

CITY OF DE PERE

PROJECT

24-04

WATERVIEW HEIGHTS PHASE II CONSTRUCTION

**BID DATE:
MARCH 21, 2024
@ 1:00 PM**

Bid documents, including plans and specifications, are available for download at www.QuestCDN.com. The QuestCDN website can also be accessed through the City website at www.deperewi.gov/projects or by pressing the *Projects* icon at the bottom of any City website page. Download cost is \$22 for each contract. Bidders will be charged an additional fee of \$42 to submit a bid electronically. Bidding documents may be viewed on the QuestCDN website or at the Municipal Service Center, 925 S. Sixth Street, De Pere, WI 54115.

Bid Tabs must be verified by staff prior to posting and will be available for viewing on the website within 7 days following the bid opening. Award information will be pending until approved by the Common Council.

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MARCH 1, 2024 – MARCH 8, 2024

CITY OF DE PERE

ADVERTISEMENT TO BID

PROJECT 24-04

WATERVIEW HEIGHTS PHASE II CONSTRUCTION

Online bids will be received and accepted for Project 24-04 Waterview Heights Phase II Construction via the online electronic bidding service through QuestCDN.com, until 1:00 PM, Thursday, March 21, 2024, at which time they will be publicly accepted, displayed, and read aloud.

Project 24-04 for which proposals are being sought includes the following approximate quantities:

- 2,200 LF New Sanitary Sewer (8-inch) and Associated Appurtenances
- 2,300 LF New Water Main (8-inch) and Associated Appurtenances
- 2,500 LF New Storm Sewer (8-inch to 24-inch) and Associated Appurtenances
- 3,100 CY Unclassified Excavation
- 5,700 Tons Crushed Aggregate Base Course – 15-Inch Depth
- 4,500 LF New Concrete Curb and Gutter
- 200 SY New Concrete Sidewalk (4-Inch to 6-Inch Depth)
- 1,600 Tons of Asphaltic Concrete Pavement Placement
- Erosion Control & Restoration

Complete digital project bidding documents are available for viewing and/or downloading at www.QuestCDN.com or may be examined at the office of the Director of Public Works. Digital plan documents may be downloaded for \$22 by inputting Quest project #8901276 on Quest's Project Search page. Project documents must be downloaded from QuestCDN which will add your company to the Planholder List and allow access to vBid online bidding for the submittal of your bid. Bidders will be charged an additional fee of \$42 to submit a bid electronically. The QuestCDN website can also be accessed through the City website at www.deperewi.gov/projects or by pressing the *Projects* icon at the bottom of any City website page. Contact QuestCDN Customer Support at 952-233-1632 or info@questcdn.com for assistance in membership registration, downloading digital project information and vBid online bid submittal questions.

Each proposal shall be accompanied by a bid bond in an amount equal to five percent (5%) of the bid, payable to the City of De Pere, as a guarantee that if the bid is accepted, the bidder will execute a contract and furnish a contract bond as set forth in the General Conditions of the City of De Pere. In case the bidder fails to file such contract and bond, the amount of the bid bond shall be forfeited to the City of De Pere as liquidated damages.

Project 24-04
Waterview Heights Phase II Construction

City of De Pere

The letting of the contract is subject to the provisions of the following Wisconsin Statutes:

Section 62.15 regarding Public Works.

Section 66.0901(3) regarding Prequalification of Contractor.

Each bidder shall pre-qualify by submitting proof of responsibility on forms furnished by the Director of Public Works. Such forms shall be filed with the Director of Public Works no later than 4:00 PM, Monday, March 18, 2024. Prospective bidders who have previously submitted such forms subsequent to January 1, 2024 will not be required to separately submit such forms for this project.

The City of De Pere reserves the right to reject any or all bids, to waive any informalities in bidding and to accept any proposal which the Common Council deems most favorable to the interest of the City of De Pere.

Dated this 1st day of March 2024.

Board of Public Works
City of De Pere
Eric Rakers, P.E.
City Engineer

Project 24-04

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

- 1.1 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- None

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.1 Complete sets of the Bidding documents in the number and for the deposit sum, if any, stated in the Advertisement to Bid may be obtained as stated in the Advertisement for bids.
- 2.2 Complete sets of Bidding Documents shall be used in preparing Bids; Owner does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.3 Owner, in providing the Bidding Documents on the terms stated in the Advertisement for Bids, does so only for the purpose of obtaining Bids for the Work and does not confer a license or grant for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.1 In accordance with Section 66.0901(3), each bidder shall pre-qualify by submitting proof of responsibility on forms furnished by the Director of Public Works. Such forms shall be filed with the Director of Public Works as stated in the Advertisement for Bids. Prospective bidders who have previously submitted such forms after January 1st of this year will not be required to separately submit such form for this project.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA AND SITE

- 4.1 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in the General Conditions.
- 4.2 Underground Facilities
- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.3 Subsurface and Physical Conditions

- A. The technical data includes:
 - 1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
 - 2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except underground Facilities).
 - 3. In preparation of the Plans and Specifications, Engineer relied upon the following reports of explorations and tests of subsurface conditions at the Site:
 - a. Waterview Heights Fifth Addition Soil Boring Log by PSI
- B. Limited Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Contractor may not rely upon or make any claim against Owner, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor’s purposes, including but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. Any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

4.4 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.5 Reference is made to Section 01 10 00: Summary of Work, for work that will be completed and for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other portions thereof related to price) for such other work.

4.6 It is the responsibility of each Bidder before submitting a Bid to:

- A. Examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda;
- B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

- C. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
 - D. Obtain and carefully study (or accept consequences of not doing so) all examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;
 - E. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
 - F. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
 - G. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
 - H. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies, that bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
 - I. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 4.7 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and, procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – SITE AND OTHER AREAS

- 5.1 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in

the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 6 – INTERPRETATIONS AND ADDENDA

- 6.1 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 6.2 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner and Engineer.

ARTICLE 7 – BID SECURITY

- 7.1 A Bid shall be accompanied by Bid security made payable to Owner in an amount of five percent (5%) of Bidder's maximum Bid price and in the form of a certified check or bank money order or Bid bond (on the form attached) issued by a surety meeting the requirements of the General Conditions. Submittal of a Bid Bond on a form other than the Bid Bond form included in the Bidding Documents may be cause for rejection of Bid. The fully executed bid bond must be uploaded into QuestCDN. If the bidder elects to furnish bid security other than a bid bond, the bid security must be submitted in a sealed envelope enclosed in a separate package plainly marked on the outside with the notation "BID SECURITY" along with the project number and name and addressed to the Board of Public Works of the City of De Pere, Municipal Service Center, 925 S. Sixth Street, De Pere, WI 54115 **prior to the deadline for submission of bids.**
- 7.2 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within fifteen (15) days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner per the General Conditions.
- 7.3 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 8 – CONTRACT TIMES

- 8.1 The number of days within which, or the dates by which, Milestones are to be achieved and the

Work is to be substantially completed and ready for final payment are set forth in the Bid Form and Summary of Work.

ARTICLE 9 – LIQUIDATED DAMAGES

9.1 Provisions for liquidated damages are set forth in the General Conditions.

ARTICLE 10 – SUBSTITUTE AND “OR-EQUAL” ITEMS

10.1 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or “or-equal” items. Whenever it is specified or described in the Bidding Documents that a substitute or “or-equal” item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Bid Form and Summary of Work.

ARTICLE 11 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

11.1 The Bidder shall submit with the Bid to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

11.2 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposed to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner subject to revocation of such acceptance after the Effective Date of the Agreement.

11.3 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 12 – PREPARATION OF BID

12.1 The Bid form is included with the Bidding documents.

12.2 All blanks on the Bid Form shall be completed by printing in ink or by typewrite and the Bid signed in

ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each alternative, and unit price item listed therein, or the words “No Bid,” “No Change,” or “Not Applicable” entered.

- 12.3 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporations shall be shown below the seal.
- 12.4 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
- 12.5 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.
- 12.6 A Bid by an individual shall show the Bidder’s name and official address.
- 12.7 A Bid by a joint venture shall be executed by each joint venture in the manner indicated on the Bid Form. The official address of the joint venture shall be shown below the signature.
- 12.8 All names shall be typed or printed in ink below the signatures.
- 12.9 The Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 12.10 The address and telephone number for communications regarding the Bid shall be shown.
- 12.11 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder’s state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 13 – BASIS OF BID; COMPARISON OF BIDS

13.1 Unit Price

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid Schedule.
- B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accord with the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in

favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

ARTICLE 14 – SUBMITTAL OF BID

14.1 A Bid shall be submitted no later than date and time prescribed and at place indicated in Advertisement for Bids and shall be submitted electronically using the QuestCDN online bidding vBid platform. No paper bids will be accepted.

14.2 See Bid Form for a list of documents typically required to be submitted with the Bid.

ARTICLE 15 – MODIFICATION AND WITHDRAWAL OF BID

15.1 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

15.2 If within 24 hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 16 – OPENING BIDS

16.1 Bids will be opened as indicated in the Advertisement to Bid. The bid opening can be viewed live via the GoToMeeting information shown below. An abstract of the amounts of the base bids and major alternatives, if any, will be made available to bidders after opening the bids.

The bid opening can be viewed live via GoToMeeting as follows:
Please join my meeting from your computer, tablet or smartphone.

<https://meet.goto.com/772207029>

You can also dial in using your phone.
(For supported devices, tap a one-touch number below to join instantly.)

United States (Toll Free): 1 866 899 4679

Access Code: 772-207-029

New to GoToMeeting? Get the app now and be ready when your first meeting starts:
<https://meet.goto.com/install>

ARTICLE 17 – BIDS REMAIN SUBJECT TO ACCEPTANCE

- 17.1 All bids will remain subject to acceptance for the period of time stated in the General Conditions, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 18 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.1 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- 18.2 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 18.3 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 18.4 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Supplier, and other individuals or entities proposed for those portions of the Work for which the identify of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 18.5 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.
- 18.6 Bidder agrees to waive any claim it has or may have against the Owner and the respective employees arising out of or in connection with the administration, evaluation or recommendation of any Bid.
- 18.7 If the Contract is to be awarded, Owner will award the Contract to the lowest responsible responsive Bidder whose Bid is in the best interests of the Project.

ARTICLE 19 – CONTRACT SECURITY AND INSURANCE

- 19.1 The General Conditions set forth Owner's requirements as to performance and payment bonds and

insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds and a certificate of insurance.

ARTICLE 20 – SIGNING OF AGREEMENT

- 20.1 When Owner gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within ten (10) days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten (10) days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of Drawings with appropriate identification.

END OF SECTION

SECTION 00 41 13

CITY OF DE PERE

BID FORM

PROJECT 24-04

This bid, submitted by the undersigned Bidder to the City of De Pere, in accordance with the Advertisement to Bid, which will be received until 1:00 PM, Thursday March 21, 2024 is to furnish and deliver all materials, and to perform and do all work on the project designated per Section 01 10 00 Summary of Work.

Bidder has examined and carefully prepared the bid from the plans and specifications and has checked the same in detail before submitting said proposal or bid; and that said bidder or bidder's agents, officer or employees have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal or bid.

Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

BASIS OF BID:

Bidder will complete the Work in accordance with the Contract documents for the following price(s):

As stated in the attached Unit Price Bid Schedule.

Unit Prices have been computed in accordance with the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

TOTAL BID PRICE: \$_____

Project 24-04
Waterview Heights Phase II Construction

City of De Pere

ATTACHMENTS TO THIS BID

The following documents are submitted with and made a condition of this Bid:

- A. Required Bid Security
- B. Unit Price Bid Schedule (Section 00 41 43)
- C. Proposed Products Form (Section 00 43 33)
- D. Tabulation of Subcontractors (Section 00 43 36)

BID SUBMITTAL

This Bid is submitted by _____ of _____,

The Bidder, being duly sworn, does dispose that they are an authorized representative of

Bidder, if Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner – attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature – attach evidence of authority to sign)

Project 24-04
Waterview Heights Phase II Construction

City of De Pere

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in Wisconsin is ____/____/____.

Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____

(Signature of first joint venture partner – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____

(Signature of second joint venture partner – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. Manner of signing for each individual, partnership, and corporation that is a party to joint venture should be in manner indicated above.)

Bidder's Business Address _____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____, 20____.

State Contractor License No. _____ (if applicable)

SECTION 00 41 43

CITY OF DE PERE

PROJECT 24-04

BID SCHEDULE – UNIT PRICE

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
SANITARY SEWER					
SS-01	Provide 8" PVC Sanitary Sewer	LF	2150	\$ _____	\$ _____
SS-02	Provide 4" PVC Sanitary Sewer Lateral	LF	1450	\$ _____	\$ _____
SS-03	Provide 8"X4" Sanitary Wye	EA	33	\$ _____	\$ _____
SS-04	Provide Sanitary Sewer Risers	LF	15	\$ _____	\$ _____
SS-05	Provide 4' Diameter Sanitary Sewer Manhole	VF	120	\$ _____	\$ _____
SS-06	Connect to Existing Sanitary Sewer Pipe	EA	2	\$ _____	\$ _____
SS-07	Provide Bentonite Clay Dam	EA	41	\$ _____	\$ _____
STORM SEWER					
ST-01	Provide 24" PVC, RCP Class III, or PP Storm Sewer (Granular Backfill)	LF	40	\$ _____	\$ _____
ST-02	Provide 24" PVC, RCP Class III, or PP Storm Sewer (Natural Backfill)	LF	525	\$ _____	\$ _____
ST-03	Provide 18" PVC, RCP Class III, or PP Storm Sewer (Granular Backfill)	LF	95	\$ _____	\$ _____
ST-04	Provide 18" PVC, RCP Class III, or PP Storm Sewer (Natural Backfill)	LF	260	\$ _____	\$ _____
ST-05	Provide 15" PVC, RCP Class III, or PP Storm Sewer (Granular Backfill)	LF	150	\$ _____	\$ _____

Project 24-04
Waterview Heights Phase II Construction

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STORM SEWER CONTINUED					
ST-06	Provide 15" PVC, RCP Class III, or PP Storm Sewer (Natural Backfill)	LF	150	\$ _____	\$ _____
ST-07	Provide 12" PVC, RCP Class III, or PP Storm Sewer (Granular Backfill)	LF	220	\$ _____	\$ _____
ST-08	Provide 12" PVC, RCP Class V Storm Sewer (Granular Backfill)	LF	25	\$ _____	\$ _____
ST-09	Provide 12" PVC, RCP Class III, or PP Storm Sewer (Natural Backfill)	LF	820	\$ _____	\$ _____
ST-10	Provide 8" PVC Storm Sewer (Natural Backfill)	LF	625	\$ _____	\$ _____
ST-11	Provide 6" PVC Storm Sewer Lateral	LF	1200	\$ _____	\$ _____
ST-12	Provide 24"X6" Storm Branch or Inserta Tee	EA	2	\$ _____	\$ _____
ST-13	Provide 18"X6" Storm Branch or Inserta Tee	EA	2	\$ _____	\$ _____
ST-14	Provide 12"X6" Storm Branch or Inserta Tee	EA	7	\$ _____	\$ _____
ST-15	Provide 8"X6" Storm Branch	EA	6	\$ _____	\$ _____
ST-16	Provide 5' Diameter Storm Manhole	VF	15	\$ _____	\$ _____
ST-17	Provide 4' Diameter Storm Manhole	VF	105	\$ _____	\$ _____
ST-18	Provide Type B Inlet	EA	12	\$ _____	\$ _____
ST-19	Provide Type A Inlet	EA	3	\$ _____	\$ _____
ST-20	Connect to Structure and/or Existing Pipe	EA	2	\$ _____	\$ _____

Project 24-04
Waterview Heights Phase II Construction

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STORM SEWER CONTINUED					
ST-21	Provide 24" RCP Endwall	EA	1	\$ _____	\$ _____
WATER MAIN					
W-01	Provide 8" PVC Water Main (Granular Backfill)	LF	60	\$ _____	\$ _____
W-02	Provide 8" PVC Water Main (Natural Backfill)	LF	2300	\$ _____	\$ _____
W-03	Provide 1" HDPE Water Service – Open Cut	LF	1250	\$ _____	\$ _____
W-04	Provide 1" Corporation and Curb Stop	EA	33	\$ _____	\$ _____
W-05	Provide 2" Corporation with Plug/Saddle and 2" Galvanized Pipe	EA	2	\$ _____	\$ _____
W-06	Provide 8" Gate Valve	EA	6	\$ _____	\$ _____
W-07	Provide 6" Gate Valve	EA	5	\$ _____	\$ _____
W-08	Provide Connection to Existing Water Main	EA	2	\$ _____	\$ _____
W-09	Provide Connection to Existing Water Main 8"x 8" Tapping Tee and Valve	EA	1	\$ _____	\$ _____
W-10	Provide Hydrant 6.5' Bury	EA	5	\$ _____	\$ _____
W-11	Provide 6" PVC Hydrant Lead	LF	40	\$ _____	\$ _____
W-12	Provide Water Main Offset	EA	1	\$ _____	\$ _____
W-13	Provide 1" HDPE with Plug, 60' in Length	EA	33	\$ _____	\$ _____
W-14	Abandon/Remove Water Main and Appurtenances	LS	1	\$ _____	\$ _____

Project 24-04
Waterview Heights Phase II Construction

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STREET AND DRAINAGE					
SD-01	Provide Clearing and Grubbing	LS	1	\$_____	\$_____
SD-02	Unclassified Excavation (Street and Swales)	CY	2900	\$_____	\$_____
SD-03	Excavation and Placing Fill Stockpile	CY	2710	\$_____	\$_____
SD-04	Excavation and Placing Topsoil Stockpile	CY	3965	\$_____	\$_____
SD-05	Topsoil Stripping	SY	3400	\$_____	\$_____
SD-06	Backyard Drainage Swale Ditching	LF	2500	\$_____	\$_____
SD-07	Temporary Ditching	LF	350	\$_____	\$_____
SD-08	Provide 1 1/4" Crushed Aggregate Base Course (Street)	TON	5700	\$_____	\$_____
SD-09	Provide 1 1/4" Crushed Aggregate Base Course (Sidewalk/Ramps)	TON	60	\$_____	\$_____
SD-10	Provide Asphaltic Concrete Pavement Type 4 LT 58-28 S, 1 3/4" Upper Layer	TON	700	\$_____	\$_____
SD-11	Provide Asphaltic Concrete Pavement Type 3 LT 58-28 S, 2 1/4" Lower Layer	TON	900	\$_____	\$_____
SD-12	Provide 24" Concrete Curb and Gutter (Slip Form)	LF	4500	\$_____	\$_____
SD-13	Remove and Replace 24" Concrete Curb and Gutter	LF	20	\$_____	\$_____
SD-14	Provide 8" Concrete Sidewalk, Ramp, and Driveway	SY	20	\$_____	\$_____
SD-15	Provide 6" Concrete Sidewalk, Ramp, and Driveway	SY	60	\$_____	\$_____

Project 24-04
Waterview Heights Phase II Construction

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STREET AND DRAINAGE CONTINUED					
SD-16	Provide 4" Concrete Sidewalk, Ramp, and Driveway	SY	200	\$ _____	\$ _____
SD-17	Provide #4 Reinforcement Bars for Curb and Sidewalk	LF	1400	\$ _____	\$ _____
SD-18	Drilled Tie Bars (Existing Sidewalk, Driveway, and Curb and Gutter)	EA	10	\$ _____	\$ _____
SD-19	Provide Detectable Warning Field 2'X5' (Natural)	EA	9	\$ _____	\$ _____
SD-20	Site Demolition-Remove Existing Gravel Driveway and Curb Ramp	LS	1	\$ _____	\$ _____
SD-21	Landscaping - Topsoil, Seed, Fertilizer and Erosion Control (Class1) for Drainage Swales	SY	6300	\$ _____	\$ _____
SD-22	Landscaping – Topsoil, Seed, Fertilizer and Mulch	SY	26050	\$ _____	\$ _____
SPECIAL CONSTRUCTION					
SC-01	Pipe Foundation Stabilization	CY	50	\$ _____	\$ _____
SC-02	Silt Fence	LF	400	\$ _____	\$ _____
SC-03	Provide Polystyrene Insulation Board (4' Wide)	LF	25	\$ _____	\$ _____
SC-04	Erosion Bale Ditch Checks	EA	20	\$ _____	\$ _____
SC-05	Inlet Protection Type A	EA	2	\$ _____	\$ _____
SC-06	Inlet Protection Type B	EA	4	\$ _____	\$ _____
SC-07	Inlet Protection Type D	EA	14	\$ _____	\$ _____

Project 24-04
Waterview Heights Phase II Construction

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
SPECIAL CONSTRUCTION CONTINUED					
SC-08	Medium Rip Rap with Geotextile Fabric (Type HR)	SY	60	\$_____	\$_____
SC-09	Tracking Pad	EA	1	\$_____	\$_____
SC-10	Install Cluster Mail Boxes	EA	2	\$_____	\$_____
TOTAL AMOUNT BID:					\$_____

SECTION 00 43 13

CITY OF DE PERE

BID BOND

KNOW ALL MEN BY THESE PRESENTS: That _____,

as Principal, hereinafter called Principal, and _____,

as Surety, hereinafter called Surety, are held and firmly bound unto the City of De Pere, a municipal corporation of the State of Wisconsin, as Obligee, hereinafter called City, in the amount of _____ dollars (\$_____) for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presence.

WHEREAS, Principal has made a proposal to the City for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work of Project 24-04 in accordance with drawings and specifications prepared by the Director of Public Works of said City, which proposal is by reference made a part hereof, and is hereinafter referred to as the BID.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall be awarded the contract for said project and Principal shall enter into a contract in accordance with the BID, then this obligation shall be null and void; otherwise it shall remain in full force and effect, provided that:

1. The liability of Surety shall in no event exceed the penalty of this bond.
2. Any suits at law or proceedings, in equity brought or to be brought against Surety to recover any claim hereunder shall be executed within six (6) months from the date of this instrument.

Signed and sealed this _____ day of _____, 20____.

In the presence of:

WITNESS

PRINCIPAL (SEAL)

WITNESS

SURETY (SEAL)

SECTION 00 43 33

PROPOSED PRODUCTS FORM

The following is a list of material, type or model numbers and manufacturers used in the preparation of this proposal and to be used on this project:

<u>ITEM</u>	<u>MATERIAL</u>	<u>SUPPLIER</u>
Water main	PVC	
Valves		
Hydrants		
Inlets / Catch Basins	RCP	
Manholes	RCP	
Sanitary Sewer	PVC	
Storm Sewer (PVC) (List Proposed Size)		
Storm Sewer (RCP) (List Proposed Size)		
Storm Sewer (PP) (List Proposed Size)		

SECTION 00 43 36

TABULATION OF SUBCONTRACTORS

The following information is submitted which gives the name, business address, and portion of work for each subcontractor that will be used in the work if the bidder is awarded the contract, and no subcontractor doing work in excess of one-half of one percent of the total amount of the bid and who is not listed will be used without the written approval of the Engineer. Additional numbered pages outlining this portion of the proposal may be attached to this page.

<u>PORTION OF WORK</u>	<u>BUSINESS NAME</u>	<u>BUSINESS ADDRESS</u>
Asphaltic Concrete Pavement		
Concrete Driveway and Sidewalk		
Concrete Curb and Gutter		
Utility Work		
Excavation		
Landscape Restoration		

SECTION 00 51 00

NOTICE OF AWARD

(Contractor)
(Contractor Name)
(Address)
(Address)

Project Description: 24-04 Waterview Heights Phase II Construction

The City has considered the proposal submitted by you dated (BID DATE) for the above-described project in response to its Advertisement for Bids dated March 1, 2024 and May 8, 2024.

You are hereby notified that the Common Council of the City of De Pere has accepted your bid of (Contract Amount \$_____.00).

You are required to execute the Contract and furnish the required Performance Bond, Payment Bond and Certificates of Insurance within ten (10) calendar days from the date of this notice to you.

If you fail to execute said Agreement and to furnish said bonds within ten (10) days from the date of this notice, said City will be entitled to consider all your rights arising out of the City's acceptance of your bid as abandoned and as a forfeiture of your Bid Bond. The City will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the City.

Dated this _____ day of _____ 2024.

DEPARTMENT OF PUBLIC WORKS

BY: Eric P. Rakers, P.E.
City Engineer

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by:

_____, this the _____ day of _____, 20____

By: _____

Title: _____

SECTION 00 52 13

CONTRACT

This Contract, made and entered into this day _____ (date to be affixed by City), by and between (Contractor Name), hereinafter called Contractor, and the City of De Pere, a municipal corporation of the State of Wisconsin, hereinafter called City.

WITNESSETH: That, in consideration of the covenants and agreements herein contained, to be performed by the parties hereto, and of the payments hereinafter agreed to be made, it is mutually agreed as follows:

ARTICLE I - SCOPE OF WORK

The Contractor shall furnish all materials and all equipment and labor necessary, and perform all work shown on the drawings and described in the specifications for the project entitled Project 24-04 Waterview Heights Phase II Construction, all in accordance with the requirements and provisions of the following documents, which are hereby made a part of this Contract:

- (a) Advertisement for Bids, dated March 1, 2024 and March 8, 2024.
- (b) Drawings designated for Project 24-04 Waterview Heights Phase II Construction dated March 1, 2024.
- (c) City of De Pere 2024 Construction Specifications.
- (d) Special Provisions dated March 1, 2024.
- (e) Proposal submitted by (Contractor Name) dated Bid Date.
- (f) Addenda No. _____ dated _____

ARTICLE II - TIME OF COMPLETION

- (a) The work to be performed under the Contract shall be commenced within (number spelled out) (____) calendar days after receipt of written notice to proceed. The work shall be completed within (Number spelled out) (____) calendar days) or (specific calendar dates) after receipt of Notice to Proceed.
- (b) Time is of the essence with respect to the date of completion herein above stated. Failure to complete the work within the number of calendar days stated in this Article, or interim dates included in the work sequence in Section 01 10 00, Summary of Work, including any extensions granted thereto, shall entitle the City to deduct from the monies due the Contractor an amount equal to Update based on 00 70 00 - General Conditions (Page 26)(\$) per day for each calendar day of delay in the completion of the work. Such amount shall be considered and treated not as a penalty but as liquidated damages, which the City will sustain, by failure of the Contractor to complete the work within the time stated.

ARTICLE III - PAYMENT

- (a) The Contract Sum. The City shall pay to the Contractor for the performance of the Contract the amounts determined for the total number of each of the following units of work completed at the unit price stated thereafter. The number of units contained in this schedule is approximate only, and the final payment shall be made for the actual number of units that are incorporated in or made necessary by the work covered by the Contract.
- (b) Progress Payments. The City shall make payments on account of the Contract as follows:
1. On not later than the fourth Friday of every month the Contractor shall present to the City an invoice covering an estimate of the amount and proportionate value of the work done as verified by the City under each item of work that has been completed from the start of the job up to and including the fourth Friday of the preceding month, and the value of the work so completed determined in accordance with the schedule of unit prices for such items, together with such supporting evidence as may be required. This invoice shall also include an allowance for the cost of such materials and equipment required in the permanent work as have been delivered to the site but not as yet incorporated in the work.
 2. On not later than the third week of the following month, the City shall, after deducting previous payments made, pay to the Contractor 95% of the amount of the approved invoice, retaining 5% of the estimate of work done until 50% of the work has been completed. At 50% completion of the work, the previous retainage shall not yet be paid, but further partial payments shall be made in full to the contractor without additional retainage being taken unless the engineer certifies that the work is not proceeding satisfactorily. If the work is not proceeding satisfactorily, additional amounts may be retained. After substantial completion, an amount retained may be paid to the contractor, keeping retained only such amount as is needed for the remaining work.
 3. The Contractor shall notify the City in writing when all work under this Contract has been completed. Upon receipt of such notice the City shall, within a reasonable time, make the final inspection and issue a final certificate stating that the work provided for in this Contract has been completed and is accepted under the terms and conditions thereof, and that the entire balance due the Contractor as noted in said final certificate is due and payable. Before issuance of the final certificate the Contractor shall submit evidence satisfactory to the City that payrolls, material bills, and other indebtedness connected with the work under this Contract have been paid. The City shall make final payment as soon after issuance of the final certificate as practicable.

ARTICLE IV – CONTRACT DOCUMENTS

(a) Contents

1. The Contract documents consist of the following:
 - a. This Contract (pages 00 52 13-1 to 0052-13-3, inclusive).
 - b. Payment bond (pages 00 61 13-1 to 00 61 13-2, inclusive).
 - c. Performance bond (page 00 61 16-1).
 - d. General Conditions (pages 00 70 00-1 to 00 70 00-27, inclusive).

- e. Specifications as listed in the table of contents of the Project Manual.
 - f. Drawings consisting of ____ sheets with each sheet bearing the following general title: ____ [or] the Drawings listed on attached sheet index.
 - g. Addenda (numbers ____ to ____ inclusive), dated ____.
 - h. Exhibits to this Agreement (enumerated as follows):
 - 1) Contractor's Bid (pages 00 41 13-1 to 00 41 13-3, inclusive).
 - 2) Bid Schedule – Unit Prices (Pages 00 41 43-1 to 00 41 43-, inclusive).
 - 3) Proposed Products Form (Page 00 43 33-1).
 - 4) Tabulation of Subcontractors (page 00 43 36-1).
 - 5) Documentation submitted by Contractor prior to Notice of Award (00 51 00-1).
 - i. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - 1) Notice to Proceed (Page 00 55 00-1).
 - 2) Change Orders.
2. The documents listed in Paragraph (a) Contents, are attached to this Agreement (except as expressly noted otherwise above).
3. There are no Contract Documents other than those listed above in this Article IV.

IN WITNESS WHEREOF, the parties hereto have executed this Contract, the day and year first written above.

(WITNESS) (CONTRACTOR) (SEAL)

(WITNESS) BY: _____

(TITLE)

BY: _____

(TITLE)

CITY OF DE PERE (SEAL)

Approved as to Form By: _____ (City Attorney)

Sufficient funds are available to provide for the payment of this obligation.

(COMPTROLLER)

BY: _____
(MAYOR)

BY: _____
(CITY CLERK)

SECTION 00 55 00

NOTICE TO PROCEED

Date: _____

(CONTRACTOR NAME)

(ADDRESS)

(ADDRESS)

Project Description: 24-04 Waterview Heights Phase II Construction

You are hereby notified to commence work in accordance with the CONTRACT dated _____, within ten (10) days of this Notice. All work under this contract shall be completed within _____ (NUMBER IN WORDS) (__ #) consecutive days from the start of construction or _____ (DATE) whichever comes first.

Department of Public Works

By: Eric P. Rakers, P.E.
Title: City Engineer

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____, this _____ day of _____, 20____.
Company Name

Signature

BY: _____
Printed Name

TITLE: _____

SECTION 00 61 13

CITY OF DE PERE

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That **(CONTRACTOR NAME)**, as Principal, hereinafter called Contractor, and _____, as Surety, hereinafter called Surety, are held and firmly bound unto the City of De Pere, a municipal corporation of the State of Wisconsin, as Obligee, hereinafter called the City, for the use and benefit of claimants as herein below defined in the **amount _____** **(CONTRACT AMT. SPELLED OUT) (\$_____)** for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ (date to be affixed by City) entered into a contract with City for Project 24-04, in accordance with drawings and specifications prepared by the Director of Public Works of said City, which contract is by reference made a part hereof, and is hereinafter referred to as the CONTRACT.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly make payments to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the CONTRACT, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions.

1. A claimant is defined as one having a direct contract with Contractor or with a subcontractor of Contractor for labor, material, or both, used or reasonably required for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, lights, heat, oil, gasoline, telephone service, or rental of equipment directly applicable to the contract.
2. The above named Contractor and Surety hereby jointly and severally agree with the City that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant may sue on this bond for the use of such claimant in the name of the City, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon, provided, however, that the City shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
 - a. Unless claimant shall have given written notice to any two of the following: The Contractor, the City, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail, postage prepaid, in an envelope addressed to the Contractor, City, or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State of Wisconsin, save that such service need not be made by a public officer.
 - b. After the expiration of one (1) year following the date on which Contractor ceased work on said CONTRACT.

Project 24-04
Waterview Heights Phase II Construction

City of De Pere

- c. Other than in a state court of competent jurisdiction in and for the County or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
- 4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens, which may be filed or recorded against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

SIGNED AND SEALED THIS _____ DAY OF _____, 20__.

In Presence of:

_____ (WITNESS)	_____ (CONTRACTOR)	_____ (SEAL)
_____ (WITNESS)	_____ (SURETY)	_____ (SEAL)

SECTION 00 61 16

CITY OF DE PERE

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That (CONTRACTOR'S NAME), as Principal, hereinafter called Contractor, and _____, as Surety, hereinafter called Surety, are held and firmly bound unto the City of De Pere, a municipal corporation of the State of Wisconsin, as Obligee, hereinafter called City, in the amount of _____ (AMOUNT WRITTEN OUT) (\$ _____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assign, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ (date to be affixed by City), entered into a contract with the City for Project 24-04, in accordance with drawings and specifications prepared by the Director of Public Works of said City, which contract is by reference made a part hereof, and is hereinafter referred to as the CONTRACT.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Contractor shall promptly and faithfully perform said CONTRACT, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever Contractor shall be, and declared by the City to be in default under the CONTRACT, the City having performed City's obligations there under, the Surety may promptly remedy the default, or shall promptly

1. Complete the CONTRACT in accordance with its terms and conditions or
2. Obtain a bid or bids for submission to City for completing the CONTRACT in accordance with its terms and conditions, and upon determination by the City and Surety of the lowest responsible bidder, arrange for a contract between such bidder and City make available as work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable by City to Contractor under the CONTRACT and any amendments thereto, less the amount properly paid by City to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the CONTRACT falls due. No right of action shall accrue on this bond to or for the use of any person or corporation other than the owner named herein or the heirs, executors, administrators or successors of City.

SIGNED AND SEALED THIS _____ DAY OF _____, 20_____.

In the Presence of:

_____ (WITNESS)	_____ (CONTRACTOR)	_____ (SEAL)
_____ (WITNESS)	_____ (SURETY)	_____ (SEAL)

SECTION 00 62 76

APPLICATION FOR PAYMENT

Contractor's Application for Payment No.

Application Period:	Application Date:
Owner: City of De Pere	Contractor:
	Contractor's Project No.:

APPLICATION FOR PAYMENT

Change Order Summary

Approved Change Orders			1. ORIGINAL CONTRACT PRICE:.....	
Number	Additions	Deductions	2. Net change by Change Orders and Written Amendments (+ or -):.....	\$0.00
			3. CURRENT CONTRACT PRICE (Line 1 plus Line 2):.....	\$0.00
			4. Total completed and stored to date Column H on Progress Estimate:.....	\$0.00
			5. Retainage (per Agreement):	
			a. Work Completed - Column H (95% up to 50% of Contract or 2.5% of 100% of Contract)	\$0.00
Total	\$0.00	\$0.00	6. AMOUNT ELIGIBLE TO DATE (Line 4 minus 5).....	\$0.00
NET CHANGE BY CHANGE ORDERS:			7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application).....	\$0.00
			8. AMOUNT DUE THIS APPLICATION (Line 6 minus Line 7).....	\$0.00

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that:(1) all previous progress payments received from Owner on account of Work done under Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by the Application for Payment is in accordance with the Contract Documents and is not defective.

By:	Date:

Payment of:	\$	
	(Line 8 or other - attach explanation of other amount)	
is recommended by:		(Date)
	(Contractor)	
Payment of:	\$	
	(Line 8 or other - attach explanation of other amount)	
is recommended by:		(Date)
	(Owner)	

SECTION 00 65 16

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project:	
Owner:	Owner's Contract No.:
Contractor:	

This [tentative] [definitive] Certificate of Substantial Completion applies to:

☐ All Work under the Contract Documents: ☐ The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Contractor and Engineer, and found to be substantially complete. The Date of Substantial completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [definitive] list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

☐ Amended Responsibilities ☐ Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer

Date

Accepted by Contractor

Date

SECTION 01 10 00

SUMMARY OF WORK

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. References
 - 2. Work Covered by the Contract Documents
 - 3. Work Sequence/Schedule
 - 4. Use of Premises
 - 5. Warranty
 - 6. Work by Others
 - 7. Project Utility Sources
 - 8. Miscellaneous Provisions

1.2 REFERENCES

- A. General Specifications. The work under this contract shall be in accordance with the City of De Pere, 2024 Construction Specifications and these Special Provisions and plans, and the latest edition of the Wisconsin Department of Transportation Standards Specifications for Highway and Structure Construction, where referenced in the City Specifications.
- B. Definitions. Any reference to the “state” or the “department” in said Standard Specifications shall mean the “City of De Pere” for the purposes of this contract.
- C. Industry Standards
 - 1. Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
 - 2. Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
 - 3. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement.
 - 4. The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements.

5. Each section of the specifications generally includes a list of reference standards normally referred to in that respective section. The purpose of this list is to furnish the Contractor with a list of standards normally used for outlining the quality control desired on the project. The lists are not intended to be complete or all inclusive, but only a general reference of standards that are regularly referred to.
6. Each entity engaged in construction on the Project shall be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents. Where copies of standards are needed to perform a required construction activity, obtain copies directly from the publication source and make them available on request.

1.3 WORK COVERED BY THE CONTRACT DOCUMENTS

A. Project Identification

1. Project Location

- a. Brookline Avenue from 150' east of Meadow Rose Lane to Vin Scully Lane
 - 1) Utilities and street construction
- b. Vin Scully Lane from Brookline Avenue to Lost Dauphin Road
 - 1) Utilities and street construction
- c. Lansdowne Street from 150' east of Meadow Rose Lane to Vin Scully Lane
 - 1) Utility and street construction on each end with grading and restoration in between.

2. Work will be performed under the following prime contract:

- a. Project 24-04 Waterview Heights Phase II Construction

B. The Work includes:

1. Water main and associated appurtenances installation.
2. Storm sewer and associated appurtenances installation.
3. Sanitary sewer and associated appurtenances installation.
4. Curb and gutter installation.
5. Asphaltic concrete paving.
6. Terrace restoration.
7. Clearing and grubbing.
8. Unclassified excavation for roadway and pond construction.
9. Grading.
10. Ditching.
11. Erosion control.
12. Traffic control.

1.4 WORK SEQUENCE/SCHEDULE

- #### **A. Project shall be completed by November 1, 2024.**

- B. Conduct construction activities to maintain access to businesses and residences throughout construction.
- C. Topsoil, seed, and mulch shall be completed prior to asphaltic concrete pavement placement.

1.5 USE OF PREMISES

- A. Contractor shall have full use of the premises for construction operations, including use of the Project Site, as allowed by law, ordinances, permits, easement agreements and the Contract documents.
- B. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of the Project.
- C. The Project Site is limited to property boundaries, rights-of-way, easements, and other areas designated in the Contract Documents.
- D. Provide protection and safekeeping of material and products stored on or off the premises.
- E. Move any stored material or products which interfere with operations of Owner or other Contractors.

1.6 WARRANTY

- A. The Contractor warrants and guarantees to the City that all work shall be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects will be given to the Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this proposal.
- B. If within one (1) year after the date of contract work completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents or by a special provision of the Contract Documents, any work is found to be defective, the Contractor shall comply in accordance with the City's written instructions. These written instructions will include either correcting such defective work or, if it has been rejected by the City, removing it from the site and replacing it with non-defective work. If the Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk or loss or damage, the City may have the defective work corrected or the rejected work removed and replaced. All direct and indirect costs of correction or removal and replacement of defective work, including compensation for additional professional services, shall be paid by the Contractor.

1.7 WORK BY OTHERS

- A. Utility installation for the subdivision will occur concurrently with this project.

- B. Home builders will be allowed to start construction during concurrently with this project.
- C. Cooperate fully with separate contractors and/or Owner so work by others may be carried out smoothly, without interfering with or delaying work under this Contract.

1.8 PROJECT UTILITY SOURCES

- A. Green Bay Metropolitan Sewer District (NEW Water), Lisa Sarau, (lsarau@newwater.us) (920-438-1039)
- B. AT&T, Kyle Weber, (kw715w@att.com) (920-221-5969)
- C. Wisconsin Public Service, Bob Laskowski, (rtlaskowski@wisconsinpublicservice.com) (920-617-2775)
- D. Charter, Vince Albin, (vince.albin@charter.com) (920-378-0444)
- E. Nsight, Rick Vincent, (rick.vincent@nsight.com) (920-617-7316)
- F. TDS Metrocom, Steve Jakubiec, (steve.jakubiec@tdstelecom.com) (920-882-4166)
- G. Net-Lec (Mi-Tech Services), Dennis Lafave, (dlafave@mi-tech.us) (920-619-9774)
- H. CenturyLink, Relocation Team, (relocations@lumen.com) (800-871-9244)
- I. Central Brown County Water Authority, Rob Michaelson, (rmichaelson@mpu.org) (920-686-4354)

1.9 MISCELLANEOUS PROVISIONS

- A. All loaded trucks shall access the site from Lost Dauphin Road. Empty trucks will be allowed to exit Battery Avenue to the south. The existing subdivision to the north shall not be used.
- B. Any lane closures on Lost Dauphin Road will require approval from the Brown County Highway Department.
- C. All hydrant caps to be painted color class-AA light blue.
- D. Excess clean fill, including from trench excavation, will remain on site.
- E. Vin Scully and the easterly sections of Lansdowne and Brookline shall be filled to subgrade elevation prior to storm sewer installation.

- F. Hydroseeding will be allowed in place of mulch.
- G. Excess topsoil may be used to construct berms for back lot swales and placed in fill areas along back lot lines.
- H. Cluster mailbox units and unit parcels shall be provided by the City for contractor installation. These units will be picked up at 925 S. Sixth Street. Units will be as follows:
 - a. Type IV per the exhibit.
 - b. Units will be black with decorative post and top covers.

PART 2 – PRODUCTS

PART 3 – EXECUTION

END OF SECTION

SECTION 01 22 01

MEASUREMENT AND PAYMENT SANITARY SEWER

PART 1 – GENERAL

1.1 SUMMARY

- | | |
|---|---------------------|
| A. Section includes: | <u>Bid Item No.</u> |
| 1. Sanitary Sewer Mains (Granular Backfill) | SS-01 |
| 2. Sanitary Sewer Laterals | SS-02 |
| 3. Sanitary Sewer Risers | SS-04 |
| 4. Sanitary Sewer Service Branches | SS-03 |
| 5. Sanitary Sewer Manholes | SS-05 |
| 6. Connect to Existing Sanitary Sewer Main | SS-06 |
| 7. Provide Bentonite Clay Dam | SS-07 |
- B. Unit Prices include:
1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
 2. The method of measurement for payment.
 3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

- A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for sanitary sewer systems.
- B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
1. Traffic Control.
 2. Sawcutting asphalt and/or concrete.
 3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.
 4. Dewatering.
 5. Bypass pumping.
 6. Excavation.
 7. Open Trench installation method (unless bid item specifies other method).
 8. Pipe Bedding.
 9. Backfilling and compacting native obtained from the excavation.

10. Supplying, hauling, backfilling and compacting granular material.
11. Loading, hauling and disposing of surplus excavated material.
12. Landscaping – turf establishment surface restoration and trees and bushes damaged during construction.
13. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
14. Site access requirements including temporary aggregate material as required for local traffic access.
15. Bulkhead and abandoned existing sanitary sewer with flowable fill as shown on Drawings.
16. If crossing or undermining of existing public or private utility, then include:
 - a. Maintaining the utility in service.
 - b. Replacing of existing utilities, if damaged.
 - c. Providing support and bedding material.
17. Dust control.
18. Remove and replace existing mailboxes and traffic signs.
19. Restroom facilities.
20. Easement and right-of-way requirements.
21. Construction staking and other survey work not provided by the Engineer.
22. Regulatory requirements.
23. Preconstruction videotaping and video equipment.
24. Quality assurance and quality control testing and inspections.
25. Shop drawings and other submittals.

