









## Exhibit A

OFS WWTP					
Item Desc	QTY	UOM	Cost Per UOM	Total	
<b>Fiber Counts</b>					
36 CT SM Fiber	9036	LF	\$ 0.36	\$	3,252.96
				\$	-
<b>Conduit</b>					
1.25" Subduct	8286	LF	\$ 58.64	\$	485,891.04
Pull Cable in Duct		LF	\$ 2.36	\$	-
<b>Vaults</b>					
NEW BASIS 24 x36x36	15	EA	\$ 2,233.00	\$	33,495.00
				\$	-
<b>Splice Cases and Splice Sleeves</b>					
FOSC 450B	1	EA		\$	-
Prep Splice Case	1	EA	\$ 754.00	\$	754.00
				\$	-
Splice Setup	2	EA	\$ 723.00	\$	1,446.00
Fusion Splice Sleeves	24	EA	\$ 58.64	\$	1,407.36
				\$	-
<b>MST - 12 Ports</b>					
Prep	1	EA	\$ 1,048.47	\$	1,048.47
				\$	-
				\$	-
				\$	527,294.83

# Exhibit B





HENKELS & MCCOY, INC. | 5000 N.E. 148TH AVENUE | P.O. BOX 20009 | PORTLAND, OR 97230 | (503) 255-5125

March 11, 2022

City of Sandy/SandyNet  
ATTN: Greg Brewster  
[rfp@sandynet.org](mailto:rfp@sandynet.org)

Subject: SandyNet RFP FTTX Design/Build

Dear Greg:

Henkels & McCoy, Inc. (H&M) is pleased to submit this proposal to provide FTTX design-build for the above referenced project. H&M has the experience and capability necessary to meet your requirements based on our experience in providing similar design-build services across the country and continuing and sustaining the momentum gained by our successful 2014-2015 City of Sandy Fiber to the Home Project. H&M constructed the network that now serves approximately 3,754 homes within the City of Sandy. This also mitigates the need to acquire and train considerable resources in this current tight labor market.

On December 30, 2021 MasTec, Inc. (NYSE: MTZ) acquired Henkels & McCoy Group, Inc. As a result of this transaction, H&M is now a subsidiary of MasTec. MasTec brings scale, capital, and certification as a minority-owned business, which extends to H&M.

The best method for us to begin our partnership is to achieve alignment on your project expectations and our proposal is through a face-to-face meeting. Please inform us of your availability.

Thank you for the opportunity to work with the City of Sandy in our growing list of successful broadband deployments. Should you have any questions about our proposal or require additional information, please contact me at (208) 771-1372 or [vbeattie@henkels.com](mailto:vbeattie@henkels.com).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vic Beattie', written in a cursive style.

Vic Beattie  
Sr. Director - Telecom



PERFORMANCE has built our business...®





**Submitted to: City of Sandy**

**Request for Proposal  
SandyNet FTTX Design/Build Proposal**

**Bid Date: March 11, 2022**

CONNECTIONS FOR PERFORMANCE™





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## 1. PROJECT TEAM EXPERIENCE

H&M has assembled a design-build team that will meet the City of Sandy's overall goals and objectives for the SandyNet FTTX Design/Build Proposal. We are a qualified construction and engineering contractor that has completed successful design-build projects within the last five years. We encourage you to contact our Owner's representatives for these projects listed in our references for a testament to our abilities with designing, permitting, and constructing fiber optic broadband projects.



The H&M team has learned best practices for streamlining the design and approval workflow, the City of Sandy area permitting landscape, and has qualified, available personnel ready to transfer knowledge gained from recent and past projects for the benefit of the the SandyNet FTTX Design/Build Project. The H&M self-performing construction and engineering teams have benefitted from our commitment to Operational Excellence through Continuous Improvement principles where they have

worked together to analyze and challenge every step of their process and arrive at solutions to increase quality, eliminate "go-backs", increase Authorities Having Jurisdiction (AHJ), customer, and other project stakeholder satisfaction, and help lower costs. We want the City of Sandy to experience these same benefits. As a result, with the H&M team, the City of Sandy is receiving a knowledgeable design-build vendor experienced with broadband projects possessing ingrained engineering, project management, quality, and safety processes.

In summary, Henkels & McCoy is committed to the success of our customers. With the benefit of over nine decades of industry experience, we are fully equipped to meet this commitment. Our local, regional, and national presence provides the management, safety, quality, supervision, craft, financial, and equipment resources to be a vital part of dynamic, long-term relationships. We continue to grow by providing the right mix of service and support to meet the changing demands of our clients. Due to our involvement with other broadband initiatives, we understand the complexity and concerns involved with designing and constructing large-scale fiber networks.

### **Our Experience in Broadband Design-Build Projects**

Within this response, we have defined our schedule and resource plan (including a description of the proposed project phasing, implementation schedule, and chief milestones); our deep-seated safety, and quality processes; how we are mitigating the acquisition and/or allocation of resources due to our current workload; and the techniques H&M will utilize during the project to





ensure timely execution and methodologies used to enhance communications with all project stakeholders, both through our ingrained PMO culture.

The following is an outline of H&M's experience, background, and overall qualifications that present our administrative approach and project management techniques that we will deploy during the contract term to ensure the coordination and timeliness of the work, the managerial techniques and tools proposed to control the work, and the methodologies proposed to enhance communications between H&M, the City, and other project stakeholders and AHJs.

H&M's in-house engineering team will design and perform all permitting functions.



With regards to implementation of subcontract forces, H&M requires that all subcontractors perform to the same standards as our own crews. Our subcontractors are considered a part of our project team and will be included in all meetings with our onsite management with respect to safety, productivity, and stakeholder satisfaction. This allows for a seamless deployment transparent to our customers. When H&M subcontracts portions of work, it does not change the interaction for our customer, as we pride ourselves in providing the highest level of professionalism and consistency for our customers.

### **Quality Control Program**

The H&M Quality Management System (QMS) aligns with H&M's project management methodology (PMM) approach. It satisfies domestic and international quality acceptance test, quality control (QC) inspection, quality assurance (QA) audit and QMS requirements for the completion of work as contractually stated and agreed upon by H&M and its customers.

A process based QMS illustrates the process cycle, with the customer interface in defining requirements. Customer satisfaction requires the evaluation of information and customer perception in meeting customer requirements. The H&M process cycle contains a plan, do, check, and adjust methodology.





Quality is defined by the customer. There are standards, specifications, codes, drawings, written and oral instructions, memos, change orders, and other defining documents, but the customer will decide if our work meets quality standards. The better we understand the customer's perception of quality, the better the job.

Quality is doing a job right, the first time. "Right" includes following the drawings and specifications, as well as the wishes of the customer. If these are in conflict, we collaboratively work out a solution.

Go-backs are costly and are not welcome in the eyes of our customer. No matter how good the job is at the end, go-backs impact the project schedule, a topic that is always important to the customer.

Quality is checking as we go. Constant checking is the only way to keep a job on the right path. To help in this process we use a quality control checklist which is used constantly as a guide to make sure nothing is missed as the job progresses.

Quality is a clean work site. No job is complete until it is cleaned up. Our current construction practices for directional boring is an assembly line approach which ensures final cleanup is performed behind our drilling operations. We strive to complete the final cleanup within five (5) days following construction.

Quality is complete, accurate documentation. Accurate, legible, clean records, and as-built drawings are part of a quality job. We maintain the records as the job progresses. The final records provided to the customer are precise and delivered in a timely manner.

### **Safety Program**

Henkels & McCoy is committed to Occupational, Health and Safety Excellence. From the beginning, it has been our philosophy that safety represents a commitment to protect our employees, customers, subcontractors, and the public. Based on this philosophy, we have created a corporate safety program that is well known throughout the industry and ensures that our safety performance results from continual evaluation and implementation of company and industry-wide best practices. In addition to our own initiatives, we uphold the standards and procedures adopted by our customer and industry groups.

Our systematic approach to safety has received recognition from the National Utility Contractors Association, Pipeline Contractors Association, Mechanical Contractors Association of America, Texas Safety Association, Liberty Mutual Insurance Company, and JEA (Jacksonville Electric Authority).



Henkels & McCoy joined with other contractors and industry groups (IBEW, EEI) as a founding member of the OSHA Electric, Transmission & Distribution (ET&D) Strategic Partnership. This group is developing best practices and training programs specifically targeting the power electrical transmission and distribution industry. In January 2013, DuPont Sustainable Solutions presented Henkels & McCoy with its E.I. DuPont Safety Excellence Award in recognition of outstanding achievements during the past three years. At the presentation, DuPont representatives emphasized that, to their knowledge, no one outside of DuPont had ever received this award.

Our commitment to safety and quality has enabled Henkels & McCoy to grow largely by customer referral, from one customer to the next, from a single truck and

crew to a nationwide business. This same commitment has enabled us to assume an industry-leadership position as a participant in an innovative partnership with OSHA to work mutually toward improving safety performance in the telecom industry.

In addition, we are vigilant in developing relationships with subcontractors who share our commitment to our core values. In no area is this process more stringent than in safety.

Our Safety Vision, Executive Safety Council Commitment statement and Safety Principles define our aspirations and our daily execution of these support our goal and mission of “Nobody Gets Hurt!”

To be the safest contractor in the markets we serve and fulfill our daily mission of “Nobody Gets Hurt!”, we commit to actively participate in and provide the resources needed to achieve an injury free environment for employees, customers, and the public. Further, we will hold ourselves and each other responsible and accountable for safety at all H&M facilities, on all jobs, all the time.

- Management is responsible for preventing injuries.
- All hazards can and will be safeguarded promptly.
- All injuries are preventable. “Nobody Gets Hurt!”

A Safety Contact, delivered at the start of any meeting, is an important component of the H&M Safety Culture.

