack loop.
- 1.6.1.14.3. At EACH splice location, the sequential numbers entering and exiting the splice enclosure.

1.6.2. DAILY PRODUCTION REPORT(S)

- 1.6.2.1. Contractor's progress shall be tracked by utilizing Daily Production Reports.
- 1.6.2.2. Daily Production Reports shall be completed by Contractor's Supervisor and submitted to the Company field representative for review and approval.
- 1.6.2.3. Discrepancies in progress shall be noted by the Contractor on Daily Production Reports. Daily Production Reports shall not be a basis for approved extra work by the Contractor.
- 1.6.2.4. The appropriate Daily Production Report form shall correspond to the work being performed (ex: OSP aerial/underground construction, cable installation, building entrances, facility construction) and shall match the Contractor provided red- line drawings.

1.6.3. CONTRACTOR'S CONSTRUCTION SCHEDULE

- 1.6.3.1. Contractor shall submit a detailed resource (manpower and equipment) construction schedule for Company's approval.
- 1.6.3.2. All schedules shall include the planned construction method(s), by location, with the associated quantities, manpower, equipment, and planned production rates to complete the work.
- 1.6.3.3. Contractor's construction schedule shall be prepared in Microsoft Project or other Company approved format.
- 1.6.3.4. All schedule versions shall contain sufficient detail to ensure that Company can measure Contractor's progress on a daily basis throughout the project duration.
- 1.6.3.5. Contractor shall provide updates to the schedule on a weekly basis or frequently as required.
- 1.6.3.6. If Contractor fails to achieve the planned progress (per the schedule), Contractor shall provide a "recovery schedule" indicating additional resources or acceleration efforts to maintain the contracted completion date. Such additional resources or acceleration efforts shall be at Contractor's sole expense.
- 1.6.3.7. Full compliance with this section is a condition precedent to payment.

1.7. DAILY PROJECT CLEAN UP REQUIREMENTS

- 1.7.1. The right-of-way shall be restored to original or better condition within forty-eight (48) hours following conduit/duct placement operations or such earlier time as Company may require.
- 1.7.2. Contractor shall maintain a clean and hazard free work area including but not limited to immediate removal of all spoils, excess material, waste and sweeping of all affected roadway and sidewalk areas.
- 1.7.3. Contractor shall remove from the site and dispose of all spoil, waste, and other unused excavated materials in accordance with all Jurisdictional Authorities and Company requirements.
- 1.7.4. Where excavation is required in paved areas, restoration shall be completed immediately and prior to removal of traffic control. Contractor shall not leave any sections of the trench open during non-work hours. Contractor shall backfill all segments of the trench in adherence with the trench typical details and associated permits.

- 1.7.5. As necessary, Contractor shall cover the excavation with solid steel plating. Steel plates shall be a minimum one-inch (1") thick, spiked down to prevent movement, shimmed to prevent rocking, and cold patched around the edges. Plate installation shall be subject to final approval by the Jurisdictional Authorities without additional costs to Company.
 - 1.7.6. Contractor shall store all equipment, tools, material, etc. in a manner so as not to inhibit traffic flow or parking at all times. All staging areas must receive final approval from Company and any Jurisdictional Authorities. Company shall assume no responsibility for Contractor's equipment or materials. Security for the job areas is the responsibility of the Contractor. Contractor shall comply with the security requirements of the right-of-way owners and/or other Jurisdictional Authorities.
 - 1.7.7. Contractor shall not leave holes open overnight (unless approved by Company representative). If allowed, Contractor shall safely secure the open hole as required by the Company representative.
- 1.8. INSPECTION AND ACCEPTANCE
- 1.8.1. All work shall be subject to the inspection and approval of Company, and the Jurisdictional Authorities. Contractor shall schedule the Work and provide adequate notifications to comply with any and all requirements for inspection.
 - 1.8.2. Contractor shall have a competent English-speaking representative that can effectively communicate with local property owners on site at all times during work activities.
 - 1.8.3. Company's representatives shall inspect workmanship and progress of work being performed. Where workmanship or installation deficiencies are observed, Company's representative shall discuss them with the Contractor's supervisors. Contractor shall take measures to immediately and expeditiously correct any deficiencies to the satisfaction of Company without impacting the installation schedule and at no additional cost to Company. Company's representative shall have the right to stop work upon Contractors refusal to immediately correct installation deficiencies. Company's failure to detect or notify Contractor of deficiencies shall not reduce or eliminate any obligation or liability of Contractor under any Contract Document.
 - 1.8.4. Company's representatives may also monitor the safety of operations and if any unsafe operations are observed he/she will discuss them with the Contractor's supervisors. Contractor shall take measures to immediately and expeditiously correct or stop the unsafe operations. If the unsafe operations continue, the Company representative shall have the right to stop work until further notice. Company's failure to observe or notify Contractor of an unsafe operation shall not reduce or eliminate any obligation or liability of Contractor under any Contract Document.
 - 1.8.5. Upon notification to Company by Contractor of completion of the work, a Company representative, the Contractor's representative and a representative of the Jurisdictional Authorities shall jointly perform a "walk through" inspection of the work within a reasonable time frame. The Company Representative shall, during this inspection, prepare a punch list of observed deficiencies. Upon receipt of the punch list, Contractor shall correct all deficiencies in a timely manner not to exceed forty-eight (48) hours unless approved by the Company Project Manager. Acceptance shall be granted when all deficiencies have been corrected to the satisfaction of Company and all Jurisdictional Authorities. If the Contractor fails to correct any defective Work or materials within the allowed timeframe, the Company Project Manager may cause such defective Work or materials to be replaced and the expense thereof shall be deducted from the amount to be paid to the Contractor. Company's failure to observe or note on any punch list a deficiency shall not reduce or eliminate any obligation or liability of Contractor under any Contract Document.
- 1.9. TRAFFIC CONTROL
- 1.9.1. Contractor shall conform to all traffic controls as required by the cities, counties and governing authorities, the permit(s) requirements, Company, and Department of Transportation (DOT) Temporary Traffic Control Standard Specifications. Contractor shall coordinate the work with appropriate Jurisdictional Authorities.

- 1.9.2. Contractor shall be responsible for the safety of the general public and shall always give right of way to all other vehicular traffic on the roadway. Contractor shall not detour traffic, close a lane, or impede traffic flow without approval from the Jurisdictional Authorities.
 - 1.9.3. Contractor shall furnish all signs, barricades, barriers, cones, drums, warning lights, flag persons or other devices that are required and obtain all necessary approvals from the appropriate Jurisdictional Authorities. Contractor shall maintain a log and provide Company with a copy of the log containing such approvals obtained on a weekly basis.
 - 1.9.4. All traffic control devices shall be in good working order and inspected by Contractor prior to delivery to the work site. Periodic inspections shall be done to ensure proper operation.
 - 1.9.5. Contractor shall be responsible to conform to all traffic control requirements contained in the Construction Documents and/or permits. If Contractor fails to comply with the traffic control requirements, and/or does not immediately correct traffic control deficiencies as directed by jurisdictional authorities, Company may issue a stop work notice. This stop work notice will continue until such requirements have been approved/achieved. Contractor shall not be entitled to compensation in time or money for time lost during this stop work order. If Contractor violates traffic control requirements, such violation will be cause for a default under the Contract Documents Company.
 - 1.9.6. All work operations including paving, rolling, grading, supplying of material and the travel of supervisory personnel shall always be in the direction of normal traffic.
 - 1.9.7. Vehicle and equipment lights, light lenses, and reflectors shall be operational and cleaned as often as necessary. All vehicles and equipment shall require flashing amber lights including material delivery vehicles.
 - 1.9.8. Fire extinguishers and first aid kits shall be provided on all vehicles and shall be in good working order at all times, and the job site personnel shall be familiar with their use.
 - 1.9.9. Equipment shall be under the full control of the operator when equipment is in use, and operators shall be familiar with their use.
 - 1.9.10. No vehicle or equipment shall be stopped or parked where it shall interfere with the visibility of any sign.
 - 1.9.11. At the end of each workday, all Contractor's equipment and any traffic protection devices shall be removed from traffic lanes, shoulders, other sites, and placed in protected locations.
 - 1.9.12. A stopped or slow-moving truck on the pavement shall never be used as the first warning a motorist receives of a work area restriction ahead.
 - 1.9.13. All vehicles re-entering the traffic stream from the work areas shall have the assistance of a traffic observer.
 - 1.9.14. Equipment that could damage any roadway facilities shall not be allowed to operate until adequate protective measures are provided. Company's approval of such protective devices shall not relieve the Contractor from responsibility for damage to any paved surface.
 - 1.9.15. Contractor is required to gain pre-approval from the Company Project Manager or Construction Manager for traffic control if seeking reimbursement. Contractor is responsible for documenting and submitting actual dates, hours and location of where traffic control was required.
- 1.10. **UTILITY LOCATIONS AND SUBSURFACE OBSTRUCTIONS**
- 1.10.1. Contractor shall recognize that any and all utilities, if any, shown on Contract Documents are for informational purposes only. Contractor is required to locate/field verify all utilities; Company assumes no responsibility for the accuracy of the utilities shown.
 - 1.10.2. Contractor is responsible to locate and avoid all subsurface obstructions.
 - 1.10.3. Contractor shall contact the utility one-call system in advance of construction for location of buried utilities as required by the Jurisdictional Authorities. Contractor is responsible to locate and avoid all subsurface obstructions. It is the Contractor's responsibility to verify the locations of subsurface obstructions. **Contractor is also responsible for contacting and confirming**

the location of facilities of utilities or other entities (including those) not taking part in the One Call System.

- 1.10.4. Contractor shall be responsible to locate (pothole/hand dig) and verify the exact location of every pipeline, utility, drainage facility, or other buried facility prior to working in the area. Contractor is responsible for receiving Jurisdictional Authorities approval prior to excavation where applicable. Contractor shall then make any adjustments, in the field or otherwise, to install the conduit or duct where it shall not interfere with other conduits or utility systems. Any adjustments to the running line requested by Contractor shall be submitted to Company for review. Contractor shall obtain Company approval prior to adjustments.
 - 1.10.5. Contractor shall be solely responsible for any and all direct and indirect costs and consequences arising from damage to utilities.
 - 1.10.6. Contractor shall keep a Utility Location Log of all telephone contacts to notify existing utilities of pending excavation. Such log shall include date, time of day, name of individual contacted, name of agency or Company contacted, telephone number, and confirmation number. The Utility Location Log shall be made available to Company for review prior to construction and submitted on a weekly basis.
 - 1.10.7. When crossing buried pipes, cables, and other utility lines, the ducts placed shall maintain a minimum separation of twelve inches (12") or as specified by the utility Company or permit requirements while maintaining a minimum eighteen (18) inch cover or as required by Contract Documents.
- 1.11. **SUPERVISION AND SUPERINTENDENTS**
- 1.11.1. Contractor shall keep on the work site, during the progress of the Work, a competent representative approved by Company who shall be the "Authorized Representative" of Contractor. Directions and communications to the representative from Company in connection with the Work shall be treated as directions and communication to the Contractor. Company reserves the right to have the Contractor's representative removed and/or replaced from the work site.
 - 1.11.2. Contractor's representatives shall be English-speaking and have the proper skill, training, background knowledge, experience, rights, authorizations, character, and licenses as necessary to perform the work in a competent, ethical, and professional manner.
 - 1.11.3. Contractor shall furnish to Company, in writing, all the names and numbers of the members of his/her organization and subcontractors' organizations who can be contacted in the event of out-of-hours emergency at the construction site.
 - 1.11.4. Contractor is responsible for the conduct of their personnel. Contractor must refrain from derogatory statements, gestures, inappropriate language, cannot block access used by the public, and must respect public and private property while conducting work.
- 1.12. **PROJECT MEETING REQUIREMENTS**
- 1.12.1. Contractor shall be required to attend progress meetings as requested by Company. Contractor shall be required to attend meetings with Jurisdictional Authorities and other third parties as requested by Company.
- 1.13. **ENVIRONMENTAL CONDITIONS**
- 1.13.1. Contractor shall install erosion control prior to construction activities. Contractor shall be responsible for all erosion and sediment controls as mandated by the Jurisdictional Authorities or instructed by Company.
 - 1.13.2. Contractor shall immediately notify Company if hazardous or contaminated materials are uncovered, encountered, revealed, or introduced at the job site. Following the notification, Contractor shall provide a written report of the discovery. Contractor shall immediately stop all work in the area affected by the condition and not resume work in the affected areas unless instructed in writing to do so by Company Project Manager.

- 1.13.3. When corrective action or remediation of hazardous or contaminated material is made necessary or is caused by Contractor's fault or through negligence, Contractor shall be responsible for all costs associated with remediation and cleanup of the contamination. Cost responsibility shall include all costs relating to the identification of the contamination, testing, determination of remedial actions, removal and corrective measures associated with the encountered toxic or hazardous materials, and any other costs associated with the cleanup of the contamination. Delays resulting from Contractor introducing hazardous material to work sites shall not become the basis for an extension of time or additional compensation to complete the Contract.
- 1.13.4. Contractor is not responsible for disposal of hazardous waste materials not introduced by the Contractor.

1.14. SITE AND LOCATION CONDITIONS

- 1.14.1. The Contractor states that all of the available records regarding existing conditions have been examined; that a field examination of the site and right of way has been conducted; and the subsurface conditions, surface and subsurface water conditions to be encountered, the character of equipment and facilities needed for the prosecution of the Work, the location and suitability of all construction materials, the quantities in various sections of the Work, the local labor conditions, and all other matters in connection with the Work and services to be performed under this Contract have been thoroughly studied.
- 1.14.2. The Contractor shall warrant that its opinions and interpretations regarding the character of materials to be excavated have been derived from an inspection of the ground and studies of available records of subsurface conditions.
- 1.14.3. Contractor shall check and verify all details of existing conditions prior to proceeding with the Work.
- 1.14.4. The Contractor further states that the prices contained herein are based on its own knowledge and judgment of the conditions and hazards involved and not upon any representation of Company.
- 1.14.5. Contractor shall confirm in writing with Company prior to doing any work on customer's facilities. Company will need to coordinate this activity.

1.15. EMERGENCY CONTINGENCY PLAN

- 1.15.1. Contractor shall comply with, and participate in, all Emergency Contingency Plans of Company or Jurisdictional Authorities. Such plans shall include response plans, notification procedures and public safety protection plans for various potential construction and hazardous materials emergencies.

2. CONSTRUCTION SPECIFICATIONS

All materials and equipment shall be applied, installed, connected, erected, utilized, cleaned, conditioned and calibrated in accordance with the instructions of the applicable manufacturer, fabricator or processor, except as otherwise provided in the Contract Documents. Contractor shall abide by the following acceptable practices to complete the installation:

2.1. GRASS/SOD TRENCH INSTALLATION

- 2.1.1. Contractor shall excavate as required (i.e. machine trench, backhoe, hand dig, etc.) to install ducts as indicated in the Contract Documents and typicals to maintain a minimum of eighteen inches (18") to twenty-four inches (24") of cover to top of conduit below finished grade, or as specified on the Contract Documents, Scope of Work and/or permits. The installation shall include removal and disposal of excavated materials or materials not suitable for backfill and the installation of the conduit.
- 2.1.2. Restoration shall include the placement of select fill or clean backfill compacted in eight-inch (8") lifts. Clean backfill is defined as existing native soil containing material that is free of debris and contains no cobbles and no frozen soil or backfill materials greater than one half inch (1/2") in diameter. All backfill shall be compacted to nearby native compaction and 95% proctor under all sidewalks and roadways or to the specifications of the Jurisdictional Authority, whichever is

- greater. The work may also include shoring, bracing, road bore connections, and all other operations necessary to complete the installation in a safe manner.
- 2.1.3. Trenches shall be kept as straight as practical. The bottom of the trench shall be smooth and free from any sharp edges. The trench shall be kept clear of debris and loose rock. All changes in trench grade shall be less than one foot (1') per ten feet (10').
 - 2.1.4. In applications where HDPE ducts are installed, Contractor shall install the ducts to prevent excessive wavering of the ducts within the trench. Contractor shall tension the ducts to prevent wavering in the trench prior to backfilling. The trench shall then be backfilled while the duct is still under tension. Conduits shall be installed in such a manner as to keep conduit configuration consistent. Conduits shall be bound along the trench line every ten feet (10') to maintain this configuration and minimize spiraling.
 - 2.1.5. Contractor shall have the full responsibility to ensure tie-ins and duct couplings are made to ensure elevations remain as straight as possible and that the duct and conduit joints provide an airtight seal. Contractor shall furnish Company approved duct couplers to achieve this requirement.
 - 2.1.6. All trench sections must be closed at the end of each working day or protected using the appropriate barricade as the site conditions warrant to protect the public. This may require barricading the area with temporary steel plating (or other measures required by jurisdictional authorities), orange plastic fence, water filled plastic or concrete barricades, a-frame barricades, overnight flashers with the appropriate warning signage. Contractor shall restore the surface conditions to original or better conditions or as required by the Jurisdictional Authorities and Company.
 - 2.1.7. Contractor shall install insulated #12 tracer wire within all trench line excavations and bore paths. Contractor shall install connectors to create continuity in all tracer wires except at handholes and terminal boxes. All tracer wire connectors shall be buried after installation. Tracer wire to be bonded together at bonding bars in all handholes and terminal boxes. Contractor shall mount the bonding bars with two screws on the wall of all handholes and terminal boxes. Additionally, at all handholes and terminal boxes, Contractor shall install an 8' long, 5/8" copper clad ground rod and a bare #6 copper wire clamped to the ground rod at one end and terminated at the bonding bar on the other. At all end-of-line utility boxes (last flowerpots) Contractor shall leave 9-12" of tracer wire exposed above rock base. All wires shall be neatly routed around the perimeter of handholes, terminal boxes and utility boxes. Contractor shall also secure tracer wire up the base of all riser poles per section 2.6.12.
 - 2.1.8. Contractor shall ensure tie-ins and duct couplings are made to ensure elevations remain straight as possible and that the duct and conduit joints provide an airtight seal. Contractor shall furnish Company approved duct couplers to achieve this requirement. Contractor shall place a locate marker ball at each coupling location.
 - 2.1.9. Contractor shall, in his pre-bid survey, determine soil and rock conditions. Soil & rock conditions shall be determined by the Contractor prior to project commencement, and will not be considered for a request for change order.
 - 2.1.10. Contractor shall notify Company of areas where minimum cover requirements cannot be met. Company reserves the right to direct Contractor to cover conduit with 1/4" steel plate, split pipe, concrete slurry or a combination of these. The material and installation cost shall be by Contractor.
 - 2.1.11. It will be the responsibility of the Contractor to re-seed and/or re-vegetate to match the existing conditions required by the Jurisdictional Authority and Company. All re-seeded areas will be protected by chopped straw where applicable.
- 2.2. PAVEMENT TRENCH INSTALLATION (includes all of the requirements in 2.1 plus the following)
- 2.2.1. Contractor shall excavate as necessary to install ducts as specified on the Contract Documents or as specified on the Construction Documents, Scope of Work or by permits. The installation shall be completed by saw cutting the roadway surfaces to a neat vertical edge, removing and

- disposing of excavated pavement and excess excavated material and installing the conduit(s) as shown in the Construction Documents.
- 2.2.2. Temporary pavement restoration shall be required when vehicular traffic may be present prior to final pavement restoration. Final pavement restoration shall be governed by, and in compliance with the requirements of the Jurisdictional Authorities. Final asphalt restoration shall typically include roto-milling to remove existing asphalt beyond each side of the trench six inches (6") on each side of the trench or as required by the Jurisdictional Authority. Final concrete restoration shall typically include replacing the concrete to match the existing roadway cross-section.
 - 2.2.3. Driveways, lanes, or roadways, when required to be open cut, shall be opened just prior to the conduit placement and restored to a passable condition immediately after work is complete. In no case shall the driveway, lane, or roadway be left impassable at the end of each work day. The general public safety is paramount and appropriate steps shall be taken to ensure safety at all times. Where a drive or roadway trench must be left open for traffic, Contractor must provide the material and method required to allow for movement of traffic.
 - 2.2.4. Trenches shall be promptly backfilled with select material and placed so that final grade is restored to original grade to ensure no hazard to vehicular, animal or pedestrian traffic. No trenches shall be left open overnight unless allowed by Jurisdictional Authorities and Contractor has received the written approval of the Company's field representative. If allowed and written approval is granted, all open trenches shall be properly guarded or barricaded to prevent damage or injury.
 - 2.2.5. In areas inaccessible to tamping type rollers where compaction is required, a mechanical tamper of a size suitable for the work involved shall be used. Pneumatic tampers shall be operated at pressures no less than those recommended by the manufacturer.
- 2.3. BORE INSTALLATION (includes all of the requirements in 2.1 plus the following)
- 2.3.1. Boring shall be completed with the excavation of bore launching and receiving pits, any required shoring, any required rock removal, and the installation of the conduit at a depth no less than eighteen inches (18") of cover or as required in the Construction Documents, Scope of Work or permits. Any variance from the minimum cover depth must be specified in the Construction Documents or approved by the Company Project Manager in advance. Depth requirements at railroad and stream crossings shall be in accordance with the permit requirements. Bore installation shall include pushing, boring, or simultaneously boring and pushing casing pipes and duct under roads, exit ramps, railroad tracks, driveways, sidewalks, trees, environmentally sensitive areas and other features indicated on the Construction Documents or as directed by Company. Acceptable methods of boring include jack boring, dry auger boring, and directional boring.
 - 2.3.2. Duct and Casing Pipe shall be installed in locations as shown on the Construction Documents or required by permits. Contractor shall plan all bores as to not exceed fifteen degrees (15°) of bends in the duct. Bore pits shall be placed to conform to regulations mandated by the Jurisdictional Authorities or as necessary.
 - 2.3.3. Use of pneumatic missiles shall not be permitted under any public roadways without prior approval by Company Project Manager.
 - 2.3.4. Before boring and/or plowing, Contractor shall check all obstructions and clearances. All existing utilities and facilities shall be located and remain open until the bore has been completed.
 - 2.3.5. No bore pits or potholes shall be left open overnight unless allowed by Jurisdictional Authorities and the written approval of Company's field representative is granted. If allowed and approved

- in writing, all openings shall be properly covered, guarded or barricaded to prevent damage or injury.
- 2.3.6. All ends of bore casing shall be sealed using non-shrink grout. All conduits shall be capped, sealed watertight and shall be well marked to accommodate locating. All bore pits shall be dewatered.
 - 2.3.7. Contractor is responsible to implement containment methods of bore fluid and any or all additives to not contaminate the work area as site conditions dictate. The Contractor shall dispose of all bore fluids and vacuum slurry in accordance with the Jurisdictional Authority environmental disposal regulations.
 - 2.3.8. Setup of directional boring equipment must be made in a manner to minimize damage to the surrounding area. Emphasis shall be placed on setup locations to ensure that the equipment, debris, and/or bore fluid overflow do not encroach onto private property or public drainage systems. Contractor shall be responsible for disposing of all waste.
 - 2.3.9. All directional boring equipment shall have electrical protective devices to protect the operators from electrical shock. Company requires that these devices not be circumvented in any way and that all protective safety equipment is worn or used by all required individuals. Anyone not wearing or using appropriate protective equipment shall not approach or touch the directional drilling equipment.
 - 2.3.10. Prior to beginning and directional drilling operations, the navigation system shall be calibrated on a daily basis at minimum. Calibration shall be accomplished according to manufacturer specifications. Contractor shall establish and maintain a calibration log on site that is available for review by Company.
 - 2.3.11. No items attached to the backside of the reamer shall be allowed without the use of a free moving swivel to eliminate the rotation of trailing stem. When adding additional stem or attachments where the addition/attachment is not within sight of the bore machine operator, all power providing any movement to stems shall be disengaged and the stems at the boring rig shall be locked down. Power shall only be reinstated after the item being attached to the stem is securely connected and all personnel are clear of moving components.
 - 2.3.12. Contractor shall have the full responsibility to ensure tie-ins and duct couplings be made to ensure elevations remain straight as possible and that the duct and conduit couplers provide an airtight seal. Contractor shall place a locate marker ball at each coupling location.
 - 2.3.13. Contractor shall, in his pre-bid survey, determine soil and rock conditions. Soil & rock conditions shall be determined by the Contractor prior to project commencement, and will not be considered for a request for change order.
- 2.4. BRIDGE & TUNNEL ATTACHMENT INSTALLATION**
- 2.4.1. Contractor shall furnish and install hangers and hardware for the attachment of the duct or conduit to bridges and tunnel walls. Hangers and hardware shall be as shown on the Contract Drawings. All hardware shall be hot dipped galvanized after manufacture.
 - 2.4.2. Conduit used for bridge and tunnel attachments shall be bulletproof FRE or GRS pipe. Conduit shall be supported at intervals shown on the Contract Drawings while not exceeding ten feet

- (10') separation between hangers. At no time shall Contractor install the conduit or hardware to be the lowest point on the bridge.
- 2.4.3. Contractor shall furnish and install expansion joints at all structure joints and other locations as indicated on Contract Drawings. At no time shall spacing of expansion joints exceed one hundred linear feet (100') of duct.
 - 2.4.4. All nuts shall be tightened with a torque wrench to the appropriate pressure. Contractor shall double nut all hanger bolts. All nuts shall be placed with "Lock-tite" or an approved equal locking compound.
 - 2.4.5. Installation and materials shall be in accordance with the Jurisdictional Authorities. Contractor shall perform the work in such a manner to avoid disrupting vehicular or pedestrian traffic unless approved in writing by the Jurisdictional Authorities and Company.
 - 2.4.6. Contractor shall install pull boxes as shown on the Construction Documents. Pull boxes shall be independently supported so as to not rely on the conduit for support.
 - 2.4.7. Contractor (as required on Construction Documents) shall perform cores of the bridge abutment walls or tunnel walls. Contractor shall be sure to sweep conduit gradually for all transitions to buried conduits. Steel conduit shall be maintained until the desired depth is achieved for the transition.
 - 2.4.8. All conduit bends shall have a minimum 36" bending radius. Variations shall be approved by the Company Project Manager.
- 2.5. BUILDING RISERS**
- 2.5.1. Building risers shall include all conduits, pull boxes, attachment hardware, mounting hardware, wall penetrations and floor penetrations.
 - 2.5.2. Pullboxes shall be designed to be self-supportive and not rely on the conduit for stability.
 - 2.5.3. All conduit bends shall have a minimum 36" bending radius. Variations shall be approved by the Company Project Manager.
 - 2.5.4. Building owner or management must approve all work in advance including wall, ceiling, roof and/or floor penetrations.
 - 2.5.5. Contractor shall ensure all building penetrations are free and clear of utilities such as water, sewer, gas, electrical and steam lines and that the penetration does not compromise the structural integrity of the building.
 - 2.5.6. Contractor shall follow and perform fire proofing of all foundation, wall, ceiling and floor penetrations as required by the building owner, local and national codes or other Jurisdictional Authorities.
- 2.6. RODDING, ROPING AND INNERDUCT INSTALLATION**
- 2.6.1. Contractor shall determine the integrity of existing sections of conduit prior to installation of any pull line. Contractor shall proof the existing conduit run as per Section 2.9, Proofing Duct.
 - 2.6.2. Contractor shall use a variable length rodder to physically "rod" the existing conduit or innerduct or use an air blown missile/carrier to install a jet line or mule tape and then pull back an appropriately sized mandrel to proof the conduit or inner duct. This activity will determine whether or not the conduit run is continuous or whether collapsed or damaged conduits exist.

Should damaged conduit be found, Contractor shall contact Company's representative to determine a course of action.

- 2.6.3. Once a determination has been made that the conduit run is successful, Contractor shall "rope" the existing conduit run with a pull line or mule tape as instructed by Company.
- 2.6.4. Proofed and/or verified conduits shall have innerducts placed within them as directed by Company. Contractor shall use swivels any time innerduct is being installed to prevent twisting of the duct.
- 2.6.5. Contractor shall apply Company approved lubricant as required during the innerduct installation process.
- 2.6.6. Contractor shall ensure breakaway tension of the winch is within the specifications of the innerduct manufacturer.
- 2.6.7. Once innerduct is installed, all innerducts shall be proofed as per Section 2.9, Proofing Duct as directed by Company.
- 2.6.8. Each innerduct shall have a pull line or other pull rope installed as directed by Company.
- 2.6.9. Contractor shall install a blank duct plug to each innerduct end, making sure to tie-off all pull lines.
- 2.6.10. Contractor shall use caution through the entire rodding, roping and innerduct installation process to avoid damaging any existing conduits, innerducts, cables, or other previously existing plant.
- 2.6.11. Contractor shall prepare, and furnish to Company, butterfly drawings of manhole system showing Company duct and overall layout of ducts in the manhole.
- 2.6.12. Underground Contractor shall install an appropriately sized riser boot and 10 ft. riser guard at all underground to aerial transition points. Riser guard will be secured to the pole to a height of 6 feet. Innerduct will extend beyond the riser guard 12 inches and be secured to riser guard in such a manner as it will not interfere with other activities at the pole. Any additional riser guard will be installed and secured by the aerial crews. Tracer wires for ducts will be extended behind riser guard and exit behind the riser guard at a height of 5 feet above the ground line and terminated/stapled to the pole at that height in a small termination box.
 - 2.6.12.1. Installation of the above boot and riser will be dependent on having an approved pole attachment agreement in place.
 - 2.6.12.2. Instances that require more than 4 riser innerducts will require additional consideration. In such situations, Company Project Manager shall be consulted.