1.3 SANITARY SEWER MAINS (GRANULAR BACKFILL)

- A. The unit price for Sanitary Sewer Main (Granular Backfill) work includes:
 1. General Work Items of Article 1.2.
 2. Sanitary sewer pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
 3. Excavation, breakdown and removal of abandoned piping inside the trench area, including plugging of existing connections.
 4. Excavation, breakdown and removal of abandoned pipeline structures inside the trench area, including plugging of existing connections.
 5. Clay anti-seepage collar around pipe.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer from centerline of the manhole to centerline of manhole with no deductions for manholes, sewer services branches and other fittings.
- C. The unit of measurement for payment is linear feet.

1.4 SANITARY SEWER LATERALS

- A. The unit price for Sanitary Sewer Laterals work includes:

1. General Work Items of Article 1.2.
2. Sanitary sewer lateral pipe and fittings of the material stated in the Unit Price Bid Schedule and installed using the open trench method.
3. Watertight plug in the end of the sewer service lateral or connection including transition coupling to the existing building sewer lateral.
4. Tracer wire.
5. Install an 8' – 4" X 4" board at the end of the lateral.

B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer service lateral pipe (excluding risers) from centerline of the service branch to the end of the pipe at the right of way, easement or existing sewer service lateral with no deductions for fittings.

C. The unit of measurement for payment is linear feet.

1.5 SANITARY SEWER RISERS

A. The unit price for Sanitary Sewer Risers work includes:

1. General Work Items of Article 1.2.
2. Sanitary sewer riser pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
3. Risers to be installed at the main.
4. Tracer wire.

B. Measurement for payment will be the actual length of pipe along the centerline of the installed sewer service riser pipe from centerline of fitting to centerline of fitting having a vertical rise of 45 degrees or greater with no deductions for fittings.

C. The unit of measurement for payment is linear feet.

1.6 SANITARY SEWER SERVICE BRANCHES

A. The unit price for Sanitary Sewer Service Branches work includes:

1. General Work Items of Article 1.2.
2. Sanitary sewer service branches of same material strength or better than sanitary sewer main pipe.
3. Installation along with the sanitary sewer main pipe installation.
4. Plug (where required).

B. Measurement for payment will be the actual number installed.

C. The unit of measurement for payment is each.

1.7 SANITARY SEWER MANHOLES

- A. The unit price for Sanitary Sewer Manholes work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Precast reinforced concrete components.
 - 3. Joint flexible gasket material.
 - 4. Resilient flexible connector between the manhole structure and the sewer pipe.
 - 5. Adjusting rings and bituminous plastic cement sealant at chimney.
 - 6. Manhole steps.
 - 7. Manhole frame and cover (Neenah Foundry R-1500 Manhole Cover with Non-Rocking Lid or equal). Sanitary Sewer manhole covers shall have gaskets and concealed pick holes.
 - 8. Bedding material.
 - 9. Sewer pipe stub with connections and watertight plug (where required).
 - 10. Final casting adjustment.
- B. Measurement for payment will be the distance from the invert of the lowest sewer to the top of the frame and cover as set.
- C. The unit of measurement for payment is vertical feet.

1.8 RECONNECT TO EXISTING SANITARY SEWER PIPE

- A. The unit price for Reconnect to Existing Sanitary Sewer Pipe work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Sanitary Sewer Pipe same material strength or better than sewer main. Provide Fernco with stainless steel shear bands and connection water tight seal.
 - 3. Backfilling and compacting.
- B. Measurement for payment will be the actual number completed.
- C. The unit of measurement for payment is each.

1.9 BENTONITE CLAY DAM

- A. The unit price for Bentonite Clay Dam work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Installation of Bentonite around the main/lateral.
 - 3. Reform flow line in existing sanitary manhole.
- B. Measurement for payment will be the actual number installed.
- C. The unit of measurement for payment is each.

END OF SECTION

SECTION 01 22 02

MEASUREMENT AND PAYMENT STORM SEWER

PART 1 – GENERAL

1.1 SUMMARY

- | | |
|---|--------------------------------------|
| A. Section includes: | <u>Bid Item No.</u> |
| 1. Storm Sewer Mains (Granular Backfill) | ST-01, ST-03, ST-05,
ST-07, ST-08 |
| 2. Storm Sewer Mains (Natural Backfill) | ST-02, ST-04, ST-06,
ST-09, ST-10 |
| 3. Storm Sewer Laterals | ST-11 |
| 4. Storm Sewer Service Branches | ST-12, ST-13, ST-14, ST-15 |
| 5. Storm Sewer Manholes | ST-16, ST-17 |
| 6. Catch Basin/Inlets | ST-18, ST-19 |
| 7. Connect to Storm Structure and/or Pipe | ST-20 |
| 8. Flared End Section | ST-21 |
- B. Unit Prices include:
1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
 2. The method of measurement for payment.
 3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

- A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for storm sewer systems.
- B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
1. Traffic Control.
 2. Sawcutting asphalt and/or concrete.
 3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.
 4. Dewatering.
 5. Excavation.
 6. Open trench installation method (unless bid item specifies other method).

7. Pipe bedding.
8. Backfilling and compacting native obtained from the excavation.
9. Supplying, hauling, backfilling and compacting granular material.
10. Loading, hauling and disposing of surplus excavated material.
11. Landscaping – turf establishment surface restoration and trees and bushes damaged during construction.
12. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
13. Site access requirements including temporary aggregate material as required for local traffic access.
14. Bulkhead and abandon existing storm sewer with flowable fill as shown on drawings.
15. If crossing or undermining of existing public or private utility, then include:
 - a. Maintaining the utility in service.
 - b. Replacing of existing utilities, if damaged.
 - c. Providing support and bedding material.
16. Dust control.
17. Remove and replace existing mailboxes and traffic signs.
18. Restroom facilities.
19. Easement and right-of-way requirements.
20. Construction staking and other survey work not provided by the Engineer.
21. Regulatory requirements.
22. Preconstruction videotaping and video equipment.
23. Quality assurance and quality control testing and inspections.
24. Shop drawings and other submittals.

1.3 STORM SEWER MAINS (GRANULAR BACKFILL)

- A. The unit price for Storm Sewer Main (Granular Backfill) work includes:
 1. General Work Items of Article 1.2.
 2. Storm sewer pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
 3. Excavation, breakdown and removal of abandoned piping inside the trench area, including plugging of existing connections.
 4. Excavation, breakdown and removal of abandoned pipeline structures inside the trench area, including plugging of existing connections.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer from centerline of the manhole to centerline of manhole with no deductions for manholes, sewer services branches and other fittings.
- C. The unit of measurement for payment is linear feet.

1.4 STORM SEWER MAINS (NATURAL BACKFILL)

- A. The unit price for Storm Sewer Main (Natural Backfill) work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Storm sewer pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
 - 3. Excavation, breakdown and removal of abandoned piping inside the trench area, including plugging of existing connections.
 - 4. Excavation, breakdown and removal of abandoned pipeline structures inside the trench area, including plugging of existing connections.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer from centerline of the manhole to centerline of manhole with no deductions for manholes, sewer services branches and other fittings.
- C. The unit of measurement for payment is linear feet.

1.5 STORM SEWER LATERALS

- A. The unit price for Storm Sewer Laterals work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Storm sewer lateral pipe and fittings of the material stated in the Unit Price Bid Schedule and installed using the open trench method.
 - 3. Watertight plug in the end of the sewer service lateral or connection including transition coupling to the existing building sewer lateral.
 - 4. Tracer wire.
 - 5. Install an 8' – 4" X 4" board at the end of the lateral.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer service lateral pipe from centerline of the service branch to the end of the pipe at the right of way, easement or existing sewer service lateral with no deductions for fittings.
- C. The unit of measurement for payment is linear feet.

1.6 STORM SEWER SERVICE BRANCHES/INSERTA TEES

- A. The unit price for Storm Sewer Service Branches/Inserta Tees work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Storm sewer service branches of same material strength or better than storm sewer main pipe (where required).
 - 3. Core drilling into concrete storm sewer main (where required).
 - 4. Installation along with the storm sewer main pipe installation.
 - 5. Plug (where required).

B. Measurement for payment will be the actual number installed.

C. The unit of measurement for payment is each.

1.7 STORM SEWER MANHOLES

A. The unit price for Storm Sewer Manholes work includes:

1. General Work Items of Article 1.2.
2. Precast reinforced concrete components.
3. Joint flexible gasket material.
4. Grout seal between the manhole and structure and the sewer pipe.
5. Adjusting rings and bituminous plastic cement sealant at chimney.
6. Manhole steps.
7. Manhole frame and cover.
8. Bedding material.
9. Sewer pipe stub with connections and watertight plug (where required).
10. Final casting adjustment.

B. Measurement for payment will be the distance from the invert of the lowest sewer to the top of the frame and cover as set.

C. The unit of measurement for payment is vertical feet.

1.8 CATCH BASIN/INLETS

A. The unit price for Catch Basin/Inlets work includes:

1. General Work Items of Article 1.2.
2. Precast reinforced concrete components.
3. Joint flexible gasket material.
4. Grout seal between the catch basin/inlet structure and the sewer pipe.
5. Adjusting rings grouted in place.
6. Casting frame and grate.
7. Bedding material.
8. Supply and install 6 to 10 feet of 4 inch flexible perforated plastic pipe with geotextile wrap subgrade drain.
9. Sand fill and Class "B" concrete floor and flow line.
10. Temporary cover over catch basin/inlet to prevent eroded materials from entering.
11. Final casting adjustment.

B. Measurement for payment will be the actual number installed.

C. The unit of measurement for payment is each.

1.9 CONNECT TO STORM STRUCTURE AND/OR PIPE

- A. The unit price for Connect to Storm Structure and/or Pipe work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Modify existing storm sewer manhole opening (where required).
 - 3. Provide concrete around the pipe, gasket, and manhole opening to form a sediment tight seal or Frenco/coupling with stainless steel sheer bands with plastic pipe connections.
 - 4. Reform flow line in existing storm manhole.
- B. Measurement for payment will be the actual number complete.
- C. The unit of measurement for payment is each.

1.10 FLARED END SECTION

- A. The unit price for Flared End Section includes:
 - 1. General Work Items of Article 1.2.
 - 2. Precast concrete components.
 - 3. Anchors to storm sewer pipe.
- B. Measurement for payment will be the actual number installed.
- C. The unit of measurement for payment is each.

END OF SECTION

SECTION 01 22 03

MEASUREMENT AND PAYMENT WATER SYSTEM

PART 1 – GENERAL

1.1 SUMMARY

- | | |
|---|---------------------|
| A. Section includes: | <u>Bid Item No.</u> |
| 1. Water Mains (Granular Backfill) | W-01 |
| 2. Water Mains (Natural Backfill) | W-02 |
| 3. Water Services | W-03 |
| 4. Corporation and Curb Stop | W-04 |
| 5. 2" Corporation with Plug or Saddle and Galvanized Pipe | W-05 |
| 6. Fire Hydrants | W-10 |
| 7. Hydrant Leads | W-11 |
| 8. Valves | W-06, W-07 |
| 9. Connection to Existing Water Mains | W-08, W-09 |
| 10. Water Main Offset | W-12 |
| 11. Water Service (60' Coiled) with Plug | W-13 |
| 12. Abandon/Remove Water Main and Appurtenances | W-14 |
- B. Unit Prices include:
1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
 2. The method of measurement for payment.
 3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

- A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for water systems.
- B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
1. Traffic Control.
 2. Sawcutting asphalt and/or concrete.
 3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.
 4. Dewatering.

5. Excavation.
6. Open Trench installation method (unless bid item specifies other method).
7. Pipe Bedding.
8. Backfilling and compacting native obtained from the excavation.
9. Supplying, hauling, backfilling and compacting granular material.
10. Loading, hauling and disposing of surplus excavated material.
11. Landscaping – turf establishment surface restoration and trees and bushes damaged during construction.
12. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
13. Site access requirements including temporary aggregate material as required for local traffic access.
14. Bulkhead and abandoned existing water main with flowable fill as shown on Drawings.
15. If crossing or undermining of existing public or private utility, then include:
 - a. Maintaining the utility in service.
 - b. Replacing of existing utilities, if damaged.
 - c. Providing support and bedding material.
16. Dust control.
17. Remove and replace existing mailboxes and traffic signs.
18. Restroom facilities.
19. Easement and right-of-way requirements.
20. Construction staking and other survey work not provided by the Engineer.
21. Regulatory requirements.
22. Preconstruction videotaping and video equipment.
23. Quality assurance and quality control testing and inspections.
24. Shop drawings and other submittals.

1.3 WATER MAINS (GRANULAR BACKFILL)

- A. The unit price for Water Main (Granular Backfill) work includes:
 1. General Work Items of Article 1.2.
 2. Water pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
 3. Ductile or cast iron fittings.
 4. Tracer wire.
 5. Polyethylene encasement of ductile iron or cast iron pipe and fittings.
 6. Blocking and joint restraints.
 7. Disinfection of pipelines.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed water main with no deductions for fittings and valves.
- C. The unit of measurement for payment is linear feet.

1.4 WATER MAINS (NATURAL BACKFILL)

- A. The unit price for Water Main (Natural Backfill) work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Water pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
 - 3. Ductile or cast iron fittings.
 - 4. Tracer wire.
 - 5. Polyethylene encasement of ductile iron or cast iron pipe and fittings.
 - 6. Blocking and joint restraint.
 - 7. Disinfection of pipelines.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed water main with no deductions for fittings and valves.
- C. The unit of measurement for payment is linear feet.

1.5 WATER SERVICES

- A. The unit price for Water Services work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Pipe and fittings of material stated in the Unit Price Bid Schedule.
 - 3. Tracer wire.
 - 4. Disinfection of pipelines.
 - 5. Install an 8'- 4"x4" board at the end of the lateral.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed water service with no deductions for fittings and curb stops.
- C. The unit of measurement for payment is linear feet.

1.6 CORPORATION AND CURB STOPS

- A. The unit price for Corporation and Curb Stops work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Supply curb stops and curb boxes.
 - 3. Connection to existing water service (where required).
 - 4. Installation of curb stops and curb boxes.
 - 5. Tracer wire.
- B. Measurement for payment will be the actual number installed.
- C. The unit of measurement for payment is each.

1.7 2-INCH CORPORATION WITH PLUG OR SADDLE AND GALVANIZED PIPE

- A. The unit price for 2-Inch Corporation with Plug or Saddle and Galvanized Pipe work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Provide and install 2-inch corporation with plug or saddle (where required) with 2-inch galvanized pipe.
 - 3. Remove 2-inch corporation with plug/saddle and repair water main.
- B. Measurement for payment will be the actual number installed.
- C. The unit of measurement for payment is each.

1.8 FIRE HYDRANTS

- A. The unit price for Fire Hydrants work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Fire hydrant complete of the specified bury depth.
 - 3. Blocking and joint restraints.
 - 4. Hydrant wrenches.
 - 5. Hydrant markers.
 - 6. Polyethylene encasement.
 - 7. Drainage pit.
 - 8. Disinfection of hydrant.
 - 9. Tracer wire.
 - 10. Tracer wire access box.
- B. Measurement for payment will be the actual number installed.
- C. The unit of measurement for payment is each.

1.9 HYDRANTS LEADS

- A. The unit price for Hydrants Leads work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Pipe and fittings of material stated in the Unit Price Bid Schedule.
 - 3. Blocking and joint restraints.
 - 4. Tracer wire.
 - 5. Disinfection of pipeline.
- B. Measurement for payment will be the actual horizontal length along the centerline of the installed from the centerline of the water main to the centerline of the hydrant with no deductions for fittings and valves.
- C. The unit of measurement for payment is linear feet.

1.10 VALVES

- A. The unit price for Valves work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Valve.
 - 3. Valve box.
 - 4. Polyethylene encasement.
 - 5. Stem.
 - 6. Bedding material.
- B. Measurement for payment will be the actual number installed.
- C. The unit of measurement for payment is each.

1.11 CONNECTIONS TO EXISTING WATER MAINS

- A. The unit price for Connection to Existing Water Mains work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Locating existing water main.
 - 3. Connection to the end of existing pipe.
 - a. Remove existing plug.
 - b. Direct connection to end of existing pipe.
 - c. Transition fittings, if required.
- B. Measurement for payment will be the actual number installed.
- C. The unit of measurement for payment is each.

1.12 WATER MAIN OFFSET

- A. The unit price for Water Main Offset work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Ductile iron fittings and PVC pipe.
 - 3. Tracer wire.
 - 4. Polyethylene encasement of ductile iron pipe and fittings.
 - 5. Blocking and joint restraints.
- B. Measurement for payment will be the actual number installed.
- D. The unit of measurement for payment is each.

1.13 WATER SERVICES (60' COILED) WITH PLUG

- A. The unit price for Water Services (60' Coiled) with Plug work includes:

1. General Work Items of Article 1.2.
2. Pipe and fittings of material stated in the Unit Price Bid Schedule.
3. Tracer wire.
4. Disinfection of pipelines.
5. Installed 50' of HDPE, coiled, with plug, at end of trench.
6. Backfill over coiled water service.

B. Measurement of payment will be the number installed.

C. The unit of measurement for payment is each.

1.14 ABANDON / REMOVE WATER MAIN AND APPURTENANCES

A. The unit price for Abandon/Remove Water Main and Appurtenances work includes:

1. General Work Items of Article 1.2.
2. Excavating
3. Install bulkheads and abandon water line.
4. Removing existing water main where in conflict with other utilities.
5. Providing and placing flowable fill.
6. Backfilling and compacting.
7. Removal and disposal of appurtenances as shown on the Drawings.

B. Measurement for payment will not be made. This includes all of the project area.

C. The unit of measurement for payment is lump sum.

END OF SECTION

SECTION 01 22 04

MEASUREMENT AND PAYMENT STREET AND DRAINAGE CONSTRUCTION

PART 1 – GENERAL

1.1 SUMMARY

- | | |
|---|---------------------|
| A. Section includes: | <u>Bid Item No.</u> |
| 1. Clearing and grubbing | SD-01 |
| 2. Topsoil and Unclassified Excavation | SD-02, SD-03, SD-04 |
| 3. Topsoil Stripping | SD-05 |
| 4. Swale Ditching | SD-06, SD-07 |
| 5. Crushed Aggregate Base and Surface Course | SD-08, SD-09 |
| 6. Asphaltic Concrete Pavement | SD-10, SD-11 |
| 7. Portland Cement Concrete Curb and Gutter | SD-12, SD-13 |
| 8. Portland Cement Concrete Driveway and Sidewalk | SD-14, SD-15, SD-16 |
| 9. Deformed Reinforcement Bars | SD-17 |
| 10. Drilling Tie Bars and Dowel Bars | SD-18 |
| 11. Detectable Warning Field Natural | SD-19 |
| 12. Site Demolition | SD-20 |
| 13. Landscaping – Topsoil, Seed, Fertilize, and Mulch | SD-21, SD-22 |
- B. Unit Prices include:
1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
 2. The method of measurement for payment.
 3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

- A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for street and drainage systems.
- B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
1. Traffic Control.
 2. Sawcutting asphalt and/or concrete.
 3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.

4. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site.
5. Site access requirements including temporary aggregate material as required for local traffic access.
6. Dust control.
7. Remove and replace existing mailboxes and traffic signs.
8. Restroom facilities.
9. Construction staking and other survey work not provided by the Engineer.
10. Regulatory requirements.
11. Quality assurance and quality control testing and inspections.
12. Final casting and valve box adjustment.
13. Shop drawings and other submittals.

1.3 CLEARING AND GRUBBING

- A. The unit price for Clearing and Grubbing work includes:
 1. General Work Items of Article 1.2.
 2. Cutting and disposing of trees, brush, windfalls, logs and other vegetation.
 3. Removing and disposing of roots, stumps, stubs, logs and other timber.
 4. Stripping and stockpiling topsoil.
- B. Measurement for payment will not be made.
- C. The unit of measurement for payment is lump sum.

1.4 TOPSOIL AND UNCLASSIFIED EXCAVATION

- A. The unit price for Topsoil and Unclassified Excavation work includes:
 1. General Work Items of Article 1.2.
 2. Removal of topsoil to depth available.
 3. Hauling and stockpiling topsoil.
 4. Excavation to subgrades shown on the Drawings.
 5. Hauling of unclassified material.
 6. Placing unclassified material in fill areas to subgrades shown on the Drawings and the subgrade required for placement of topsoil.
 7. Compaction of subgrade and fill areas.
 8. Test rolling subgrade.
 9. Excavation of undercut areas for placing topsoil.
 10. Respreading topsoil to final grades shown on the Drawings.
 11. Disposal of surplus topsoil, unclassified material and unsuitable material.
 12. Preparation of disposal site and transportation of material over an Engineer approved haul route from the site including all loading and dumping of material.
 13. Finish grading.

B. Measurement of payment will not be made unless there is a change in project scope. The estimated quantity represents the computed volume by comparing the triangulated surfaces and will be the basis for payment.

C. The unit of measurement for payment is cubic yards.

1.5 TOPSOIL STRIPPING

A. The unit price for Topsoil Stripping work includes:

1. General Work Items of Article 1.2.
2. Removal of topsoil in fill or borrow areas.
3. Hauling and stockpiling topsoil.
4. Placing unclassified material in stripped areas to grades shown on the Drawings.
5. Compaction of grade and fill areas.
6. Respreading topsoil to final grades shown on the Drawings.
7. Finish grading.

B. Measurement for payment will be the area of topsoil stripped in the fill or borrow areas.

1. This item only applies to areas being filled due to excess material (323 Lansdowne and 320 Brookline) or for clay borrow sites from the lots.

C. The unit of measurement for payment is square yards.

1.6 SWALE DITCHING

A. The unit price for Swale Ditching work includes:

1. General Work Items of Article 1.2.
2. Removal of topsoil to depth available.
3. Hauling and stockpiling topsoil.
4. Excavation to grades shown on the drawings.
5. Hauling of unclassified material.
6. Placing unclassified material and/or excess topsoil in fill areas to grades.
7. Compaction of fill areas.
8. Excavation of undercut areas for placing topsoil.
9. Respreading topsoil to final grades shown on the Drawings.
10. Disposal of surplus topsoil, unclassified material and unsuitable material.
12. Finish Grading.

B. Measurement of payment will be the length ditched for swales.

C. The unit of measurement for payment is linear feet.

1.7 CRUSHED AGGREGATE BASE AND SURFACE COURSE

- A. The unit price for Crushed Aggregate Base and Surface Course work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Aggregate material.
 - 3. Preparation of foundation.
 - 4. Placing and compacting to thickness and width shown on the Drawings or specified elsewhere.
 - 5. Maintenance until surface pavement is constructed.
 - 6. Preparation of crushed aggregate base for paving.
 - 7. Adjustment of manholes and valve boxes to proposed finish road grade.
- B. Measurement of payment will be the actual amount of material required and incorporated in the work verified by submitting to the Engineer delivery tickets provided with each load showing the weight measured on a certified scale, type of material, the date delivered and the project name. Aggregates in excess of seven percent (7%) total moisture determined based on the dry mass of the aggregates will have moisture content in excess of seven percent (7%) deducted from the measured weight.
- C. The unit of measurement for payment is tons.

1.8 ASPHALTIC CONCRETE PAVEMENT

- A. The unit price for Asphaltic Concrete Pavement work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Asphaltic concrete mixture, tack coat and other required materials
 - 3. Surface preparation.
 - 4. Provide tack coat on base material.
 - 5. Saw cutting and/or mill adjacent and abutting pavement surfaces.
 - 6. Asphaltic concrete placement and compaction to thickness and width shown on the drawings or specified elsewhere.
 - 7. Tack coat between asphaltic concrete courses and abutting pavements.
- B. Measurement for payment will be the actual amount of material required and incorporated in the work verified by submitting to the Engineer delivery tickets provided with each load showing the weight measured on a certified scale, type of material, the date delivered and the project name.
- C. The Unit Price shall be adjusted for deficiencies for less than minimum density represented by the average lot density of five nuclear density tests of 750 tons of asphaltic concrete placed as shown in the following table:

Density Deficiency-Percent of Unit Price for Payment	
%Lot Density Below Specified Minimum	WisDOT Mixes
From 0.5-1.0 inclusive	98%
From 1.1-1.5 inclusive	95%
From 1.6-2.0 inclusive	91%
From 2.1-2.5 inclusive	85%
From 2.6-3.0 inclusive	70%
More than 3.0	0%

D. The unit of measurement for payment is tons.

1.9 PORTLAND CEMENT CONCRETE CURB AND GUTTER

A. The unit price for Portland Cement Concrete Curb and Gutter work includes:

1. General Work Items of Article 1.2.
2. Providing Portland cement concrete mixture of size shown in the drawings or specified elsewhere.
3. Providing expansion joints.
4. Providing curing.
5. Existing curb and gutter removal.
6. Subgrade preparation.
7. Provide crushed aggregate base.
8. Fine grading of subgrade.
9. Providing contraction joints.
10. Driveway entrances and handicap ramp entrances.
11. Adjustment of catch basin/inlets.
12. Finishing.
13. Protection.
14. Restoration behind the curb.

B. Measurement for payment will be along the flow line of the gutter and through inlets/catch basins.

C. The unit of measurement for payment is linear feet.

1.10 PORTLAND CEMENT CONCRETE DRIVEWAY AND SIDEWALK

A. The unit price for Portland Cement Concrete Sidewalk and Driveway work includes:

1. General Work Items of Article 1.2.
2. Providing Portland cement concrete mixture of thickness shown in the drawings or specified elsewhere.
3. Providing reinforcement.
4. Providing expansion joint.

5. Providing curing.
6. Existing pavement removal.
7. Subgrade preparation.
8. Providing contraction joints.
9. Handicap ramps.
10. Sidewalk steps.
11. Saw cutting adjacent surfaces.
12. Finishing.
13. Protection.
14. Restoration.

- B. Measurement for payment will be the average horizontal length and width of the concrete placed.
- C. The unit of measurement for payment is square yards.

1.11 DEFORMED REINFORCEMENT BARS

- A. The unit price for Deformed Reinforcement Bars work includes:
1. General Work Items of Article 1.2.
 2. Supply and install two - #4 deformed reinforcement bars over all trenches that fall under any portion of the concrete curb and gutter, sidewalk, and driveway being constructed.
- B. Measurement for payment will be the horizontal length of each bar installed.
1. This item applies to concrete curb and gutter, sidewalk, and driveway.
 2. This item does not apply to concrete pavement and patches.
- C. The unit of measurement for payment is linear feet.

1.12 DRILLING TIE BARS

- A. The unit price for Drilling Tie Bars work includes:
1. General Work Items of Article 1.2.
 2. Providing and installing tie bars, including coating.
 3. For drilling holes in concrete not placed under the contract.
 4. For epoxying or driving.
- B. Measurement for payment will be the actual number of bars installed.
1. This item applies to concrete curb and gutter, sidewalk, and driveway.
 2. This item does not apply to concrete pavement and patches.
- C. The unit of measurement for payment is each.

1.13 DETECTABLE WARNING FIELD NATURAL

- A. The unit price for Detectable Warning Field Natural work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Providing and installing Detectable Warning Field per ADA requirements.
 - 3. Each detectable warning field shall be two (2) feet by five (5) feet.
- B. Measurement for payment will be the actual number of detectable warning field installed.
- C. The unit of measurement for payment is each.

1.14 SITE DEMOLITION

- A. The unit price for Site Demolition work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Removal of gravel drive on Lost Dauphin Road.
 - 3. Regrade ditch at drive.
 - 4. Removal of curb ramp at Meadow Rose and Addison.
 - 5. Regrade curb ramp subgrade to lower landing pad 6".
 - 6. Compaction of subgrade and fill areas.
 - 7. Finish grading.
- D. Measurement of payment will not be made.
- E. The unit of measurement for payment is lump sum.

1.15 LANDSCAPING- TOPSOIL, SEED, FERTILIZE AND MULCH/EROSION MAT

- A. The unit price for Landscaping- Topsoil, Seed, Fertilize, and Mulch/Erosion Mat work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Provide 4" topsoil or salvaged topsoil.
 - 3. Provide seed.
 - 4. Provide fertilizer.
 - 5. Provide mulch/erosion mat.
 - 6. Provide maintenance.
- B. Measurement for payment will be the width and length of restoration measured based on the plans.
 - 1. Areas disturbed beyond the limits shown on the plans, unless approved by the Engineer, will not be paid.
- C. The unit of measurement for payment is square yard.

END OF SECTION

SECTION 01 22 05

MEASUREMENT AND PAYMENT SPECIAL CONSTRUCTION

PART 1 – GENERAL

1.1 SUMMARY

- | | |
|--|---------------------|
| A. Section includes: | <u>Bid Item No.</u> |
| 1. Pipe Foundation Stabilization | SC-01 |
| 2. Silt Fence Erosion Control | SC-02 |
| 3. Erosion Bales | SC-04 |
| 4. Inlet Protection Erosion Control | SC-05, SC-06, SC-07 |
| 5. Rip Rap Erosion Control | SC-08 |
| 6. Tracking Pad | SC-09 |
| 7. Polystyrene Insulation | SC-03 |
| 8. Cluster Mail Box Unit (CBUs) Installation | SC-10 |
- B. Unit Prices include:
1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
 2. The method of measurement for payment.
 3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

- A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for special construction.
- B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
1. Traffic Control.
 2. Loading, hauling and disposing of surplus material.
 3. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
 4. Dust control.
 5. Restroom facilities.
 6. Construction staking and other survey work not provided by the Engineer.
 7. Regulatory requirements.
 8. Quality assurance and quality control testing and inspections.
 9. Shop drawings and other submittals.

1.3 PIPE FOUNDATION STABILIZATION

- A. The unit price for Pipe Foundation Stabilization work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Excavation below the limits of the pipe bedding with the bottom of the excavation wider than the top with 1:1 side slopes.
 - 3. Dewatering.
 - 4. Soil Class A-7 or A-8 aggregate material.
 - 5. Loading, hauling and disposing of surplus excavated material.
- B. Measurement of payment will be the volume calculated based on:
 - 1. The actual depth from four (4) inches below the bottom of pipe to the bottom of the aggregate material placed.
 - 2. The bottom width is the actual width not to exceed the pipe outside diameter plus twenty-four (24) inches plus 1:1 side slopes.
 - 3. The top width is the pipe outside diameter plus twenty-four (24) inches.
- C. The unit of measurement for payment is cubic yards.

1.4 SILT FENCE EROSION CONTROL

- A. The unit price for Silt Fence Erosion Control work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Provide fabric and post.
 - 3. Excavate to anchor fabric and compact soil or provide soil class C-3 to anchor the fabric.
 - 4. Inspection and maintenance of the installed silt fence.
 - 5. Removal of the silt fence.
 - 6. Finish grading.
 - 7. Topsoil, seeding, fertilizing, and mulching area in the vicinity of the removed silt fence which does not have established turf.
- B. Measurement of payment will be the actual horizontal length installed.
- C. The unit of measurement for payment is linear feet.

1.5 EROSION BALES

- A. The unit price for Erosion Bales work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Provide straw bales and anchor stakes.
 - 3. Excavate and embed the straw bales.
 - 4. Inspection and maintenance of the installed straw bales.
 - 5. Removal of the straw bales.
 - 6. Finish grading.

7. Topsoil, seeding, fertilizing, and mulching area in the vicinity of the removed erosion bales which does not have established turf.

B. Measurement for payment will be the actual number of bales installed.

C. The unit of measurement for payment is each.

1.6 INLET PROTECTION EROSION CONTROL

A. The unit price for Inlet Protection Erosion Control work includes:

1. General Work Items of Article 1.2.
2. Provide geotextile and wood materials for type shown on the Drawings.
3. Placing inlet protection system.
4. Inspection and maintenance of the installed inlet protection.
5. Removal of the inlet protection.
6. Cleaning debris buildup around inlet.

B. Measurement for payment will be actual number of inlet protection erosion control installed.

C. The unit of measurement for payment is each.

1.7 RIP RAP EROSION CONTROL

A. The unit price for Rip Rap Erosion Control work includes:

1. General Work Items of Article 1.2.
2. Provide rip rap material and geotextile fabric.
3. Excavate and place rip rap material.

B. Measurement for payment will be the actual area installed.

C. The unit of measurement for payment is square yards.

1.8 TRACKING PAD

A. The unit price for Tracking Pad work includes:

1. General Work Items of Article 1.2.
2. Install to the dimensions as shown on the drawing or specified elsewhere.
3. Providing filter fabric.
4. Providing crushed aggregate base course (3 inch clear stone).
5. Daily maintenance of aggregate.
6. Removal of aggregate and restore with topsoil, seed, fertilizer and mulch.

B. Measurement for payment will be the actual number of tracking pads installed.

- C. The unit of measurement for payment is each.

1.9 POLYSTYRENE INSULATION BOARDS

- A. The unit price for Polystyrene Insulation Boards work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Supply and install a 2-inch-thick insulation per the Standard Specifications along the top of the water main and/or service and 6 inch above the water main and/or service with pipe bedding in between the polystyrene board and pipe.
- B. Measurement of payment will be the horizontal length installed.
- C. The unit of measurement for payment is linear feet.

1.10 CLUSTER MAILBOX UNIT (CBU) INSTALLATION

- A. The unit price for Cluster Mailbox Unit (CBU) Installation work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Transport CBUs from 925 S. Sixth Street to the project site. CBUs to be provided by City.
 - 3. Install City provided anchors.
 - 4. Install City provided CBUs including decorative post and top covers.
 - 5. Install Unit Parcel Box units.
- B. Measurement for payment will be for each CBU installation location.
 - 1. Each location consists of three boxes (2 CBUs and 1 United Parcel Box).
- C. The unit of measurement for payment is each.

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes:

1. Administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

- A. Unit Price work will be the Schedule of Values used as the basis for reviewing Applications for Payment.**

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as recommended by the Engineer and approved by Owner.**
- B. The date for each progress payment should be the 3rd Wednesday of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends the 4th Friday of the Month.**
- C. Use forms provided by Engineer for Applications for Payment. Sample copy of the Application for Payment and Continuation Sheet is included in Section 00 62 76.**
- D. Application Preparation Procedures**
1. When requested by the Contractor, the Engineer will determine the actual quantities and classifications of Unit Price Work performed.
 - a. Preliminary determinations will be reviewed with the Contractor before completing Application for Payment.
 - b. Engineer will complete the Application for Payment based on Engineer's decision on actual quantities and classifications.
 - c. Engineer will submit three original copies of Application for Payment to Contractor for certification of all three original copies.
 - d. Contractor shall submit signed Application for Payment to Owner for approval within time frame agreed to at the Preconstruction Conference.
 2. If payment is requested for materials and equipment not incorporated in the Work, then the following shall be submitted with the Application for Payment:
 - a. Evidence that materials and equipment are suitably stored at the site or at another location agreed to in writing.

- b. A bill of sale, invoice, or other documentation warranting that the materials and equipment are free and clear of all liens.
 - c. Evidence that the materials and equipment are covered by property insurance.
- 3. Complete every entry on form. Execute by a person authorized to sign legal documents on behalf of Contractor.
- E. With each Application for Payment, submit waivers of liens from subcontractors and suppliers for the construction period covered by the previous application.
 - 1. Submit partial waivers on each item for amount requested before deduction for retainage on each item.
 - 2. When an application shows completion for an item, submit final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work shall submit waivers.
 - 4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application.
 - 5. Submit waivers of lien on forms executed in a manner acceptable to Owner.
- F. The following administrative actions and submittals shall precede or coincide with submittal of first Application for Payment:
 - 1. List of subcontractors.
 - 2. Schedule of Values (For Lump Sum Work).
 - 3. Contractor's construction schedule.
- G. Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted including, but not limited, to the following:
 - 1. Evidence of completion of Project closeout requirements.
 - 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 - 3. Updated final statement, accounting for final changes to the Contract Sum.
 - 4. Consent of Surety to Final Payment.
 - 5. Final lien waivers as evidence that claims have been settled.
 - 6. Final liquidated damages settlement statement.

PART 2 – PRODUCTS

PART 3 – EXECUTION

END OF SECTION

SECTION 01 32 33

CONSTRUCTION PHOTOGRAPHS

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Photographs for utility construction sites.

1.2 SUBMITTALS

- A. Submit electronic files of each photographic view within seven (7) days of taking photographs.

1.3 QUALITY ASSURANCE

- A. Photographs are to be submitted to the Engineer for approval prior to the start of construction.

PART 2 – PRODUCTS

PART 3 – EXECUTION

3.1 UTILITY AND STREET CONSTRUCTION SITES

- A. Prior to start of construction provide sufficient photographs to adequately show the existing facilities and conditions within and adjacent to the construction Site to serve as a guide for final restoration including:
 - 1. Roads including shoulders and/or curb and gutter.
 - 2. Sidewalks, parking areas, and driveways.
 - 3. Utility structures.
 - 4. Landscaping including signs, plantings, walls, fences, trees, shrubbery, etc.
 - 5. Mailboxes.
 - 6. Drainage facilities including culverts, inlets, ditches.
 - 7. Building structures.
- B. During construction provide sufficient photographs (a minimum of one per 100 feet of installed utility) to adequately show construction means, methods, and Site conditions including:
 - 1. Crossings of other utilities.
 - 2. Exposure of existing structures.
 - 3. Soil conditions.

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1 – GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for submittals:
 - 1. Progress Schedule.
 - 2. Schedule of Shop Drawings and Sample Submittals.
 - 3. Shop Drawings.
- B. Failure to meet Submittal requirements to the satisfaction of the Engineer will constitute unsatisfactory performance of the work in accordance with the Contract Documents, therefore, the Engineer may recommend to the Owner that all or a portion of payments requested during the corresponding pay period be withheld until these requirements are met.

1.2 SUBMITTAL PROCEDURES

- A. Coordination: Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related elements of the work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - a. The Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
 - 3. To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for re-submittals.
 - a. Allow two weeks for initial submittal.
 - b. Allow two weeks for reprocessing each submittal.
 - c. No extension of Contract Time will be authorized because of failure to transmit submittals to the Engineer sufficiently in advance of the work to permit processing.
- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
 - 1. Assign a reference number to each submittal and re-submittal.
 - 2. Provide a space approximately four (4) by five (5) inches (100 by 125 mm) on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
 - 3. Include the following information on the label for processing and recording action taken.

- a. Project name.
 - b. Date.
 - c. Name and address of the Engineer.
 - d. Name and address of the Contractor.
 - e. Name and address of the subcontractor.
 - f. Name and address of the supplier.
 - g. Name of the manufacturer.
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references, as appropriate.
 4. Each submittal shall be stamped by the Contractor indicating that submittal was reviewed for conformance with the Contract Documents. The Engineer will not accept unstamped submittals.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal to the Engineer. The Engineer will not accept submittals received from sources other than the Contractor.
1. On the transmittal, record relevant information and requests for Engineer action. On a form, or separate sheet, record deviations from Contract Document requirements, including variations, limitations, and justifications. Include Contractor's certification that information complies with Contract Document requirements.

1.3 CONTRACTOR'S PROGRESS SCHEDULE

- A. Prepare and submit to the Engineer within 10 (ten) days after the Effective Date of the Agreement, four copies of a preliminary progress schedule of the work activities from Notice to Proceed until Substantial Completion.
1. Provide sufficient detail of the work activities comprising the schedule to assure adequate planning and execution of the work, such that in the judgment of the Engineer, it provides an appropriate basis for monitoring and evaluation of the progress of the work. A work activity is defined as an activity which requires substantial time and resources (manpower, equipment, and/or material) to complete and must be performed before the contract is considered complete.
 2. The schedule shall indicate the sequence of work activities. Identify each activity with a description, start date, completion date and duration. Include, but do not limit to the following items, as appropriate to this contract:
 - a. Shop drawing review by the Engineer.
 - b. Excavation and grading.
 - c. Asphalt and concrete placement sequence.
 - d. Restoration.
 - e. Construction of various segments of utilities.
 - f. Subcontractor's items of work.
 - g. Allowance for inclement weather.
 - h. Contract interfaces, date of Substantial Completion.
 - i. Interfacing and sequencing with existing facilities and utilities.

- j. Sequencing of major construction activities.
 - k. Milestones and completion dates.
- B. Distribution: Following response to the initial submittal, print and distribute copies of the revised construction schedule to the Engineer, Subcontractors, and other parties required to comply with scheduled dates. When revisions are made, distribute to the same parties. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.
- C. Schedule Updating: Revise the schedule after each meeting, event, or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.
- D. Punch List: Prepare and submit to the Engineer within ten (10) days after substantial completion a detailed progress schedule for outstanding work and punch list items.

1.4 SCHEDULE OF SHOP DRAWINGS AND SAMPLE SUBMITTALS

- A. Submit electronic or one (1) hard copy of preliminary submittal schedule in accordance with the General Conditions of the Contract and as follows:
- 1. Coordinate submittal schedule with the subcontractors, Schedule of Values, and of products as well as the Contractor's Progress Schedule.
 - 2. Prepare the schedule in chronological order. Provide the following information:
 - a. Scheduled date for the first submittal.
 - b. Related Section number.
 - c. Submittal category (Shop Drawings, Product Data, or Samples).
 - d. Name of the subcontractor.
 - e. Description of the part of the work covered.
 - f. Scheduled date for the Engineer's final release or approval.
- B. Distribution: Following response to the initial submittal, print and distribute copies of the revised construction schedule to the Engineer, Subcontractors, and other parties required to comply with scheduled dates. Post copies in the field office. When revisions are made, distribute to the same parties. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.
- C. Schedule Updating: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

1.5 SHOP DRAWINGS

- A. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or

copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.

- B. Collect product data into a single submittal for each element of construction of system. Product data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
 - 1. Mark each copy to show actual product to be provided. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
- C. Do not use shop drawings without an appropriate final stamp indicating action taken.
- D. Submittals: Submit electronic or one (1) hard copy of each required submittal. The Engineer will scan and return the submittal to the Contractor marked with action taken and corrections or modifications required.
- E. Distribution: Furnish copies of reviewed submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms. Maintain one copy at the project site for reference.
 - 1. Do not proceed with installation until a copy of the Shop drawing is in the Installer's possession.
 - 2. Do not permit use of unmarked copies of the Shop Drawing in connection with construction.

1.6 ENGINEER'S ACTION

- A. Except for submittals for the record or information, where action and return is required, the Engineer will review each submittal, mark to indicate action taken, and return promptly. The Engineer will stamp each submittal with a uniform action stamp. The Engineer will mark the stamp appropriately to indicate the action taken, as follows:
 - 1. "No Exceptions Taken": The work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents.
 - 2. "Make Corrections Noted": The work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents.

3. "Amend and Resubmit": Do not proceed with work covered by the submittal. Resubmit without delay. Do not use, or allow others to use, submittals marked "Amend and Resubmit" at the Project Site or elsewhere where work is in progress.
4. "Rejected – See Remarks": Do not proceed with work covered by the submittal. Resubmit without delay. Do not use, or allow others to use, submittals marked "Rejected and Resubmit" at the Project Site or elsewhere where work is in progress.

- B. Unsolicited Submittals: The Engineer will return unsolicited submittals to the sender without action.

PART 2 – PRODUCTS

PART 3 – EXECUTION

END OF SECTION

SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Underground Utilities.
 - 2. Property Monuments.
 - 3. Traffic Control.
 - 4. Permits for Project.

1.2 UNDERGROUND UTILITIES

- A. Under the provisions of Wisconsin Statutes, Section 182.0175, all contractors, subcontractors, and any firm or individual intending to do work on this Contract shall contact all utility firms in the affected area of construction a minimum of three (3) working days prior to beginning construction so that affected utilities will be located and marked.