- Sets the stage that safety is a value and an integral part of daily life at H&M.

- By keeping safety at the forefront of any formal agenda or gathering, we support our vision of “Nobody Gets Hurt!”

A Safety Coaching Observation (SCO) is one of our core Safety Principles at H&M and is a way to demonstrate that we care for the safety, health and well-being of all people on the work site. This process benefits all employees in the following ways:

- Identify and reinforcement of safe work practices through positive discussions
- Increase safety participation and motivation with all employees
- Raise safety awareness and increase hazard recognition with all employees

We will partner with the City to establish notification protocols and will comply with District background checks and identification badging requirements.

### **Resources Available to the H&M Project Team to Ensure Quality and Timely Completion of the SandyNet FTTX Design/Build Project.**

Over a decade ago, H&M developed its Project Management Office (PMO) to add project management to its core values in the belief that only through professional project management could it successfully meet the demands of an increasingly complex world. As part of this transformation, H&M has developed a PM Methodology—based on the PM Institute’s PM Book of Knowledge (PMBOK)—and trained hundreds of employees on the practice of project management. This training has provided these employees solid project management skills.

Consistency is the most significant output of the H&M PMO. By training project managers—H&M employs numerous certified Professional Project Managers (PMPs) ensuring the same processes, tools and techniques, resulting in less variation from job to job and project manager to project manager.



Aside from consistent performance, the biggest differentiator between H&M and its competition is the effort placed on planning. Once a project manager is assigned to a project, the planning process begins. A detailed project plan is developed related to the management of safety, communication, schedule, scope, quality, resources, procurement, change, cost, risk, and contract. A

considerable focus is put on the development of the schedule. H&M is committed to developing a schedule where tasks are logically linked, and progress is updated and communicated weekly.



The value to the customer is having a clear and substantiated understanding of the health and phase of completion of the project.

Communication is another core tenet of the H&M Project Management Methodology. H&M discusses progress with the client throughout each phase of the project to eliminate any surprises and to address and resolve issues critical to the project’s success. Kick-off meetings are scheduled with all project stakeholders where expectations are set, and any ambiguity is eliminated. Regular project meetings are established and, once the project is underway, the H&M project manager submits weekly status reports that show progress and document any issues or changes.

During the project kick-off meeting(s), H&M intends to collaborate with the City to agree on an Issue Resolution Ladder describing the process and the level that each project issue will be resolved as well as time limits for resolution or elevation. A proposed escalation process that we have successfully deployed on winning projects is as follows:

Level	H&M	City or AJH
I	Superintendent	Field Engineer/Inspector
II	Construction Manager	Owner’s Representative
III	Sr. Project Manager	Owner’s Representative
IV	Area Manager	Director of Purchasing
V	Director of Operations	Chief Operating Officer

Efficient and timely communication is the key to successful project completion. As such, it is imperative that any disputes, conflicts, or discrepancies regarding project communications are resolved in a way that is conducive to maintaining the project schedule, ensuring the correct communications are distributed, and preventing any ongoing difficulties. To ensure that this project stays on schedule and issues are resolved, H&M will use its standard escalation model to provide a framework for escalating communication issues. The table below defines the priority levels, decision authorities, and timeframes for resolution.

Priority	Definition	Decision Authority	Timeframe for Resolution
Priority 1	Major impact to project or business operations. If not resolved quickly there will be a significant adverse impact to revenue and/or schedule.	Project Sponsor	Within 4 hours
Priority 2	Medium impact to project or business operations which may result in some	Project Owner	Within one business day



	adverse impact to revenue and/or schedule.		
Priority 3	Slight impact which may cause some minor scheduling difficulties with the project but no impact to operations or revenue.	Owner's Representative	Within two business days
Priority 4	Insignificant impact to project but there may be a better solution.	Owner's Representative	Work continues and any recommendations are submitted via the project change control process

The following are H&M's Issue Resolution Policies that guide a successful project:

- All problems are job problems.
- Issues will be resolved in a timely manner at the lowest practical level.
- Either party can decide it is time to elevate.
- Elevation is mandatory if the issue is not resolved by the time limit.
- All team members are accountable to resolve or elevate within the time limit
- When elevating, identify when cost or schedule will be impacted.
- Write down and communicate the following information to all as we elevate:
  - The agreed upon problem.
  - Our best ideas for solution.
  - Where we are stuck.
- Inaction is not an alternative.
- Once made, a decision is owned and known by all.

H&M utilizes various scheduling software programs to schedule and track work progress. The applications used vary from a spreadsheet-based system for simpler work to Primavera P6, for complex and larger projects. The advantage of the latter product is its capability to perform critical path analysis and resource planning. H&M's project personnel develop the schedule logic from the work breakdown tasking, optimize the precedence diagrams, produce initial schedules for the client, and provide regular schedule updates.

**Project Approach**

H&M will design, permit, and construct a 100% underground fiber optic network consisting of 1.25-inch or 2-inch conduit with innerduct and at least 12 strands of single-mode fiber pulled in from the primary distribution cabinet to tie in with this vault location. Splitters shall not exceed a 1x32 split ratio. Cascade split distribution is acceptable if the tree is balanced and the optical budget to the CSP shall not exceed -18Dbm. H&M will also leave a pull string in this conduit for future use.



## Installation methods

Installation method of fiber infrastructure is at the discretion of H&M. Regardless of the method chosen the following requirements shall be met. Any exceptions to these requirements are noted in the response with an explanation of the reason for the exception.

- All fiber shall be tested on the reel prior to being deployed, test results shall be provided.
- A minimum of 36-inch cover for all cable installed in the Right of Way.
- All installed cable shall be locatable. H&M will submit specifications of how location methods will be installed and accessed.
- All landscaping, sidewalks, road surfaces, curbs and gutters, etc., shall be restored to their previous condition upon completion of the installation.
- All installed cable shall be pulled into appropriately sized conduit with innerduct to maximize available conduit space.
- H&M shall ensure that the quality of OSP network facility infrastructure has the ability to deploy XGS-PON.

H&M fully understands and have priced within this response, unless specifically excluded, all materials, labor, tools, equipment, and transportation to execute this project. We shall comply with all provisions contained within the RFP (unless otherwise noted). With a project of this magnitude, we understand and fully intend to work with the City to ensure that both parties understand the process and the costs associated with this deployment.

Through our work on all broadband deployments, we understand the importance of safety. We have refined the process for the City's notifications of crew whereabouts and work activities so all project stakeholders are kept abreast of the planned scope and location of work every day.

The following describes our chief phasing, implementation, and milestones. Some of the phases below will take place concurrently:

1. Upon receipt of the NTP, H&M engineering team will commence field surveying, data collection, and preliminary design for associated areas. Following City review and approval of the preliminary design, the final design phase will commence to produce detailed, low-level design plans. In this step, detailed drawings will be prepared in accordance with AHJ requirements. Drawings will show all necessary construction details. H&M shall finalize the drawings and specifications to the level needed for construction and for obtaining permits. When H&M believes the drawings and specifications are sufficiently complete, H&M shall submit the detailed permit drawing packages to the City for review and approval (if applicable). All drawings requiring City approval will be submitted in a mutually agreeable transmittal method (email, cloud storage upload, etc.). H&M will schedule seven (7) days for City review and approval/comment for each ROW segment. Comments received from the City will be incorporated into a revised set of drawings and will be resubmitted to the City to





confirm that all comments are addressed. H&M will make every effort to expedite permit submittal for these long lead permits to obtain approvals as quick as possible. The City and H&M will also mutually agree on the quantity of conduit and handholes to order at this time due to extended manufacturing durations.

2. Concurrently with #2, after receipt of the NTP, H&M will be authoring our detailed Project Execution Plan and Communications Plan, refining the project schedule, setting up the job in our financial system, creating document repositories, and preparing for the project kick-off meetings. As we did for the previous City of Sandy project, we will collaborate with the City to determine available City land that can be used for a project laydown yard. We have excluded rent costs for a yard in the bid pricing and will use a job trailer for the job office at a mutually agreed upon location provided by the City.
3. H&M will garner necessary permitting details, requirements, and timelines from all Authorities Having Jurisdiction (AHJ) of the rights-of-way. H&M will establish ongoing communication with the various permitting agencies to avoid any “surprises”. During the design activities, potential problem areas will be identified, and a mitigation plan will be put in place to be able to continue with production in other areas if necessary. Throughout the City of Sandy, project permitting processes, we have acquired an understanding of the permitting workflow and timelines for several AHJs and have built relationships with these jurisdictions.
4. When OSP ROW work is available, H&M will mobilize OSP crews to the jobsites. H&M is planning on utilizing OSP self-performing crews on the project, including utilization of an H&M professional locator to assist in sweep of utilities to prevent and minimize damage to non-located or mislocated utilities; therefore, these crews are comprised of H&M employees capable of meeting all of the City of Sandy’s-required security and background checks. Days and hours of work will be mutually agreed upon between H&M and the City of Sandy and other project stakeholders. Due to our previous experience working at other facilities, we understand that we must work with the City of Sandy for facility access so as not interfere to with the City’s functions. Crew locations and scope will be documented and transmitted to all applicable stakeholders as needed.
5. Once a considerable footage of conduit has been placed on the public ROW, the fiber optic cable installation will begin. Fiber optic cable installation within new conduit is up to 25X faster; therefore, this task generally waits until enough conduit footage has been installed to not hinder cable installation crews.
6. Near the completion of the fiber installation phase, fiber terminations, splicing, and testing begins in order to finish shortly after the last reel of cable is placed.



## Map and Components of Proposed Solution(s)

The attached maps show the components and proposed solutions for the following three (3) design paths. Also attached is the H&M design map key and the associated BOM for each map. Each map forms the basis for our lump sum design-build pricing for unit addresses and mainline tie in locations.