2.7. MANHOLE INSTALLATION

- 2.7.1. The Contractor shall install manholes at locations as shown on the Construction Documents and as approved by Company. The Contractor shall install manholes to the specifications of the manufacturer as depicted on the typical drawings and any applicable Jurisdictional Authorities' specifications.
- 2.7.2. Contractor shall place the manholes on a minimum twelve-inch (12") thick bed of crushed stone, bed material shall consist of clean three quarter inch (3/4") crushed stone placed on filter fabric extending a minimum of 6" past the perimeter. The ducts shall enter and leave manholes exactly opposite each other. Frames and covers shall be installed to match existing grade unless otherwise noted and shall be shimmed using precast or steel grade rings.
- 2.7.3. Manholes shall not be installed on steep banks or slopes where the cover cannot be leveled within a tolerance of one-inch (1") of drop to twelve inches (12") of grade.
- 2.7.4. Contractor shall not use material less than five thousand pounds per square inch (5,000 PSI) in density to shim frames and covers or as necessary to maintain the load rating on the manholes.
- 2.7.5. All manhole penetrations shall be sealed with a non-shrink grout. All conduit and duct ends shall be sealed with duct plugs/caps. Large diameter ducts shall be trimmed neatly inside the manhole. For PVC conduit installation', conduits shall be flush to the interior manhole wall and

- beveled conduit terminators installed on the conduit. During installation of HDPE conduits, conduits shall extend 12" into the manhole as directed by Company.
- 2.7.6. Contractor shall install racks, hooks, and appurtenances in manholes as per the manufacturer's recommendations, contract documents and/or typicals.
- 2.8. HANOHOLE INSTALLATION**
- 2.8.1. Contractor shall install handholes at locations as shown on the Construction Documents and/or as approved by Company. The Contractor shall install handholes to the specifications as depicted on the typical drawings and/or manufacturer's specifications.
- 2.8.2. Contractor shall place the handholes on a minimum three inch (3") thick bed of crushed stone unless the conditions dictate or require more crushed stone. This decision will be at the Project Manager's discretion. Bed material shall consist of clean three quarter inch (3/4") crushed stone that extends a minimum of 3" beyond the perimeter of the handhole. Contractor shall place a rodent-proof mesh on top of the rock bedding (extending past the handhole perimeter a minimum of 3").
- 2.8.3. Handholes shall be placed so that the lid sits flush with the existing grade.
- 2.8.4. Handholes shall not be installed on steep banks or slopes where the cover cannot be leveled within a tolerance of one-inch (1") of drop to twelve inches (12") of grade.
- 2.8.5. All conduit and duct ends shall be sealed with Contractor supplied duct plugs/caps. For PVC conduit installation, conduits shall be flush to the interior handhole wall. During installation of HDPE conduits, conduits shall extend a minimum of 6" into the handhole above the rock base with a radius 24" and no more than a 45-degree gradual sweep.
- 2.9. PROOFING DUCT**
- 2.9.1. The integrity of the conduit and duct system shall be tested for continuity by use of a mandrel. Mandrels shall be approximately six inches (6") long with a diameter equal to eighty-five percent (85%) of the nominal duct inside diameter. Each end of the mandrel shall be fashioned with rubber washers. The mandrel enables Contractor to ensure continuity from point to point as well as delineating any deficiencies (e.g., kinks, separations) in the conduit/duct system. Duct proofing by mandrel is mandatory on all ducts installed on feeder rings.
- 2.9.2. All proof testing will be performed after the trench has been properly backfilled and compacted. Contractor shall purge the duct prior to testing to remove any accumulated debris (e.g., rocks, soil) and/or water. Contractor shall provide 24 hours' notice to Company prior to proofing.
- 2.9.3. Contractor will proof each duct by pulling or jetting the mandrel through the duct from one access point (handhole or manhole) to the next access point. Contractor will repair any deficiencies in the conduit/duct system detected by the testing process. Once the deficiency has been repaired, Contractor will re-perform the testing process until the section passes proofing. Contractor shall record wall to wall distances per Section 1.6.1 Red Line Drawings.
- 2.9.4. Contractor will be REQUIRED to place a secure protective sleeve on the ends of the conduit or innerduct to stop the mandrel at the exit point of the mandrel in the manholes or handholes while proofing.
- 2.9.5. Upon completion of the proofing process and mule tape/Jet-line installation, all ducts shall be plugged with duct plugs/caps and mule tape/Jet-line shall be tied off. Once cable has been installed, a simplex duct plug shall be installed.
- 2.10. ROUTE MARKERS**
- 2.10.1. Contractor shall install cable route markers as required by Company. Contractor shall exercise special caution to locate the cable route markers to avoid interference with the warning tape,

conduit, manhole/handhole lids and any other existing facilities. The Contractor shall install maker post location stations at all fiber optic splice and mid-sheath cable openings.

2.11. CORING

- 2.11.1. Contractor shall perform all cores into abutments, tunnel walls, manholes, handholes, and vaults by utilizing a core drill with a core type bit. Contractor shall drill a pilot hole prior to performing the core to verify the core's location. Contractor shall core a hole that is not more than one half inch (1/2") greater than the outside diameter of the conduit that is being placed through the core. Contractor shall seal the core utilizing a non-shrink grout. In addition, Contractor shall adhere to the specifications imposed by the Jurisdictional Authorities and owner of the facility being cored into.
- 2.11.2. Contractor shall perform all cores into buildings by utilizing a core drill with a core type bit. Contractor shall drill a pilot hole prior to performing the core to verify the core's location. Contractor shall core a hole that is not more than two inches (2") greater than the outside diameter of the conduit that is being place through the core. Contractor shall furnish and install a link seal on both ends of the core and tighten in a criss-cross fashion. In addition, Contractor shall adhere to the specifications imposed by the Jurisdictional Authority and owner of the facility being cored into.
- 2.11.3. As required by facility owners, Jurisdictional Authorities, or as requested by Company, Contractor shall perform an x-ray of the facility to check for stress members prior to coring or drilling into. Contractor shall make adjustments to the core location to avoid all such stress members.
- 2.11.4. Contractor shall stub out conduit according to Company's Building Entrance Drawings and/or National Electric Codes.
- 2.11.5. All clean-up is the responsibility of the Contractor and to the satisfaction of Company and facility owner.

2.12. UNDERGROUND FIBER OPTIC CABLE INSTALLATION – *Reference OSP Typical Drawings 21-24*

- 2.12.1. Contractor shall install fiber optic cable in the conduit system as specified in the Work, on the Construction Documents, and in accordance with Company's specifications and the manufacturer's recommendations.
- 2.12.2. Each reel of fiber optic cable is tested at the factory. The Contractor may, at their discretion, reel test the fiber cable prior to receipt. Contractor assumes responsibility of the fiber cable upon receipt, until full completion and acceptance of the work by Company.
- 2.12.3. Contractor has the option to blow, jet, or pull the fiber optic cable for installation. Should Contractor choose to install the cable by pulling, Contractor shall be responsible for furnishing and installing pull rope. Contractor shall, to the best of their ability, install the fiber optic cable in the most consistent manner throughout the duct system. This shall include (but is not limited to) installation within the same color or location of duct.
- 2.12.4. Contractor is responsible for the protection of fiber optic cable until final completion of work and acceptance by Company of the installed, spliced and tested cable from the Contractor. This includes, but is not limited to, storage of the cable prior to installation, overnight protection because the entire cable was not installed prior to stopping work for the day, and during any transportation.
- 2.12.5. Contractor shall leave slack coils as shown on the Construction Documents and/or as directed by Company's field representative. Cable slack coils shall have a radius recommended by the manufacturer. Contractor shall leave cable slack coiled in handholes and manholes shown on the Construction Documents or as specified by Company's field representative. All cable slack shall be neatly coiled.
- 2.12.6. The Contractor shall rack all slack coils to the handhole or manhole racking where applicable. Where racking is not installed, Contractor will neatly store slack coils where they will not be damaged by lid closures or personnel entering or working in manhole/handhole. Cable shall be identified in each manhole/handhole utilizing the Company supplied cable tags. Contractor shall

- label all cable tags with a permanent marker. Labels shall include the count of fiber and any requested Company information.
- 2.12.7. Contractor shall install company-supplied duct plugs upon cable installation at all duct ends. Duct plugs shall be installed to ensure watertight seal between the cable and the conduit.
 - 2.12.8. Contractor shall avoid bends of small radius and twists that may damage the fiber optic cable. During installation, Contractor shall not bend cable in a radius less than manufacturer's recommendations. Contractor shall utilize pulleys, sheaves, radius wheels, or other devices to meet this requirement.
 - 2.12.9. Contractor shall not exceed manufacturer's specifications for dynamic tension. Contractor shall use a 600lb breakaway swivel and safeguards such as adjustable slip clutch capstan winches or pulling dynamometers. Contractor shall be responsible for proving that all safeguards have been calibrated and demonstrate their functionality.
 - 2.12.10. Contractor shall utilize cable lubrication to reduce pulling tension using Polywater, or Company approved equal.
 - 2.12.11. Contractor shall install the cable into the conduit system without splices in the fiber optic cable except where noted on the Construction Documents.
 - 2.12.12. Any and all damages to the cable caused by or discovered by Contractor shall be immediately reported to Company's field representative. Upon notification, Company will instruct Contractor as to action necessary for cable repair or replacement.
 - 2.12.13. Contractor shall dispose of all reels in an appropriate manner. Any unused cable shall be returned to Company as directed by Company's field representative. Contractor shall properly dispose of any cable determined to be "unusable" by the Company field representative.
 - 2.12.14. Contractor shall produce redline drawings of the installed fiber optic cable and submit them to Company on a weekly basis or as required by the Contract Documents.
 - 2.12.15. Fiber tags shall be placed at every manhole and handhole and on each side of all splice enclosures
 - 2.12.16. Riser boot installed by UG Contractor. Reference 2.6.12.
- 2.13. **AERIAL FIBER OPTIC CABLE INSTALLATION – Reference OSP Typical Drawings 1-20**
- 2.13.1. Only armored sheath cable shall be used on aerial routes to include risers into or out of underground sections. In no event shall microcable be placed as a riser or on aerial strand.
 - 2.13.2. Contractor shall install fiber optic cable as specified on the Construction Documents. Contractor shall install fiber optic cable in accordance with Company's specifications and the manufacturer's recommendations. The work shall be performed in accordance with Bell Core standards and the standards of all Jurisdictional Authorities and facility/ property owners.
 - 2.13.3. Each reel of fiber optic cable is tested at the factory. The Contractor may, at their discretion, reel test the fiber cable prior to receipt. Contractor assumes responsibility of the fiber cable upon receipt, until full completion and acceptance of the work by Company.
 - 2.13.4. Fiber tags shall be placed at every pole and on each side of all splice enclosures.
 - 2.13.5. Bonding and Grounding specifications will vary by Pole owner. Individual Market pole owner's specifications will supersede the Metronet specification provided those specs meet minimum NESC guidelines. Otherwise, the following shall be the specification. There shall be strand continuity throughout the system. Contractor shall ground and bond the suspension strand per the following requirements. Suspension strand shall be grounded and bonded at all dead end poles, double dead end poles, every 1,500 feet, riser locations and at splice locations. All guys shall be bonded together and to the suspension strand at angle poles, dead end pole and double dead end poles -per local Pole Owner of NESC Standards. The suspension strand shall be grounded to the pole ground at all bonding locations. A bimetallic aluminum to copper (ALC) connector shall be used to bond the bare solid number 6 copper wire to the strand. The bare number 6 copper wire shall be bonded to the power pole vertical ground wire using a brass split

- bolt connector. Strand to strand bonds shall be accomplished using a separate bond clamp and #6 copper bond, (i.e. double framed poles).
- 2.13.6. Anchors and guy wires shall be installed prior to the installation and tensioning of the suspension strand.
 - 2.13.7. Guy strand size shall be the same as the supporting strand when the guy has a lead over height ratio of $\frac{1}{2}$ or better. 6.6M EHS strand shall be utilized for sidewalk anchors and at locations where the lead over height ratio is less than $\frac{1}{2}$. Local Project Management may require upsized anchors for feeder route due to multiple cable runs.
 - 2.13.8. Downguys shall be attached to standard pole line hardware and anchor rods using a preform dead end, two bolt clamp for 6.6M strand or strand vice.
 - 2.13.9. Auxiliary eye anchor rod attachments shall not be used unless specifically approved by the host utility and included in the Pole Attachment Agreement provisions. Installations of new anchor rods are required at all guy locations. Anchor rods shall not protrude more than six (6) inches
 - 2.13.10. Contractor shall install guy guards (shields) on all down guys.
 - 2.13.11. Metal, wood or fiberglass standoff arms may be used to clear obstructions or to maintain in-line alignment of the suspension strand if approved by the pole owner and/or Jurisdictional Authority.
 - 2.13.12. Fiber optic cable shall be smoothly installed using double lashing to strand. Loose lashing or excessive twisting or weaving of cable around messenger shall be cause for rejection.
 - 2.13.13. Contractor shall not exceed manufacturer's specifications for dynamic tension. Contractor shall use a breakaway swivel that shall not let cable exceed 600lbs of pulling tension and safeguards such as adjustable slip clutch capstan winches or pulling dynamometers. Contractor shall be responsible for proving that all safeguards have been calibrated and demonstrate their functionality.
 - 2.13.14. Cable rollers shall be placed every fifty (50) feet in normal circumstances, every twenty (20) feet over roadway and closer where required, to protect the cable and property and to assure proper clearance over driveways and streets. Special corner cable rollers shall be used for pulling cable around any corner (for cables 288 or larger a 24-inch pole mounted corner roller must be used).
 - 2.13.15. Bends of small radii and twists that may damage the fiber optic cable shall be avoided. During cable placement, cable shall not be bent in a radius less than cable manufacturer's recommendation of the cable. Pulleys, sheaves or radius wheels shall be used to meet this requirement.
 - 2.13.16. Cable shall not be pulled at greater than 180 degrees of cable bend per pull.
 - 2.13.17. Lashing wire shall be terminated with a lashing wire clamp on each side of every pole. Lashing wire clamps shall not be installed on deadend preforms at any time. The lashing wire shall be wrapped three times around the strand before terminating in the lashing wire clamp. The lashing wire shall be placed between the two washers and shall be wrapped no more than 1/2 turn. The lashing wire must not cross itself under the washers and no more than 2 lashing wires per D lashing wire clamp. When the lashing wire is securely fixed, the end of the lashing wire shall not be exposed. When double lashing, Contractor shall not place both lashing wires under the same washer.
 - 2.13.18. When overlashing new cable to existing plant contractor, shall add new lashing wire clamps.
 - 2.13.19. At each pole, the cable and strand shall be separated by cable support and spacers. A minimum of two (2) straps and two (2) spacers shall be used equidistant from each side of the pole.
 - 2.13.20. For each reel of fiber optic cable placed, the location of slack loops shall be at 10% EVERY 1,500 FEET (150') intervals and at Company designated riser locations or Company project manager discretion. Each reel will be utilized completely for each section unless directed otherwise by Company. The length of slack loops shall be 150 linear feet using a "snowshoe" storage system. Slack loops shall be located as far from the pole as possible (with a minimum of 4 linear feet) and installed as shown in the Contract Drawings. Slack coils shall not be placed on the pole. Contractor shall not coil the cable on the pole. Contractor shall not exceed the

recommended bend radii in the slack loop (if the Yellow Jacket closures are being used, slack loops for those leads are determined by local Project Management).

- 2.13.21. Company supplied fiber warning tags will be placed at each pole.
- 2.13.22. Match existing sag where attachment height and midspan height can be maintained. If height cannot be maintained the use of spacers or extension arms may be required to maintain separation.
- 2.14. FIBER OPTIC SPLICING – *Reference OSP Typical Drawings 25-28*
 - 2.14.1. Splicing of fiber optic cable shall only occur at locations indicated on the Contract Drawings or as approved by Company or as indicated on Company supplied splice assignment sheets.
 - 2.14.2. Contractor shall splice all fibers in accordance with and as designated in the splice assignment sheets provided by Company. Contractor shall splice the fiber optic cable in accordance with Company's specifications and the manufacturer's recommendations.
 - 2.14.3. Contractor shall confirm, prior to splicing, that the information indicated by the Company provided splice assignment sheets are correct and consistent with what the Contractor actually encounters in the field. (Therefore, if the Contractor is working on a fiber cable and has been informed by Company that its composition is of mixed fiber types; the Contractor must confirm this composition and the sequencing by visual inspection prior to splicing. If any information is absent or incorrect on the splice drawings, it is the Contractor's responsibility to notify Company and obtain the correct information.)
 - 2.14.4. Contractor shall provide splicing equipment that is in good, clean working condition. Contractor shall calibrate the splicing equipment as recommended by the manufacturer. All Splicing equipment should be modern, use the "core alignment" method to align fibers to be spliced and meet current § 1755.200 RUS Article E splicing standards. Company reserves the right to inspect the splicing equipment and to request the Contractor to calibrate and/or clean the equipment upon inspection.
 - 2.14.5. All fibers are to be fusion spliced and organized, placed and secured in the splice enclosure equipment provided by Company. Mass fusion splicing shall only be utilized on ribbon fiber cables. Where applicable, a heat oven shall be used to heat shrink all sleeves. A heat gun that is hand applied shall not be permitted. Contractor shall prevent damage to exposed fibers by overheating. Contractor shall not remove coating beyond the areas that will be covered by the heat shrink sleeves.
 - 2.14.6. All contractors shall use the appropriate enclosure for the application needed as directed by company. Current standards are the following.
 - Aerial Terminal – A yellow jacket inline enclosure shall be used for all aerial terminals.
 - Ground Terminal – A Channell G5 enclosure shall be used for all ground terminal locations.
 - 2X8 Splitter – A Channell G6 enclosure shall be used for all ground and aerial based 2X8 Splitter locations. A Channell G9 may be used for aerial applications with PM approval.
 - Tie Points – A 450D enclosure shall be used on all points connecting transport and distribution fiber. A G9 may be used on fiber counts less than 288 with the approval of the PM.
 - Butt Splices – A Channell G5 shall be used for butt splices with fiber counts 48 and below. A Channell G6 shall be used for fiber counts 49 through 96. A Channell G9 shall be used for fiber counts 97 through 288. A 450D shall be used for fiber counts 432 and below. A 600D shall be used for fiber counts 864 and below.
 - 2.14.7. To ensure proper storage length when performing a ring cut contractor shall only prep and sleeve the appropriate length of FOC.
 - 2.14.7.1. Yellow Jacket – 63" from center of coil
 - 2.14.7.2. G5 – 38" from center of coil
 - 2.14.7.3. G6 – 56" from center of coil
 - 2.14.7.4. G9 – 80" from center of coil
 - 2.14.7.5. 450D – 80" from center of coil

- 2.14.7.6. 600D – 80" from center of coil
- 2.14.8. If splicing on or around active fibers is required, Contractor shall exercise special care and precautions. If a fiber/ribbon must be cut as part of the Work, Contractor shall check the fiber(s) with a fiber traffic identifier to confirm that the fibers do not have live traffic. Contractor shall not cut any fiber(s) without prior written authorization by Company. A Company field representative must be present whenever splicing is being performed on or near active fibers. Before starting and upon completion, Contractor shall contact NOC. Additionally, the Contractor shall have on site, all necessary materials to make temporary and permanent repairs to any active fibers that may be damaged during the course of the work.
- 2.14.9. All splicing shall be monitored by use of the splicing equipment's integrated local injection and detection or core alignment system.
- 2.14.10. Splice data shall be recorded during the fusion splicing and shall include time of day, weather conditions including temperature and humidity, equipment used, and all other pertinent splicing information.
- 2.14.11. Within each splice enclosure, Contractor shall use a label maker to clearly print and identify each tray with the corresponding fibers and/or buffer tubes contained therein.
- 2.14.12. Contractor shall bond and/or ground splice enclosures per Company's and the Manufacturer's recommendations.
- 2.15. FIBER OPTIC TESTING**
- 2.15.1. When Splicing a ring, or as required by Company for any other segments, the Contractor will supply a digital copy of individual fiber OTDR test results in an approved format (.sor is preferred).
 If upon completion of the ring splicing there is no continuity to the hut, contractor shall be responsible for any and all resplicing once ring testing is complete.
 Company requires power meter readings at each terminal. The accepted power reading shall be between the ranges of -14 dB to -21dB calculated using a +3dB light source.
- 2.15.2. **Single fiber splicing**
 No splice event shall have a loss of greater than 0.1 db. In an attempt to achieve this goal, a fiber may be re-spliced up to 3 times after the initial splice attempt. If after three additional attempt the splice loss still exceeds 0.10 dB, an individual splice loss up to 0.2 dB will be accepted with the approval of the Market Project Manager.
- 2.15.3. **Ribbon Cable Splicing**
 No single fiber splice event shall have a loss of greater than 0.15 dB in a spliced ribbon. In an attempt to achieve this goal, a fiber may be re-spliced up to 3 times after the initial splice attempt. If after three additional attempt the splice loss still exceeds 0.15 dB, an individual splice loss up to 0.2 dB will be accepted with the approval of the Market Project Manager.
- 2.15.4. **Splicing Ribbon to Loose Tube Cable**
 When splicing a loose tube cable to a ribbon cable, the Contractor shall ribbonize the loose tube fibers and use a mass fusion machine to splice the fibers. The Contractor must take special care when ribbonizing loose tube fiber to avoid transposition (frogging) of the ribbonized fibers and validate continuity by an end to end power test.
- 2.15.5. Splicing Picture Nomenclature**
 Splice Test Results need to include at least two photos (in JPEG format) consisting of the below requirements.
- 1.1.1. Take a picture of the inside of the splice case. Picture shall include the tray with final work clearly presented and a power meter reading in clear view. (Save as ex: RC056-A05_Results)

- 1.1.2. Take a picture of the splice case in final placement – in aerial or buried (Save as ex: RC056-A05_Final)
 - 1.1.3. If multiple trays are required, contractor shall take a picture of each tray. (Save as ex: RC056-A_Tray2)
 - 1.1.4. Contractors shall utilize a cloud storage platform (Google Drive, Dropbox, etc) to host pictures. When the contractor submits test results to MetroNet they must include a link to the respective folder for the work completed.
- 2.16. GROUNDING AND BONDING
- 2.16.1. Contractor shall perform bonding and grounding of all armored cables as depicted in the typical drawings. All bonding and grounding shall be performed in accordance with the splice case manufacturer's specifications.
 - 2.16.2. All bonds shall be clean and free of debris and sealed within the splice closure.
 - 2.16.3. Ground rods shall be placed at all underground splice locations when armored cable is present. Ground rod shall be five-eighths inch (5/8") diameter and eight feet (8') long copper clad and installed to leave eight inches (8") exposed inside the manhole or handhole. Contractor shall install a #6 AWG jacketed solid copper wire from the ground rod to the splice closure attached via mechanical clamps.
 - 2.16.4. For aerial splice locations, the splice closure shall be bonded to the strand.

3. SAFETY

- 3.1. Safety is the foremost concern during progress of the Work. If Company discovers any Contractor performing an unsafe act or operation, Company may notify Contractor to stop work until the unsafe act or operation is corrected. In addition to all other rights and remedies Company has, if unsafe acts or operations occur, Company reserves the right to terminate the Agreement. This project encompasses areas that may include both public and private right-of-way. Therefore, in addition to the workers, consideration must also be made for the general public and for private property.
- 3.2. Guidelines for health, safety and traffic control standards have been established by various agencies. Contractor shall comply with all Health, Safety and Traffic Control standards and procedures as required by the Jurisdictional Authorities and regulations as applicable.
- 3.3. Manhole safety procedures, including testing, monitoring and controlling manhole atmosphere and installing proper manhole barricading, shall be required when accessing manholes to perform work under this Agreement.
- 3.4. Any personal injury to Contractor's employees or agents engaged in work under this Agreement, which requires the services of a medical technician, physician or hospitalization, shall be reported immediately to a Company field representative. Contractor shall also report immediately to Company any injury to other person(s) in which circumstances may concern Company.
- 3.5. Weekly Safety Meetings shall be conducted by Contractor and attended by all Contractor field personnel and Company field representative(s). The past week and anticipated hazards shall be discussed, with preventive measures outlined.
- 3.6. All Contractor personnel in construction areas and Company warehouses and storage facilities shall wear hard hats and reflective vests at all times. *NO EXCEPTIONS*. Appropriate clothing and safety-toe footwear shall be worn at all times. Clothing with offensive or objectionable printing shall not be permitted.
- 3.7. Traffic cones, barricades, police details, flaggers, warning signs shall be inspected each day at each site.
- 3.8. In areas that the Contractor is required to place shoring per OSHA specifications, the Contractor shall have a competent person design the protection and shall incur all cost associated with protection of the site.
- 3.9. Under no circumstances shall pedestrian traffic be routed or rerouted onto the Roadway or in an area where vehicular traffic is present.
- 3.10. Explosives shall not be used by Contractor under any circumstances.
- 3.11. The presence and /or use of alcohol, illegal substances or any other substances that may adversely affect the performance of individuals are strictly forbidden on every Company project.

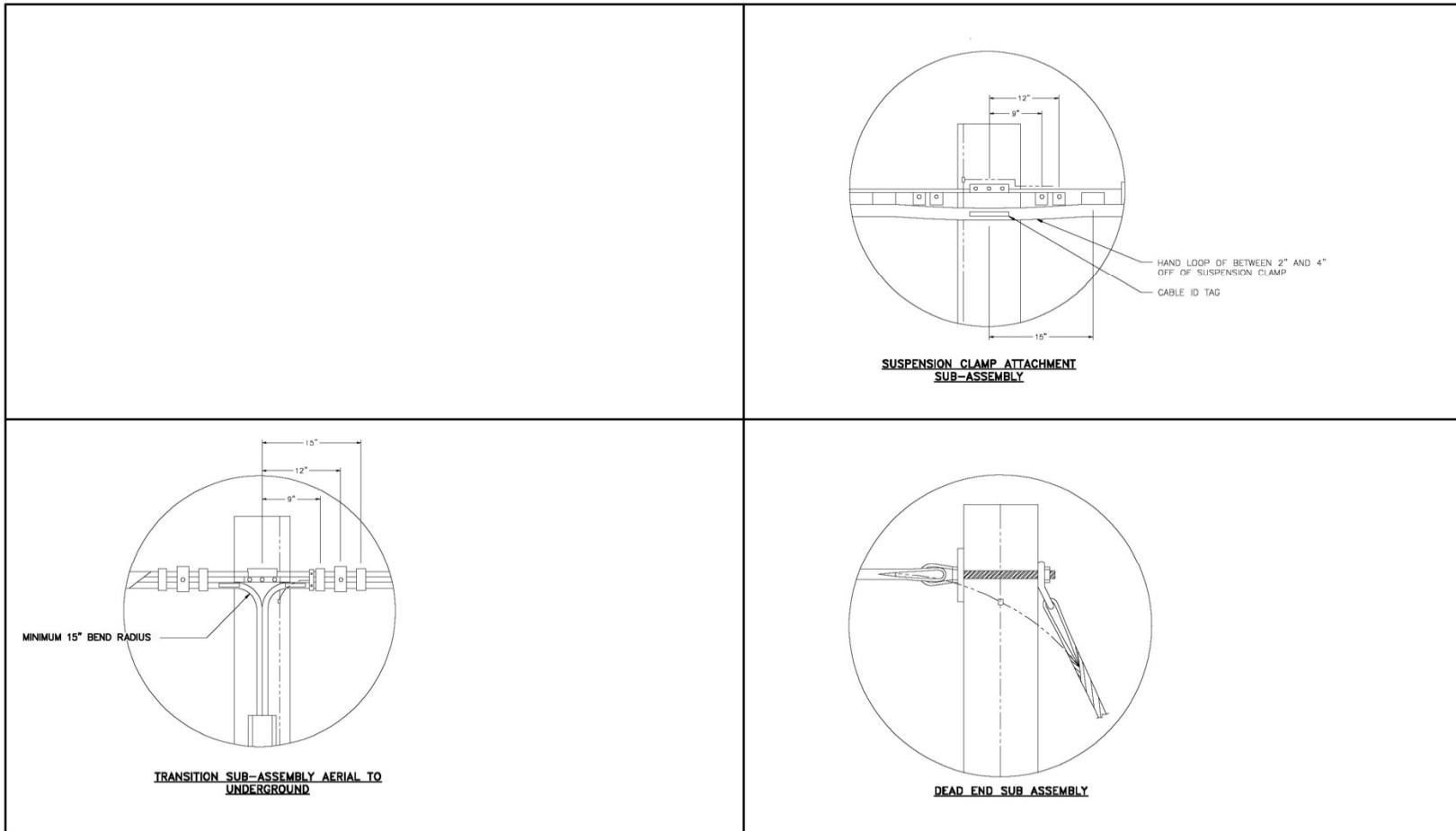
- 3.12. The presence and/or use of alcohol, illegal substances or any other substances that may adversely affect the performance of individuals are strictly forbidden on every Company project.