1.3 PROPERTY MONUMENTS

- A. Protect iron pipe monuments from movement.
- B. The cost of replacement of any monuments moved or destroyed during construction shall be the Contractor's responsibility.
- C. Perpetuation of destroyed or moved monuments shall be performed in accordance with state statutes by a registered land surveyor.

1.4 TRAFFIC CONTROL

- A. Provide traffic control facilities including barricades, signs, lights, warning devices, pavement markings, flaggers, etc.
- B. Construct and use traffic control facilities in accordance with the U.S. D. O. T. Federal Highway Administration's Manual on Uniform Traffic Control Devices for Streets and Highways.
- C. Maintain traffic control devices as required to properly safeguard the public travel through final completion, including during periods of suspension of work.

1.5 PERMITS FOR PROJECT

- A. The following permits are being obtained by the Owner:

1. WDNR
 - a. Water Main Extension
 - b. Sanitary Sewer Extension
 - c. WRAPP/NOI
2. Brown County Highway Department

- B. Any costs associated with violations pertaining to the NOI permit will be the responsibility of the Contractor.

PART 2 – PRODUCTS (Not used)

PART 3 – EXECUTION (Not used)

END OF SECTION

SECTION 01 71 23

FIELD ENGINEERING

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Engineering Surveys Provided by the Engineer.
 - 2. Engineering Surveys Provided by the Contractor.

1.2 SUBMITTALS

- A. None

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 PREPARATION

- A. Investigate and verify the existence and location of site improvements, utilities, and other existing facilities.
- B. Before construction, verify the location of invert elevations at points of connection of sanitary sewer, storm sewer, water piping and underground electrical services.
- C. Furnish information to the Engineer and the appropriate utility regarding conflicts that are necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction.
- D. Provide the Engineer two (2) working days advance notification when ready for engineering surveys for construction to be provided by the Engineer.

3.2 ENGINEERING SURVEYS TO BE PROVIDE BY THE ENGINEER

- A. General
 - 1. Establish benchmarks for construction as shown on the drawings.
 - 2. Establish control points as shown on the drawings.
- B. Gravity Sewer Systems and Water Distribution Systems
 - 1. Provide construction reference stakes set for pipe construction location at critical changes in horizontal and vertical alignment.

2. Provide construction stakes for location of pipe at connections.

C. New Road Construction

1. Provide construction slope intercept stakes for horizontal and vertical alignment on each side of the road base on each cross section in the cross section sheets for requests received at least seventy-two (72) hours before the related work begins.
2. Provide construction reference stakes for subgrade at a minimum of fifty (50) foot intervals and maximum of one-hundred (100) foot intervals on tangents. Provide construction reference stakes for subgrade at twenty-five (25) foot intervals within vertical and horizontal curves. Provide a reference line stake at each location.
3. Provide construction reference stakes for top of crushed aggregate at a minimum of fifty (50) foot intervals and maximum of one-hundred (100) foot intervals on tangents. Provide construction reference stakes for top of crushed aggregate at twenty-five (25) foot intervals within vertical and horizontal curves. Provide a reference or centerline stake.

3.3 ENGINEERING SURVEYS TO BE PROVIDED BY THE CONTRACTOR

A. General

1. Locate, preserve and protect established construction reference stakes, benchmarks and control points.
2. Locate, preserve and protect property corners and section corner monuments. If moved or destroyed due to Contractor negligence, then replace in accordance with state requirements; some of which are referenced in the "Regulatory Requirements".
3. Provide additional construction staking as necessary to complete construction based on the construction reference stakes provided by the Engineer and the Drawings.
4. Before beginning with necessary construction staking, verify the information shown on the Drawings, in relation to the established construction reference stakes, bench marks, control points and property corners. Notify the Engineer of any discrepancies.
5. Remove construction reference stakes when directed by the Engineer.

B. Gravity Sewer Systems and Water Distribution Systems

1. Provide any intermediate construction reference points as required to verify installation at the line and grade established and locate appurtenant structures.
2. Check the line and grade with construction reference stakes at each pipe length.

C. New Road Construction

1. Provide additional construction reference stakes necessary to establish location and grade in accordance with the plans.

END OF SECTION

SECTION 31 23 00.1

EARTHWORK

PART 1 – GENERAL

1.1 SUMMARY

- A. Work in this section shall include but not be limited to the following:
 - 1. Excavation.
 - 2. Test rolling.
 - 3. Filling and compacting.
 - 4. Backfilling around structures.
 - 5. Disposal of surplus materials.
 - 6. Finish grading.

1.2 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)
 - 1. D4318 Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
 - 2. D1140 Test for Amount of Material in Soils Finer than the No. 200 Sieve
 - 3. D1556 Test for Density of Soil in Place by the Sand-Cone Method
 - 4. D1557 Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-Lb (4.54 kg) Rammer and 18 in. (457 mm) Drop
 - 5. D2216 Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures
 - 6. D2922 Test for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
 - 7. D3017 Test for Moisture Content of Soil and Soil-Aggregate by Nuclear Method (Shallow Depth)

1.3 SUBMITTALS

- A. Submit the following in accordance with Section 01 33 00, Submittals:
 - 1. Two (2) copies of testing data of laboratory tests to the owner's representative if material is brought from off site.

1.4 DENSITY TESTING

- A. The Engineer will provide an independent testing laboratory to provide testing services.
- B. Anticipated testing schedule as follows:

<u>Fill Utilized For:</u>	<u>Number of Acceptable Tests for Each Class or Fill:</u>
Embankments, dikes or berms	1 test per 600 cubic yards
Structural or controlled fills	1 test per 1,500 square feet, minimum of 1 test per lift
Trench backfill under paved or surfaced areas greater than 15' depth	1 test per 100 feet of trench or any portion thereof, in the lower 1/4, each middle 1/4, and upper 1/4 of backfill
Trench backfill under paved or surfaced areas less than 15' depth	1 test per 100 feet of trench or any portion thereof, in the lower 1/3, middle 1/3, and upper 1/3 of backfill
Lateral trench backfill	1 test per 100 feet of trench with a minimum of 1 test location per trench in the lower 1/3, middle 1/3, and upper 1/3.
Non-structural fills	1 test per 2,000 cubic yards

PART 2 – PRODUCTS

2.1 SOIL MATERIALS

- A. Soil used for borrow, fill, and backfilling shall meet the requirements of soil class as called for on plans or in specifications.
- B. As a minimum, all soil shall meet the requirements of Soil Class G-1.
- C. All soil classes shall be as per Section 31 05 10, Soils and Aggregates for Earthwork.

PART 3 – EXECUTION

3.1 EXCAVATION

- A. Excavation to Correct Grade
 - 1. Excavate site of structures and pavements as follows:
 - a. To elevation shown on the plans.
 - b. To such additional width as necessary for erection and removal of forms, shoring or sheeting, and finishing of walls.
 - 2. Excavation of unsuitable materials.
 - a. Excavate unsuitable soil materials under a proposed structure.
 - b. Excavation shall extend lateral a minimum of 5 feet beyond the building limits plus 1 foot for each foot of cut below the foundation.
 - c. Notify the Owner's project representative prior to proceeding with their removal of unsuitable material.
- B. Borrow Excavation
 - 1. Clear site in accordance with Section, 31 10 00, Site Clearing.

2. Strip and stockpile topsoil.
3. Excavate, haul, place, and compact borrow soil material.
4. Regrade borrow areas as shown on the plans or in an acceptable manner to facilitate proper site drainage.
5. Replace stockpiled topsoil.
6. Surplus topsoil may be utilized in borrow area regarding.
7. Seed and mulch in accordance with Section 32 92 00, Turf and Grasses.

C. Excavation Precautions

1. Excavation slope stability.
 - a. Maintain excavation slope to ensure a stable excavation and prevent caving.
 - b. Provide and erect all timber work, shoring, sheeting, bracing, etc. necessary to prevent caving and displacement of adjacent property.
 - 1) Shoring shall be placed so as not to interfere with building work.
 - 2) Shoring shall be independent of footings.
2. Underpinning existing structures.
 - a. Underpin as necessary to protect existing structures and foundations.
 - b. Furnish all material, labor, and equipment necessary to complete underpinning operations.
3. Dewatering of excavations.
 - a. Contractor shall provide and maintain all equipment necessary to keep excavated areas free of all groundwater, surface water, or precipitation.
 - b. Soil which becomes soft, yielding, or loses support due to inadequate dewatering efforts shall be dealt with as follows:
 - 1) Excavate disturbed soil materials for their entire depth.
 - 2) Replace excavated materials with an approved fill material.
4. Protect excavation from freezing.
 - a. Take precautions necessary to prevent frost from entering subgrade soils.
 - b. If subgrade becomes frozen, remove snow, ice, and frozen soil prior to placement of additional fill or finish surfacings.

3.2 FILLING AND COMPACTING

- A. Layer thickness for fill soil shall be as follows:
 1. Layer thickness shall be dependent on the soil classification type, weight, and soil contact pressure of compaction equipment being used.
 2. Layer thickness shall not exceed 8 inches.
- B. Compaction
 1. Compaction method for fill soils shall be appropriate for soil material being compacted and provide sufficient soil contact pressure to thoroughly compact entire lift thickness.
- C. Proper soil moisture contents for compaction shall be maintained in all soils.

1. Optimum moisture content as determined by Modified (ASTM D1557) Proctor shall be used to determine acceptance moisture contents for soil compaction.
2. Contractor shall scarify and compact existing ground prior to placing fill material.

D. Compaction requirements for all fill soils unless specified elsewhere shall be as follows:

- Class 1
- Fills supporting structures.
 - Subgrade under pavements or floors.
 - Backfill under piping and conduits.

Class 2 - Fills which do not support structures.

COMPACTION REQUIREMENTS FOR
VARIOUS SOIL CLASSES

Soil Class	Required Compaction (%) of Modified Proctor Density	
	Class 1	Class 2
B-3 through B-4	95	90
C-1 through C-6	95	90
D-1 through D-3, and G-1 and G-2	95	90
E-1	95	90

3.3 TEST ROLLING

- A. The following testing services shall be provided:
1. The subgrade condition and elevation shall be checked by the Engineer prior to placement of fill material. The subgrade will be proof rolled using a tandem axle dump truck fully loaded with fill material to the maximum legal weight limit. The fill condition and elevation shall be checked by the Engineer prior to placement of subsequent courses.
- B. Treat areas showing yielding or rutting under test rolling as follows:
1. Replace and/or recompact as necessary to stabilize the area.
 2. Retest soil areas replaced or recompact.

3.4 BACKFILLING AROUND STRUCTURES

- A. Do not backfill any foundation, wall, or structure prior to inspection by the Engineer.
- B. Backfilling under pipes or conduits in areas excavated due to construction.
1. Contractor shall furnish and compact Soil Class A-7 under all piping or conduits.
 - a. Compact fill shall extend from undisturbed earth to grade.
 - b. Place and compact fill in all areas disturbed by construction.

3.5 DISPOSAL OF SURPLUS MATERIALS

- A. The Owner shall have prior claim to all surplus excavated material. If such claim is exercised by the Owner, the material shall be deposited at such points as may be directed by the Engineer at the expense of the Contractor, the haul not to exceed two (2) miles. If Owner does not desire to claim surplus excavated material, the Contractor shall be totally responsible for obtaining a disposal site. No material shall be disposed of in a floodplain, wetland or waterway.

After delivery to any designated location, such material shall be leveled off by the Contractor.

3.6 FINISH GRADING

- A. Grade, trim, and shape subgrade to required grade and section.
1. Adjust slopes by grading so that transition is smooth and gradual.
 2. The crests of cut banks shall be rounded and shaped.
 3. Washouts and ruts shall be refilled, regarded, and properly compacted.
 4. Remove all stones 3 inches or larger from grading limits.
- B. Vertical Grading Tolerances
1. Rough grading tolerance.
 - a. Areas to be topsoiled – rough grade to within 0.2 foot of finish grades.
 2. Areas having paved surfaces (i.e., concrete, asphalt, etc.).
 - a. Maximum allowable variation from correct profile and section shall not be more than ¼-inch in 10 feet.

END OF SECTION

SECTION 32 90 00.1

HYDROSEEDING

PART 1 -GENERAL

1.1 SUMMARY

- A. Work Included: This section includes the following:
 - 1. Hydroseeding

1.2 SUBMITTALS

- A. Submit the following:
 - 1. Fertilizer certification from supplier including brand name and hydroseeding manufacturer.

PART 2 - PRODUCTS

2.1 HYDROSEEDING

- A. Manufacturer: Central Fiber Corporation, Second Nature Wood fiber blend mulch, or equal.
- B. Include specified seed: temporary seed of oats or winter wheat, as specified, fertilizer, and hydroseed mulch

PART 3 - EXECUTION

3.1 HYDROSEEDING

- A. Minimum application rate shall be 1,500 lbs per acre.
- B. The hydroseed mixture shall be agitated in the mixing tank for a minimum of 3 minutes prior to application.
- C. The mixture shall be blown into place within 2 hours of mixing.

END OF SECTION

EXHIBIT 1

CITY OF DE PERE CBU INFORMATION GUIDE AND POLICY

City of De Pere Municipal Cluster Mailbox Unit (CBU) Informational Guide and Policy



The US Postal Service (USPS) has indicated that CBU's will be installed in every new subdivision, businesses and private developments. Requests for exceptions will require an appeal process that will be lengthy and not result in a timely decision. In that light the City of De Pere developed a new policy to simplify USPS coordination efforts, expedite the review process and develop a common understanding of what is an acceptable installation for De Pere Developers, Surveyors, Engineers and the Post Office. The goal is to develop a simple, fast & easy process that will protect our municipality and be workable for USPS, developers, surveyors, engineers, Brown County Planning/Tax Listing and Highway Department. The details and approach outlined below was reviewed by the USPS, Brown County Home Builders Association and other stakeholders.

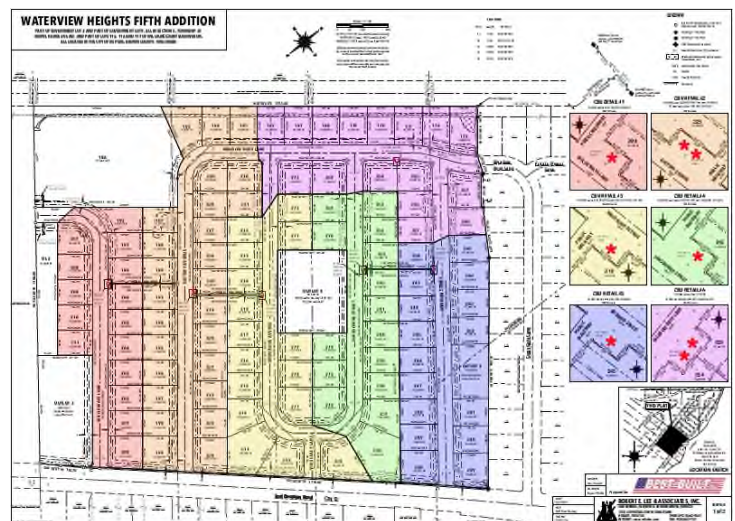
This guide also describes the construction and installation requirements for staff and for design engineers, limits municipal exposure and liability (as the right of way permitting authority), ensures proper ADA installations and clarifies that subdivision lot owners are responsible for long term CBU maintenance and replacement costs including the foundation pads. There are five major policy parts in De Pere:

- I. USPS CBU Coordination and Location Planning During the Plat/Site Plan Review
- II. Engineering Considerations for CBU Locations in Subdivisions
- III. CBU Construction Information
- IV. CBU Mailbox Information
- V. CBU Operation

All CBU installation costs will be added to municipal subdivision development costs, to be paid by the developer or property owner.

I. USPS CBU Coordination and Location Planning during the Plat/Site Plan Review

- Many of the CBU coordination difficulties begin with fact that neither USPS or Developers are transportation designers or engineers. Additionally, they cannot act as a Municipality to determine exactly what can be installed because they can't issue right of way use permits, nor approve designs for American Disability Act (ADA), crash, safety and breakaway requirements. Also, because so many different municipalities are involved each may have a different policy.
- **There are five steps for determining the location of CBU's once a subdivision plat comes our way:**
 - Assist the developer and surveyor. Engineers design and municipalities permit everything in the right of way, utilities, road, sewers etc. The City will assist planning and coordinate appropriate CBU locations that are ADA compliant and safe. CBU location needs are simple and outlined below. Creating a USPS plan submittal is easy and if done correctly the first time will be easy for USPS to approve it quickly.
 - Make a simple plan drawing like the one shown to the right. This simple plan shows which lots will be served by which CBU. Submit it to the post office and subdivision surveyor. USPS technically has 30 days to respond. Do it early and as soon as possible so as not to delay the subdivision design or platting process. Each location will have space for 2 CBU's, 1 parcel unit (for large packages) and space for 1 future CBU just in case. There are many CBU options, many units having 8 or more compartments, with 13 and 16 compartment units being most applicable to new



- Ensure that the surveyor adds a “general” CBU plat note to protect the City. This is like the standard note on all plats requiring “drainage grading along lot lines”. It should be a general note as Municipalities have nothing to do with enforcing restrictive covenants. However, the note could be both a general note and a restrictive covenant. De Pere’s current note, endorsed by Brown County is as follows:

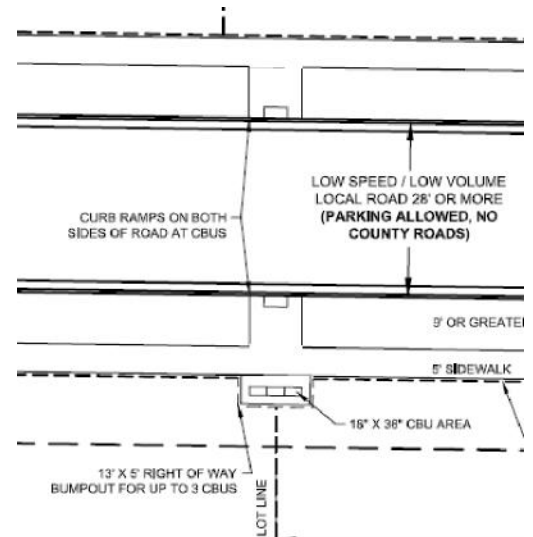
-
- 16 CBU serves lots 190-192, 200-211
Not to Scale
- 190
13,230 SF
N38°38'40"E
135.00'
98.00'
551'02"
98.00'
8" Tree Planting Easement
135.00'
S38°38'40"W
130.00'
N38°38'40"W
130.00'
Storm sewer easement
206
13,165 SF
N38°38'40"E
245.00'
130.00'
12' Utility Easement
N51°21'20"W
13.00'
N38°38'40"E
5.00'
85.00'
12'
40'
35'
35'
PUBLIC WALKWAY
DTP
WILLIE MAYS CIRCLE
DTP
- See CBU detail #1 & note on sheet 2
- See note on sheet 2
- Public

II. Engineering Considerations in CBU locations in Subdivisions

-
- Diagram illustrating a street intersection layout with various setbacks and easements:
- LOW SPEED / LOW VOLUME LOCAL ROAD 15' OR MORE (PARKING ALLOWED, NO CURB REQUIRED)
 - 2' OR GREATER TERRACE
 - 2' SIDEWALK
 - 12' X 30' CUL-DE-SAC
 - 12' UTILITY EASEMENT
 - 4' FROM BACK OF WALK TO RIGHT OF WAY MIN. 100' TO CORNER
 - 12' X 5' RIGHT OF WAY BACKUP FOR UP TO 2 CARS
 - 12' UTILITY EASEMENT
- Scale: 0 100

III. CBU Construction Information

- See the sample construction drawings urban roads with sidewalks.
- CBU's aren't crash or breakaway safe. Depending on your policy and terrace widths, CBU's should be a minimum of 2 or more feet clear of any curb as a clear zone and up to 6 feet away as a breakaway zone.
- While the CBU may be placed on either side of the sidewalk. De Pere does not want CBU's in the terrace due to possible CBU damage from snow plowing, to avoid breakaway requirements and clear distance issues.
- De Pere will require a right of way bump out behind the sidewalk so the CBU is still located in the public right of way, see the drawing to the right.
- A standard CBU **slab width** is 5 feet. The slab is poured adjacent to the sidewalk. **5 feet wide** allows a 2 feet offset to the front of the CBU from the sidewalk, 1.5 feet of CBU depth and 1.5 feet clearance on the back of the CBU's to the rear edge of slab.
- A standard CBU **slab length** measured along the sidewalk; to accommodate 2 CBU's, 1 parcel box and have 1 spare future CBU space, is 4 CBU spaces at 3 feet each plus 1.5 feet clear on each end, totaling **15 feet long**. The slab may be wider if a more centralized location is used and more CBU's are needed in a location. Just add 3 feet extra for each additional CBU.
- Each standard CBU **right of way bump out area width is 5 feet** to accommodate the 5 feet CBU slab that has the same clearance as the sidewalk is to right of way (6" in De Pere's case).
- Each standard CBU **right of way bump out area length is 18 feet** to accommodate more clearance of 1.5 feet on each side. Add 3 feet each if you plan additional CBU's
- ADA type accessible routes, part of USPS National Delivery Planning Standards Handbook PO-632
 - Standard sidewalk requirements: 5 feet wide (4 feet minimum), use curb ramps at curbs, 1 to 2% cross slope etc.
 - Don't place CBU's at the curb facing the street, as a curb is an ADA barrier and is not acceptable.
 - Place CBU's 15" or more off the sidewalk edge. De Pere will use a 24" offset for pedestrians and so there is generous space to plow snow with power equipment.
 - CBU foundation pads are 8" thick and they must be level to the sidewalk. Make them 5 feet wide to leave room around the sides and edges so lawnmowers and easily go around the edge without hitting the CBU box and eliminate lawn trimming needs.
 - The Sidewalk and CBU foundation will be installed by the City as part of the subdivision work.



IV. CBU Mailbox Information

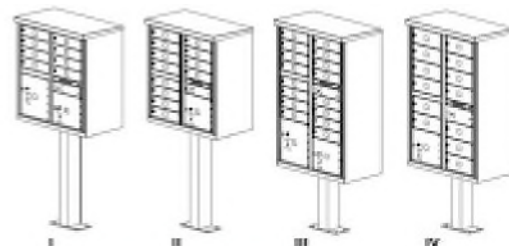
- Municipalities are an integral part of the subdivision construction process. Now that you know planning accessible routes and installing the CBU foundation pads is fairly simple, the City will purchase and install the actual CBU Mailboxes for the developer as well.
- Before the CBU is bolted down, call the post office to install the 2 Arrow USPS master door locks in the CBU so it is locked.
- **Also consider that it is probably important to make sure that CBU's and their foundation pads are installed before the first Builder shows up, so that home placement and driveways won't interfere with the CBU and pad later.**
 - Make sure the product you order is USPS approved - F SERIES



- The City will pass the keys out. If you have residents stopping by Public Works to get their garbage cans anyway that might make sense for the Municipality. Handing out keys only happens once.
- When homeowners move, they are supposed to hand CBU mailbox keys to the new homeowners.
- If a resident loses their keys, they will have to call the post office and for a fee USPS will install a new lock and provide a new set of keys.

- Florence Manufacturing and Salsbury Industries are the two primary manufacturers of USPS approved cluster mailbox units in the United States. The number of compartment slots and compartment slot sizes vary in each CBU type.

- All CBUs have the same outside overall dimensions: 30.5" wide by 18" deep. They all have the same total height. The posts are taller or shorter depending on how many compartments are selected. Standard 3" tall compartment door sizes come in 8, 12, and 16 unit configurations, while the larger 4-3/4" compartment door size comes in a 13 unit configuration. CBU's have two half double doors on the front that the postal employee opens to load the mail into. They also come with optional decorative features and parcel box models for larger delivery items.



	TYPE I	TYPE II	TYPE III	TYPE IV
INSTALLED HEIGHT	62"	64"	62"	62"
DEPTH	17-7/8"	17-7/8"	17-7/8"	17-7/8"
WIDTH	30.1/2"	30.1/2"	30.1/2"	30.1/2"
WEIGHT (WITHOUT POSTAL)	107 LBS	111 LBS	147 LBS	137 LBS
WEIGHT (WITH POSTAL)	123 LBS	129 LBS	162 LBS	152 LBS
QTY OF STANDARD COMPARTMENTS	8	12	16	13
QTY OF PARCEL COMPARTMENTS	0	0	0	1
PARCEL COMPARTMENT HEIGHT	30", 20"	30"	30", 20"	30"

- The two most common CBU models that might be used in a subdivision can be seen to the right. De Pere is going to standardize on the Type IV unit below.

- Type IV – is a 13 compartment CBU that has 4-3/4" tall and 12" wide slots. It has 1 lower parcel box built in the bottom and 1 outgoing mail slot. Smaller flexible.

Packages might fit in these larger slots but it only has one parcel box. 2 CBU units will serve up to 26 lots.



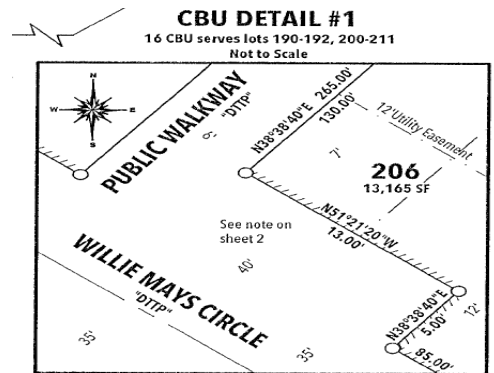
- De Pere is planning to standardize on the black color.
- Decorative features are optional, but De Pere plans to add the Flat top style decorative features for all new installations



V. CBU Operation

- How lot addresses & CBU door labels work:
 - Units come with either labels or engraved numbers on each mailbox compartment door.
 - Typically, up to 5 digits can be on each label or engraved.
 - Actual street addresses are not typically used on each tenant mailbox box door for various reasons.
 - In De Pere each CBU location will have a ROW bump out location number shown on the plat and a detail showing which lot numbers that are served. Typically, 2 CBU's will be at each bump out location serving 26 to 32 lots. If you have any duplexes, town houses or condo lots remember to plan for that. Apartments will have their own on-site CBU units.

- **Example CBU door numbering method** could be as follows: The first label number would be 4 for CBU bump out location #4. The second number, as normally there are 2 CBUs are at each location, would be either 1 or 2. The last two digits would be the CBU compartment number, say 1 – 13 or 1 – 16, so the first CBU unit would have compartment numbers as 411, 412, 413 through 4116, the second CBU unit at the same location would be 421, 422, 423 through 4216. The numbers on the compartment doors can be labeled with decals or be engraved.
- Once the plat is recorded and a street address is given for each subdivision lot. City staff will use a strip label maker to label the floor of each compartment inside the CBU unit with the street name & address of the home so the delivery person will know which slot to put mail in when they open the front double doors. Then label each key with the CBU door unit number and the street address of the home. Keep the keys at the Public Works office, 925 S. Sixth Street, and distribute them when residents come in for their garbage cans.
- **When ordering, Color Select BLACK, Use/Locks Select USPS use WITHOUT Postmaster Lock (USPS installs them for free), Anchor Bolts Select Include Expansion Anchor Bolts for a pre poured concrete slab, Compartment Door Identification Select Custom Door Engraving it should be free, Enter the CBU custom numbering as determined by the subdivision plan & municipality.**
- **Parcel Keys work like this: When the postal delivery person places a parcel in a parcel box the key to the parcel box is placed in the mail slot of the resident intended to receive the package. When the resident obtains the key from their mail slot, they open the appropriately labeled parcel locker to retrieve their parcel and the special parcel lock traps and holds the key for the postal delivery person to be used again.**



Extra USPS provided parcel boxes

- USPS Postmasters in Brown County will optionally provide one extra 2 or 4 unit parcel box for larger parcels. It has the same dimensions as regular CBU's. An extra parcel box is not required.
- As part of the coordination process USPS will order and pay for the extra parcel box if desired and match the color. USPS has a contract with Salsbury for CBU's. There are several licensed & authorized CBU manufacturers and they should all be built exactly the same like Salsbury, Florence etc.

EXHIBIT 2

WATERVIEW HEIGHTS FIFTH ADDITION BORING LOG BY PSI



GEOTECHNICAL ENGINEERING
SERVICES REPORT

For the:

Waterview Heights Fifth Addition Subdivision
Lost Dauphin Road
De Pere, Wisconsin

A handwritten signature in black ink, appearing to read "James M. Becco".

James M. Becco, P.E.
Regional Vice President

Prepared for:
City of De Pere
925 South Sixth Street
De Pere, Wisconsin 54115

A handwritten signature in black ink, appearing to read "Patrick Bray".

Patrick Bray, E.I.T.
Branch Manager

Prepared by:
Professional Service Industries, Inc.
3009 Vandenbroek Road
Kaukauna, Wisconsin 54130
Phone (920) 735-1200

A handwritten signature in black ink, appearing to read "Whitney Baumann".

Whitney Baumann
Staff Geologist

June 23, 2022

PSI Report Number: 00941736

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Figure 1 – Boring Location Plan

Soil Boring Logs

Laboratory Data Sheets

Storm Forms

General Notes





1 INTRODUCTION

1.1 GENERAL

This report presents the results of the subsurface exploration and subgrade evaluation for the proposed Waterview Heights Fifth Addition Subdivision in De Pere, Wisconsin. The work was performed for the City of De Pere, at the request of Mr. Eric Rakers.

1.2 PURPOSE

The purpose of this study was to evaluate the subsurface conditions at specific boring locations and to establish parameters for use by the design engineers and architects in preparing the underground utility, pavement, and stormwater management designs for the proposed project. An elevation of houses or other structures was not requested or performed.

1.3 SCOPE

The scope of services included the subsurface exploration, an evaluation of soil characteristics by field and laboratory testing, and an evaluation of the data obtained. Subgrade preparation recommendations and construction considerations are also provided. The scope of the field work, including the number, depth, and locations of the borings was determined by the client.

1.4 AUTHORIZATION

The description of services and authorization to perform this subsurface exploration and evaluation were in the form of a signed Agreement for Services between the City of De Pere and PSI, dated March 23, 2022, referencing PSI Proposal No. 0094-363689, dated January 17, 2022. The general conditions for the performance of the work were referenced in the proposal. This report has been prepared on behalf of, and exclusively for the use of the City of De Pere. The information contained in this report may not be relied upon by any other parties without the express written consent of PSI, and acceptance by such parties of PSI's General Conditions.

2 SITE AND PROJECT DESCRIPTION

2.1 SITE FEATURES

The subject site is located along the northwest side of Lost Dauphin Road, approximately 175 feet southwest of the intersection with Cross Gate Lane in De Pere, Wisconsin. At the time of the exploration, the project site consisted of agricultural fields. Wetland areas were present along the northwestern portion of the subject site and within Lot 187, shown on a site plan provided to PSI by the client. Railroad tracks were located to the northwest of the subject site, beyond the wetland areas. The surrounding parcels generally consisted of residential properties, with the exception of commercial properties located to the northwest. The Fox River was located to the southeast of the subject site. A review of historical aerial photographs available on Google Earth indicates that the site has been utilized as agricultural land from the



earliest photo taken in 1992 to the latest photo taken in 2021. The subject site is depicted on the enclosed Boring Location Plan (Figure 1).

The topography of the subject site is relatively hilly, with an elevation difference of about 8 feet between the boring locations. Existing elevations at the borings ranged between about EL. 633.6 and EL. 625.6. At the time of the exploration, the surface of the site at the boring locations was relatively soft, and an ATV drill rig was utilized to access the boring locations.

2.2 PROJECT DESCRIPTION

Based on the information provided by the client, it is understood that the proposed Waterview Heights Fifth Addition Subdivision project will consist of the construction of new asphalt roadways, sanitary sewer utilities, and stormwater management areas within the vacant lot located approximately 175 feet southwest of the intersection with Lost Dauphin Road and Cross Gate Lane. Residential structures are planned for the addition; however, an evaluation of these structures was not requested or performed in this evaluation.

It is understood that the project will include the construction of approximately 30-foot-wide asphalt pavement roadways with concrete curb and gutter. Design traffic loads were not provided to PSI for use in this evaluation. Sanitary sewer utilities are also planned for proposed project. Additional design details of the utilities, including material, bearing depth, and specific locations, were not available at the time of report preparation. When additional design information regarding the road design and proposed utilities becomes available, PSI must be notified to determine if a reevaluation or redirection of the recommendations provided herein is necessary.

It is understood that stormwater management areas are generally planned in the northeastern and southern portions of the subject site. The size, type, bottom elevation, and other design details were not provided at the time of report preparation.

3 EXPLORATION AND LABORATORY PROCEDURES

3.1 SCOPE SUMMARY

The field and laboratory data utilized in the evaluation of the subsurface materials was obtained by drilling exploratory test borings, securing soil samples by the split-spoon sampling method, and subjecting the samples to laboratory testing.

With respect to the stormwater management areas, the field and laboratory work for classification of the subgrade soils was performed to provide information for use by the basin design personnel when considering requirements of Chapter NR151 of the Wisconsin Administrative Code, and of WDNR Technical Standard 1002, "Site Evaluation for Stormwater Infiltration" guidelines. The design of the proposed stormwater management area was beyond the scope of services for this project.



3.2 FIELD EXPLORATION

Seven (7) soil test borings were performed to depths ranging from about 15 to 20 feet below existing grade. Borings B-1 through B-5 were performed to a depth of about 15 feet in the proposed stormwater management areas; and B-6 and B-7 were performed to a depth of 20 feet within the proposed sanitary sewer utility areas. The number, depths, and locations of the borings were determined by the client. The borings were staked in the field by the client. The surface elevations shown on the logs were provided by the client.

The soil test borings were performed with an ATV-mounted rotary drilling rig utilizing continuous flight hollow stem augers to advance the holes. Representative samples were obtained by the Standard Penetration Test (SPT) method using split-spoon sampling procedures in general accordance with ASTM D-1586 procedures. Samples were collected at 2.5-foot intervals to 10 feet, and then at 5-foot intervals thereafter to the end of the borings. As an exception, samples were obtained at 2 foot intervals at the borings performed within the proposed stormwater management areas. The standard penetration value (N) is defined as the number of blows of a 140-pound hammer, falling thirty (30) inches, required to advance the split-spoon sampler one (1) foot into the soil. The sampler is lowered to the bottom of the drill hole and the number of blows recorded for each of the three (3) successive increments of six (6) inches of penetration. The "N" value is obtained by adding the second and third incremental numbers. The SPT provides a means of estimating the relative density of granular soils and comparative consistency of cohesive soils, thereby providing a method of evaluating the relative strength and compressibility characteristics of the subsoils.

The SPT soil samples were transferred into clean glass jars immediately after retrieval, and returned to the laboratory upon completion of the field operations. Samples will be discarded unless other instructions are received. All soil samples were visually classified in general accordance with the Unified Soil Classification System (ASTM D-2488-75). The samples collected within the stormwater management areas were visually classified by a certified soil tester in general accordance with USDA National Resources Conservation Service textural soil classification procedures. A description of the subsurface conditions encountered at each boring location is shown on the enclosed Soil Boring Logs. After completion of the borings the boreholes were backfilled to the ground surface with bentonite chips.

A copy of the Soil Boring Logs and Boring Location Plan (Figure 1) are enclosed in the Appendix. The soil stratification shown on the logs represents the approximate soil conditions in the actual boring locations at the time of the exploration. The terms and symbols used on the logs are described in the General Notes found in the Appendix.

3.3 LABORATORY PHYSICAL TESTING

Soil samples obtained from the exploration were visually classified in the laboratory, and subjected to testing, which included moisture content determinations, Atterberg Limits, and grain size analysis by the mechanical method. Selected cohesive soil samples were tested in unconfined compression with an uncontrolled strain loading rate and/or with a calibrated hand penetrometer to aid in evaluating the soil strength characteristics. The values of strength tests



performed on soil samples obtained by the Standard Penetration Test Method (SPT) are considered approximate, recognizing that the SPT method provides a representative but somewhat disturbed soil sample.

The laboratory testing was performed in general accordance with the respective ASTM methods, as applicable, and the results are shown on the boring logs and Laboratory Data Sheets in the Appendix.

4 DESCRIPTION OF SUBSURFACE CONDITIONS

4.1 GENERAL

A description of the subsurface conditions encountered at the test boring locations is shown on the Soil Boring Logs. The lines of demarcation shown on the logs represent approximate boundaries between the various soil classifications. It must be recognized that the soil descriptions are considered representative for the specific test boring location, but that variations may occur between and beyond the sampling intervals and boring locations. Soil depths, topsoil and layer thicknesses, and demarcation lines utilized for preconstruction planning should not be expected to yield exact and final quantities. A summary of the major soil profile components is described in the following paragraphs.

4.2 SUBSURFACE CONDITIONS

The surface materials within the area of the proposed utility improvements (B-6 and B-7) generally consisted of about 4 to 7 inches of topsoil comprised of dark brown clay with silt and intermixed root matter. Beneath the topsoil materials, the underlying natural soils generally consisted of light brown, reddish brown, to dark reddish gray clay, silt, and silty clay to the maximum depths explored by the borings.

The natural cohesive soils encountered in the borings were generally medium stiff to stiff in relative density, with Standard Penetration resistances (N-values) typically between about 7 and 12 blows per foot (bpf), and unconfined compressive strengths typically ranging from about 2.0 to 4.5+ tons per square foot (tsf).

The surface materials within the proposed stormwater management areas (B-1 through B-5) consisted of about 1 to 4 inches of topsoil generally comprised of dark brown clay loam with intermixed root matter. Beneath the topsoil, the underlying natural soils predominantly consisted of reddish brown to dusky red silty clay loam and silty clay to the maximum depths explored by the borings.

As requested by the client, Atterberg Limits and mechanical grain-size analyses were performed on a composite of SPT soil samples obtained from B-2 at depths ranging from about 5 to 7 feet (EL. 624.2 to EL. 622.2) below existing grade. The test results indicate a Liquid Limit of 63, a Plastic Limit of 23, and a Plasticity Index of 40. The test results indicate the sample may be classified as CH by the USCS method, and as A-7-6 by the AASHTO method. The



Atterberg Limits and mechanical grain-size testing results can be found in the laboratory data sheets provided in the Appendix.

The foregoing discussion of soil conditions on this site represents a generalized soil profile as determined at the test boring locations. A more detailed description and supporting data for each test location can be found on the individual Soil Boring Logs.

4.3 GROUNDWATER OBSERVATIONS

Groundwater observations were made during the drilling operations, and in the open boreholes upon completion. Groundwater was not encountered during drilling or upon completion and removal of the augers in the boreholes. The borings caved at depths ranging from about 7 to 16 feet (EL. 622.2 to EL. 613.3) below existing grade; therefore, observations could not be made below the caved depths.

The groundwater observations reported herein are considered approximate. It must be recognized that groundwater levels fluctuate with time due to variations in seasonal precipitation, lateral drainage conditions, and soil permeability characteristics. The water level of the Fox River may have an impact on the groundwater level fluctuations in the project area. Longer term monitoring would be required and is recommended to better evaluate groundwater levels on this site.

5 EVALUATION AND RECOMMENDATIONS

5.1 PAVEMENT SUBGRADE EVALUATION

On the basis of the data obtained in the exploration, the subgrade soils encountered at the borings generally consisted of clay soils. Based on laboratory testing and visual observations, the cohesive soils present have been assigned a classification of A-7-6 by the AASHTO soil classification method. The A-7-6 soils are generally rated as poor for pavement subgrade support based on their poor drainage, of high plasticity and high shrink-swell potential, high frost susceptibility, and their high potential to soften when exposed to moisture.

Evaluation of the visual soil classifications and laboratory testing information has been made in determining pertinent engineering properties of the subgrade soils. Based on the engineering properties determined from the subgrade soils tested, and with proper subgrade preparation and drainage, the following pavement subgrade design coefficients are recommended for pavement section thickness design. These values are representative of the support conditions typically exhibited by the clay subgrade materials encountered in the borings. All fill used to raise grades or replace unsuitable materials must have equal or greater support characteristics than the existing clay soils.



PAVEMENT SUBGRADE DESIGN COEFFICIENTS

AASHTO Soil Classification	A-7-6
Design Frost Index	F-4
Design Group Index	16
Soil Support Value	3.7
Estimated Subgrade Modulus (k)	100 pci

5.2 SELECTIVE SUBGRADE REMOVAL AND REPLACEMENT

Atterberg limits testing indicated that the clay soil sample obtained from B-2 between depths of about 5 to 7 feet is of high plasticity. Such soils are not the most desirable for pavement subgrade support due to their sensitivity to moisture and potential volume changes from freezing. Typically, deposits of these soils are recommended to be removed, however, it is generally not economically feasible to remove them from across the entire project area. Therefore, construction of the pavement on highly plastic subgrade soils would require a somewhat thicker pavement section with improved drainage (including a properly designed underdrain system) to help reduce the effects of moisture and annual freeze-thaw of the existing subgrade. As an alternative to removal and replacement, and as a means of improving the existing subgrade support values, the soils in could be treated with lime, lime kiln dust, fly ash, or Portland cement modification, which generally causes a significant improvement in strength and a reduction in the potential of the modified material to permanently deform (rut) under repeated traffic loads. It will also provide increased resistance to reduction in strength as a result of moisture and freeze-thaw cycling in the subgrade soils. In general, modification of the subgrade can provide higher strength, lower shrink-swell potential, less frost susceptibility, and less softening when wet. However, this must only be performed at the direction and under the supervision of the geotechnical engineer. A proper mix design must be performed prior to the performance of any modification to evaluate the potential of the existing subgrade soils for such treatment, and to determine the optimum treatment content and degree of subgrade improvement achievable. If remedial measures are not undertaken and adequate drainage not provided, an increased risk of future shrink/swell effects and the resulting pavement distress must be accepted.

5.3 SITE DRAINAGE

In general, the existing clay subgrade soils are considered to be poorly drained. Drainage action of the subgrade is dependent on the amount of fines (silt and clay) present. The presence of fines decreases the drainability of a soil, and therefore, increases its sensitivity to moisture and frost, which can result in increased instability. In addition, the proposed project is located in an area that experiences annual freezing cycles and the subgrade soils encountered have been classified as highly susceptible to frost action.

The detrimental effects of frost action within frost susceptible subgrade materials are manifested by non-uniform heave of pavements during winter months and/or the loss of strength of the subgrade during thawing periods. In order to maintain a relatively dry subgrade condition and reduce the potential for frost action, it will be necessary to control surface runoff



and water seepage as complete removal and replacement of the frost susceptible subgrade may not be economically feasible. Adequate longitudinal sloping should be provided to maintain runoff below the top of the pavement subgrade, and proper base course drainage must be provided.

6 CONSTRUCTION CONSIDERATIONS

6.1 PAVEMENT SUBGRADE PREPARATION

Approximately 1 to 7 inches of topsoil was present at the borings. However, some variation should be anticipated, especially within agricultural fields, where tilling and other related operations can result in thicker pockets of topsoil, or topsoil having become intermixed within underlying soils. All vegetation, topsoil, and any buried topsoil must be removed beneath the proposed roadways. It also should be noted that the subject site was previously utilized as an agricultural field. If any drain tiles are encountered during construction, they must be tied into new drainage structures (in accordance with any applicable regulatory requirements or restrictions). The existing drain tiles should not be abandoned since they may still actively drain areas of the subject site or adjacent properties.

After removal of any vegetation and topsoil, the exposed subgrade should be prepared as outlined in Section 211 of the WisDOT Standard Specifications. The subgrade should be thoroughly proofrolled to detect unstable, yielding or unsuitable soils, which must be removed or improved by appropriate preparation and compaction techniques. Scarification and drying of unsuitable soils, or removal and replacement with suitable fill, are two methods, which can be considered. This should be determined at the time of construction by a qualified soils engineer. Low areas may then be raised to the planned grades with suitable properly compacted fill where necessary. It must be recognized that the clay soils present on the site are highly moisture sensitive, and substantial difficulty with subgrade preparation can be expected if the soils are wet during construction.