- CONNECTION FROM THE SANDY CENTRAL OFFICE TO SANDYS EXISTING WASTEWATER TREATMENT PLANT (WWTP)
- NON ARPA EXPENDABLE FUNDS FOR SANDYNET OVERLAY ACROSS NEW WWTP DESIGN. **(NOTE: ONLY APPLIES TO WWTP; DOES NOT TRANSLATE TO CHANGE OF DESIGN OR PRICE.)**
- MDU/BUSINESSES FOR SANDYNET ARPA.

### See attachments:

A1-SandyCentral-WWTP.kmz  
A2-MDU-Business-SandyNetARPA.kmz  
B1-HM-DesignMapKey.pdf  
C1-Pricing-BOM-Sandy-Central-WWTP.pdf

Key components of the planned route include the following:

- Design and permit all public ROW pathways shown in the planned route.
- Furnish and install one 1.25-inch or 2-inch HDPE conduit along the planned route.
- Furnish, install and splice 12-count fiber optic cable along the planned route.
- Furnish, install and splice terminals and associated splitters.
- Allocate fiber strand to each business, MDU and/or mobilehome.
- Provide GPS coordinates of vaults, terminals, and splice locations.
- Furnish and install vaults at planned route.
- Test all splices and turnover splice documentation to the City of Sandy.

Because we are vendor neutral, we will recommend solutions for the betterment of the project without any bias to one manufacturer. The materials that H&M has selected for this project are as follows:

*\*H&M will work with all suppliers we know to procure project materials. However, despite our best efforts, current supply chain issues have made material lead times challenging; in our experience, they can vary from two weeks to two years depending on the product.*

*Material escalation costs are excluded from this proposal. Since material vendors cannot determine future cost escalations, H&M cannot accurately forecast the cost impact to the City. Material vendors' pricing validity will expire prior to the Notice of Award. Should H&M be awarded this contract, upon NTP, H&M will request updated pricing and lead times for all*





material. Any cost escalation at time of H&M material orders following NTP will be the responsibility of the City.

H&M's key responsibilities and general project execution approach consist of project management; design and permitting; and construction. These key responsibilities are further defined below.

## **Project Management**

### **Safety**

It is the policy of H&M for the project execution team assigned to the this project maintain an effective safety and health program described throughout this response. H&M recognizes that effective employees are our most valuable asset.

Therefore, the design and implementation of the H&M Safety Program, as well as the design and implementation of the SandyNet FTTX Design/Build project's Site Specific Safety Plan is aimed at providing each employee, contractor, company, and the public a safe and healthy work environment.

### **Quality**

To ensure adherence to our Quality Management System (QMS) described herein, the project execution team assigned to this project will utilize iAuditor, a cloud-based quality control software program for managing quality. This program provides a platform for performing and documenting inspections, tracking deficiencies and corrective actions, scoring subcontractors performance, and documenting crew performance. The iAuditor app ensures consistent quality inspections and documentation in real-time. We can provide the City with access to iAuditor for real time access to project quality photos.

The Associate Project Manager (APM) and/or Project Manager (PM) are responsible for completing at least one Quality Audit on this project per week. The Quality Audit report will be kept in the file while the electronic copy is attached to the Work Order System. Any deficiencies found will be addressed with the crew and fixed prior to H&M's request to the customer for issuance of a certificate of Initial Acceptance.

The crew is responsible for following the installation methods described on the drawings and specifications for the work being performed as well as for addressing any substandard work performed by other crew members. Issues are corrected in a timely fashion, typically when detected. If not possible, the supervisor responsible for the nonconformance/noncompliance informs the Construction Manager who then coordinates with the construction crews to correct the problem.

All detected nonconformance issues are documented and the results archived in the appropriate Quality Record. H&M utilizes a Non-Conformance Report and similar Test, Inspection, and Audit checklists to document, monitor, and track all quality issues to closure.



The APM/PM will be the customer's point of contact if a satisfaction issue arises. If the customer is not receiving satisfactory responses, the customer should contact the regional director or executive sponsor if the PM has not been able to resolve the matter.

### **Management, Supervision, and Execution of the Work**

H&M proposes to manage this project with a highly experienced, dedicated team. H&M's APM/PM will directly control the project team and deliverables. The Project Manager will be supported by the following:

- H&M West Region Project Delivery Office
- H&M Project Engineer
- Construction Manager
- Project Controller
- Field Personnel

H&M shall provide professional project management for the entire project, which includes managing the cost, schedule, quality, and scope. The H&M PM will be responsible for informing the City in a timely manner when challenges impacting any of these items arise, so the City can make timely, informed decisions throughout the Project.

Our proposed project execution team involved with the day-to-day management of the project consists of the following individuals: PM, Construction Manager, and Project Controller. A brief description of their duties follows:

#### **Project Engineer**

- Develops underground fiber route maps and executes tasks such as route analysis
- Assures all designs adhere to industry standard regarding construction and maintenance of the entire network design
- Assists in developing the project the scope, budget, and schedules for the projects
- Develops weekly project status reports to the project team and all project stakeholders
- Assumes charge of fiber optic verification and all cable route mapping activities
- Identify and rectify network engineering problems.
- Inspects the network designs.
- Develops and provides As-Built drawings to all project stakeholders

#### **Project Manager**

- Has overall responsibility for the project. This includes planning, monitoring and control of safety, scope, quality, schedule, cost, and customer satisfaction.
- Will be the primary liaison with the City to coordinate all aspects of the project.
- Responsible for ensuring timely and accurate internal and external tracking and reporting
- Responsible for financial tracking: production, labor and material costs, invoicing, A/R



- Work with assigned H&M scheduler to create and maintain the project schedule
- Document and control changes from project baselines (scope, schedule, cost)

### Construction Manager

- Responsible for field safety, health and security
- Overall, responsible for construction activities
- Identify daily labor, equipment, and material needs of the project
- Ensure quality of construction
- Support the management and tracking of subcontractors
- Support new hire paperwork and orientation needs
- Order and track all construction equipment and maintains an updated equipment list (with PM)

### Project Controller

- Responsible for information processes, procedures, systems, and data integrity
- Work with the PM to ensure that all information is collected and processed accurately, analyzed effectively, and reported to the appropriate stakeholders
- Support the PM on contract compliance and financial issues
- Daily processing of Daily Work Reports (DWR), POs, invoices, and billing following PM approvals

To effectively manage the project, upon award, H&M will develop a Communications Plan to establish single points of contact for the City, H&M, and other stakeholders involved in the project. One of the main purposes of the plan is to ensure timely and appropriate generation, collection, dissemination, and storage of project information. This plan also contains individual plans for unique stakeholders that require special consideration on the project.

Dissemination of information is an important task within any project. Frequent communication is critical to H&M, the City, and stakeholder satisfaction. Sharing of information is critical on projects with the number of stakeholders and critical constraints. The Communications Plan will provide the process and workflows for all the major types of information flows on the projects.

### Material Management

The H&M project execution team has responsibility for all four phases of the material handling process including receiving, inventory control, disbursement, and final turnover of all final reports and excess materials to the City. The project team will be responsible for material accountability by expediting and tracking material shipments. Once materials are received, each shipment will be inspected for damage. Once the materials are accepted and off-loaded at the site, the materials will be removed from inventory and documented as closed.

Additional material management responsibilities are as follows:



- Receive, inspect, store, secure, and ship all materials.
- Interface with all construction site superintendents to coordinate material delivery schedules to ensure material deliveries do not hinder construction progress, eliminating any crew wait times.
- Review material receiving report to inspect shipments for proper quantities according to Bill of Lading (BOL).
- Provide inventory control with receiving report and BOL.
- Inspect all internal site shipments for proper loading and BOL count.
- Report any discrepancies or non-conformances of the provided materials.

### **Scheduling, Tracking, and Reporting**

#### **Scheduling**

The schedule shall be used to plan, organize, control, and execute each sequence of the work and forecast remaining work. H&M shall ensure that all City and subcontractor work, and acquisition and delivery of materials and equipment, as well as its own work, are included in the schedule and that the schedule represents a coordinated plan of work to provide for the practical execution of the project.

Throughout the course of the project, H&M shall prepare and submit an updated schedule of work to reflect actual work progress of design activities, permitting, and construction. The schedule will be prepared using Primavera (P6) scheduling software.

At the project kick-off meeting, H&M shall submit the refined project schedule to the City. The schedule shall include all milestone dates and shall indicate the commencement and completion dates of the various activities of the work, including the dates when information and approvals are required from the City. The schedule shall also illustrate the following:

- Planned progress for each pertinent activity, as well as for the overall work during the period of agreement performance;
- The shift and work week basis for each activity (e.g., number of working days per week, number of working hours per day);
- Predecessor and successor activities for each activity, as well as lag relationships and durations;
- Milestone dates for drawings and permits to be prepared and/or obtained by the City, with specified time limitations;
- Interface and/or coordination with the work of other contractors, with specified time limitations.

The schedule shall be monitored on a weekly basis through scheduling meetings and updated on at least a monthly basis to incorporate actual start and finish dates, to record actual progress achieved during the reporting period, and to provide a forecast of the next month's work.



### Tracking and Reporting

The project execution team assigned to this project will follow a comprehensive tracking plan to ensure this project is successful.

H&M shall conduct progress meetings, prepare daily and weekly site and production reports and shall supervise and direct the work to complete the project. Furthermore, H&M shall host weekly project team meetings, including preparing agendas and minutes of such meetings. These meetings will allow H&M and the City of Sandy to collaboratively address and resolve issues critical to the success of the project.

