



April 6, 2021

Mr. Hasmukh Patel, PE
Assistant City Engineer
City of Parma
6611 Ridge Road
Parma, Ohio 44129

Subject: Proposal for Professional Services
Green Acres Drive Area Sanitary Sewer Improvements

Dear Mr. Hasmukh,

American Structurepoint, Inc., is pleased to present this proposal for professional services related to the **Green Acres Drive Area Sanitary Sewer Improvements**, including survey, preliminary engineering, detailed design, utility coordination, and project oversight.

The proposed scope and fee is presented below for consideration:

A. Project Limits

American Structurepoint's design effort is focused on alleviating basement backups (BBUs) in homes along Green Acres Drive just east of the Nelson Road intersection. Refer to attached "Exhibit-A" for a vicinity map and "Exhibit-B" for record drawings of the project area. Survey limits will include additional area to ensure adequate topographic information is obtained to complete the associated design plans.

B. Scope of Improvements to be Designed

American Structurepoint has reviewed the Southwest Interceptor – Local Sewer System Evaluation Study (SWI-LSES) draft report dated February 2020; the "modeler notes_PA-07B" document furnished via email on March 10, 2021; record drawings and other information found on the District's ArcGIS Online (AGOL) website. The "modeler notes_PA-07B" document included three (3) different alternatives to improve the sewer hydraulic performance and reduce BBUs in the Green Acres Drive area. Below is a list of anticipated improvements:

- Spot repair on an existing 8-inch sanitary sewer along Green Acres Drive.
- Lining rehabilitation of approximately 152 lineal feet of existing 8-inch sanitary sewer along Nelson Drive.
- Replacement of approximately 510 lineal feet of existing 8-inch sanitary sewer with new 12-inch sanitary sewer along Nelson Drive and between David and Winterpark Drives.
- Replacement of approximately 480 lineal feet of existing 8-inch sanitary sewer pipe in kind along Tamiami.
- New 12-inch sanitary sewer relief connection to PA-07D at W. Pleasant Valley.
- Replace existing 8-inch sanitary sewer with a new 12-inch sanitary sewer along W. Pleasant Valley.

Based on the existing ROW per the record plans, no new permanent ROW is anticipated. Depending on the final construction limits, temporary work agreements may be required.

EXHIBIT

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L-69-21
A

1. Field Survey & Basemapping

- a. Research available public records such as deeds, plats, and ROW plans to determine the existing ROW and easements within the immediate project limits.
- b. Recover existing monumentation within the limits of the project where present.
- c. Request plans and markings of underground utilities through the Ohio Utilities Protection Service.
- d. Perform a comprehensive field survey for the project area including, but not limited to the following: site topography, existing site surface features, drainage facilities, outfall location, OUPS located utilities, public utilities, and adjacent property features.
- e. Develop the existing project basemap referencing the completed field survey, utility record plans, and boundary information.
- f. Provide existing sanitary, water line, and storm water facilities within the project basemap to identify potential limits of replacement/repairs necessitated by the drainage modifications.

2. Preliminary Evaluation

- a. American Structurepoint will review data collected and furnished by NEORS on the AGOL to confirm the necessary improvements and determine if additional improvements may be needed to alleviate BBU's along Green Acres Drive.
- b. American Structurepoint will review the existing sewer CCTV data to confirm any sewer rehabilitation or replacements in the project area.
- c. It is understood the Northeast Ohio Regional Sewer District (NEORS) is performing hydraulic modeling in the project area and is finalizing the recommendations of improvements as part of the SWI-LSES report. Additional hydraulic modeling is not anticipated for this project.
- d. Prepare and submit a technical memorandum to document the basis of design for the necessary improvements.

3. Preliminary Roadway and Final Plan Production Support Services

- a. Preliminary roadway impacts will be identified and coordinated with the City prior to advancing final design.
- b. The limits of pavement removal, sidewalk impacts, grading, and driveway replacement (if applicable) will be evaluated and included with the final design plans.
- c. The existing features will be replaced in-kind to accommodate the maintenance scope of work associated with these improvements.
- d. The existing road profile and storm water drainage will not be evaluated or modified as part of this project.
- e. Applicable details, notes, and quantities will be assembled and included with the final deliverable.
- f. Opinion of probable costs will be provided for the preliminary engineering and final engineering deliverables.

4. **Utility Support Services**
 - a. Within the project limits, it is understood that there are existing utilities that may be in conflict with the design of the new sanitary sewer.
 - b. During the preliminary evaluation, the existing utilities will be mapped and coordinated with the City for any localized repairs, if needed. The Initial design scope does not anticipate any repairs to these systems.
 - c. American Structurepoint will show and label existing utility facilities on our plans and distribute to the private utility companies for verification of their facilities and conflict analysis with each submission.

5. **Maintenance of Traffic Support Services**
 - a. The limits of the proposed Improvements may require localized closures and/or part width construction to facilitate the project construction.
 - b. We will coordinate with the city during the preliminary engineering phase to identify an MOT solution that minimizes impacts to local residents.
 - c. Based on the anticipated scope of work, plan notes and associated details will be included within the final design.

6. **Project Coordination, Management, and Oversight**

7. **Bidding Support Services** - American Structurepoint will provide the following support services during the bidding phase of the project:
 - a. Finalize the project specifications using the City provided standard template for Inclusion with the final deliverables.
 - b. Participate in the project pre-bid meeting and provide a sign-in sheet and record of meeting minutes for the file.
 - c. Provide fifteen (15) copies of the final plans and specifications to the City for prospective bidders.
 - d. Answer Request for Information (RFIs) during construction as needed.

8. **Geotechnical Engineering**
 - a. It is anticipated that one (1) soil boring at the proposed sanitary relief connection is needed to determine the underground soil characteristic.
 - b. Refer to "Attachment C" for the geotechnical proposal for more detailed information regarding the geotechnical scope of work.

9. **If-Authorized Tasks:** The following tasks are included as "If-Authorized" items to this fee proposal:
 - a. OEPA Permitting
 - i. American Structurepoint will prepare the PTI application, required technical drawings and specifications and submit to OEPA.
 - ii. American Structurepoint will address and incorporate any review comments from OEPA to the construction drawings and specifications in order to obtain approval.
 - iii. The OEPA Review fee of \$15,100 is included in this proposal.
 - b. Easement. Prepare legal description and plat for one (1) easement.

10. Design Contingency

- a. As coordinated with the City of Parma, a 10% design contingency is provided to accommodate change in scope support services.
- b. The contingency will be coordinated with the City and not advanced without written authorization from the City of Parma.

C. Deliverables: American Structurepoint will provide the following deliverables in support of the project:

- a. Basis of Design Technical Memorandum
- b. Construction Plans
- c. Technical Specifications
- d. Bid Book
- e. Estimate of probable construction cost

D. Compensation

American Structurepoint proposes to provide our professional services as described in the above Scope of Services on an hourly basis, not to exceed the following fee:

| | |
|---|------------------|
| 1-7. Base Services | \$88,400 |
| 8. Geotechnical Engineering | \$2,500 |
| 9. If Authorized Services OEPA PTI & Easement If required | \$20,210 |
| 10. Design Contingency (10%) | \$11,111 |
| 1-10. Total Fee (Base Services + If Authorized + Design Contingency) | \$122,221 |

The fee listed above includes labor and reimbursable expenses as detailed on the attached Detailed Fee Summary. Invoices will be submitted monthly based on the progress of work and are payable upon receipt.

E. Invoicing

If payment is not made within 30 days of the date when the payment is due, we may, at our option, and effective upon the delivery of written notice of our intention to do so, terminate the contract or suspend further performance of our services under the contract, and we shall have no liability for delay or damage that results from the termination of the contract or suspension of services.

F. Schedule

The American Structurepoint design team is ready to begin work upon notice to proceed, and will coordinate with the City to finalize the project schedule. It is anticipated to complete the design by November of 2021.

G. Right-of-Entry

It is understood that the Client hereby grants American Structurepoint, Inc or represents and warrants (if the site is not owned by the Client) that permission has been duly granted for a Right-of-Entry by our firm, agents, staff, consultants and subcontractors, for the purpose of obtaining field information pertinent to the subject project.

H. Terms and Conditions of Professional Service

We appreciate the opportunity to be of service to the City of Parma and would be glad to review a standard contract provided by the city, or American Structurepoint could provide an EJCDC agreement agreeable to both parties. Upon review and signature of the agreed contract, we will accept the signed document as the notice to proceed.

I. Clarifications and Exclusions

The scope of work identified in this document is based on American Structurepoint's knowledge of the project requirements at the time when the document was prepared, and serves as the basis for the price proposal and agreed fee. However, changes in work may be required as the project develops and more complete information becomes available. Such changes also may be dictated by revisions to written procedures included in manuals or decisions made by the City or other reviewing agencies. Although American Structurepoint routinely incorporates minor design changes in our work, we will notify the City in writing of any significant changes in the work that may require modification of the agreement, and will maintain separate cost accounting for each specific issue.

The following services are specifically excluded from our proposal:

1. Traffic Data Collection, Analysis and/or Design
2. OEPA Notice of Intent (NOI)
3. Storm Water Pollution Prevention Plan (SWPPP)
4. Environmental Permitting
5. Stream mitigation conceptual design or mitigation plan
6. Private utility relocation design/plan production
7. Construction oversight, inspection, or management
8. Shop Drawing Review
9. Layout staking
10. Record Drawing ("As-Builts") Preparation

If desired, these services can be provided under a separate authorization.

We appreciate the opportunity to submit this fee proposal to you and look forward to working with you on this project. We are prepared to commence work upon receipt of your acceptance. If you have any questions or require additional information, please do not hesitate to contact me at 216-217-5682 or zheld@structurepoint.com.

Respectfully submitted,



Zack Held, PE
Senior Project Manager



Edward D. Kagel, PE
Regional Services Director

ZAH:mma

- Encl.:** Acceptance and Authorization
Attachment A: Manhour Summary (American Structurepoint)
Attachment B: Subconsultant Fee Proposal (Field Survey)
Attachment C: Subconsultant Fee Proposal (Geotech)
Exhibit A: Overall Vicinity Map
Exhibit B: Compiled Plan Set

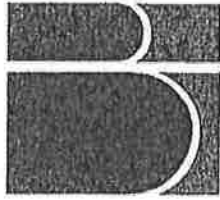
Acceptance and Authorization to Proceed

Authorized Signature

Title

Organization

Print Name and Date



BRAMHALL
ENGINEERING &
SURVEYING COMPANY

March 31, 2021

Zack Held, P.E.
American Structurepoint, Inc.
600 Superior Avenue East, Suite 1305
Cleveland, Ohio 44114

Reference: **Topographic & Right-of-Way Survey
Green Acres Drive, Parma, Ohio**

Dear Mr. Held,

We are pleased to provide this proposal for Professional Surveying Services for your project on Green Acres Drive in Parma, Ohio. Based on email correspondence, the services to be provided will consist of a Topographic and Right-of-Way Survey.

Task I – Topographic and Right-of-Way Survey

Generally, the Topographic Survey will include mapping of all existing natural or constructed features within the project limits (outlined in red in the attached Exhibit A). It will include portions of West Pleasant Valley Road, Green Acres Drive, Nelson Drive, and Tamiami Drive and shall include, but not be limited to, the following:

- Locations of structures, pavements, walks, and all other permanent improvements. This will include locating the existing concrete pavement joints on concrete roads.
- Locations of existing buildings and structures, including the ground floor elevations.
- Existing spot elevations at intervals needed to delineate the surface elevations.
- Existing utility structures including drainage structures (rim and inverts), sanitary structures (rim and inverts), waterline, and any other utilities marked by OUPS.
- Permanent benchmarks found and set throughout the site.

BRAMHALL will provide an Existing Conditions Base Map of the data collected during the Topographic Survey task.

Said Existing Conditions Map shall include, but not be limited to, the following:

- North Arrow, Scale bar, Legend, General Site Vicinity Map, Benchmark Data.
- Detailed Map showing topography area, with spot elevations listed as needed.
- Utility Structure Locations and descriptions with inverts labeled per field location if possible and record information as needed to supplement.

- Overhead Utility Lines.
- Permanent benchmarks found and set throughout the site.
- Current Zoning information of subject & adjacent properties.
- Ownership of adjacent properties.

The Right-of-Way Survey shall consist of locating R/W monumentation and rear property pins where necessary. If monumentation found does not reflect record plat information, the client will be notified and further field investigation may be required to determine the actual R/W location.

The Right-of-Way Survey shall include, but not be limited to, the following:

- Research of available record information for subject and adjacent parcels.
- Field investigation of the subject parcels to search for physical monuments, analyze evidence of occupation, and locate any significant features of the land.
- Survey information shall include, but not be limited to, the following:
 - Evidence of occupation
 - Lengths and bearings for right-of-way
 - A listing of pertinent record data used as a basis for survey
 - Adjacent land owner information
 - Surveyor's certification

Task II – Preparation of Easement for West Pleasant Valley Drive (If Authorized)

Preparation of sewer easement, limits to be determined based on sewer alignment. Includes exhibit and legal description.

Clarifications and Exceptions

1. Client will ensure BRAMHALL personnel have access to the parcels in order to conduct required survey work.
2. BRAMHALL shall prepare the base map information in AutoCADCivil3D2021.dwg format. BRAMHALL is not held responsible for the possible degradation of data if saved back to previous formats and/or if utilized with other drawing software.
3. Detailed easement research is not included. It is suggested that the Owner provide a current Title Report of the subject parcels so that easement and deed restrictions of record may be properly noted on the plans.
4. Boundary Dispute Resolution is not included. We can provide these services in a separate fee proposal or extra work authorization.

5. BRAMHALL will locate and map utilities visible at the time of the survey and/or staked by others. BRAMHALL shall contact OUPS to mark utilities; however, it is not guaranteed that this service will completely identify all underground utilities. Utilities shown on provided reference plans will be mapped and noted as such
6. BRAMHALL will attempt to obtain invert data required on structures and pipes as found and obtainable at the time of the survey. BRAMHALL will note on the plans if field conditions do not allow for information to be obtained (i.e. clogged pipes, broken pipes, catch basin debris, locked or bolted lids, inaccessible due to location). If these pipes are cleaned/debris cleared, by others, BRAMHALL, when authorized to do additional work, will return to the site to obtain the additional field work at our standard hourly rates.
7. All permits and associated fees are by Others.
8. Preparation of 1 (one) Legal Description for a proposed easement is included, however deed preparation and filing with Cuyahoga County is by others.
9. Tree identification is limited to location and size for trees 8" or larger caliper; identifying type of tree is not included. Areas of dense woods will be outlined.

Professional Services Fee

We propose to provide the Professional Services described herein for the following Hourly Not to Exceed amounts:

Task I – Topographic and Right-of-Way Survey \$13,400.00


Task II (If Authorized) – Preparation of Easement \$810.00

If the invoice is not paid within thirty (30) days, a 2% interest charge will be applied per month the bill is outstanding. The above fees are valid for services provided through December 31, 2021. Charges for our services after this date are subject to escalation.