In areas where organic, wet, soft or yielding subgrade conditions are encountered during subgrade preparation or a stable subgrade cannot be obtained, selective excavation below subgrade (EBS) and replacement may be required for proper support of new fills, or pavement reconstruction. Excavation below subgrade (EBS) should be performed as outlined in Section 205 of the WisDOT Standard Specifications. The necessity and ultimate extent of undercutting will be dependent upon the soil type encountered, moisture condition, and stability of the exposed subgrade at the time of construction. In areas of EBS, limited excavation below subgrade to a depth of 2 feet and replacement with granular fill, such as those specified in Section 305 of the WisDOT Standard Specification for ¾-inch or 1¼-inch materials, can generally be used to improve the stability of the subgrade. It must be recognized that soil stability is dependent on such factors as soil type and moisture content, weather conditions at the time of construction, and also construction disturbance. Thus, the necessity of EBS generally must be determined in the field at the time of construction, based upon observations made during subgrade preparation.



If relatively wet or unstable soils are encountered below EBS, it may be necessary to use an SAS (Subgrade Aggregate Separation) geotextile fabric and/or a select crushed material for stabilization (such as that specified in Section 312 of the WisDOT Standard Specifications) before placing backfill soils. The SAS geotextile fabric used in this application should meet the physical requirements identified in Section 645 of the WisDOT Standard Specifications and shown in the following table.

Test	Units	Values
Grab Tensile Strength	N	750 min.
Puncture Strength	N	300 min.
Apparent Opening Size	um	212 max.
Permittivity	s ⁻¹	0.35 min.

The clayey soils present within the subgrade are considered to be highly sensitive to moisture and construction activity; therefore, every effort should be made to prevent ponding during reconstruction operations and maintain a relatively dry and stable working subgrade. If the soils become disturbed, removal and replacement may be required.

6.2 BORROW MATERIAL

Generally, granular material with low fines contents is recommended for use in regrading, or to replace unsuitable soils, such as those specified in Section 305 of the WisDOT Standard Specification for ¾-inch or 1¼-inch materials. The existing granular base materials and/or recycled asphaltic pavement materials may be used to balance grades, and are generally considered suitable for such purposes. Clayey and silty soils, organic materials, and wet granular soils are not considered suitable for such purposes. All fill used must have subgrade design coefficients equal to or greater than those previously specified.

6.3 FILL PLACEMENT AND COMPACTION

Fill should be placed in layers of not more than 9 inches in loose thickness before compaction. As an exception, when the fill consists of well-graded granular material and the compaction equipment is adequate for such purpose, the loose layer thickness may be increased to a maximum of 12 inches. Each lift must be compacted to a density of at least 95 percent of the maximum dry density as determined by the Standard Proctor method, ASTM designation D-698.

Proper moisture control is essential to reduce the amount of compactive effort necessary to achieve the desired densities. This is especially true of silty and clayey soils, where scarification and aeration may be required to achieve near-optimum moisture levels prior to compaction. It is recommended the fill soils be placed at moisture contents within a few percent of their optimum moisture content. Depending upon seasonal moisture conditions, some drying and/or reworking of these fine-grained soils may be necessary prior to placement.



The selection of fill materials for various applications should be done in consultation with the soils engineer. Similarly, the evaluation of the subgrade preparation, and placement and compaction of fill for structural application should be monitored and tested by a qualified representative of the soils engineer.

Compaction testing is recommended so that the pavement subgrade materials develop the subgrade design coefficients previously specified for adequate pavement section thickness design. Compaction should be performed with equipment suitable for such purpose, such as a sheepfoot roller for clayey soils, and a vibratory smooth drum roller for granular material.

7 EVALUATION AND RECOMMENDATIONS

7.1 PIPE MATERIAL

In order to reduce the amount of pipe deflection, it must be recognized that proper selection and compaction of the pipe bedding and cover materials is essential. This should be done in accordance with the standard specification for sewer construction. Bedding material exhibiting a well-defined moisture density relationship must be compacted to 95 percent of ASTM D-698 (Standard Proctor).

It is understood that the project will include the installation of sanitary sewer utilities. Additional design details of the utility, including material, bearing depth, and specific locations, were not available at the time of report preparation. The natural soils encountered in the borings can generally be used for the support of utilities, manholes, or other structures where they are in a suitable and stable condition, and are of sufficient strength. Some undercutting of unsuitable materials, in conjunction with the replacement with crushed stone or other suitable granular backfill, may be necessary to establish a suitable bearing subgrade. Where undercutting is performed, the excavations must extend laterally beyond the perimeter of the utility for a distance at least equal to the thickness of the fill below the utility bottom. Backfill must be placed in layers of not more than nine (9) inches in thickness, at moisture contents at or near optimum, and be compacted to a minimum density of 95 percent of the maximum dry density as determined by ASTM designation D-698 (Standard Proctor). Utility piping, manholes and other structures supported on suitable natural soils, or newly placed and compacted structural fill used to replace unsuitable materials, may be designed for a net allowable soil bearing pressure of 2,000 to 4,000 psf depending on location and bearing depth. When the type and pipe size; bearing depth, and the installation method of the pipes are known, PSI must be informed in order to determine if any redirection or revision of the recommendations provided herein is necessary.

Isolated zones of softer/lower strength soils requiring undercutting and replacement with compacted structural fill may be encountered. Substantial instability with excavation sidewalls and the bearing subgrade may develop over portions of the route when the confining effect of the overburden is removed, especially within granular or soft clay soils. Suitable bracing and an adequate dewatering effort may be required, especially in close proximity to creeks or other low-lying areas. In addition, the use of a crushed stone or "mud" working mat may be required in order to achieve a stable bearing subgrade on which to place the piping and any associated



manholes. Prior to the placement of bedding and pipe materials, the suitability of the existing soils for support of the proposed utility systems must be determined via observation and testing by a representative of the soils engineer.

At least portions of the clay soils at the borings are of high plasticity. All manholes, utilities, and related underground structures must bear at an adequate depth and be constructed in a manner which will protect the soils from moisture fluctuations (drying or wetting) and subsequent volume changes (shrink/swell). Some removal and replacement or extension of below grade structures to bear upon deeper soils may be necessary. In addition, substantial due care must be taken during construction to prevent moisture fluctuation of the exposed bearing subgrade. Concrete must be placed on the same day that excavations are made, and it is recommended they be backfilled with granular soils as soon as possible. Clay soils are not recommended for use as backfill. It is recommended that all below grade elements be extended to bear below frost depth to reduce the chance for potential moisture fluctuations and shrink/swell effects within the highly plastic clay soils.

7.2 TRENCH BACKFILLING

Backfilling of the pipe and any trenches must be performed in accordance with the applicable chapters of the Standard Specification for Sewer and Water Line Construction. This will be dependent on the type of pipe selected, embedment depth and other factors.

It is recommended that well graded granular soils such as those specified in Tables 37 and 39 of the Standard Specification for Sewer and Water Construction be utilized as backfill in utility trenches to reduce the potential for consolidation and settlement of the backfill. All fill soils must be placed and compacted in accordance with the site grading specifications under engineering-controlled conditions, to provide suitable support for overlaying structures and roadways. Silt, clay, organic, and wet granular soils are not recommended for reuse as backfill within utility trenches due to the substantial difficulty of obtaining proper compaction in confined areas.

Placement of bedding and cover material shall be sufficient to protect the type of pipe selected as specified by the pipe manufacturer. Trench backfill should be placed in layers not more than 12 inches in loose thickness before compaction, except that the first lift of backfill placed over the pipe can be increased to 24 inches if necessary, to protect the pipe from compaction equipment. Subsequently thinner lifts may be required depending on the type and size of compaction equipment available.

Each lift of backfill above the pipe bedding and cover, especially in areas of overlying structures (pavement, sidewalks, light poles, etc.) must be compacted to a density of at least 95 percent of the maximum dry density as determined by the Standard Proctor method (ASTM D-698).

7.3 GROUNDWATER CONTROL

Because no groundwater was encountered in the upper levels of the boreholes during the exploration, no major difficulties during excavation and construction work is anticipated. A gravity drainage system and filtered sump pumps or other conventional dewatering procedures,



should be adequate to control isolated small volume perched water if encountered. However, if larger volume perched zones are encountered, or if groundwater levels rise due to seasonal variations, more comprehensive dewatering with a series of sump pumps may be required. It should also be noted that substantially higher groundwater levels can be present within and encroaching upon wetland or low-lying wet areas.

Groundwater levels can vary seasonally, with changes in precipitation, and due to other factors. They can also vary between and beyond boring locations from the estimates made at the time of the exploration. It should be noted that perched water may also be encountered along the project route or accumulate in the base course subsequent to construction. Proper drainage of the road must be provided.

Since the anticipated subgrade soils are subject to softening when exposed to free moisture, every effort should be made to keep excavations dry. Site grading should be performed to direct runoff away from the construction area, so that the potential for the softening of the subgrade soils is reduced.

While little or no groundwater was encountered at the time the borings were drilled, seasonal variations in precipitation and site drainage conditions can cause groundwater to be present in the upper soils. The water level of the Fox River may have an impact on the groundwater level fluctuations in the project area.

7.4 EXCAVATION CONSIDERATIONS

Sloping, shoring or bracing of the excavation sidewalls will be necessary. Excavating may be difficult due to the instability of vertical slopes, and will therefore require a flattening of trench sides, or some other means of protection, to facilitate construction and to protect life and property. Sloughing and caving may occur within unprotected excavations, especially encroaching upon or within wetland/low-lying areas where sidewall and subgrade instability can become severe, and substantially higher groundwater levels may be present. The degree of excavation instability problems is dependent upon the depth and length of time that excavations remain open, excavation bank slopes, water levels and the effectiveness of any dewatering systems. All excavation work must be performed in accordance with OSHA and local building code requirements.

All excavations must be performed with caution and utilize methods which will prevent undermining or destabilization of slopes, buildings, utilities, pavements, sidewalks or other structures. The use of a properly designed shoring and bracing, sheet piling, or underpinning system must be utilized as necessary to adequately protect buildings, utilities, pavements, and other structures. This must be performed by an experienced specialty contractor. Additionally, extreme care must be used during the installation of any bracing system, especially those using driven or vibratory methods, in order to avoid damaging existing buildings, utilities, and other structures. Consideration should be given to the performance of video and/or photographic documentation of the condition of nearby buildings, utilities, and other structures prior to installation.



Since the subgrade soils are generally sensitive to moisture, every effort should be made to provide adequate drainage across the site during construction, and to prevent ponding of runoff on the subgrade. These soils are also subject to erosion caused by runoff, and erosion control measures should be implemented where needed or required by local ordinances.

7.5 SUBGRADE FROST ACTION

The proposed road project is located in an area that experiences annual freezing cycles and the subgrade soils encountered have been classified as highly susceptible to frost action when free water is present. Therefore, some frost movement may be experienced.

8 STORMWATER MANAGEMENT CONSIDERATIONS

As requested by the client, the samples collected at B-1 through B-4 were visually classified in general accordance with USDA National Resources Conservation Service textural soil classification procedures. The stormwater management areas are generally planned in the northeastern and southern portions of the subject site. No additional design details were available at the time of report preparation.

The surface at the borings located within the proposed stormwater management areas (B-1 through B-4) consisted of about 1 to 4 inches of topsoil generally comprised of dark brown clay loam with intermixed root matter. Beneath the topsoil, the underlying natural soils predominantly consisted of reddish brown to dusky red silty clay loam and silty clay to the maximum depths explored by the borings. Groundwater was not encountered during auger advancement or upon completion and removal of the augers

With regard to the above soil and groundwater conditions encountered at the borings, NR 151.124(4)(c)1 and 2 – *Infiltration rate exemptions* indicates that infiltration practices located in an area where the infiltration rate of the soil measured at the proposed bottom of the infiltration system is less than 0.6 inches per hour using a scientifically credible field test method; or where the least permeable soil horizon to 5 feet below the proposed bottom of the infiltration system using the USDA method of soils analysis consists of sandy clay loam, clay loam, sandy clay, silty clay or clay may be credited toward meeting the requirements, but the decision to infiltrate under these conditions is optional. In addition, NR 151.124(4)(b)1 – *Separation distances* indicates that infiltration practices shall be located so that the characteristics of the soil and the separation distance between the bottom of the infiltration system and the elevation of seasonal high groundwater or the top of bedrock are in accordance with the following Table (reproduced from NR 151.124):



Table 3. Separation Distances and Soil Characteristics		
Source Area	Separation Distance	Soil Characteristics
Industrial, Commercial, Institutional Parking Lots and Roads	5 feet or more	Filtering Layer*
Residential Arterial Roads	5 feet or more	Filtering Layer*
Roofs Draining to Surface Infiltration Practices	1 foot or more	Native or Engineered Soil with Particles Finer than Coarse Sand
Roofs Draining to Surface Infiltration Practices	Not Applicable	
All Other Impervious Source Areas	3 feet or more	Filtering Layer*

*Defined in NR 151.002(14r) as a "soil that has at least a 3-foot deep layer with at least 20 percent fines; or at least a 5-foot deep layer with at least 10 percent fines; or an engineered soil with an equivalent level of protection as determined by the regulatory authority for the site."

The laboratory testing of the bulk composite SPT sample obtained between depths of 5 to 7 feet (EL. 624.2 to EL. 622.2) at B-2 had 100% of the material passing the No. 200 sieve, a Liquid Limit of about 63, a Plastic Limit of about 23, and a Plasticity Index of about 40. The results indicate the tested soils to have a USCS classification of CH. Appendix D of the Wet Detention Pond (1001) document, which is published by the Wisconsin Department of Natural Resources Conservation Practice Standards, indicates that materials for a Type A Clay Liner (for sites with the highest potential for groundwater pollution) must contain 50% or more of the material passing the No. 200 sieve; and have an average liquid limit of 25 or greater, with no value less than 20; and have an average plasticity index of 12 or more, with no value less than 10. The tested sample meets these requirements. However, other specifications or requirements may apply, and may be included within other applicable state or local documents. In addition, soils may vary between and beyond the borings. Additional testing may be required.

The information shown above is a selected excerpt from NR151 that is intended only as general guidance for considering stormwater management in conjunction with the encountered subsurface conditions at the borings. Basin design must be performed by a qualified and experienced firm. In addition, the entirety of Chapter NR151 of the Wisconsin Administrative Code, the Site Evaluation for Stormwater Infiltration (1002) document, and other applicable references; along with appropriate state, local or other municipal requirements must be consulted as part of site specific stormwater design.

Stormwater management basins are not recommended to be placed in close proximity to basements or other below grade structures. Proper and careful consideration of soils and subsurface conditions must be given during site and design planning, and extreme care must be exercised during construction. Lateral migration of water may result in substantially increased sump pump activity and can quickly overcome the ability of such pumps to maintain a desirable water level, resulting in significant flooding. The potential for such conditions to



occur can greatly increase when basement floors are below the elevation of basin bottoms and/or when basins are placed in close proximity to structures (strongly not recommended). In addition, the presence of granular or other generally permeable soils, which is typically necessary in the areas of structures, especially within utility backfill, alongside basement walls, or within other development excavations, can act as extensive migration channels to rapidly carry large volumes of water from basins and into nearby basements. Building codes or municipal regulations may require that basement floor elevations be a specified distance above the water level of nearby basins. It is therefore recommended that the design engineer (or other appropriate representative) review applicable municipal requirements, and verify the design normal and design high water elevations of stormwater basins with respect to planned basement slab elevations.

9 GENERAL COMMENTS

This geotechnical exploration has been prepared to aid in the evaluation of the subgrade conditions on this site. The recommendations presented herein are based on the available soil information and the design information provided. Any changes in the design information or building locations should be brought to the attention of PSI to determine if modifications in the recommendations are required. The final design plans and specifications should also be reviewed by PSI to determine that the recommendations presented herein have been interpreted and implemented as intended.

This geotechnical study has been conducted in a manner consistent with that level of care ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The findings, recommendations and opinions contained herein have been promulgated in accordance with generally accepted practice in the fields of foundation engineering, soils mechanics, and engineering geology. No other representations, expressed or implied, and no warranty or guarantee is included or intended in this report.

It is recommended that the earthwork and foundation operations be monitored by the soils engineer, to test and evaluate the bearing capacities, and the selection, placement and compaction of controlled fills.

APPENDIX

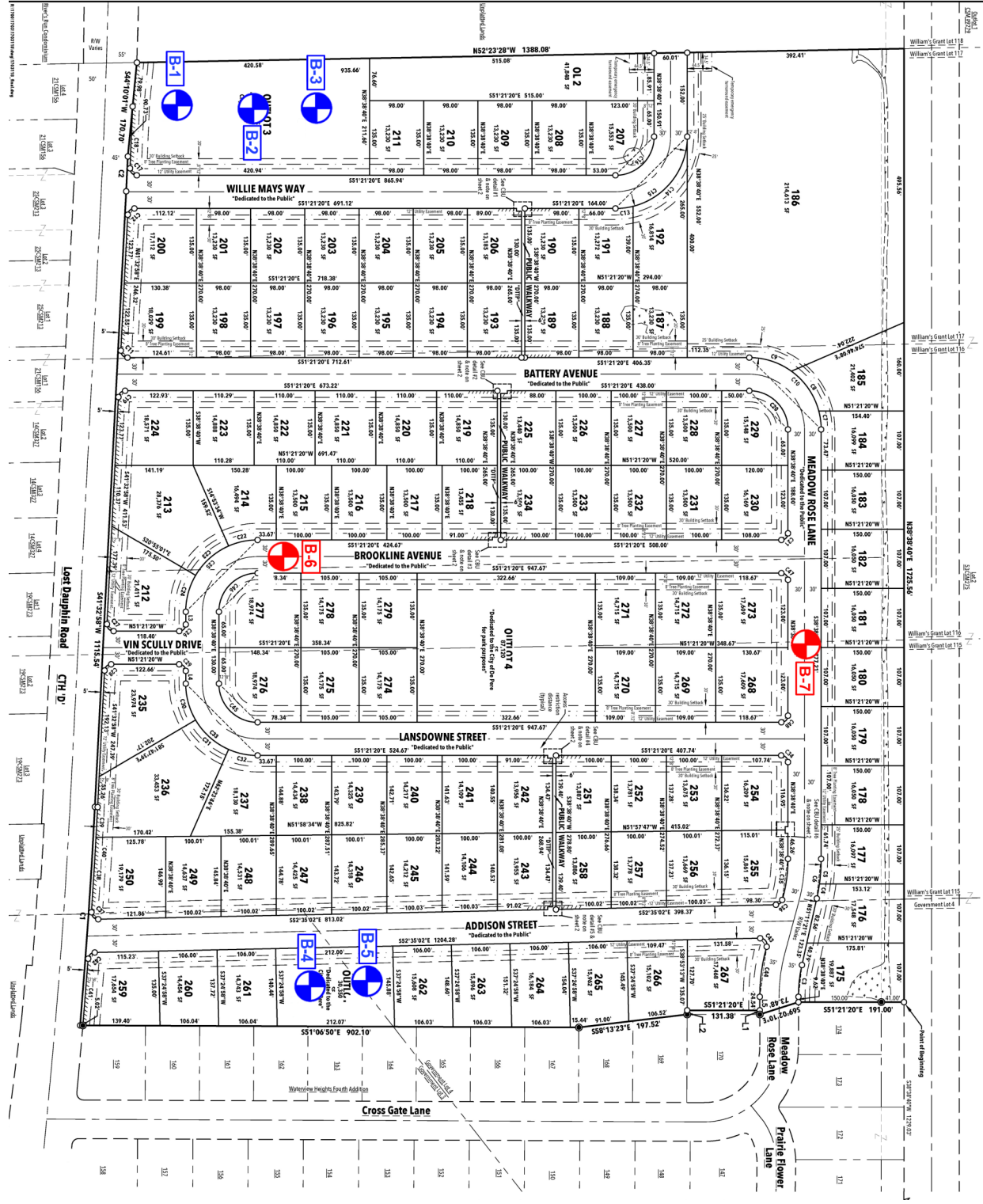
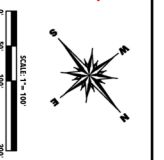
Figure 1 - Boring Location Plan
Soil Boring Logs
Laboratory Data Sheets
Storm Forms
General Notes

WATERVIEW HEIGHTS FIFTH ADDITION

PART OF GOVERNMENT LOT 3 AND PART OF GOVERNMENT LOT 4, ALL IN SECTION 22, NORTH, RANGE 20 EAST, AND PART OF LOTS 115, 116 AND 117 OF WILLIAMS GRANT SUBDIVISION, ALL LOCATED IN THE CITY OF DE PERE, BROWN COUNTY, WISCONSIN

Legend

- Approximate Sanitary Sewer Boring Location
- Approximate Stormwater Boring Location



Waterview Heights Fourth Addition Subdivision
Lost Dauphin Road
De Pere, Wisconsin

FIGURE 1: Boring Location Plan

SCALE: SHOWN ABOVE

PROJECT NO: 00941736



SOIL BORING LOG: B - 1

Project: Waterview Heights Fourth Addition Subdivision

Project No.: 00941736

Location: Lost Dauphin Road
De Pere, Wisconsin

Drill Date: June 2, 2022
Drilled By: AD/KH

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS	
		GROUND SURFACE ELEVATION: 629.9							
1	628.9	0-3" 10YR Dark brown CLAY LOAM, moist (TOPSOIL)	1-SS	4	-	-	24		
		2.5YR 3/3 Dark reddish brown Silty CLAY LOAM,1,f,sbk,mfi,moist							
2	627.9	2.5YR 5/4 Reddish brown Silty CLAY, 1,thin,pl,mfi,moist	2-SS	16	3.5	-	27		
3	626.9								
4	625.9		3-SS	12	4.5+	4.7	24		
5	624.9								
6	623.9		4-SS	12	4.5+	2.6	24		
7	622.9								
8	621.9		5-SS	12	3.5	2.5	22		
9	620.9								
10	619.9		6-SS	8	3.25	-	21		
11	618.9								
12	617.9	2.5YR 3/2 Dusky red SILTY CLAY,1, thin,pl,mfi,moist	7-SS	13	4.5	3.6	24		
13	616.9								
14	615.9		8-SS	9	4.25	2.9	24		
15	614.9								
16	613.9	END OF BORING @ 16± FEET							
FIELD OBSERVATIONS:				ADDITIONAL COMMENTS:					
Water Level <small>during drilling</small> : Not Encountered									
Water Level <small>upon completion</small> : Not Present									
Caved at <small>upon completion</small> : 11± feet below existing grade (EL. 618.9±)									
Delay Time: N/A									
Water Level <small>delayed</small> : N/A									
Caved at <small>delayed</small> : N/A									

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.



SOIL BORING LOG: B - 2

Project: Waterview Heights Fourth Addition Subdivision

Project No.: 00941736

Location: Lost Dauphin Road
De Pere, Wisconsin

Drill Date: June 2, 2022
Drilled By: AD/KH

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION GROUND SURFACE ELEVATION: 629.2	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
1	628.2	0-4"10YR Dark brown CLAY LOAM, moist (TOPSOIL)	1-SS	4	-	-	22	↓
		2.5YR 3/3 Dark reddish brown SILTY CLAY LOAM, 1,f,sbk,mfi,moist						
2	627.2	2.5YR 5/4 Reddish brown Silty CLAY,1,thin,pl,mfi,moist	2-SS	8	1.5	1.2	36	
3	626.2							
4	625.2		3-SS	10	4.5+	3.5	24	
5	624.2							
6	623.2		4-SS	13	4.5+	2.1	22	
7	622.2							
8	621.2		5-SS	10	3.5	4.5	21	
9	620.2							
10	619.2		6-SS	8	3.5	-	19	
11	618.2							
12	617.2	2.5YR 3/2 Dusky red SILTY CLAY,1,thin,pl,mfi,moist	7-SS	11	2.5	2.9	23	
13	616.2							
14	615.2		8-SS	10	4.0	3.5	24	
15	614.2							
16	613.2	END OF BORING @ 16± FEET						
FIELD OBSERVATIONS: Water Level during drilling: Not Encountered Water Level upon completion: Not Present Caved at upon completion: 7± feet below existing grade (EL. 622.2±) Delay Time: N/A Water Level delayed: N/A Caved at delayed: N/A				ADDITIONAL COMMENTS:				

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.



SOIL BORING LOG: B - 3

Project: Waterview Heights Fourth Addition Subdivision

Project No.: 00941736

Location: Lost Dauphin Road
De Pere, Wisconsin

Drill Date: June 2, 2022
Drilled By: AD/KH

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS	
		GROUND SURFACE ELEVATION: 630.3							
1	629.3	0-1" 10YR Dark brown CLAY LOAM, moist (TOPSOIL)	1-SS	4	3.25	3.1	22		
		2.5YR 3/3 Dark reddish brown Silty CLAY LOAM,1,f,sbk,mfi,moist							
2	628.3	2.5YR 5/4 Reddish brown Silty CLAY,1,thin,pl,mfi,moist	2-SS	7	4.25	3.9	27		
3	627.3								
4	626.3		3-SS	9	1.0	2.0	13		
5	625.3								
6	624.3		4-SS	9	3.5	4.1	21		
7	623.3								
8	622.3		5-SS	12	2.25	-	22		
9	621.3								
10	620.3		6-SS	10	3.0	3.3	21		
11	619.3								
12	618.3		7-SS	9	-	-	24		
13	617.3								
14	616.3	2.5YR 3/2 Dusky red SILTY CLAY,1,thin,pl,mfi,moist	8-SS	9	3.5	3.0	25		
15	615.3								
16	614.3	END OF BORING @ 16± FEET							
FIELD OBSERVATIONS:				ADDITIONAL COMMENTS:					
Water Level <small>during drilling</small> : Not Encountered				↓					
Water Level <small>upon completion</small> : Not Present				↓					
Caved at <small>upon completion</small> : 9± feet below existing grade (EL. 621.3±)				↓					
Delay Time: N/A									
Water Level <small>delayed</small> : N/A				⚡					
Caved at <small>delayed</small> : N/A									

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.



SOIL BORING LOG: B - 4

Project: Waterview Heights Fourth Addition Subdivision

Project No.: 00941736

Location: Lost Dauphin Road
De Pere, Wisconsin

Drill Date: June 2, 2022
Drilled By: AD/KH

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION		SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
		GROUND SURFACE ELEVATION: 625.6							
1	624.6	0-3" 10YR Dark brown CLAY LOAM, moist (TOPSOIL)		1-SS	5	2.5	-	27	↓
		2.5YR 3/3 Dark reddish brown Silty CLAY LOAM, 1,f,sbk,mfi,moist							
2	623.6	2.5YR 5/ Reddish brown Silty CLAY, 1,thin,pl,mfi,moist		2-SS	13	1.5	1.0	34	
3	622.6								
4	621.6			3-SS	15	4.5+	-	23	
5	620.6								
6	619.6			4-SS	10	3.75	4.5	20	
7	618.6								
8	617.6			5-SS	13	3.75	2.4	23	
9	616.6								
10	615.6			6-SS	11	3.25	3.1	23	
11	614.6								
12	613.6			7-SS	9	1.25	-	23	
13	612.6								
14	611.6			8-SS	8	2.25	2.6	23	
15	610.6								
16	609.6	END OF BORING @ 16± FEET							
FIELD OBSERVATIONS:				ADDITIONAL COMMENTS:					
Water Level during drilling: Not Encountered				↓					
Water Level upon completion: Not Present				↓					
Caved at upon completion: 7± feet below existing grade (EL. 618.6±)				↓					
Delay Time: N/A									
Water Level delayed: N/A				⚡					
Caved at delayed: N/A									

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.



SOIL BORING LOG: B - 5

Project: Waterview Heights Fourth Addition Subdivision

Project No.: 00941736

Location: Lost Dauphin Road
De Pere, Wisconsin

Drill Date: June 2, 2022
Drilled By: AD/KH

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION		SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
		GROUND SURFACE ELEVATION: 625.7							
1	624.7	0-4" 10YR Dark brown CLAY LOAM, moist (TOPSOIL)		1-SS	5	-	-	26	↓
		2.5YR 3/3 Dark reddish brown SILTY CLAY LOAM, 1,f,sbk,mfi,moist							
2	623.7	2.5YR 5/4 Reddish brown Silty CLAY, 1,thin,pl,mfi,moist		2-SS	8	4.5+	3.2	26	
3	622.7								
4	621.7			3-SS	9	4.5+	4.1	24	
5	620.7								
6	619.7			4-SS	11	3.75	2.5	23	
7	618.7								
8	617.7			5-SS	12	3.5	2.9	50	
9	616.7								
10	615.7			6-SS	12	2.75	3.3	21	
11	614.7								
12	613.7			7-SS*	22	-	-	-	
13	612.7								
14	611.7			8-SS	9	2.25	-	21	
15	610.7								
16	609.7	END OF BORING @ 16± FEET							
FIELD OBSERVATIONS:				ADDITIONAL COMMENTS:					
Water Level during drilling: Not Encountered				* No Sample Recovery					
Water Level upon completion: Not Present									
Caved at upon completion: 10± feet below existing grade (EL. 615.7±)									
Delay Time: N/A									
Water Level delayed: N/A									
Caved at delayed: N/A									

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.



SOIL BORING LOG: B - 6

Project: Waterview Heights Fourth Addition Subdivision

Project No.: 00941736

Location: Lost Dauphin Road
De Pere, Wisconsin

Drill Date: June 2, 2022
Drilled By: AD/KH

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS	
		GROUND SURFACE ELEVATION: 628.3							
1	627.3	0-7": Dark brown CLAY, with silt and trace root matter, moist (TOPSOIL)	1-SS	5	-	-	19		
		Reddish brown CLAY, with silt, moist			4.5+	3.9	26		
2	626.3								
3	625.3	Light brown SILT, with sand, very moist	2-SS	7	-	-	16		
4	624.3								
5	623.3								
6	622.3	Reddish brown Silty CLAY, moist	3-SS	9	2.0	2.2	17		
7	621.3								
8	620.3	Reddish brown CLAY, with silt, moist	4-SS	10	4.5+	4.1	16		
9	619.3								
10	618.3								
11	617.3		5-SS	11	4.5	3.8	19		
12	616.3								
13	615.3								
14	614.3	Reddish brown Silty CLAY, moist	6-SS	8	2.5	1.8	21		
15	613.3								
16	612.3								
17	611.3								
18	610.3								
19	609.3	Dark reddish gray Silty CLAY, moist	7-SS	9	2.0	1.7	24		
20	608.3	END OF BORING @ 20± FEET							
FIELD OBSERVATIONS:				ADDITIONAL COMMENTS:					
Water Level during drilling: Not Encountered									
Water Level upon completion: Not Present									
Caved at upon completion: 15± feet below ground surface (EL. 613.3±)									
Delay Time: N/A									
Water Level delayed: N/A									
Caved at delayed: N/A									

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.



SOIL BORING LOG: B - 7

Project: Waterview Heights Fourth Addition Subdivision

Project No.: 00941736

Location: Lost Dauphin Road
De Pere, Wisconsin

Drill Date: June 2, 2022
Drilled By: AD/KH

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS	
		GROUND SURFACE ELEVATION: 633.6							
1	632.6	0-4": Dark brown CLAY, with silt and trace root matter, moist (TOPSOIL)	1-SS	4	-	-	28		
		Reddish brown Silty CLAY, moist			-	-	35		
2	631.6								
3	630.6	Reddish brown CLAY, with silt, moist	2-SS	11	4.5+	4.1	22		
4	629.6								
5	628.6								
6	627.6	Light brown SILT, with sand, very moist	3-SS	10	-	-	24		
7	626.6								
8	625.6	Reddish brown CLAY, with silt, moist	4-SS	12	3.5	3.2	19		
9	624.6								
10	623.6								
11	622.6	Reddish brown Silty CLAY, moist	5-SS	11	3.0	2.1	21		
12	621.6								
13	620.6								
14	619.6		6-SS	7	4.0	-	19		
15	618.6								
16	617.6								
17	616.6								
18	615.6								
19	614.6	Dark grayish gray Silty CLAY, moist	7-SS	7	2.5	-	23		
20	613.6								
END OF BORING @ 20± FEET									
FIELD OBSERVATIONS:				ADDITIONAL COMMENTS:					
Water Level <small>during drilling</small> : Not Encountered									
Water Level <small>upon completion</small> : Not Present									
Caved at <small>upon completion</small> : 16± feet below ground surface (EL. 617.6±)									
Delay Time: N/A									
Water Level <small>delayed</small> : N/A									
Caved at <small>delayed</small> : N/A									

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.



Professional Service Industries, Inc.
3009 Vandenbroek Road
Kaukauna, WI 54130

Phone: (920) 735-1200
Fax: (920) 735-1840

Report No: MAT:00941736-1-S1

Issue No: 1

These test results apply only to the specific locations and materials noted and may not represent any other locations or elevations. This report may not be reproduced, except in full, without written permission by Professional Service Industries, Inc. If a non-compliance appears on this report, to the extent that the reported non-compliance impacts the project, the resolution is outside the PSI scope of engagement.

Material Test Report

Client: CITY OF DE PERE
925 SOUTH 6TH STREET
DE PERE, WI 54115

CC:

Project:

Approved Signatory: Patrick Bray (Branch Manager)
Date of Issue: 6/13/2022

Sample Details

Sample ID: 00941736-1-S1
Client Sample ID:
Date Sampled: 06/13/22
Sampled By: PSI
Specification: Standard Sieve
Supplier: On-Site Material
Source: Soil Boring
Material: Reddish brown CLAY (CH, A-7-6)
Sampling Method: Split Spoon
Soil Description: Reddish brown CLAY (CH, A-7-6)
General Location: B-2 (5ft to 7ft)
Location:

Sample Description:

Reddish brown CLAY (CH, A-7-6)

Atterberg Limit:

Liquid Limit: 63
Plastic Limit: 23
Plasticity Index: 40

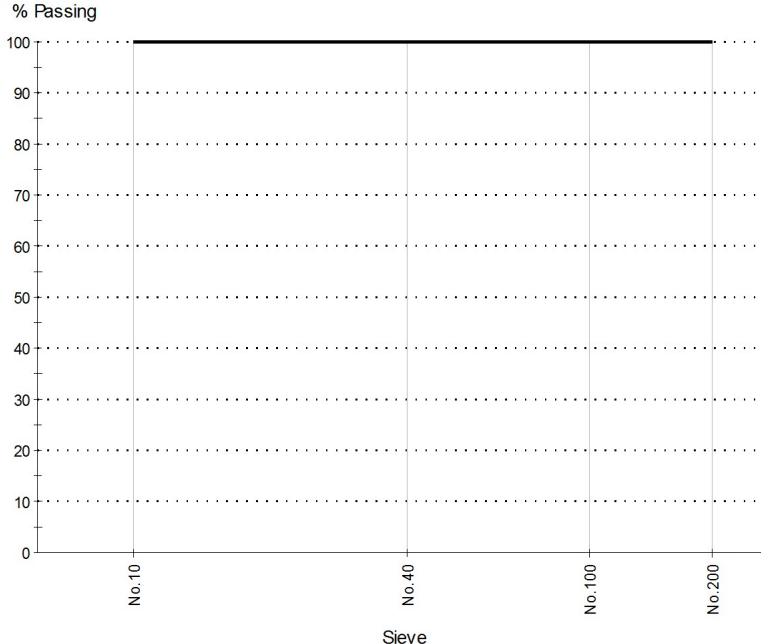
Grading: ASTM C 136, ASTM C 117

Date Tested: 6/13/2022
Tested By: Kenneth Stolt

Sieve Size	% Passing	Limits
No.10 (2.0mm)	100	
No.40 (425µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	100	

D85: N/A **D60:** N/A **D50:** N/A
D30: N/A **D15:** N/A **D10:** N/A

Particle Size Distribution



COBBLES	GRAVEL		SAND			FINES (99.8%)	
(0.0%)	Coarse (0.0%)	Fine (0.0%)	Coarse (0.0%)	Medium (0.1%)	Fine (0.1%)	Silt	Clay



Professional Service Industries, Inc.
3009 Vandenbroek Road
Kaukauna, WI 54130

Phone: (920) 735-1200
Fax: (920) 735-1840

Report No: MAT:00941736-1-S1

Issue No: 1

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Material Test Report

Client: CITY OF DE PERE
925 SOUTH 6TH STREET
DE PERE, WI 54115

CC:

Project:

Approved Signatory: Patrick Bray (Branch Manager)
Date of Issue: 6/13/2022

Sample Details

Sample ID: 00941736-1-S1
Client Sample ID:
Date Sampled: 06/13/22
Sampled By: PSI
Specification: Standard Sieve
Supplier: On-Site Material
Source: Soil Boring
Material: Reddish brown CLAY (CH, A-7-6)
Sampling Method: Split Spoon
Soil Description: Reddish brown CLAY (CH, A-7-6)
General Location: B-2 (5ft to 7ft)
Location:

Other Test Results

Description	Method	Result	Limits
Approximate maximum grain size	ASTM D 4318		
Material retained on 425µm (No. 40) (%)			
Method of Removal			
Grooving Tool Type		Plastic	
Specimen preparation method			
Drying Method			
Special selection process			
Rolling Method for PL		Hand	
As Received Water Content (%)			
Liquid Limit Device Type		Manual	
Liquid Limit		63	
Plastic Limit		23	
Plasticity Index		40	
Liquid Limit Procedure		One-point (B)	
Tested By		Kenneth Stolt	
Date Tested		6/13/2022	

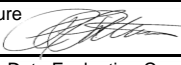
Comments

N/A

SOIL EVALUATION - STORM

Page 1 of 2

In accordance with SPS 382.365 & 385, Wis. Adm. Code and WDNR Standard 1002

Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road. Please print all information. Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04 (1) (m)].						County					
						Brown					
						Parcel I.D. WD-L496, WD-D0104					
						Reviewed by: Date:					
Property Owner City of De Pere			Property Location: Williams Grant								
Property Owner's Mailing Address 925 South Sixth Street			Govt. Lot 1/4 1/4S T N R E (or) W		Lot #		Block #		Subd. Name or CSM#		
City De Pere			State Wi		Zip Code 5434		Phone Number (920)339-4060		<input checked="" type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town Nearest Road De Pere Lost Dauphin Road		
Drainage area _____ <input type="checkbox"/> sq. ft. <input type="checkbox"/> acres Optional: Test Site Suitable for (check all that apply) <input type="checkbox"/> Irrigation <input type="checkbox"/> Bioretention trench <input type="checkbox"/> Trench(es) <input type="checkbox"/> Rain Garden <input type="checkbox"/> Grassed swale <input type="checkbox"/> Reuse <input type="checkbox"/> Infiltration trench <input type="checkbox"/> SDS (> 15' wide) <input type="checkbox"/> Other _____						Hydraulic Application Test Method: <input checked="" type="checkbox"/> Morphological Evaluation <input type="checkbox"/> Double Ring Infiltrometer <input type="checkbox"/> Other (specify)			Soil Moisture Date of Borings: June 2, 2022 USDA-NRCS WETS Value: 10 <input type="checkbox"/> Dry = 1; <input checked="" type="checkbox"/> Normal = 2; <input type="checkbox"/> Wet = 3.		
1 Obs. # <input checked="" type="checkbox"/> Boring B-1 <input type="checkbox"/> Pit Ground surface elevation 629.86± Elevation of limiting factor <613.9±											
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.	
1	0-3	3" topsoil									
2	3-24	2.5YR 3/3		sicl	1 f sbk	mfi		<15		0.04	
3	24-144	2.5YR 5/4		sic	1 thin pl	mfi		<15		0.07	
4	144-192	2.5YR 3/2		sic	1 thin pl	mfi		<15		0.07	
Comment:											
2 Obs. # <input checked="" type="checkbox"/> Boring B-2 <input type="checkbox"/> Pit Ground surface elevation 629.17± Elevation of limiting factor <613.2±											
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.	
1	0-4	4" topsoil									
2	4-24	2.5YR 3/3		sicl	1 f sbk	mfi		<15		0.04	
3	24-144	2.5YR 5/4		sic	1 thin pl	mfi		<15		0.07	
4	144-192	2.5YR 3/2		sic	1 thin pl	mfi		<15		0.07	
Comments:											
CST/PSS Name (Please Print) Patrick J. Patterson				Signature 				CST/PSS/Geologist Number G-229			
Address 821 Corporate Court, Waukesha, WI 53189				Date Evaluation Conducted 6/2/2022				Telephone Number 262 521 2125			

SBD-10793 (R.01/17)

3	Obs. #	<input checked="" type="checkbox"/> Boring B-3		Ground surface elevation 630.25±		Elevation of limiting factor <614.2±				
		<input type="checkbox"/> Pit								
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.
1	0-1	1" topsoil								
2	1-24	2.5YR 3/3		sicl	1 f sbk	mfi		<15		0.04
3	24-156	2.5YR 5/4		sic	1 thin pl	mfi		<15		0.07
4	156-192	2.5YR 3/2		sic	1 thin pl	mfi		<15		0.07
Comments:										

4	Obs. #	<input checked="" type="checkbox"/> Boring B-4		Ground surface elevation 625.63±		Elevation of limiting factor <609.6±				
		<input type="checkbox"/> Pit								
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.
1	0-1	3" topsoil								
2	1-24	2.5YR 3/3		sicl	1 f sbk	mfi		<15		0.04
3	24-192	2.5YR 5/4		sic	1 thin pl	mfi		<15		0.07
Comments										

5	Obs. #	<input checked="" type="checkbox"/> Boring B-5		Ground surface elevation 625.66±		Elevation of limiting factor <609.7±				
		<input type="checkbox"/> Pit								
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.
1	0-1	4" topsoil								
2	1-24	2.5YR 3/3		sicl	1 f sbk	mfi		<15		0.04
3	24-192	2.5YR 5/4		sic	1 thin pl	mfi		<15		0.07
Comments:										

GENERAL NOTES

SAMPLE IDENTIFICATION

- Information on each log is a compilation of subsurface conditions, based on visual soil classifications of soil samples obtained from the field as assigned by a soils engineer, as well as from laboratory testing of samples, if performed. The strata lines on the logs may be approximate or the transition between the strata may be gradual rather than distinct. Water level measurements refer only to those observed at the times and locations indicated, and may vary with time, geologic condition and construction activity.
- Unified Soil Classification System (USCS) designations are based on visual soil classification estimates on the basis of textural and particle size categorization and various soil behavior characteristics. If laboratory tests were performed to classify the soil, the USCS designation is shown in parenthesis.