The following tracking and reporting methods ensure important information is communicated during the project, specifically with the project stakeholders—including the City, the H&M project team members, and other key individuals involved with the project:

1. Plan of the Day (POD) including daily notification to all stakeholders of crew whereabouts, as needed.

<b>Henkels &amp; McCoy Crew Lineup</b> 5/13/19 			
Hillsboro School District & City of Hillsboro Fiber Project			
H&M Crews			
Crew	FOREMAN	WORK TYPE	LOCATION
1	Demetrio Martinez	Bore Crew	NE Birchwood PL & NE Grant St
2	James Howard	Bore Crew	NE Rogahn St
3	Brandon Ott	Bore Crew	NE Rogahn St
4	Brandon Phelps	Bore Crew	NE Birchwood PL
5	Chuck Sutton	Tie in Crew	SE Frances St
6	Tony Castro	Tie in Crew	NE Estate DR & NE Jackson School Rd
7			
8			
9			
10			
1 Demetrio's crew will be directional drilling on NE Birchwood PL crossing NE Grant St at Hare Field. 2 James crew will be directional drilling on NE Rogahn St. 3 Brandon Ott's crew will be directional drilling on NE Rogahn St. 4 Brandon's crew will be directional drilling on NE Birchwood PL. 5 Chuck's crew will be doing tie-ins and setting hand holes on SE Frances St. 6 Tony's crew will be doing tie-ins and setting hand holes on NE Estate DR & NE Jackson School Rd.			

2. Skittle Tracker reports:

UG Duct Placement (30,918ft of 33,427ft Placed) (92.49% Complete)				Total Qty	Qty Compl.	Total % Compl.	1 - 1,000 Feet	2,001 - 2,000 Feet	3,001 - 3,000 Feet	4,001 - 4,000 Feet	5,001 - 5,000 Feet	6,001 - 6,000 Feet	7,001 - 7,000 Feet	8,001 - 8,000 Feet	9,001 - 9,000 Feet	10,001 - 10,000 Feet	11,001 - 11,000 Feet	12,001 - 12,000 Feet	13,001 - 13,000 Feet	14,001 - 14,000 Feet	15,001 - 15,000 Feet	16,001 - 16,000 Feet	17,001 - 17,000 Feet	18,001 - 18,000 Feet	19,001 - 19,000 Feet	20,001 - 20,000 Feet	21,001 - 21,000 Feet	22,001 - 22,000 Feet	23,001 - 23,000 Feet	24,001 - 24,000 Feet	25,001 - 25,000 Feet	26,001 - 26,000 Feet	27,001 - 27,000 Feet	28,001 - 28,000 Feet	29,001 - 29,000 Feet	30,001 - 30,000 Feet	31,001 - 31,000 Feet	32,001 - 32,000 Feet	33,001 - 33,000 Feet
Seg 1-4 -- BoreTrench/Plow	21,138	19,358	92%	[Progress bars for each 1,000-foot segment]																																			
South Route -- BoreTrench/Plow	3,738	3,009	80%	[Progress bars for each 1,000-foot segment]																																			
Green Mountain	8,551	8,551	100%	[Progress bars for each 1,000-foot segment]																																			
UG Fiber Placement (20,946ft of 24,654ft Placed) (84.96% Complete)				Total Qty	Qty Compl.	Total % Compl.	1 - 1,000 Feet	2,001 - 2,000 Feet	3,001 - 3,000 Feet	4,001 - 4,000 Feet	5,001 - 5,000 Feet	6,001 - 6,000 Feet	7,001 - 7,000 Feet	8,001 - 8,000 Feet	9,001 - 9,000 Feet	10,001 - 10,000 Feet	11,001 - 11,000 Feet	12,001 - 12,000 Feet	13,001 - 13,000 Feet	14,001 - 14,000 Feet	15,001 - 15,000 Feet	16,001 - 16,000 Feet	17,001 - 17,000 Feet	18,001 - 18,000 Feet	19,001 - 19,000 Feet	20,001 - 20,000 Feet	21,001 - 21,000 Feet	22,001 - 22,000 Feet	23,001 - 23,000 Feet	24,001 - 24,000 Feet	25,001 - 25,000 Feet	26,001 - 26,000 Feet	27,001 - 27,000 Feet	28,001 - 28,000 Feet	29,001 - 29,000 Feet	30,001 - 30,000 Feet	31,001 - 31,000 Feet	32,001 - 32,000 Feet	33,001 - 33,000 Feet
Seg 1-4 -- 288F	21,086	17,937	85%	[Progress bars for each 1,000-foot segment]																																			
South Route -- 288F	3,568	3,009	84%	[Progress bars for each 1,000-foot segment]																																			
Aerial Strand/DG Placement (89,132ft of 323,313ft Placed) (27.57% Complete)				Total Qty	Qty Compl.	Total % Compl.	1 - 1,000 Feet	2,001 - 2,000 Feet	3,001 - 3,000 Feet	4,001 - 4,000 Feet	5,001 - 5,000 Feet	6,001 - 6,000 Feet	7,001 - 7,000 Feet	8,001 - 8,000 Feet	9,001 - 9,000 Feet	10,001 - 10,000 Feet	11,001 - 11,000 Feet	12,001 - 12,000 Feet	13,001 - 13,000 Feet	14,001 - 14,000 Feet	15,001 - 15,000 Feet	16,001 - 16,000 Feet	17,001 - 17,000 Feet	18,001 - 18,000 Feet	19,001 - 19,000 Feet	20,001 - 20,000 Feet	21,001 - 21,000 Feet	22,001 - 22,000 Feet	23,001 - 23,000 Feet	24,001 - 24,000 Feet	25,001 - 25,000 Feet	26,001 - 26,000 Feet	27,001 - 27,000 Feet	28,001 - 28,000 Feet	29,001 - 29,000 Feet	30,001 - 30,000 Feet	31,001 - 31,000 Feet	32,001 - 32,000 Feet	33,001 - 33,000 Feet
Seg 1-4 -- Place 6M Strand	81,741	45,092	55%	[Progress bars for each 1,000-foot segment]																																			
Seg 1-4 -- Lash 288F	79,162	44,040	56%	[Progress bars for each 1,000-foot segment]																																			
South Route -- Place 6M Strand	81,500	0	0%	[Progress bars for each 1,000-foot segment]																																			
South Route -- Lash 288F	80,910	0	0%	[Progress bars for each 1,000-foot segment]																																			

3. Monthly Schedule Update.



4. On-site or MS Teams progress meeting with the City, as needed.

### Progress Tracking

Skittle Trackers will be created, tracked, and disseminated to the stakeholders. Skittle Trackers allow a quick visual aid to capture cumulative work progress as compared to the total project quantities.

### Design and Permitting

#### Design Services

H&M will provide the necessary personnel and equipment to survey and design the SandyNet FTTX Design/Build Project. H&M will serve as the primary point of contact for the following tasks:

- a. Design of Preliminary Fiber Route: H&M will survey and identify routes that provide minimal conflict with existing underground utilities and construction obstacles. During the route design, in order to finalize detailed pathways, H&M will evaluate and consider construction timing and permitting requirements, along with future operations and maintenance (O&M) costs when finalizing and recommending the final route selection. H&M will base the fiber pathway design on field investigation of conditions, and on existing underground utility locations. Evaluation factors will include conformity to SandyNet network architecture guidelines, right-of-way (ROW) congestion, road and railroad crossings, as well as other factors consistent with a reliable and secure underground fiber optic cable pathway.
- b. Permitting and Licensing: H&M will contact all authorities having jurisdiction to determine their requirements for granting permits and licenses to construct the fiber optic network. This will include municipalities, utilities, Oregon DOT, railroads, ditch/canal authorities, Oregon conservation districts, and others.
- c. Permit and License Tracker: As preliminary pathways are determined, H&M will assemble a tracking workbook that lists all permitting and licensing authorities and includes points-of-contact and web links for each. The workbook will list each permit and license application required for approval of the planned construction, and key dates associated with each, including submittal date, anticipated approval date, and actual approval date. The permit and license tracker will be updated daily to reflect actual permit and license application assembly activity, and to accommodate information provided by authorities having jurisdiction on their approval status.

Following the preliminary phase, H&M will develop detailed pathway designs and specifications for each segment as required by SandyNet FTTX Design/Build Project technical specifications and the permitting and licensing authorities. Detailed designs will include CAD drawings and GIS information for complete end-to-end routing, all required pathways, and building entrances. Design documentation will also include any required interior pathways (if applicable), and layout of terminating/splice panels. Each pathway segment drawing will include routing and construction methods.



Design drawings will be provided in a mutually agreed upon *format(s)* (PDF, paper, .dwg, etc.), and will be geo-referenced, identifying the coordinate system referenced. The drawings will be developed showing sufficient detail to facilitate permitting and construction.

Drawings shall show the planned fiber optic cable route, show locations of slack coils and splice enclosures, and call out major materials and reinforcements required to construct the route. Any new conduits or vaults that are needed shall be identified.

The design plans will adhere to the National Electric Safety Code and other standard industry specifications.

Fiber optic cable segments will be identified by notating fiber type, size, and cable count. Depending on the usability of existing conduit (if applicable), H&M will design a conduit route from the ROW into the properties, with hand hole or man hole as needed, and sufficient fiber slack.

Cable splice locations will include distribution panels inside each facility, where two separate segments of fiber optic backbone cable are joined, and where lateral fiber optic cables are joined to the backbone. Design drawings identifying these key components will be developed and used by field crews to construct and test the fiber optic cable segments.

### Permit Administration

H&M will provide Permit Administration services in support of the project. H&M will apply for permits, including supplying all required documentation. H&M will monitor the progress of permit progress and notify the City of any potential construction workflow impacts. H&M shall prepare and submit required permit applications, drawings, exhibits, and reports to all Authorities Having Jurisdiction of the rights-of-way. Communication with the permitting authorities will continue until all permits are approved.