ACKNOWLEDGED & ACCEPTED

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**BRAMHALL ENGINEERING &
SURVEYING COMPANY**

By: 
Chris L. Howard, P.E., CPESC
Title: Vice President
Date: March 31, 2021

ACKNOWLEDGED & ACCEPTED

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AMERICAN STRUCTUREPOINT

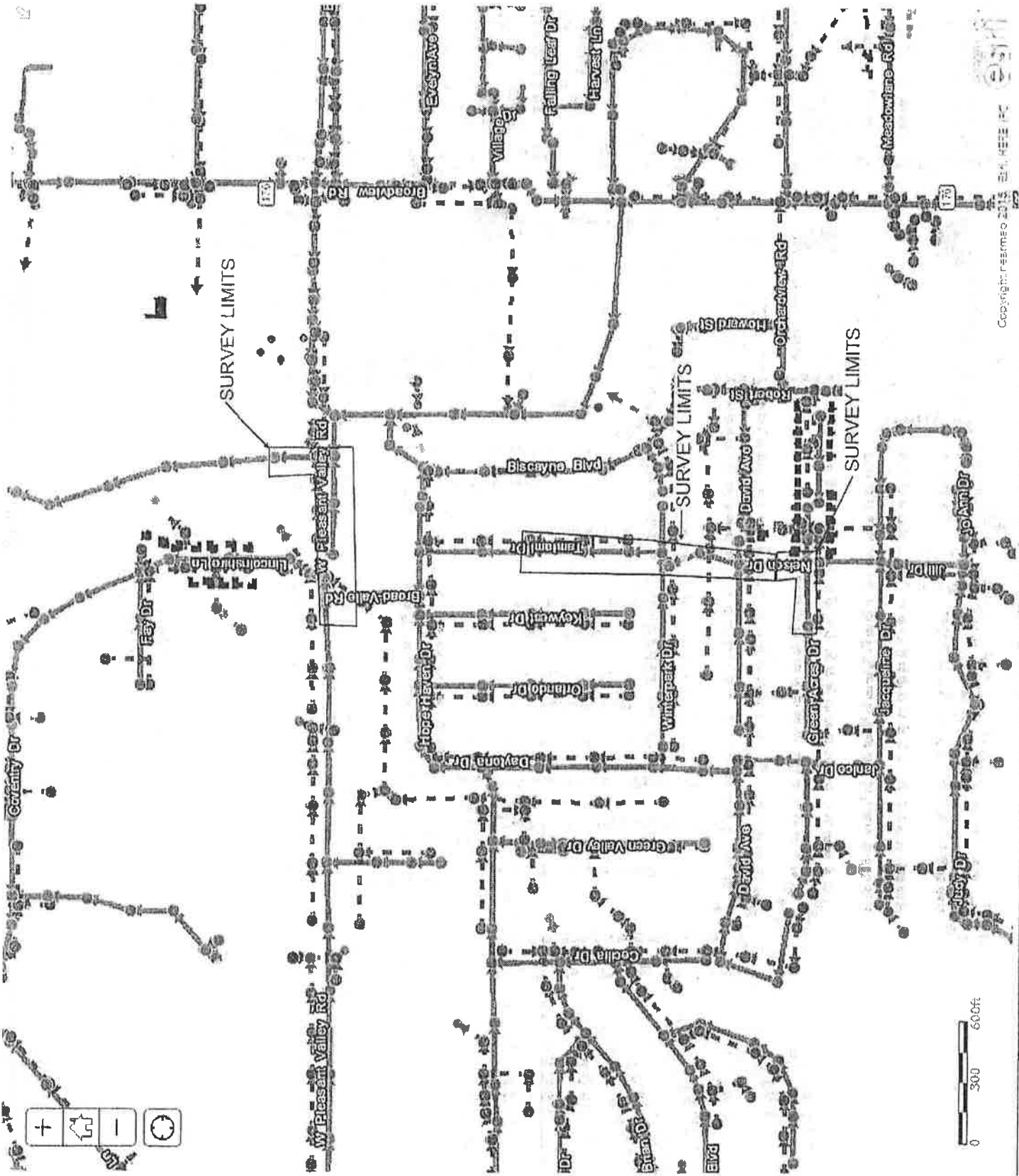
By: _____
Title: _____
Date: _____

Labor and Expense Breakdown

| Classification | Rate/Hour | Hours by Task | | Cost by Task | |
|-----------------------|-----------|---------------|----|--------------|----------|
| | | I | II | I | II |
| Project Manager | \$150.00 | 1 | 1 | \$150.00 | \$150.00 |
| Professional Surveyor | \$120.00 | 10 | 4 | \$1,200.00 | \$480.00 |
| 2-Person Survey Crew | \$140.00 | 52 | 0 | \$7,280.00 | \$0.00 |
| Technician | \$90.00 | 53 | 2 | \$4,770.00 | \$180.00 |
| Totals | | | | \$13,400.00 | \$810.00 |

Page 5
Topographic and Right-of-Way Survey
Green Acres Drive
Parma, Ohio

EXHIBIT A



April 1, 2020

Mr. Zack Held, PR
Utility Infrastructure Lead
Senior Project Manager
Structure Point
600 Superior Avenue East, Suite 1305
Cleveland, Ohio 44114

Re: Proposal for Geotechnical Services
Proposed Sanitary Sewer Line
West Pleasant Valley Road and Lincolnshire Lane
Parma, Cuyahoga County, OH
PSI Proposal No. 0142-339583

Dear Mr. Held:

Professional Service Industries, Inc. (PSI), an Intertek company, is pleased to submit a proposal to conduct a geotechnical exploration for proposed Sanitary Sewer Line along West Pleasant Valley Road in the City of Parma, Cuyahoga County, Ohio. PSI thanks you for the opportunity to propose these geotechnical services and looks forward to being part of the design team. A review of project information, along with a proposed scope of services, schedule and fee are provided below.

The aerial site plan is shown below:



PROJECT UNDERSTANDING:

Based on the provided information, the proposed project includes installation of 12" diameter sanitary sewer line along south side of the West Pleasant Valley Road. The sanitary sewer will be approximately 50 lineal feet and approximately 10 to 12 feet below the existing grades.

Should the above information or assumptions be inconsistent with planned construction, the Client should contact the PSI office and allow necessary modifications to be made to the proposal.

SCOPE OF SERVICES:

The geotechnical engineering scope of services will include the following items.

- Desktop review of generally available public information, i.e., NRCS, USGS databases.
- Field exploration consisting of drilling and sampling of the subsurface materials and observation of current groundwater levels at the site.
- Laboratory testing of the subsurface materials
- Performing engineering analysis and providing geotechnical recommendations in written report format.

The scope of services does not include a fault study, a detailed geologic study and any kind of environmental site assessment. The scope of services does not include drilling and sampling of contaminated material. If contaminated materials are encountered, PSI will contact the client to discuss about specific requirements and associated fees for contaminated material sampling, testing and disposal.

During the field exploration, if unusual or soft soil conditions are found, or if the site layout or grading plans were to significantly change, deeper or a greater number of borings may be required to evaluate the subsurface conditions. If such conditions noted, PSI would determine the necessary change in scope and will proceed with the work after prior authorization.

FIELD EXPLORATION:

Based on the provided information, PSI proposes the following drilling program for proposed project. The table below summarizes the exploratory boring program.

| Summary of Borings | | |
|--------------------|---------------|-------------------|
| Design Element | No of Borings | Boring Depth (ft) |
| Sanitary Sewer | 1 | 15 to 20 |

The borings locations will be identified in the field using available natural landmarks or GPS coordinates. Surveying of the boring locations to obtain surface coordinates and elevations is beyond the scope of work. References to elevations or depths of various subsurface strata will be based on depths below existing grade at the time of drilling.

- During the field activities, the subsurface conditions will be observed, logged, and visually classified. Field notes will be maintained to summarize soil types and descriptions, water levels, changes in subsurface conditions, and drilling conditions.
- Final depths of the borings may be extended or reduced depending on the subsurface materials identified during field activities.
- PSI will contact Ohio Utilities Protection Service (OUPS) or other public utility clearance companies prior to the start of drilling activities. It is our experience that these companies do not mark the



- locations of privately-owned utilities. This proposal is based on private utility lines and other subsurface appurtenances are located in the field by others prior to field activities.
- The client will be responsible for coordinating our access to the site with the current property owner. PSI will not negotiate with the owner(s) for site access. The proposed fee is based upon our scope of work being completed during normal business hours without interruption or delay (Monday through Friday from 7 am to 5 pm) and that the site will be readily accessible to our conventional truck-mounted drill equipment.
 - Project services do not include an evaluation of the site for determining the presence or absence of wetlands or hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air, on, or below or around this site.
 - Some damage to the ground surface may result from the drilling operations near the work areas and along ingress/egress pathways. The field crew will attempt to limit such damage, but no restoration other than backfilling the borings is included in this proposal. Excess auger cuttings and drilling spoils would be spread on the site.

| Anticipated Field Exploration Description | |
|--|---|
| Drilling Equipment | Truck/ATV Mounted Drilling Equipment |
| Drilling Method | Hollow-Stem Augers |
| Field Testing | Standard Penetration Testing (ASTM D1586) |
| Sampling Procedure | Soils: ASTM D1587/1586 |
| Sampling Frequency | 2.5-foot intervals to a Depth of 10 Feet and at 5-foot Intervals Thereafter |
| Frequency of Groundwater Level Measurements | During and After Drilling |
| Boring Backfill Procedures | Soil Cuttings Only |
| Sample Preservation & Transportation Procedure | General Accordance with ASTM D4220 |

The test borings will be drilled to the planned depths of auger/spoon refusal, whichever comes first. The field exploration program will be performed in general accordance with the designated ASTM procedures considering local and regional standard of care practices.

LABORATORY TESTING:

Representative soil samples obtained during the field exploration program will be transported to the PSI laboratory for testing. The nature and extent of this laboratory testing program will be dependent upon the subsurface conditions identified during the field exploration program. The laboratory program will be performed in general accordance with the applicable ASTM procedures considering local and regional standard of care practices. The laboratory program may include the following tests.

| Laboratory Testing General Procedures | |
|---------------------------------------|----------------------------|
| Laboratory Test | Applicable ASTM Procedures |
| Visual Classification | ASTM D2488 |
| Molsture Content | ASTM D2216 |
| Atterberg Limits | ASTM D4318 |
| Particle Size Analysis | ASTM D422 |

Portions of any samples that are not altered or consumed by laboratory testing will be retained for 30 days after the issuance of the geotechnical report and will then be discarded.



ENGINEERING ANALYSES AND REPORT:

The results of the field exploration and laboratory testing will be used in the engineering analysis and in the formulation of the recommendations. The results of the subsurface exploration, including the recommendations and the data on which they are based, will be presented in a written geotechnical report. The geotechnical report may include the following items:

- General site development and subgrade preparation recommendations.
- Evaluation of the surface and subsurface conditions relative to the proposed construction, and identification of the physical and engineering characteristics of subsurface materials encountered during the sampling and testing.
- Preparation of a geotechnical report, including Geotechnical Engineering recommendations, soil parameters for proposed sanitary sewer line.

A pdf version of the geotechnical report will be prepared and submitted by email to the Client and design team. If requested by the Client, additional hard copies can be provided. The geotechnical report will be reviewed, signed, and sealed by a registered Professional Engineer in the State of Ohio.

FEE:

PSI proposes that the fee for performance of the outlined scope of services be determined on a unit rate basis in accordance with the attached Schedule of Geotechnical Services and Fees. Based on the scope of services outlined above, the estimated fee will be **\$2,500.00**. The breakdown of the estimated fee is presented below.

| Geotechnical Cost Breakdown | | | | | |
|-----------------------------|--|------|------------|------|-------------------|
| SN | Item | Unit | Unit | Qty. | Total |
| 1 | Mov/Demob, Soil Boring/Sampling, & Traffic Control | L.S. | \$1,400.00 | 1 | \$1,400.00 |
| 2 | Bore Layout & OUPS Coordination | Hrs. | \$80.00 | 2 | \$160.00 |
| 3 | Visual Soil Classification | Hrs. | \$75.00 | 1 | \$75.00 |
| 4 | Water Content | Hrs. | \$60.00 | 1 | \$60.00 |
| 5 | Particle Size Analysis | Ea. | \$110.00 | 1 | \$110.00 |
| 6 | Project Engineer | Hrs. | \$80.00 | 6 | \$480.00 |
| 7 | Principal Engineer | Hrs. | \$135.00 | 1 | \$135.00 |
| 8 | Clerical Services | Hrs. | \$40.00 | 2 | \$80.00 |
| Total | | | | | \$2,500.00 |

Depending on the size of the project and project schedule, partial billing may be performed monthly based on Project Item progress to date prior to the completion of the final report.

The estimated fee is based on the boring locations being accessible to track mounted drilling equipment and the client obtaining and providing permission for PSI to enter and access the site

It should be noted that fees associated with locating private underground utilities, reviewing construction drawings, executing traffic control services, preparing construction specifications, attending special conferences, providing environmental consulting, and any other work requested after submittal of the report is not included in the proposed fee.



SCHEDULE:

Based on the site accessibility, drilling can commence within approximately **5 to 7 business days** after receipt of authorization to proceed, weather permitting. The final report will be provided within **4 weeks** of written authorization. If desired, preliminary geotechnical design information can be provided to the design team once the laboratory testing and engineering analyses are complete.

Delays sometime occur due to adverse weather, utility clearance requirements, site clearing requirements for drill rig access, obtaining drilling permits, obtaining Right of Entries and other factors outside of PSI's control. In this event, PSI will communicate the nature of the delay and provide a revised schedule as soon as possible.

AUTHORIZATION:

PSI will proceed with the work based on written authorization. The work will be performed pursuant to the attached General Conditions, enclosed and incorporated into this proposal. Please sign and return one copy of this proposal. When returning the proposal, please complete the attached Project Data Sheet, and provide a scaled site plan so that PSI may best serve the project. By executing this authorization, permission is being provided for PSI to access the project site.

CLOSING:

We at PSI appreciate the opportunity to offer professional services for this project and look forward to being part of the design team. If there are any questions, please feel free to contact us at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.



Surya Thapa, P.E.
Geotechnical Department Manager



Alagalya Veeramani, P.E.
Director / Principal Consultant

Attachments: Authorization
Project Data Sheet
General Conditions
Business Services Information



Proposal Authorization & Payment Instructions

To execute this proposal, please sign and complete the authorization information below, along with applicable payment instructions, and return one copy of the authorized proposal to the PSI office.

| | | | |
|------------------------------|-------|---|-----------|
| Authorized By (please print) | | Signature | |
| Title | | Firm | |
| Address | | | |
| City | State | Zip Code | Telephone |
| Email Address | Date | Purchase Order No. / Project Tracking No. (if applicable) | |

Payment Instructions

If invoice payment is to be made by a party other than the authorizing party above, please provide the following information for whom the invoices are to be billed:

| | | | |
|---------|-------|-----------|-----------|
| Firm | | Attention | |
| Address | | Title | |
| City | State | Zip Code | Telephone |

Authorizing Party's Relationship to Invoice Payment Party

If invoices are to be approved other than by the payment party above, please provide the following information for whom the invoices are to be mailed for approval:

| | | | |
|---------|-------|-----------|-----------|
| Firm | | Attention | |
| Address | | Title | |
| City | State | Zip Code | Telephone |

Authorizing Party's Relationship to Invoice Approval Party



Project Data Sheet

Please complete the following Project Data Sheet so that PSI may best serve your project.

| | | |
|--|-------------------------|------------------|
| Project Name | | |
| Architect | Project Manager | Phone Number |
| Structural Engineer | Project Manager | Phone Number |
| Civil Engineer | Project Manager | Phone Number |
| Construction Type | Plan Area | Number of Floors |
| Interior Column Spacing | Exterior Column Spacing | |
| Exterior Column Load | Live | Dead |
| Interior Column Load | Live | Dead |
| Floor Slab Load | Slab-on-Grade | Basement/Depth |
| Will Elevation of site be raised by filling | How much? | |
| Septic Tank | Storm Water Drainage | |
| Pavement Type | Traffic Load | Traffic Type |
| Other pertinent Information/Subsurface Information | | |
| | | |
| | | |
| | | |
| | | |



GENERAL CONDITIONS

1. PARTIES AND SCOPE OF WORK: Professional Service Industries Inc. ("PSI") shall include said company or its particular division, subsidiary or affiliate performing the work. "Work" means the specific service to be performed by PSI as set forth in PSI's proposal, Client's acceptance thereof and these General Conditions. Additional work ordered by Client shall also be subject to these General Conditions. "Client" refers to the person or business entity ordering the work to be done by PSI. If Client is ordering the work on behalf of another, Client represents and warrants that it is the duly authorized agent of said party for the purpose of ordering and directing said work. Unless otherwise stated in writing, Client assumes sole responsibility for determining whether the quantity and the nature of the work ordered by the client is adequate and sufficient for Client's intended purpose. Client shall communicate these General Conditions to each and every third party to whom Client transmits any part of PSI's work. PSI shall have no duty or obligation to any third party greater than that set forth in PSI's proposal, Client's acceptance thereof and these General Conditions. The ordering of work from PSI, or the reliance on any of PSI's work, shall constitute acceptance of the terms of PSI's proposal and these General Conditions, regardless of the terms of any subsequently issued document.

2. TESTS AND INSPECTIONS: Client shall cause all tests and inspections of the site, materials and work performed by PSI or others to be timely and properly performed in accordance with the plans, specifications and contract documents and PSI's recommendations. No claims for loss, damage or injury shall be brought against PSI by Client or any third party unless all tests and inspections have been so performed and unless PSI's recommendations have been followed. Client agrees to indemnify, defend and hold PSI, its officers, employees and agents harmless from any and all claims, suits, losses, costs and expenses, including, but not limited to, court costs and reasonable attorney's fees in the event that all such tests and inspections are not so performed or PSI's recommendations are not so followed.