USCS SOIL PARTICLE SIZE CLASSES

U.S. Std. Sieve		#200	#40		#10	#4	¾"		3"	12"	
Soil Type	Clay	Silt	Sand			Gravel		Cobbles	Boulders		
			Fine	Medium	Coarse	Fine	Coarse				
Millimeters	0.002	0.074	0.42		2	4.8	19	76		300	

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487-00)

Criteria for assigning group symbols and group names using laboratory tests ^A				Soil Classification	
				Group Symbol	Group Name ^B
COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve)	Gravels (More than 50% of coarse fraction retained on No. 4 sieve)	Clean gravels w/ < 5% fines ^E	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^C	GW	Well-graded gravel ^D
			$Cu < 4$ and/or $1 > Cc > 3$ ^C	GP	Poorly graded gravel ^D
		Gravels w/ > 12% fines ^E	Fines classify as ML or MH	GM	Silty gravel ^{D,F,G}
			Fines classify as CL or CH	GC	Clayey gravel ^{D,F,G}
	Sands (More than 50% of coarse fraction passes the No. 4 sieve)	Clean sands w/ < 5% fines ^I	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^C	SW	Well-graded sand ^H
			$Cu < 6$ and/or $1 > Cc > 3$ ^C	SP	Poorly graded sand ^H
		Sands w/ > 12% fines ^I	Fines classify as ML or MH	SM	Silty sand ^{F,G,H}
			Fines classify as CL or CH	SC	Clayey sand ^{F,G,H}
FINE-GRAINED SOILS (More than 50% passes the No. 200 sieve)	Silt and clays w/ liquid limit (LL) < 50	Inorganic	PI > 7 and plots on or above “A” line ^J	CL	Lean clay ^{K,L,M}
			PI < 4 and plots below “A” line ^J	ML	Silt ^{K,L,M}
		Organic	LL (Oven dried) / LL (Not dried) < 0.75	OL	Organic clay ^{K,L,M,N}
				OL	Organic silt ^{K,L,M,O}
	Silt and clays w/ liquid limit (LL) ≥ 50	Inorganic	PI plots on or above “A” line	CH	Fat clay ^{K,L,M}
			PI plots below “A” line	MH	Elastic silt ^{K,L,M}
		Organic	LL (Oven dried) / LL (Not dried) < 0.75	OH	Organic clay ^{K,L,M,P}
				OH	Organic silt ^{K,L,M,Q}
HIGHLY ORGANIC SOILS		Primarily organic matter, dark in color, and organic odor		PT	Peat

^A Based on the material passing the 3-inch (75 mm) sieve

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name

^C $Cu = D_{60}/D_{10}$; $Cc = (D_{30})^2 / D_{10} \times D_{60}$

^D If soil contains ≥ 15% sand, add "with sand" to group name

^E Gravels with 5 to 12% fines require dual symbols:

GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay

^F If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM

^G If fines are organic, add "with organic fines" to group name

^H If soil contains ≥ 15% gravel, add "with gravel" to group name

^I Sands with 5 - 12% fines require dual symbols:

SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay

^J If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay

^K If soil contains 15 - 29% plus No. 200, add "with sand" or "with gravel"

^L If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name

^M If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name

^N PI ≥ 4 and plots on or above "A" line

^O PI < 4 or plots below "A" line

^P PI plots on or above "A" line

^Q PI below "A" line

RELATIVE SOIL COMPOSITION

Trace - 0 - 15% of sample
With - 15 - 35% of sample
Soil modifier - > 35% of sample (i.e. sandy, silty, clayey, gravelly)

DRILLING & SAMPLING SYMBOLS

AU - Auger sample from cuttings
BS - Bag sample
HA - Hand auger sample

SS - Split spoon sample (2" O.D. by 1½" I.D.)
ST - Shelby Tube sample (2" or 3" O.D.)
WS - Wash sample from wash water return

SOIL PROPERTY SYMBOLS

N - N-value (blow count) is the standard penetration resistance based on the total number of blows required to advance a split spoon sampler one (1) foot, using a 140 lb. hammer with a 30 inch free fall. To avoid damage to sampling tools, driving is typically limited to 50 blows during any 6 inch interval. Additional description is provided below:

N-value (bpf)

Description

HW	Sampler penetrated soil under weight of hammer and rods; no driving required
25	25 blows to advance sampler 12 inches after initial 6 inches of seating
75/10"	75 blows to advance sampler 10 inches after initial 6 inches of seating
50/S3"	50 blows to advance sampler 3 inches during initial 6 inch seating interval

MC - Moisture content, %
Qu - Unconfined compressive strength, tons per square foot (tsf)
Qp - Calibrated hand penetrometer resistance, tsf
γ_d - Dry density, pounds per cubic foot (pcf)

LL - Liquid limit, % (ASTM D4318)
PL - Plastic limit, % (ASTM D4318)
PI - Plasticity index, % (ASTM D4318)
%P200 - Percent of sample passing the No. 200 sieve

RQD - Rock quality designation of NX-size core sample
RMR - Rock mass rating, as developed by Z.T. Bieniawski
PID - Photoionization detector (Hnu meter) volatile vapor level, ppm

SOIL RELATIVE DENSITY & CONSISTENCY CLASSIFICATION

NON-COHESIVE SOILS		COHESIVE SOILS		
Density	N-Value Range	Consistency	Qu Range (tsf)	Approximate N-value Range
Very loose	0 - 3	Very soft	0 - 0.25	0 - 2
Loose	3 - 7	Soft	0.25 - 0.5	2 - 5
Medium dense	7 - 15	Medium stiff	0.5 - 1.0	5 - 10
Dense	15 - 38	Stiff	1.0 - 2.0	10 - 14
Very dense	38+	Very Stiff	2.0 - 4.0	14 - 32
		Hard	4.0+	32+

SOIL STRUCTURE TERMINOLOGY

Interlayered - Alternating layers of different soil types
Layer - Inclusion greater than 3 inches thick
Seam - Inclusion ½ to 3 inches thick
Laminated - Alternating seams of different soil type

Intermixed - Pockets of different soil types, no layering
Pocket - Inclusion of material of different texture
Varved - Alternating layers or seams of sand, silt, and/or clay

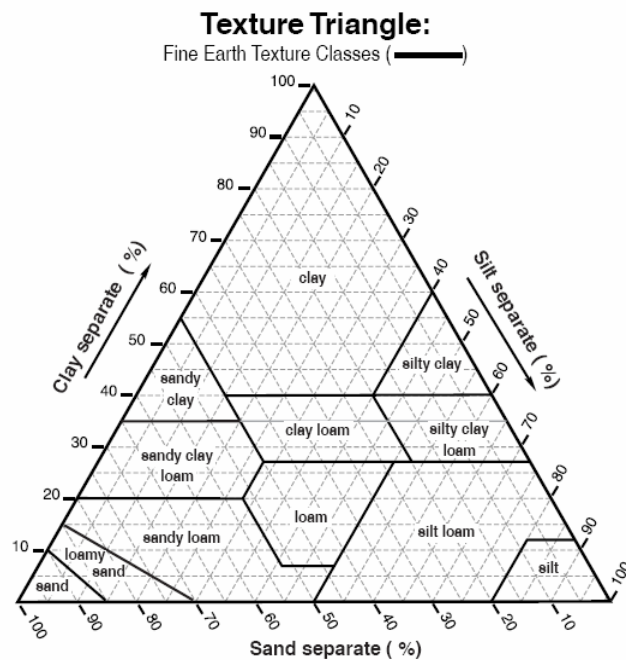
GROUNDWATER & MOISTURE CONDITIONS

▽ - Approximate groundwater level as noted during drilling and sampling
▼ - Groundwater level as noted within the open borehole upon removal of the augers
⚡ - Delayed groundwater level within open borehole

Dry - Absence of moisture, dry to the touch
Moist - Damp, but no visible water
Wet - Visible free water, saturated, usually below water table

NOTE: General Notes have been adapted from and incorporate portions of ASTM D2487 "Classification of Soils for Engineering Purposes (Unified Soil Classification System)" and ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)."

USDA SOIL CLASSIFICATION SYSTEM*



NOTE: Soil Texture encompasses only the fine earth fraction (≤ 2 mm).

Particle Size Distribution (PSD) encompasses the whole soil, including both the fine earth fraction (≤ 2 mm; weight %) and rock fragments (> 2 mm; volume %).

TEXTURE CLASS

Texture Class or Subclass	Code	
	Conv.	NASIS
Coarse Sand	cos	COS
Sand	s	S
Fine Sand	fs	FS
Very Fine Sand	vfs	VFS
Loamy Coarse Sand	lcos	LCOS
Loamy Sand	ls	LS
Loamy Fine Sand	lfs	LFS
Loamy Very Fine Sand	lvfs	LVFS
Coarse Sandy Loam	cosl	COSL
Sandy Loam	sl	SL
Fine Sandy Loam	fsl	FSL
Very Fine Sandy Loam	vfsl	VFSL
Loam	l	L
Silt Loam	sil	SIL
Silt	si	SI
Sandy Clay Loam	scl	SCL
Clay Loam	cl	CL
Silty Clay Loam	sicl	SICL
Sandy Clay	sc	SC
Silty Clay	sic	SIC
Clay	c	C

TEXTURE MODIFIERS - Conventions for using "Rock Fragment Texture Modifiers" and for using textural adjectives that convey the "% volume" ranges for Rock Fragments - Size and Quantity.

Fragment Content % By Volume	Rock Fragment Modifier Usage
< 15	No texture adjective is used (noun only; e.g., <i>loam</i>).
15 to < 35	Use adjective for appropriate size; e.g., <i>gravelly</i> .
35 to < 60	Use "very" with the appropriate size adjective; e.g., <i>very gravelly</i> .
60 to < 90	Use "extremely" with the appropriate size adjective; e.g., <i>extremely gravelly</i> .
≥ 90	No adjective or modifier. If $\leq 10\%$ fine earth, use the appropriate noun for the dominant size class; e.g., <i>gravel</i> . Use Terms in Lieu of Texture .

TEXTURE MODIFIERS - (adjectives)

ROCK FRAGMENTS: Size & Quantity ¹	Code		Criteria: Percent (By Volume) of Total Rock Fragments and Dominated By (<i>name size</i>): ¹
	Conv.	PDP/ NASIS	
ROCK FRAGMENTS (> 2 mm; ≥ Strongly Cemented)			
Gravelly	GR	GR	≥ 15% but < 35% gravel
Fine Gravelly	FGR	GRF	≥ 15% but < 35% fine gravel
Medium Gravelly	MGR	GRM	≥ 15% but < 35% med. gravel
Coarse Gravelly	CGR	GRC	≥ 15% but < 35% coarse gravel
Very Gravelly	VGR	GRV	≥ 35% but < 60% gravel
Extremely Gravelly	XGR	GRX	≥ 60% but < 90% gravel
Cobbly	CB	CB	≥ 15% but < 35% cobbles
Very Cobbly	VCB	CBV	≥ 35% but < 60% cobbles
Extremely Cobbly	XCB	CBX	≥ 60% but < 90% cobbles
Stony	ST	ST	≥ 15% but < 35% stones
Very Stony	VST	STV	≥ 35% but < 60% stones
Extremely Stony	XST	STX	≥ 60% but < 90% stones
Bouldery	BY	BY	≥ 15% but < 35% boulders
Very Bouldery	VBY	BYV	≥ 35% but < 60% boulders
Extremely Bouldery	XBY	BYX	≥ 60% but < 90% boulders
Channery	CN	CN	≥ 15% but < 35% channers
Very Channery	VCN	CNV	≥ 35% but < 60% channers
Extremely Channery	XCN	CNX	≥ 60% but < 90% channers
Flaggy	FL	FL	≥ 15% but < 35% flagstones
Very Flaggy	VFL	FLV	≥ 35% but < 60% flagstones
Extremely Flaggy	XFL	FLX	≥ 60% but < 90% flagstones

* As outlined in the NRCS Field Book for Describing and Sampling Soils, Version 2.0 (2002).

PROJECT# 24-04
WATERVIEW HEIGHTS PHASE II
CONSTRUCTION

CITY OF DE PERE



ENGINEER DIVISION
925 S. SIXTH ST
DE PERE, WI 54115



SITE LOCATION MAP
N.T.S.

SHEET NO.	DESCRIPTION
G001	TITLE SHEET
G002	STANDARD ABBREVIATION & SYMBOLS
G003	PROJECT SHEET LAYOUT
G004	TYPICAL SECTIONS
G005	DEMOLITION PLAN
C101 - C116	PLAN AND PROFILE SHEETS
C301 - C319	CROSS SECTIONS
C401	SITE GRADING AND RESTORATION PLANS
C402	EROSION CONTROL PLAN
C403	LOT GRADING PLAN
C404	INTERSECTION AND CURB RAMP DETAILS
C501 - C502	CONSTRUCTION DETAILS

CITY OF DE PERE
BOARD OF PUBLIC WORKS

3/7/2024 DATE	E.P. Rakers CITY ENGINEER
3/7/24 DATE	[Signature] CITY ADMINISTRATOR
3/7/24 DATE	[Signature] MAYOR

STAMPS:



3/7/2024

LIST OF STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	N	NORTH
AGGR	AGGREGATE	NB	NORTHBOUND
AH	AHEAD	NC	NORMAL CROWN
ASPH	ASPHALT	NE	NORTHEAST
B/B	BACK TO BACK	NO	NUMBER
BARR	BARRICADE	NTS	NOT TO SCALE
BC	BACK OF CURB	NW	NORTHWEST
BK	BACK	OD	OUTSIDE DIAMETER
BL	BASELINE	PC	POINT OF CURVATURE
BLVD	BOULEVARD	PCC	POINT OF COMPOUND CURVE
BLDG	BUILDING	PCC	PORTLAND CEMENT CONCRETE
BM	BENCHMARK	PED	PEDESTAL
BOW	BACK OF SIDEWALK	PLE	PERMANENT LIMITED EASEMENT
BSMT	BASEMENT	PVMT	PAVEMENT
C	CUT	PE	PRIVATE ENTRANCE
C&G	CURB AND GUTTER	PI	POINT OF INTERSECTION
C/C	CENTER TO CENTER	PL	PROPERTY LINE
CABC	CRUSHED AGGREGATE BASE COURSE	POC	POINT OF CURVE
CB	CATCH BASIN	POT	POINT ON TANGENT
CE	CONSTRUCTION ENTRANCE	PP	POLYETHYLENE
CI	CAST IRON PIPE	PRC	POINT OF REVERSE CURVATURE
CL	CENTERLINE	PROJ	PROJECT
CMP	CORRUGATED METAL PIPE	PROP	PROPOSED
CNTY	COUNTY	PRZ	PROTECTIVE ROOT ZONE
CO	CLEANOUT	PSI	POUND PER SQUARE INCH
CONC	CONCRETE	PT	POINT OF TANGENCY
CONSTR	CONSTRUCTION	PVC	POLYVINYL CHLORIDE
CONSTR JT	CONSTRUCTION JOINT	R	RANGE OR RADIUS
CORP	CORPORATION	RCP	REINFORCED CONCRETE PIPE
CP	CONTROL POINT	REBAR	REINFORCEMENT BAR
CTH	COUNTY TRUNK HIGHWAY	REL	RELOCATE
CTRL JT	CONTROL JOINT	REM	REMAINING
CTV	CABLE TV	REQD	REQUIRED
CY	CUBIC YARD	RL	REFERENCE LINE
D	DEPTH	ROW	RIGHT OF WAY
DIA	DIAMETER	RP	REFERENCE POINT
DI	DUCTILE IRON PIPE	RR	RAILROAD
DISCH	DISCHARGE	RT	RIGHT
DW	DRIVEWAY	RW	RETAINING WALL
E	EAST (SEE ELEC BELOW)	S	SOUTH
EA	EACH	SALV	SALVAGE
EB	EASTBOUND	SAN	SANITARY
EBS	EXCAVATION BELOW SUBGRADE	SB	SOUTHBOUND
EL	ELEVATION	SDWK	SIDEWALK
ELEC	ELECTRIC (E WHEN USED IN LINE STYLE)	SE	SOUTHEAST
EMB	EMBANKMENT	SF	SQUARE FEET
ENTR	ENTRANCE	SHLDR	SHOULDER
EP	EDGE OF PAVEMENT	SY	SQUARE YARD
EW	ENDWALL	SS	SANITARY SEWER
EXC	EXCAVATION	ST	STREET (ST WHEN USED FOR STORM SEWER LINE)
EXIST	EXISTING	STA	STATION
F	FILL	STD	STANDARD
F/F	FACE TO FACE	STH	STATE HIGHWAY TRUNK
FDN	FOUNDATION	STM	STORM
FE	FIELD ENTRANCE	STRUCT	STRUCTURE OR STRUCTURAL
FERT	FERTILIZER	SW	SOUTHWEST
FIN GR	FINISHED GRADE	TAN	TANGENT
FL	FLOWLINE	T	TELEPHONE LINE
FO	FIBER OPTIC	TEL	TELEPHONE
FOW	FRONT OF SIDEWALK	TEMP	TEMPORARY
FT	FOOT	TLE	TEMPORARY LIMITED EASEMENT
FTG	FOOTING	TOC	TOP OF CURB
G	GAS	TOW	TOP OF WATER
GV	GAS VALVE	TRANS	TRANSITION
GW	GUY WIRE	TYP	TYPICAL
HDPE	HIGH DENSITY POLYETHYLENE	UG	UNDERGROUND
HR	HANDICAP RAMP	USH	US HIGHWAY
HSE	HOUSE	VC	VERTICAL CURVE
HT	HEIGHT	VERT	VERTICAL
HYD	HYDRANT	VOL	VOLUME
I	INTERSECTION ANGLE	VPC	VERTICAL POINT OF CURVATURE
ID	INSIDE DIAMETER	VPI	VERTICAL POINT OF INTERSECTION
IN	INCH	VPRC	VERTICAL POINT OF REVERSE CURVE
INL	INLET	VPT	VERTICAL POINT OF TANGENCY
INTERS	INTERSECTION	W	WEST (W WHEN USED FOR WATER LINE)
INV	INVERT	WB	WESTBOUND
IP	IRON PIPE OR PIN	WM	WATERMAIN
L	LENGTH (OF CURVE)	WSO	WATER SHUTOFF VALVE
LC	LONG CHORD OF CURVE	WV	WATER VALVE
LP	LIGHTPOLE	YD	YARD
LS	LIFT STATION OR LUMP SUM		
LT	LEFT		
MAINT	MAINTENANCE		
MATL	MATERIAL		
MB	MAILBOX		
MH	MANHOLE		
MP	MARKER POST		

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
BENCHMARK		
BUSH		
CATCH BASIN/INLET		
CABLE TV BOX		
CONTROL POINT		
ELECTRICAL BOX		
EROSION CONTROL – INLET		
FIBER OPTIC PEDESTAL		
FIELD INLET		
GAS VALVE		
GUY WIRE		
HEDGE		
HYDRANT		
IRON PIPE		
LIGHTPOLE		
MAILBOX		
MANHOLE ELECTRIC		
MANHOLE SANITARY		
MANHOLE STORM		
MONITORING WELL		
POWER POLE		
SIGN		
SOIL BORING		
STUMP		
TELEPHONE MANHOLE		
TELEPHONE PEDESTAL		
TREE		
WELL		
WATER SERVICE VALVE		
BUTTERFLY WATER VALVE		
WATER VALVE		

GENERAL CONSTRUCTION NOTES:

- ALL ELEVATIONS ARE REFERENCED TO NAVD 88.
- THE WORK UNDER THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE CITY OF DE PERE, CURRENT CONSTRUCTION SPECIFICATIONS AND THESE SPECIAL PROVISIONS AND PLANS, AND THE LATEST ADDITION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION SPECIFICATIONS, LATEST EDITION, WHERE REFERENCED IN THE CITY SPECIFICATIONS.
- ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO CONSTRUCTION AND SHALL CONFIRM TO THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONSTRUCTION SITE EROSION CONTROL AND TECHNICAL STANDARDS.
- EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES. WHETHER SHOWN OR NOT, FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITIES OWNERS SHALL BE NOTIFIED BY THE CONTRACTOR 72 HOURS PRIOR TO EXCAVATION.

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL	
	PLAN	
EXISTING SANITARY SEWER LINE	(SIZE AND MATERIAL) SAN	
PROPOSED SANITARY SEWER LINE	100'–8" PVC SAN SAN	
EXISTING STORM SEWER LINE	(SIZE AND MATERIAL) ST	
PROPOSED STORM SEWER LINE	100'–8" PVC STM ST	
EXISTING WATER MAIN LINE	(SIZE AND MATERIAL) W	
PROPOSED WATER MAIN LINE	100'–8" PVC WM (TEE–BEND) W	
EXISTING ELECTRICAL LINE	E	
EXISTING GAS MAIN LINE	G	
EXISTING TELEPHONE LINE	T	
EXISTING CABLE TV LINE	TV	
EXISTING SANITARY LATERAL	SAN	
EXISTING WATER SERVICE	W	
RIGHT OF WAY	ROW	
PROPERTY LINE	PL	
EASEMENT	ESM	
LANDSCAPE FENCE	O	
SILT FENCE EROSION CONTROL	□	
EXISTING FIBER OPTIC	FO	
EXISTING MAJOR CONTOUR	615	
EXISTING MINOR CONTOUR	612	
PROPOSED MAJOR CONTOUR	615	
PROPOSED MINOR CONTOUR	612	
EXISTING OVERHEAD UTILITY	OH	

PROFILE

EXISTING SANITARY SEWER LINE	(SIZE AND MATERIAL)
PROPOSED SANITARY SEWER LINE	100'–8" PVC SAN @ 0.40%
EXISTING STORM SEWER LINE	(SIZE AND MATERIAL)
PROPOSED STORM SEWER LINE	100'–8" PVC STM @ 1.0%
EXISTING WATER MAIN LINE	(SIZE AND MATERIAL)
PROPOSED WATER MAIN LINE	PROPOSE 8" PVC WM

PATCH SYMBOLS

ASPHALTIC CONCRETE PAVEMENT		CRUSHED AGGREGATE BASE COURSE	
PORTLAND CEMENT CONCRETE			

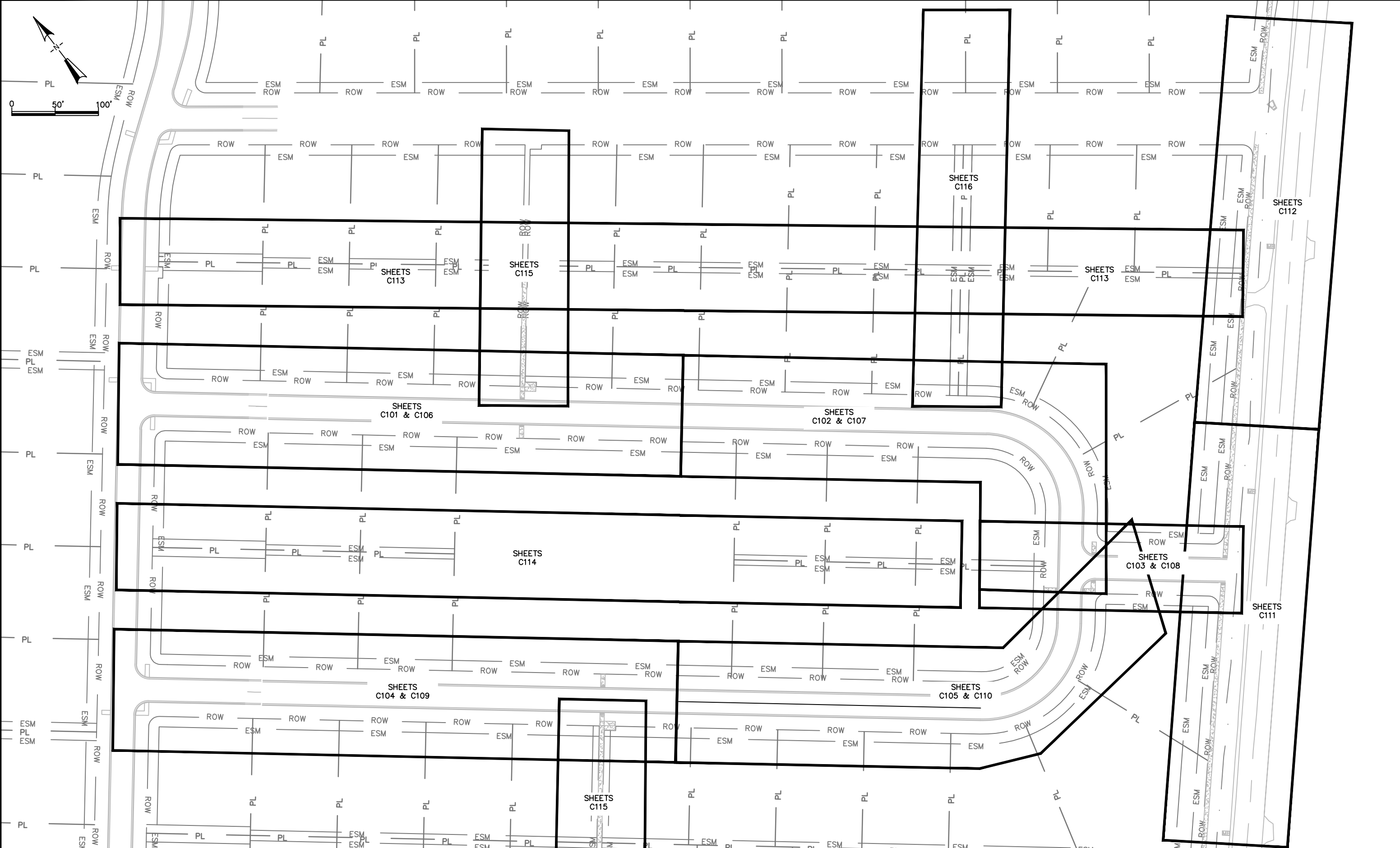


CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920–339–4060 FAX 920–339–4071

STANDARD ABBREVIATIONS
AND SYMBOLS

NAME: WATERVIEW HEIGHTS PHASE II CONSTRUCTION	BY	DATE	REVISIONS / ISSUES				PAGE NO.
PROJECT # 24–04	SURVEYED		NO.	DATE	BY	REMARKS	G002
	DRAWN	KAD					
	DESIGNED	01–2024					
	CHECKED						



CITY OF DE PERE

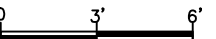
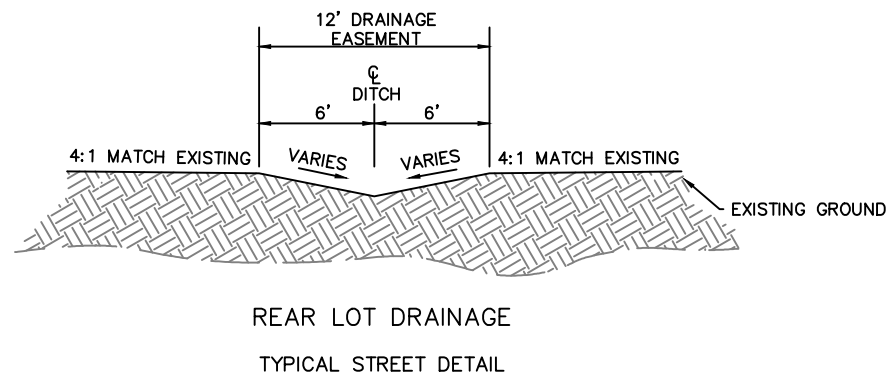
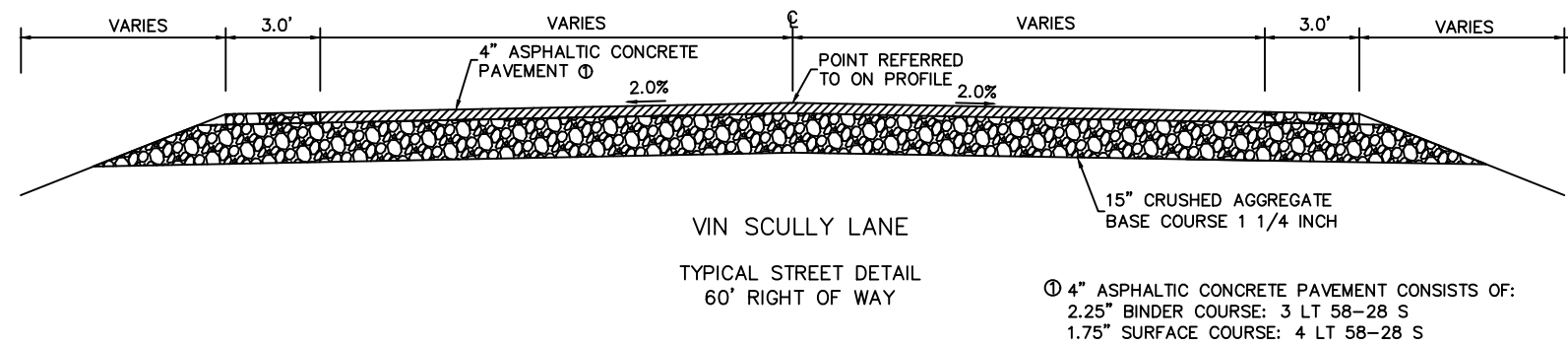
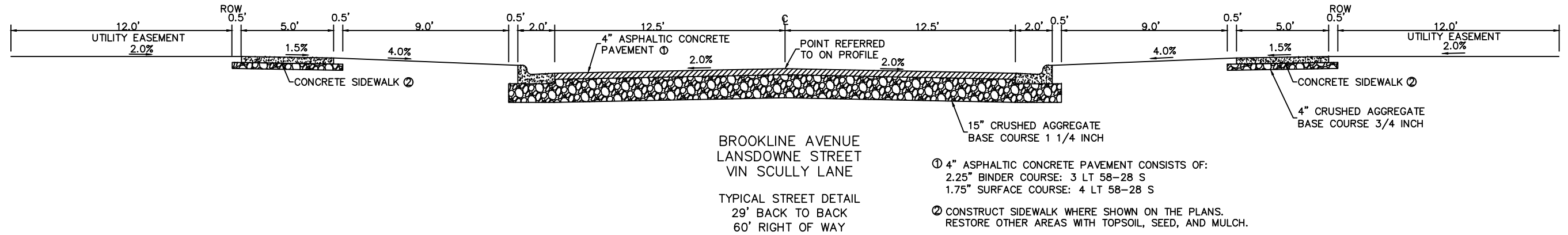
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**WATERVIEW HEIGHTS
OVERALL SHEET LAYOUT
PHASE 2**

NAME: WATERVIEW HEIGHTS
PHASE II
CONSTRUCTION
PROJECT # 24-04

	BY	DATE
SURVEYED	MAL	11-2023
DRAWN	MAL	11-2023
DESIGNED	MAL/EPR	11-2023
CHECKED	EPR	01-2024

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

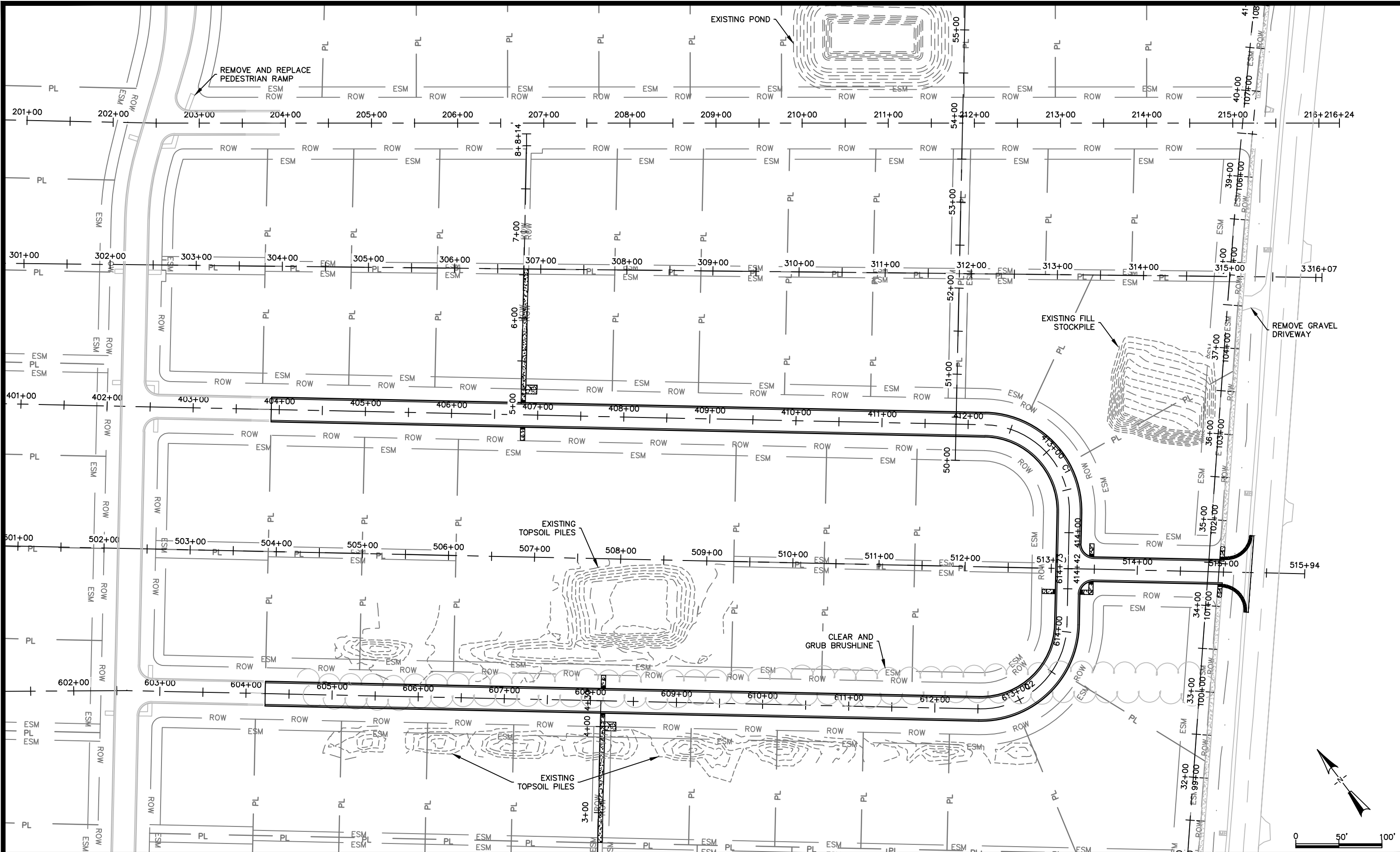


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WATerview HEIGHTS TYPICAL SECTIONS

NAME: WATerview HEIGHTS PHASE II CONSTRUCTION	BY	DATE	REVISIONS / ISSUES				PAGE NO.
			NO.	DATE	BY	REMARKS	
PROJECT # 24-04	SURVEYED	MAL	11-2023				G004
	DRAWN	MAL	11-2023				
	DESIGNED	MAL/EPR	11-2023				
	CHECKED	EPR	01-2024				



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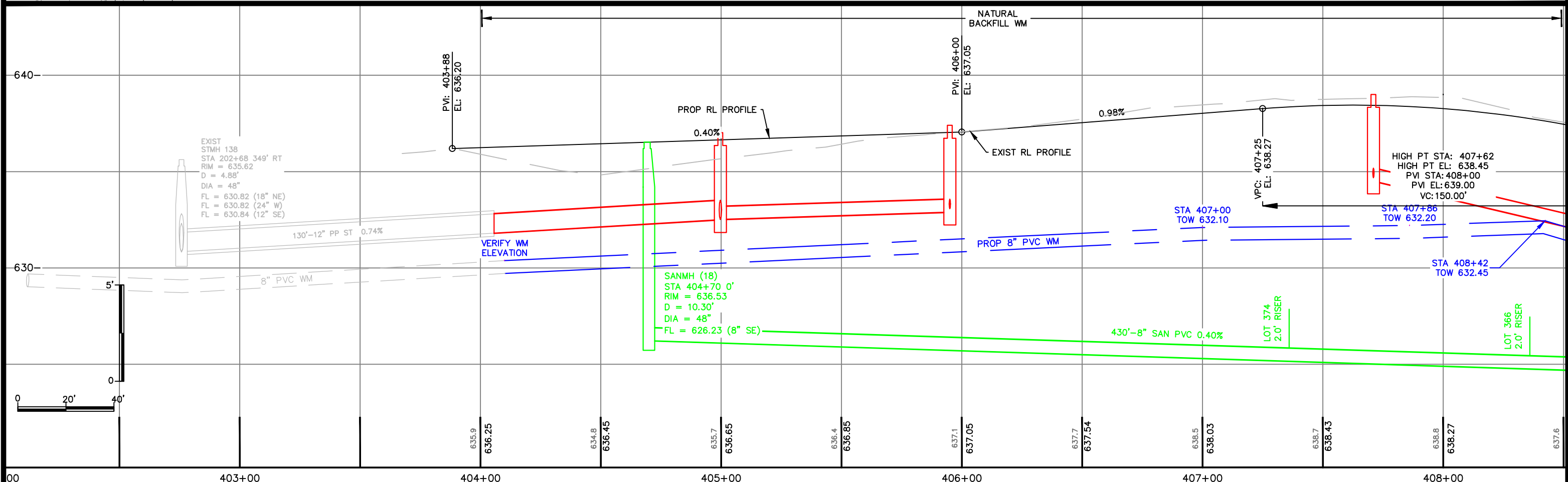
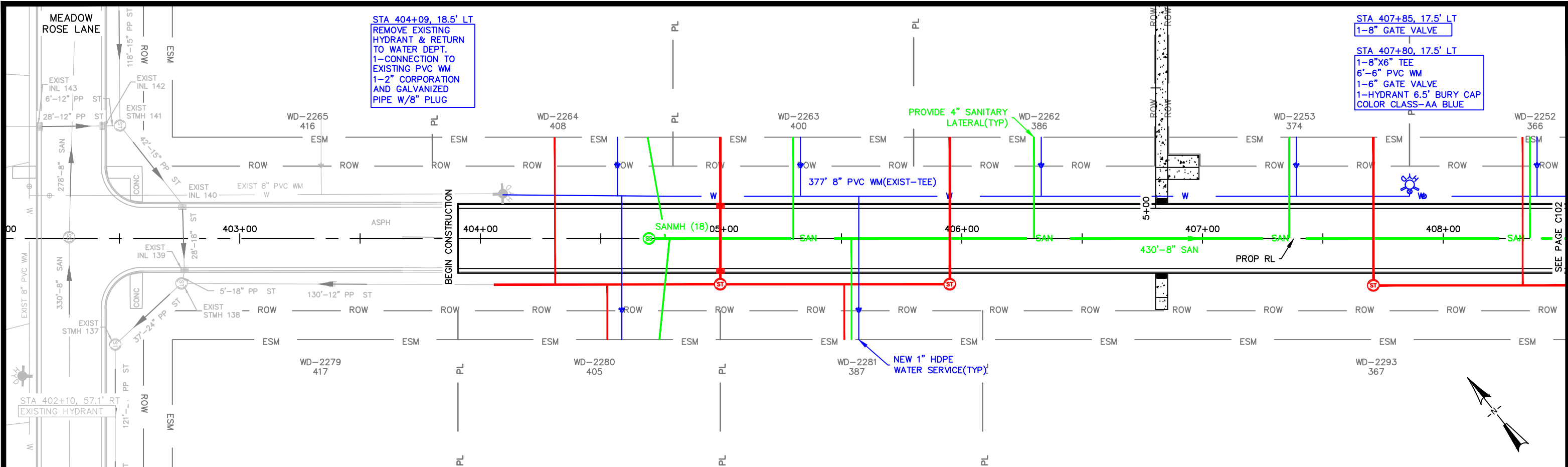
WATERVIEW HEIGHTS DEMOLITION PLAN