DRAWING INDEX

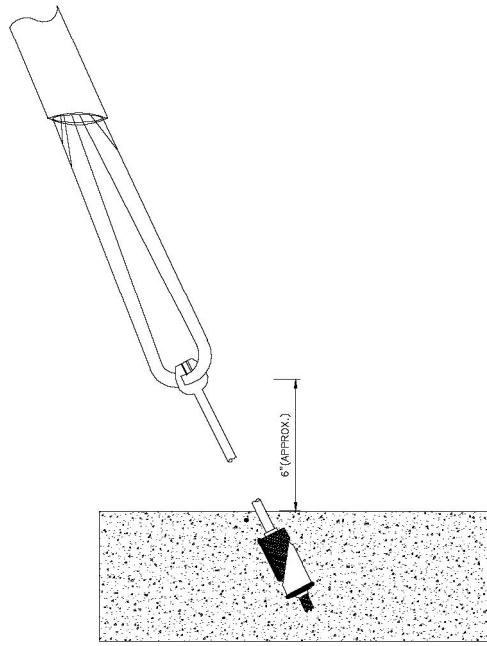
DRAWING NO:	SHEET TITLE
OSP 01	AERIAL TOP LEVEL ASSEMBLY
OSP 02	AERIAL ANCHOR INSTALLATION
OSP 03	SINGLE DEAD END – WOOD POLE
OSP 04	SINGLE DEAD END – METAL POLE
OSP 05	DOUBLE DEAD END FIBER ATTACHMENT – WOOD POLE
OSP 06	DOUBLE DEAD END FIBER ATTACHMENT – METAL POLE
OSP 07	SLACK SPAN ATTACHMENT – WOOD POLE
OSP 08	SLACK SPAN ATTACHMENT – METAL POLE
OSP 09	AERIAL FIBER AND STRAND INSTALLATION
OSP 10	SUSPENSION CLAMP FIBER ATTACHMENT – WOOD POLE
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OSP 14	CONFIGURATION – TYPICAL STANDOFF BRACKET INSTALLATION - WOOD POLE
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OSP 16	AERIAL TO UNDERGROUND FIBER TRANSITION – METAL POLE
OSP 17	AERIAL TRANSITION W/PULL OFF AND STRAIGHT SUSPENSION CLAMP – WOOD POLE
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OSP 19	UNDER CONFIGURATION – TYPICAL UNDERGROUND CONDUIT INSTALLATION PLOW/TRENCH (WITH LOCATE WIRE)
OSP 20	TECHNICAL SUPPORT DIRECTIONAL BORES
OSP 21	UNDERGROUND VAULT PLACEMENT - INCLUDE SIDEWALK INSTALLATION
OSP 22	UNDERGROUND CONFIGURATION – TYPICAL FIBER MARKER POST
OSP 23	FIBER SPLICE ENCLOSURE LABELING
OSP 24	G6 ENCLOSURE, (2) 2X8 SPLITTERS
OSP 25	AERIAL YELLOW JACKET SPLICE ENCLOSURE
OSP 26	G5 SPECIAL METRONET WITH TWO 1X4 SPLITTERS
OSP 27	G5 SPECIAL METRONET WITH TWO 1X4 SPLITTERS

DRAWING NO:	SHEET TITLE
GC 01	SEDIMENT AND EROSION CONTROL – GENERAL STATEMENT
GC 02	SEDIMENT AND EROSION CONTROL – SILT FENCE AND INLET PROTECTION
GC 03	SEDIMENT AND EROSION CONTROL – STRAW WADDLE AND ROLLED EROSION CONTROL
GC 04	TRAFFIC CONTROL - GENERAL REQUIREMENTS
GC 05	TRAFFIC CONTROL - LEGEND
GC 06	TRAFFIC CONTROL – WORK BEYOND THE SHOULDER
GC 07	TRAFFIC CONTROL – WORK ON THE SHOULDER
GC 08	TRAFFIC CONTROL – SHOULDER WORK WITH MINOR ENCROACHMENT
GC 09	TRAFFIC CONTROL – LANE CLOSURE ON A MINOR STREET
GC 10	TRAFFIC CONTROL – WORK IN THE VICINITY OF A GRADE CROSSING
GC 11	TRAFFIC CONTROL – STATIONARY LANE CLOSURE ON A DIVIDED HIGHWAY
GC 12	TRAFFIC CONTROL – LANE CLOSURE ON A TWO-LANE ROAD USING FLAGGERS
GC 13	TRAFFIC CONTROL – RIGHT-HAND LANE CLOSURE ON THE FAR SIDE OF INTERSECTION
GC 14	TRAFFIC CONTROL – CLOSURE AT THE SIDE OF INTERSECTION
GC 15	TRAFFIC CONTROL – SIDEWALK DETOUR OR DIVERSION
GC 16	TRAFFIC CONTROL – CROSSWALK CLOSURES AND PEDESTRIAN DETOURS

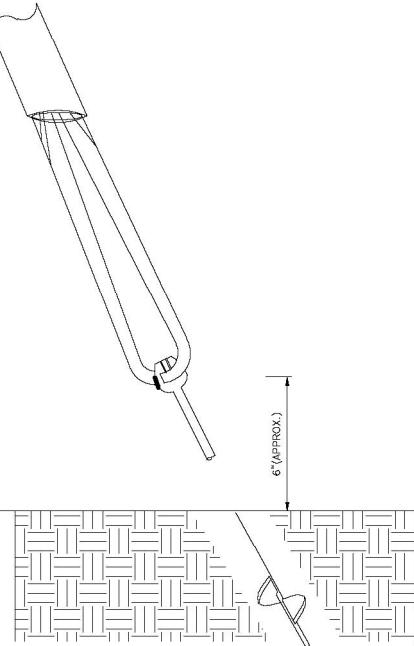
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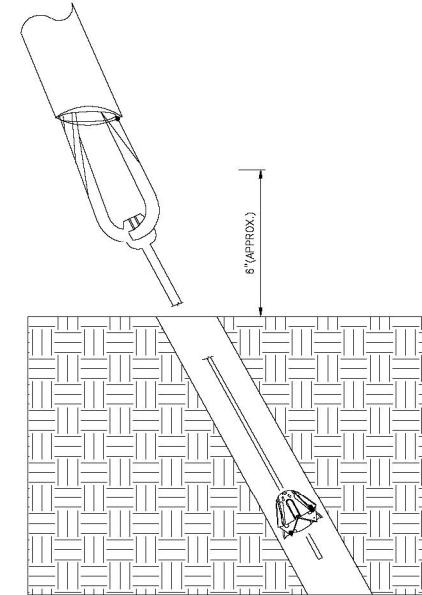
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**OPTION "A" EXPANDABLE
ROCK ANCHOR**



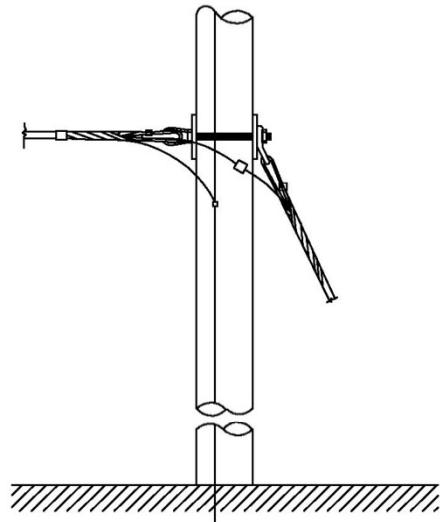
**OPTION "B"
HELICALSOIL ANCHOR**



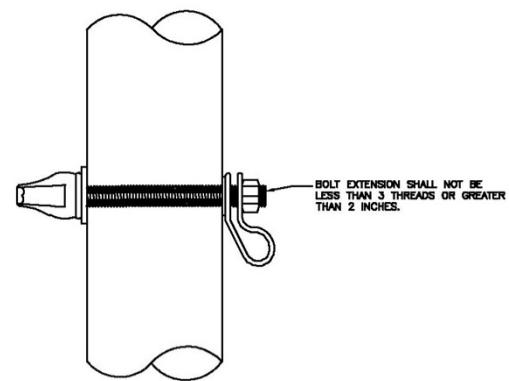
**OPTION "D" EXPANDING
ANCHOR FOR 3/4" ROD**

AERIAL ANCHOR INSTALLATION

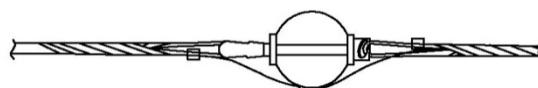
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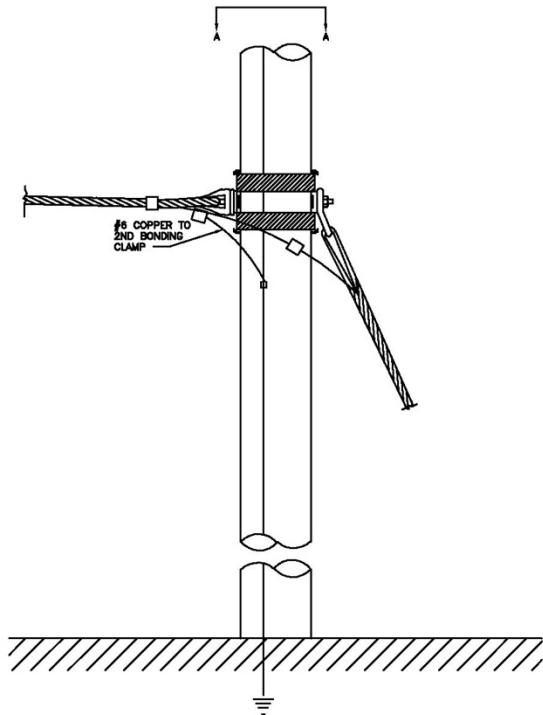
SINGLE DEAD END - NO FIBER



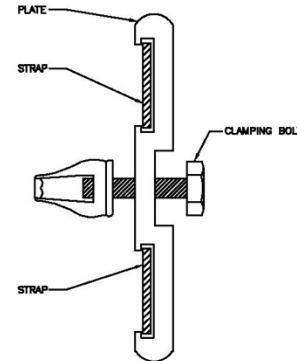
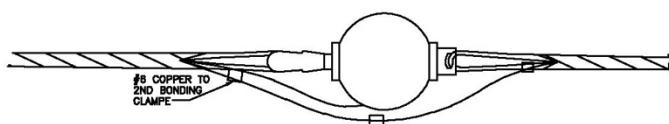
THIMBLE EYE BOLT AND PIG EAR
BRACKET ASSEMBLY



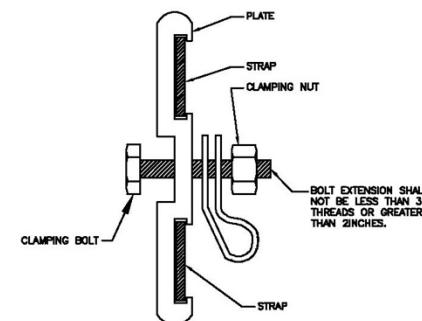
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						AREA		



SINGLE DEAD END ASSEMBLY NO FIBER

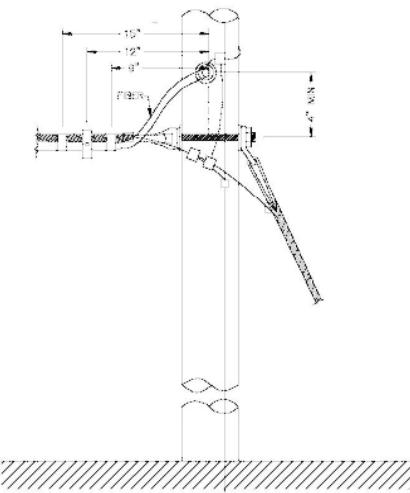


MOUNTING PLATE ASSEMBLY
WITH THIMBLE EYE NUT

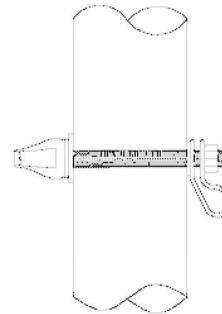


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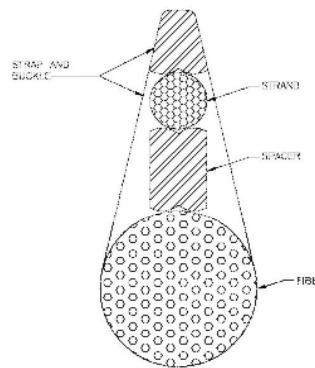
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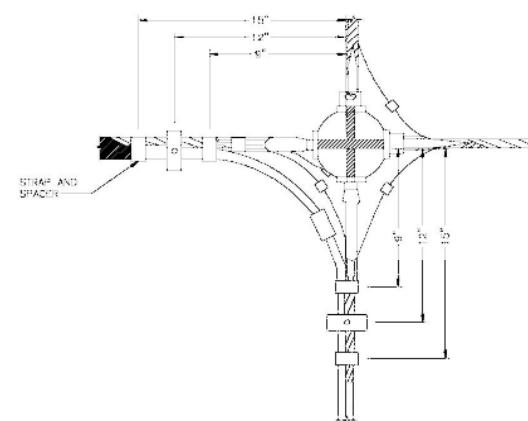
DOUBLE DEAD END - WOOD POLE



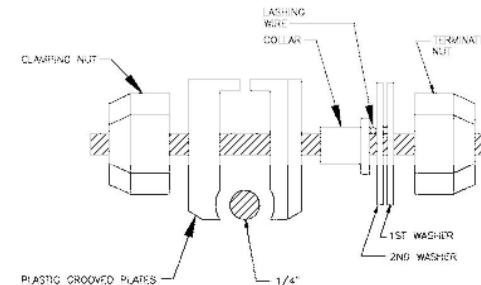
THIMBLE EYE BOLT AND
PIG EAR BRACKET ASSEMBLY



CABLE SUPPORT ASSEMBLY



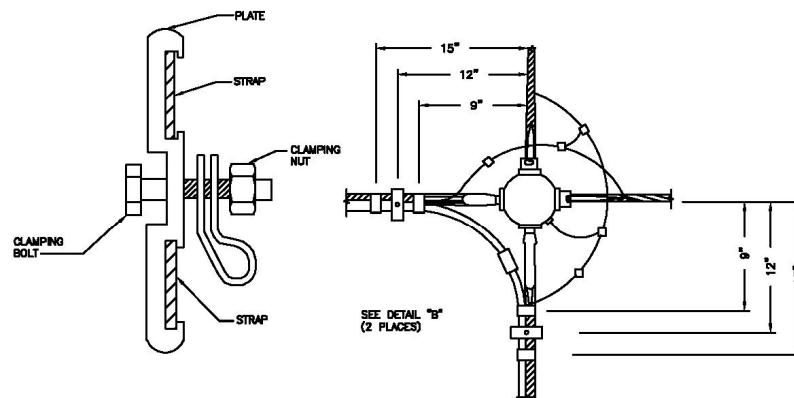
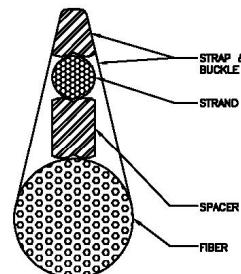
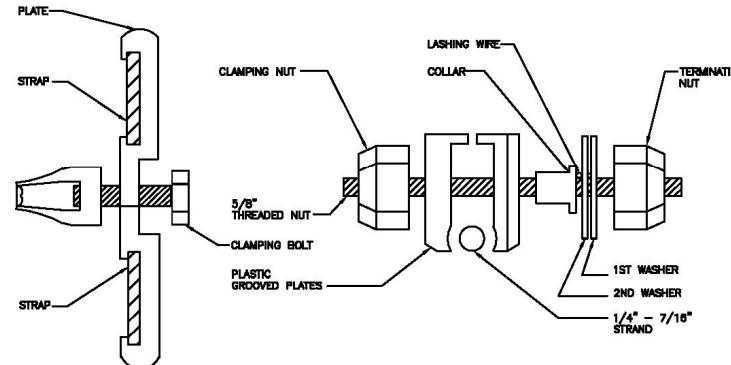
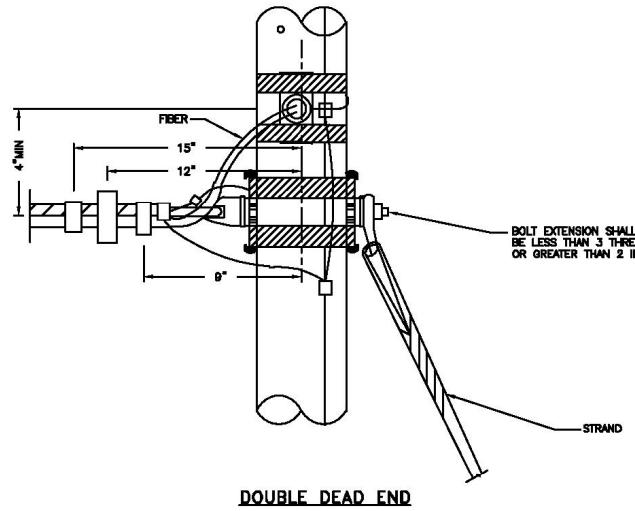
DOUBLE DEAD END ASSEMBLY



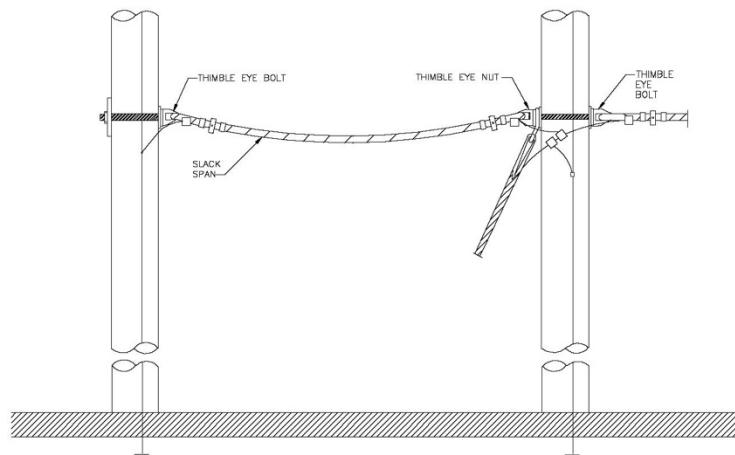
LASHING CLAMP

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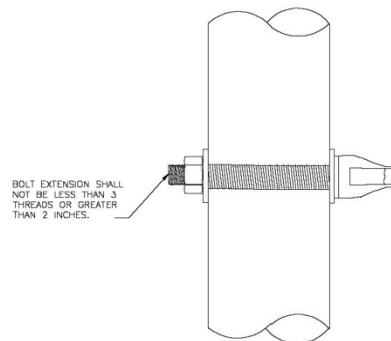
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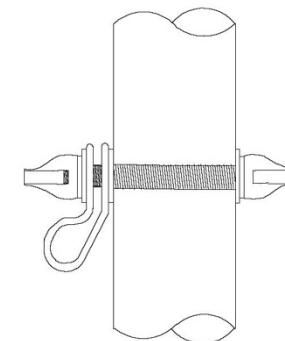
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SLACK SPAN ATTACHMENT

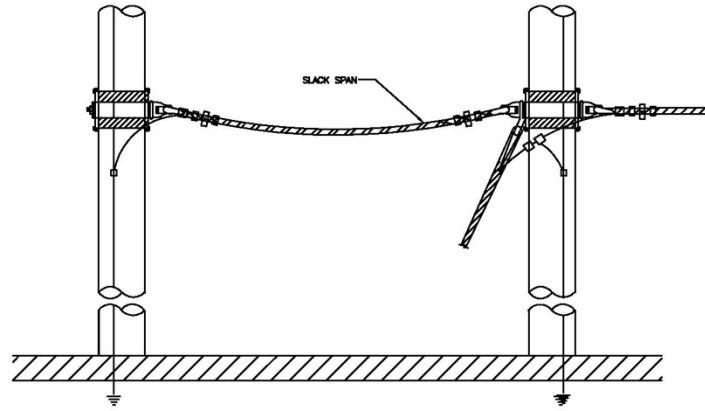


THIMBLE EYE BOLT
ASSEMBLY

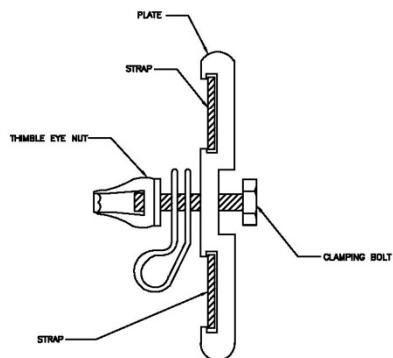


THIMBLE EYE BOLT & NUT
W/PIG'S EAR ASSEMBLY

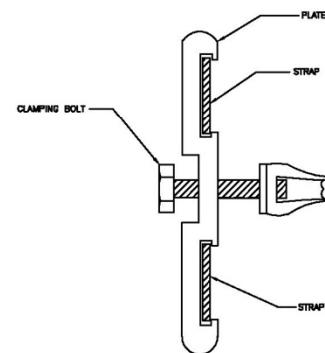
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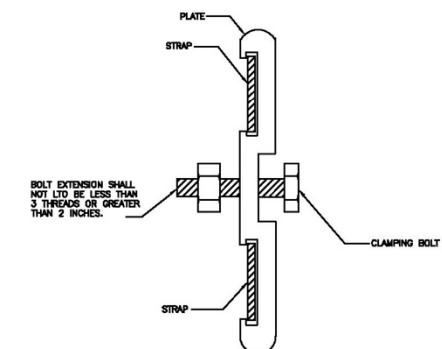
SLACK SPAN ATTACHMENT



MOUNTING PLATE ASSEMBLY WITH PEG EAR BRACKET

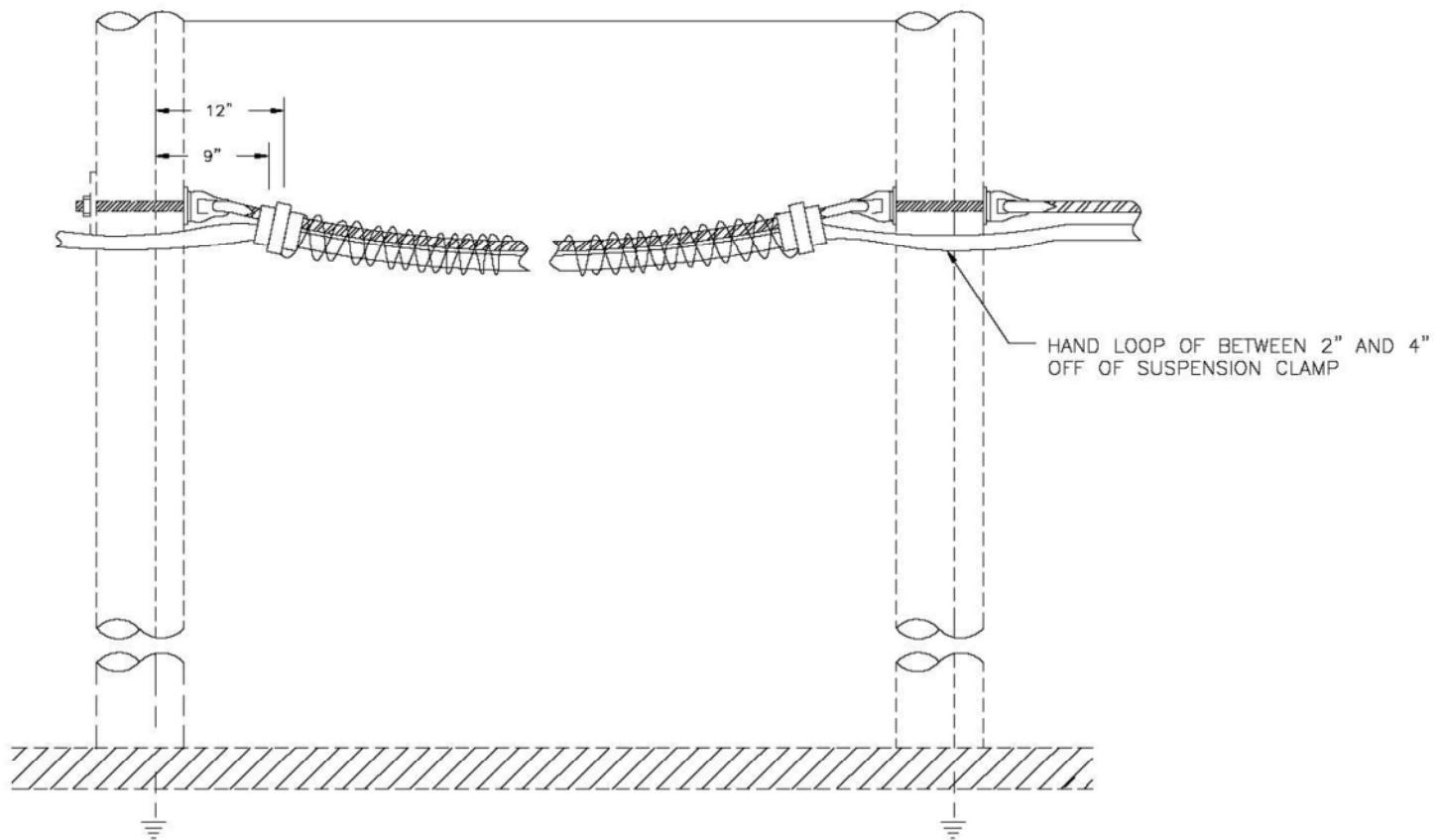


MOUNTING PLATE ASSEMBLY WITH THIMBLE EYE NUT



MOUNTING PLATE ASSEMBLY

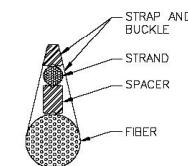
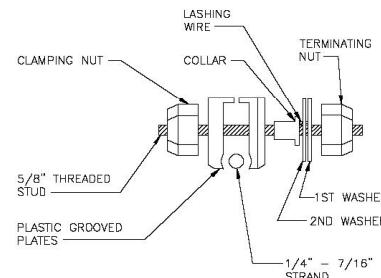
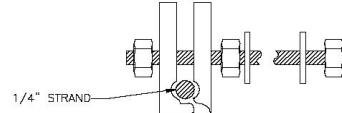
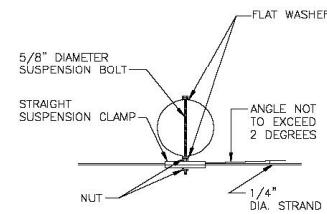
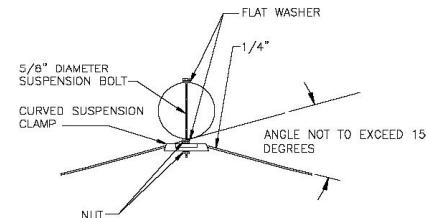
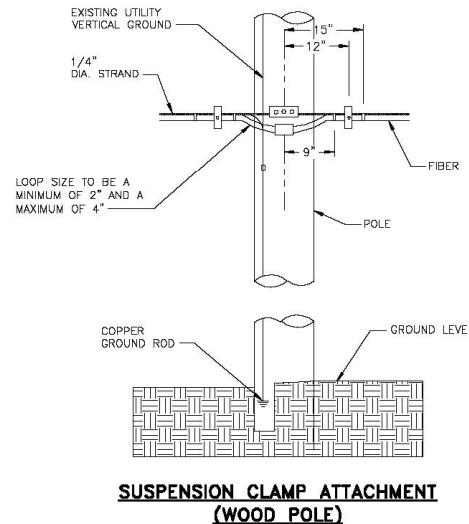
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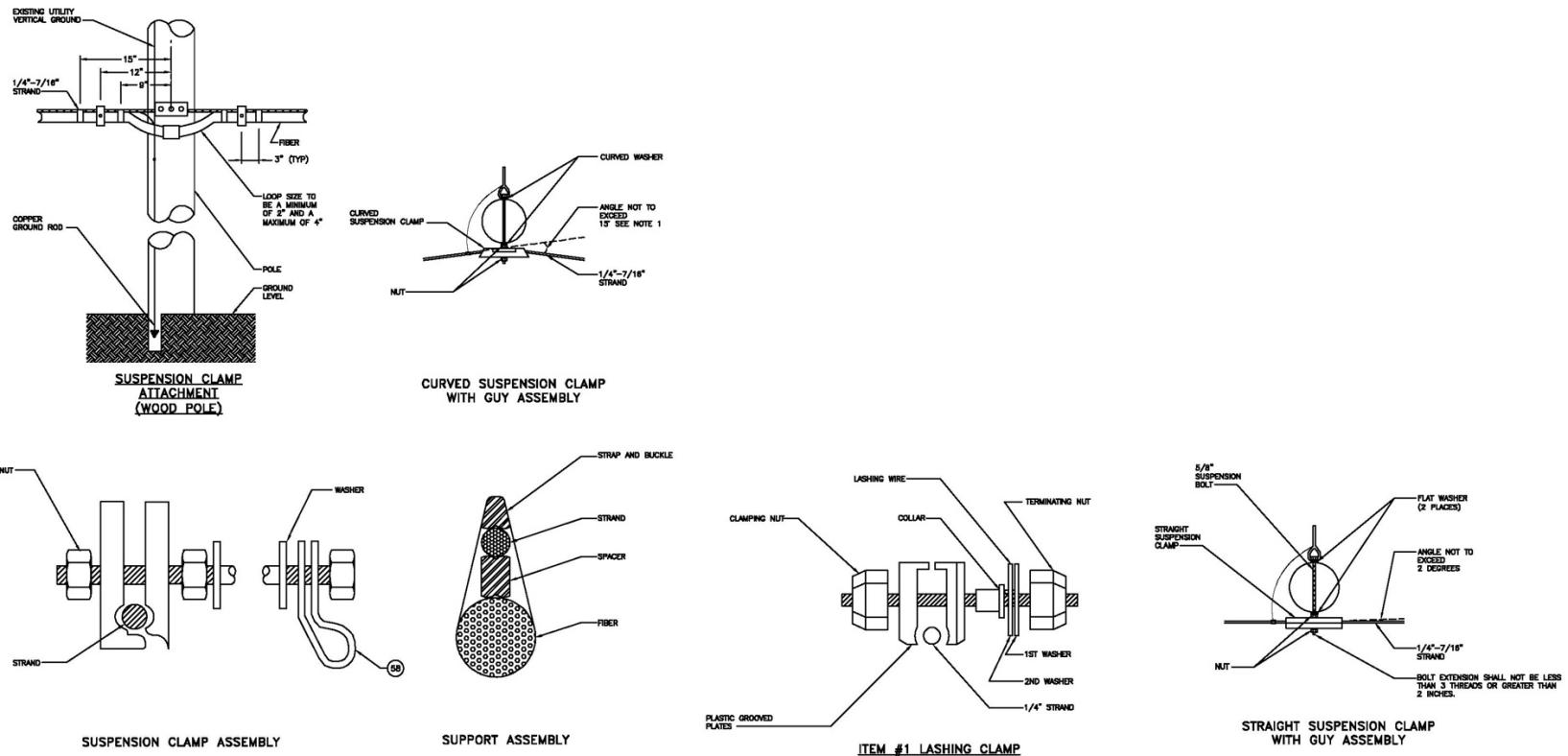
FIBER AND STRAND INSTALLATION – AERIAL

SAG NOTE: 1% OF CABLE SPAN, FOLLOW NESC GUIDELINES AND
ENGINEERING PRACTICE.