H&M will pay the permit fees and invoice the City on a cost-plus fee basis. The fee is stated on the Bid Form as a percentage added to the permit cost. H&M will invoice the City for all permit fees; bond premiums paid as a result of AHJ-required bonds (warranty bonds, maintenance bonds, performance/payment bonds, etc.); fees required by AHJs related to conduit record research; easement fees; police detail/patrol; work monitoring fees; inspection fees imposed by third parties; ODOT third party inspections; and all other third-party fees related to any installation. All deposits will be paid directly by the City.

The City of Sandy will be responsible for paying all licenses, insurances, applications, and make ready fees and will likewise be responsible for obtaining and paying for all easements (if applicable). Any application fees required by utilities and other third parties will be the responsibility of the City of Sandy.

### As-Builts

At construction completion, H&M will create detailed as-built electronic records identifying fiber count, underground running line data, conduit identification, splice cases, man holes, and





maintenance loops. H&M will create a GIS data set from the as-built data representing the SandyNet FTTX Design/Build Project fiber optic cable. The GIS data set will contain geospatially accurate data points associated with the SandyNet FTTX Design/Build Project fiber optic cable network infrastructure. The key field data will include the following:

- a. Underground conduit running line. Most of the new fiber optic cable network will be constructed in a new or existing underground manhole and conduit system. GIS data will be gathered in regular intervals along the conduit pathways, at each hand hole and manhole, at each side of major crossing, at locations where lateral pathways diverge from main pathways, and at all building entry points.
- b. Cable information. Final drawing records will contain cable identification (as per SandyNet FTTX Design/Build Project specification), type, size, and count information.
- c. Splice and handhole locations. Final GIS records will include geospatially accurate data associated with all OSP splice locations. This enables the City to locate handholes during snow cover.
- d. Slack storage locations. Final GIS records will include geospatially accurate data associated with all OSP slack storage locations.
- e. H&M will prepare and submit to the Oregon 811 (Utility Notification Center of Oregon) the fiber optic cable network as-built records on behalf of the City of Sandy. The cost imposed by Oregon 811 for establishing the City of Sandy FTTX network in their database is excluded.

### **Construction Approach**

Unless otherwise noted, H&M shall install all infrastructure in compliance with the RFP and Technical Guidelines, with special attention to the following:

- H&M shall invoice the City for stored materials.
- H&M shall furnish, erect, maintain, relocate, and/or remove traffic control devices in accordance with all Authorities Having Jurisdiction of the work areas.
- H&M shall always employ a competent superintendent to be present at the work site throughout the duration of the project.
- All documentation shall be provided to the City upon successful completion of the project.
- The installed systems and components shall be warranted for a period of no less than one year on parts and labor from the date of City's acceptance.
- Protection of the installed SandyNet FTTX Design/Build Project infrastructure prior to the City of Sandy's acceptance. H&M shall be responsible for receiving, screening, and locating conflict 811 tickets. The cost for receiving 811 tickets is included within our pricing.





Our underground construction approach is based on the following conditions, assumptions, and criteria:

- H&M shall install 1.25-inch and 2-inch HDPE (with innerducts) conduit system, primarily using horizontal directional drilling and plowing as follows:
  - Identifying and avoiding all existing utilities by complying with 811 requirements including contacting and confirming the location of utilities for entities not taking part in the 811 program (second tier members). Potholing to physically verify utilities shall be completed with coring and vacuum excavation.
  - Exclusive to H&M: dispatch an internal professional locator to sweep the area for mislocated and non-located utilities prior to excavation.
  - Removal and disposal of all vacuum and excavation contents at a dump site.
  - Properly maintaining and safeguarding all excavated areas including all potholes during construction.
  - Installing conduits at a maximum 36-inch cover depth.
  - In the event that subsurface conditions prohibit the installation of conduit via directional drill, ensuring that H&M and the City mutually agree on alternate construction methods and pricing.
  - In the event that contaminated material would be encountered H&M will notify the City of Sandy for their remediation.
  - During contract negotiations, ensuring the City and H&M agree on partial network acceptance provisions. This will allow the City beneficial use of portions of the network, release of retainage to H&M for the accepted portion, and start of the warranty phase for the approved segment(s).
  - Splicing of the conduits as minimally as possible
  - Installing one tracer wire on the outside or inside of the conduits. In rock conditions, tracer wire may be installed inside the conduit during cable placement to ensure the integrity of the tracer wire.
  - Proofing each duct upon completion.
  - Installing handholes.
  - Restoring all restoration, softscape or hardscape to original condition.
  - Hardscape restoration to be billed at actual quantities identified at the time of construction.
  - Installing either 12-/24-/48-count fiber optic cable.
  - Splicing, testing, and terminations.



## References

Please see the below table for project references where Henkels & McCoy has provided broadband design-build services.

Project	Description	Reference Information	Value	End Date
City of Sandy – FTTH Project	Henkels & McCoy was responsible for constructing the network that serves approximately 3,754 homes within the City of Sandy, Oregon. We completed over 225,000 feet of new conduit installation, and was responsible for cable placement, fiber splicing and testing, and service drop installation.	OFS Optic Services Jeff Bush 770-241-4713 <a href="mailto:jbush@ofsoptics.com">jbush@ofsoptics.com</a>	\$4.3 Million	2015
City of Beverly Hills FTTP, Beverly Hills, CA	Henkels & McCoy, Inc. (H&M) was selected by the City of Beverly Hills (City) to construct a citywide fiber to the premise (FTTP) system to provide broadband internet infrastructure to homes and businesses in Beverly Hills. The FTTP system provides one fiber strand to approximately 20,000 homes and businesses within the distribution system. Scope of work included placement of 53 aerial miles and 40 underground miles of network backbone fiber.	City of Beverly Hills, CA Tristan Malabanan 310-285-2512 <a href="mailto:tmalabanan@beverlyhills.org">tmalabanan@beverlyhills.org</a>	\$14 Million	2021
Jefferson County School District – JeffcoNet Fiber Network Design and Build  Colorado	The District wishes to build and expand its own network to interconnect all District locations to its own data centers (2) and each other through District owned or cooperatively shared (governmental entities) fiber.  The fiber network (JeffcoNet) connects 117 District schools and facilities, across a geographic area of approximately 800 square miles utilizing approximately 900,000 route feet to the District’s two data centers.	Vera Kennedy (303) 982-6511 <a href="mailto:vera.kennedy@jeffco.k12.co.us">vera.kennedy@jeffco.k12.co.us</a>	\$28.5 Million	6/30/2023
Hillsboro School District & City of Hillsboro Oregon	Installation of a new fiber optic network necessary to connect the District’s 43 schools and facilities together. The project is using a 432-ct backbone ribbon fiber, along with a 24-ct fiber, from backbone to the communication room termination point within each school. In total, H&M installed 74 miles of new build consisting of mostly UG directional drilling. The City of Hillsboro came to know about the School District’s FTTP project, they realized there was an opportunity to have their FTTP project coincide with the School District’s project.	Diane Forbes – Owners Rep <a href="mailto:Diane.forbes@nis.consulting">Diane.forbes@nis.consulting</a> 503-246-8585  McCarty, Sharon <a href="mailto:McCartyS@hsd.k12.or.us">McCartyS@hsd.k12.or.us</a>	10.6 Million	8/30/2020



Exhibit C

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Project	Description	Reference Information	Value	End Date
Adams 12 Five Star Schools School Connectivity Project	Henkels & McCoy, Inc. (H&M) was contracted by Adams 12 Five Star Schools to engineer-procure-construct (EPC) a resilient, high-bandwidth fiber optic network connecting 61 Adams 12 facilities with 100 miles of fiber optic infrastructure, primarily constructed using underground directional boring methods utilizing numerous outside and inside plant self-performing crews. The project will increase current levels of connectivity and provide for growth between facilities	Perry Movick – Owners Rep Adams 12 Five Star Schools 720-972-6029 <a href="mailto:Opmovick@adams12.org">Opmovick@adams12.org</a>	\$18 Million	6/30/2021
Salem-Kaiser Public School District E-Rate 470 Fiber Optic Cable Infrastructure	Provided an EPC high-Bandwidth fiber optic network turn-key cabling solution. Included was the installation of 125 miles of 12-to 288-count fiber optic cable to connect the 74 schools that make-up the district. Project scope was initially divided into 68 miles of new underground fiber cable installation, and 57 miles of new aerial fiber cable installation, directional drilling, cable splicing, as well as installation of the conduit into each building at the termination box, with all fibers terminated at the FDU. All cables were certified to 10 Gbps of bandwidth between endpoints. H&M self-performed allowing the project management team to schedule the work more efficiently reducing project completion by weeks.	Diane Forbes- Owners Rep <a href="mailto:Diane.forbes@nis.consulting">Diane.forbes@nis.consulting</a> 503-246-8585	\$15.1 Million	10/1/2018
Siskiyou Telephone	H&M has enjoyed a long-term relationship with Siskiyou Telephone since 2003. H&M’s ongoing project for Siskiyou Tele to complete approximately 197 miles for the outside plant fiber ring and infrastructure throughout Siskiyou County, CA. The project scope included trenching, rock sawing, placement of conduit, and placement of fiber optics and copper cable	Carl Eastlick 866-467-6001 <a href="mailto:c.eastlick@siskyoutelephone.com">c.eastlick@siskyoutelephone.com</a>	\$25M +	On-Going – Est 2023



## 2. KEY PERSONNEL

### Resource Plan

The project will consist of the following personnel resources. All resources are in place, locally; therefore, H&M will not experience protracted timelines involved with acquiring and/or transferring considerable personnel resources:

- H&M engineering survey, design, and permitting administration personnel.
- An H&M professional locator to manage utility locates and the contract locators. The contract locators are finding it very difficult to keep up with the volume of utility locates that must be performed within the 72-hour timeline dictated by 811. To remedy this situation, H&M will employ a full-time person to manage utility locates and the contract locators. Based on our project experience, our teamwork approach with the utilities and the contract locators has garnered goodwill and has mitigated downtime to crew production.
- H&M internal directional bore crew(s), including traffic control.
- H&M internal potholing and vacuum excavation crew(s) to determine physical location of all subsurface utilities within the projected bore path.
- H&M internal handhole and conduit tie-in crew(s) to work concurrently with the bore crews.
- H&M internal restoration crew(s) to work concurrently with the bore crews so restoration is completed immediately to the satisfaction of the City and all AHJ.
- If required, subcontract crew(s) for directional boring, concrete restoration, etc.
- H&M internal crew(s) for outside plant cable installation.
- If required, subcontract crew(s) for the splicing, testing, and termination of the fiber optic cabling.