NAME: WATERVIEW HEIGHTS
PHASE II
CONSTRUCTION
PROJECT # 24-04

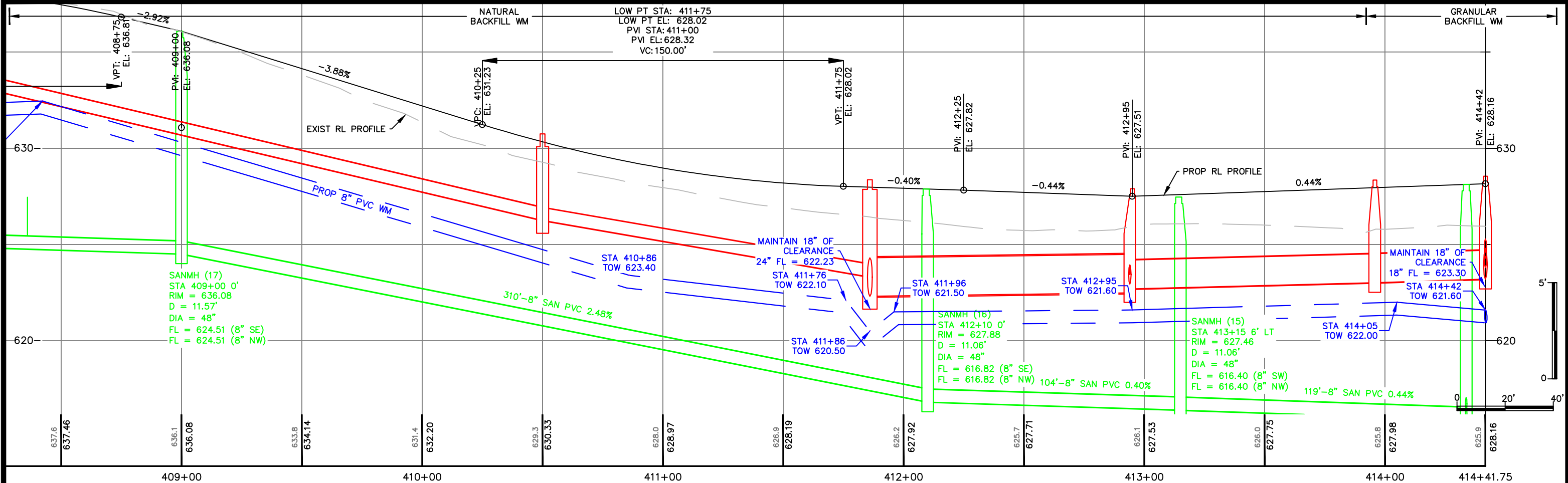
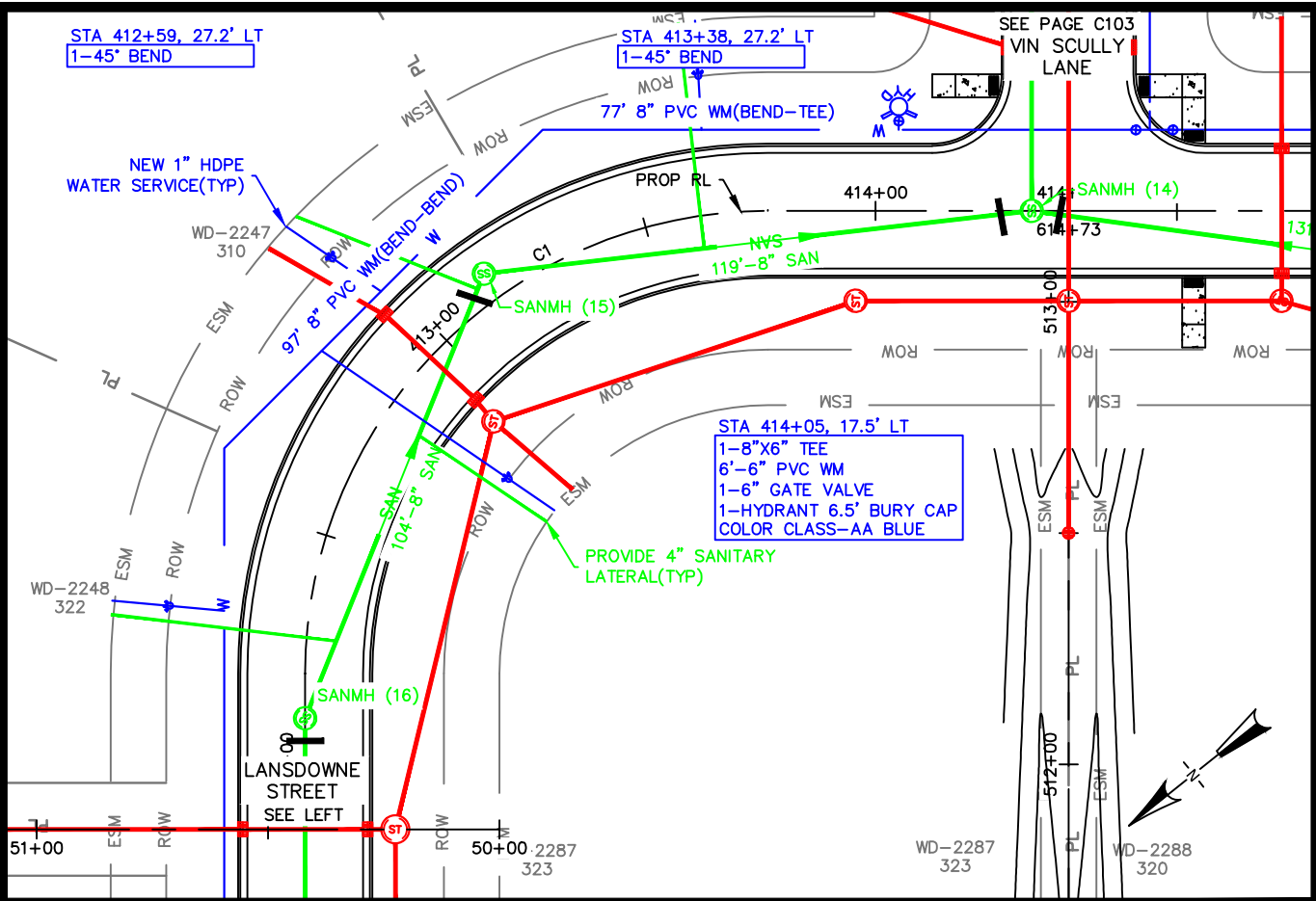
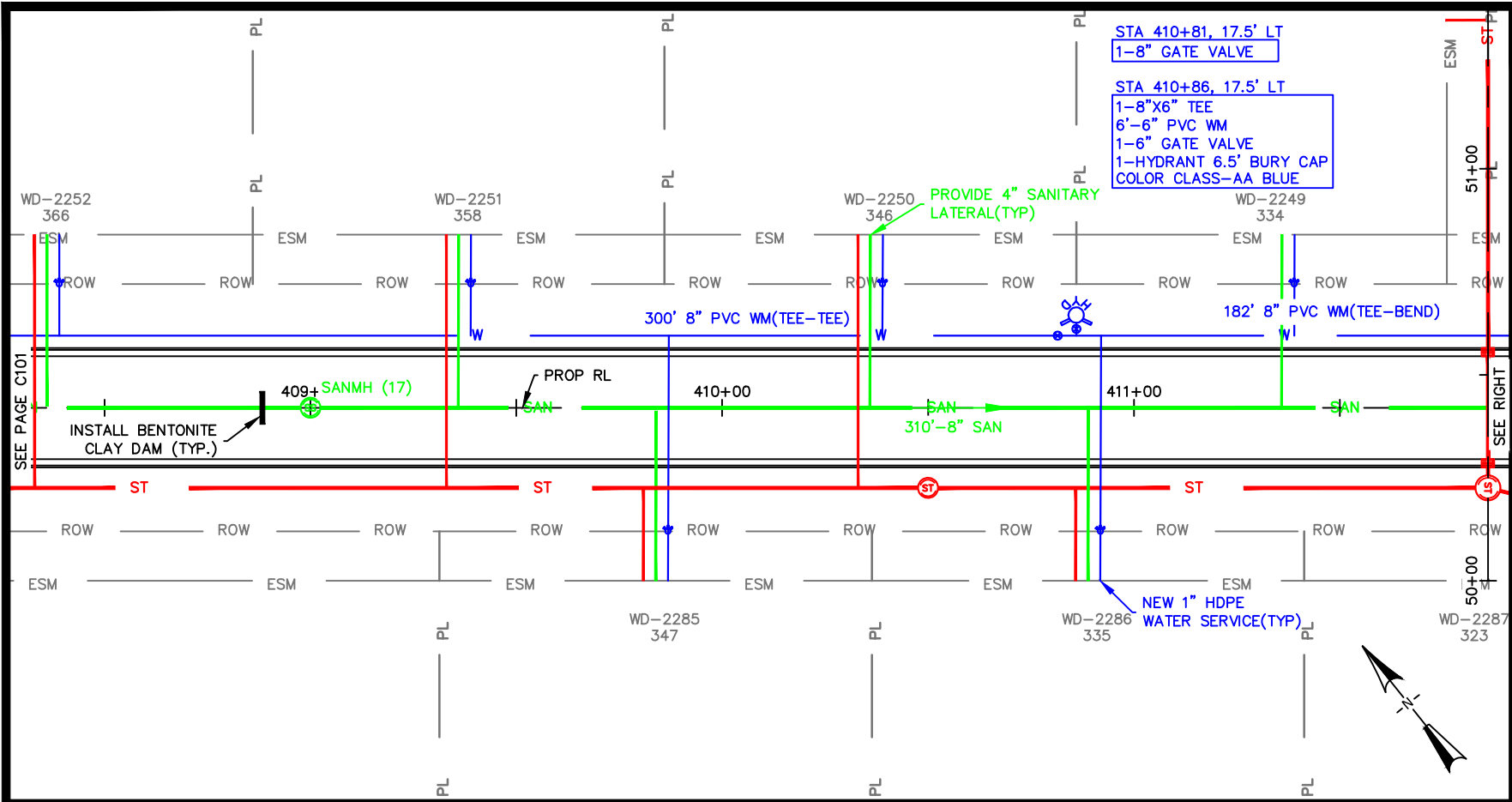
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SURVEYED	MAL	11-2023
DRAWN	MAL	11-2023
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NO.	DATE	BY	REMARKS

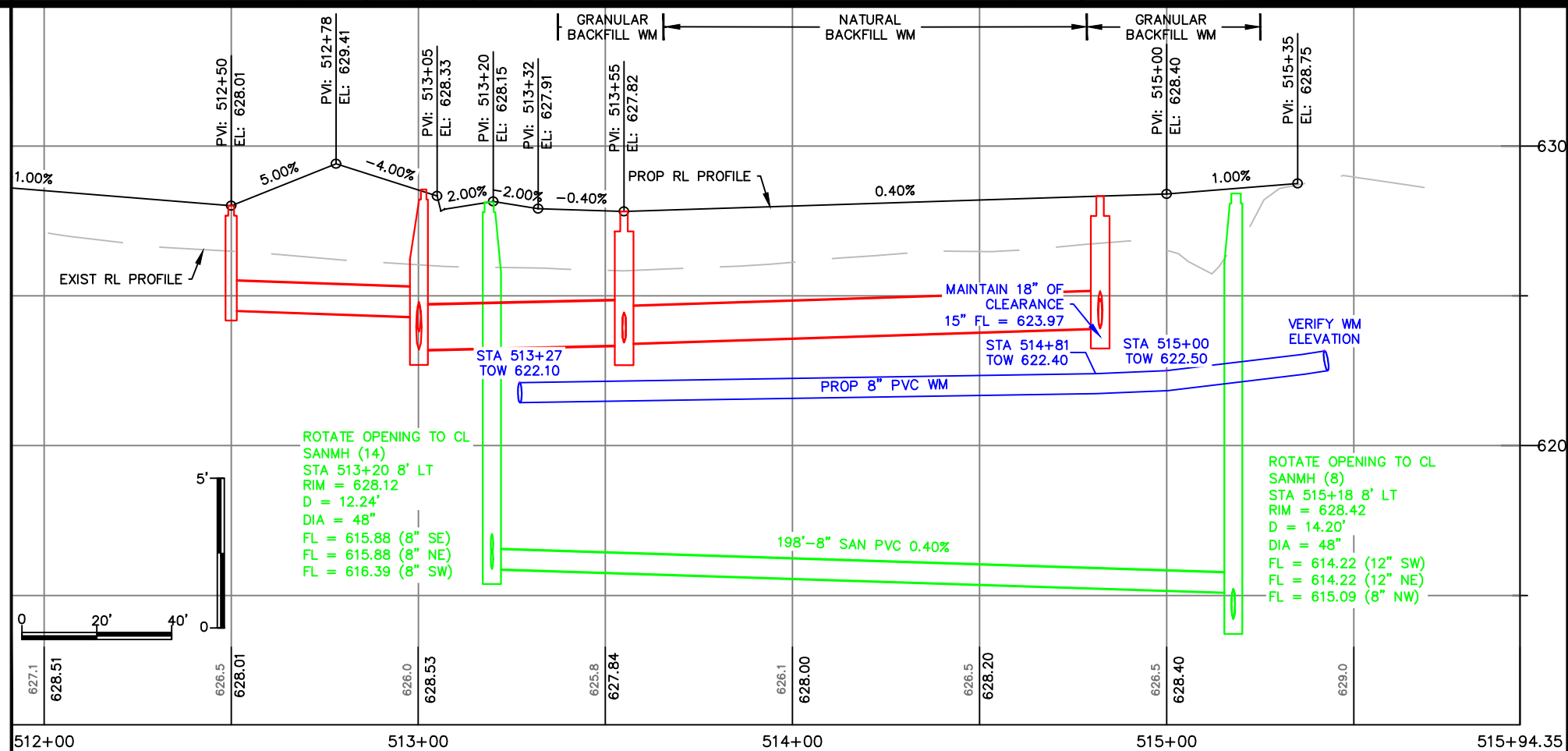
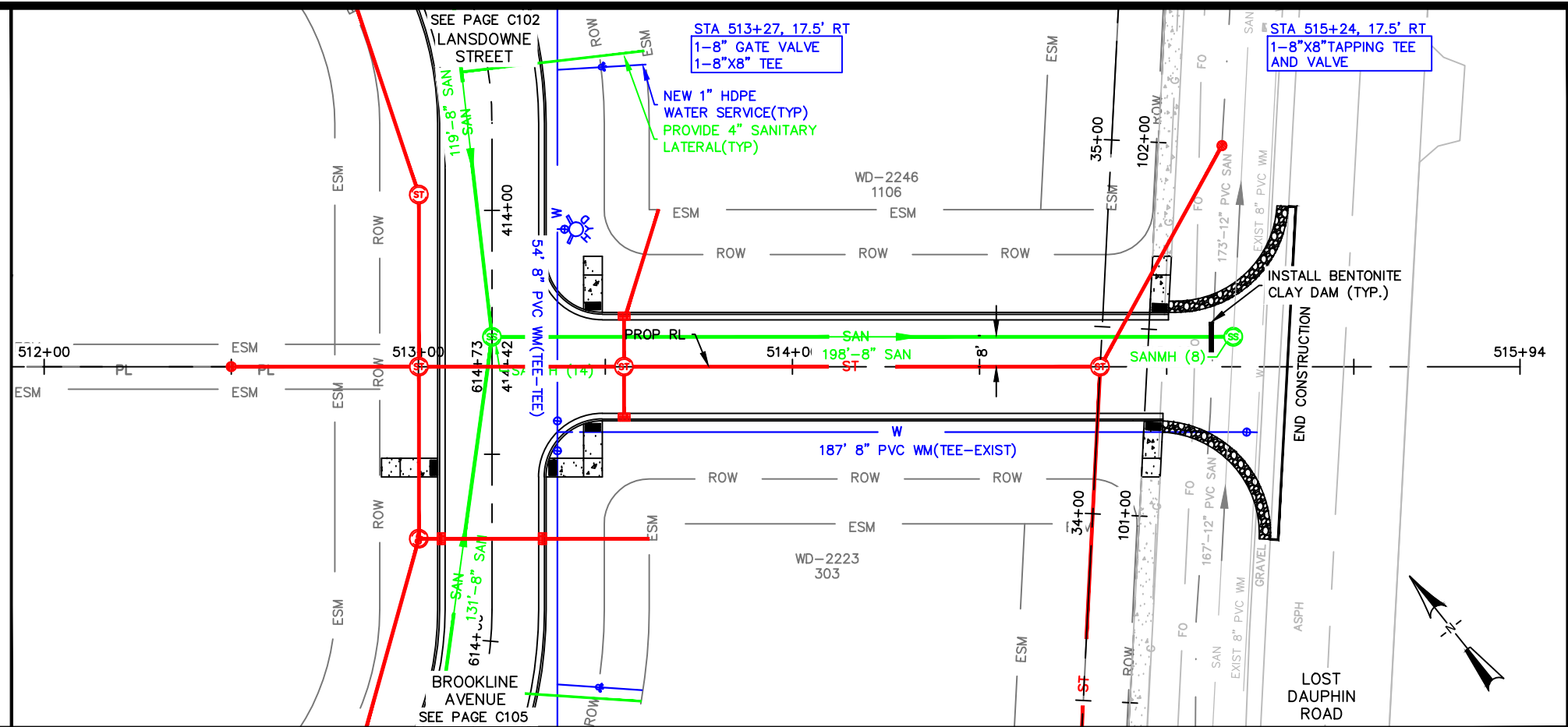
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SEE PAGE C117



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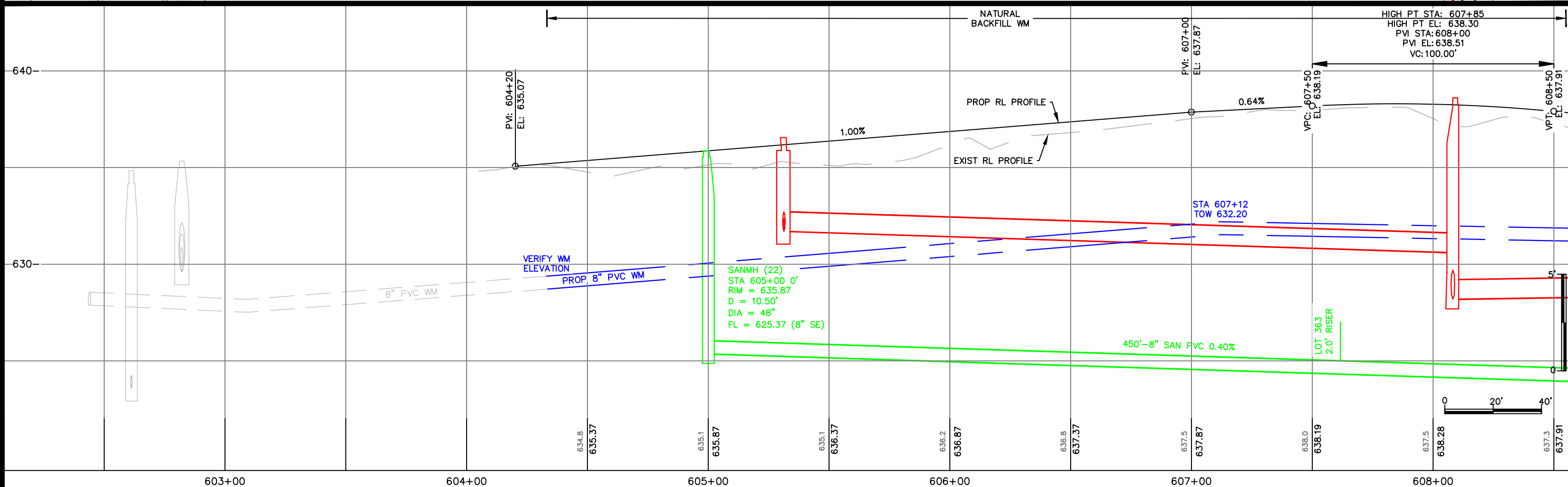
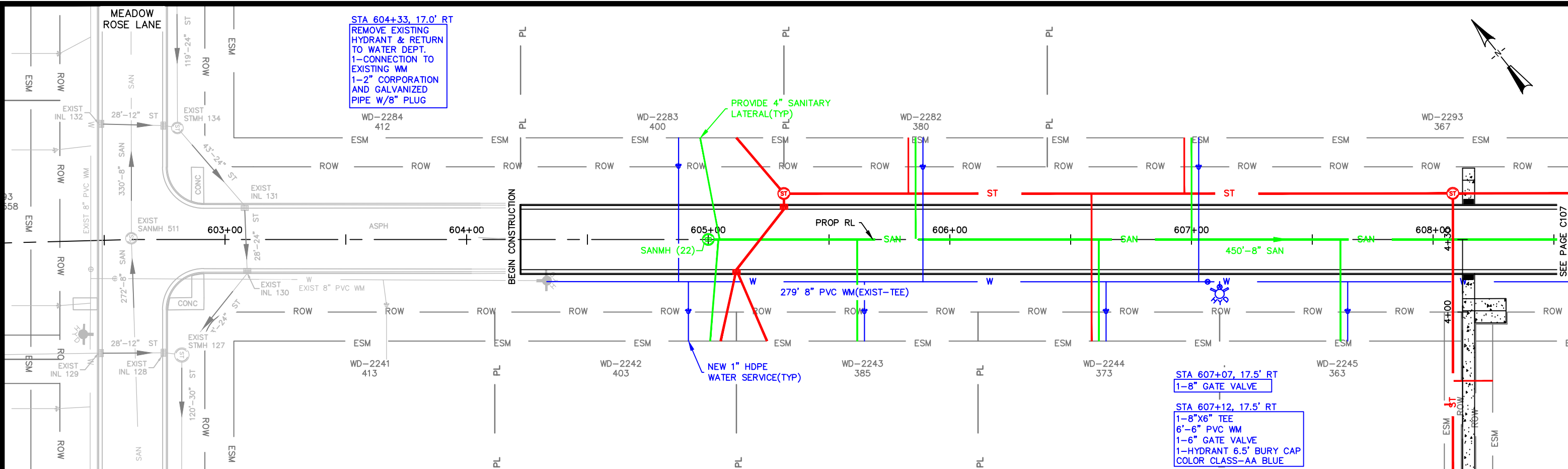
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LANSDOWNE STREET TO LOST DAUPHIN ROAD
WATERMAIN AND SANITARY SEWER**

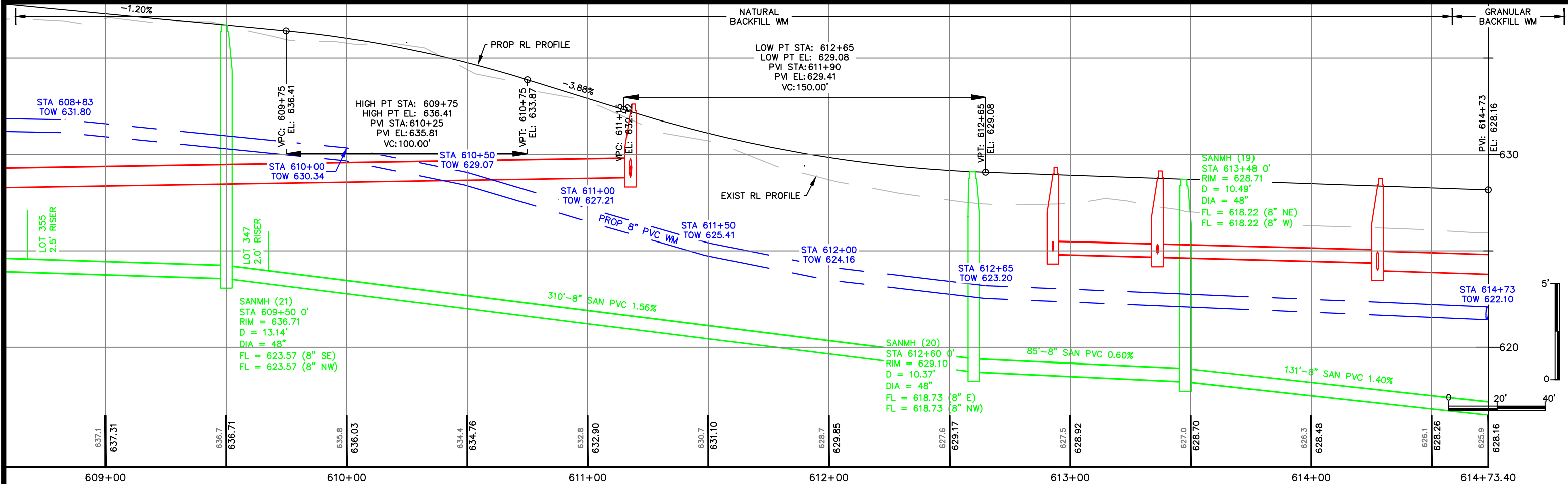
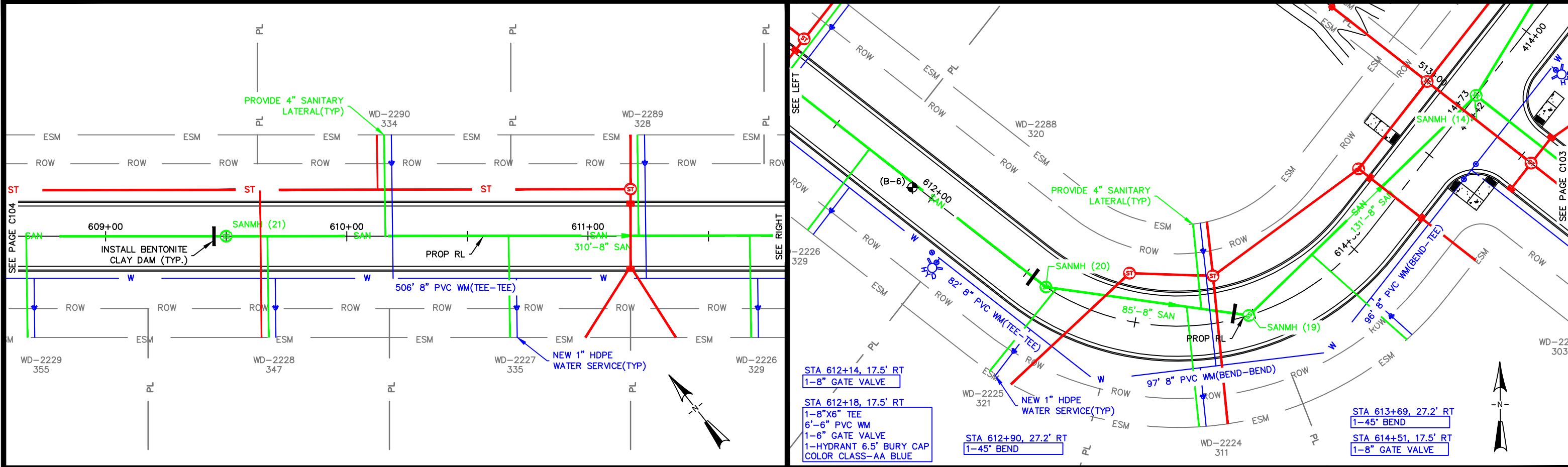
NAME: WATERVIEW HEIGHTS
PHASE II
CONSTRUCTION
PROJECT # 24-04

		REVISIONS / ISSUES	
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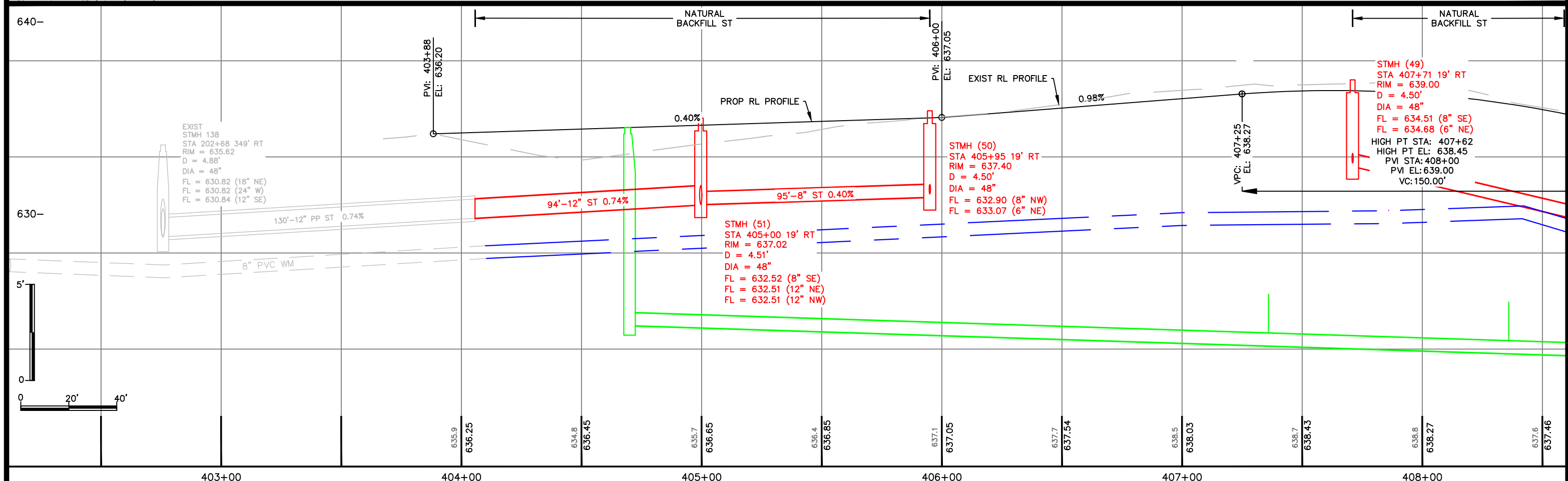
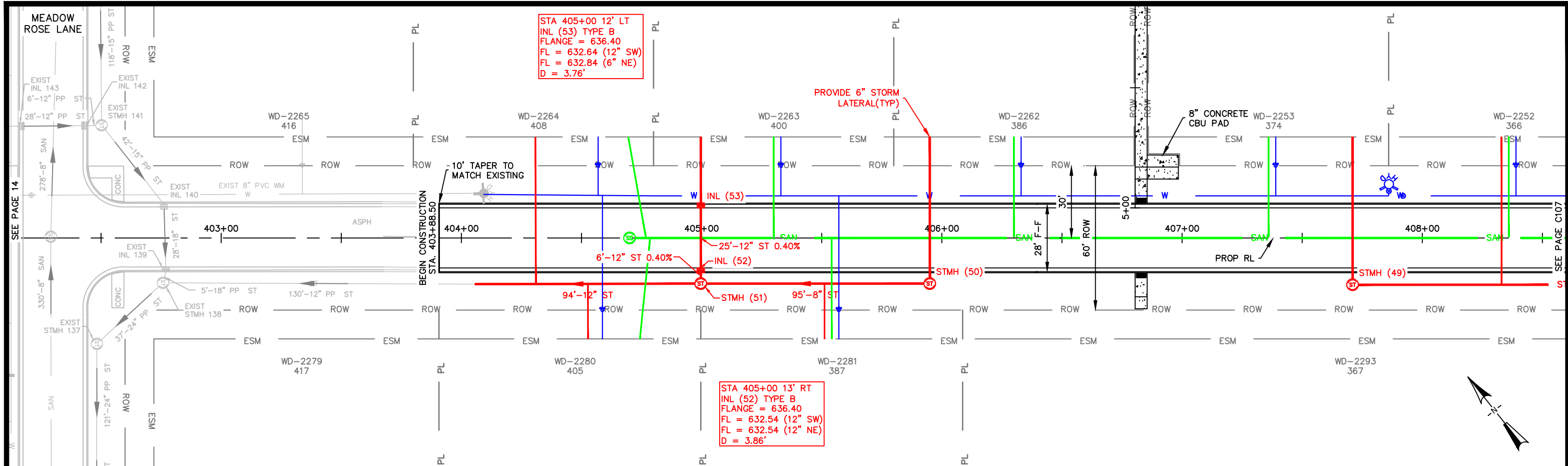
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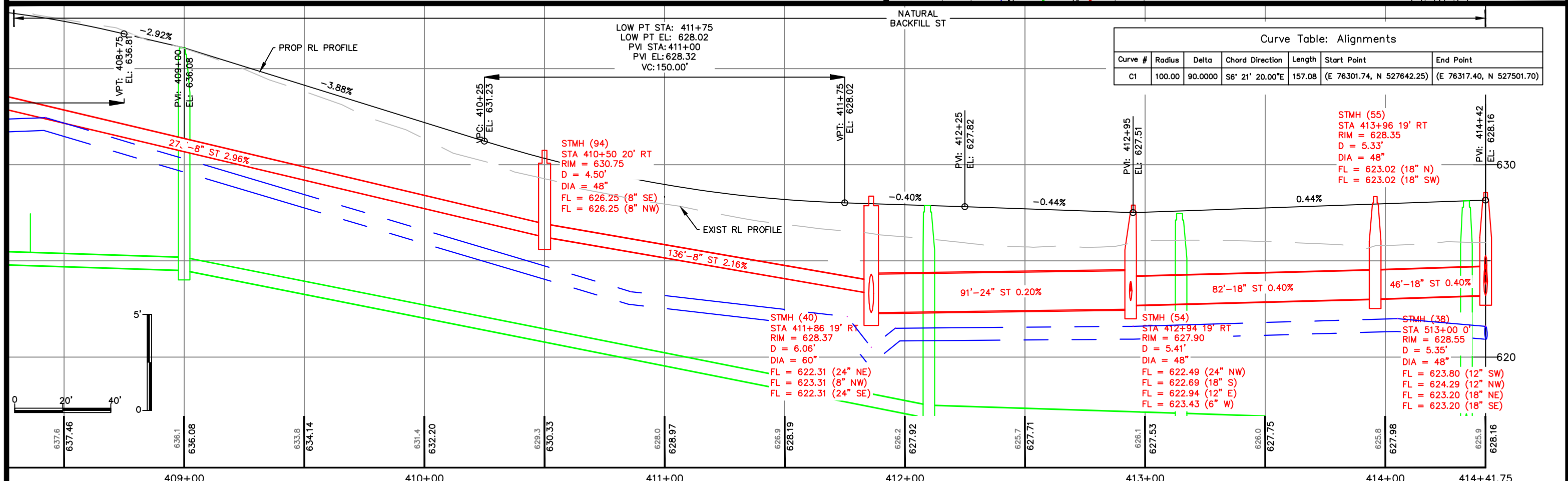
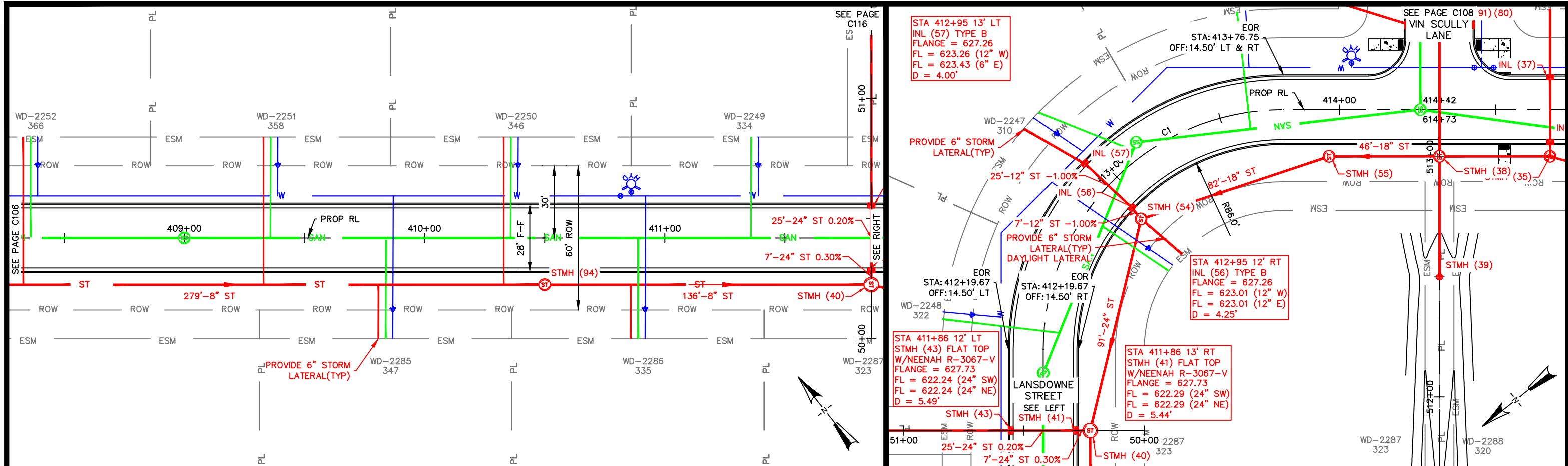
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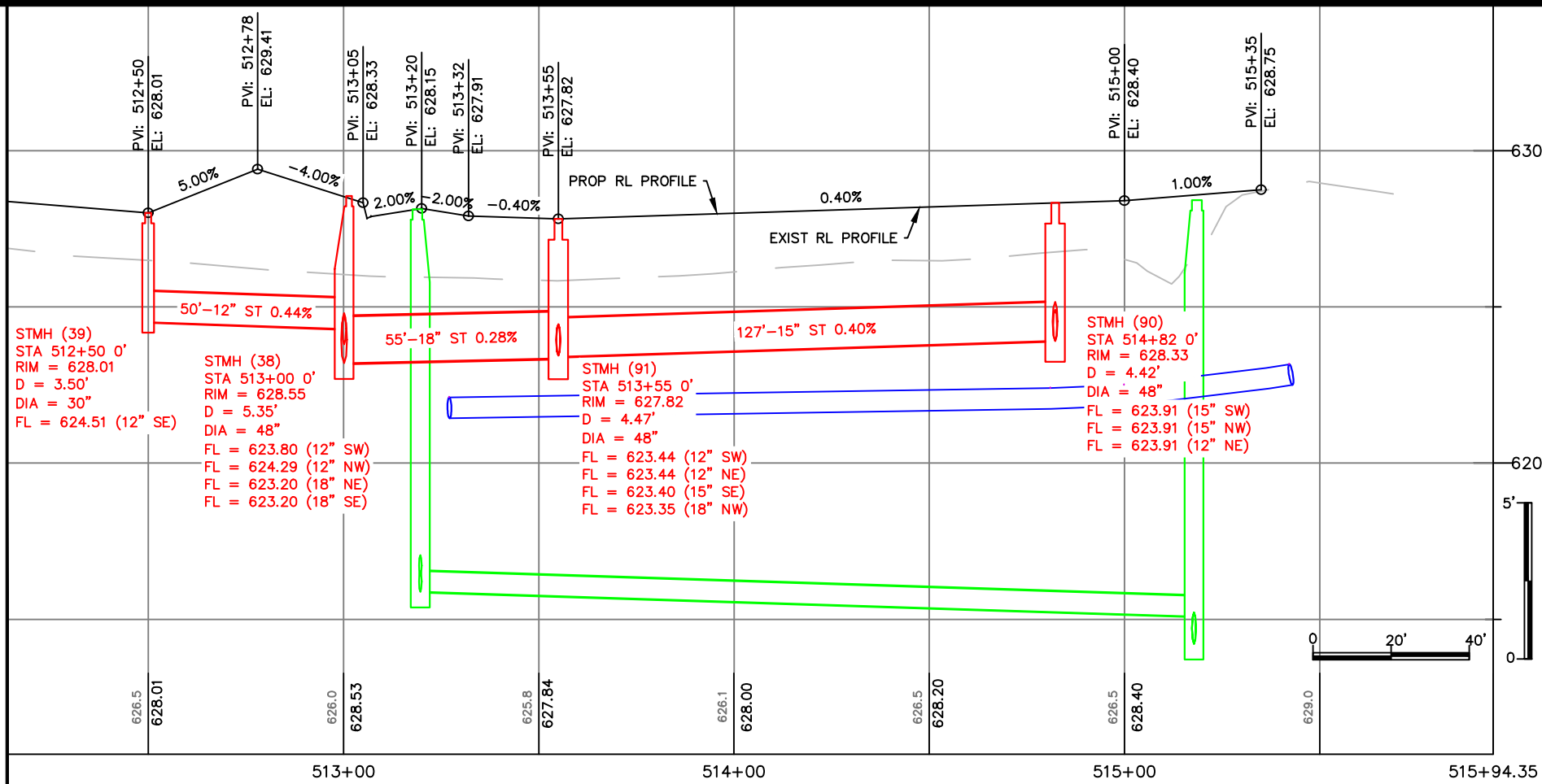
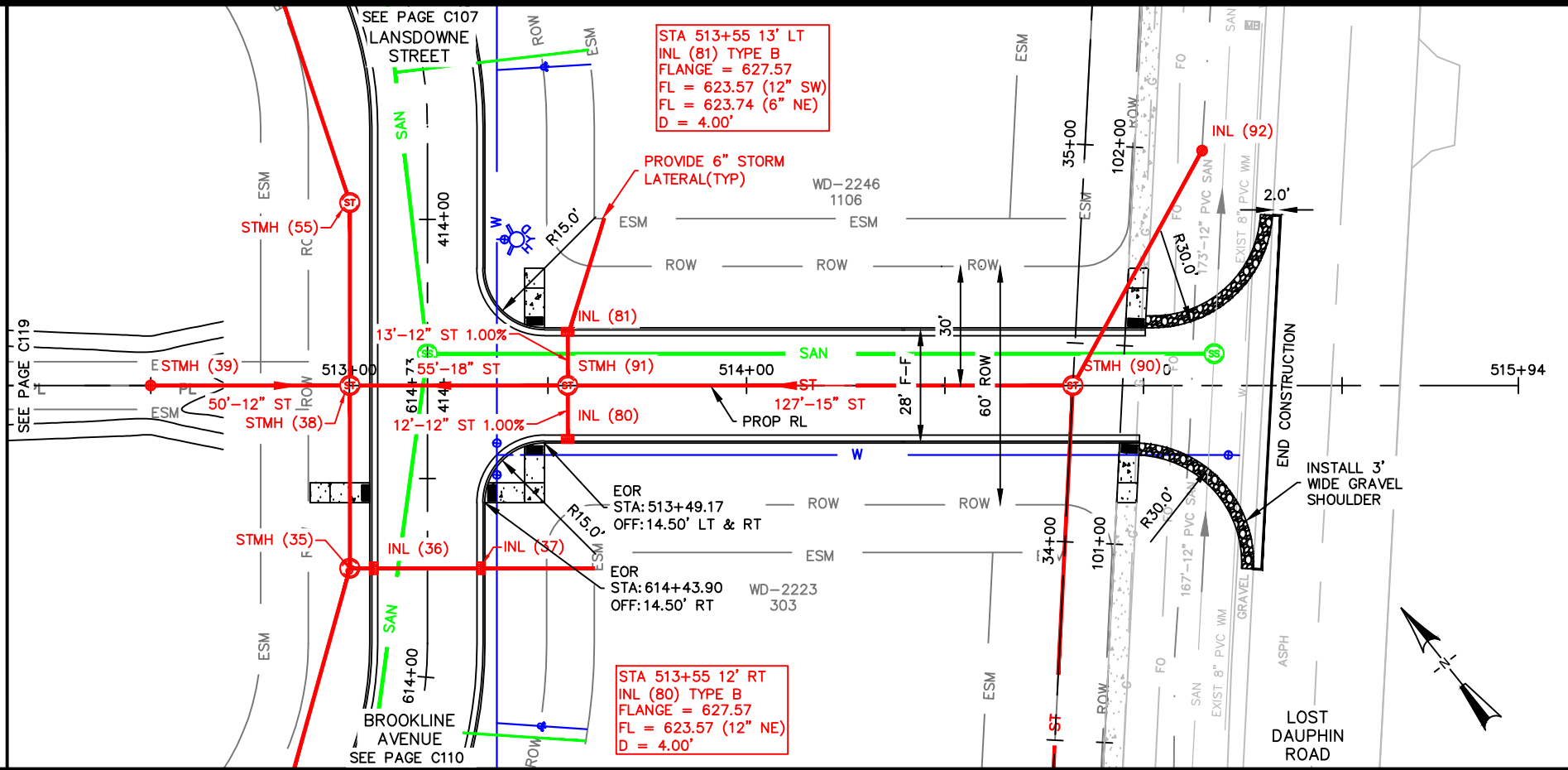


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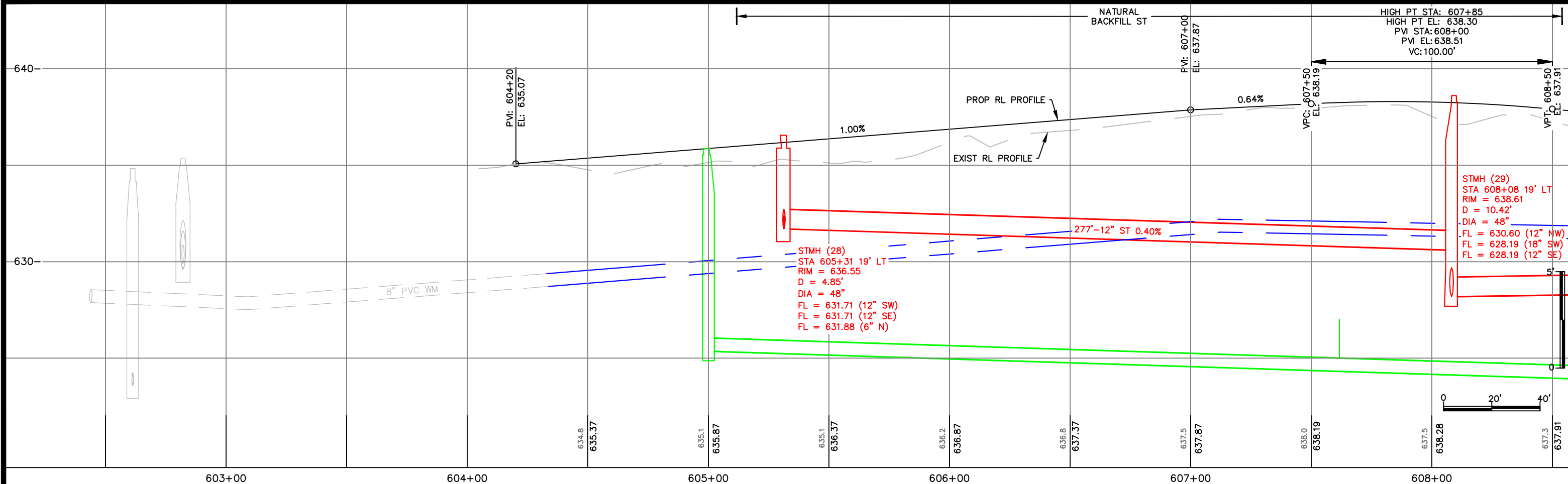
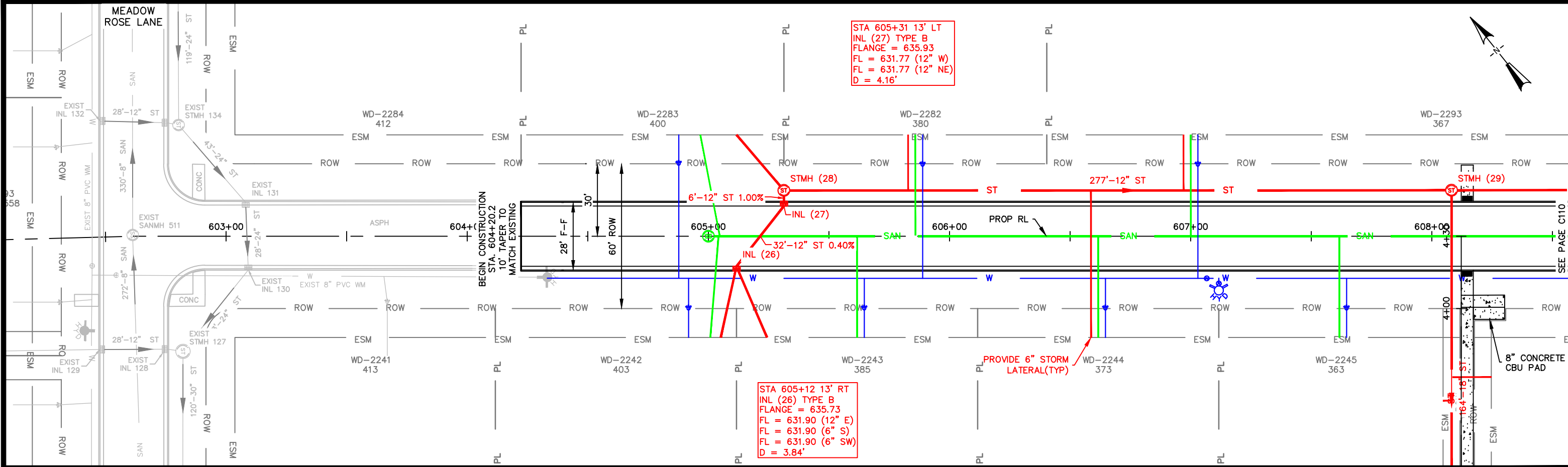