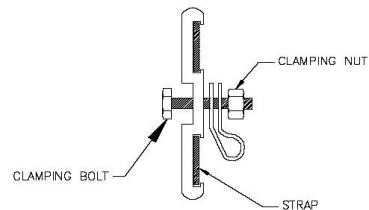
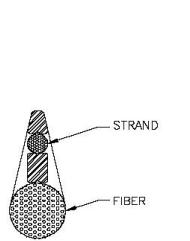
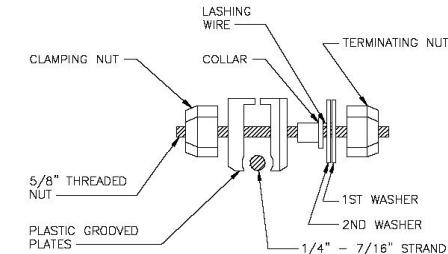
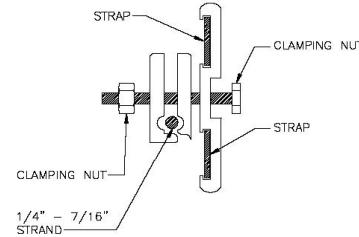
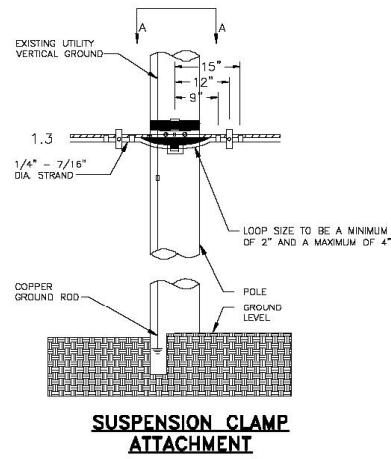
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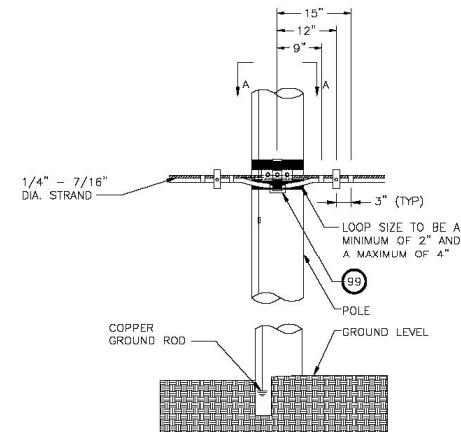
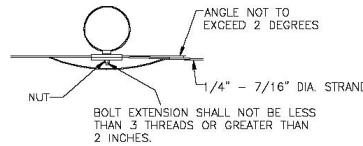
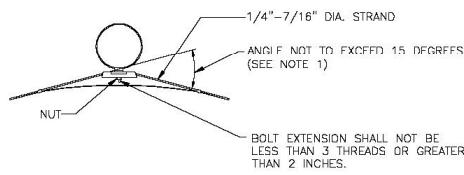


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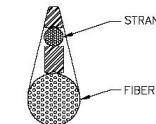
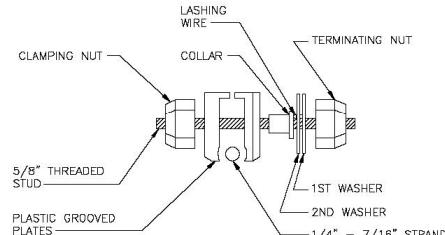
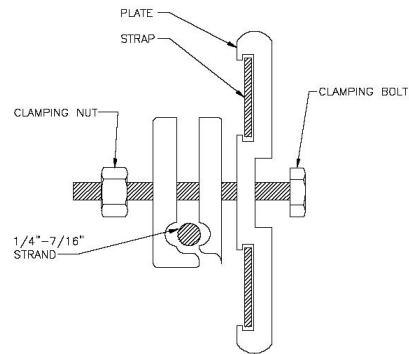
SUSPENSION CLAMP FIBER ATTACHMENT-METAL POLE



CURVED SUSPENSION CLAMP ASSEMBLY

STRAIGHT SUSPENSION CLAMP ASSEMBLY

**SUSPENSION CLAMP
ATTACHMENT
(METAL POLE)**



MOUNTING PLATE ASSEMBLY
W/SUSPENSION CLAMP

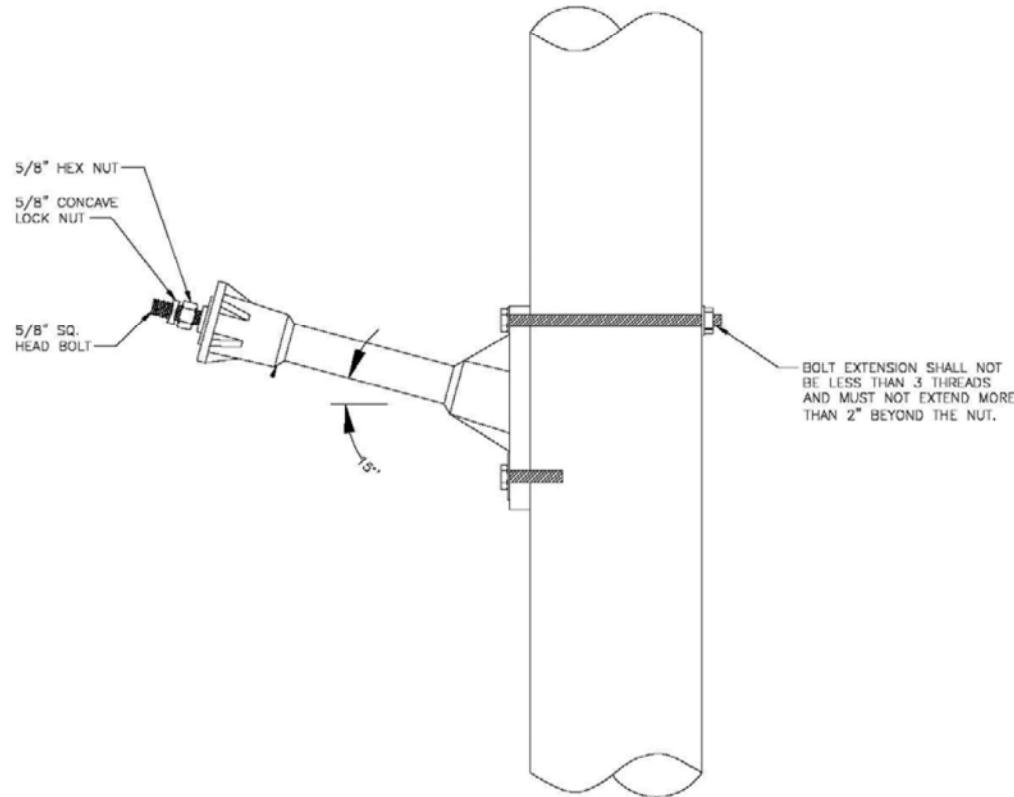
LASHING CLAMP ASSEMBLY

CABLE SUPPORT ASSEMBLY

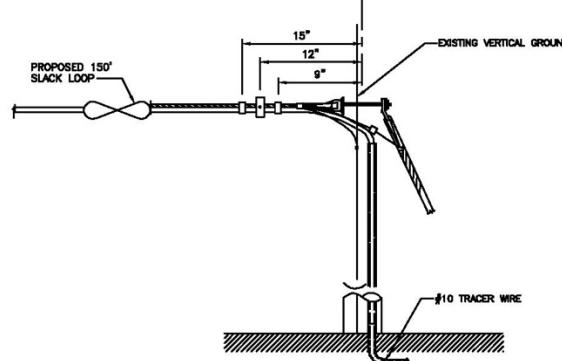
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NOTE:

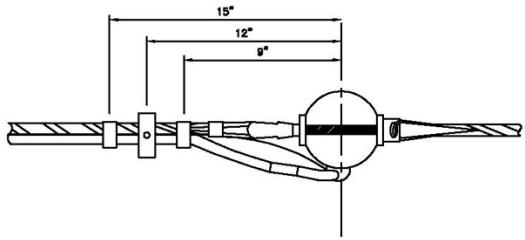
1. BOLT LENGTHS WILL VARY BY POLE THICKNESS.

STANDOFF BRACKET INSTALLATION**FIBERGLASS COMMUNICATION STANDOFF BRACKET**

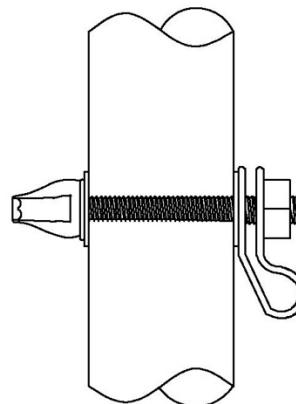
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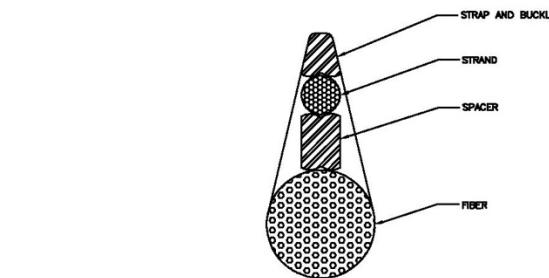
AERIAL TO UNDERGROUND TRANSITION



LASHING CLAMP

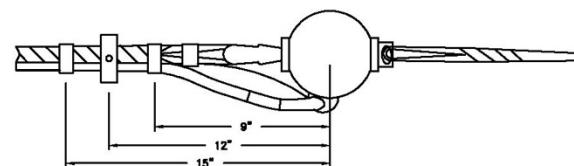
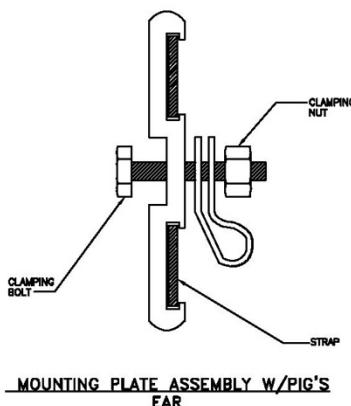
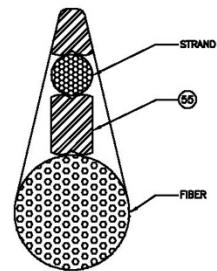
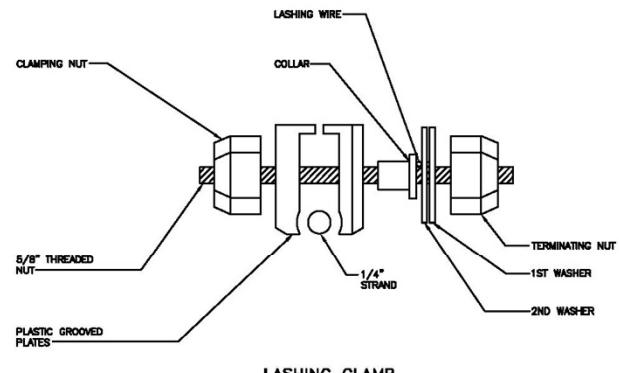
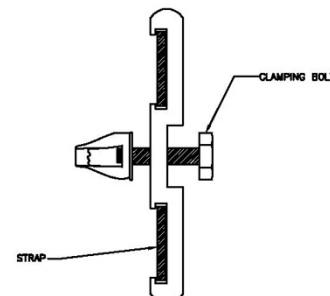
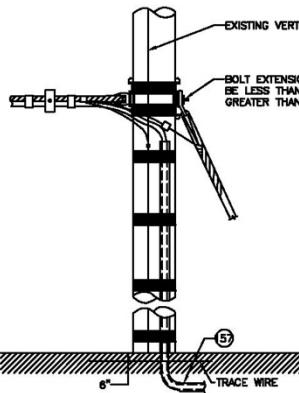


THIMBLE BOLT
W/PIG'S EAR BRACKET

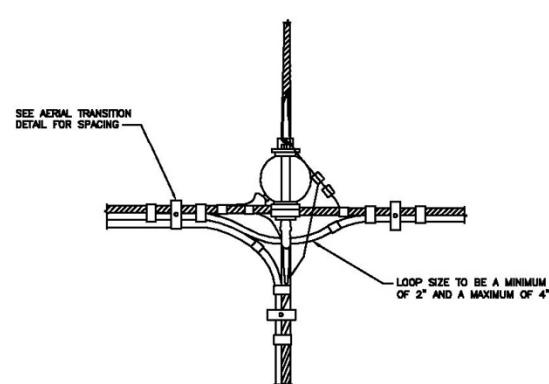
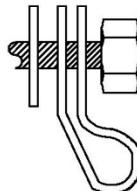
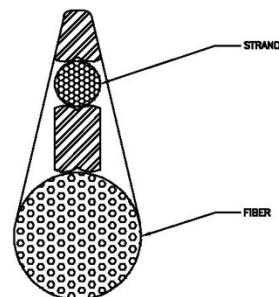
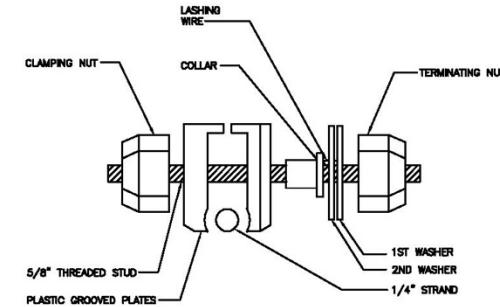
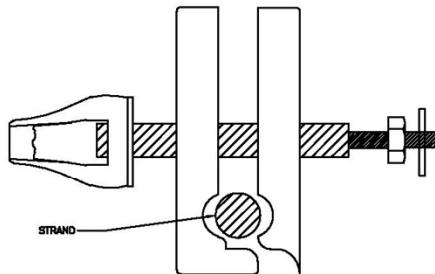
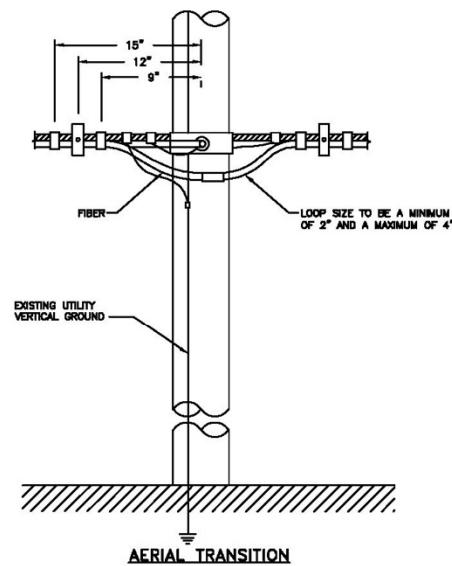


CABLE SUPPORT ASSEMBLY

1.0	04/06/2021	First Draft	METRONET	TELECOM FIBER		Project	Drawing Number	Rev
				Designer	Drawn		OSP 15	0
					CONFIGURATION – TYPICAL AERIAL TO UNDERGROUND FIBER TRANSITION – WOOD POLE		CODE	
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA		



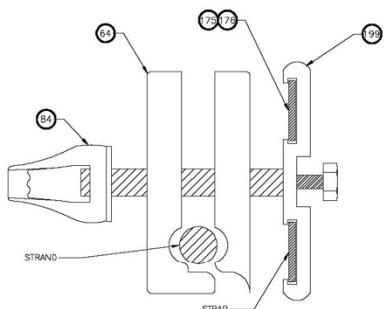
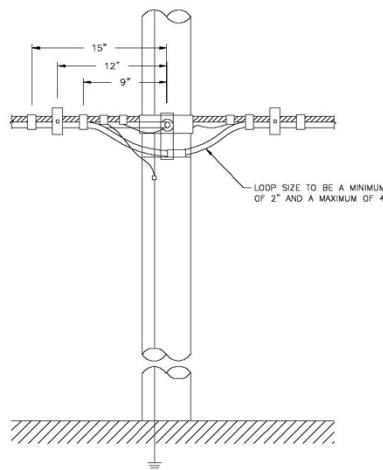
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			Designer	Drawn	CONFIGURATION – TYPICAL AERIAL TO UNDERGROUND FIBER TRANSITION – METAL POLE		CODE	
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date			AREA	



CABLE SUPPORT ASSEMBLY

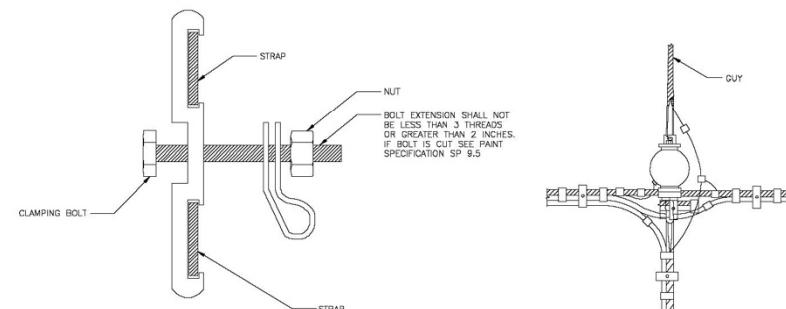
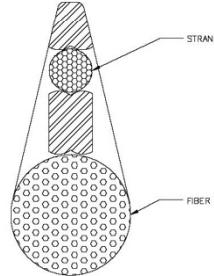
PIG EAR ASSEMBLY

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NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA		

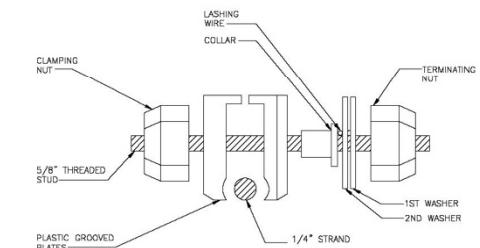
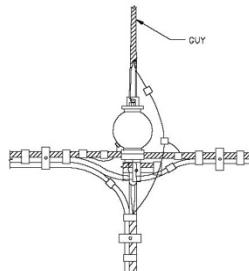


MOUNTING PLATE ASSEMBLY WITH SUSPENSION BRACKET & THIMBLE NUT

AERIAL TRANSITION - PULL OFF



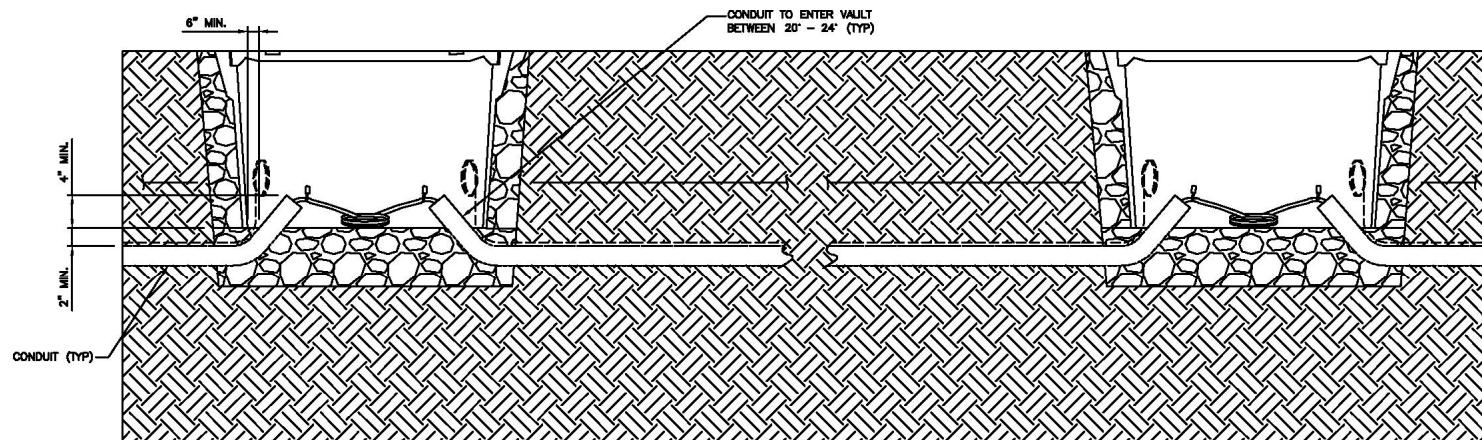
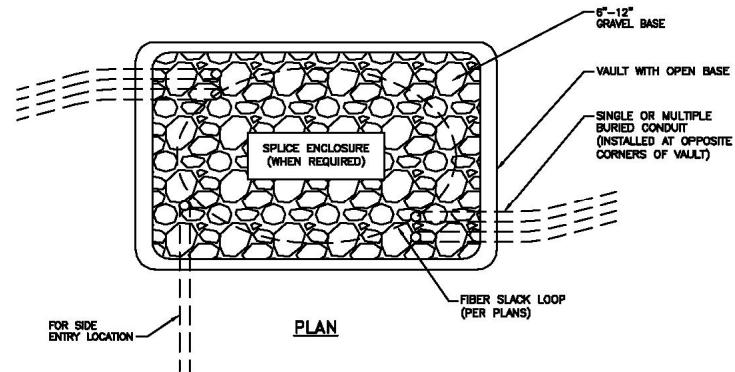
MOUNTING PLATE ASSEMBLY WITH PIG EAR BRACKET



LASHING CLAMP

CABLE SUPPORT ASSEMBLY

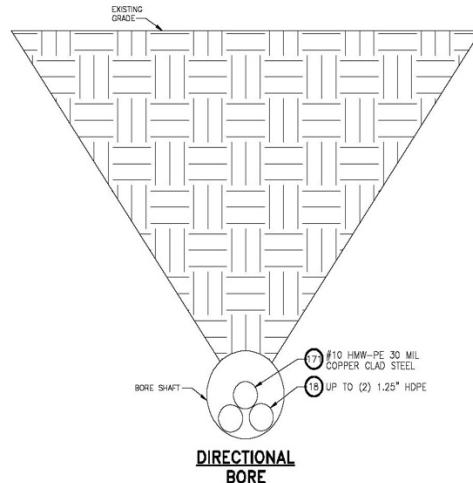
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			Designer	Drawn	CONFIGURATION – TYPICAL AERIAL TRANSITION W/ PULL OFF AND STRAIGHT SUSPENSION CLAMP – METAL POLE	CODE		
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA		



1.0	04/06/2021	First Draft	METRONET	TELECOM FIBER		Project	Drawing Number	Rev
				Designer	Drawn		OSP 19	0
			UNDER CONFIGURATION – TYPICAL UNDERGROUND CONDUIT INSTALLATION PLOW/TRENCH (WITH LOCATE WIRE)		CODE			
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date	AREA			

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BORE- FIBER INSTALLATION AND RESTORATION



CONSTRUCTION NOTES:

1. CALL FOR UTILITY LOCATES AT LEAST 72 HOURS IN ADVANCE OF ANY CONSTRUCTION FOR MARKINGS. VERIFICATION OF LOCATION OF EXISTING UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. ALL WORK WILL COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATORY AGENCIES, INCLUDING, BUT NOT LIMITED TO, OSHA, NESC, DOT, ETC
3. THE CONTRACTOR WILL NOTIFY (IF APPLICABLE) THE ADJACENT PROPERTY OWNERS A MINIMUM OF 24 HOURS IN ADVANCE OF CONSTRUCTION.
4. ALL TRAFFIC CONTROL DEVICES WILL BE IN PLACE PRIOR TO CONSTRUCTION. DEVICES NO LONGER NEEDED WILL BE REMOVED AS QUICKLY AS POSSIBLE.
5. PEDESTRIAN TRAFFIC AREAS MUST BE MAINTAINED AT ALL TIMES. PEDESTRIANS WILL NOT BE ROUTED ON TO PRIVATE PROPERTY.
6. NO EQUIPMENT OR MATERIALS WILL BE STORED ON ROAD SURFACE OR SIDEWALKS. EXCAVATION MATERIALS WILL BE STORED AWAY FROM PAVED ROADWAYS.
7. UP TO (2) 1.25" CONDUIT WILL BE USED FOR ALL FIBER.
8. DEVIATIONS FROM TABLE A, "TYPICAL CONDUIT/FIBER DEPTH CHART" WILL BE APPROVED BY THE ENGINEER AND DEPARTMENT OF TRANSPORTATION.

RESTORATION NOTES:

1. REMOVE AND STORE ALL SHRUBBRY TO BE REPLACED.
2. RESTORE ALL DISTURBED AREAS TO THEIR ORIGINAL OR BETTER CONDITION
3. ALL DISTURBED EARTH SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION AND ANY SOIL STOCKPILES SHALL BE STABILIZED WITH TEMPORARY VEGETATION.
4. DIRECTIONAL BORE DRILLING FLUIDS AND LOOSE MUD SHALL BE REMOVED FROM POTHOLES/BORING PITS, BE DISPOSED OF PROPERLY AND REPLACED WITH ENGINEERING APPROVED BACKFILL.
5. DRAWDOWN FLUIDS AND SPILLS WILL BE DISPOSED OF AT A RECOGNIZED DUMP FACILITY DESIGNATED BY ENGINEERING OR LOCAL GOVERNING AUTHORITY.
6. ALL TRACE WIRE WILL HAVE A CONDUCTIVITY TEST PRIOR TO SIGNING OFF.
7. POTHOLE EXISTING UTILITIES REQUIRED.