3. PREVAILING WAGES: This proposal specifically excludes compliance with any project labor agreement, labor agreement, or other union or apprenticeship requirements. In addition, unless explicitly agreed to in the body of this proposal, this proposal specifically excludes compliance with any state or federal prevailing wage law or associated requirements, including the Davis Bacon Act. It is agreed that no applicable prevailing wage classification or wage rate has been provided to PSI, and that all wages and cost estimates contained herein are based solely upon standard, non-prevailing wage rates. Should it later be determined by the Owner or any applicable agency that in fact prevailing wage applies, then it is agreed that the contract value of this agreement shall be equitably adjusted to account for such changed circumstance. Client will reimburse, defend, indemnify and hold harmless PSI from and against any liability resulting from a subsequent determination that prevailing wage regulations cover the Project, including all costs, fines and attorney's fees.

4. SCHEDULING OF WORK: The services set forth in PSI's proposal and Client's acceptance will be accomplished by PSI personnel at the prices quoted. If PSI is required to delay commencement of the work or if, upon embarking upon its work, PSI is required to stop or interrupt the progress of its work as a result of changes in the scope of the work requested by Client, to fulfill the requirements of third parties, interruptions in the progress of construction, or other causes beyond the direct reasonable control of PSI, additional charges will be applicable and payable by Client.

5. ACCESS TO SITE: Client will arrange and provide such access to the site and work as is necessary for PSI to perform the work. PSI shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as the result of its work or the use of its equipment.

6. CLIENT'S DUTY TO NOTIFY ENGINEER: Client warrants that it has advised PSI of any known or suspected hazardous materials, utility lines and pollutants at any site at which PSI is to do work, and unless PSI has assumed in writing the responsibility of locating subsurface objects, structures, lines or conduits, Client agrees to defend, indemnify and save PSI harmless from all claims, suits, losses, costs and expenses, including reasonable attorney's fees as a result of personal injury, death or property damage occurring with respect to PSI's performance of its work and resulting to or caused by contact with subsurface or latent objects, structures, lines or conduits where the actual or potential presence and location thereof were not revealed to PSI by Client.



7. RESPONSIBILITY: PSI's work shall not include determining, supervising or implementing the means, methods, techniques, sequences or procedures of construction. PSI shall not be responsible for evaluating, reporting or affecting job conditions concerning health, safety or welfare. PSI's work or failure to perform same shall not in any way excuse any contractor, subcontractor or supplier from performance of its work in accordance with the contract documents. Client agrees that it shall require subrogation to be waived against PSI and for PSI to be added as an Additional Insured on all policies of Insurance, including any policies required of Client's contractors or subcontractors, covering any construction or development activities to be performed on the project site. PSI has no right or duty to stop the contractor's work.

8. SAMPLE DISPOSAL: Test specimens will be disposed immediately upon completion of the test. All drilling samples will be disposed sixty (60) days after submission of PSI's report.

9. PAYMENT: The quantities and fees provided in this proposal are PSI's estimate based on information provided by Client and PSI's experience on similar projects. The actual total amount due to PSI shall be based on the actual final quantities provided by PSI at the unit rates provided herein. Where Client directs or requests additional work beyond the contract price it will be deemed a change order and PSI will be paid according to the fee schedule. Client shall be invoiced once each month for work performed during the preceding period. Client agrees to pay each invoice within thirty (30) days of its receipt. Client further agrees to pay interest on all amounts invoiced and not paid or objected to for valid cause in writing within said thirty (30) day period at the rate of eighteen (18) percent per annum (or the maximum interest rate permitted under applicable law), until paid. Client agrees to pay PSI's cost of collection of all amounts due and unpaid after thirty (30) days, including court costs and reasonable attorney's fees. PSI shall not be bound by any provision or agreement requiring or providing for arbitration of disputes or controversies arising out of this agreement, any provision wherein PSI waives any rights to a mechanics' lien, or any provision conditioning PSI's right to receive payment for its work upon payment to Client by any third party. These General Conditions are notice, where required, that PSI shall file a lien whenever necessary to collect past due amounts. Failure to make payment within 30 days of invoice shall constitute a release of PSI from any and all claims which Client may have, whether in tort, contract or otherwise, and whether known or unknown at the time.

10. ALLOCATION OF RISK: CLIENT AGREES THAT PSI'S SERVICES WILL NOT SUBJECT PSI'S INDIVIDUAL EMPLOYEES, OFFICERS OR DIRECTORS TO ANY PERSONAL LIABILITY, AND THAT NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, CLIENT AGREES THAT ITS SOLE AND EXCLUSIVE REMEDY SHALL BE TO DIRECT OR ASSERT ANY CLAIM, DEMAND, OR SUIT ONLY AGAINST PSI.

SHOULD PSI OR ANY OF ITS EMPLOYEES BE FOUND TO HAVE BEEN NEGLIGENT IN THE PERFORMANCE OF ITS WORK, OR TO HAVE MADE AND BREACHED ANY EXPRESS OR IMPLIED WARRANTY, REPRESENTATION OR CONTRACT, CLIENT, ALL PARTIES CLAIMING THROUGH CLIENT AND ALL PARTIES CLAIMING TO HAVE IN ANY WAY RELIED UPON PSI'S WORK AGREE THAT THE MAXIMUM AGGREGATE AMOUNT OF THE LIABILITY OF PSI, ITS OFFICERS, EMPLOYEES AND AGENTS SHALL BE LIMITED TO \$25,000.00 OR THE TOTAL AMOUNT OF THE FEE PAID TO PSI FOR ITS WORK PERFORMED ON THE PROJECT, WHICHEVER AMOUNT IS GREATER. IN THE EVENT CLIENT IS UNWILLING OR UNABLE TO LIMIT PSI'S LIABILITY IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THIS PARAGRAPH, CLIENT MAY, UPON WRITTEN REQUEST OF CLIENT RECEIVED WITHIN FIVE DAYS OF CLIENT'S ACCEPTANCE HEREOF, INCREASE THE LIMIT OF PSI'S LIABILITY TO \$250,000.00 OR THE AMOUNT OF PSI'S FEE PAID TO PSI FOR ITS WORK ON THE PROJECT, WHICHEVER IS THE GREATER, BY AGREEING TO PAY PSI A SUM EQUIVALENT TO AN ADDITIONAL AMOUNT OF 5% OF THE TOTAL FEE TO BE CHARGED FOR PSI'S SERVICES. THIS CHARGE IS NOT TO BE CONSTRUED AS BEING A CHARGE FOR INSURANCE OF ANY TYPE, BUT IS INCREASED CONSIDERATION FOR THE GREATER LIABILITY INVOLVED. IN ANY EVENT, ATTORNEY'S FEES EXPENDED BY PSI IN CONNECTION WITH ANY CLAIM SHALL REDUCE THE AMOUNT AVAILABLE, AND ONLY ONE SUCH AMOUNT WILL APPLY TO ANY PROJECT.

NEITHER PARTY SHALL BE LIABLE TO THE OTHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE AND BREACH OF STATUTORY DUTY) OR OTHERWISE FOR LOSS OF PROFIT (WHETHER DIRECT OR INDIRECT) OR FOR ANY INDIRECT, CONSEQUENTIAL, PUNITIVE, OR SPECIAL LOSS OR DAMAGE, INCLUDING WITHOUT LIMITATION LOSS OF PROFITS, REVENUE, BUSINESS, OR ANTICIPATED SAVINGS (EVEN WHEN ADVISED OF THEIR POSSIBILITY).



NO ACTION OR CLAIM, WHETHER IN TORT, CONTRACT, OR OTHERWISE, MAY BE BROUGHT AGAINST PSI, ARISING FROM OR RELATED TO PSI'S WORK, MORE THAN TWO YEARS AFTER THE CESSATION OF PSI'S WORK HEREUNDER, REGARDLESS OF THE DATE OF DISCOVERY OF SUCH CLAIM.

11. INDEMNITY: Subject to the above limitations, PSI agrees not to defend but to indemnify and hold Client harmless from and against any and all claims, suits, costs and expenses including reasonable attorney's fees and court costs to the extent arising out of PSI's negligence as finally determined by a court of law. Client shall provide the same protection to the extent of its negligence. In the event that Client or Client's principal shall bring any suit, cause of action, claim or counterclaim against PSI, the Client and the party initiating such action shall pay to PSI the costs and expenses incurred by PSI to investigate, answer and defend it, including reasonable attorney's and witness fees and court costs to the extent that PSI shall prevail in such suit.

12. TERMINATION: This Agreement may be terminated by either party upon seven days' prior written notice. In the event of termination, PSI shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses.

13. EMPLOYEES/WITNESS FEES: PSI's employees shall not be retained as expert witnesses except by separate, written agreement. Client agrees to pay PSI's legal expenses, administrative costs and fees pursuant to PSI's then current fee schedule for PSI to respond to any subpoena. For a period of one year after the completion of any work performed under this agreement, Client agrees not to solicit, recruit, or hire any PSI employee or person who has been employed by PSI within the previous twelve months. In the event Client desires to hire such an individual, Client agrees that it shall seek the written consent of PSI, and shall pay PSI an amount equal to one-half of the employee's annualized salary, without PSI waiving other remedies it may have.

14. FIDUCIARY: PSI is not a financial advisor, does not provide financial advice or analysis of any kind, and nothing in our reports can create a fiduciary relationship between PSI and any other party.

15. RECORDING: Photographs or video recordings of the Client's own project may be taken by and used for the Client's own internal purposes. Photographs or video recordings may not be used for marketing or publicity, or distributed to a third party or otherwise published without PSI's prior review and consent in writing. Taking photographs of other Clients' samples, test setups, or facilities, or recording in any manner any test specimen other than the test specimen related to the Client's project is prohibited; and the Client agrees to hold in strict confidence and not use any proprietary information disclosed either advertently or inadvertently. The Client shall defend, hold harmless, and indemnify PSI for any breach of this clause.

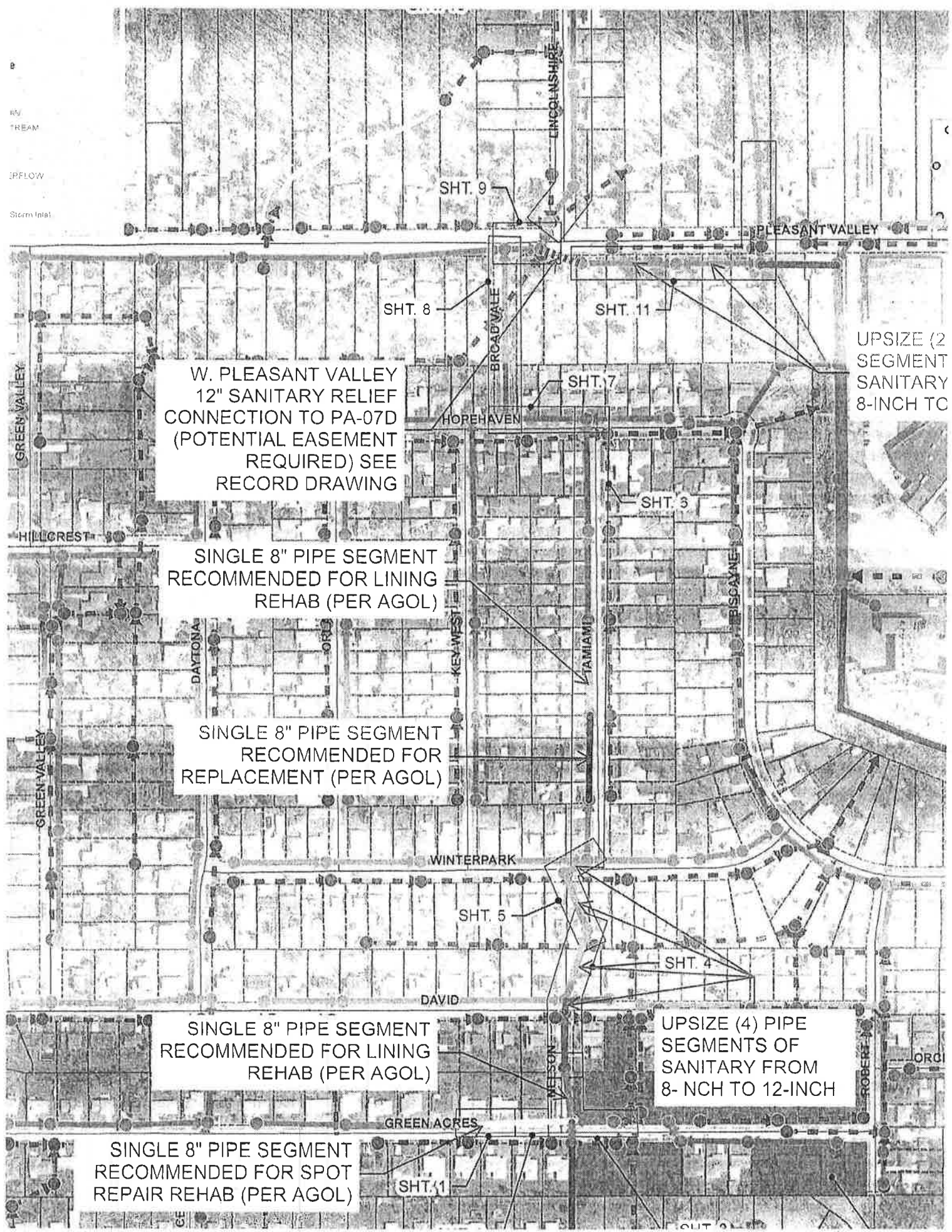
16. CHOICE OF LAW AND EXCLUSIVE VENUE: All claims or disputes arising or relating to this agreement shall be governed by, construed, and enforced in accordance with the laws of Illinois. The exclusive venue for all actions or proceedings arising in connection with this agreement shall be either the Circuit Court in Cook County, Illinois, or the Federal Court for the Northern District of Illinois.

17. PROVISIONS SEVERABLE: The parties have entered into this agreement in good faith, and it is the specific intent of the parties that the terms of these General Conditions be enforced as written. In the event any of the provisions of these General Conditions should be found to be unenforceable, it shall be stricken and the remaining provisions shall be enforceable.

18. ENTIRE AGREEMENT: This agreement constitutes the entire understanding of the parties, and there are no representations, warranties or undertakings made other than as set forth herein. This agreement may be amended, modified or terminated only in writing, signed by each of the parties hereto.



8
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AMERICAN
STRUCTUREPOINT
INC.