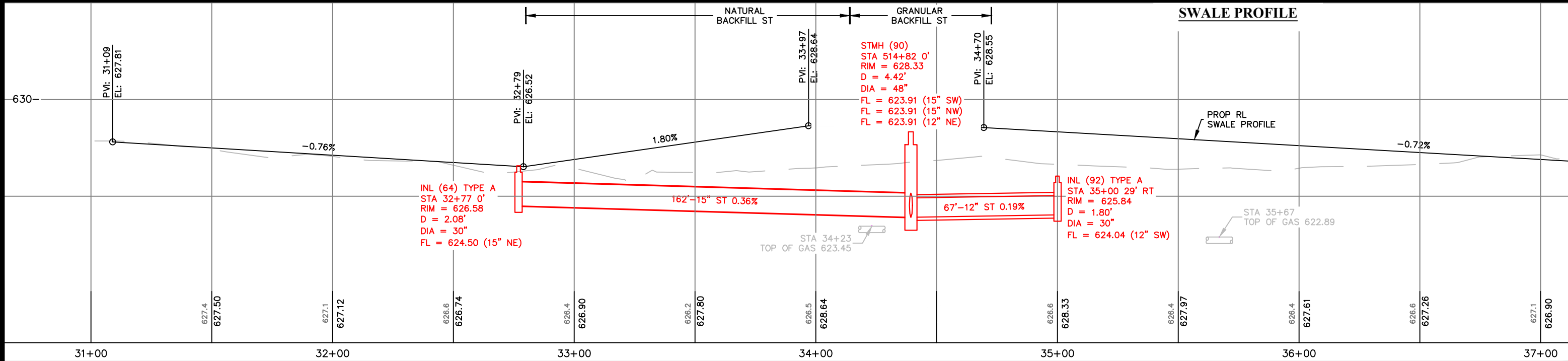
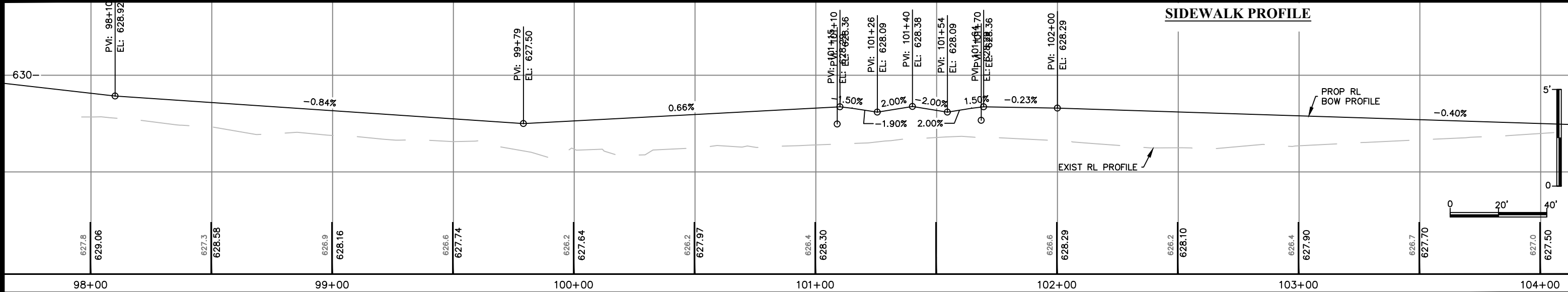
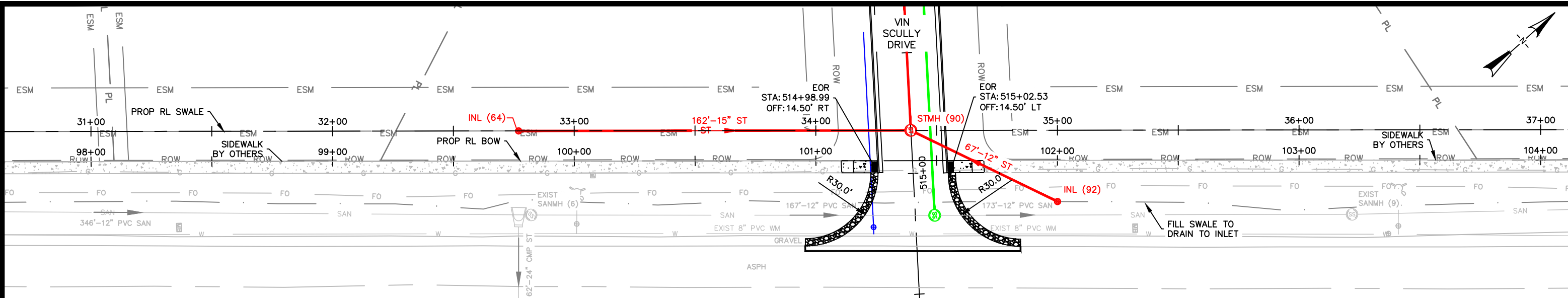
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Curve #	Radius	Delta	Chord Direction	Length	Start Point	End Point
C1	100.00	90.0000	S6° 21' 20.00"E	157.08	(E 76301.74, N 527642.25)	(E 76317.40, N 527501.70)



CITY OF DE PERE		VIN SCULLY LANE		NAME: WATERVIEW HEIGHTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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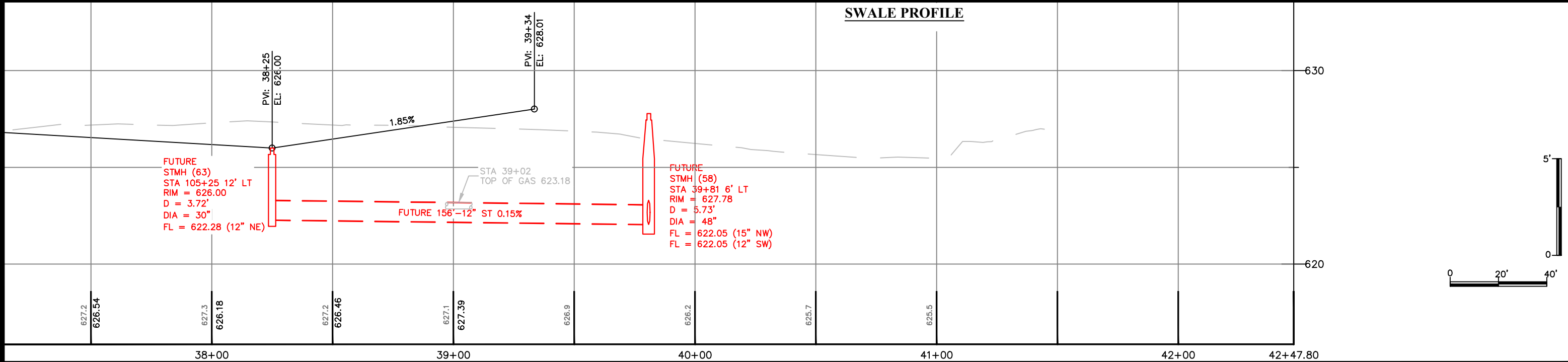
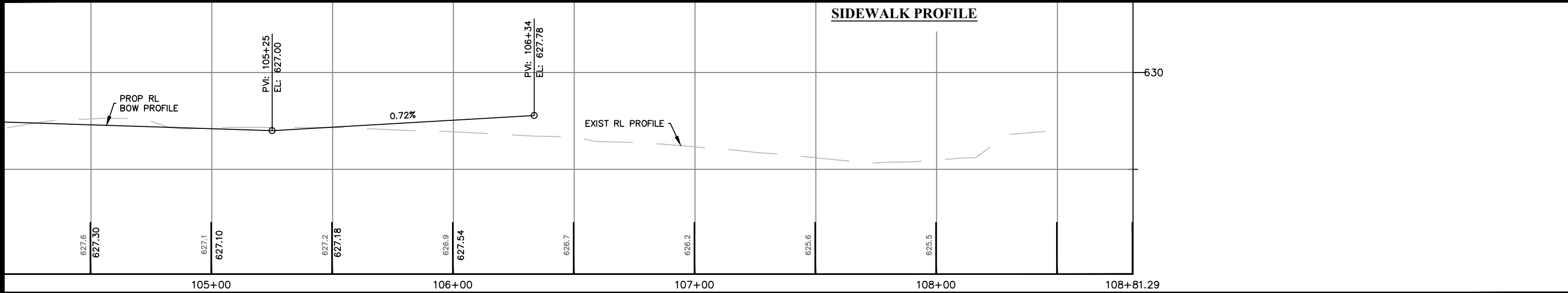
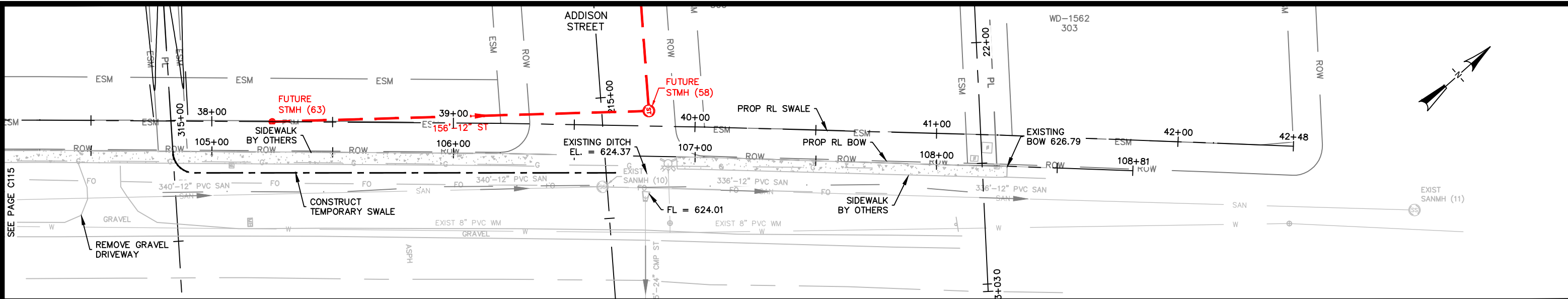
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

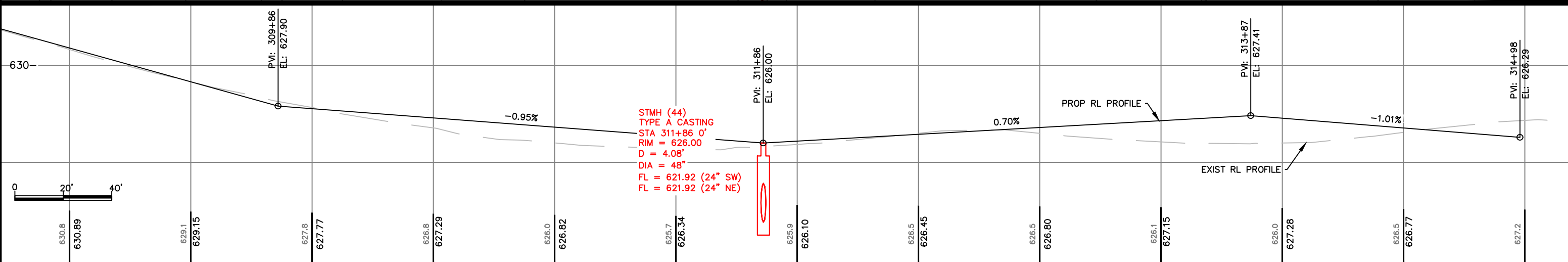
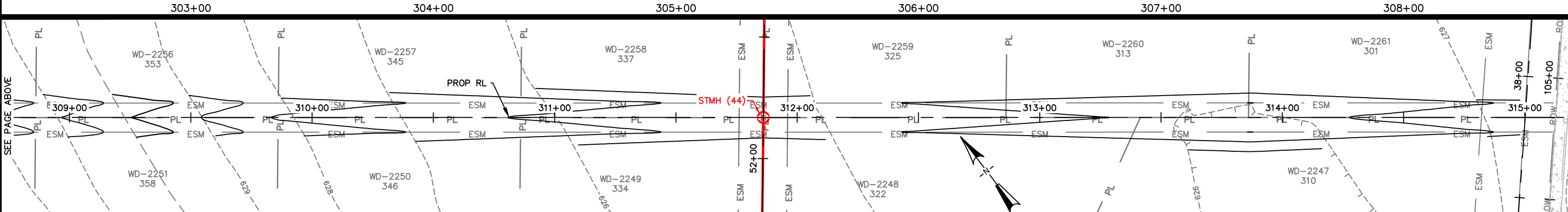
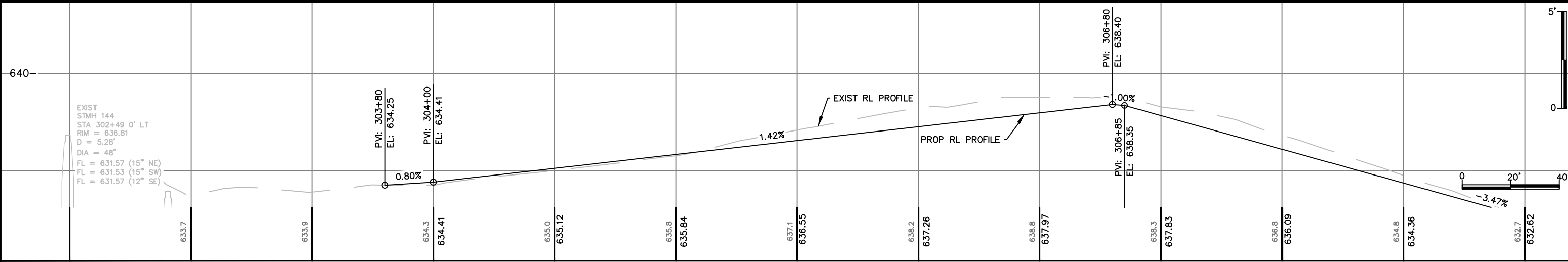
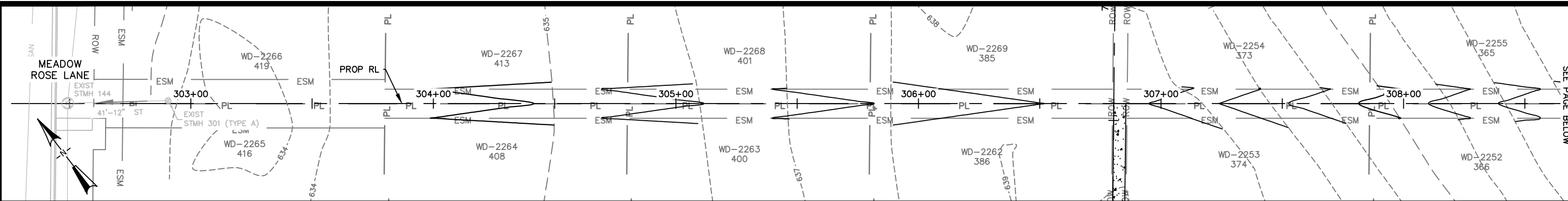
LOST DAUPHIN ROAD
300' WEST VIN SCULLY TO 200' EAST VIN SCULLY
STORM SEWER

NAME: WATERVIEW HEIGHTS
PHASE II
CONSTRUCTION
PROJECT # 24-04

	BY	DATE
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REVISIONS / ISSUES			
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ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

REAR LOT ADDISON ST TO LANSDOWNE ST
MEADOW ROSE LANE TO LOST DAUPHIN ROAD
GRADING

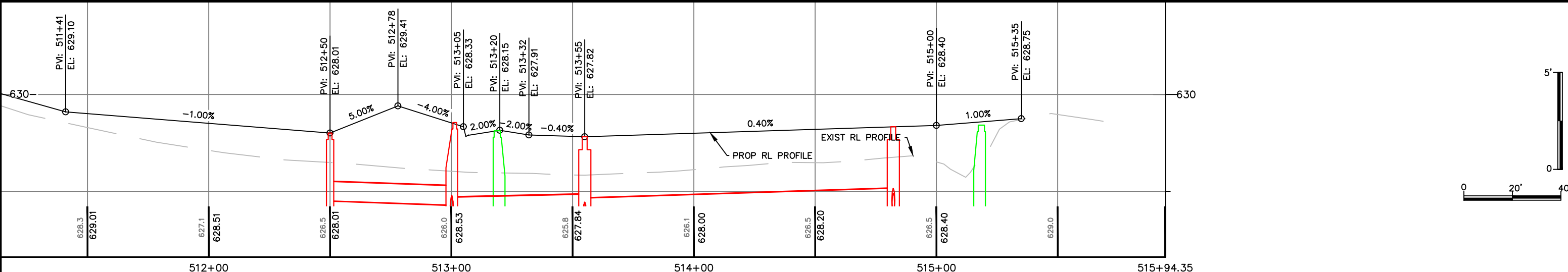
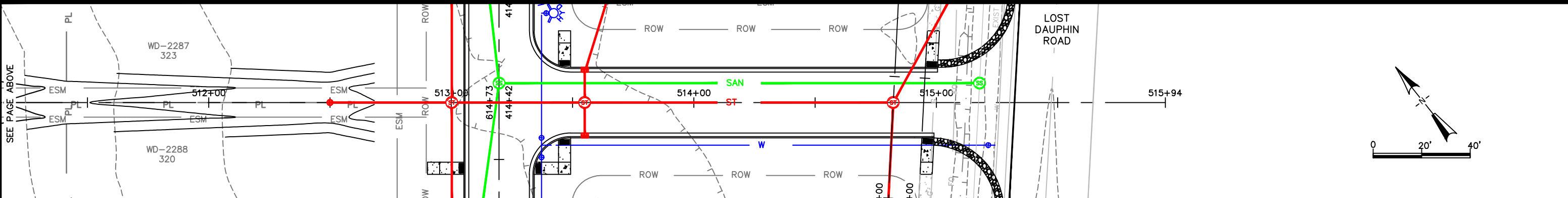
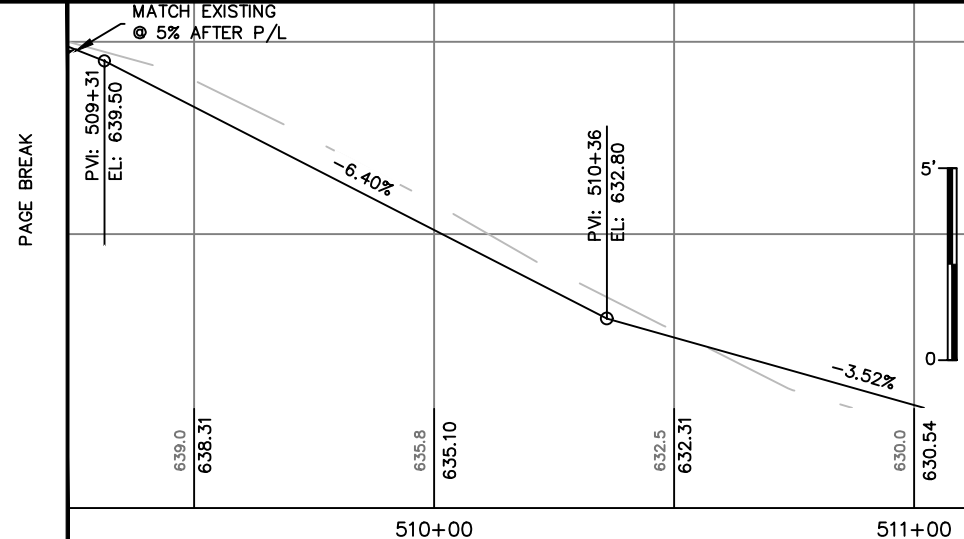
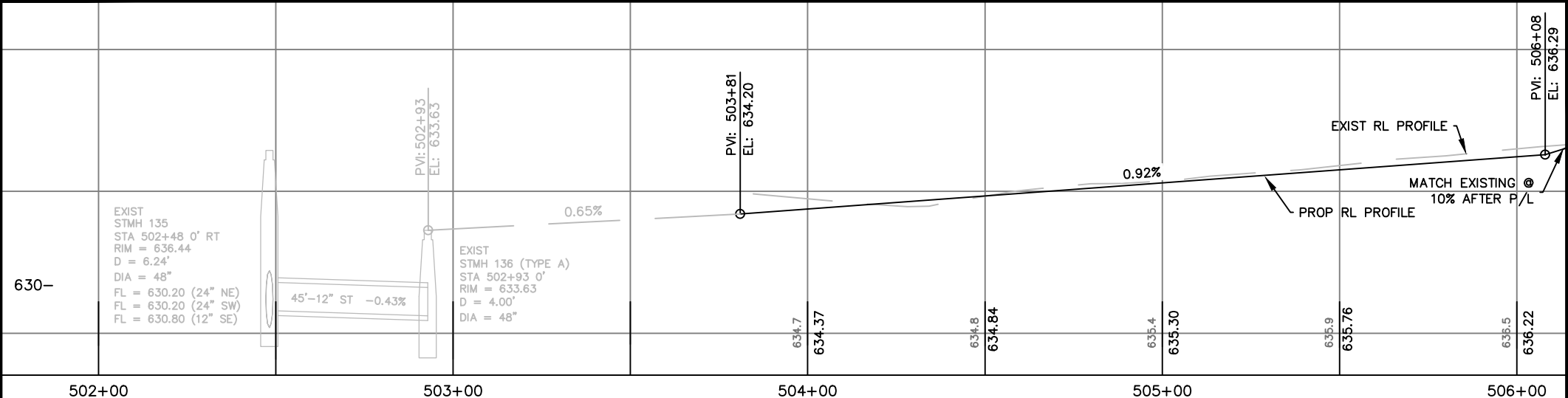
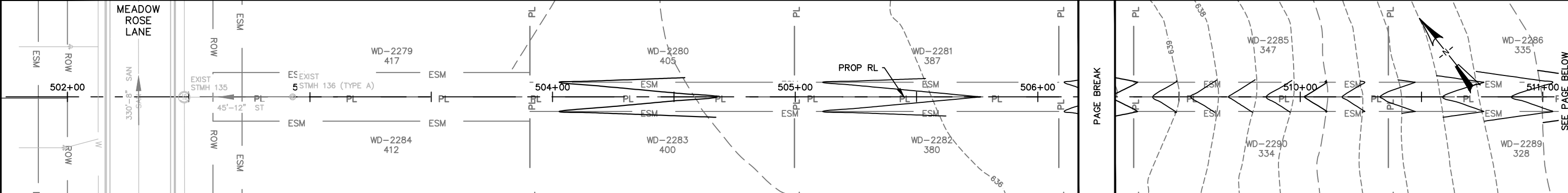
NAME: WATERVIEW HEIGHTS
PHASE II
CONSTRUCTION
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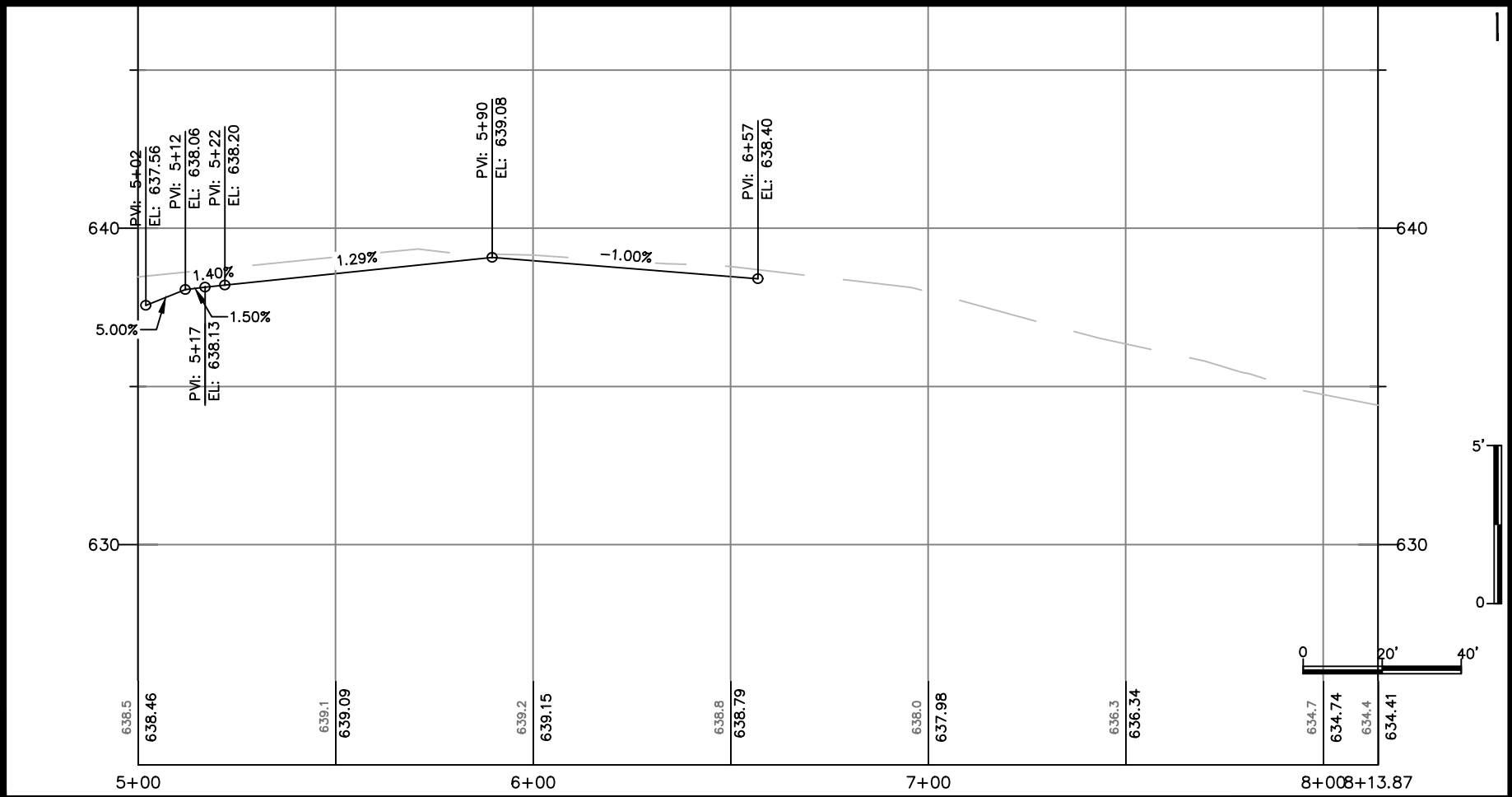
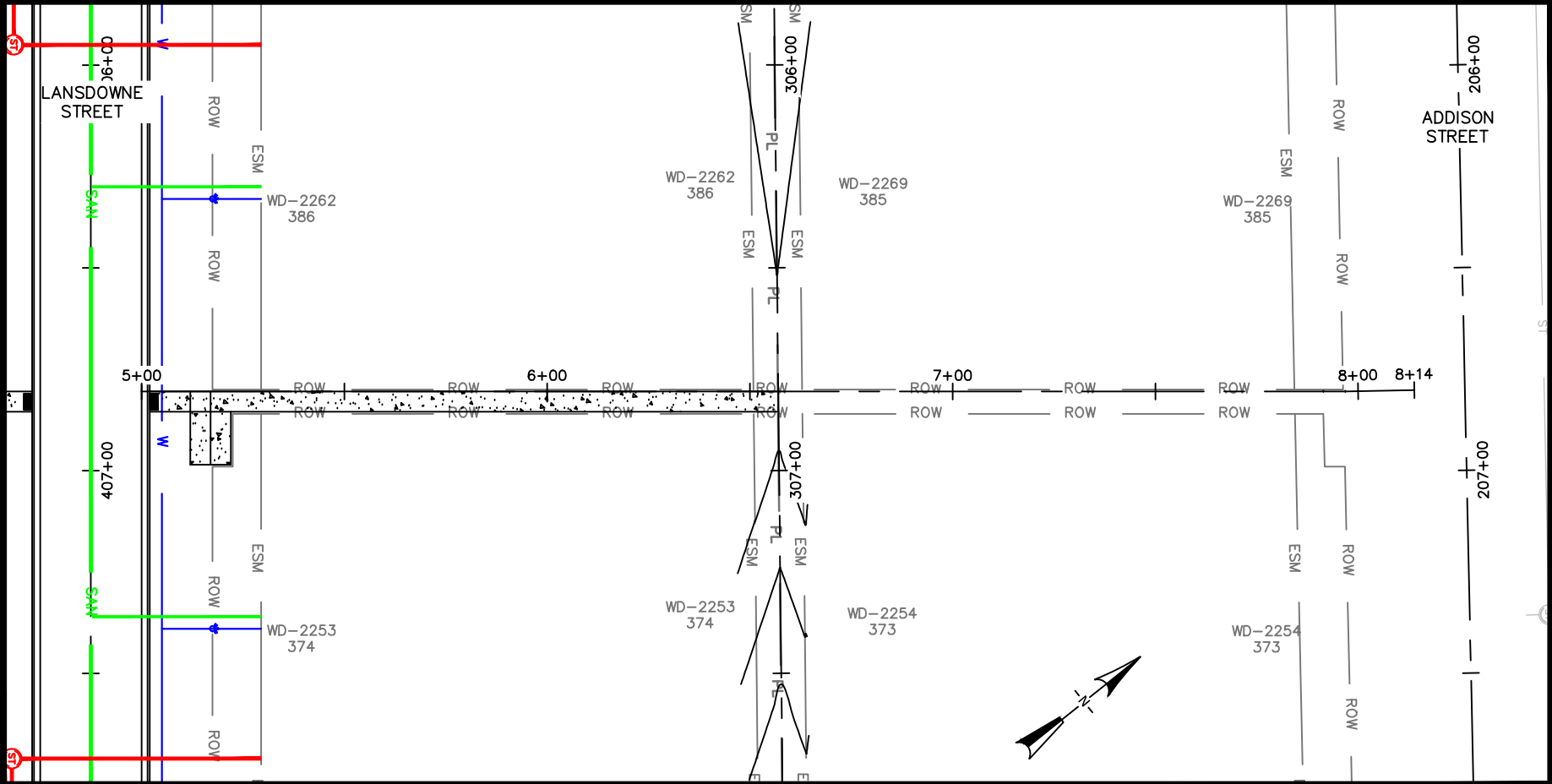
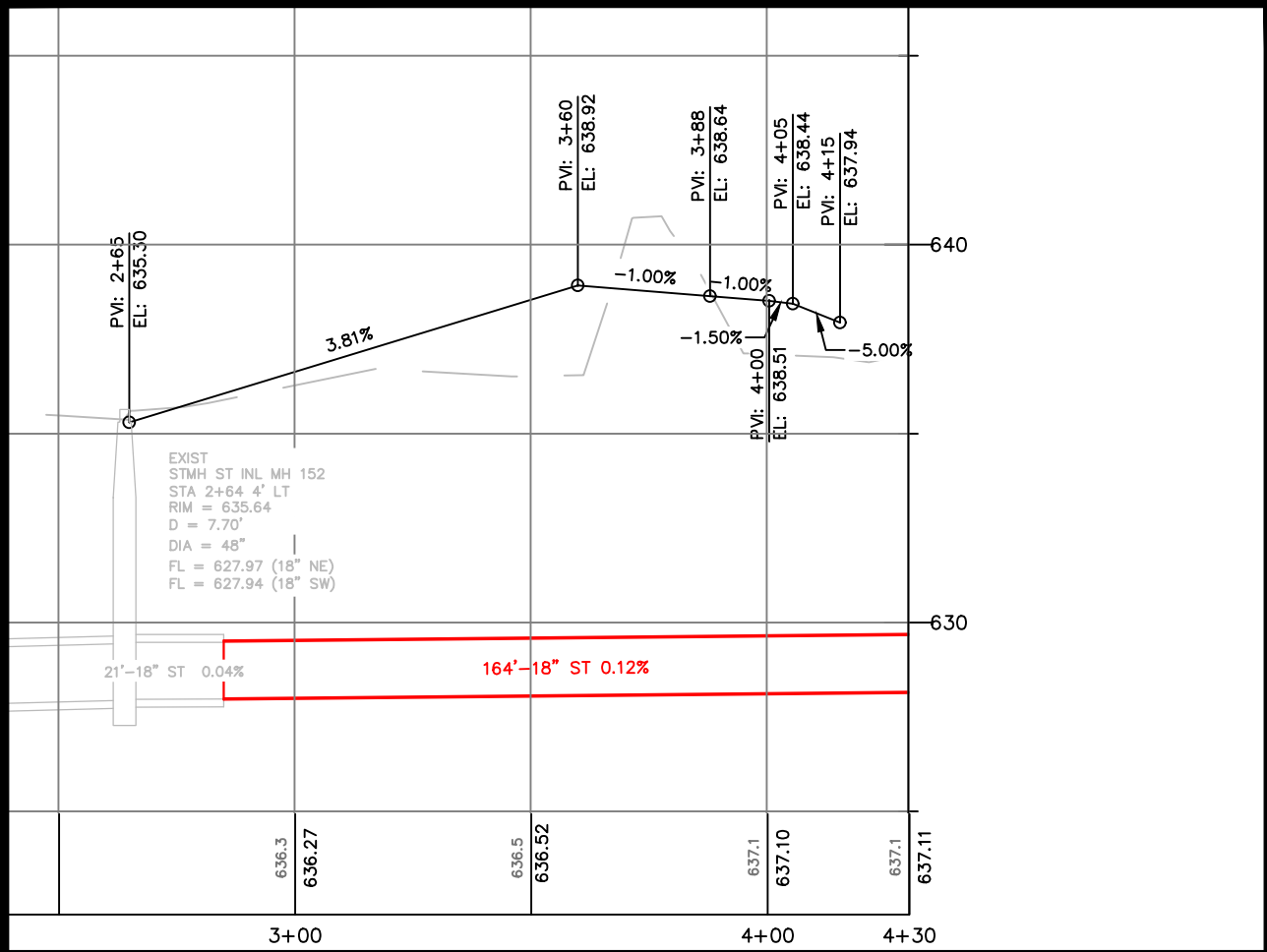
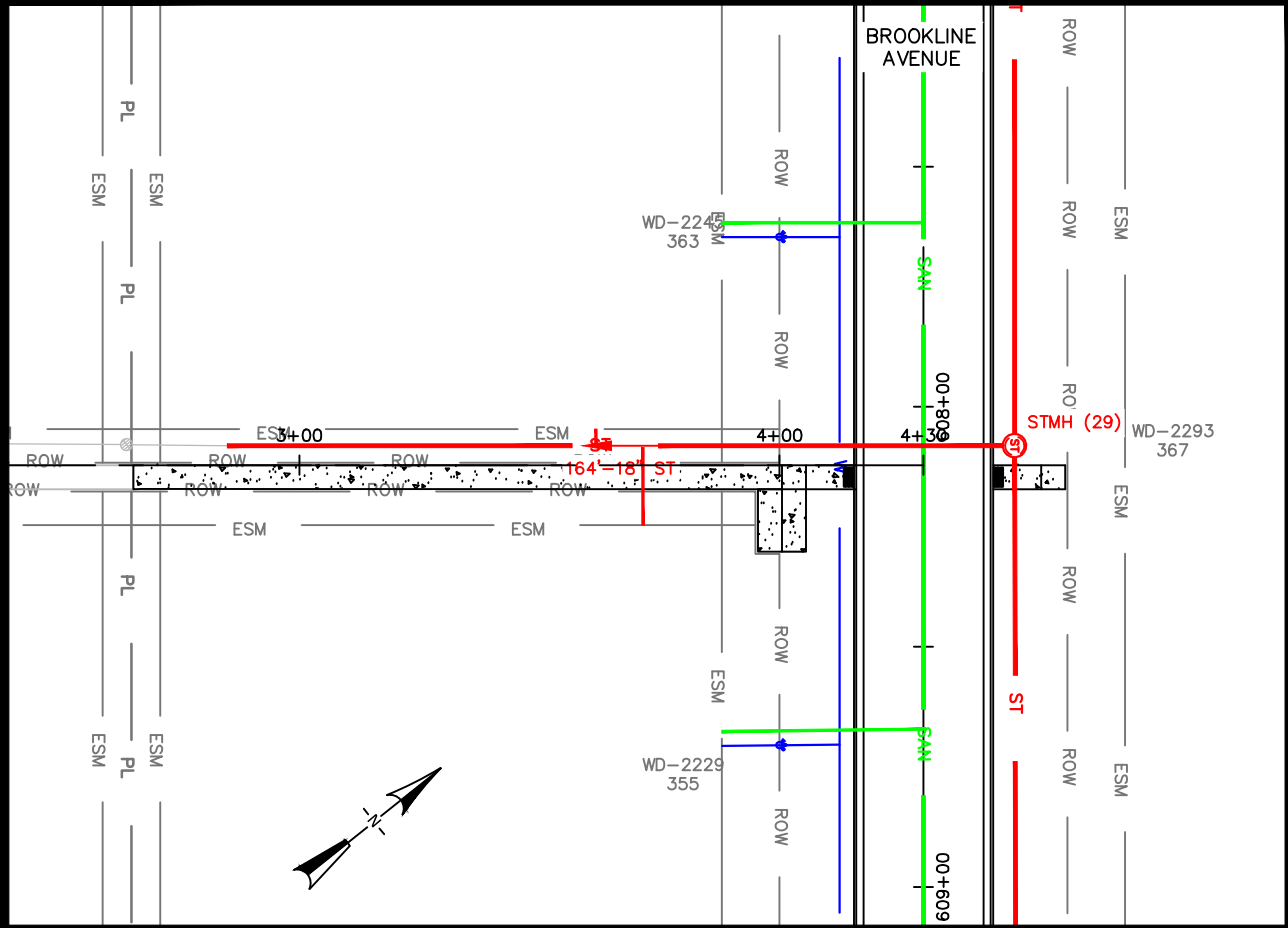
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DRAWN	MAL	11-2023
DESIGNED	MAL/EPR	11-2023
CHECKED	EPR	01-2024

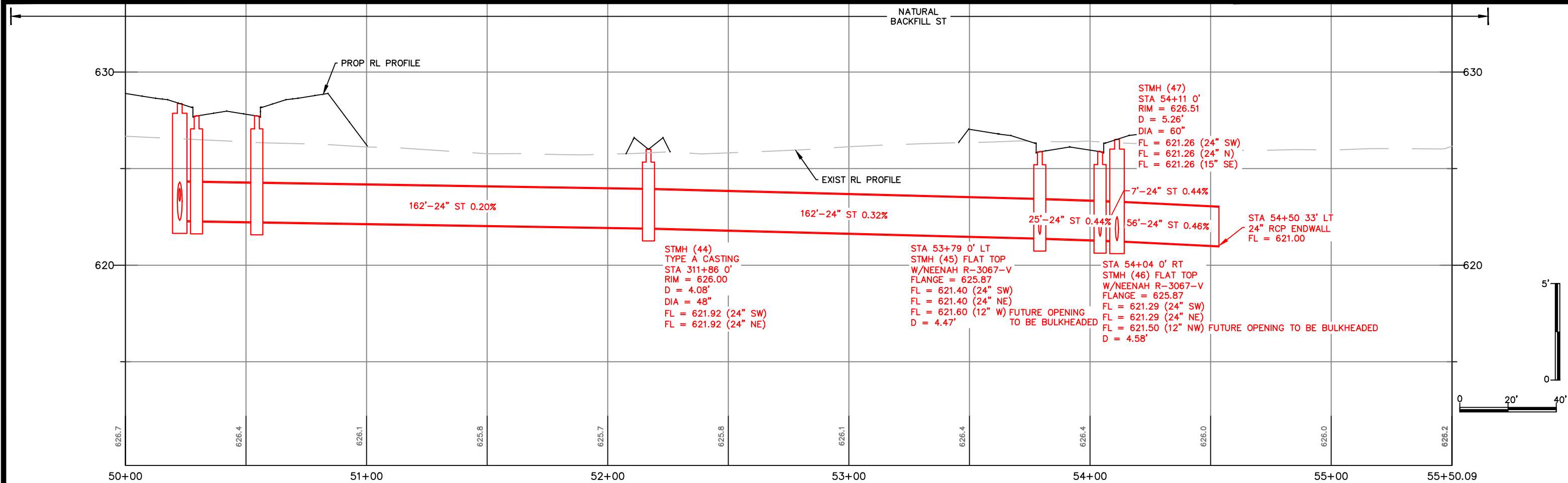
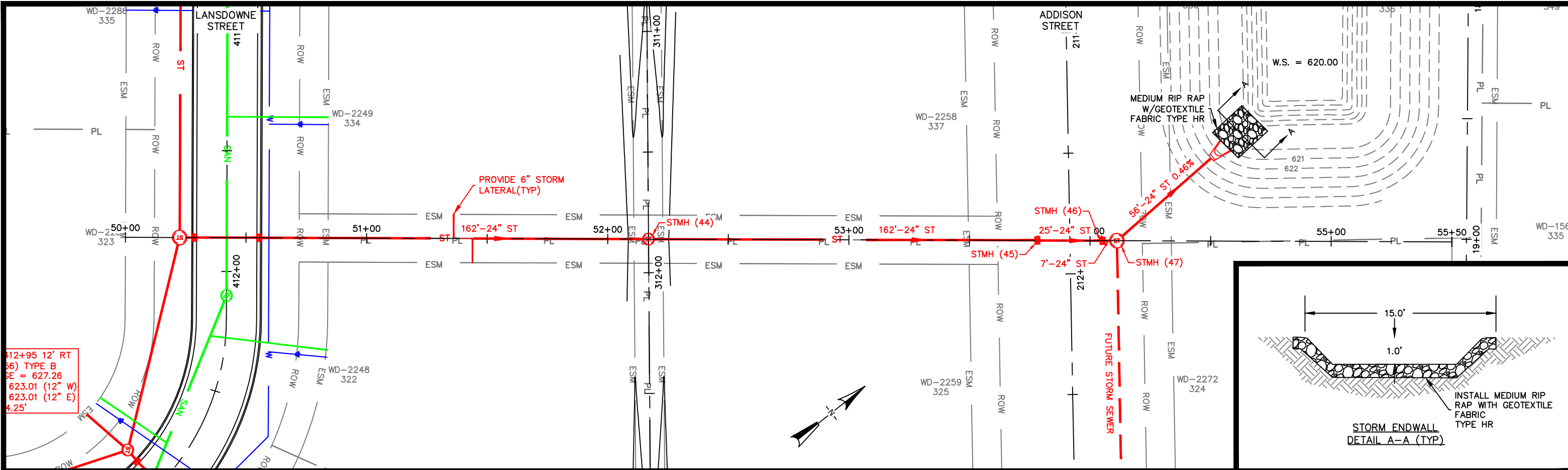
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NO.	DATE	BY	REMARKS

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CITY OF DE PERE

LANDOWNE STREET
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS
PHASE II

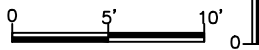
CONSTRUCTION	PROJECT #
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	BY	DATE
SURVEYED	MAL	12-2023
DRAWN	MAL	12-2023
DESIGNED	MAL/EPR	12-2023
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NO.	REVISIONS / ISSUES		REMARKS
	DATE	BY	