1.0	04/06/2021	First Draft	METRONET	TELECOM FIBER	Project _____	Drawing Number OSP 20	Rev 0
		Designer Drawn					
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked Date	TECHNICAL SUPPORT DIRECTIONAL BORES	AREA		

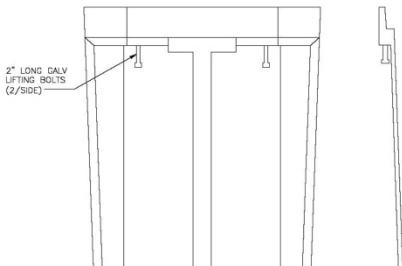
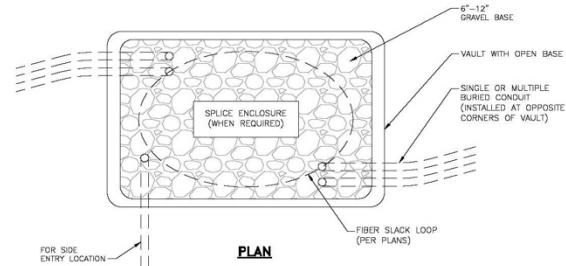
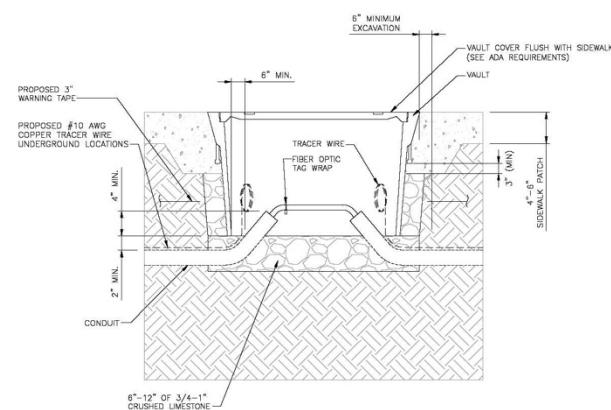
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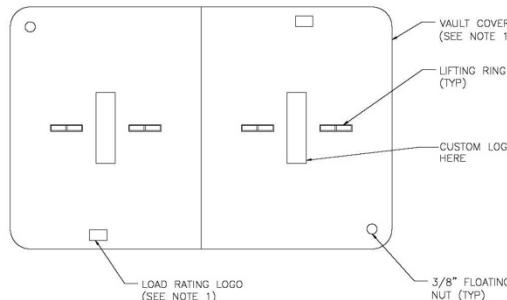
1. CALL FOR LOCATES AT LEAST 72 HOURS IN ADVANCE OF ANY CONSTRUCTION FOR MARKINGS.

2. FOR LABEL AND TAG INFORMATION SEE DRAWING OSP 16.

3. THE VAULT W/ BOTTOM ENTRY ELEVATION VIEW SHOWN BELOW ONLY INDICATES THE BACK FILL REQUIREMENTS NECESSARY FOR VAULTS PLACED IN SIDEWALKS, ETC. (REFER TO THE APPROPRIATE COMPLIANCE CODE REQUIREMENTS). ENSURE CONFORMANCE WITH CURRENT ADA REQUIREMENTS. THE HEAD OF THE BACK PLATE IS SHOWN HELD DOWN TO ALLOW CONCRETE TO FLOW DOWN AND AROUND THE LIFTING LUGS/BOLTS WHICH WILL SERVE AS BOWELS INTO THE FINISHED CONCRETE SLAB.

**SIDE VIEW****VAULT W/ BOTTOM ENTRY****NOTE:**

1. ENCLOSURES, BOXES AND COVERS ARE REQUIRED TO MEET OR EXCEED ALL TESTS PROVISIONS OF THE MOST CURRENT ANSI/SCTE 77-2007 "SPECIFICATIONS FOR UNDERGROUND INTEGRITY" FOR TIER 15 OR BETTER.

**ADA REQUIREMENTS:**

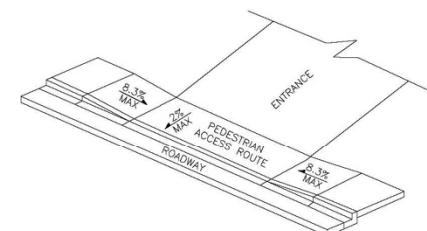
SURFACE LEVEL CRITERIA: NO HEIGHT DIFFERENTIALS WITH A LIP GREATER THAN $\frac{1}{4}$ " IN HEIGHT. EXCEPTIONS: A HEIGHT DIFFERENTIAL BETWEEN $\frac{1}{4}$ " AND $\frac{1}{2}$ " IS ACCEPTABLE IF IT IS BEVELED AT A 2:1 SLOPE, OR A HEIGHT DIFFERENTIAL GREATER THAN $\frac{1}{2}$ " IS ACCEPTABLE IF IT IS RAMPED WITH A SLOPE OF 8.33% (1V:12H) OR LESS.

UTILITY COVERS SHALL HAVE A SLIP RESISTANT TOP, AS MUCH AS POSSIBLE, AND MEET CHANGES IN LEVEL CRITERIA AS STATED ABOVE.

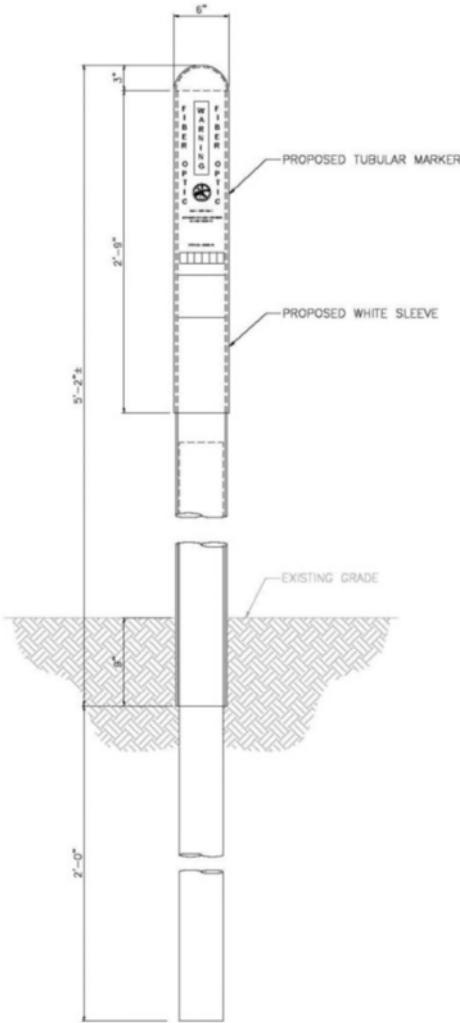
LIFT HOLES FOR UTILITY COVERS SHALL NOT HAVE AN OPENING GREATER THAN $\frac{1}{4}$ ". PLUGGING OF HOLES GREATER THAN $\frac{1}{4}$ " WITH A MATERIAL APPROVED BY THE ENGINEER IS ACCEPTABLE AS LONG AS IT IS FLUSH WITH THE COVER SURFACE.

A LEVEL PEDESTRIAN ACCESS ROUTE (PAR) OR WALKWAY SHALL BE PROVIDED ACROSS COMMERCIAL AND RESIDENTIAL ENTRANCES, MEETING THE FOLLOWING CRITERIA:

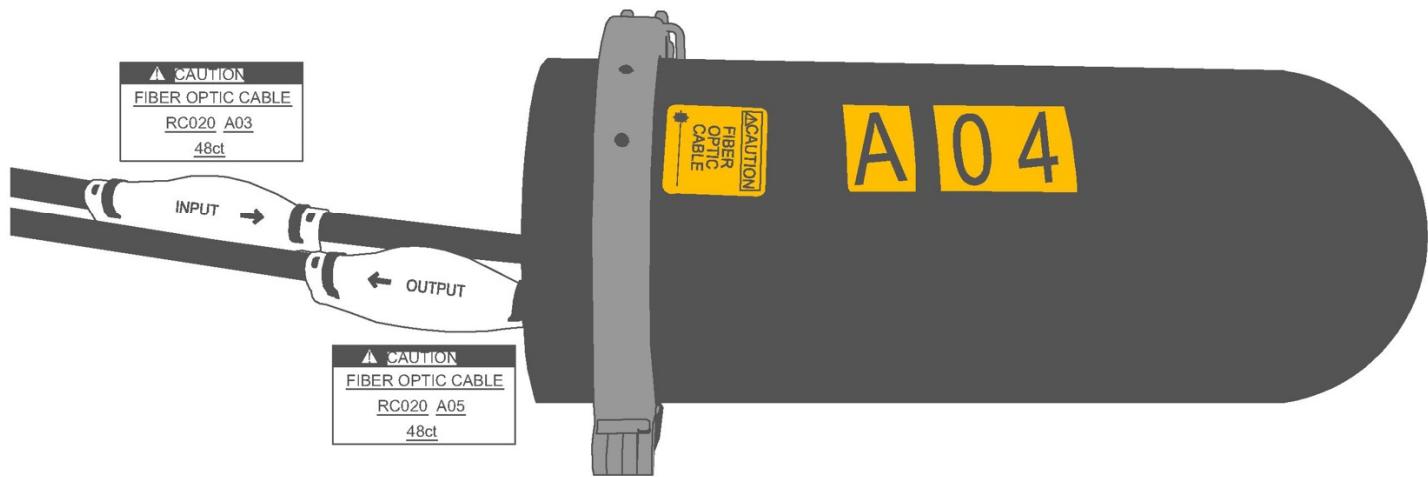
- THE WALKWAY IS AT MINIMUM 3" WIDE.
- CROSS SLOPE OF WALKWAY IS 2% OR LESS.
- WALKWAY IS AT THE SAME GRADE AS THE ADJACENT ROADWAY.
- THE WALKWAY DOES NOT HAVE TO BE MARKED, BUT PROVIDES A STRAIGHT LINE BETWEEN THE ADJOINING SIDEWALKS OR RAMPS.
- THERE IS NOT AN ABRUPT TRANSITION FROM THE DRIVEWAY TO THE ROADWAY FOR VEHICLES, IE., VEHICLES WILL NOT BOTTOM OUT WHEN DRIVING OVER THE TRANSITION.

**PEDESTRIAN ACCESS ROUTE**

1.0	04/06/2021	First Draft	METRONET		TELECOM FIBER	Project	Drawing Number	Rev
			Designer	Drawn	UNDERGROUND VAULT PLACEMENT - INCLUDE SIDEWALK INSTALLATION	CODE		
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA		



1.0	04/06/2021	First Draft	METRONET	TELECOM FIBER		Project	Drawing Number	Rev
				Designer	Drawn		OSP 22	0
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date	CONFIGURATION - TYPICAL AERIAL TOP LEVEL ASSEMBLY		CODE	
						AREA		



1.0	04/06/2021	First Draft	METRONET	TELECOM FIBER		Project	Drawing Number	Rev
				Designer	Drawn		OSP 23	0
				FIBER SPLICING ENCLOSURE LABELING		CODE		
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked			AREA		

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INSTALLATION NOTES G6160001911:

- Carefully run a sheath knife between locating wire and drop, until separated, about 6 to 10 inches. Using coarse grit sandpaper (60-grit), sand the drop where the grommet will seal. Ensure the edge is level and that no significant cuts remain either around the drop or lengthwise.
- Smooth drop using 500-grit sandpaper. Measure the outside diameter of utilized drop to determine the correct grommet size.
- Measure the outside diameter of utilized drop to determine the correct grommet size. Remove the reusable plug from the base in the port where the cable is to be installed. Insert the cable through the base from the outside. Place the sealing grommet over the end of the cable and slide along the length of the cable to the desired location.
- Lubricate the outside of the sealing grommet with the lubricant provided. Insert the sealing grommet into the terminal base. Pressing firmly down on the top of the grommet, pull service wire from under the terminal until grommet is seated. The sealing grommet is properly installed when the top surface of sealing grommet is sitting slightly below top surface of terminal base. Remove any excess lubricant.
- The hourglass shaped sealing grommet is a solid grommet with two sets of circular slits. These circular slits can be removed to form a cable grommet that will accommodate cables of different diameters. The double-cable entrance grommet with the lay-in feature allows for a looped cable to be installed in the base.
- Apply a small amount of lubricant as follows: over the sealing surfaces of the sealing grommet over the internal surface touching the cable and the side slit of the grommet to the inside wall of the port where the grommet will meet the plastic.
- Wipe off excess lubricant. Two cables can enter the case through this grommet as well as a midspan opening of a cable.
- Splicing - cross the right fiber underneath the left fiber – by doing this, you allow for the opening of any additional trays that may be attached. Be sure to allow at least 2-1/2 inches of clearance above the cassette, but no more than 3-1/2 inches.
- The compact PLC splitter (7mm x 4mm x 60mm) can be mounted on the tray routing guide between the two splice holders. Gently slide the PLC splitter into the tray routing guide. Place small beads of adhesive directly opposite the three routing guide posts to permanently mount the PLC splitter

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over the sealing surfaces of the sealing grommet over the internal surface touching the cable and the side slit of the grommet to the inside wall of the port where the grommet will meet the plastic.

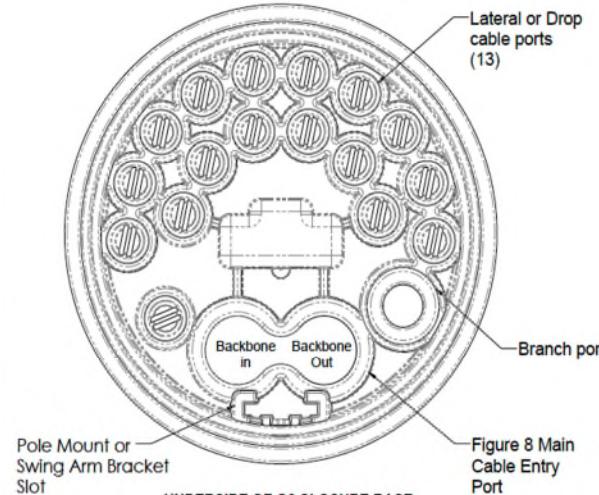
F

7. Wipe off excess lubricant. Two cables can enter the case through this grommet as well as a midspan opening of a cable.

8. Splicing - cross the right fiber underneath the left fiber – by doing this, you allow for the opening of any additional trays that may be attached. Be sure to allow at least 2-1/2 inches of clearance above the cassette, but no more than 3-1/2 inches.

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9. The compact PLC splitter (7mm x 4mm x 60mm) can be mounted on the tray routing guide between the two splice holders. Gently slide the PLC splitter into the tray routing guide. Place small beads of adhesive directly opposite the three routing guide posts to permanently mount the PLC splitter



Grommet Kit	Description
GR06116101-02	Six 3/4" drop grommets to seal one cable each with diameter range of .063-.125" (sold as box of 12 cards)
GR06116101-34	Six 3/4" drop grommets to seal one cable each with diameter range of .188-.250" (sold as box of 12 cards)
GR06116101-45	Six 3/4" drop grommets to seal one cable each with diameter range of .250-.313" (sold as box of 12 cards)
GR06116101-56	Six 3/4" drop grommets to seal one cable each with diameter range of .313-.375" (sold as box of 12 cards)
GR06116101-67	Six 3/4" drop grommets to seal one cable each with diameter range of .375-.438" (sold as box of 12 cards)
GR06116101-76	Six 3/4" drop grommets to seal one cable each with diameter range of .438-.500" (sold as box of 12 cards)
GR03106407-49	Six serrated figure 8 sealing grommets to seal two cable entries with diameter range 0.4-0.9" (sold as box of 12 cards)
GR03106407-456	Six serrated figure 8 sealing grommets to seal two cable entries with diameter range 0.4-0.6" (sold as box of 12 grommets)

PRINTED: 3/25/2021

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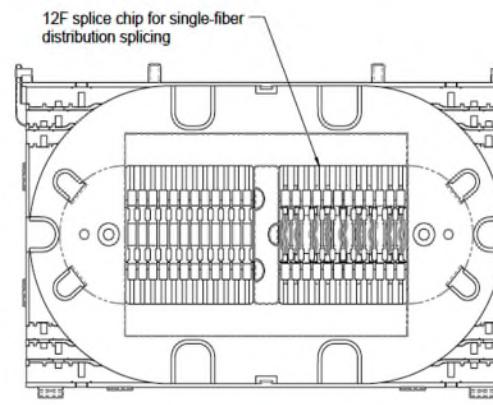
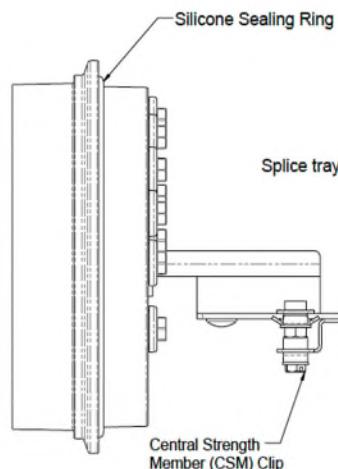
1

KIT CONTENTS

- G6 Closure Dome
- G6 Closure Sealing Clamp
- Pole-mount bracket (optional)
- G6 closure base assembly with:

One figure-8 entry for ring cuts plus 13 additional drop ports, orange silicone sealing ring
Double-sided splice tray assembly with: 24 locations for single-fusion splice retention
Strength member attachments (4 additional 12-fiber splice capacity trays shown)
Closure assembly kit with:

Slit ring figure-8 sealing grommet with diameter range
10cc bottle of grommet lubricant, two packets of isopropyl alcohol wipes
Fiber splicing preparation kit with: one 6" length of blue felt tape, installation instructions



The Channell Commercial Corporation G6 splice closure is a high performance, splice closure capable of performing in the harshest environments. The G6 excels in underground/vault applications, pedestal application and aerial deployments. The G6 is a butt splice closure with a capacity of 96 splices. It can be used in straight or branch applications. The G6 is ideal in FTTH applications where up to (16) drops can be deployed via 16 drop cable ports. The G6 has an oval main cable seal enabling mid-sheath cable splices where uncut fibers are stored and expressed through the closure. The G6 can be deployed with an adapter array housing up to sixteen (16) SC or LC connectors. Channell's grommet seal technology provides easy cable installation, robust sealing and cable retention and is capable of sealing all types of cable.

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CHANNEL	
1845 1162 RD, TEMECULA, CALIFORNIA 92590	
TELEPHONE 951.724.3400 FAX 951.724.3400	
MATL	DATE
TOLERANCE	DES.
DECIMAL VOID ANGLE DWN. VH	3/17/21
XX.XXX	CHD.
40.1400	40.1400
RELEASE TO PROD:	
METRONET	
G6 Enclosure, (2) 2x8 Splitters	
SHEET NO. 1	SCALE
NO. OF SHTS. 2	UNITS
PROJECT NO. OSP 24	REV. 0

Z

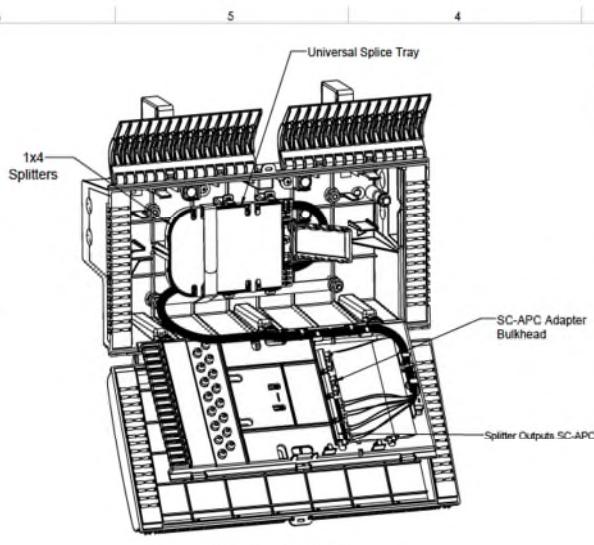
8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

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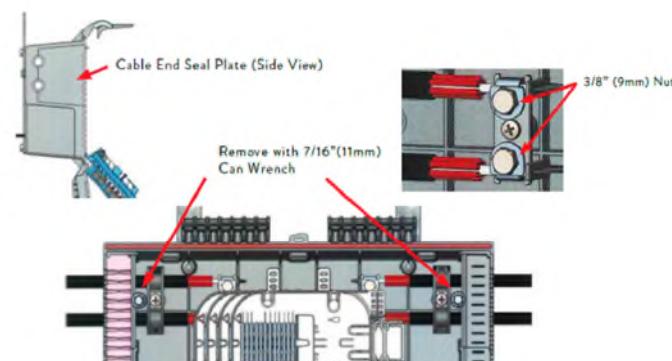
INSTALLATION NOTES YJ160002477

- F 1. Identifying sheath opening locations on inline fiber cable loop.
2. Starting with a loop of fiber cable that is 40" (1016mm) in diameter (10.5" (3200mm) for placement), locate the center of the top of the loop where the cable crosses over itself.
3. From this center point, mark the strand to help align enclosure placement which will be completed later. Measure to the left and right of center 4 1/2" (114mm) and mark the cable for sheath removal. Total sheath removal should be about 126" (3200mm).
4. Per company standards, remove all sheath material (and shield, if applicable) from the cable between the two marks just made. When bonding the cable, make sure to install approved bonding clamp per company standard.
- E 1. Once sheath and shield have been removed, install cable into Cable Retention Clamps. The sheath of the cable should extend beyond the interior of the clamp 1" (25mm) and the CTM should extend beyond the interior of the clamp 3" (76mm).
2. Secure the Yellow Jacket Aerial Terminal on the strand. Install the central strength member under the tie down clamp with the 3/8" (9mm) end of a can wrench or a 3/8" (9mm) nut driver as shown. The end of the strength member should stop against the top of the tie down clamp.
- D 3. Lay the prepared cable into the designated port and line up the cable retention clamp into the slot. Remove the cable end-seal plate [Figure 7] on the end of the enclosure with the 7/16" (11mm) end of a can wrench or a 7/16" (11mm) nut driver [Figure 8]. (The top half of the cable grommet should stay with the end-seal and the bottom half will remain in place.)
4. Install the end-seal plate back onto the enclosure and secure with a can wrench. Take the buffer tube that is from the cable(s) on the left and route it across the top of the enclosure clockwise and to the bottom of the splice tray. This measurement should be 16" (406mm) from sheath opening.
- C 5. The buffer tube from the cable(s) on the right will route across the top counterclockwise and cut through the middle of the enclosure (under the splice tray) and to the top of the splice tray. This should be 21" (533mm) from sheath opening.
6. Mark both buffer tubes at their appropriate length with a marking pen. Again, 16" (406mm) from the left cable(s) and 21" (533mm) from the right cable(s). Using approved company standards and tools remove the buffer tube between your two marks and expose the fiber.
7. Clean the fiber as needed before placing in splice tray. Store the fiber in the tray and splice according to engineering. The remaining buffer tubes not used at this location should wrap up around the perimeter of the enclosure and bundled together with cable ties and secured to the tie down supports inside of the enclosure.
- B 8. With the inner adapter panel locked in place covering the splice tray and cable storage, prepare your drop cables for installation.
9. Remove 36" (914mm) of the sheath and cut the strength member to 2" (51mm). Depending on the slot used for the drop cable the strength member will be trimmed down to go under the head of the screw but butt up against the stop beyond the tie down screw.
10. If flat cable, the cable will lay vertically in the slots. The sheath of the drop cable should extend inside of the enclosure beyond the rubber seal. The amount of sheath which protrudes into the closure will vary depending upon the drop's position.
- A 11. The buffer tube, if applicable, will be removed 1/2" (12.7mm) beyond the strength member tie down screw using company approved practices. Using the fiber containment clips route the fiber around the splice chip provided and splice according to engineering.

PRINTED: 3/25/2021



YJ INNER CHAMBER
(FRONT VIEW – Inner Door Open)

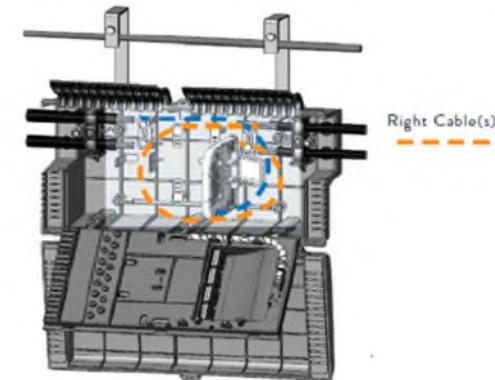


YJ MAIN CABLE ENTRY
(FRONT VIEW – Inner Door Open)

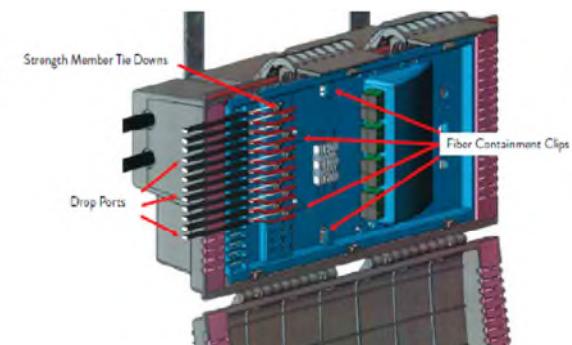
KIT CONTENTS

- 4" Cable Ties
- Sheath Clamp Assemblies
- Mass Fusion Splice Chip

REVISIONS	
REV.	DESCRIPTION
0	FINAL DRAFT
	04/06/2021 XXX



YJ MAIN CABLE ROUTING
(FRONT VIEW – Inner Door Open)



YJ DROP PORTS AND ROUTING
(FRONT VIEW – Inner Door Closed)

2646 YANKEE ROAD, TEMECULA, CALIFORNIA 92590	TELEPHONE (951) 344-2100 FAX (951) 344-2101
MATT.	DATE
TOLERANCE	DES.
DECIMAL HOUR ANGLE DWN. VH	3/17/21
XX XXX	CKD
±0.00 ±0.00 ±1°	RELEASE TO PROD
SHEET NO. 1	SCALE
NO. OF SHTS. 2	UNITS
PROJECT NO. OSP 25	REV. 0

C:\Users\Yankee\Desktop\YJ160002477.SLDWORK

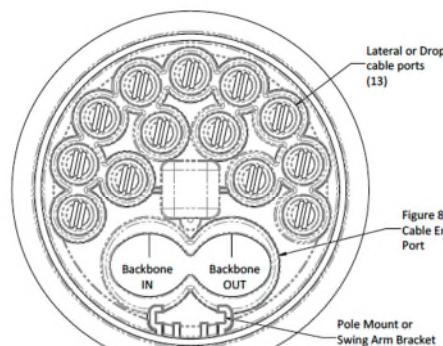
2

1

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THE WRITTEN PERMISSION OF CHANNELL COMMERCIAL CORP. IS PROHIBITED.

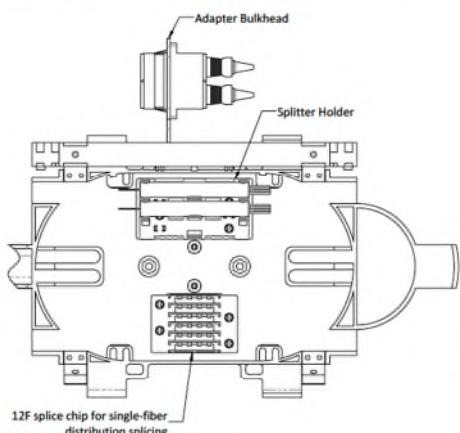
INSTALLATION NOTES G5160002172:

1. Create a sheath opening of 74" (37" from reverse oscillation to sheath cut on either side)
 2. Unravel buffer tube cable from Central Strength Member (CSM); trim the CSM 4" from the ring cut in your sheath opening on either side. Separate the tubes intended for access at this location.
 3. Feed the cable loop through the oval port of the enclosure. Use diameter tape to determine cable diameter and remove unwanted slits from Figure 8 main cable grommet.
 4. Remove any external geometry or extra material from the cable with a knife or included 320-Grit emery cloth. Ensure consistent and clean surface over a 6" area where the grommet is intended to be placed.
 5. Lubricate grommet using only Channell supplied lubricant on all vertical surfaces, inside and outside the cable contact area. Feed cable through the oval port, apply the trimmed and lubricated grommet on to the cable with the slits facing away from the enclosure.
 6. Apply steady downward pressure until grommet sits below flush; remove all excess lubricant using isopropyl alcohol wipes. Attach the CSM's to the retention clips and then trim excess.
 7. Wrap the buffer tube around the outside of the splice tray, over the top and into the tray. Use the tabs located on either side of the tray to hold buffer tube in place. Mark the buffer tube just before it crosses the threshold of the slack loop area and open the buffer tube at that mark.
 8. Once opening is created, apply included felt tape to the end of the buffer opening then secure the buffer tube with cable ties. Wrap bare fibers around the splice tray and close the splice tray and secure in place with the latches on the side of the tray. Note that the buffer tube which routes onto the side of the splice tray with latches is fed over the top of the buffer tube routing onto the opposite side.
 9. Wrap the expressed tubes around the outside of the tray for storage. Once a slack loop is established, apply the included spiral wrap (where included) and then apply cable ties to secure the cable bundle to either side of the tray.