PROPOSAL MANHOOR SUMMARY

| | |
|-----------------|--|
| Project Title | Green Acres Drive Area Sanitary Sewer Improvements |
| Client | City of Parma, Ohio |
| Project Number | 2019 |
| Project Manager | Zack Held |
| Date | 4/6/2021 |

| PROJECT FEE SUMMARY BY PHASE | |
|---|------------------|
| Preliminary Design | \$33,500 |
| Final Design | \$50,200 |
| Bidding Services | \$7,200 |
| Subtotal Base Services | \$90,900 |
| If Authorized: | |
| OEPA Submittal & Printing | \$4,300 |
| OEPA Review Fee | \$15,100 |
| Estimate | \$810 |
| Subtotal If Authorized | \$20,210 |
| Subtotal (Base Services + If Authorized) | \$111,110 |
| Contingency (10%) | \$11,111 |
| TOTAL | \$122,221 |

| Task | Task Budget | Principal in Charge | Sr. Project Manager | Project Manager | Senior Engineer | Project Engineer | Staff Engineer | Senior CAD Technician | Sr. Environmental Specialist | Subtotal |
|--|-------------|---------------------|---------------------|-----------------|-----------------|------------------|----------------------|-----------------------|------------------------------|-----------|
| Preliminary Design | | | | | | | | | | |
| Project Management | \$ - | | | | | | | | | |
| Kickoff Meeting | \$ 760 | | | 4 | | | | | | 4 |
| Client-PM Coordination | \$ 760 | | | 4 | | | | | | 4 |
| Site Visit | \$ 760 | | | 4 | | | | | | 4 |
| Preliminary Design Review Meeting | \$ 760 | | | 4 | | | | | | 4 |
| Sub consultant & NEORSO Coordination | \$ 3,040 | | | 16 | | | | | | 16 |
| Topographic Survey (Subconsultant) | \$ - | | | | | | | | | |
| Utility Coordination | \$ 1,460 | | | 2 | | 8 | | | | 10 |
| Data Review | \$ - | | | | | | | | | |
| Base map set up | \$ 1,080 | | | | | 8 | | | | 8 |
| Review CCTV data on NEORSO AGOI | \$ 400 | | | | | | 4 | | | 4 |
| Review NEORSO Reports | \$ 650 | | | 2 | | 2 | | | | 4 |
| Record Drawing Review | \$ 650 | | | 2 | | 2 | | | | 4 |
| Cost Estimate | \$ 2,940 | | | 2 | | 10 | 4 | | | 22 |
| GIS Exhibits | \$ 780 | | | 2 | | | 4 | | | 6 |
| Prelim Basis of Design Tech Memo | \$ 1,840 | | | 4 | | 8 | | | | 12 |
| QA/QC | \$ 1,440 | | | | 8 | | | | | 8 |
| | \$ - | | | | | | | | | |
| Total Hours | | | | 46 | 8 | 44 | 12 | | | 110 |
| Hourly Rate | \$ - | \$ - | \$ - | \$ 100 | \$ 180 | \$ 125 | \$ 100 | \$ - | \$ - | |
| Professional Services Fee by Category | \$ - | \$ - | \$ - | \$ 8,740 | \$ 1,440 | \$ 5,040 | \$ 1,200 | \$ - | \$ - | |
| Professional Services Fee Subtotal | | | | | | | | | | \$ 17,420 |
| Client Costs (See below) | | | | | | | | | | \$ 16,113 |
| Preliminary Design Phase Total | | | | | | | | | | \$ 33,500 |
| Direct Costs | | | | | | | | | | |
| Mileage reimbursement | 22 | units | Units Price | Cost | | # trips | rod and trip mileage | | | |
| Hotel | | day | | \$13 | | 1 | | | | |
| Per Diem | | day | | | | | | | | |
| Printing | 1 | LS | | \$300 | | | | | | |
| Shipping | | | | | | | | | | |
| Subconsultants | | | | | | | | | | |
| Bramhall Engineering - Survey | | | | \$13,400.00 | | | | | | |
| PSI - Geotech | | | | \$2,500.00 | | | | | | |
| Sub 3 | | | | | | | | | | |
| Sub 4 | | | | | | | | | | |
| Sub 5 | | | | | | | | | | |
| Sub 6 | | | | | | | | | | |
| Other | | | | | | | | | | |
| Direct Costs Subtotal | | | | \$16,213 | | | | | | |

| Task | Task Budget | Principal in Charge | Sr. Project Manager | Project Manager | Senior Engineer | Project Engineer | Staff Engineer | Senior CAD Technician | Sr. Environmental Specialist | Subtotal |
|--|--------------|---------------------|---------------------|-----------------|-----------------|------------------|-----------------------|-----------------------|------------------------------|-----------|
| Final Design | | | | | | | | | | |
| Construction Drawings | | | | | | | | | | |
| Title Sheet | \$ 320 | | | | | 2 | | | | 2 |
| General Notes | \$ 1,030 | | | 4 | | 2 | | | | 6 |
| Symbols and Abbreviations | \$ 270 | | | | | 2 | | | | 2 |
| Topographic Survey & Control | \$ 270 | | | | | 2 | | | | 2 |
| Green Acres Dr. Plan & Profile | \$ 2,700 | | | | | 20 | | | | 20 |
| Plan and Profile - Nelson | \$ 2,700 | | | | | 20 | | | | 20 |
| Plan and Profile - Tarrami | \$ 2,700 | | | | | 20 | | | | 20 |
| Plan and Profile - Pleasant Valley | \$ 2,700 | | | | | 20 | | | | 20 |
| Plan and Profile - Pleasant Valley | \$ 2,700 | | | | | 20 | | | | 20 |
| Pavement Details | \$ 1,080 | | | | | 8 | | | | 8 |
| Sanitary Details | \$ 1,080 | | | | | 8 | | | | 8 |
| Miscellaneous Details | \$ 1,080 | | | | | 8 | | | | 8 |
| Specifications | \$ 9,680 | | | 24 | | 32 | 8 | | | 64 |
| QA/QC | \$ 2,480 | | | | 18 | | | | | 18 |
| Client Coordination | \$ 7,980 | | | 47 | | | | | | 47 |
| Final Review Meeting | \$ 1,520 | | | 8 | | | | | | 8 |
| Cost Estimate | \$ 4,080 | | | | | 16 | 4 | | | 20 |
| Submit Final Basis of Design Tech Memo | \$ 1,840 | | | 4 | | 8 | | | | 12 |
| | \$ - | | | | | | | | | |
| Total Hours | | | | 20 | 18 | 208 | 12 | | | 326 |
| Hourly Rate | \$ - | \$ - | \$ - | \$ 190 | \$ 180 | \$ 135 | \$ 100 | \$ - | \$ - | |
| Professional Services Fee by Category | \$ - | \$ - | \$ - | \$ 3,800 | \$ 3,240 | \$ 28,080 | \$ 1,200 | \$ - | \$ - | |
| Professional Services Fee Subtotal | | | | | | | | | | \$ 33,320 |
| Direct Costs (See below) | | | | | | | | | | \$ 1,025 |
| Final Design Phase Total | | | | | | | | | | \$ 34,345 |
| Direct Costs | | | | | | | | | | |
| Mileage reimbursement | Quantity: 44 | Units: miles | Unit Price: \$1.75 | Cost: \$75 | | # trips: 2 | round trip mileage: 2 | | | |
| Hotel | | day | | | | | | | | |
| Per Diem | | day | | | | | | | | |
| Printing | | sheet | | \$1,000 | | | | | | |
| Shipping | | | | | | | | | | |
| Subconsultants | | | | | | | | | | |
| Sub 1 | | | | | | | | | | |
| Sub 2 | | | | | | | | | | |
| Sub 3 | | | | | | | | | | |
| Sub 4 | | | | | | | | | | |
| Sub 5 | | | | | | | | | | |
| Sub 6 | | | | | | | | | | |
| Other: | | | | | | | | | | |
| Direct Costs Subtotal | | | | | \$1,025 | | | | | |

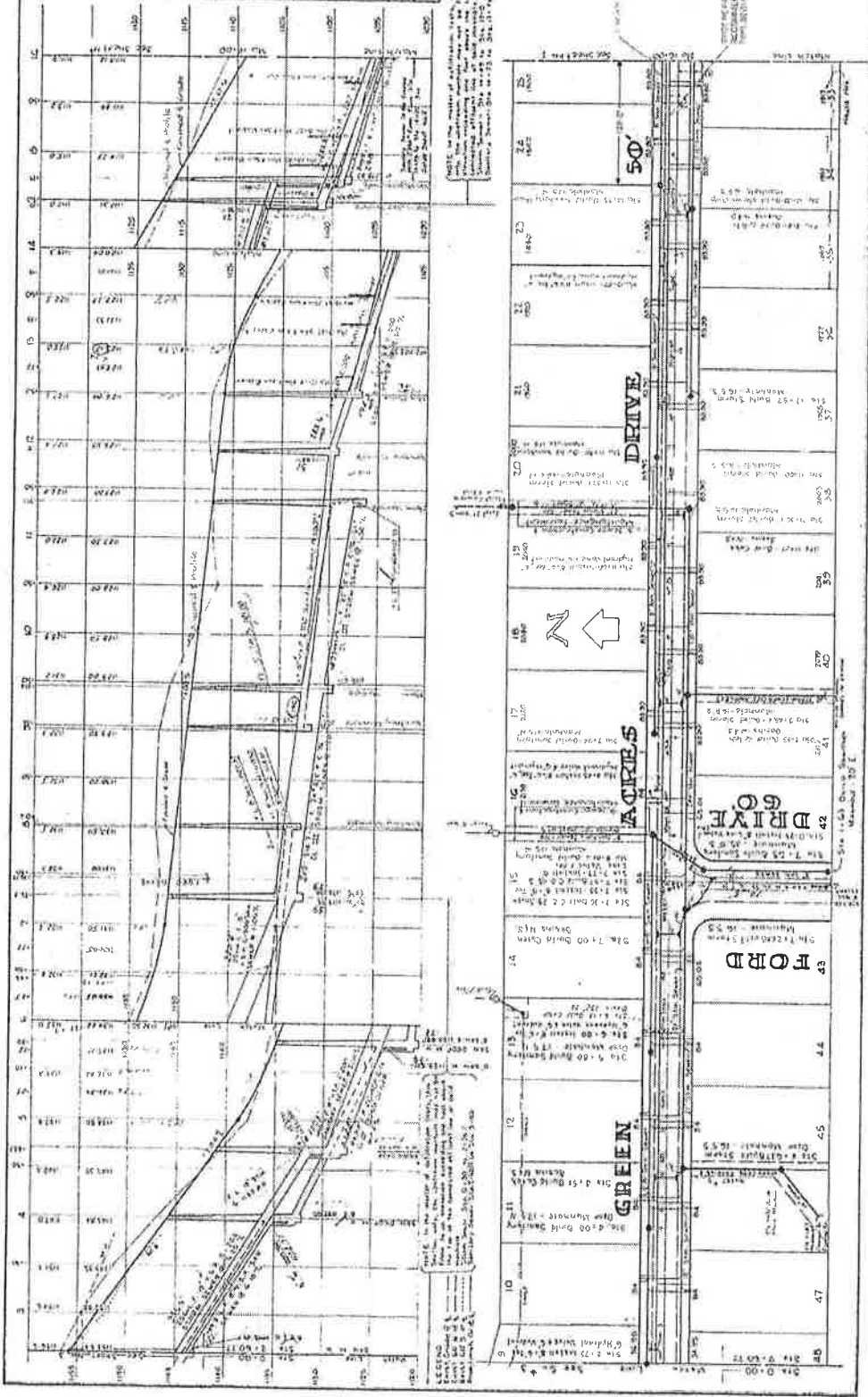
| Task | Task Budget | Principal in Charge | Sr. Project Manager | Project Manager | Senior Engineer | Project Engineer | Staff Engineer | Senior CAD Technician | Sr. Environmental Specialist | Subtotal |
|--|--------------|---------------------|---------------------|-----------------|-----------------|------------------|-----------------------|-----------------------|------------------------------|----------|
| Bidding Services | | | | | | | | | | |
| Pre-Bid Meeting | \$ 1,520 | | | 8 | | | | | | 8 |
| Questions/Answers | \$ 3,860 | | | 8 | | 16 | 2 | | | 26 |
| Bid Evaluation/Recommendation | \$ 1,840 | | | 4 | | 8 | | | | 12 |
| | \$ - | | | | | | | | | |
| | \$ - | | | | | | | | | |
| Total Hours | | | | 20 | | 24 | 2 | | | 46 |
| Hourly Rate | \$ - | \$ - | \$ - | \$ 190 | \$ 180 | \$ 135 | \$ 100 | \$ - | \$ - | |
| Professional Services Fee by Category | \$ - | \$ - | \$ - | \$ 3,800 | \$ - | \$ 3,240 | \$ 200 | \$ - | \$ - | |
| Professional Services Fee Subtotal | | | | | | | | | | \$ 7,240 |
| Direct Costs (See below) | | | | | | | | | | \$ 13 |
| Bidding Services Phase Total | | | | | | | | | | \$ 7,253 |
| Direct Costs | | | | | | | | | | |
| Mileage reimbursement | Quantity: 22 | Units: miles | Unit Price: \$5.13 | Cost: \$113 | | # trips: 1 | round trip mileage: 1 | | | |
| Hotel | | day | | | | | | | | |
| Per Diem | | day | | | | | | | | |
| Printing | | sheet | | | | | | | | |
| Shipping | | | | | | | | | | |
| Subconsultants | | | | | | | | | | |
| Sub 1 | | | | | | | | | | |
| Sub 2 | | | | | | | | | | |
| Sub 3 | | | | | | | | | | |
| Sub 4 | | | | | | | | | | |
| Sub 5 | | | | | | | | | | |
| Sub 6 | | | | | | | | | | |
| Other: | | | | | | | | | | |
| Direct Costs Subtotal | | | | | \$13 | | | | | |

| Task | Task Budget | Principal in Charge | Sr. Project Manager | Project Manager | Senior Engineer | Project Engineer | Staff Engineer | Senior CAD Technician | Sr. Environmental Specialist | Subtotal |
|---------------------------------------|-----------------|---------------------|---------------------|-----------------|-----------------|---------------------------|----------------|-----------------------|------------------------------|------------------|
| If Authorized | | | | | | | | | | |
| DEPA Submittal | \$ - | | | | | | | | | |
| Complete PFI Forms | \$ 1,460 | | | 2 | | 8 | | | | 10 |
| Assemble DEPA Submittal Package | \$ 2,540 | | | 2 | | 16 | | | | 18 |
| | \$ - | | | | | | | | | |
| | \$ - | | | | | | | | | |
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| | \$ - | | | | | | | | | |
| Total Hours | | | | 4 | | 74 | | | | 22 |
| Hourly Rate | \$ - | \$ - | \$ - | 190 | \$ 180 | \$ 135 | \$ 100 | \$ - | \$ - | |
| Professional Services Fee by Category | \$ - | \$ - | \$ - | 760 | \$ - | \$ 2,240 | \$ - | \$ - | \$ - | |
| Professional Services Fee Subtotal | | | | | | | | | | \$ 4,000 |
| Direct Costs (See below) | | | | | | | | | | \$ 16,210 |
| If Authorized Phase Total | | | | | | | | | | \$ 20,200 |
| Direct Costs | Quantity | Units | Unit Price | Cost | # trips | round trip mileage | | | | |
| Mileage reimbursement | | miles | | | | | | | | |
| Hotel | | day | | | | | | | | |
| Per Diem | | day | | | | | | | | |
| Printing | | sheet | | \$300 | | | | | | |
| Shipping | | | | | | | | | | |
| Subconsultants | | | | | | | | | | |
| DEPA Submittal Permit Review Fee | | | | \$15,100.00 | | | | | | |
| Bramhall Engineering: Exemptions | | | | \$810.00 | | | | | | |
| Sub 3 | | | | | | | | | | |
| Sub 4 | | | | | | | | | | |
| Sub 5 | | | | | | | | | | |
| Sub 6 | | | | | | | | | | |
| Other | | | | | | | | | | |
| Direct Costs Subtotal | | | | \$16,210 | | | | | | |

GRAB CONNECTION SCHEDULE

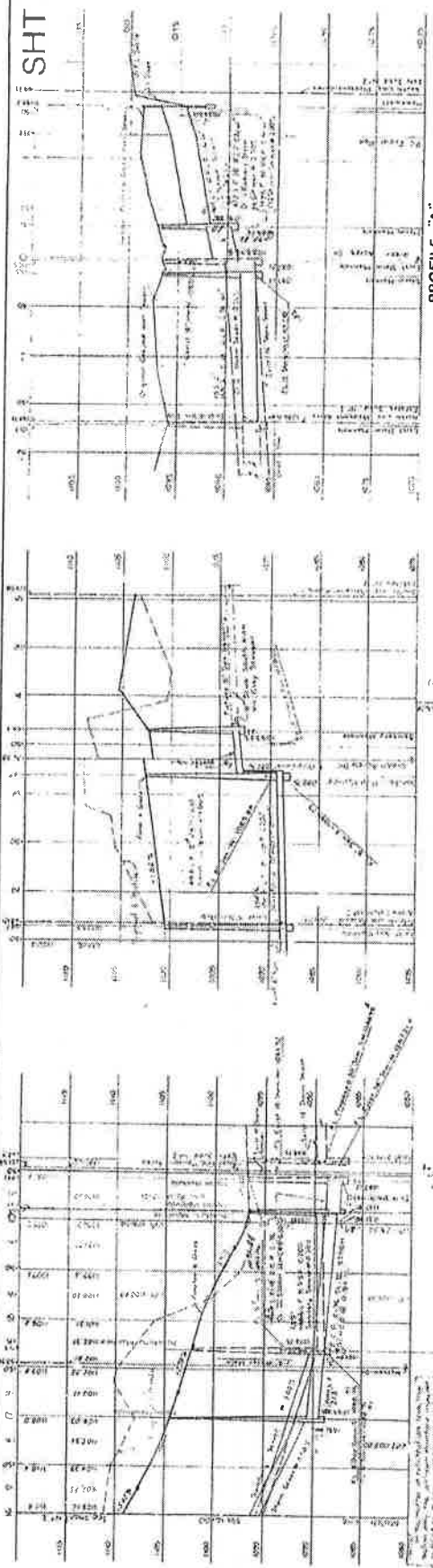
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NOTE: For the number of additional sheets, see page 2 of this plan. The connection schedule is attached and is subject to change. The connection schedule is attached and is subject to change. The connection schedule is attached and is subject to change.