Listed below are the key personnel we have selected for this project:

Team Member	Title	Phone Number	Email
Vic Beattie	Director of Operations	208-771-1372	<a href="mailto:vbeattie@henkels.com">vbeattie@henkels.com</a>
Phuc Lee	Project Manager	224-760-3210	<a href="mailto:phle@henkels.com">phle@henkels.com</a>
Frank Dunton	OSP Engineering Manager	808-479-2678	<a href="mailto:fdunton@henkels.com">fdunton@henkels.com</a>
Eric Dold	Construction Manager	971-806-8910	<a href="mailto:edold@henkels.com">edold@henkels.com</a>
Aaron Spillman	Superintendent	503-407-9786	<a href="mailto:aspillman@henkels.com">aspillman@henkels.com</a>



### 3. PRICING

Please see Attachment C1-Pricing-BOM-Sandy-Central-WWTP.pdf - SandyNet FTTX Design/Build Project Fiber Pricing Form for lump sum and unit pricing.

#### **Inclusions**

Within our completed pricing form, H&M has included all costs necessary to design, engineer, administer permit applications, procure, and install all conduit, manholes, handholes, tracer wire, splice enclosures, and fiber optic cable to enable a functional broadband network serving the locations described within RFP. H&M has also included costs for all design services, labor; labor supervision; construction equipment; traffic control in accordance with all jurisdictions having authority of the rights-of-way; materials; installation services including backfill, replacement of softscape surfaces in accordance with all jurisdictions having authority of the rights-of-way; transportation; material and equipment storage; crew staging areas; safety meetings; H&M training; onboarding; permits, performance and payment bond premiums; safety; and consumable supplies required for the project.

H&M lump sum and unit pricing is based on the network architecture shown within this proposal. Should the City be interested in additional network services, we can discuss at our bidder interview.

#### **Assumptions**

- Our proposal assumes that the City shall provide cost relief from committed costs should the project get delayed, descoped, suspended, or terminated due to funding.
- Land to be provided by the City of Sandy for temporary use of a project yard.

#### **Exclusions**

H&M has excluded the following:

- Night work hours
- Network electronics and associated inside plant equipment
- Work requiring licensed electrician
- Operation and maintenance of the completed network
- Hardscape restoration of asphalt and concrete is excluded in the pricing. To be billed upon actual requirement at the unit rate provided in this RFP response.
- Costs of all permits and/or bonds required by AHJs (warranty bonds, maintenance bonds, performance/payment bonds, etc.); fees required by AHJs related to conduit record research; easement fees; police detail/patrol; third party inspection fees; OregonDOT third party inspection; work monitoring fees; and all other third-party fees related to conduit and/or cable occupancy and/or installation. These costs will be paid by H&M and



invoiced to the City on a cost plus % fee basis to be negotiated prior to NTP. The City will pay deposits directly.

- Material escalation costs are excluded from this proposal. Since material vendors cannot determine future cost escalations, H&M cannot accurately forecast the cost impact to the City. Material vendors' pricing validity will expire prior to the Notice of Award. Should H&M be awarded this contract, upon NTP, H&M will request updated pricing and lead times for all material. Any cost escalation at time of H&M material orders following NTP will be the responsibility of the City.
- Costs for proposed pathways designed but rejected by AHJs during the permit application process.
- Subsurface Utility Engineering Quality that requires a Professional Engineer (PE) stamp as a requirement imposed by AHJs to create plan and profile design drawings is excluded and will be charged to the City on a unit price per foot basis.
- Bridge Attachments. Per H&M initial field and route survey conducted prior to bid submittal, bridge attachments for the proposed route will not be required; however, if mandated by any AHJ, additional fees will apply.
- Geotechnical analyses.
- Bore samples.
- Oregon 811 ticket fees.

#### **4. CONTRACT TERMS ACCEPTANCE**

H&M's bid is contingent upon City of Sandy signing H&M's Construction Service Agreement or upon reaching mutually acceptable terms and conditions, including a waiver of consequential damages, a limitation of liability, and a cap on liquidated damages.

#### **5. ATTACHMENTS**

- A1-SandyCentral-WWTP.kmz
- A2-MDU-Business-SandyNetARPA.kmz
- B1-HM-DesignMapKey.pdf
- C1-Pricing-BOM-Sandy-Central-WWTP.pdf
- D1 – HM Construction Service Agreement

## Exhibit D

### SandyNet FTTx Design Build Pricing (Distribution [Includes WWTP])

	Est. Qty	UOM	Unit Price	Total
<b>Engineering</b>				
OSP Engineering	18,000	LF	\$ 1.46	\$ 26,280.00
<b>Construction</b>				
Directional Bore 1x2" HDPE 4-way Future-Path in Dirt	10,580	LF	\$ 32.00	\$ 338,560.00
Directional Bore 1x2" HDPE 4-way Future-Path (To WWTP)	7,420	LF	\$ 31.73	\$ 235,436.60
Place 24"x36"x36" Hand Hole In Softscape	90	EACH	\$ 1,568.99	\$ 141,209.10
Place Pedestal	22	EACH	\$ 1,251.02	\$ 27,522.44
Proof Duct	18,000	LF	\$ 0.57	\$ 10,260.00
Pull 12-48ct Fiber In Duct (With Slack Loops)	23,000	LF	\$ 1.98	\$ 45,540.00
Hardscape Remove and Restore (Asphalt)	1	SF	\$ 52.00	\$ 52.00
Hardscape Remove and Restore (Concrete)	1	SF	\$ 68.00	\$ 68.00
<b>Splicing</b>				
On-Reel Testing (Per Fiber)	60	EACH	\$ 13.31	\$ 798.60
Prep and Place Splice Case	66	EACH	\$ 754.02	\$ 49,765.32
Single Fusion Splice	800	EACH	\$ 31.91	\$ 25,528.00
Prep and Place MST	73	EACH	\$ 1,048.47	\$ 76,538.31
Prep and Place Splitter	24	EACH	\$ 330.30	\$ 7,927.20
			<b>Lump Sum:</b>	<b>\$ 985,485.57</b>

### SandyNet FTTx Design Build Pricing (Drops)

	Est. Qty	UOM	Unit Price	Total
<b>Engineering</b>				
OSP Engineering	9,500	LF	\$ 1.46	\$ 13,870.00
<b>Construction</b>				
Directional Bore 1x1.25" Vacant HDPE in Dirt	9,500	LF	\$ 21.92	\$ 208,240.00
Proof Duct	9,500	LF	\$ 0.49	\$ 4,655.00
Pull Pre-Connectorized Drops	9,500	LF	\$ 13.59	\$ 129,105.00
Hardscape Remove and Restore (Asphalt)	1	SF	\$ 52.00	\$ 52.00
Hardscape Remove and Restore (Concrete)	1	SF	\$ 68.00	\$ 68.00
<b>Splicing</b>				
Single Fusion Splice	450	EACH	\$ 29.94	\$ 13,473.00
Test Fiber (OTDR and Power Meter)	610	EACH	\$ 36.85	\$ 22,478.50
Place ONT (OSP)	225	EACH	\$ 370.30	\$ 83,317.50
			<b>Lump Sum:</b>	<b>\$ 475,259.00</b>
			<b>Per Each of 450 Services:</b>	<b>\$ 1,056.13</b>

**Overall Contract Value: \$ 1,460,744.57**

# Exhibit D

## SandyNet BOM - WWTP

ITEM DESCRIPTION	QTY	UOM
<b>FIBER COUNTS (MAY VARY IN FINAL DESIGN)</b>		
24CT SM Fiber Optic Cable	8,000	LF
<b>APPROX STORAGE FOOTAGE</b>		
24CT SM Fiber Optic Cable	750	LF
<b>CONDUIT</b>		
2" HDPE W/ FUTURE BUILD INNERDUCT	8,000	LF
4-WAY FUTURE-PATH INNERDUCT W/TRACER (TO GO WITHIN THE 2")	8,000	LF
Mule Tape	10,000	LF
<b>VAULTS</b>		
NEW 24"X36"X36"	15	EA
<b>SPLICE CASES AND SPLICE SLEEVES</b>		
FOSC 450B SPLICE CASES	1	EA
SINGLE FUSION SPLICE SLEEVES	24	EA
<b>MULTIPOINT SERVICE TERMINALS</b>		
MST - 12 PORTS	1	EA