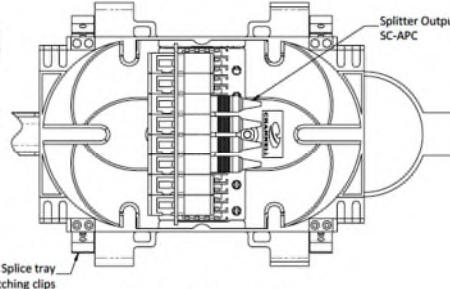


UNDERSIDE OF G5 CLOSURE BASE

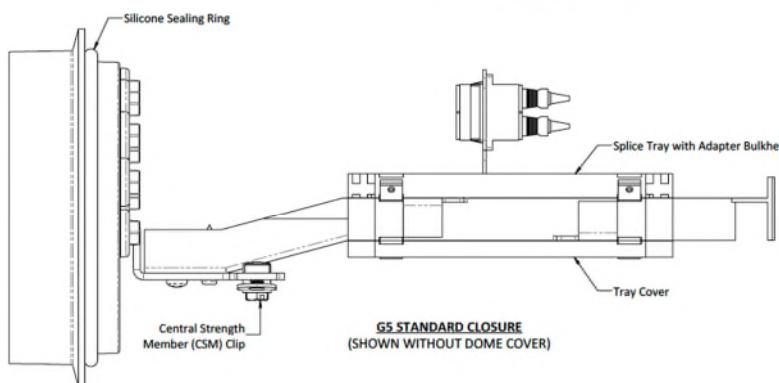
Grommet Kit	Description
GR06116101-02	3/4" drop grommets to seal one cable each with diameter range of .062-.125" (Sold as box of 12 cards)
GR06116101-34	3/4" drop grommets to seal one cable each with diameter range of .188-.250" (Sold as box of 12 cards)
GR06116101-45	3/4" drop grommets to seal one cable each with diameter range of .250-.313" (Sold as box of 12 cards)
GR06116101-56	3/4" drop grommets to seal one cable each with diameter range of .313-.375" (Sold as box of 12 cards)
GR06116101-47	3/4" drop grommets to seal one cable each with diameter range of .375-.438" (Sold as box of 12 cards)
GR06116101-78	3/4" drop grommets to seal one cable each with diameter range of .438-.500" (Sold as box of 12 cards)
GR0106407-49	Slit terminated figure 8 scaling grommets to seal two cable entries with diameter range 0.4-0.7" (Sold as box of 12 grommets)
GR0106407-49	Slit terminated figure 8 scaling grommets to seal two cable entries with diameter range 0.4-0.6" (Sold as box of 12 grommets)



G5 STANDARD SPLICE TRAY
(SIDE VIEW - Front Tray open)



G5 STANDARD SPLICE TRAY
(SIDE VIEW)



G5 STANDARD CLOSURE
(SHOWN WITHOUT DOME COVER)

The Channell Commercial Corporation G5 is a sealed fiber optic cable and connectivity enclosure. The enclosure(s) provide splicing capacity for up to 96 fibers. The base has an oval port to be used to express the main optical fiber cable through the closure. It also has 13 smaller ports, which are used for drop cables. Drop port sealing grommets for sealing two cables in one port are also available, which doubles the potential number of drop cables which can be terminated from the closure. Channell's splice trays feature a hinge and latch system that allows for access to any fiber without disturbing surrounding fibers. In addition, the splice holders installed on each splice tray allow for double stacking of splices in order to maximize capacity. The G5 closure is designed to work with a wide variety of cable diameters and fiber counts through the use of the serrated grommet. The serrations on the grommet permit the installer to remove portions of sealant material that are not needed, based on the measured cable diameter, to create an environmental seal.

 CHANNELL			
SHELF LIFE: 12 MONTHS EXPIRES: 12/00/2000 TELEPHONE: (401) 784-1000 FAX: (401) 784-1000			
MATL.	DATE		
TOLERANCE	DES.	CC	PROJ. NO.
DECIMAL	INCHES	MM	INCHES
XX XXX	CRD.	MM	INCHES
03 015	WEIGHT		
SHEET NO. 1	SCALE N/A		PROJECT NO.
NO. OF SHEETS, 1	UNITS	INCHES	DRW. NO.
		INCHES	QSP 16
		MM	REV. O

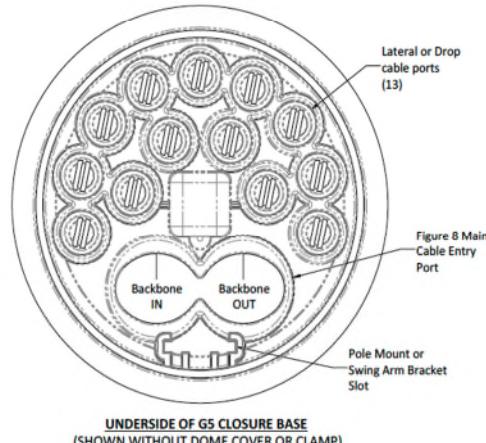
METRINET
C-5 SPECIAL METRINET WITH TWO
1X4 SPLITTERS

75

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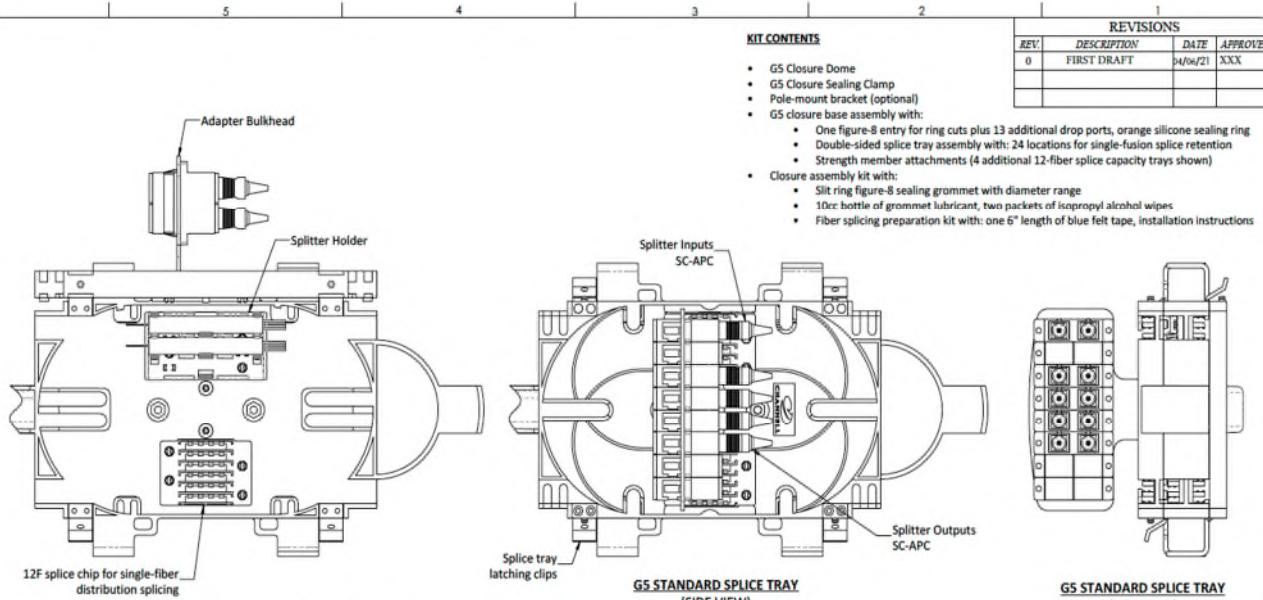
INSTALLATION NOTES G5160002172:

- Create a sheath opening of 74" (37" from reverse oscillation to sheath cut on either side)
- Unravel buffer tube cable from Central Strength Member (CSM); trim the CSM 4" from the ring cut in your sheath opening on either side. Separate the tubes intended for access at this location.
- Feed the cable loop through the oval port of the enclosure. Use diameter tape to determine cable diameter and remove unwanted slits from Figure 8 main cable grommet.
- Remove any external geometry or extra material from the cable with a knife or included 320-Grit emery cloth. Ensure consistent and clean surface over a 6" area where the grommet is intended to be placed.
- Lubricate grommet using only Channell supplied lubricant on all vertical surfaces, inside and outside the cable contact area. Feed cable through the oval port, apply the trimmed and lubricated grommet on to the cable with the slits facing away from the enclosure.
- Apply steady downward pressure until grommet sits below flush; remove all excess lubricant using isopropyl alcohol wipes. Attach the CSM's to the retention clips and then trim excess.
- Wrap the buffer tube around the outside of the splice tray, over the top and into the tray. Use the tabs located on either side of the tray to hold buffer tube in place. Mark the buffer tube just before it crosses the threshold of the slack loop area and open the buffer tube at that mark.
- Once opening is created, apply included felt tape to the end of the buffer opening then secure the buffer tube with cable ties. Wrap bare fibers around the splice tray and close the splice tray and secure in place with the latches on the side of the tray. Note that the buffer tube which routes onto the side of the splice tray with latches is fed over the top of the buffer tube routing onto the opposite side.
- Wrap the expressed tubes around the outside of the tray for storage. Once a slack loop is established, apply the included spiral wrap (where included) and then apply cable ties to secure the cable bundle to either side of the tray



**UNDERSIDE OF G5 CLOSURE BASE
(SHOWN WITHOUT DOME COVER OR CLAMP)**

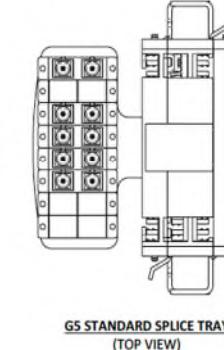
Grommet Kit	Description
GR06116101-02	Six 3/4" drop grommets to seal one cable each with diameter range of .062-.125" (Sold as box of 12 cards)
GR06116101-34	Six 3/4" drop grommets to seal one cable each with diameter range of .188-.250" (Sold as box of 12 cards)
GR06116101-45	Six 3/4" drop grommets to seal one cable each with diameter range of .250-.313" (Sold as box of 12 cards)
GR06116101-56	Six 3/4" drop grommets to seal one cable each with diameter range of .313-.375" (Sold as box of 12 cards)
GR06116101-67	Six 3/4" drop grommets to seal one cable each with diameter range of .375-.438" (Sold as box of 12 cards)
GR06116101-78	Six 3/4" drop grommets to seal one cable each with diameter range of .438-.500" (Sold as box of 12 cards)
GR03106407-49	Slit serrated figure 8 sealing grommets to seal two cable entries with diameter range 0.4-0.9" (Sold as box of 12 grommets)
GR03106407-456	Slit serrated figure 8 sealing grommets to seal two cable entries with diameter range 0.4-0.6" (Sold as box of 12 grommets)



KIT CONTENTS

- G5 Closure Dome
- G5 Closure Sealing Clamp
- Pole-mount bracket (optional)
- G5 closure base assembly with:
 - One figure-8 entry for ring cuts plus 13 additional drop ports, orange silicone sealing ring
 - Double-sided splice tray assembly with: 24 locations for single-fusion splice retention
 - Strength member attachments (4 additional 12-fiber splice capacity trays shown)
- Closure assembly kit with:
 - Slit ring figure-8 sealing grommet with diameter range
 - 10cc bottle of grommet lubricant, two packets of isopropyl alcohol wipes
 - Fiber splicing preparation kit with: one 6" length of blue felt tape, installation instructions

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	FIRST DRAFT	04/06/21	XXX



**G5 STANDARD SPLICE TRAY
(TOP VIEW)**

TOOLS

- Cable Sheath Knife
- Kevlar Snips (or other lineman's snips)
- Mid-Span Access Tool
- Buffer tube ring-cutting tool
- Side Cutters/Lineman's Pliers
- Tape Measure
- Optical fiber cleaning, preparation and splicing equipment

 CHANNELL <small>2640 Ynez Road, Temecula California 92591 Telephone (951) 774-2600 FAX (951) 774-4865</small>	
MATL.	DATE
TOLERANCE	DES. CC AUG 26 2002
DECIMAL FRACTION	AMOUNT R/HG JAN 11 2002
XX XXX	CKD
.03 ±.015	WEIGHT
SHEET NO. 1 SCALE N/A PROJECT NO. DRW. NO. REV. 0	
NO. OF SHTS. 1 UNITS: INCHES	OSP 27

The Channell Commercial Corporation G5 is a sealed fiber optic cable and connectivity enclosure. The enclosure(s) provide splicing capacity for up to 96 fibers. The base has an oval port to be used to express the main optical fiber cable through the closure. It also has 13 smaller ports, which are used for drop cables. Drop port sealing grommets for sealing two cables in one port are also available, which doubles the potential number of drop cables which can be terminated from the closure. Channell's splice trays feature a hinge and latch system that allows for access to any fiber without disturbing surrounding fibers. In addition, the splice holders installed on each splice tray allow for double stacking of splices in order to maximize capacity. The G5 closure is designed to work with a wide variety of cable diameters and fiber counts through the use of the serrated grommet. The serrations on the grommet permit the installer to remove portions of sealant material that are not needed, based on the measured cable diameter, to create an environmental seal.



SEDIMENT AND EROSION CONTROL

General Statement: GC01 – GC03 is to serve as a reference document for the location and installation practice to control any anticipated erosion or prevent sediment from leaving the construction area.

1. Selection of any Sediment and Erosion Control Practices will be reviewed and discussed at the weekly construction meeting
2. Contractor shall inspect and maintain all erosion control BMP's placed on a weekly basis and after each major storm event
3. All construction litter and debris will be placed in the proper containers.

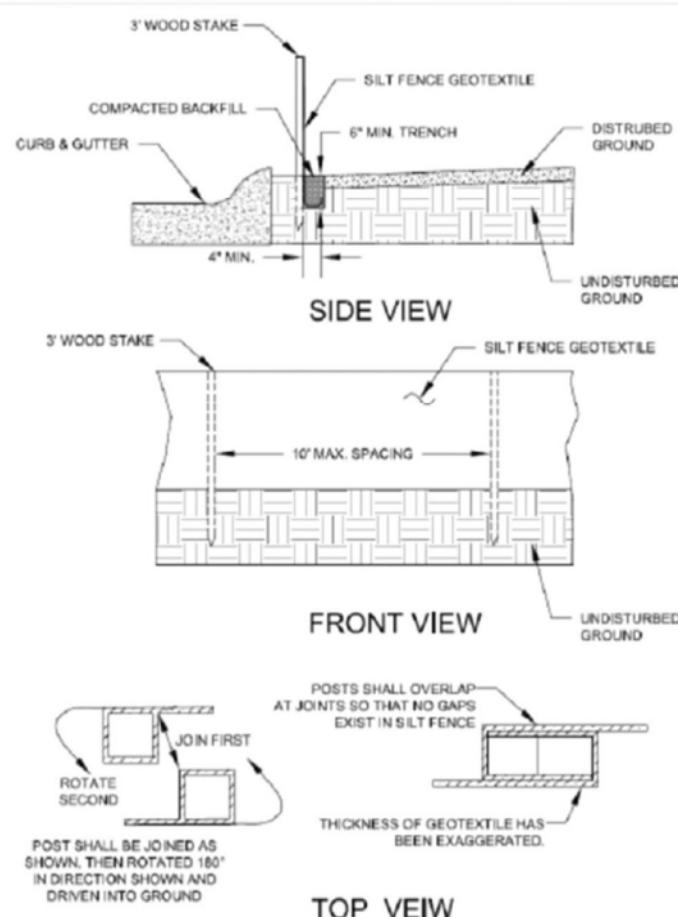
Erosion Control Practice	Best Management Practice (BMP)
Minimize the number of disturbed areas to where construction is taking place.	Project Management
Schedule construction work so the soil exposure is minimized at any given time	Project Management
Restore disturbed areas as soon as possible	Remove/Replace existing sod
Protect slopes (3:1 slope length of 50ft or less) with appropriate erosion control procedures add needed.	Rolled Erosion Control, Silt Fence, or Straw Waddles

Sediment Control Practice	Best Management Practice (BMP)
Protect storm water drain basins as needed	Inlet Protection
Minimize the transport of sediment from vehicles and equipment onto roadways	Project Management
Make sure excavated material is not placed on street without prior approval.	Project Management

1.0	04/06/2021	First Draft	METR ONET	SEDIMENT AND EROSION	Project _____	Drawing Number GC 01	Rev 0
					CODE		
			Designer	Drawn	GENERAL STATEMENTS	AREA	
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date			



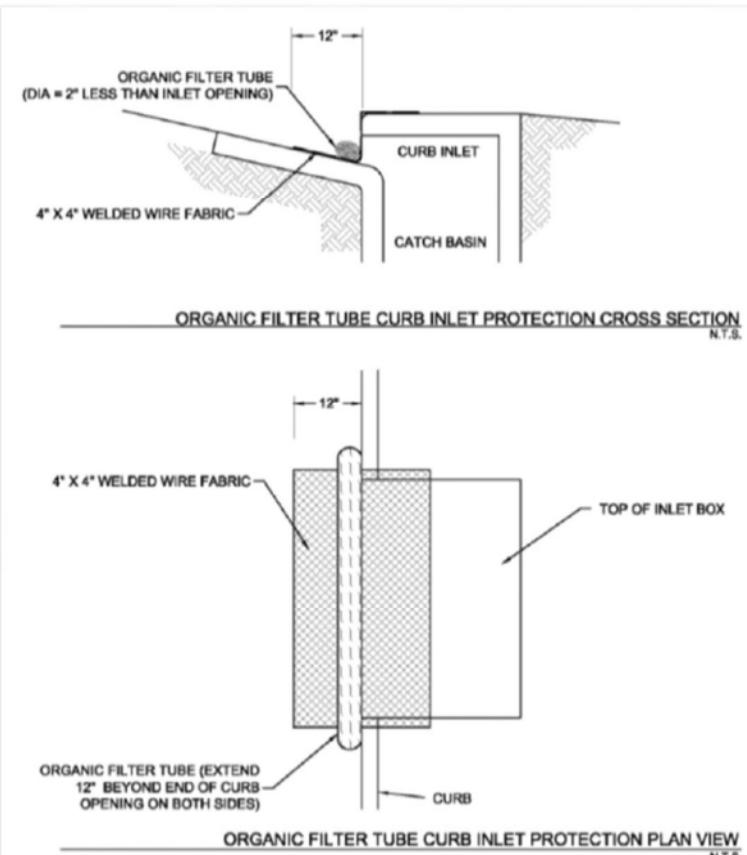
SILT FENCE



* NOTES

1. SILT FENCE MUST BE TRENCHED 6" BELOW GRADE.

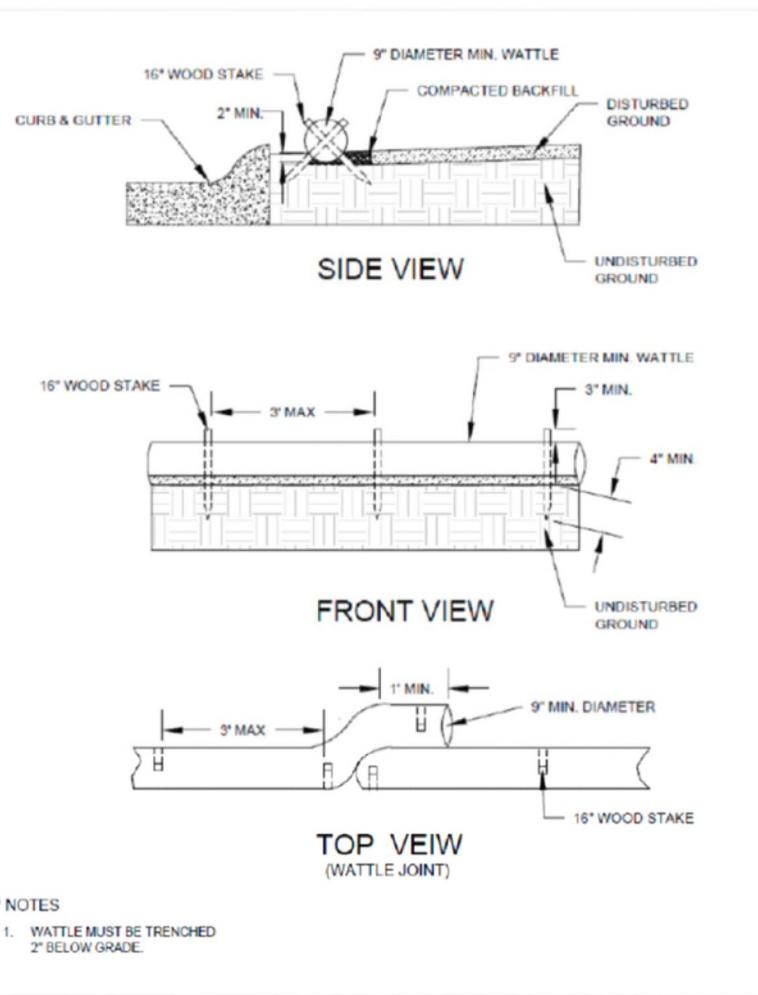
INLET PROTECTION



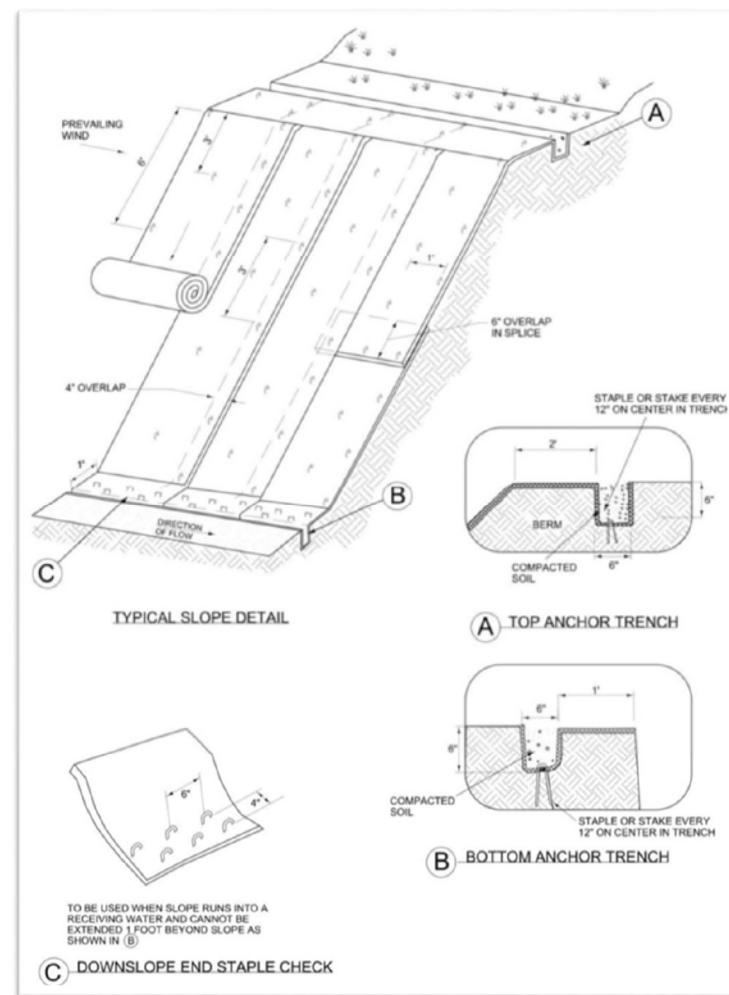
NOTE: THIS CONTROL WILL DECREASE THE CAPACITY OF THE INLET. IT SHALL ONLY BE USED WHEN AN ENGINEER HAS DETERMINED THERE IS ADEQUATE STORAGE OR POSITIVE OVERFLOW.

1.0	04/06/2021	First Draft	METRONET		SEDIMENT AND EROSION	Project ____	Drawing Number GC 02	Rev 0
			Designer	Drawn	SILT FENCE AND INLET PROTECTION	CODE		
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA		

SILT FENCE



INLET PROTECTION



1.0	04/06/2021	First Draft	METRONET	SEDIMENT AND EROSION		Project _____	Drawing Number GC 03	Rev 0		
				Designer	Drawn					
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date	STRAW WADDLE AND ROLLED EROSION CONTROL	CODE				
						AREA				

TRAFFIC CONTROL

General Requirements

1. Contractor will follow MUTCD (Manual on Uniform Traffic Control Devices) Guidelines.
2. Street or Lane closures shall be limited to the hours set by the governing permit or local jurisdiction.
3. Lane Closures will be discussed at the pre-construction meeting prior to the proposed closure.
4. Contractor shall be responsible for the safety of the general public and shall always give right of way to all other vehicular traffic on roadway. Contractor shall not detour traffic, close a lane, or impede traffic flow without the proper approvals.
5. Contractor shall furnish all signs, barricades, barriers, cones, drums, warning lights, flag persons or other devices that are required based on the MUTCD Guidelines.
6. Contractor shall be responsible to conform to all traffic control requirements contained in the MUTCD, Construction Documents, and/or permits. If Contractor fails to comply with the traffic control requirements, and/or does not immediately correct traffic control deficiencies as directed by the company, the company may issue a stop work notice. This stop work notice will continue until such requirements have been approved/achieved. Contractor shall not be entitled to compensation in time or money for time lost during this stop work order.
7. All work operations and the travel of supervisory personnel shall always be in the direction of normal traffic.
8. Vehicle and equipment lights, light lenses, and reflectors shall be operational and cleaned as often as necessary. All vehicles and equipment shall require flashing amber lights.
9. Fire extinguishers and first aid kits shall be provided on all vehicles and shall be in good working order at all times, and the job site personnel shall be familiar with their use.
10. Equipment shall be under the full control of the operator when equipment is in use, and operators shall be familiar with their use.
11. No vehicle or equipment shall be stopped or parked where it shall interfere with the visibility of any sign.
12. At the end of each workday, all Contractor's equipment and any traffic protection devices shall be removed from traffic lanes, shoulders, other sites, and placed in protected locations.
13. A stopped or slow-moving truck on the pavement shall never be used as the first warning a motorist receives of a work area restriction ahead.
14. All vehicles re-entering the traffic stream from the work areas shall have the assistance of a traffic observer.
15. Equipment that could damage any roadway facilities shall not be allowed to operate until adequate protective measures are provided. Company's approval of such protective devices shall not relieve the Contractor from responsibility for damage to any paved surface.
16. Contractor is required to gain pre-approval from the Company Project Manager or Construction Manager for traffic control if seeking reimbursement. Contractor is responsible for documenting and submitting actual dates, hours and location of where traffic control was required.

1.0	04/06/2021	First Draft	METR^{ONET}	TRAFFIC CONTROL		Project _____ Drawing Number GC 04	Rev 0
				Designer	Drawn		
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date	GENERAL REQUIREMENTS	CODE	
						AREA	



Table 6H-2. Meaning of Symbols on Typical Application Diagrams

	Arrow board		Shadow vehicle
	Arrow board support or trailer (shown facing down)		Sign (shown facing left)
	Changeable message sign or support trailer		Surveyor
	Channelizing device		Temporary barrier
	Crash cushion		Temporary barrier with warning light
	Direction of temporary traffic detour		Traffic or pedestrian signal
	Direction of traffic		Truck-mounted attenuator
	Flagger		Type 3 barricade
	High-level warning device (Flag tree)		Warning light
	Longitudinal channelizing device		Work space
	Luminaire		Work vehicle
	Pavement markings that should be removed for a long-term project		

Table 6H-3. Meaning of Letter Codes on Typical Application Diagrams

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	100 feet	100 feet	100 feet
Urban (high speed)*	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

* Speed category to be determined by highway agency

** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)

Table 6H-4. Formulas for Determining Taper Length

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

Where: L = taper length in feet
 W = width of offset in feet
 S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

1.0	04/06/2021	First Draft		TRAFFIC CONTROL	Project	Drawing Number	Rev
					_____		0
			Designer	Drawn	LEGEND	CODE	
NO	DATE	REVISIONS AND RECORD OF ISSUE				AREA	
Checked	Date						

Notes for Figure 6H-1—Typical Application 1
Work Beyond the Shoulder

Guidance:

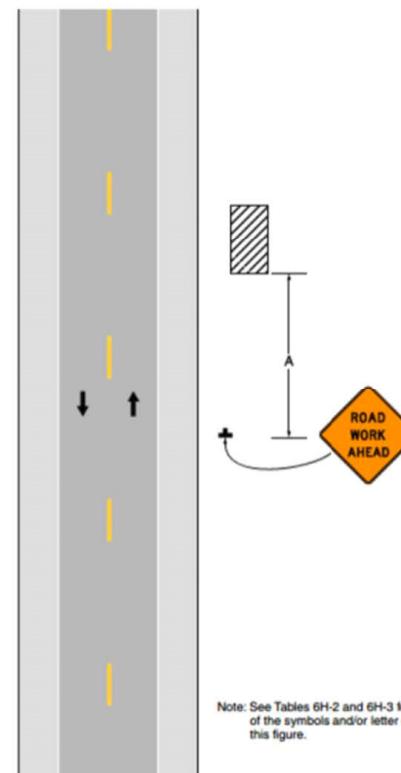
1. If the work space is in the median of a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

Option:

2. The ROAD WORK AHEAD sign may be replaced with other appropriate signs such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.
3. The ROAD WORK AHEAD sign may be omitted where the work space is behind a barrier, more than 24 inches behind the curb, or 15 feet or more from the edge of any roadway.
4. For short-term, short duration or mobile operation, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
5. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

6. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

Figure 6H-1. Work Beyond the Shoulder (TA-1)**Typical Application 1**

1.0	04/06/2021	First Draft	METR ONET	TRAFFIC CONTROL		Project	Drawing Number	Rev
				Designer	Drawn	—	GC 06	0
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date	WORK BEYOND THE SHOULDER	CODE		
						AREA		

**Notes for Figure 6H-3—Typical Application 3
Work on the Shoulders**

Guidance:

1. A SHOULDER WORK sign should be placed on the left side of the roadway for a divided or one-way street only if the left shoulder is affected.