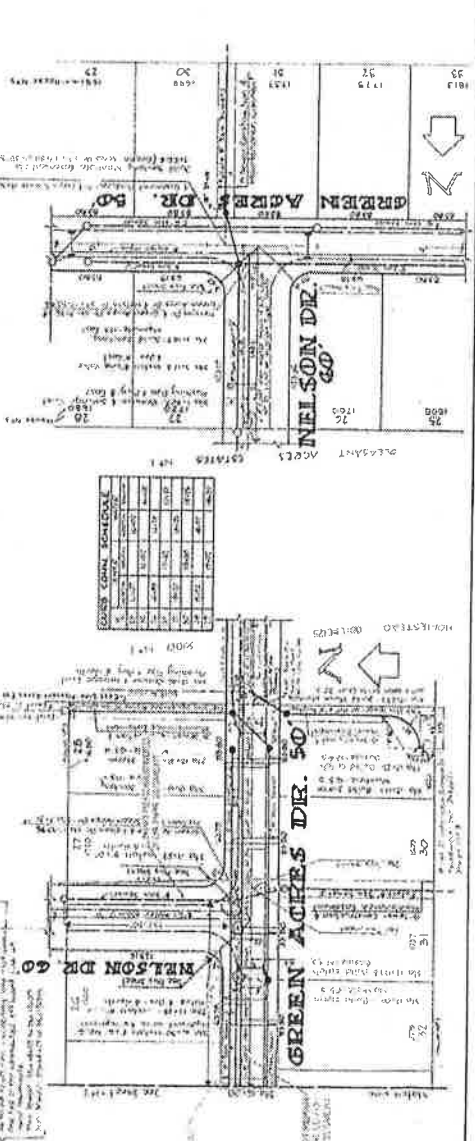


NOTE: The connection schedule is attached and is subject to change. The connection schedule is attached and is subject to change. The connection schedule is attached and is subject to change.

SHT 2



PROFILE 'A'

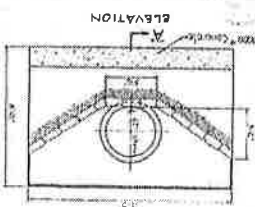
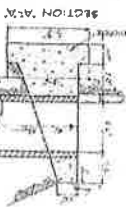


GREEN ACRES, 50 ACRES, WITH
 100' WIDE, 10' DEEP CANAL
 GREEN ACRES
 ESTATES, NO. 100-100-100
 CITY OF PARMA
 CLEVELAND, OHIO

SHEET NO. 1 OF 2

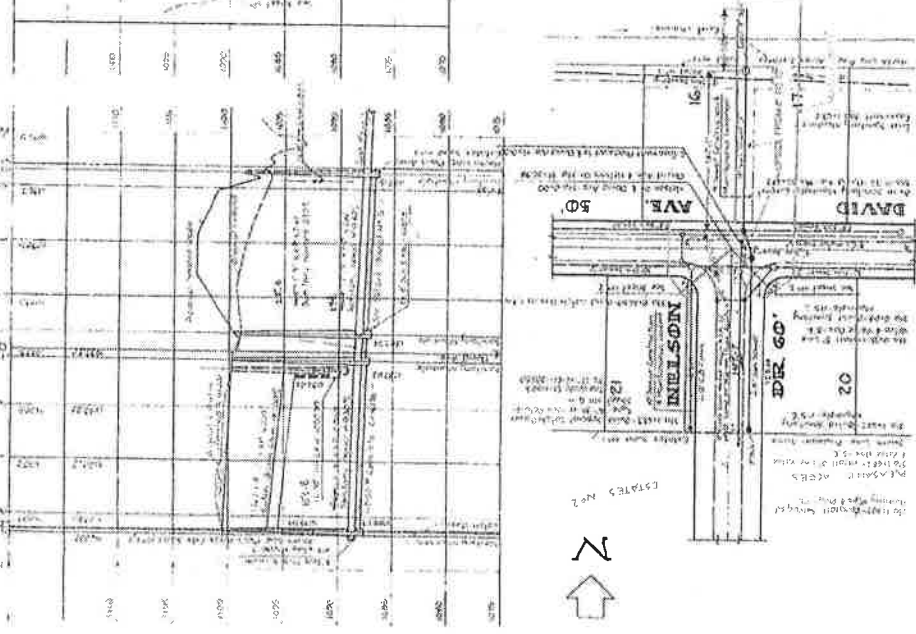
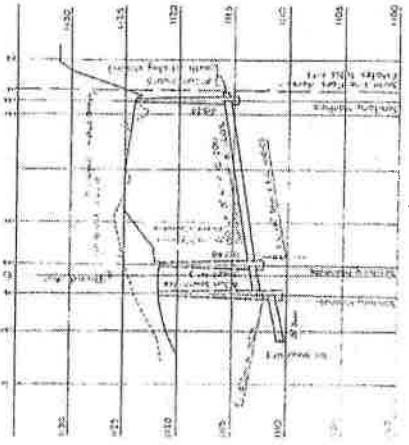
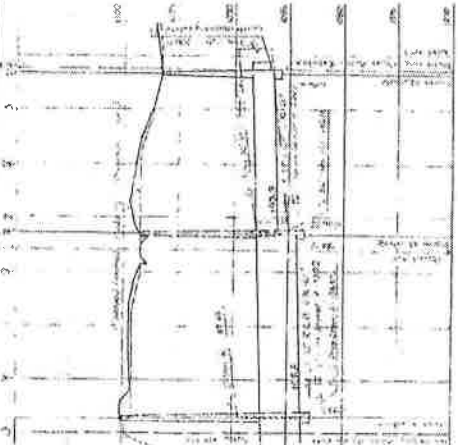
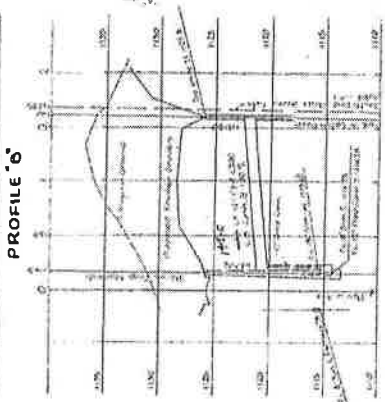
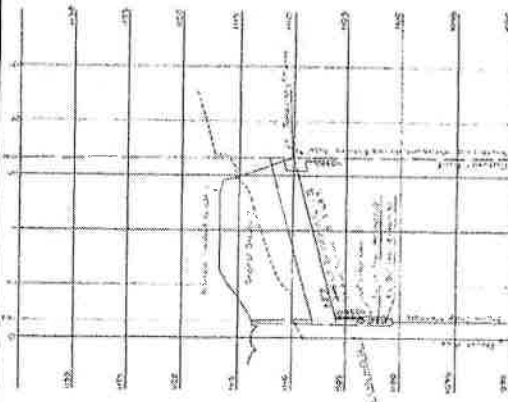
SHT 3

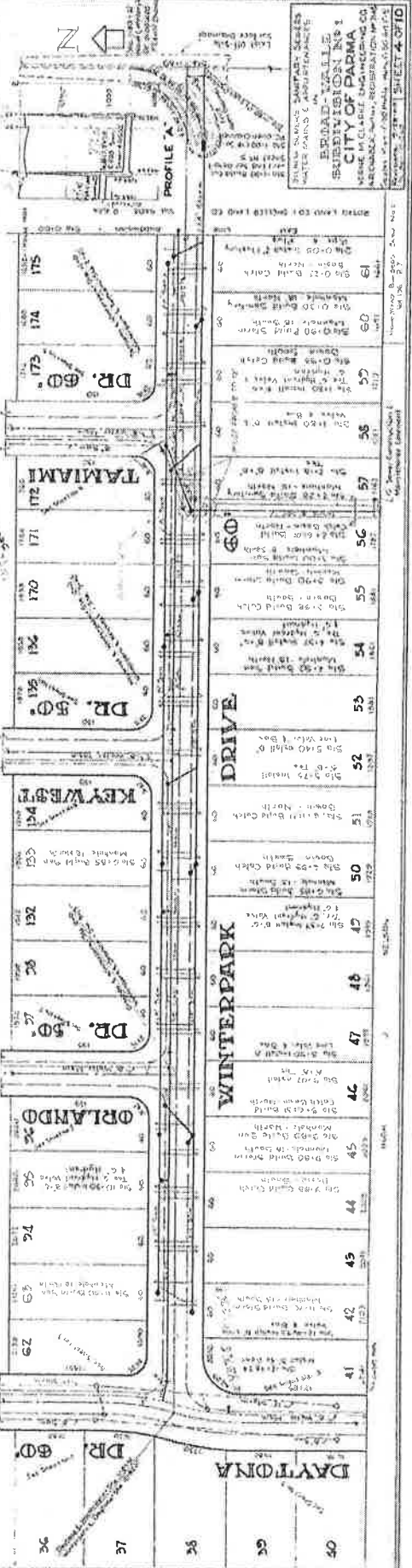
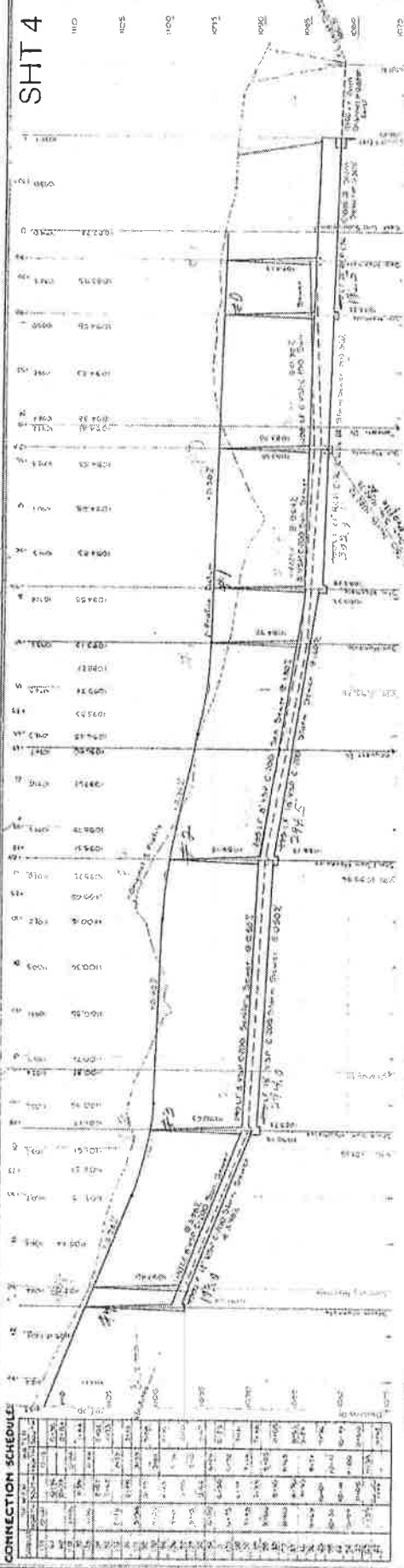
CONCRETE GRAVITY HEADWALL DETAIL



STONER, HANLEY, AND ASSOCIATES
REGISTERED PROFESSIONAL ENGINEERS
REGISTERED SURVEYORS
CITY OF PHOENIX
PHOENIX, ARIZONA
SHEET NO. 4 OF 4

CONCRETE GRAVITY HEADWALL DETAIL
SECTION A-A
ELEVATION





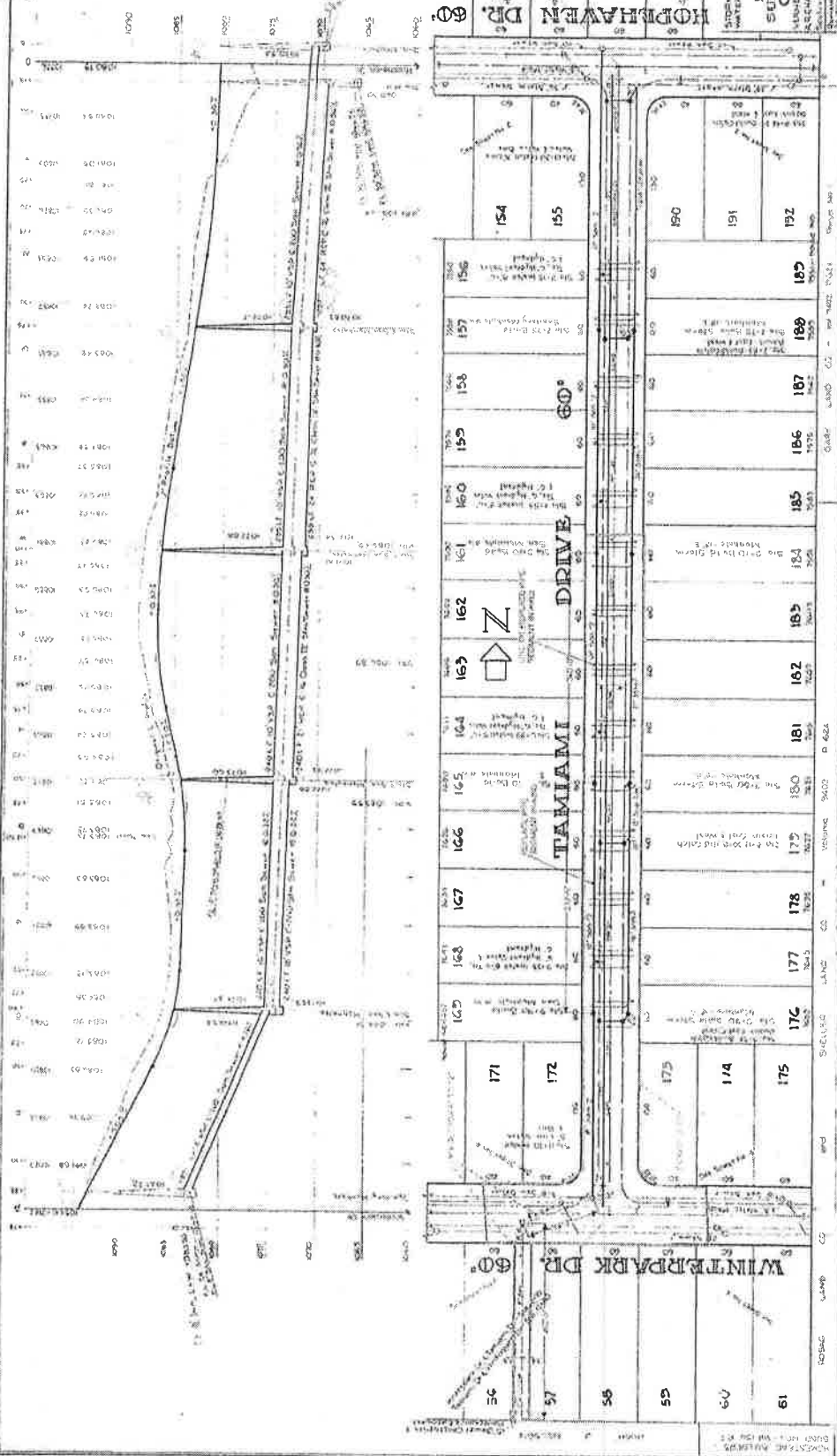
CONNECTION SCHEDULE

| ITEM NO. | DESCRIPTION | QUANTITY | UNIT PRICE | TOTAL PRICE |
|----------|----------------|----------|------------|-------------|
| 1 | Sanitary Sewer | | | |
| 2 | Water Main | | | |
| 3 | Electric | | | |
| 4 | Gas | | | |
| 5 | Storm Sewer | | | |
| 6 | Concrete | | | |
| 7 | Asphalt | | | |
| 8 | Gravel | | | |
| 9 | Sand | | | |
| 10 | Grass Seed | | | |
| 11 | Paint | | | |
| 12 | Materials | | | |