## SandyNet BOM - DISTRIBUTION & DROPS (Excl. WWTP)

ITEM DESCRIPTION	QTY	UOM
<b>FIBER COUNTS (MAY VARY IN FINAL DESIGN)</b>		
12CT SM Fiber Optic Cable	4,500	LF
48CT SM Fiber Optic Cable	6,000	LF
<b>APPROX STORAGE FOOTAGE</b>		
12CT SM Fiber Optic Cable	1,600	LF
48CT SM Fiber Optic Cable	2,150	LF
<b>CONDUIT</b>		
1.25" SDR 11 HDPE VACANT CONDUIT	9,500	LF
2" SDR 11 HDPE VACANT CONDUIT	10,000	LF
4-WAY FUTURE-PATH INNERDUCT W/TRACER (TO GO WITHIN THE 2")	10,000	LF
Mule Tape	20,000	LF
<b>VAULTS</b>		
NEW 24"X36"X36"	75	EA
<b>SPLICE CASES AND SPLICE SLEEVES</b>		
FOSC 450B SPLICE CASES (FOR NEW AND UPSIZED)	65	EA
SINGLE FUSION SPLICE SLEEVES	776	EA
<b>FIBER OPTIC SPLITTERS</b>		
16CT FIBER OPTIC SPLITTER	10	EA
32CT FIBER OPTIC SPLITTER	14	EA
<b>MULTIPOINT SERVICE TERMINALS</b>		
MST - 4 PORTS	18	EA
MST - 8 PORTS	35	EA
MST - 12 PORTS	19	EA



# H&M

## SandyNet Preliminary Design Key

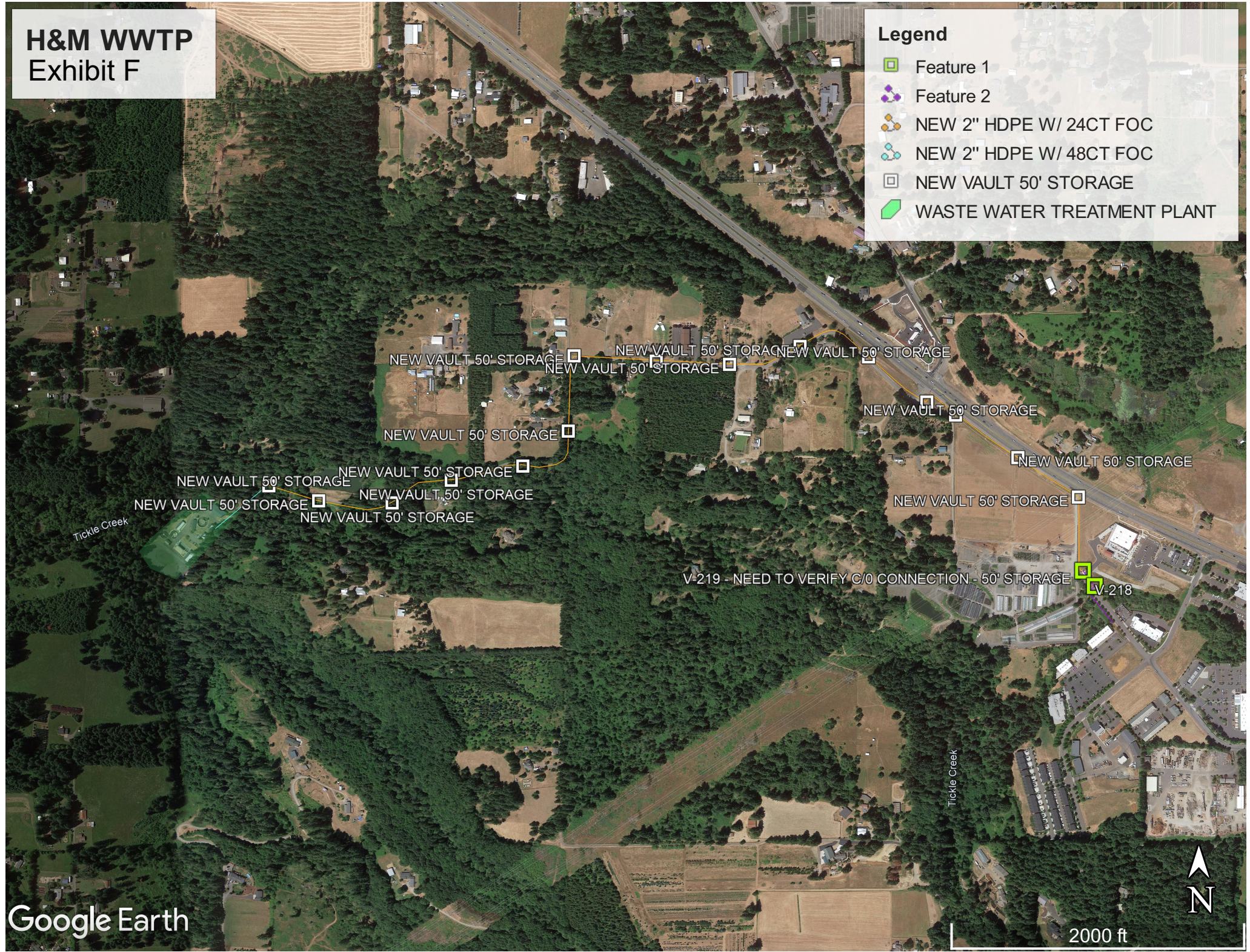
-  New 2" HDPE conduit w/ future build innerduct
-  New 1-1/4" HDPE for drops to SDU's or single businesses
-  Pull new fiber and/or MST tail through existing SandyNet Conduit
-  Existing SandyNet ML and/or Conduit
-  Existing conduit for Sandy Vista Apts
-  Splice Point for F1 fiber to a splitter, F2 fiber splice, or splitter to MST tail
-  Vault or access point with MST
-  New 2x3 vault or access point – used as a pull box
-  D-Marc location at MDU – Drop/MST distribution



# H&M WWTP Exhibit F

## Legend

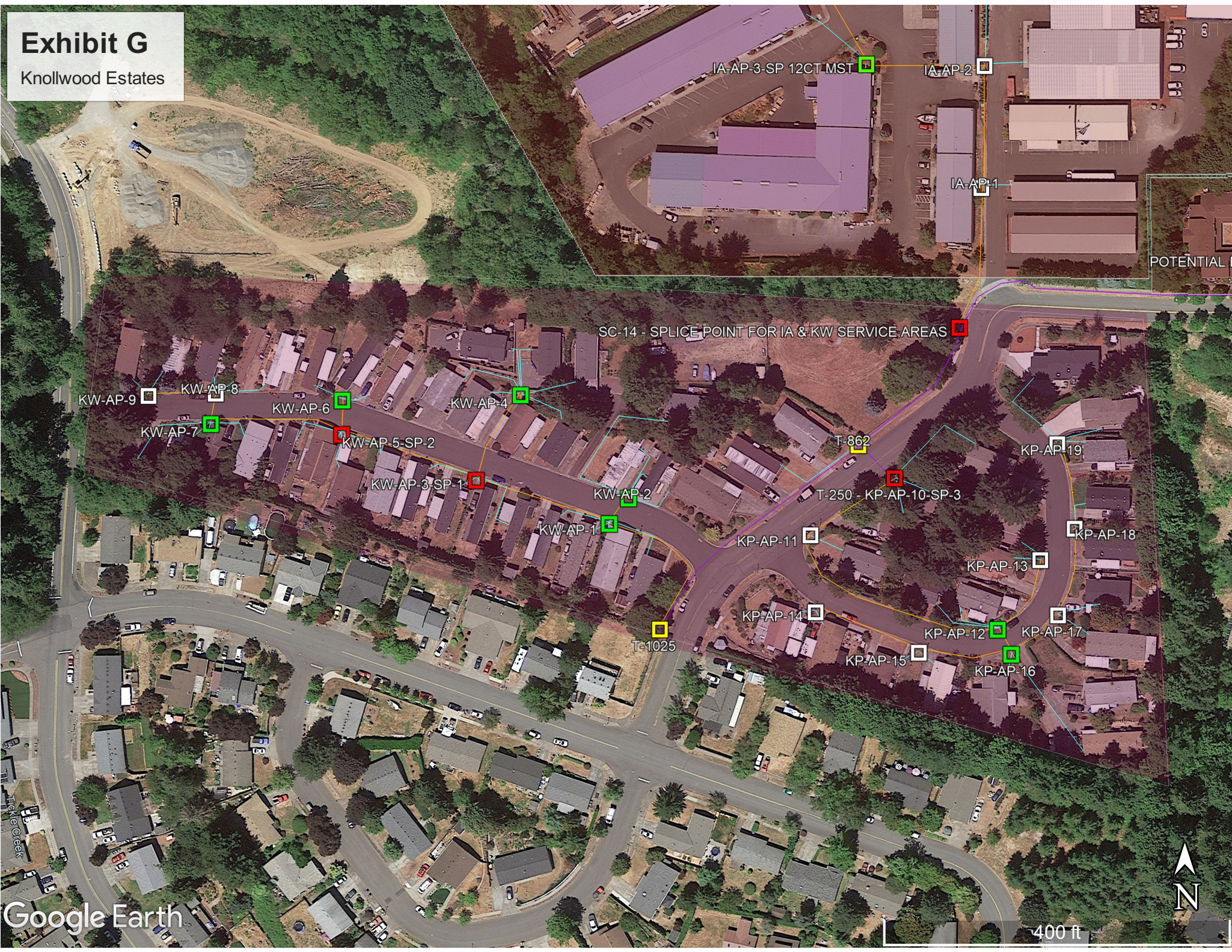
- Feature 1
- Feature 2
- NEW 2" HDPE W/ 24CT FOC
- NEW 2" HDPE W/ 48CT FOC
- NEW VAULT 50' STORAGE
- WASTE WATER TREATMENT PLANT





# Exhibit G

Knollwood Estates



POTENTIAL





**Knollwood Estates (60 potential addresses)**

**Mainline**

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	2081.4	\$ 1.46	\$ 3,038.84
	Directional Bore 1x2" HDPE 3-way Future-Path in Dirt	2081.4	\$ 32.00	\$ 66,604.80
	Proof Duct	2081.4	\$ 0.57	\$ 1,186.40
				\$ -
	Pull 12-48ct Fiber in Duct (With Slack Loops)	3031	\$ 1.98	\$ 6,001.38
				\$ -
	Place 24"x36"x36" Hand Hole In Softscrape	19	\$ 1,568.99	\$ 29,810.81