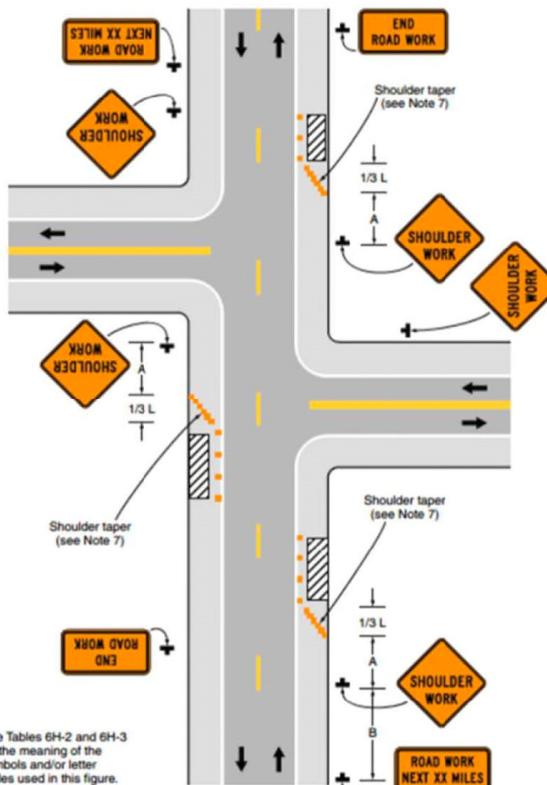
Option:

2. The Workers symbol signs may be used instead of SHOULDER WORK signs.
3. The SHOULDER WORK AHEAD sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
4. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
5. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

6. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.
7. When paved shoulders having a width of 8 feet or more are closed, at least one advance warning sign shall be used. In addition, channelizing devices shall be used to close the shoulder in advance to delineate the beginning of the work space and direct vehicular traffic to remain within the traveled way.

Figure 6H-3. Work on the Shoulders (TA-3)



Typical Application 3

1.0	04/06/2021	First Draft	METRONET	TRAFFIC CONTROL	Project	Drawing Number	Rev	
					_____	GC 07	0	
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date	WORK ON THE SHOULDER	CODE		
						AREA		

**Notes for Figure 6H-6—Typical Application 6
Shoulder Work with Minor Encroachment**

Guidance:

1. All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices.
2. The treatment shown should be used on a minor road having low speeds. For higher-speed traffic conditions, a lane closure should be used.

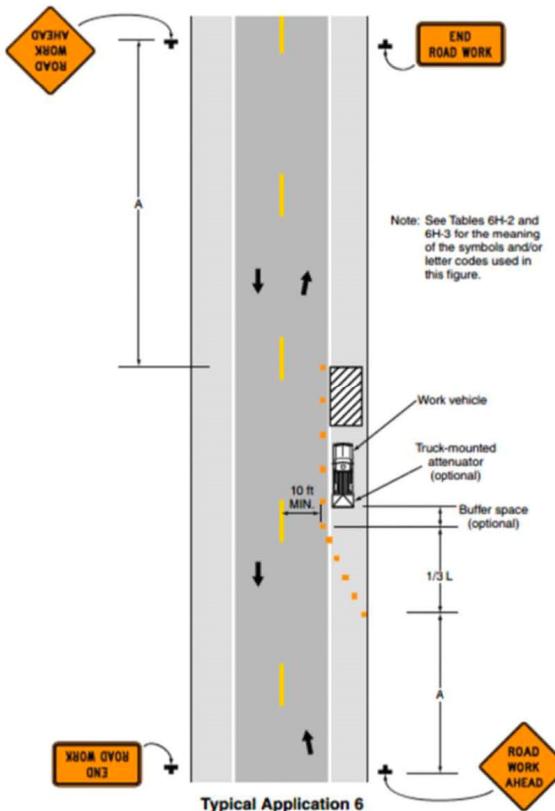
Option:

3. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.
4. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate width, lanes may be shifted by use of closely-spaced channelizing devices, provided that the minimum lane width of 10 feet is maintained.
5. Additional advance warning may be appropriate, such as a ROAD NARROWS sign.
6. Temporary traffic barriers may be used along the work space.
7. The shadow vehicle may be omitted if a taper and channelizing devices are used.
8. A truck-mounted attenuator may be used on the shadow vehicle.
9. For short-duration work, the taper and channelizing devices may be omitted if a shadow vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
10. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

11. Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.
12. Shadow and work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights.
13. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)

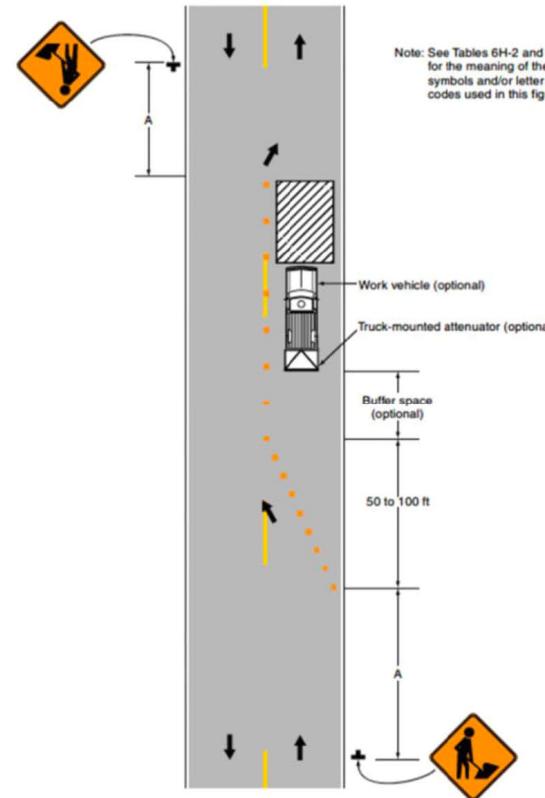


1.0	04/06/2021	First Draft	METRONET	TRAFFIC CONTROL	Project	Drawing Number	Rev
					—	GC 08	0
			Designer	Drawn	SHOULDER WORK WITH MINOR ENCROACHMENT	CODE	
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA	

Notes for Figure 6H-18—Typical Application 18
Lane Closure on a Minor Street

Standard:

1. This TTC shall be used only for low-speed facilities having low traffic volumes.
- Option:
 2. Where the work space is short, where road users can see the roadway beyond, and where volume is low, vehicular traffic may be self-regulating.
- Standard:
 3. Where vehicular traffic cannot effectively self-regulate, one or two flaggers shall be used as illustrated in Figure 6H-10.
- Option:
 4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
 5. A truck-mounted attenuator may be used on the work vehicle and the shadow vehicle.

Figure 6H-18. Lane Closure on a Minor Street (TA-18)**Typical Application 18**

1.0	04/06/2021	First Draft	METR ONET	TRAFFIC CONTROL		Project	Drawing Number	Rev
				Designer	Drawn	—	GC 09	0
					LANE CLOSURE ON A MINOR STREET	CODE		
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA		

Notes for Figure 6H-46—Typical Application 46
Work in the Vicinity of a Grade Crossing

Guidance:

- When grade crossings exist either within or in the vicinity of roadway work activities, extra care should be taken to minimize the probability of conditions being created, by lane restrictions, flagging, or other operations, where vehicles might be stopped within the grade crossing, considered as being 15 feet on either side of the closest and farthest rail.

Standard:

- If the queuing of vehicles across active rail tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the grade crossing to prevent vehicles from stopping within the grade crossing (as described in Note 1), even if automatic warning devices are in place.

Guidance:

- Early coordination with the railroad company or light rail transit agency should occur before work starts.
- In the example depicted, the buffer space of the activity area should be extended upstream of the grade crossing (as shown) so that a queue created by the flagging operation will not extend across the grade crossing.
- The DO NOT STOP ON TRACKS sign should be used on all approaches to a grade crossing within the limits of a TTC zone.

Option:

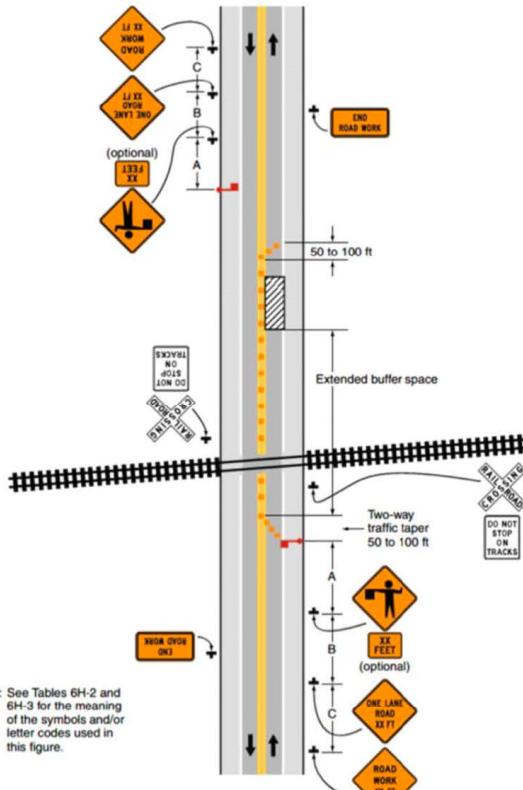
- Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
- A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

- When used, the BE PREPARED TO STOP sign should be located before the Flagger symbol sign.

Standard:

- At night, flagger stations shall be illuminated, except in emergencies.

Figure 6H-46. Work in the Vicinity of a Grade Crossing (TA-46)**Typical Application 46**

1.0	04/06/2021	First Draft	METRONET	TRAFFIC CONTROL	Project	Drawing Number	Rev

NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date	WORK IN THE VICINITY OF A GRADE CROSSING	CODE	
						AREA	

Notes for Figure 6H-33—Typical Application 33
Stationary Lane Closure on a Divided Highway

Standard:

1. This information also shall be used when work is being performed in the lane adjacent to the median on a divided highway. In this case, the LEFT LANE CLOSED signs and the corresponding Lane Ends signs shall be substituted.
2. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed as needed.

Guidance:

3. When paved shoulders having a width of 8 feet or more are closed, channelizing devices should be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

Option:

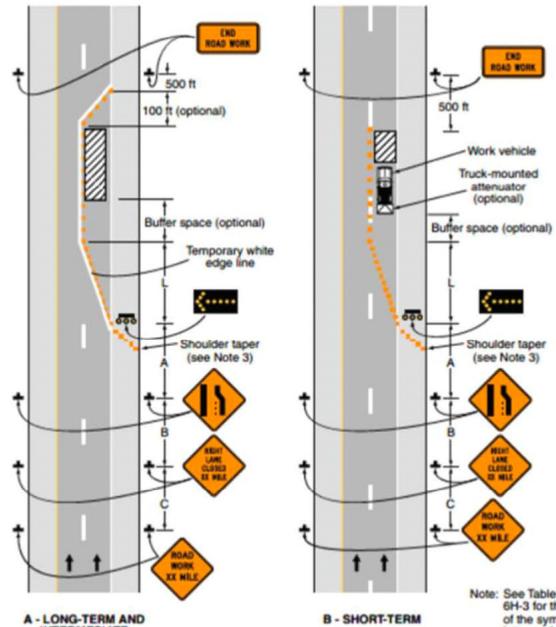
4. A truck-mounted attenuator may be used on the work vehicle and/or shadow vehicle.

Support:

5. Where conditions permit, restricting all vehicles, equipment, workers, and their activities to one side of the roadway might be advantageous.

Standard:

6. An arrow board shall be used when a freeway lane is closed. When more than one freeway lane is closed, a separate arrow board shall be used for each closed lane.

Figure 6H-33. Stationary Lane Closure on a Divided Highway (TA-33)**Typical Application 33**

1.0	04/06/2021	First Draft	METR ONET	TRAFFIC CONTROL		Project	Drawing Number	Rev
				Designer	Drawn	____	GC 11	0
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date	Stationary lane closure on a Divided Highway		CODE	AREA

**Notes for Figure 6H-10—Typical Application 10
Lane Closure on a Two-Lane Road Using Flaggers**

Option:

1. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).
2. The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short-duration operations.
3. Flashing warning lights and/or flags may be used to call attention to the advance warning signs. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

4. The buffer space should be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.

Standard:

5. At night, flagger stations shall be illuminated, except in emergencies.

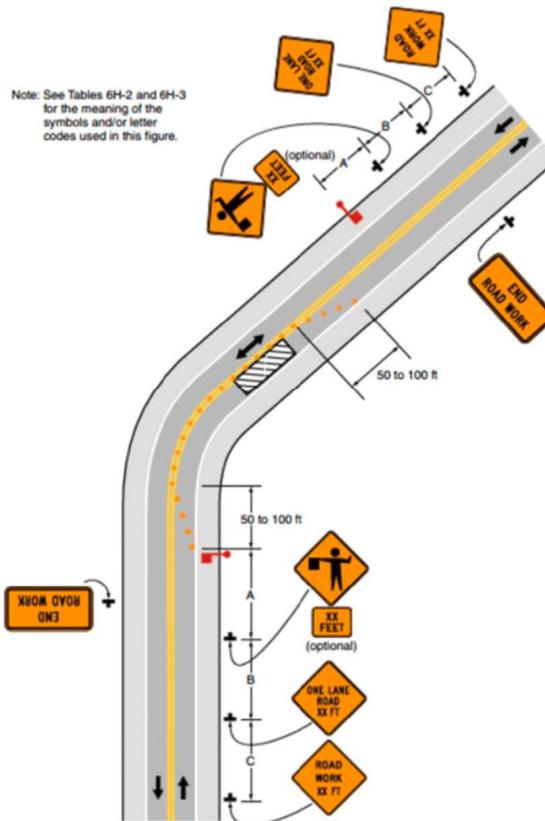
Guidance:

6. When used, the BE PREPARED TO STOP sign should be located between the Flagger sign and the ONE LANE ROAD sign.
7. When a grade crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the grade crossing, the TTC zone should be extended so that the transition area precedes the grade crossing.
8. When a grade crossing equipped with active warning devices exists within the activity area, provisions should be made for keeping flaggers informed as to the activation status of these warning devices.
9. When a grade crossing exists within the activity area, drivers operating on the left-hand side of the normal center line should be provided with comparable warning devices as for drivers operating on the right-hand side of the normal center line.
10. Early coordination with the railroad company or light rail transit agency should occur before work starts.

Option:

11. A flagger or a uniformed law enforcement officer may be used at the grade crossing to minimize the probability that vehicles are stopped within 15 feet of the grade crossing, measured from both sides of the outside rails.

Figure 6H-10. Lane Closure on a Two-Lane Road Using Flaggers (TA-10)



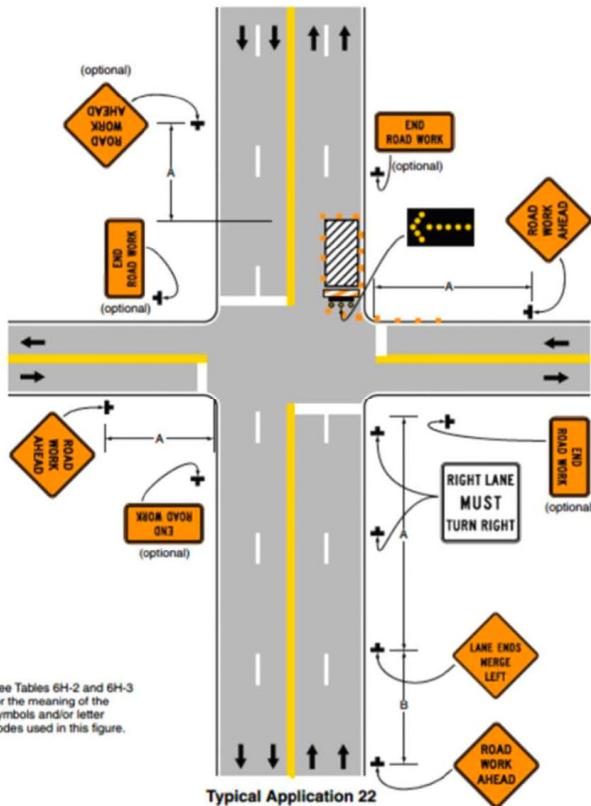
Typical Application 10

1.0	04/06/2021	First Draft	METR NET	TRAFFIC CONTROL	Project	Drawing Number	Rev
					_____		0
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date	Lane Closure on a Two-Lane Road using Flaggers	CODE	AREA

Notes for Figure 6H-22—Typical Application 22
Right-Hand Lane Closure on the Far Side of an Intersection

Guidance:

1. If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure 6H-29.
2. The normal procedure is to close on the near side of the intersection any lane that is not carried through the intersection. However, when this results in the closure of a right-hand lane having significant right turning movements, then the right-hand lane may be restricted to right turns only, as shown. This procedure increases the through capacity by eliminating right turns from the open through lane.
3. For intersection approaches reduced to a single lane, left-turning movements may be prohibited to maintain capacity for through vehicular traffic.
4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
5. Where the turning radius is large, it may be possible to create a right-turn island using channelizing devices or pavement markings.

Option:**Figure 6H-22. Right-Hand Lane Closure on the Far Side of an Intersection (TA-22)**

1.0	04/06/2021	First Draft	METRONET	TRAFFIC CONTROL	Project	Drawing Number	Rev
					_____	GC 13	0
			Designer	Drawn	Right-Hand Lane Closure on the Far Side of Intersection	CODE	
			Checked	Date		AREA	
NO	DATE	REVISIONS AND RECORD OF ISSUE					

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2009 Edition

**Notes for Figure 6H-27—Typical Application 27
Closure at the Side of an Intersection**

Guidance:

1. *The situation depicted can be simplified by closing one or more of the intersection approaches. If this cannot be done, and/or when capacity is a problem, through vehicular traffic should be directed to other roads or streets.*
2. *Depending on road user conditions, flagger(s) or uniformed law enforcement officer(s) should be used to direct road users within the intersection.*

Standard:

3. **At night, flagger stations shall be illuminated, except in emergencies.**

Option:

4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
5. For short-duration work operations, the channelizing devices may be eliminated if a vehicle displaying high-intensity rotating, flashing, oscillating, or strobe lights is positioned in the work space.
6. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

7. *When used, the BE PREPARED TO STOP sign should be located before the Flagger symbol sign.*
8. *ONE LANE ROAD AHEAD signs should also be used to provide adequate advance warning.*

Support:

9. Turns can be prohibited as required by vehicular traffic conditions. Unless the streets are wide, it might be physically impossible to make certain turns, especially for large vehicles.

Option:

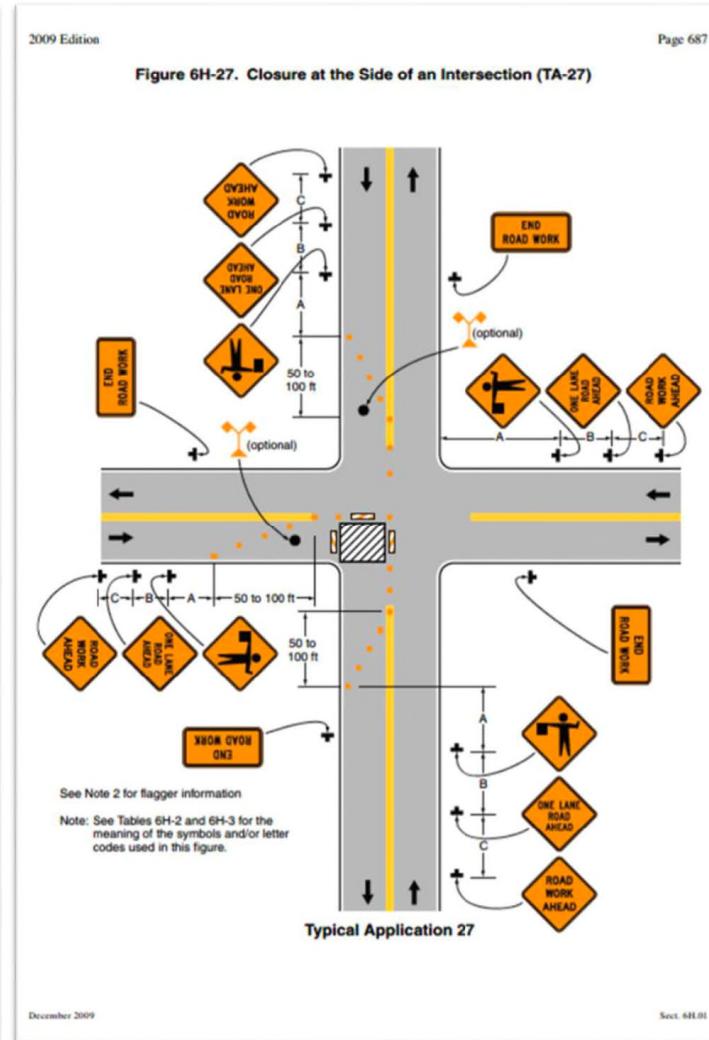
10. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

11. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.**

Sect. 6H.01

December 2009



1.0	04/06/2021	First Draft			TRAFFIC CONTROL	Project	Drawing Number	Rev
						_____	GC 14	0
			Designer	Drawn	Closure at the Side of Intersection	CODE		
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA		

Notes for Figure 6H-28—Typical Application 28
Sidewalk Detour or Diversion

Standard:

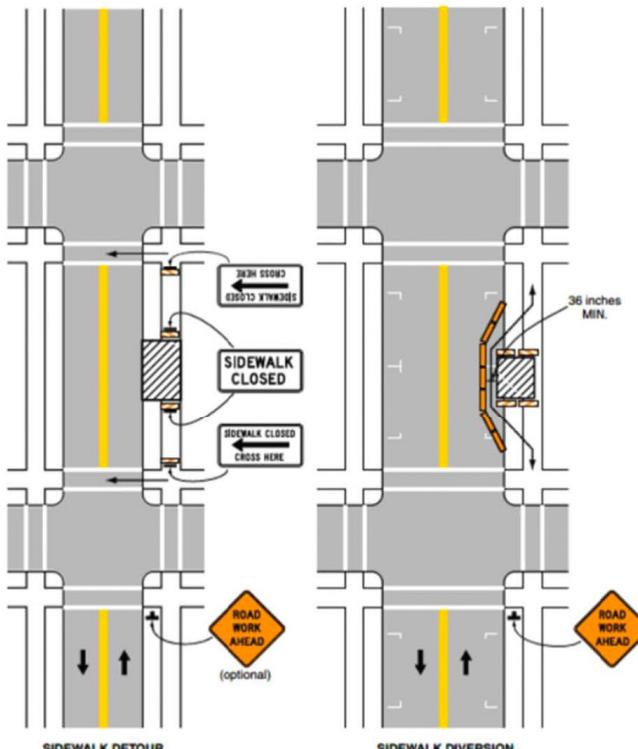
- When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.

Guidance:

- Where high speeds are anticipated, a temporary traffic barrier and, if necessary, a crash cushion should be used to separate the temporary sidewalks from vehicular traffic.
- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.

Option:

- Street lighting may be considered.
- Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS signs, may be used to control vehicular traffic.
- For nighttime closures, Type A Flashing warning lights may be used on barricades that support signs and close sidewalks.
- Type C Steady-Burn or Type D 360-degree Steady-Burn warning lights may be used on channelizing devices separating the temporary sidewalks from vehicular traffic flow.
- Signs, such as KEEP RIGHT (LEFT), may be placed along a temporary sidewalk to guide or direct pedestrians.

Figure 6H-28. Sidewalk Detour or Diversion (TA-28)**Typical Application 28**

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

1.0	04/06/2021	First Draft	METR ONET	TRAFFIC CONTROL	Project	Drawing Number	Rev
					____	GC 15	0
			Designer	Drawn	Sidewalk Detour or Diversion	CODE	
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA	

Notes for Figure 6H-29—Typical Application 29
Crosswalk Closures and Pedestrian Detours

Standard:

- When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.
- Curb parking shall be prohibited for at least 50 feet in advance of the midblock crosswalk.

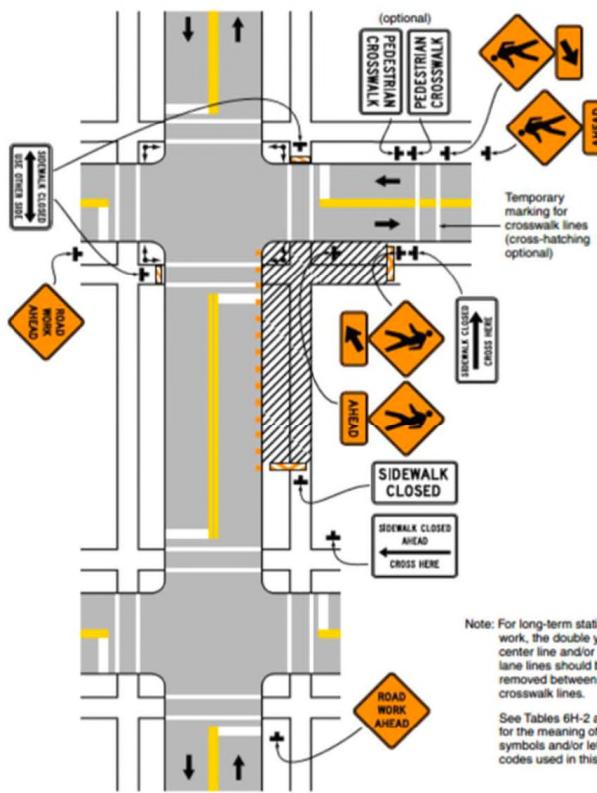
Guidance:

- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.
- Pedestrian traffic signal displays controlling closed crosswalks should be covered or deactivated.

Option:

- Street lighting may be considered.
- Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS signs, may be used to control vehicular traffic.
- For nighttime closures, Type A Flashing warning lights may be used on barricades supporting signs and closing sidewalks.
- Type C Steady-Burn or Type D 360-degree Steady-Burn warning lights may be used on channelizing devices separating the work space from vehicular traffic.
- In order to maintain the systematic use of the fluorescent yellow-green background for pedestrian, bicycle, and school warning signs in a jurisdiction, the fluorescent yellow-green background for pedestrian, bicycle, and school warning signs may be used in TTC zones.

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)



Typical Application 29

1.0	04/06/2021	First Draft	METR ONET	TRAFFIC CONTROL	Project	Drawing Number	Rev
					____	GC 16	0
			Designer	Drawn	Crosswalk Closures and Pedestrian Detours	CODE	
NO	DATE	REVISIONS AND RECORD OF ISSUE	Checked	Date		AREA	

EXHIBIT C

EXHIBIT C

CONTRACTOR MATERIAL HANDLING PLAN

1.0 OBJECTIVE

The objective of the Contractor Material Handling Plan (CMP) is to clarify the responsibilities of the Contractor as they relate to the acceptance, inventory, handling and requisition of materials associated with Master Contractor Agreements with Company. **Under no circumstances shall any Contractor proceed with operating procedures other than those listed below.**

2.0 ACCEPTANCE

All direct-shipped material shall be received by the Contractor at a secure material storage area. Proper protection shall be provided for materials/equipment requiring shelter from moisture, temperature, humidity, etc....

Contractor shall provide equipment for unloading of Company supplied materials shipped directly from manufacturer or distribution agent. The cost of this facility and equipment shall be included in the Contractors unit or lump sum pricing. No material shall be accepted that is in sub-standard condition. Any material accepted by the Contractor with visual damage shall be the responsibility of the Contractor. Contractor shall accept material, verify proper condition, quality and quantity on behalf of Company and sign and forward the Bill of Lading (BOL) to the Company representative. Under no circumstances shall a Contractor accept material without a Bill of Lading indicating the purchase order number.

In the event the Contractor receives material with concealed damage, the Company representative must be notified within seventy two (72) hours of receipt of the damaged goods as the shipping company will not accept claims for concealed damage after a five (5) day time frame has elapsed.

When material is damaged to the extent of being unacceptable at the point of delivery, this material should be **REFUSED** and the Company representative notified immediately. The following information shall be made available to the Company representative:

- Company name of the truck line or agency attempting delivery
- BOL number assigned to the material being refused
- Purchase Order number for the material being refused
- Detailed description and quantity of items being refused
- Pictures must be taken showing the extent of all damage and forwarded to the Company representative for claims documentation

Should a driver not allow for the acceptance of only partial shipment, it is acceptable to take possession of the entire shipment, including the damaged materials. This condition should be noted on the BOL so the damaged materials may be returned to the place of origin. All BOL shall be signed using first and last name and the entry shall be dated.