CITY OF PALM BEACH
 DIVISION OF PUBLIC WORKS
 PROJECT NO. 12345
 SHEET 4 OF 4

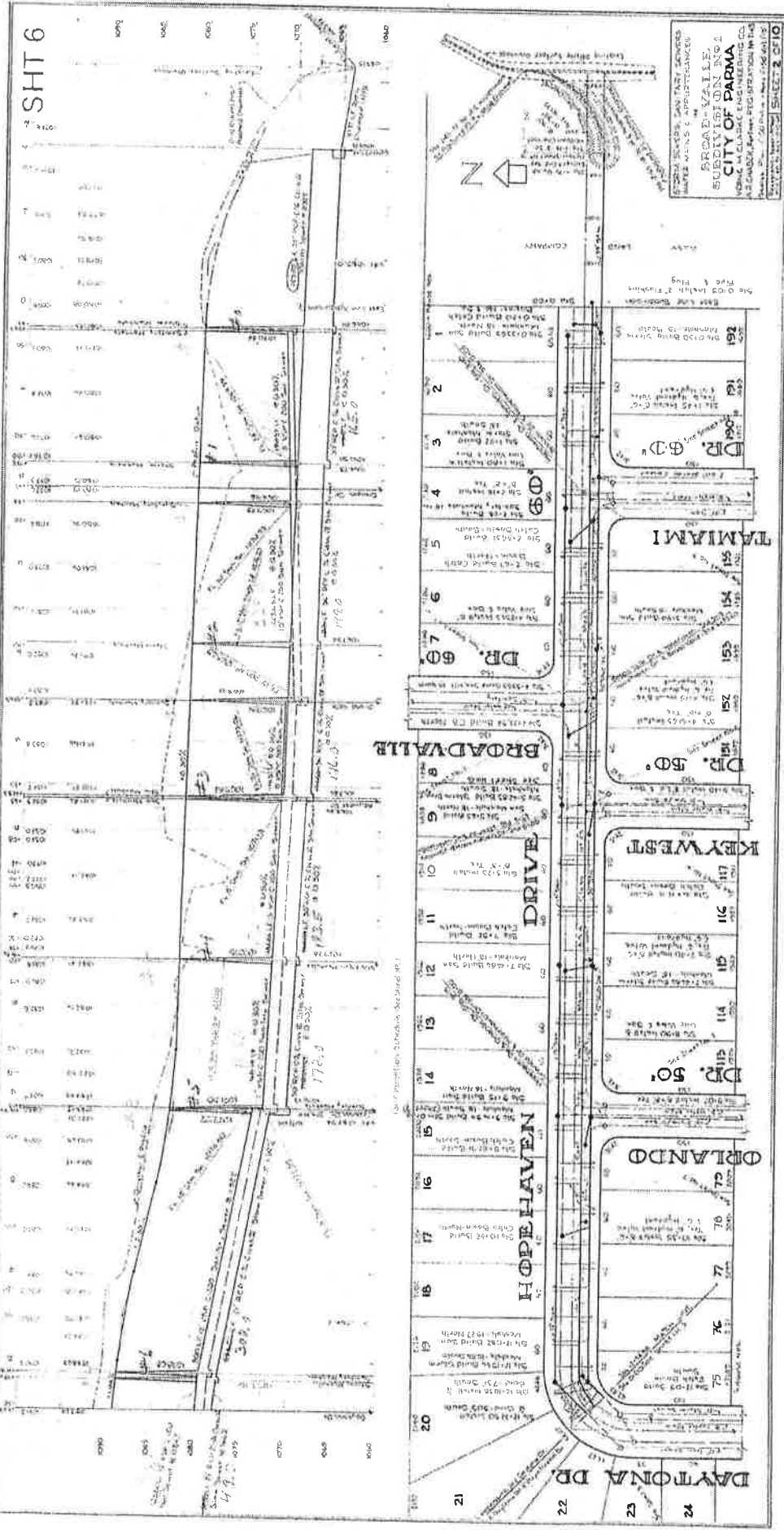
CONNECT SHT 5

| NO. | DATE | BY | REVISION |
|-----|----------|------|--------------------------------|
| 1 | 10/15/03 | J.M. | ISSUED FOR PERMIT |
| 2 | 11/10/03 | J.M. | REVISED PER CITY OF PALM BEACH |
| 3 | 12/15/03 | J.M. | REVISED PER CITY OF PALM BEACH |
| 4 | 01/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 5 | 02/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 6 | 03/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 7 | 04/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 8 | 05/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 9 | 06/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 10 | 07/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 11 | 08/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 12 | 09/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 13 | 10/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 14 | 11/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 15 | 12/15/04 | J.M. | REVISED PER CITY OF PALM BEACH |
| 16 | 01/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 17 | 02/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 18 | 03/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 19 | 04/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 20 | 05/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 21 | 06/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 22 | 07/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 23 | 08/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 24 | 09/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 25 | 10/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 26 | 11/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 27 | 12/15/05 | J.M. | REVISED PER CITY OF PALM BEACH |
| 28 | 01/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 29 | 02/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 30 | 03/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 31 | 04/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 32 | 05/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 33 | 06/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 34 | 07/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 35 | 08/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 36 | 09/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 37 | 10/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 38 | 11/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 39 | 12/15/06 | J.M. | REVISED PER CITY OF PALM BEACH |
| 40 | 01/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 41 | 02/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 42 | 03/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 43 | 04/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 44 | 05/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 45 | 06/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 46 | 07/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 47 | 08/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 48 | 09/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 49 | 10/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 50 | 11/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 51 | 12/15/07 | J.M. | REVISED PER CITY OF PALM BEACH |
| 52 | 01/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 53 | 02/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 54 | 03/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 55 | 04/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 56 | 05/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 57 | 06/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 58 | 07/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 59 | 08/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 60 | 09/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 61 | 10/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 62 | 11/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 63 | 12/15/08 | J.M. | REVISED PER CITY OF PALM BEACH |
| 64 | 01/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 65 | 02/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 66 | 03/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 67 | 04/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 68 | 05/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 69 | 06/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 70 | 07/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 71 | 08/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 72 | 09/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 73 | 10/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 74 | 11/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 75 | 12/15/09 | J.M. | REVISED PER CITY OF PALM BEACH |
| 76 | 01/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 77 | 02/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 78 | 03/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 79 | 04/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 80 | 05/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 81 | 06/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 82 | 07/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 83 | 08/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 84 | 09/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 85 | 10/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 86 | 11/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 87 | 12/15/10 | J.M. | REVISED PER CITY OF PALM BEACH |
| 88 | 01/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 89 | 02/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 90 | 03/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 91 | 04/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 92 | 05/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 93 | 06/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 94 | 07/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 95 | 08/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 96 | 09/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 97 | 10/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 98 | 11/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 99 | 12/15/11 | J.M. | REVISED PER CITY OF PALM BEACH |
| 100 | 01/15/12 | J.M. | REVISED PER CITY OF PALM BEACH |



BRAD TAYLOR
SUPERVISOR #61
CITY OF PALM BEACH
ENGINEERING CO.
REGISTERED PROFESSIONAL ENGINEER
NO. 12000
PALM BEACH, FLORIDA 33411

DATE: 10/15/03
SHEET 5 OF 10



ENGINEERED AND PARTIALLY
 SURVEYED BY
 BRADENVILLE
 SUBDIVISION No. 1
 CITY OF PARMA
 CLAUDE ENGINEERING CO.
 112 CANADIAN AVE. - CANADIAN, MISSISSAUGA, ONT. L4V 1R4
 DRAWN BY: [Name] DATE: [Date] SHEET 2 OF 10

SHT 6

BRADENVILLE

TAMIAMI

KEY WEST

HOPEHAVEN DRIVE

ORLANDO

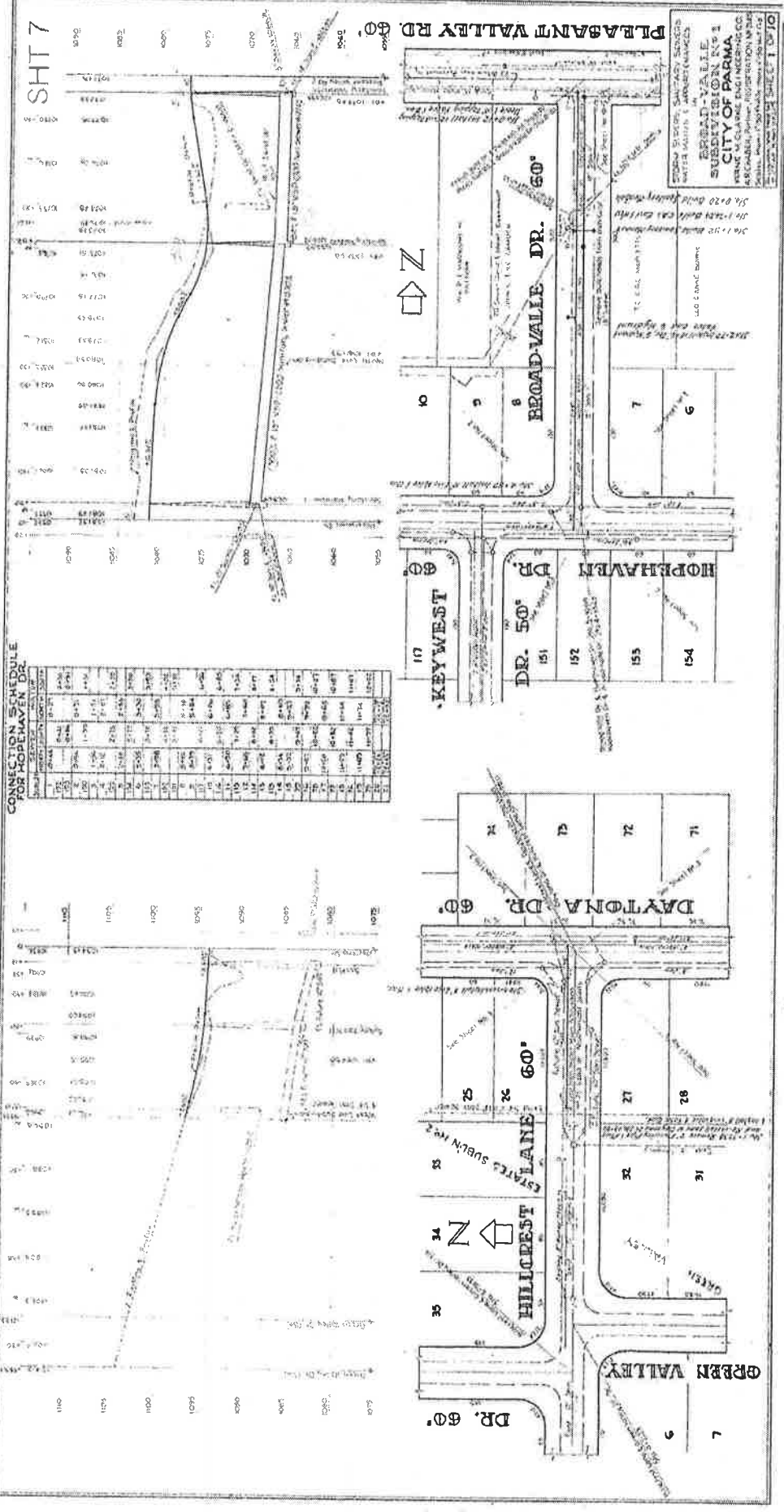
DAYTONA DR.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 192 | 191 | 190 | 189 | 188 | 187 | 186 | 185 | 184 | 183 | 182 | 181 | 180 | 179 | 178 | 177 | 176 | 175 | 174 | 173 | 172 | 171 | 170 | 169 | 168 | 167 | 166 | 165 | 164 | 163 | 162 | 161 | 160 | 159 | 158 | 157 | 156 | 155 | 154 | 153 | 152 | 151 | 150 | 149 | 148 | 147 | 146 | 145 | 144 | 143 | 142 | 141 | 140 | 139 | 138 | 137 | 136 | 135 | 134 | 133 | 132 | 131 | 130 | 129 | 128 | 127 | 126 | 125 | 124 | 123 | 122 | 121 | 120 | 119 | 118 | 117 | 116 | 115 | 114 | 113 | 112 | 111 | 110 | 109 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 96 | 95 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 | 84 | 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

Lot dimensions, as shown, are as follows:

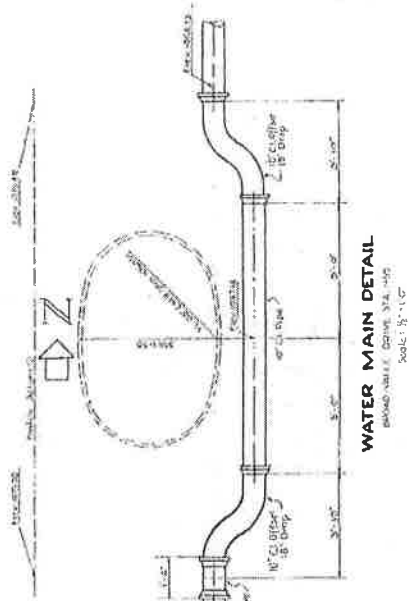
CONNECTION SCHEDULE FOR HOPEHAVEN DR.