**Drops**

100%

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	2243.3	\$ 1.46	\$ 3,275.22
	Directional Bore 1x1.25" Vacant HDPE in Dirt	2243.3	\$ 21.92	\$ 49,173.14
	Proof Duct	2243.3	\$ 0.49	\$ 1,099.22

**Overhead**

	Unplanned Costs	1	\$ 25,000.00	\$ 25,000.00
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\$ 185,189.80



# Exhibit G

Sandy Industrial Park





**Industrial Park (37 potential addresses)**

**Mainline**

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	865.9	\$ 1.46	\$ 1,264.21
	Directional Bore 1x2" HDPE 3-way Future-Path in Dirt	865.9	\$ 32.00	\$ 27,708.80
	Proof Duct	865.9	\$ 0.57	\$ 493.56
				\$ -
	Pull 12-48ct Fiber in Duct (With Slack Loops)	1115.7	\$ 1.98	\$ 2,209.09
				\$ -
	Place 24"x36"x36" Hand Hole In Softscrape	5	\$ 1,568.99	\$ 7,844.95

**Drops**

100%

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	1082.7	\$ 1.46	\$ 1,580.74
	Directional Bore 1x1.25" Vacant HDPE in Dirt	1082.7	\$ 21.92	\$ 23,732.78
	Proof Duct	1082.7	\$ 0.49	\$ 530.52

**Overhead**

	Unplanned Costs	1	\$25,000.00	\$ 25,000.00
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\$ 90,364.66



# Exhibit G

Sandy Vista Apartments

SV-SP-3 & D-MARC 9

D-MARC 10

D-MARC 8

SV-SP-2 & D-MARC 6

D-MARC 7

D-MARC 5

MAIN OFFICE

D-MARC 4

D-MARC 2 & 3

SV-AP-2-SP-1

D-MARC 1

SV-AP-1

V-52





**Sandy Vista Apartments (53 Potential Units)**

**Mainline**

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	1237	\$ 1.46	\$ 1,806.02
	Directional Bore 1x2" HDPE 3-way Future-Path in Dirt	341	\$ 32.00	\$ 10,912.00
	Proof Duct	1237	\$ 0.57	\$ 705.09
				\$ -
	Pull 12-48ct Fiber in Duct (With Slack Loops)	1687	\$ 1.98	\$ 3,340.26
				\$ -
	Place 24"x36"x36" Hand Hole In Softscrape	2	\$ 1,568.99	\$ 3,137.98

**Drops**

100%

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	0	\$ 1.46	\$ -
	Directional Bore 1x1.25" Vacant HDPE in Dirt	0	\$ 21.92	\$ -
	Proof Duct	0	\$ 0.49	\$ -

**Overhead**

	Unplanned Costs	1	\$25,000.00	\$ 25,000.00
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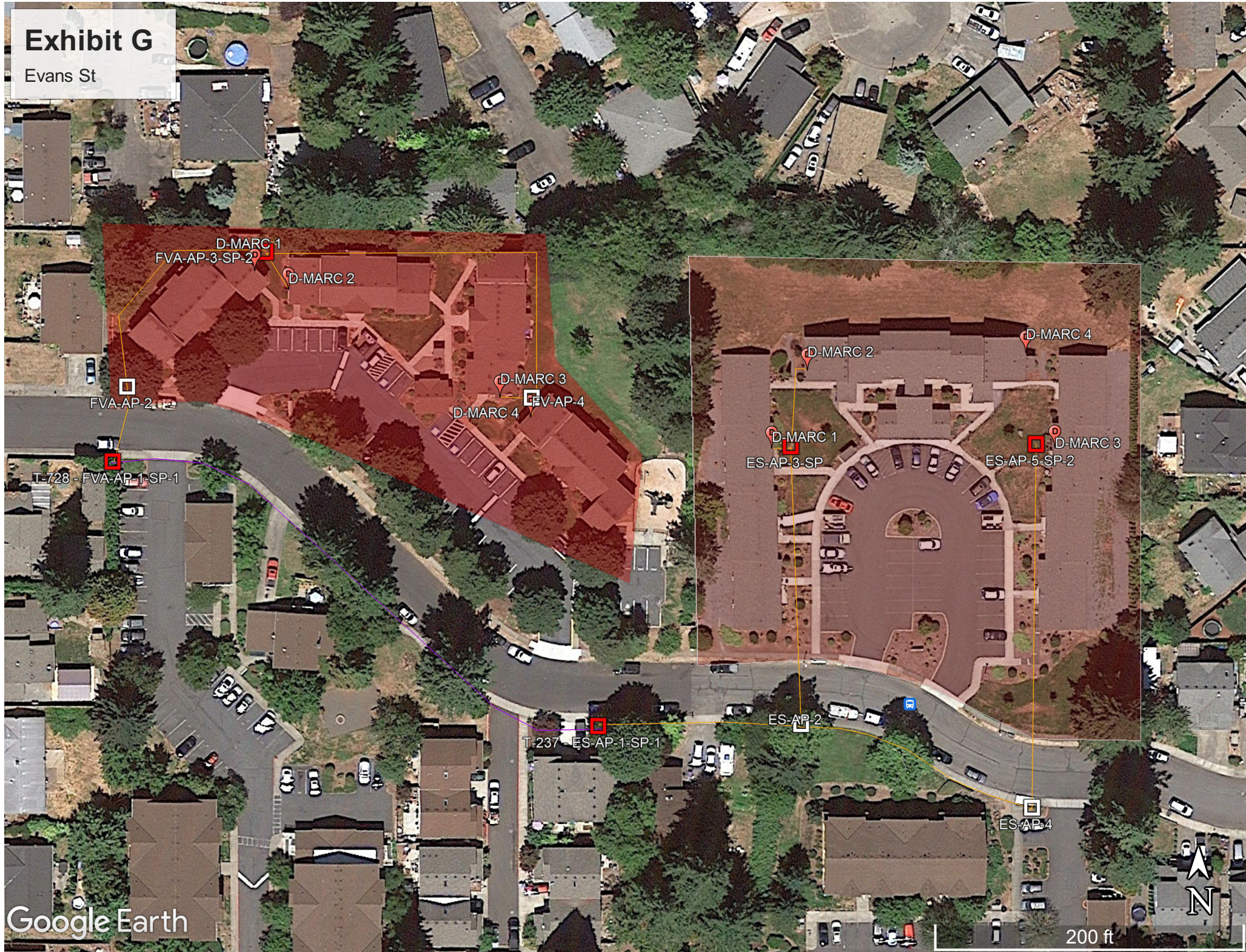
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\$ 44,901.35



# Exhibit G

Evans St





**39501 Evans St (24 Potential Units)**

**Mainline**

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	747.2	\$ 1.46	\$ 1,090.91
	Directional Bore 1x2" HDPE 3-way Future-Path in Dirt	747.2	\$ 32.00	\$ 23,910.40
	Proof Duct	747.2	\$ 0.57	\$ 425.90
				\$ -
	Pull 12-48ct Fiber in Duct (With Slack Loops)	1097.2	\$ 1.98	\$ 2,172.46
				\$ -
	Place 24"x36"x36" Hand Hole In Softscrape	3	\$ 1,568.99	\$ 4,706.97

**Drops**

100%

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	0	\$ 1.46	\$ -
	Directional Bore 1x1.25" Vacant HDPE in Dirt	0	\$ 21.92	\$ -
	Proof Duct	0	\$ 0.49	\$ -

**Overhead**

	Unplanned Costs	1	\$25,000.00	\$ 25,000.00
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\$ 57,306.64

**39662 Evans St (28 Potential Units)**

**Mainline**

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	858.3	\$ 1.46	\$ 1,253.12
	Directional Bore 1x2" HDPE 3-way Future-Path in Dirt	858.3	\$ 32.00	\$ 27,465.60
	Proof Duct	858.3	\$ 0.57	\$ 489.23
				\$ -
	Pull 12-48ct Fiber in Duct (With Slack Loops)	1158.3	\$ 1.98	\$ 2,293.43
				\$ -
	Place 24"x36"x36" Hand Hole In Softscrape	4	\$ 1,568.99	\$ 6,275.96

**Drops**

100%

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	0	\$ 1.46	\$ -
	Directional Bore 1x1.25" Vacant HDPE in Dirt	0	\$ 21.92	\$ -
	Proof Duct	0	\$ 0.49	\$ -

**Overhead**

	Unplanned Costs	1	\$ 25,000.00	\$ 25,000.00
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\$ 62,777.34



# Exhibit G

Cedar Park Gardens



V-313 - CPG-AP-SP

V-305

T-1248

SC-5





**Cedar Park Gardens (20 Potential Units)**

**Mainline**

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	353.6	\$ 1.46	\$ 516.26
	Directional Bore 1x2" HDPE 3-way Future-Path in Dirt	353.6	\$ 32.00	\$ 11,315.20
	Proof Duct	353.6	\$ 0.57	\$ 201.55
				\$ -
	Pull 12-48ct Fiber in Duct (With Slack Loops)	1687	\$ 1.98	\$ 3,340.26
				\$ -
	Place 24"x36"x36" Hand Hole In Softscrape	2	\$ 1,568.99	\$ 3,137.98

**Drops**

100%

Name	Item	Quantity	Unit Price	Total
	OSP Engineering	0	\$ 1.46	\$ -
	Directional Bore 1x1.25" Vacant HDPE in Dirt	0	\$ 21.92	\$ -
	Proof Duct	0	\$ 0.49	\$ -

**Overhead**

	Unplanned Costs	1	\$ 25,000.00	\$ 25,000.00
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\$ 43,511.25