3.0 INVENTORY

Contractor shall maintain a current inventory list of all Company supplied materials. The inventory list shall be used to determine the quantity of outstanding items the Contractor is yet to receive and quantity used to date. One specific person should have authorization to accept material and be responsible for the inventory process. The Contractor will be held responsible for the replacement of all missing or lost material that they have accepted, inventoried and stored. At the discretion of Company an inventory may be requested at any time. Contractor shall maintain a database of information including, but not limited to, the following:

- Quantity of material received to date (from suppliers)
- Quantity of material dispersed to date (to the field)
- Current quantity available for disbursement
- Inventory (by location) of all received materials.
- Integrate packing slip details with the site material list and keep MetroNet advised on which items are on back order.

The Contractor is required to:

- Ensure all signed packing slips are given to the MetroNet representative.
- Store in a secure location and release all inventoried materials as required for installation.
- Have at his/her disposal a Digital camera to record, as necessary, any situation of which MetroNet would require notification and documentation on.

- Provide documentation to Company that materials being returned to vendor or distribution agent under a return authorization have in fact been returned to the vendor per instructions within the RA's.

All Company supplied materials must be inventoried with the exception of the following consumable materials:

- Fiber Tags
- Duct Couplers and Plugs
- Warning Tape

Should the quantity of items required to complete the project differ significantly from the allocated items by Company, additional items may be obtained as outlined in Section 5.0, below.

All packing lists and/or BOL's for materials shall be signed and dated by the person responsible for the inventory of materials. On a weekly basis, all packing slips and/or BOL's shall be transferred to the Company representative.

4.0 HANDLING

Contractor shall supply equipment and labor to safely handle all material, both upon receipt from suppliers as well as for dispersion to the field. Caution shall be used when handling Company supplied materials. Material shall be handled in a safe and professional manner. Extreme care shall be taken not to damage fiber-optic cable, conduit, electronics, and connectors, in addition to all other Company supplied materials.

Should question arise of how to handle, store or transport a specific item, it is the Contractor's responsibility to contact the manufacturer for specific instructions. Under no circumstances shall the Contractor jeopardize the integrity of Company supplied materials with handling, storage or transportation negligence.

Contractor shall maintain a file on site with all applicable Material Safety Data Sheet (MSDS) sheets. Should material be received without the accompanying MSDS sheet, it is the Contractor's responsibility to obtain one.

5.0 REQUISITIONS

Should it be determined that the Contractor requires additional material over and above the quantities allotted by Company for the specific Project, Contractor shall provide written documentation specifying the just cause for additional materials.

Under no circumstances shall a Contractor purchase materials on behalf of Company, unless mutually agreed upon in writing. In the event additional materials are required, Contractor shall notify the Company representative. All purchases shall be made by Company. Once an order has been generated, the Contractor shall be notified of the PO number, as well as delivery terms, for acceptance of the newly ordered materials.

6.0 MATERIAL RETURNS

All materials being returned to a vendor or other supplier must have prior authorization before the return is made. All requests for returns, such as a repair and return (R&R); a return authorization (RA); or a return material authorization (RMA); must be coordinated through the Company. The only exception to this is when the delivery was initially refused from the truck line due to unacceptable damage.

R&R is required when:

- Damage has occurred to an item while being installed.
- Warranty repairs are needed.

RA / RMA is required when:

- Incorrect materials were shipped and accepted.
- Exchange required for material received with concealed damage.
- Need to return excess material at the end of a job.

Materials should be returned to the vendor within seven to ten working days of the return authorizations being received in the field. Materials may not be added or deleted from an existing RA, RMA, or R&R without vendor authorization.

Any modification to an existing RA, RMA, or R&R must be coordinated through Company.

CANCELLATION OF RA OR RMA:

When a determination is made to use material previously assigned to a RA or RMA number, Company shall be notified in writing before the material is used. This notification shall include the following details:

- How and where the material will be utilized.
- The assigned RA number and the vendor name the material was being returned to.
- The purchase order number the material was purchased on.

Company will in turn notify the vendor of all cancelled returns.

EXHIBIT D

EXHIBIT D
SAMPLE RED-LINE DRAWINGS



EXHIBIT E

EXHIBIT E

SAMPLE FORMS

PARTIAL WAIVER OF LIEN

Agreement No.: _____

Work Order No.: _____

STATE OF: _____)

COUNTY OF: _____)

The undersigned is a general contractor, sub-contractor, materialman, or other person or entity furnishing services, labor, equipment, appliances, machinery or material in construction, repair and/or replacement of improvements upon real and/or personal property owned by:

OWNER NAME: MetroNet Technologies, LLC, Metro Fibernet, LLC and/or affiliates

PROPERTY LOCATED IN: _____ County, State of _____.

OWNER ADDRESS: 3701 Communications Way, Evansville, IN 47715

IN CONSIDERATION of the sum of \$_____ (the "Consideration") the receipt and sufficiency of which are hereby acknowledged, the undersigned does hereby waive, release, discharge and quit-claim in favor of the Owner and the lender or lenders or their assigns, all rights that the undersigned may now have, for services, labor, equipment, appliances, machinery or materials furnished to and including the date hereof, to a lien upon or claim against the land, improvements or other real and/or personal property of Owner; and the undersigned does warrant that the undersigned has not and will not assign any claim for payment nor any right to perfect a lien against said property, and that the undersigned has the right and is duly authorized to execute this waiver and release of lien on behalf of _____.

The undersigned further warrants that no chattel mortgage, conditional sale contract, retention of title agreement or mechanics or materialman's lien, has been given or executed by the undersigned, or any of its subcontractors or suppliers, for or in connection with any materials, equipment, appliances, or machinery placed or installed upon said property whether permanently affixed or attached to the freehold or not, which has not been released.

The undersigned further warrants that all employees, laborers, materialman, suppliers and subcontractors employed, engaged or utilized by the undersigned in connection with the property or work performed by the undersigned for the Owner and all bills currently due for labor, materials, equipment, appliances, supplies and taxes furnished by others to the undersigned in connection with the property or work performed by the undersigned for the Owner have been fully paid and that no obligations, legal, equitable or otherwise, are owed by the undersigned in connection with labor, materials, equipment, appliances, supplies and taxes and its work on the property or for the Owner.

The undersigned further agrees that making and receipt of payment and execution of this Waiver of Lien shall in no way release the undersigned from its continuing obligations with respect to the completion of any work remaining undone, punch list work, warranty and guaranty work, and any other obligations of the undersigned to the Owner.

This release shall become effective immediately and without further action upon payment by Owner of the Consideration.

In witness whereof, on behalf of the undersigned, with full authority, I have executed this Waiver of Lien.

BY: _____

NAME: _____

TITLE: _____

SUBSCRIBED AND SWORN TO BEFORE ME, this day _____ of _____, 20_____.

NOTARY PUBLIC

Final Payment and Waiver of Liens

In consideration of the sum of \$_____, of which \$____ has been paid, (the "Consideration") the receipt and sufficiency of which are hereby acknowledged, the Contractor does hereby waive, release, discharge and quit-claim in favor of the MetroNet Technologies, LLC, Metro Fibernet, LLC, CMN-RUS, Inc., and any other person or entity having an interest in the property where Contractor has performed work, and their affiliates, successors and assigns (collectively "Owner"), all rights that the Contractor may now have, for services, labor, equipment, appliances, machinery or materials furnished to and including the date hereof, to a lien upon or claim against the land, improvements or other real and/or personal property of Owner; and the Contractor and undersigned personally do warrant that the Contractor has not and will not assign any claim for payment nor any right to perfect a lien against said property, and that the undersigned has the right and is duly authorized to execute this waiver and release of lien on behalf of the Contractor. The Contractor and the undersigned personally further warrant that no lien of any type or nature has been given or executed by the Contractor, or any of its subcontractors or suppliers, for or in connection with any materials, equipment, appliances, or machinery placed or installed upon said property whether permanently affixed or attached to the property or not. The Contractor and the undersigned personally further warrant that all employees, laborers, materialman, suppliers and subcontractors employed, engaged or utilized by the undersigned in connection with the property or work performed by the undersigned for the Owner and all bills currently due for labor, materials, equipment, appliances, supplies and taxes furnished by others to the Contractor in connection with the property or worked performed by the Contractor for the Owner have been fully paid and that no obligations, legal, equitable or otherwise, are owed by the Contractor in connection with labor, materials, equipment, appliances, supplies and taxes and its work on the property or for the Owner. This release shall become effective immediately and without further action upon payment by Owner of the Consideration.

Continuing Obligations.

The Contractor further agrees that making and receipt of payment and execution of this Waiver of Lien shall in no way release the undersigned from its continuing obligations with respect to the completion of any work remaining undone, punch list work, warranty and guaranty work, and any other obligations of the undersigned to the Owner.

If Contractor is awarded future work with MetroNet a new Work Order will be used at that time. Thank you for your support and cooperation in working within MetroNet.

In witness whereof, on behalf of Contractor, with full authority, I have executed this Work Order Close Out and Waiver of Liens.

Approved:

By Contractor's Duly Authorized Representative

Date

If you have any questions or need additional information, please do not hesitate to contact me at the email or phone number shown below.

Sincerely,

Initial 



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERNS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Insurance Company Street Address City, State, Zip Code	CONTACT NAME:	FAX (A/C No.):
	PHONE (A/C No. Ext.):	
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
NAIC #		
INSURED Contractor's Company Name Street Address City, State, Zip Code (Exactly as it appears on contract)	INSURER A:	
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
INSURER F:		

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.									
INSR LTR	TYPE OF INSURANCE		ADOL INS'D	SUBR W'D	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY							EACH OCCURRENCE	\$ 1,000,000
	CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR							DAMAGE TO RENTED PREMISES (ea occurrence)	\$ 100,000
								MED EXP (Any one person)	\$ 10,000
								PERSONAL & ADV INJURY	\$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:							GENERAL AGGREGATE	\$ 2,000,000
	POLICY <input checked="" type="checkbox"/> PRO- JECT <input type="checkbox"/> LOC							PRODUCTS - COMPI/OP ADD	\$ 2,000,000
	OTHER:								\$
	AUTOMOBILE LIABILITY							COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO							BODILY INJURY (Per person)	\$ XXXXXXXXX
	<input type="checkbox"/> OWNED AUTOS ONLY		<input checked="" type="checkbox"/> SCHEDULED AUTOS					BODILY INJURY (Per accident)	\$ XXXXXXXXX
	<input type="checkbox"/> HIRED AUTOS ONLY		<input type="checkbox"/> NON-OWNED AUTOS ONLY					PROPERTY DAMAGE (Per accident)	\$ XXXXXXXXX
									\$
	<input checked="" type="checkbox"/> UMBRELLA LIAB		<input checked="" type="checkbox"/> OCCUR					EACH OCCURRENCE	\$ 5,000,000
	<input type="checkbox"/> EXCESS LIAB		<input type="checkbox"/> CLAIMS-MADE					AGGREGATE	\$ 5,000,000
	DED	RETENTION \$							\$
	WORKERS COMPENSATION AND EMPLOYER'S LIABILITY							<input checked="" type="checkbox"/> PER STATUTE	OTH- ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/ MEMBER EXCLUDED? (Mandatory In NH)		<input type="checkbox"/> N	N/A				E.L. EACH ACCIDENT	\$ 500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below							E.L. DISEASE - EA EMPLOYEE	\$ 500,000
								E.L. DISEASE - POLICY LIMIT	\$ 500,000
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)									

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Metronet Technologies, LLC, Metro Fibernet, LLC, Vexus Fiber, LLC and their affiliates and parent companies are an additional insured with respect to the general liability, auto liability, and umbrella liability coverages, which are primary coverages to the additional insured, and other available insurance will be non-contributory as required by contract. Waiver of subrogation in favor of the additional insured applies on the general liability, auto liability, umbrella liability and workers compensation coverages, if required by written contract and where allowed by law. Umbrella liability policy is follow form of the general liability, automobile liability and employer's liability policies. Coverage is subject to the terms and conditions of the policy. Coverage is subject to the terms and conditions of the policies.

CERTIFICATE HOLDER	CANCELLATION
13384199 Metronet Technologies, LLC 3701 Communications Way Evansville, Indiana 47715	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

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CONFIDENTIALITY AGREEMENT

This Confidentiality Agreement ("Agreement") is made this 6th day of January, 2026 by and between MetroNet Technologies, LLC, a Delaware limited liability company, with offices at 3701 Communications Way, Evansville, IN 47715 ("MetroNet"), and LYT Communications, LLC an Texas Limited Liability Corporation with offices at 23013 Buena St, Galveston, TX 77554("Company"). MetroNet and Company are sometimes referred to herein collectively as the parties and individually as a party.

The parties wish to discuss the possibility of a business relationship between them or, if such a relationship presently exists, they wish to continue such relationship. In connection with these discussions, each party has provided, or will provide, the other party with certain confidential or proprietary information relating to its business. Each party agrees that all such non-public confidential or proprietary information relating in any way to the business activities or operations of the other party or its affiliates is confidential (the "Confidential Information") and shall not be disclosed to any third party without prior written approval of the disclosing party. Notwithstanding the forgoing, a receiving party may disclose the Confidential Information to their and their affiliates' employees, officers, directors, attorneys and financial advisors having a need to know the Confidential Information (collectively, "Representatives") provided such Representatives are bound by confidentiality restrictions similar to those set forth herein and the receiving party is liable for the failure of any of its Representatives to whom Confidential Information is disclosed to comply with the receiving party's obligations hereunder. Confidential Information shall include information marked or otherwise designated as "confidential" at the time of such disclosure and information which by its nature would be reasonably considered to be Confidential Information. Each party shall use not less than the same degree of care to avoid disclosure as that party uses for its own Confidential Information, provided that such measures are consistent with at least a reasonable degree of care.

Notwithstanding the foregoing, Confidential Information shall not include any information that (a) was in the public domain at the time of the disclosing party's communications thereof to the receiving party; (b) entered the public domain through no fault of the receiving party subsequent to the time of the disclosing party's communication thereof to the receiving party; (c) was in the receiving party's possession free of any obligation of confidence at the time of disclosure by the other party; (d) was disclosed to the receiving party by a nonparty source, free of any obligation of confidence, after disclosure by the party; or (e) was developed by employees or agents of the receiving party independently of and without reference to any of the Confidential Information that the disclosing party has provided to the receiving party.

Notwithstanding anything to the contrary herein, in the event the receiving party is required by applicable law, judicial, governmental, regulatory, administrative or other similar process (including, without limitation, interrogatories, requests for information or documents, deposition, subpoena, civil investigative demand or other process) to disclose any Confidential Information, the obligation not to disclose the Confidential Information will be inoperative with respect thereto and the receiving party will not be liable for such disclosure of such Confidential Information provided that the receiving party, so long as permitted to do so by law, provides the disclosing party with notice of any such request or requirement as soon as practicable so that the disclosing party may seek an appropriate protective order or other such remedy. In the event that such protective order is not obtained, the receiving party may disclose only that portion of the Confidential Information that receiving party is advised by counsel is legally required to be disclosed and to use commercially reasonable efforts (at the disclosing party's expense) to ensure that such Confidential Information will be accorded confidential treatment. Further, neither party shall be in violation of its non-disclosure obligations hereunder solely to the extent disclosure of Confidential Information is reasonably required in connection with the exercise of any remedy hereunder.

The exchange of any Confidential Information between the parties is not intended to be interpreted that the parties have formed or will form a business relationship. Any business relationship between the parties must be governed by separate agreement.

All documents or other media containing Confidential Information and all reproductions thereof shall at all times be and remain the sole property of the disclosing party and shall be promptly returned by the receiving party upon the disclosing party's request. Alternatively, the receiving party may destroy the Confidential Information and, on request of the disclosing party, certify such destruction in writing. Notwithstanding the foregoing, the receiving party may retain (i) any attorney work product created in connection with a possible business relationship, (ii) so much of the information as the receiving party reasonably believes is necessary to comply with any legal, regulatory or data protection needs, and (iii) the receiving party will not be obligated to erase any Confidential Information contained in an archived computer system backup in accordance with such party's security and/or disaster recovery procedures (and, for the elimination of

doubt, such Confidential Information retained pursuant to this sentence shall remain subject to the terms of this Agreement)

This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns. No waiver or modification of this Agreement shall be valid unless in writing and signed by the parties hereto. The obligations of the parties under this Agreement shall continue, survive and remain binding for two (2) years from the date first written above.

This Agreement shall be construed and enforced in accordance with, and the validity and performance hereof, shall be governed by the laws of the State of Indiana without regard to its principles of choice of law.

The parties hereto plan to use due diligence to work together to implement this Agreement and amicably resolve their differences. However, the parties understand that issues and conflicts may arise where they reach an impasse. The parties acknowledge their desire to reach a working solution by using good faith attempts to resolve such issues and conflicts. Any claim or controversy related to or arising out of this Agreement, whether in contract or in tort ("Dispute"), will be resolved on a confidential basis, according to the following process, which either party may start by delivering to the other party a written notice describing the Dispute and the amount involved ("Demand").

After receipt of a Demand, authorized representatives of the parties will meet at a mutually agreed upon time and place to try to resolve the Dispute by negotiation. If the Dispute remains unresolved thirty (30) days after receipt of the Demand, either party may start binding arbitration. Venue for such arbitration shall be in Evansville, Indiana. The parties will use their best efforts to conclude the arbitration as expediently as possible but in no event later than ninety (90) days following commencement of any proceeding. The arbitration will be before a three-arbitrator panel. Each party will select one arbitrator to represent its interest, at its sole expense. The final arbitrator, who shall be impartial, will be selected by the two partial arbitrators. In the event the two partial arbitrators shall fail to select an impartial arbitrator, either party may apply to a court of law to have a judge select an impartial arbitrator. The three arbitrators by majority ruling may adopt such procedures as they deem efficient and appropriate for making the determinations submitted to them for adjudication. No statements by, or communications between, the parties during negotiation or mediation, or both, will be admissible for any purpose in arbitration. Each party shall bear its internal expenses and its attorney's fees and expenses, and jointly share the cost of the impartial arbitrator. The decision(s) of a majority of the arbitrators shall be final and binding on the parties.

Notwithstanding the foregoing, either party hereto may resort to a court by applying for interim relief if such party reasonably determines that such relief is necessary to prevent irreparable injury to it or to a third party without the requirement to post a bond. Venue for any such matter shall be in Evansville, Indiana.

This Agreement may be signed in two or more counterparts each of which together will be deemed to be an original and all of which together will constitute one and the same instrument. Faxed, electronically delivered and scanned executed documents will be considered originals for purposes of confirming an enforceable agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first written above.

MetroNet Technologies, LLC

By: 
Daniel Shoop (Jun 16, 2026 07:18:08 EST)

Name: Daniel Shoop

Title: Director of Contractor Relations

LYT Communications, LLC

By: 
Matthew Roy (Jan 7, 2026 08:54:00 CST)

Name: Matthew Roy

Title: Owner

CONTRACTOR DAMAGE CLAIMS

(MetroNet process as of April 26, 2017)

Background. Over the last few months, MetroNet has experienced an increase in the number of damage claims made by property owners, utility companies and jurisdictional authorities (e.g. city officials) related to the construction activities of MetroNet's independent contractors. It is our goal to ensure that the claims of property owners, utilities and jurisdictional authorities are addressed in a timely and professional manner. Mishandled claims can threaten our (and your) reputation and business and even negatively impact MetroNet's ability to conduct business in a community. As you are aware, under your contract with us, you have agreed to indemnify us for property damage caused by you or your subcontractors. Whether you feel that a claim arises out of your or your subcontractor's negligence or wrongful conduct, it is your responsibility to resolve it and to handle it in the best manner possible. The intent of this document is to communicate the current process by which MetroNet addresses these claims and the expectations we have of our contractors pertaining to these claims. We may unilaterally change these processes at any time without notice to you.

Utility Damage. If you damage a utility's property, a utility strike report should be completed and submitted to the MetroNet representative overseeing the work area (see attached form). We encourage you to take pictures and detailed notes of the damage and the repair. After a strike, a claim for damage to a utility's property may be submitted by the utility directly to you or to MetroNet. In either case, MetroNet expects you, the contractor, to resolve the claim promptly by successfully disputing it, paying it or settling it.

Claims made directly to the contractor. If the utility asserts a claim and sends it directly to you, we expect you to provide notice of the claim to us, which notice may be submitted by email at MNTclaims@MetroNetinc.com, and we expect you to resolve the claim **within the time requested by the utility**. If the claim cannot reasonably be resolved in the time frame requested by the utility, you should communicate to the utility **in writing** a reasonable date by which it can expect resolution. After the claim is resolved, you should submit **written** proof of resolution to us. In some instances, proof of resolution may be as simple as a strike report or email, indicating a reasonable manner in which the matter has been resolved. In other cases, proof may be a written release or acknowledgement that the claim has been resolved.

Claims made directly to MetroNet. If a utility contacts MetroNet directly regarding an alleged utility strike, MetroNet will research its records to determine which contractor, if any, was working in the area where the alleged strike occurred. We will notify the contractor we believe may have damaged the utility's property generally via email. In some instances, the claim may be inaccurate or the cost associated with the claim may be overstated. MetroNet understands that the contractor may need to investigate the claim. If you believe the claim is inaccurate, is inflated, or does not involve you, we expect you to resolve the inaccuracy, claim amount or involvement and provide us evidence of the resolution. In any event, to help ensure that the claim is being timely and properly addressed, MetroNet requests the contractor provide **written** documentation that the contractor is working to resolve the claim. Generally, the documentation may be in the form of an email that provides some basic information, such as the name and contact information for the claimant with whom the contractor has been in contact. Generally, the written documentation must be provided to MetroNet within **fourteen (14) calendar days** of receiving the initial notice from MetroNet of the utility's claim; however, in some instances, MetroNet may request a response (and even a resolution) in a shorter period of time. Again, generally MetroNet will not require the claim to be resolved in this time period, but rather, will ask that you demonstrate you are working to resolve the matter in a timely manner. If the claim cannot be resolved immediately, we expect you to provide updates on the status of the claim at least every two (2) weeks (or more frequently if we request) until the claim is resolved.

In the event a contractor does not respond to the MetroNet initial claim notification, a second notice will be issued to the contractor requesting status of resolution. If the contractor does not respond to the second notification, without any obligation to investigate or negotiate the alleged claim on MetroNet's part, MetroNet will move forward to pay the demanded amount and will withhold the amount paid against current and/or future contractor payments. If such payments are not adequate to cover the amount, you will need to pay us the deficiency. Furthermore, should the contractor cease providing MetroNet with bi-weekly updates, MetroNet will move forward with resolving the claim in a similar fashion. This is not the desired approach of MetroNet, but in circumstances where a contractor has made unsatisfactory or unsuccessful attempts or has ceased to address the claim, MetroNet is left with no other viable alternative. If MetroNet does not receive a timely or adequate response, without any investigation or negotiation on its part, MetroNet will proceed to pay the utility the amount the utility demands and charge back the contractor. Ultimately, MetroNet expects the contractor to resolve the claim promptly by successfully disputing it, paying it or settling it. Please understand that if, at any time, MetroNet is the subject of threatened or actual legal action or we believe that as a result of the unresolved

claim MetroNet will experience adverse consequences, we reserve the right to pay the claim and back charge the contractor. As you can see, your timely response and resolution are vitally important.

Property owner damage. Contractor on site. If a contractor damages an owner's property and is on site when the damage is discovered, the contractor should call the local MetroNet representative. Unless for whatever reason the contractor reasonably believes it is advisable to commence repairs immediately (e.g. immediate action is necessary to mitigate damages), the contractor should wait until he/she speaks with the MetroNet representative and property owner before proceeding with repairs. For your and MetroNet's protection, MetroNet requests that you take pictures and make detailed notes of the damage and the repair. If you are unable to reach a MetroNet representative or feel that the repairs need to commence before MetroNet's representative can be on site, we expect the contractor to advise MetroNet of the incident and the repairs made. Again, we encourage you to take notes and pictures.

Claims submitted to Contractor. If, when the contractor is no longer on site, the owner of property asserts that the contractor has damaged property, the contractor should immediately contact the local MetroNet representative to discuss the alleged claim. The local MetroNet representative and the contractor will schedule a meeting on-site with the property owner. If, after this on-site investigation you believe the claim is inaccurate, is inflated, or does not involve you, we expect you to resolve the inaccuracy, claim amount or involvement and provide us **written** evidence of the resolution. If the owner asserts a claim directly to you, we expect you to provide prompt written notice to us of the claim, which may be submitted by email at MNTclaims@MetroNetinc.com, and we expect you to resolve the claim promptly. After the claim is resolved, the contractor should submit **written** proof of resolution to us. The best proof of resolution would be a signed acknowledgment or release from the property owner, but at a minimum, we would expect a written description of how the claim was resolved to be submitted to the project manager.

Claims submitted to MetroNet. If a property owner contacts MetroNet directly regarding alleged property damage, MetroNet will research its records to determine which contractor, if any, was working in the area where the alleged damage occurred. We will notify the contractor we believe may have damaged the property generally via email. In some instances, the claim may be inaccurate or the cost associated with the claim may be overstated. MetroNet understands that you may need to investigate the claim. If you believe the claim is inaccurate, is inflated, or does not involve you, we expect you to resolve the inaccuracy, claim amount or involvement and provide us written evidence of the resolution. In any event, to help ensure that the claim is being timely and properly addressed, MetroNet requests the contractor provide **written** documentation that the contractor is working to resolve the claim. Generally, the documentation may be in the form of an email that provides some basic information, such as the name and contact information for the claimant with whom the contractor has been in contact. Generally, the documentation needs to be provided to MetroNet within **forty-eight (48) hours** of receiving the initial notice from MetroNet; however, in some instances, MetroNet may request a response (and even a resolution) in a shorter period of time, potentially even the same day. Again, generally MetroNet will not require the claim to be resolved in this time period, but rather, will ask that you demonstrate you are working to resolve the matter in a timely basis. If the claim is not resolved immediately, we expect contractors to provide updates on the status of the claim at least every week (in some instances more frequently) until it is resolved.

In the event a contractor does not respond to the MetroNet initial claim notification, a second notice may be issued to the contractor requesting status of resolution. If the contractor does not respond to the second notification, without any further investigation or negotiation on its part, MetroNet will move forward to pay the demanded amount and will withhold the amounts against current and/or future contractor payments. If such payments are not adequate to cover the amount, you will need to pay us the deficiency. Furthermore, should you cease providing MetroNet with the requested updates, MetroNet may move forward with resolving the claim in a similar fashion. As noted above, this is not the desired approach of MetroNet, but in circumstances where a contractor has made unsatisfactory or unsuccessful attempts or has ceased to address the claim, MetroNet is left with no other viable alternative. Ultimately, MetroNet expects the contractor to resolve the claim promptly by successfully disputing it, paying it or settling it. After a claim is resolved, the contractor should submit proof of resolution to us. Generally, this may be in the form of an acknowledgement or release from the owner or an email containing a description of the manner in which the matter was resolved. However, if, at any time, MetroNet is the subject of threatened or actual legal action or we believe that as a result of the unresolved claim MetroNet will experience adverse consequences, we reserve the right to pay the claim and back charge the contractor. We cannot overemphasize the importance of your timely response and resolution of the claim.

Miscellaneous and Conclusion. If we receive a claim arising out of a contractor's or its subcontractor's work, we will require the contractor to defend, indemnify and hold us harmless from liability, even if you feel that you or your crew did not act negligently or wrongfully. We may, but are not required to, request additional information or investigate any

claim or to try to negotiate or reduce the amount. In resolving claims, we expect contractors, their subcontractors and their representatives to act professionally, courteously and politely at all times. We may request additional information or more frequent updates. It is important that you respond promptly. The above processes do not reduce your obligations under the contract you have with us. If we are told by a contractor that a claim has been resolved, but we believe that there may be some unresolved or residual exposure, we reserve the right to withhold payments to you in an amount to reduce or eliminate our exposure.

Claims Requiring Legal or Other Third Party Mediation/Resolution. If, attempts by the contractor to settle or otherwise reach agreement with a property owner fail and the contractor determines it is in its best interest to pursue legal remedies, arbitration or mediation, the contractor shall provide to MetroNet security to cover the potential exposure of an unsuccessful outcome for the contractor. This may include a setoff of amounts otherwise due the contractor in the amount of the dispute, a security bond in the same amount or payment to MetroNet of the disputed amount during the time required to prosecute the action to settlement.

Finally, as you know, MetroNet and its affiliates are additional insureds on certain of your coverages. You must maintain a current certificate of insurance with us evidencing your coverage and our status as additional insureds. MetroNet may provide the contractor's certificate of insurance to those asserting claims we believe involve the contractor. We recommend that contractors consider submitting utility and property owner claims to its carrier.

Questions regarding the above processes may be sent to MNTclaims@MetroNetinc.com.

To acknowledge your receipt and understanding of this process please sign below and return this document.

Lyt Communications
Contractor Name: _____


Signature: _____
Matthew Roy (Jan 7, 2026 08:54:00 CST)

Matthew Roy
Name: _____

Owner
Title: _____