| Station | Offset | Station | Offset |
|---------|--------|---------|--------|
| 100+00 | 0.00 | 100+00 | 0.00 |
| 100+05 | 0.00 | 100+05 | 0.00 |
| 100+10 | 0.00 | 100+10 | 0.00 |
| 100+15 | 0.00 | 100+15 | 0.00 |
| 100+20 | 0.00 | 100+20 | 0.00 |
| 100+25 | 0.00 | 100+25 | 0.00 |
| 100+30 | 0.00 | 100+30 | 0.00 |
| 100+35 | 0.00 | 100+35 | 0.00 |
| 100+40 | 0.00 | 100+40 | 0.00 |
| 100+45 | 0.00 | 100+45 | 0.00 |
| 100+50 | 0.00 | 100+50 | 0.00 |
| 100+55 | 0.00 | 100+55 | 0.00 |
| 100+60 | 0.00 | 100+60 | 0.00 |
| 100+65 | 0.00 | 100+65 | 0.00 |
| 100+70 | 0.00 | 100+70 | 0.00 |
| 100+75 | 0.00 | 100+75 | 0.00 |
| 100+80 | 0.00 | 100+80 | 0.00 |
| 100+85 | 0.00 | 100+85 | 0.00 |
| 100+90 | 0.00 | 100+90 | 0.00 |
| 100+95 | 0.00 | 100+95 | 0.00 |
| 101+00 | 0.00 | 101+00 | 0.00 |
| 101+05 | 0.00 | 101+05 | 0.00 |
| 101+10 | 0.00 | 101+10 | 0.00 |
| 101+15 | 0.00 | 101+15 | 0.00 |
| 101+20 | 0.00 | 101+20 | 0.00 |
| 101+25 | 0.00 | 101+25 | 0.00 |
| 101+30 | 0.00 | 101+30 | 0.00 |
| 101+35 | 0.00 | 101+35 | 0.00 |
| 101+40 | 0.00 | 101+40 | 0.00 |
| 101+45 | 0.00 | 101+45 | 0.00 |
| 101+50 | 0.00 | 101+50 | 0.00 |
| 101+55 | 0.00 | 101+55 | 0.00 |
| 101+60 | 0.00 | 101+60 | 0.00 |
| 101+65 | 0.00 | 101+65 | 0.00 |
| 101+70 | 0.00 | 101+70 | 0.00 |
| 101+75 | 0.00 | 101+75 | 0.00 |
| 101+80 | 0.00 | 101+80 | 0.00 |
| 101+85 | 0.00 | 101+85 | 0.00 |
| 101+90 | 0.00 | 101+90 | 0.00 |
| 101+95 | 0.00 | 101+95 | 0.00 |
| 102+00 | 0.00 | 102+00 | 0.00 |
| 102+05 | 0.00 | 102+05 | 0.00 |
| 102+10 | 0.00 | 102+10 | 0.00 |
| 102+15 | 0.00 | 102+15 | 0.00 |
| 102+20 | 0.00 | 102+20 | 0.00 |
| 102+25 | 0.00 | 102+25 | 0.00 |
| 102+30 | 0.00 | 102+30 | 0.00 |
| 102+35 | 0.00 | 102+35 | 0.00 |
| 102+40 | 0.00 | 102+40 | 0.00 |
| 102+45 | 0.00 | 102+45 | 0.00 |
| 102+50 | 0.00 | 102+50 | 0.00 |
| 102+55 | 0.00 | 102+55 | 0.00 |
| 102+60 | 0.00 | 102+60 | 0.00 |
| 102+65 | 0.00 | 102+65 | 0.00 |
| 102+70 | 0.00 | 102+70 | 0.00 |
| 102+75 | 0.00 | 102+75 | 0.00 |
| 102+80 | 0.00 | 102+80 | 0.00 |
| 102+85 | 0.00 | 102+85 | 0.00 |
| 102+90 | 0.00 | 102+90 | 0.00 |
| 102+95 | 0.00 | 102+95 | 0.00 |
| 103+00 | 0.00 | 103+00 | 0.00 |
| 103+05 | 0.00 | 103+05 | 0.00 |
| 103+10 | 0.00 | 103+10 | 0.00 |
| 103+15 | 0.00 | 103+15 | 0.00 |
| 103+20 | 0.00 | 103+20 | 0.00 |
| 103+25 | 0.00 | 103+25 | 0.00 |
| 103+30 | 0.00 | 103+30 | 0.00 |
| 103+35 | 0.00 | 103+35 | 0.00 |
| 103+40 | 0.00 | 103+40 | 0.00 |
| 103+45 | 0.00 | 103+45 | 0.00 |
| 103+50 | 0.00 | 103+50 | 0.00 |
| 103+55 | 0.00 | 103+55 | 0.00 |
| 103+60 | 0.00 | 103+60 | 0.00 |
| 103+65 | 0.00 | 103+65 | 0.00 |
| 103+70 | 0.00 | 103+70 | 0.00 |
| 103+75 | 0.00 | 103+75 | 0.00 |
| 103+80 | 0.00 | 103+80 | 0.00 |
| 103+85 | 0.00 | 103+85 | 0.00 |
| 103+90 | 0.00 | 103+90 | 0.00 |
| 103+95 | 0.00 | 103+95 | 0.00 |
| 104+00 | 0.00 | 104+00 | 0.00 |
| 104+05 | 0.00 | 104+05 | 0.00 |
| 104+10 | 0.00 | 104+10 | 0.00 |
| 104+15 | 0.00 | 104+15 | 0.00 |
| 104+20 | 0.00 | 104+20 | 0.00 |
| 104+25 | 0.00 | 104+25 | 0.00 |
| 104+30 | 0.00 | 104+30 | 0.00 |
| 104+35 | 0.00 | 104+35 | 0.00 |
| 104+40 | 0.00 | 104+40 | 0.00 |
| 104+45 | 0.00 | 104+45 | 0.00 |
| 104+50 | 0.00 | 104+50 | 0.00 |
| 104+55 | 0.00 | 104+55 | 0.00 |
| 104+60 | 0.00 | 104+60 | 0.00 |
| 104+65 | 0.00 | 104+65 | 0.00 |
| 104+70 | 0.00 | 104+70 | 0.00 |
| 104+75 | 0.00 | 104+75 | 0.00 |
| 104+80 | 0.00 | 104+80 | 0.00 |
| 104+85 | 0.00 | 104+85 | 0.00 |
| 104+90 | 0.00 | 104+90 | 0.00 |
| 104+95 | 0.00 | 104+95 | 0.00 |
| 105+00 | 0.00 | 105+00 | 0.00 |
| 105+05 | 0.00 | 105+05 | 0.00 |
| 105+10 | 0.00 | 105+10 | 0.00 |
| 105+15 | 0.00 | 105+15 | 0.00 |
| 105+20 | 0.00 | 105+20 | 0.00 |
| 105+25 | 0.00 | 105+25 | 0.00 |
| 105+30 | 0.00 | 105+30 | 0.00 |
| 105+35 | 0.00 | 105+35 | 0.00 |
| 105+40 | 0.00 | 105+40 | 0.00 |
| 105+45 | 0.00 | 105+45 | 0.00 |
| 105+50 | 0.00 | 105+50 | 0.00 |
| 105+55 | 0.00 | 105+55 | 0.00 |
| 105+60 | 0.00 | 105+60 | 0.00 |
| 105+65 | 0.00 | 105+65 | 0.00 |
| 105+70 | 0.00 | 105+70 | 0.00 |
| 105+75 | 0.00 | 105+75 | 0.00 |
| 105+80 | 0.00 | 105+80 | 0.00 |
| 105+85 | 0.00 | 105+85 | 0.00 |
| 105+90 | 0.00 | 105+90 | 0.00 |
| 105+95 | 0.00 | 105+95 | 0.00 |
| 106+00 | 0.00 | 106+00 | 0.00 |
| 106+05 | 0.00 | 106+05 | 0.00 |
| 106+10 | 0.00 | 106+10 | 0.00 |
| 106+15 | 0.00 | 106+15 | 0.00 |
| 106+20 | 0.00 | 106+20 | 0.00 |
| 106+25 | 0.00 | 106+25 | 0.00 |
| 106+30 | 0.00 | 106+30 | 0.00 |
| 106+35 | 0.00 | 106+35 | 0.00 |
| 106+40 | 0.00 | 106+40 | 0.00 |
| 106+45 | 0.00 | 106+45 | 0.00 |
| 106+50 | 0.00 | 106+50 | 0.00 |
| 106+55 | 0.00 | 106+55 | 0.00 |
| 106+60 | 0.00 | 106+60 | 0.00 |
| 106+65 | 0.00 | 106+65 | 0.00 |
| 106+70 | 0.00 | 106+70 | 0.00 |
| 106+75 | 0.00 | 106+75 | 0.00 |
| 106+80 | 0.00 | 106+80 | 0.00 |
| 106+85 | 0.00 | 106+85 | 0.00 |
| 106+90 | 0.00 | 106+90 | 0.00 |
| 106+95 | 0.00 | 106+95 | 0.00 |
| 107+00 | 0.00 | 107+00 | 0.00 |
| 107+05 | 0.00 | 107+05 | 0.00 |
| 107+10 | 0.00 | 107+10 | 0.00 |
| 107+15 | 0.00 | 107+15 | 0.00 |
| 107+20 | 0.00 | 107+20 | 0.00 |
| 107+25 | 0.00 | 107+25 | 0.00 |
| 107+30 | 0.00 | 107+30 | 0.00 |
| 107+35 | 0.00 | 107+35 | 0.00 |
| 107+40 | 0.00 | 107+40 | 0.00 |
| 107+45 | 0.00 | 107+45 | 0.00 |
| 107+50 | 0.00 | 107+50 | 0.00 |
| 107+55 | 0.00 | 107+55 | 0.00 |
| 107+60 | 0.00 | 107+60 | 0.00 |
| 107+65 | 0.00 | 107+65 | 0.00 |
| 107+70 | 0.00 | 107+70 | 0.00 |
| 107+75 | 0.00 | 107+75 | 0.00 |
| 107+80 | 0.00 | 107+80 | 0.00 |
| 107+85 | 0.00 | 107+85 | 0.00 |
| 107+90 | 0.00 | 107+90 | 0.00 |
| 107+95 | 0.00 | 107+95 | 0.00 |
| 108+00 | 0.00 | 108+00 | 0.00 |
| 108+05 | 0.00 | 108+05 | 0.00 |
| 108+10 | 0.00 | 108+10 | 0.00 |
| 108+15 | 0.00 | 108+15 | 0.00 |
| 108+20 | 0.00 | 108+20 | 0.00 |
| 108+25 | 0.00 | 108+25 | 0.00 |
| 108+30 | 0.00 | 108+30 | 0.00 |
| 108+35 | 0.00 | 108+35 | 0.00 |
| 108+40 | 0.00 | 108+40 | 0.00 |
| 108+45 | 0.00 | 108+45 | 0.00 |
| 108+50 | 0.00 | 108+50 | 0.00 |
| 108+55 | 0.00 | 108+55 | 0.00 |
| 108+60 | 0.00 | 108+60 | 0.00 |
| 108+65 | 0.00 | 108+65 | 0.00 |
| 108+75 | 0.00 | 108+75 | 0.00 |
| 108+80 | 0.00 | 108+80 | 0.00 |
| 108+85 | 0.00 | 108+85 | 0.00 |
| 108+90 | 0.00 | 108+90 | 0.00 |
| 108+95 | 0.00 | 108+95 | 0.00 |
| 109+00 | 0.00 | 109+00 | 0.00 |
| 109+05 | 0.00 | 109+05 | 0.00 |
| 109+10 | 0.00 | 109+10 | 0.00 |
| 109+15 | 0.00 | 109+15 | 0.00 |
| 109+20 | 0.00 | 109+20 | 0.00 |
| 109+25 | 0.00 | 109+25 | 0.00 |
| 109+30 | 0.00 | 109+30 | 0.00 |
| 109+35 | 0.00 | 109+35 | 0.00 |
| 109+40 | 0.00 | 109+40 | 0.00 |
| 109+45 | 0.00 | 109+45 | 0.00 |
| 109+50 | 0.00 | 109+50 | 0.00 |
| 109+55 | 0.00 | 109+55 | 0.00 |
| 109+60 | 0.00 | 109+60 | 0.00 |
| 109+65 | 0.00 | 109+65 | 0.00 |
| 109+70 | 0.00 | 109+70 | 0.00 |
| 109+75 | 0.00 | 109+75 | 0.00 |
| 109+80 | 0.00 | 109+80 | 0.00 |
| 109+85 | 0.00 | 109+85 | 0.00 |
| 109+90 | 0.00 | 109+90 | 0.00 |
| 109+95 | 0.00 | 109+95 | 0.00 |
| 110+00 | 0.00 | 110+00 | 0.00 |
| 110+05 | 0.00 | 110+05 | 0.00 |
| 110+10 | 0.00 | 110+10 | 0.00 |
| 110+15 | 0.00 | 110+15 | 0.00 |
| 110+20 | 0.00 | 110+20 | 0.00 |
| 110+25 | 0.00 | 110+25 | 0.00 |
| 110+30 | 0.00 | 110+30 | 0.00 |
| 110+35 | 0.00 | 110+35 | 0.00 |
| 110+40 | 0.00 | 110+40 | 0.00 |
| 110+45 | 0.00 | 110+45 | 0.00 |
| 110+50 | 0.00 | 110+50 | 0.00 |
| 110+55 | 0.00 | 110+55 | 0.00 |
| 110+60 | 0.00 | 110+60 | 0.00 |
| 110+65 | 0.00 | 110+65 | 0.00 |
| 110+70 | 0.00 | 110+70 | 0.00 |
| 110+75 | 0.00 | 110+75 | 0.00 |
| 110+80 | 0.00 | 110+80 | 0.00 |
| 110+85 | 0.00 | 110+85 | 0.00 |
| 110+90 | 0.00 | 110+90 | 0.00 |
| 110+95 | 0.00 | 110+95 | 0.00 |



SHT 7

DESIGNED BY: [Faint text]
 DRAWN BY: [Faint text]
 CHECKED BY: [Faint text]
 DATE: [Faint text]



WATER MAIN DETAIL
BRAD-VALLE DRIVE, STA. 1105
Scale: 1/8" = 1'-0"



OPEN CHANNEL DETAIL
Scale: 1/8" = 1'-0"

BRAD-VALLE WATER MAINS & APPURTENANCES
 BRAD-VALLE
 SUBDIVISION NO. 1
 CITY OF PARMA
 A.R. CHAMBERS, INC., ENGINEERS & ARCHITECTS
 11500 BRAD-VALLE DRIVE, PARMA, OHIO 44134
 SHEET NO. 10 OF 10

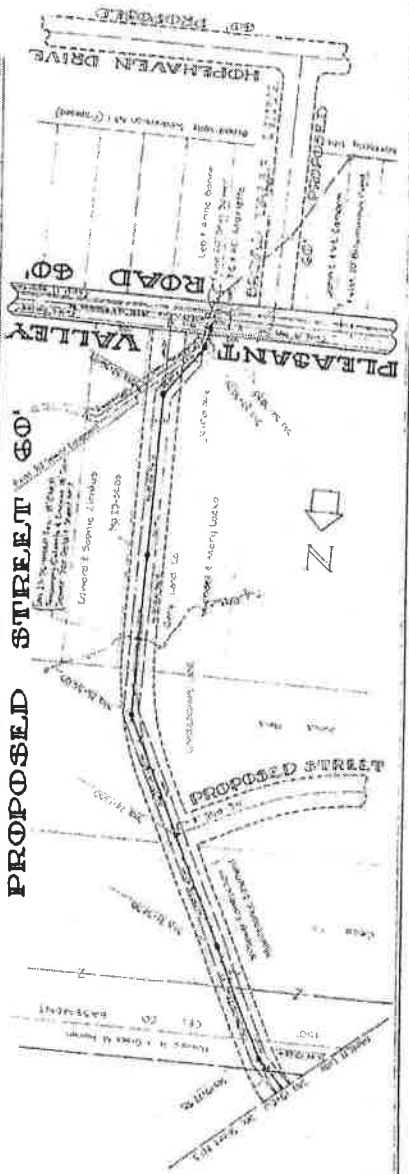
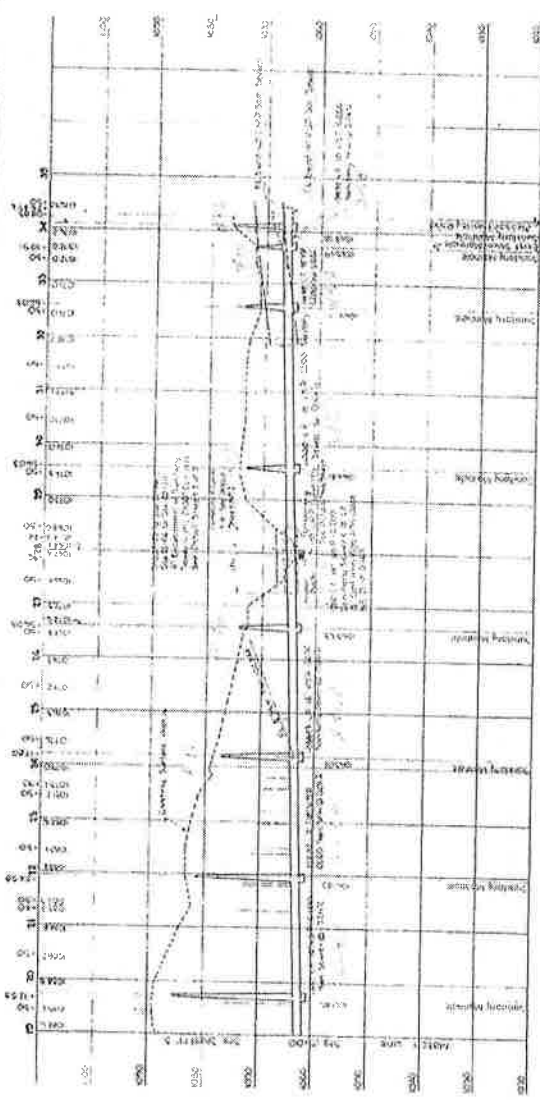
CONNECTION SCHEDULE - EAST BRANCH

| Station | Manhole | Structure | Notes |
|---------|---------|-----------------|----------|
| 1+00 | 1 | 6" Dia. Manhole | Existing |
| 1+25 | 2 | 6" Dia. Manhole | Existing |
| 1+50 | 3 | 6" Dia. Manhole | Existing |
| 1+75 | 4 | 6" Dia. Manhole | Existing |
| 2+00 | 5 | 6" Dia. Manhole | Existing |
| 2+25 | 6 | 6" Dia. Manhole | Existing |
| 2+50 | 7 | 6" Dia. Manhole | Existing |
| 2+75 | 8 | 6" Dia. Manhole | Existing |
| 3+00 | 9 | 6" Dia. Manhole | Existing |
| 3+25 | 10 | 6" Dia. Manhole | Existing |
| 3+50 | 11 | 6" Dia. Manhole | Existing |
| 3+75 | 12 | 6" Dia. Manhole | Existing |
| 4+00 | 13 | 6" Dia. Manhole | Existing |
| 4+25 | 14 | 6" Dia. Manhole | Existing |
| 4+50 | 15 | 6" Dia. Manhole | Existing |
| 4+75 | 16 | 6" Dia. Manhole | Existing |
| 5+00 | 17 | 6" Dia. Manhole | Existing |
| 5+25 | 18 | 6" Dia. Manhole | Existing |
| 5+50 | 19 | 6" Dia. Manhole | Existing |
| 5+75 | 20 | 6" Dia. Manhole | Existing |
| 6+00 | 21 | 6" Dia. Manhole | Existing |
| 6+25 | 22 | 6" Dia. Manhole | Existing |
| 6+50 | 23 | 6" Dia. Manhole | Existing |
| 6+75 | 24 | 6" Dia. Manhole | Existing |
| 7+00 | 25 | 6" Dia. Manhole | Existing |
| 7+25 | 26 | 6" Dia. Manhole | Existing |
| 7+50 | 27 | 6" Dia. Manhole | Existing |
| 7+75 | 28 | 6" Dia. Manhole | Existing |
| 8+00 | 29 | 6" Dia. Manhole | Existing |
| 8+25 | 30 | 6" Dia. Manhole | Existing |
| 8+50 | 31 | 6" Dia. Manhole | Existing |
| 8+75 | 32 | 6" Dia. Manhole | Existing |
| 9+00 | 33 | 6" Dia. Manhole | Existing |
| 9+25 | 34 | 6" Dia. Manhole | Existing |
| 9+50 | 35 | 6" Dia. Manhole | Existing |
| 9+75 | 36 | 6" Dia. Manhole | Existing |
| 10+00 | 37 | 6" Dia. Manhole | Existing |
| 10+25 | 38 | 6" Dia. Manhole | Existing |
| 10+50 | 39 | 6" Dia. Manhole | Existing |
| 10+75 | 40 | 6" Dia. Manhole | Existing |
| 11+00 | 41 | 6" Dia. Manhole | Existing |
| 11+25 | 42 | 6" Dia. Manhole | Existing |
| 11+50 | 43 | 6" Dia. Manhole | Existing |
| 11+75 | 44 | 6" Dia. Manhole | Existing |
| 12+00 | 45 | 6" Dia. Manhole | Existing |
| 12+25 | 46 | 6" Dia. Manhole | Existing |
| 12+50 | 47 | 6" Dia. Manhole | Existing |
| 12+75 | 48 | 6" Dia. Manhole | Existing |
| 13+00 | 49 | 6" Dia. Manhole | Existing |
| 13+25 | 50 | 6" Dia. Manhole | Existing |
| 13+50 | 51 | 6" Dia. Manhole | Existing |
| 13+75 | 52 | 6" Dia. Manhole | Existing |
| 14+00 | 53 | 6" Dia. Manhole | Existing |
| 14+25 | 54 | 6" Dia. Manhole | Existing |
| 14+50 | 55 | 6" Dia. Manhole | Existing |
| 14+75 | 56 | 6" Dia. Manhole | Existing |
| 15+00 | 57 | 6" Dia. Manhole | Existing |
| 15+25 | 58 | 6" Dia. Manhole | Existing |
| 15+50 | 59 | 6" Dia. Manhole | Existing |
| 15+75 | 60 | 6" Dia. Manhole | Existing |
| 16+00 | 61 | 6" Dia. Manhole | Existing |
| 16+25 | 62 | 6" Dia. Manhole | Existing |
| 16+50 | 63 | 6" Dia. Manhole | Existing |
| 16+75 | 64 | 6" Dia. Manhole | Existing |
| 17+00 | 65 | 6" Dia. Manhole | Existing |
| 17+25 | 66 | 6" Dia. Manhole | Existing |
| 17+50 | 67 | 6" Dia. Manhole | Existing |
| 17+75 | 68 | 6" Dia. Manhole | Existing |
| 18+00 | 69 | 6" Dia. Manhole | Existing |
| 18+25 | 70 | 6" Dia. Manhole | Existing |
| 18+50 | 71 | 6" Dia. Manhole | Existing |
| 18+75 | 72 | 6" Dia. Manhole | Existing |
| 19+00 | 73 | 6" Dia. Manhole | Existing |
| 19+25 | 74 | 6" Dia. Manhole | Existing |
| 19+50 | 75 | 6" Dia. Manhole | Existing |
| 19+75 | 76 | 6" Dia. Manhole | Existing |
| 20+00 | 77 | 6" Dia. Manhole | Existing |
| 20+25 | 78 | 6" Dia. Manhole | Existing |
| 20+50 | 79 | 6" Dia. Manhole | Existing |
| 20+75 | 80 | 6" Dia. Manhole | Existing |
| 21+00 | 81 | 6" Dia. Manhole | Existing |
| 21+25 | 82 | 6" Dia. Manhole | Existing |
| 21+50 | 83 | 6" Dia. Manhole | Existing |
| 21+75 | 84 | 6" Dia. Manhole | Existing |
| 22+00 | 85 | 6" Dia. Manhole | Existing |
| 22+25 | 86 | 6" Dia. Manhole | Existing |
| 22+50 | 87 | 6" Dia. Manhole | Existing |
| 22+75 | 88 | 6" Dia. Manhole | Existing |
| 23+00 | 89 | 6" Dia. Manhole | Existing |
| 23+25 | 90 | 6" Dia. Manhole | Existing |
| 23+50 | 91 | 6" Dia. Manhole | Existing |
| 23+75 | 92 | 6" Dia. Manhole | Existing |
| 24+00 | 93 | 6" Dia. Manhole | Existing |
| 24+25 | 94 | 6" Dia. Manhole | Existing |
| 24+50 | 95 | 6" Dia. Manhole | Existing |
| 24+75 | 96 | 6" Dia. Manhole | Existing |
| 25+00 | 97 | 6" Dia. Manhole | Existing |
| 25+25 | 98 | 6" Dia. Manhole | Existing |
| 25+50 | 99 | 6" Dia. Manhole | Existing |
| 25+75 | 100 | 6" Dia. Manhole | Existing |

MANHOLE CASTING ELEVATIONS

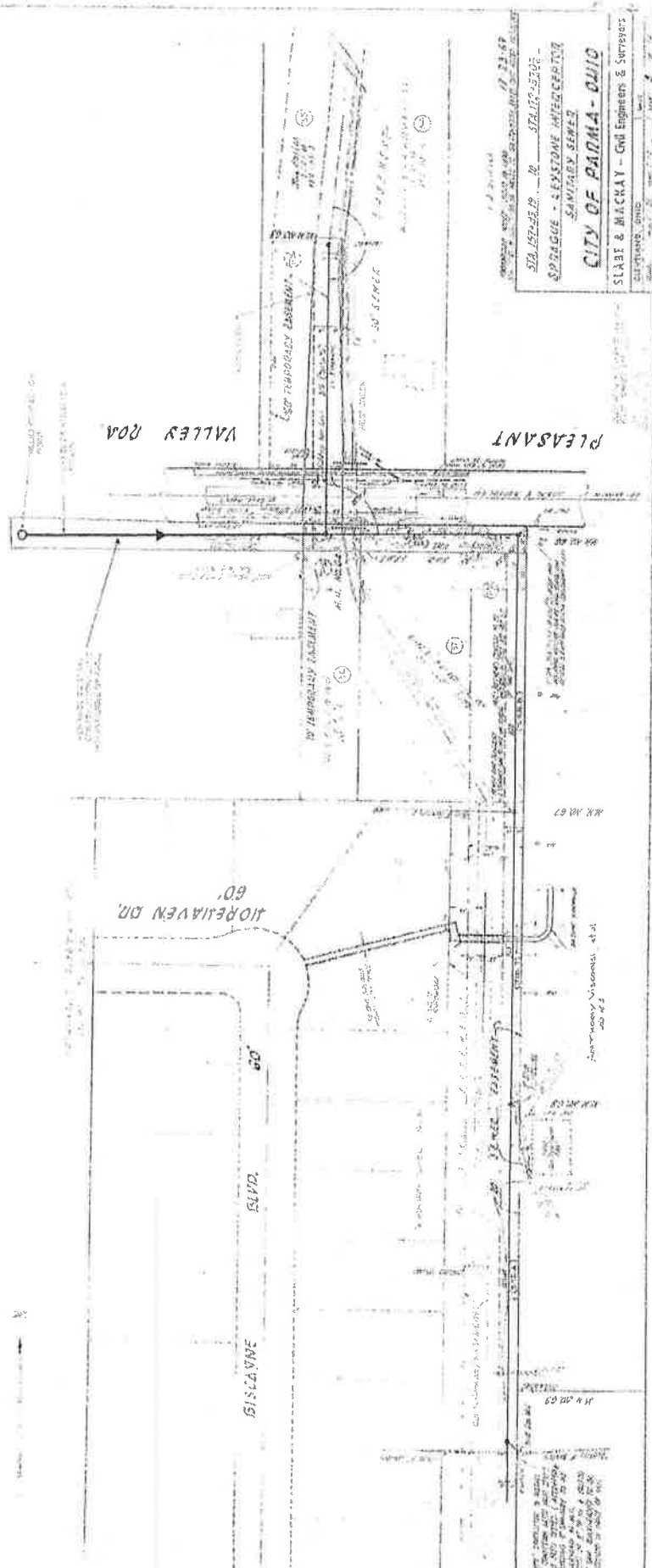
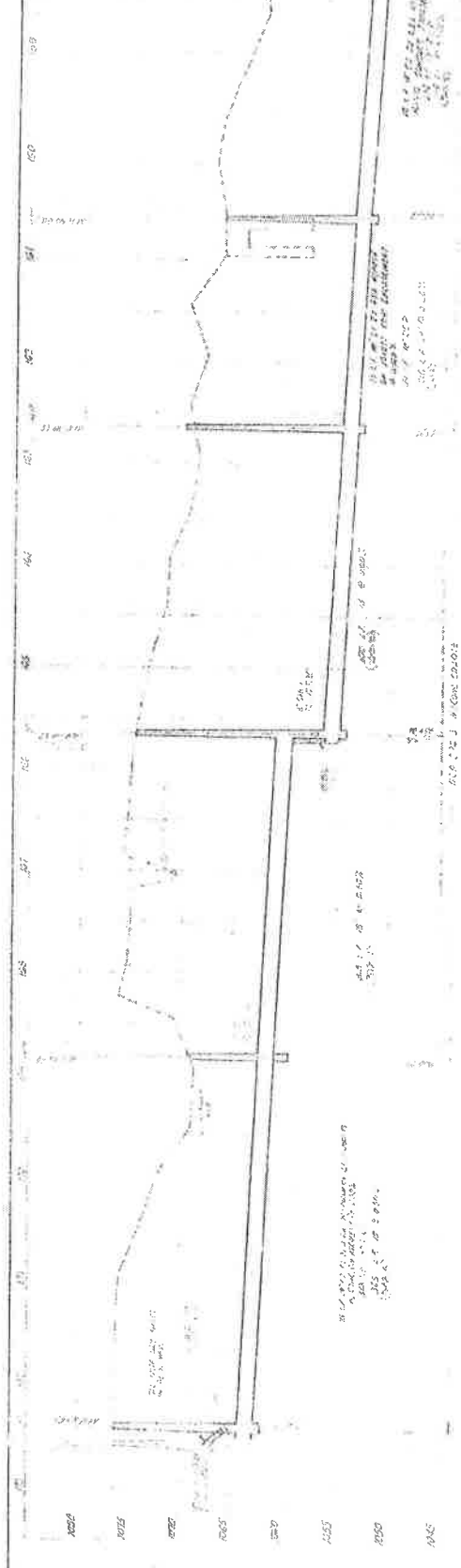
| Station | Manhole | Elevation |
|---------|---------|-----------|
| 1+00 | 1 | 100.00 |
| 1+25 | 2 | 100.00 |
| 1+50 | 3 | 100.00 |
| 1+75 | 4 | 100.00 |
| 2+00 | 5 | 100.00 |
| 2+25 | 6 | 100.00 |
| 2+50 | 7 | 100.00 |
| 2+75 | 8 | 100.00 |
| 3+00 | 9 | 100.00 |
| 3+25 | 10 | 100.00 |
| 3+50 | 11 | 100.00 |
| 3+75 | 12 | 100.00 |
| 4+00 | 13 | 100.00 |
| 4+25 | 14 | 100.00 |
| 4+50 | 15 | 100.00 |
| 4+75 | 16 | 100.00 |
| 5+00 | 17 | 100.00 |
| 5+25 | 18 | 100.00 |
| 5+50 | 19 | 100.00 |
| 5+75 | 20 | 100.00 |
| 6+00 | 21 | 100.00 |
| 6+25 | 22 | 100.00 |
| 6+50 | 23 | 100.00 |
| 6+75 | 24 | 100.00 |
| 7+00 | 25 | 100.00 |
| 7+25 | 26 | 100.00 |
| 7+50 | 27 | 100.00 |
| 7+75 | 28 | 100.00 |
| 8+00 | 29 | 100.00 |
| 8+25 | 30 | 100.00 |
| 8+50 | 31 | 100.00 |
| 8+75 | 32 | 100.00 |
| 9+00 | 33 | 100.00 |
| 9+25 | 34 | 100.00 |
| 9+50 | 35 | 100.00 |
| 9+75 | 36 | 100.00 |
| 10+00 | 37 | 100.00 |
| 10+25 | 38 | 100.00 |
| 10+50 | 39 | 100.00 |
| 10+75 | 40 | 100.00 |
| 11+00 | 41 | 100.00 |
| 11+25 | 42 | 100.00 |
| 11+50 | 43 | 100.00 |
| 11+75 | 44 | 100.00 |
| 12+00 | 45 | 100.00 |
| 12+25 | 46 | 100.00 |
| 12+50 | 47 | 100.00 |
| 12+75 | 48 | 100.00 |
| 13+00 | 49 | 100.00 |
| 13+25 | 50 | 100.00 |
| 13+50 | 51 | 100.00 |
| 13+75 | 52 | 100.00 |
| 14+00 | 53 | 100.00 |
| 14+25 | 54 | 100.00 |
| 14+50 | 55 | 100.00 |
| 14+75 | 56 | 100.00 |
| 15+00 | 57 | 100.00 |
| 15+25 | 58 | 100.00 |
| 15+50 | 59 | 100.00 |
| 15+75 | 60 | 100.00 |
| 16+00 | 61 | 100.00 |
| 16+25 | 62 | 100.00 |
| 16+50 | 63 | 100.00 |
| 16+75 | 64 | 100.00 |
| 17+00 | 65 | 100.00 |
| 17+25 | 66 | 100.00 |
| 17+50 | 67 | 100.00 |
| 17+75 | 68 | 100.00 |
| 18+00 | 69 | 100.00 |
| 18+25 | 70 | 100.00 |
| 18+50 | 71 | 100.00 |
| 18+75 | 72 | 100.00 |
| 19+00 | 73 | 100.00 |
| 19+25 | 74 | 100.00 |
| 19+50 | 75 | 100.00 |
| 19+75 | 76 | 100.00 |
| 20+00 | 77 | 100.00 |
| 20+25 | 78 | 100.00 |
| 20+50 | 79 | 100.00 |
| 20+75 | 80 | 100.00 |
| 21+00 | 81 | 100.00 |
| 21+25 | 82 | 100.00 |
| 21+50 | 83 | 100.00 |
| 21+75 | 84 | 100.00 |
| 22+00 | 85 | 100.00 |
| 22+25 | 86 | 100.00 |
| 22+50 | 87 | 100.00 |
| 22+75 | 88 | 100.00 |
| 23+00 | 89 | 100.00 |
| 23+25 | 90 | 100.00 |
| 23+50 | 91 | 100.00 |
| 23+75 | 92 | 100.00 |
| 24+00 | 93 | 100.00 |
| 24+25 | 94 | 100.00 |
| 24+50 | 95 | 100.00 |
| 24+75 | 96 | 100.00 |
| 25+00 | 97 | 100.00 |
| 25+25 | 98 | 100.00 |
| 25+50 | 99 | 100.00 |
| 25+75 | 100 | 100.00 |

PARMA SANITARY SEWER DISTRICT CO.
 IMPROVEMENT NO. 2
 CITY OF PARMA
 VEDONE & CLARKE ENGINEERING CO.
 A.C. CHASE & COMPANY CONSULTANTS
 Scale: Plan: 1" = 40'; Profile: 1" = 4';



SHEET 24 of 15

SHT 10



PROJECT NO. 17-23-67
 STA. 152+25.19 TO STA. 152+55.52 -
 SPURGE - SEWSTONE INTERCEPTOR
 SANITARY SEWER
CITY OF PARMA - OHIO
 SLABE & MACKAY - Civil Engineers & Surveyors
 CLEVELAND, OHIO

152+00
 152+05
 152+10
 152+15
 152+20
 152+25
 152+30
 152+35
 152+40
 152+45
 152+50
 152+55

152+00
 152+05
 152+10
 152+15
 152+20
 152+25
 152+30
 152+35
 152+40
 152+45
 152+50
 152+55