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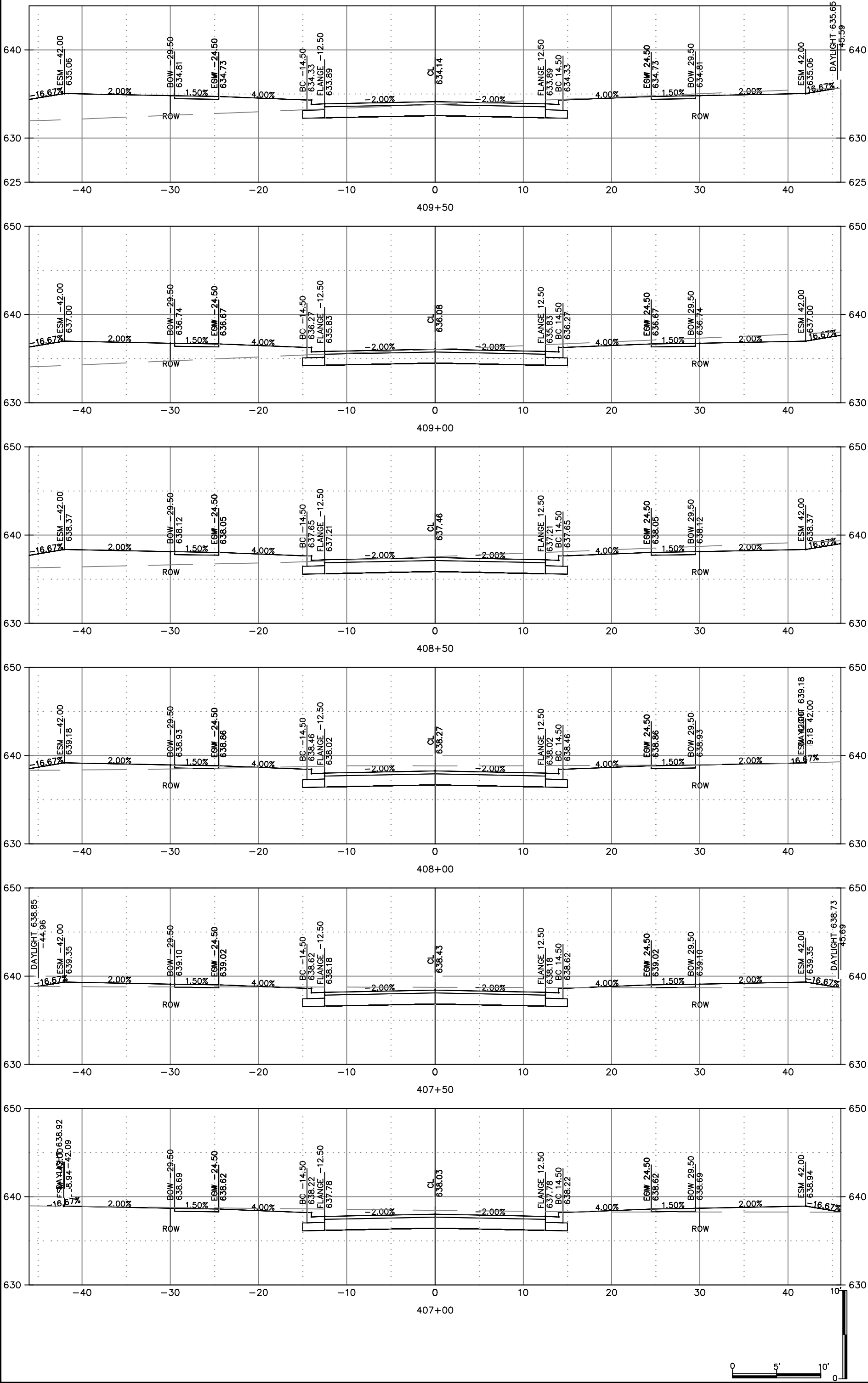




CITY OF DE PERE
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
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LANDSCAPE CROSS SECTIONS

NAME: WATERVIEW HEIGHTS		BY		DATE	
PHASE II		MAL		12-2023	
CONSTRUCTION		MAL		12-2023	
PROJECT # 24-04		MAL/EPH		12-2023	
CHECKED		EPH		12-2023	
NO.		DATE		REVISIONS / ISSUES	
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LANDOWNE STREET
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS		BY		DATE		REVISIONS / ISSUES		PAGE	
PHASE II CONSTRUCTION		MAL		12-2023		NO.		NO.	
PROJECT # 24-04		DRAWN		MAL		12-2023		C303	
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CROSS SECTIONS

CONSTRUCTION

24-04

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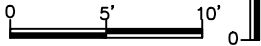
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VIN SCULLY LANE

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CONSTRUCTION

24-04

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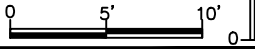
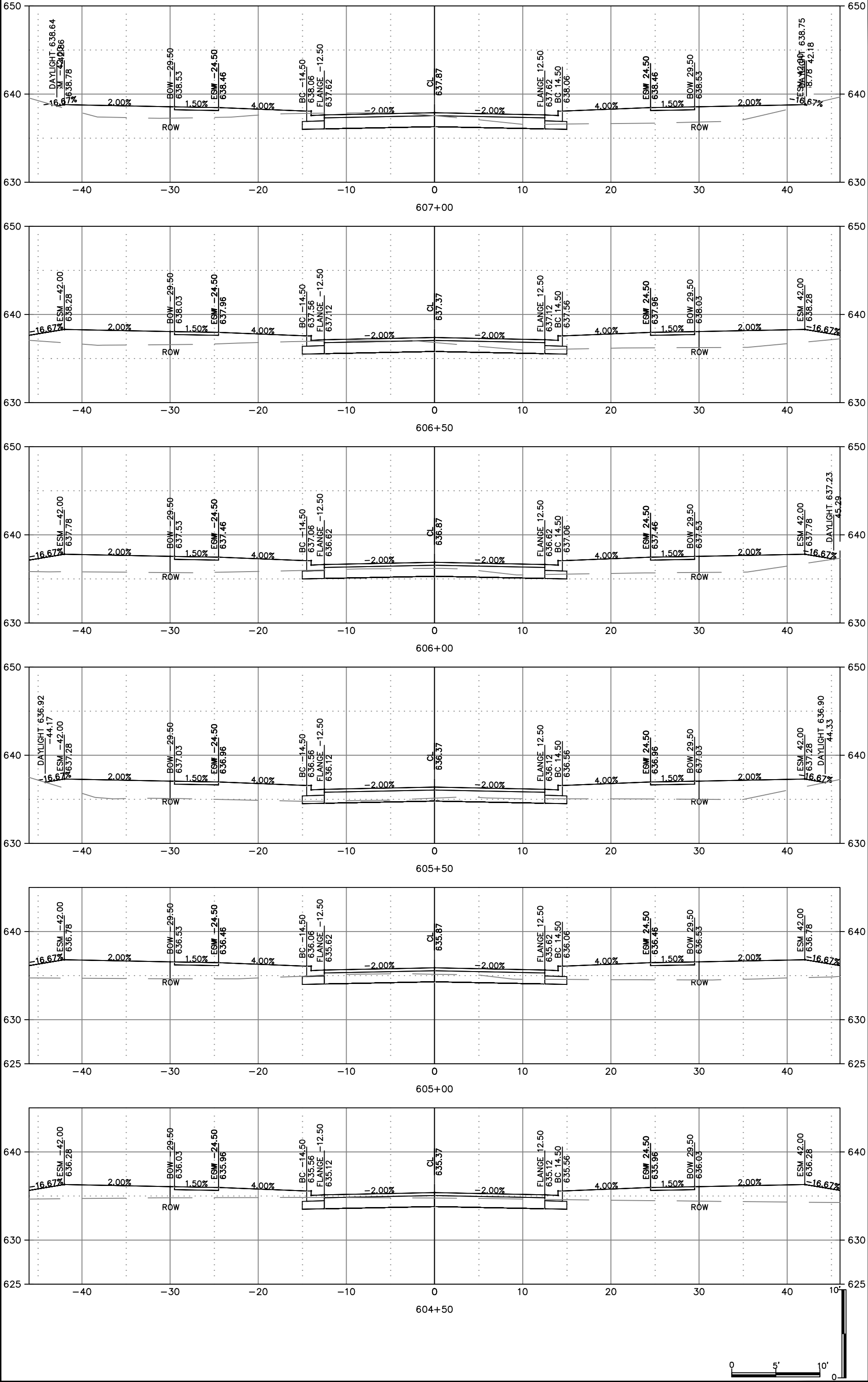




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BROOKLINE AVENUE
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS		BY		DATE		NO.		DATE		REVISIONS / ISSUES	
PHASE II CONSTRUCTION		SURVEYED		MAY 12-2023		MAY 12-2023		BY		REMARKS	
PROJECT # 24-04		DRAWN		MAY 12-2023		MAY 12-2023		BY		REMARKS	
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BROOKLINE AVENUE
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS		BY		DATE		REVISIONS / ISSUES		PAGE	
PHASE II CONSTRUCTION		MUL		12-2023				NO.	
PROJECT # 24-04		DRAWN		MUL					
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		CHECKED		EPR		12-2023			



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BROOKLINE AVENUE
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS		BY		DATE		REVISIONS / ISSUES		PAGE	
PHASE II CONSTRUCTION		SURVEYED		12-2023		NO.		NO.	
PROJECT # 24-04		DRAWN		12-2023				C308	
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BROOKLINE AVENUE

CROSS SECTIONS

NAME: WATERVIEW HEIGHTS
PAGE 11

CONSTRUCTION

PROLOG # 24-04

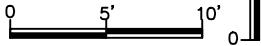
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MAL/EPR	12-2023

REVISIONS / ISSUES

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CITY OF DE PERE
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REAR LOT ADDISON/LANDS DOWNE
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS		REVISIONS / ISSUES				PAGE NO.	
PHASE II CONSTRUCTION		BY	DATE	NO.	DATE	BY	REMARKS
		SURVEYED	MAL	12-2023			
		DRAWN	MAL	12-2023			
		DESIGNED	MAL/EPR	12-2023			
		CHECKED	EPR	12-2023			
PROJECT # 24-04							
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REAR LOT ADDISON/LANSDOWNE

CROSS SECTIONS

NAME: WATERVIEW HEIGHTS
PLACE: "

PROJECT #

24-04

REVISIONS / ISSUES			
BY	DATE	NO.	REMARKS
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REAR LOT ADDISON/LANSLOWNE
CROSS SECTIONS

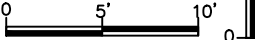
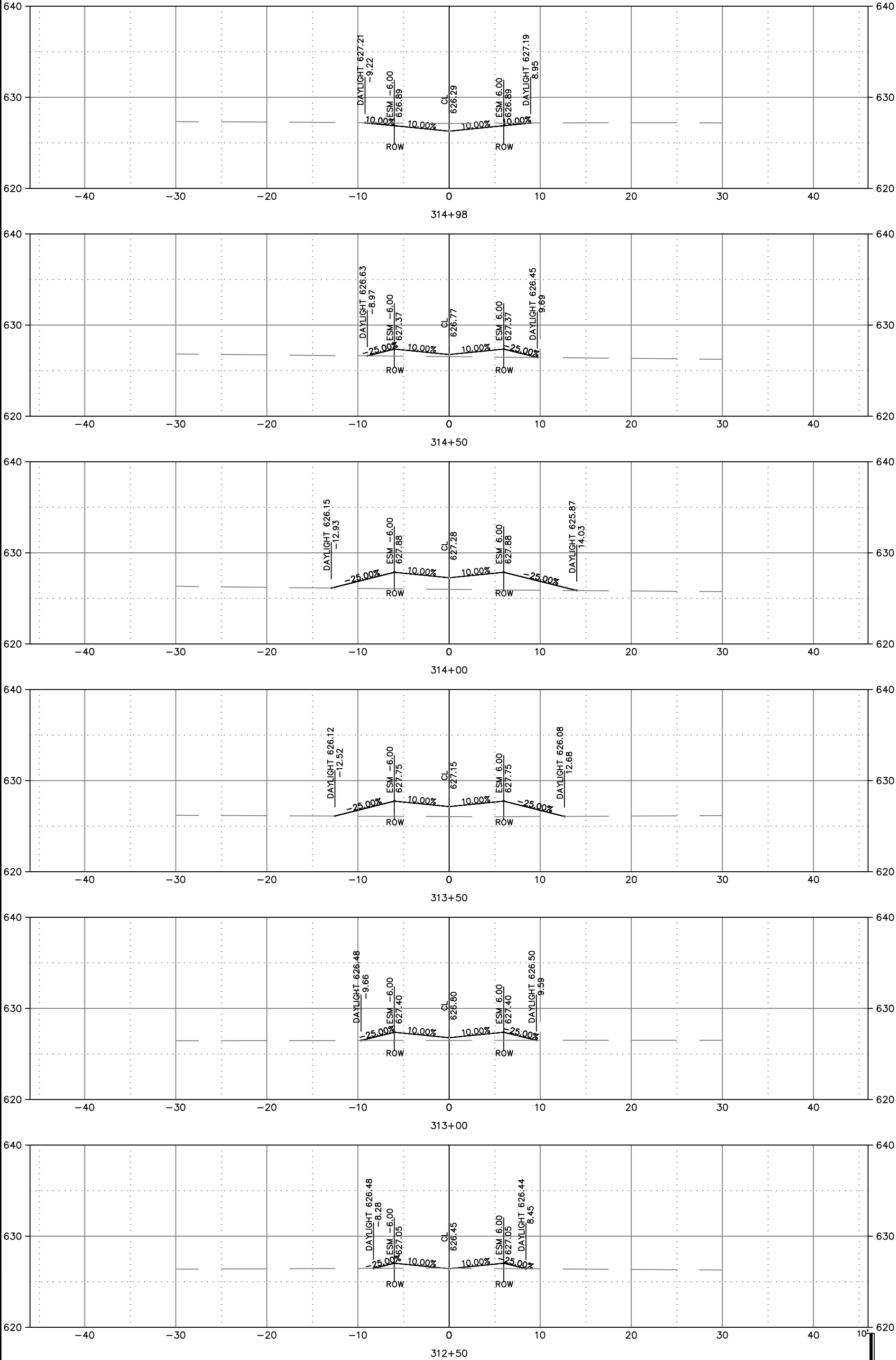
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DESIGNED	MAL/EPR	DATE 12-2023	
CHECKED	EPR	DATE 12-2023	



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REAR LOT ADDISON/LANDS DOWNE
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS			
PHASE II CONSTRUCTION			
PROJECT # 24-04			
SURVEYED	BY	DATE	REVISIONS / ISSUES
DRAWN	MAL	12-2023	
DESIGNED	MAL/EPR	12-2023	
CHECKED	EPR	12-2023	
NO.			DATE
BY			REMARKS





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REAR LOT LANDSDOWNE/BROOKLINE

CROSS SECTIONS

NAME: WATERVIEW HEIGHTS

CONSTRUCTION

24-04

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12-2023

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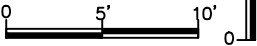
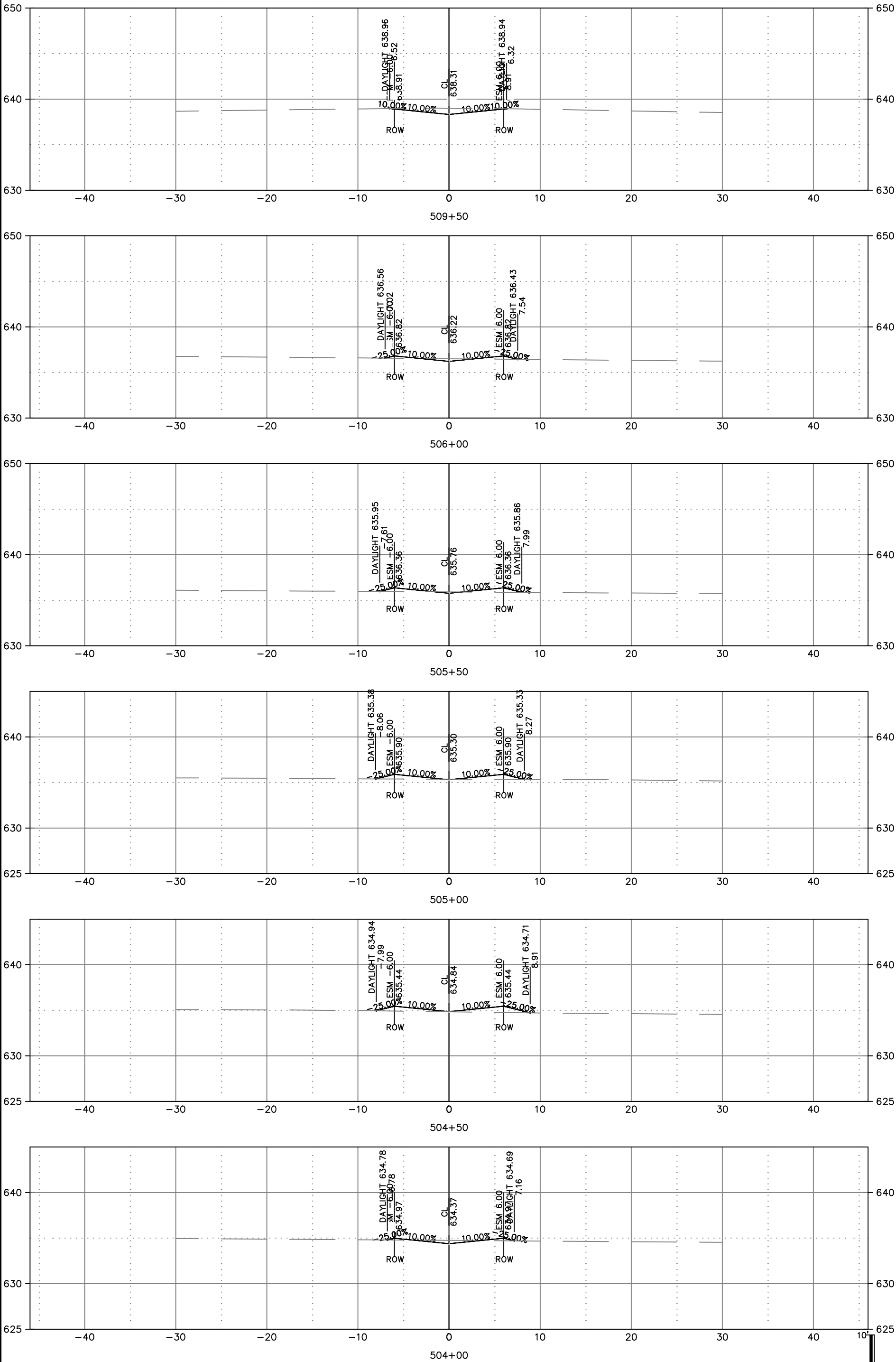
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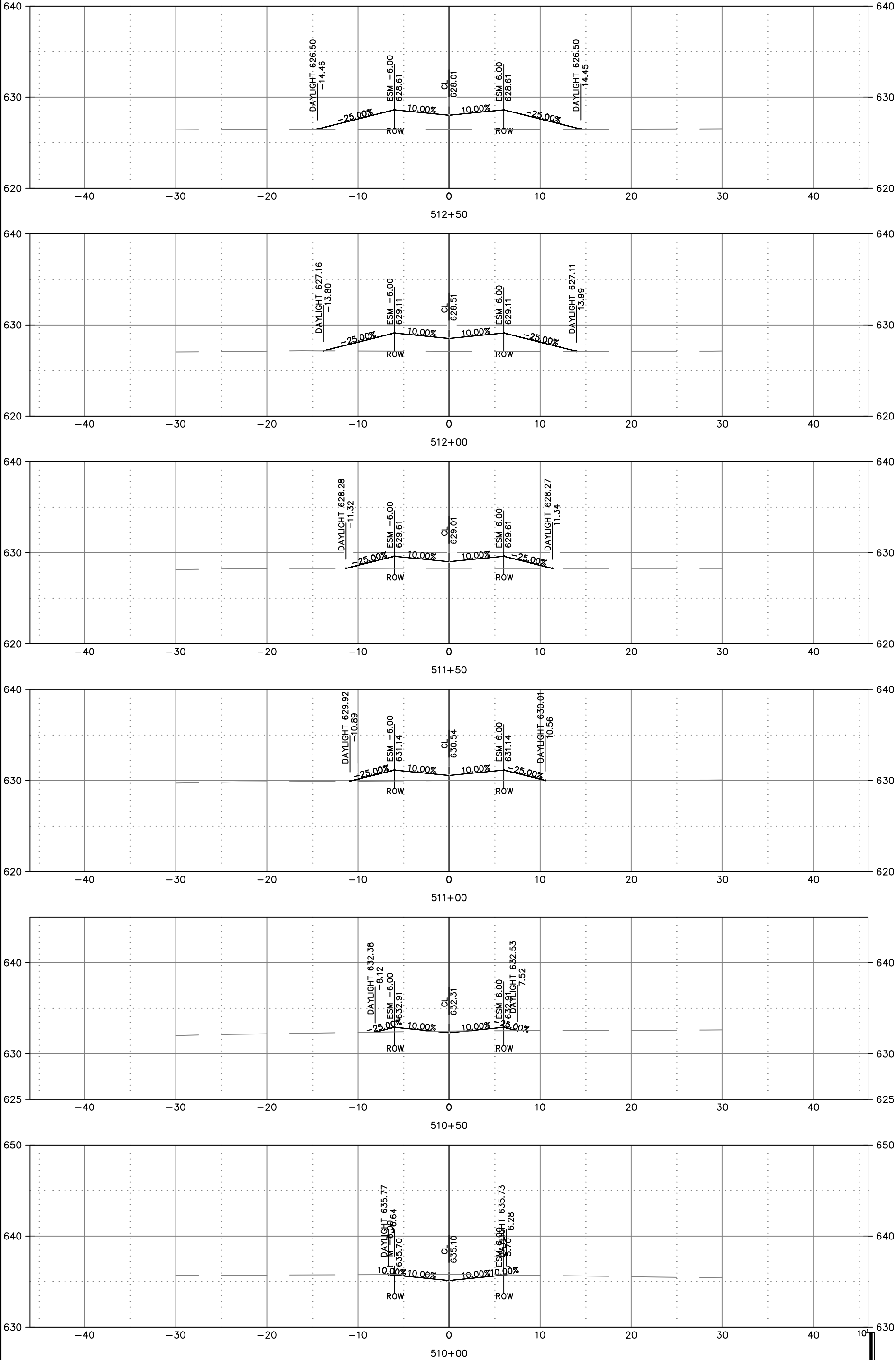




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REAR LOT LANDSLOWNE/BROOKLINE
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS		BY		DATE		NO.		DATE		REVISIONS / ISSUES		PAGE	
PHASE II CONSTRUCTION		SURVEYED		12-2023		12-2023		BT		REMARKS		C315	
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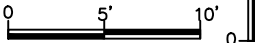
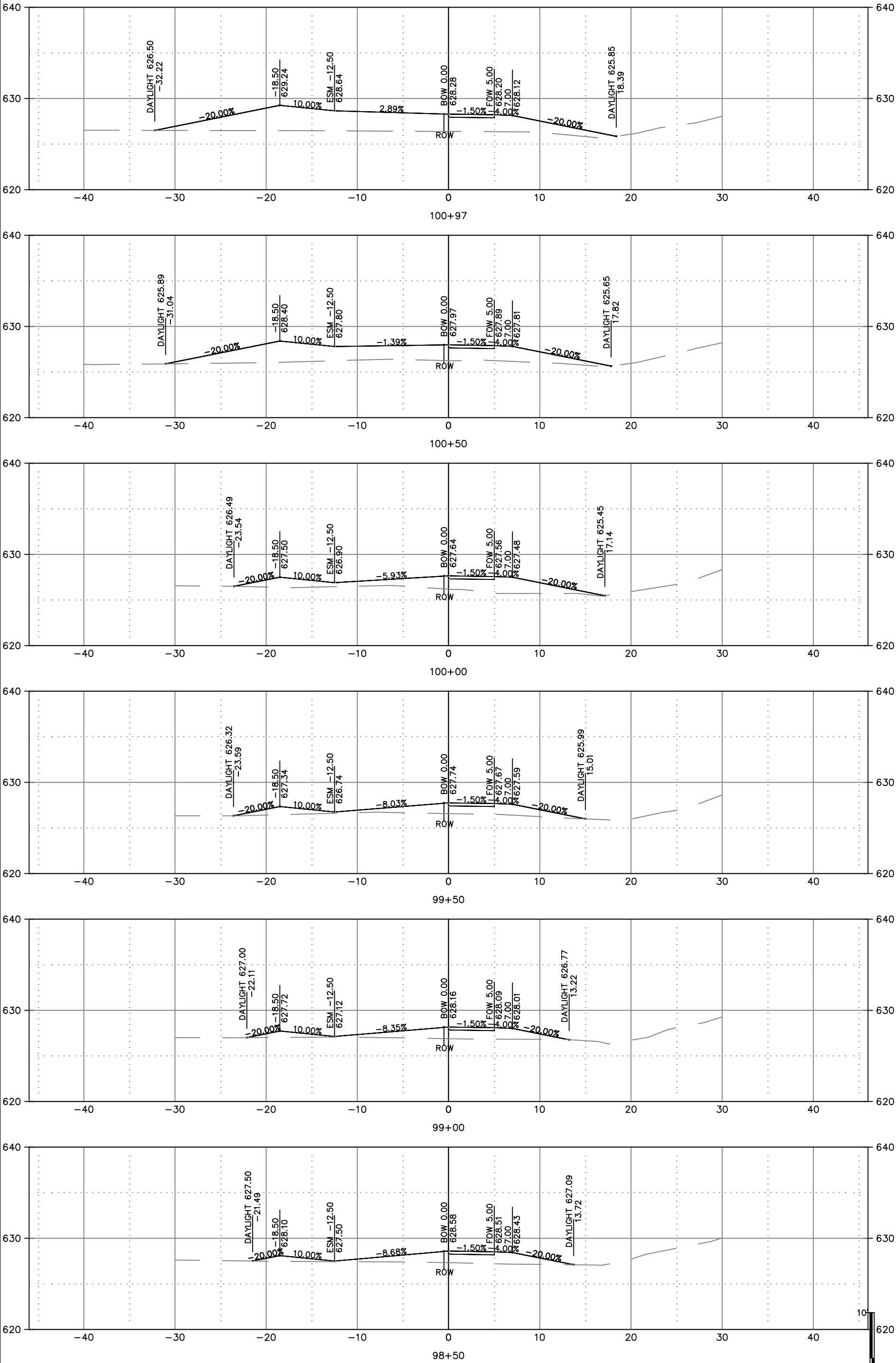




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LOST DAUPHIN SIDEWALK/SWALE
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS PHASE II CONSTRUCTION		BY		DATE	
PROJECT # 24-04		SILVERED		12-2023	
DESIGNED		MAL		12-2023	
CHECKED		MAL/EPR		12-2023	
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		NO.		DATE	
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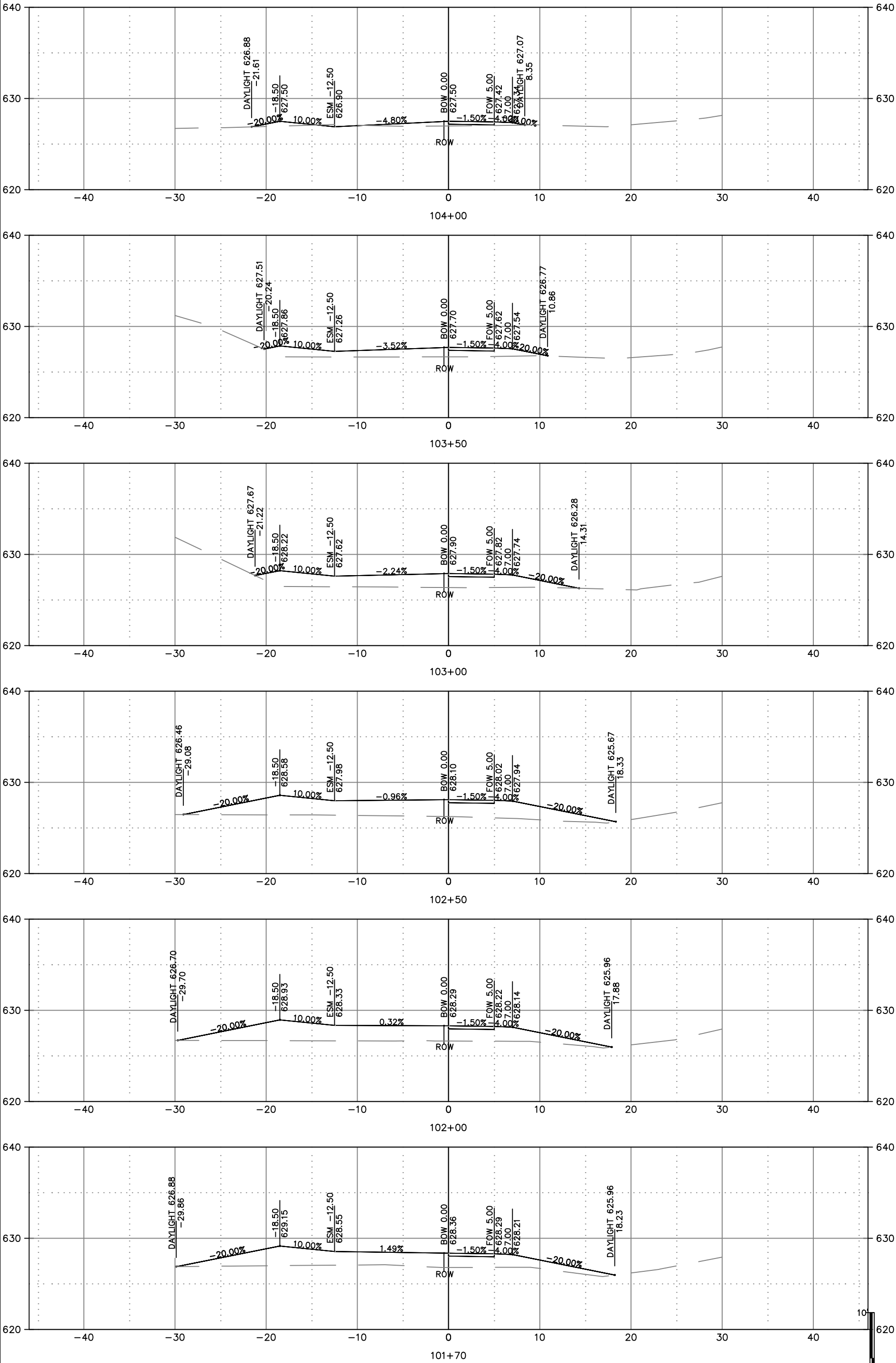




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LOST DAUPHIN SIDEWALK/SWALE
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS PHASE II CONSTRUCTION			
PROJECT # 24-04			
SURVEYED	BY	DATE	REVISIONS / ISSUES
DRAWN	MAL	12-2023	
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NO.			DATE
BY			REMARKS

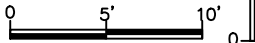
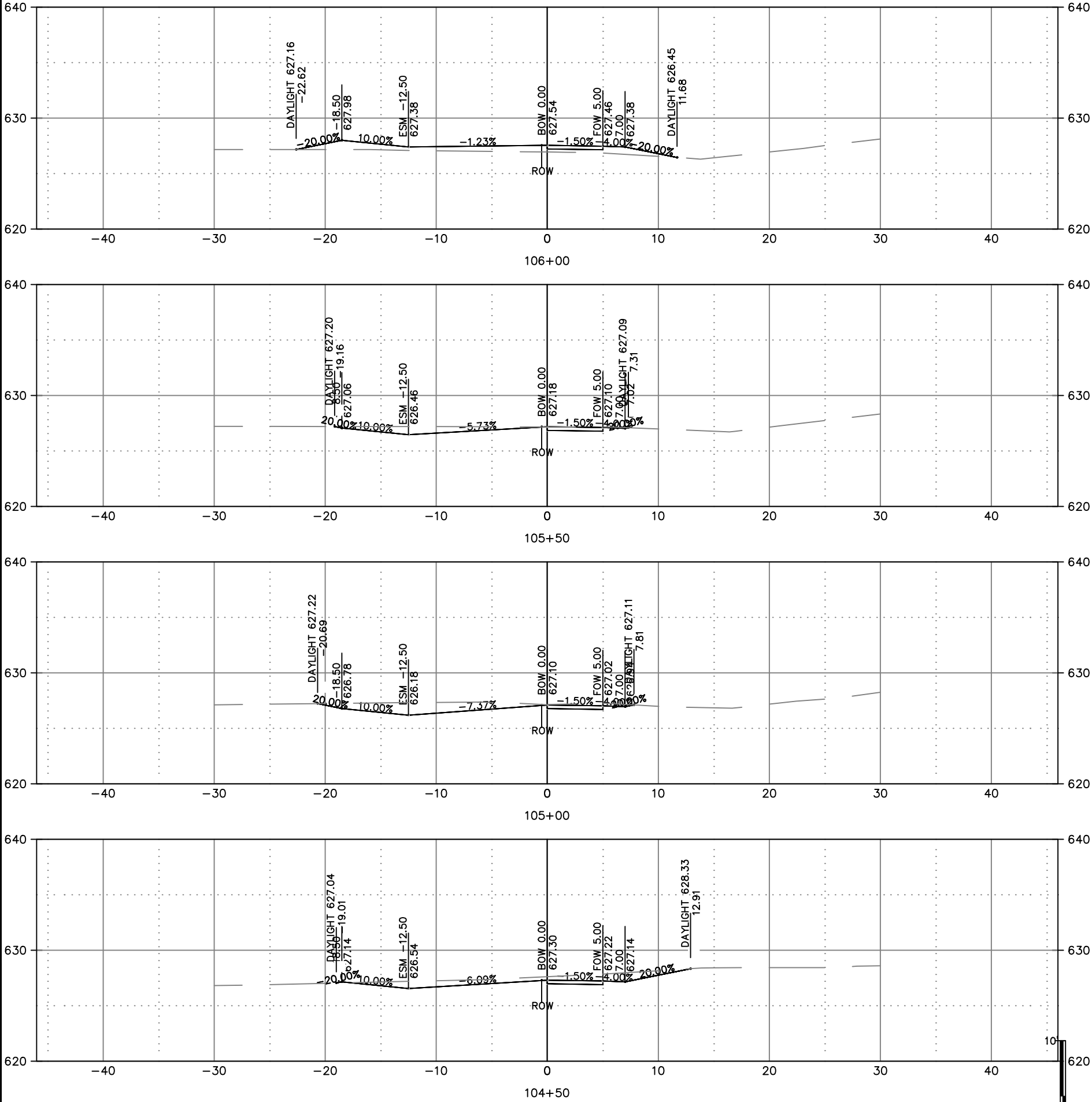




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LOST DAUPHIN SIDEWALK/SWALE
CROSS SECTIONS

NAME: WATERVIEW HEIGHTS		BY		DATE	
PHASE II CONSTRUCTION		MAL		12-2023	
PROJECT # 24-04		MAL		12-2023	
SILVERED		MAL		12-2023	
DRAWN		MAL		12-2023	
DESIGNED		MAL		12-2023	
CHECKED		EPR		12-2023	
REVISIONS / ISSUES		BY		DATE	
NO.		DATE		REMARKS	



LANDSOWNE STREET						
Total Volume Table						
Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
40+4+00.00	73.69	40.39	0.00	0.00	0.00	0.00
40+4+50.00	137.74	4.24	195.77	41.32	195.77	41.32
40+5+00.00	103.91	22.52	223.75	24.77	419.51	66.10
40+5+50.00	64.09	39.01	155.56	56.97	575.07	123.07
40+6+00.00	28.44	53.10	85.68	85.29	660.75	208.36
40+6+50.00	17.73	59.73	42.75	104.47	703.50	312.83
40+7+00.00	9.88	70.27	25.57	120.37	729.06	433.19
40+7+50.00	15.91	61.96	23.88	122.43	752.95	555.62
40+8+00.00	10.93	74.26	24.85	126.13	777.80	681.75
40+8+50.00	47.99	75.30	54.56	138.48	832.36	820.23
40+9+00.00	67.20	71.05	106.66	135.51	939.01	956.74
40+9+50.00	74.67	50.33	131.36	112.39	1070.37	1068.13
41+0+00.00	98.01	26.44	159.89	71.09	1230.26	1139.22
41+0+50.00	108.19	20.10	190.92	43.10	1421.18	1182.32
41+1+00.00	106.01	21.35	198.33	36.38	1619.52	1220.70
41+1+50.00	122.60	13.18	211.67	31.98	1831.18	1252.68
41+2+00.00	150.07	2.18	252.46	14.23	2083.65	1266.91
41+2+50.00	166.59	0.00	295.65	1.97	2379.30	1268.88
41+3+00.00	135.00	7.44	277.62	7.02	2656.92	1275.91
41+3+50.00	153.91	0.90	262.06	7.92	2918.98	1283.83
41+4+00.00	183.45	0.00	311.93	0.87	3230.91	1284.70

BROOKLINE AVENUE						
Total Volume Table						
Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
60+4+50.00	90.23	32.95	0.00	0.00	0.00	0.00
60+5+00.00	118.16	25.10	192.95	53.75	192.95	53.75
60+5+50.00	98.86	11.01	200.94	33.43	393.89	87.18
60+6+00.00	100.34	23.67	184.44	32.11	578.33	119.29
60+6+50.00	87.57	29.36	173.99	49.10	752.33	168.40
60+7+00.00	63.48	36.45	139.86	60.93	892.19	229.33
60+7+50.00	49.63	47.16	104.72	77.42	996.91	306.75
60+8+00.00	48.54	29.62	90.90	71.10	1087.80	377.84
60+8+50.00	45.53	47.57	87.10	71.48	1174.91	449.32
60+9+00.00	18.99	65.40	59.75	104.60	1234.65	553.92
60+9+50.00	37.33	96.44	52.15	149.85	1286.81	703.77
61+0+00.00	44.63	76.58	75.89	160.20	1362.70	863.97
61+0+50.00	50.57	52.93	88.15	119.91	1450.85	983.88
61+1+00.00	45.81	47.30	89.25	92.81	1540.10	1076.69
61+1+50.00	70.46	38.91	107.86	79.83	1647.76	1156.52
61+2+00.00	85.62	21.56	144.52	56.00	1792.28	1212.51
61+2+50.00	100.93	10.89	172.74	30.05	1965.01	1242.56
61+3+00.00	133.22	7.74	207.12	16.50	2172.13	1259.06
61+3+50.00	137.13	3.42	239.91	9.88	2412.05	1268.94
61+4+00.00	192.60	0.00	300.23	3.31	2712.27	1272.25
61+4+50.00	102.70	0.00	269.22	0.00	2981.49	1272.25

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Total Volume Table						
Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
51+4+00.00	172.99	0.33	0.00	0.00	0.00	0.00
51+4+50.00	148.31	2.32	297.49	2.45	297.49	2.45
51+5+00.00	62.30	0.07	195.00	2.21	492.50	4.67
51+5+26.01	5.97	79.23	32.88	38.20	525.38	42.86

READ LOT ADDISON/LANDSOWNE

Total Volume Table						
Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
30+3+00.00	0.00	0.00	0.00	0.00	0.00	0.00
30+3+50.00	0.00	0.00	0.00	0.00	0.00	0.00
30+4+00.00	7.59	0.00	7.03	0.00	7.03	0.00
30+4+50.00	6.99	0.00	13.49	0.00	20.52	0.00
30+5+00.00	6.21	0.00	12.22	0.00	32.74	0.00
30+5+50.00	0.05	2.94	5.79	2.72	38.53	2.72
30+6+00.00	0.00	9.45	0.04	11.47	38.57	14.19
30+6+50.00	0.00	6.54	0.00	14.81	38.57	29.00
30+7+00.00	0.34	2.20	0.32	8.09	38.89	37.09
30+7+50.00	0.01	5.72	0.33	7.33	39.23	44.42
30+8+00.00	0.89	1.68	0.84	6.86	40.06	51.28
30+8+50.00	4.45	0.02	4.94	1.58	45.01	52.86
30+9+00.00	6.42	0.00	10.07	0.02	55.07	52.88
30+9+50.00	5.19	0.00	10.75	0.00	65.82	52.88
31+0+00.00	4.15	0.04	8.65	0.03	74.47	52.91
31+0+50.00	14.85	0.00	17.60	0.03	92.07	52.94
31+1+00.00	21.32	0.00	33.50	0.00	125.56	52.94
31+1+50.00	17.76	0.00	36.19	0.00	161.75	52.94
31+2+00.00	8.08	0.00	23.93	0.00	185.68	52.94
31+2+50.00	4.53	0.02	11.68	0.02	197.36	52.97
31+3+00.00	10.52	0.00	13.93	0.02	211.29	52.99
31+3+50.00	27.81	0.00	35.49	0.00	246.78	52.99
31+4+00.00	33.03	0.00	56.34	0.00	303.12	52.99
31+4+50.00	9.12	0.00	39.03	0.00	342.15	52.99
31+4+98.00	0.00	7.74	8.11	6.88	350.25	59.87

REAR LOT LANDSOWNE/BROOKLINE

Total Volume Table						
Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
50+3+50.00	0.00	0.00	0.00	0.00	0.00	0.00
50+4+00.00	0.82	1.30	0.76	1.20	0.76	1.20
50+4+50.00	5.22	0.00	5.59	1.20	6.36	2.40
50+5+00.00	4.12	0.03	8.64	0.03	15.00	2.44
50+5+50.00	2.83	0.23	6.43	0.24	21.43	2.68
50+6+00.00	1.44	0.80	3.95	0.96	25.38	3.64
50+6+50.00	7.89	0.00	8.63	0.74	34.01	4.38
50+7+00.00	14.36	0.00	20.60	0.00	54.62	4.38
50+7+50.00	7.83	0.00	20.55	0.00	75.17	4.38
50+8+00.00	0.79	1.26	7.99	1.16	83.16	5.54
50+8+50.00	0.07	60.83	0.79	57.49	83.95	63.03
50+9+00.00	6.07	0.00	5.88	56.33	89.83	119.36
50+9+50.00	0.00	4.49	5.62	4.16	95.25	123.52
51+0+00.00	0.00	4.54	0.00	8.36	95.25	131.88
51+0+50.00	2.66	0.33	2.46	4.51	97.71	136.39
51+1+00.00	15.88	0.00	17.16	0.31	114.88	136.70
51+1+50.00	19.39	0.00	32.66	0.00	147.53	136.70
51+2+00.00	36.07	0.00	51.36	0.00	198.89	136.70
51+2+50.00	39.82	0.00	70.27	0.00	269.16	136.70

LOST DAUPHIN SWALE/SIDEWALK

Total Volume Table						
Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
98+50.00	22.80	0.00	0.00	0.00	0.00	0.00
99+00.00	22.60	0.00	42.04	0.00	42.04	0.00
99+50.00	24.25	0.00	43.38	0.00	85.42	0.00
100+00.00	35.33	0.00	55.73	0.00	141.14	0.00
100+50.00	65.16	0.00	93.60	0.00	234.75	0.00
100+97.00	81.73	0.00	127.84	0.00	362.59	0.00
100+97.00	81.73	0.00	127.84	0.00	362.59	0.00
101+50.00	0.00	0.00	0.00	0.00	362.59	0.00
101+70.00	58.80	0.00	21.78	0.00	384.37	0.00
102+00.00	63.62	0.00	68.01	0.00	452.38	0.00
102+50.00	67.29	0.00	121.21	0.00	573.59	0.00
103+00.00	41.60	0.00	100.83	0.00	674.42	0.00
103+50.00	23.32	0.00	60.12	0.00	734.54	0.00
104+00.00	6.23	0.60	27.36	0.55	761.90	0.55
104+50.00	0.06	15.05	5.82	14.49	767.72	15.04
105+00.00	0.00	16.30	0.05	28.03	767.77	44.07
105+50.00	0.00	8.93	0.00	23.36	767.78	67.43
106+00.00	14.83	0.00	13.73	8.27	781.51	75.70

Total Volume Table		
Location	Cumulative Fill Vol	Cumulative Cut Vol
Streets	8138.70	2872.08
Sanitary Trench		3791.94
Storm Trench		645.99
Water Trench		359.26
Lateral Trench		946.57
Clay Stockpile		2710.00
Final Volume	8138.70	11325.84

Total Volume Table	
Location	Cumulative Cut Vol
Topsoil Stockpiles	3961.38

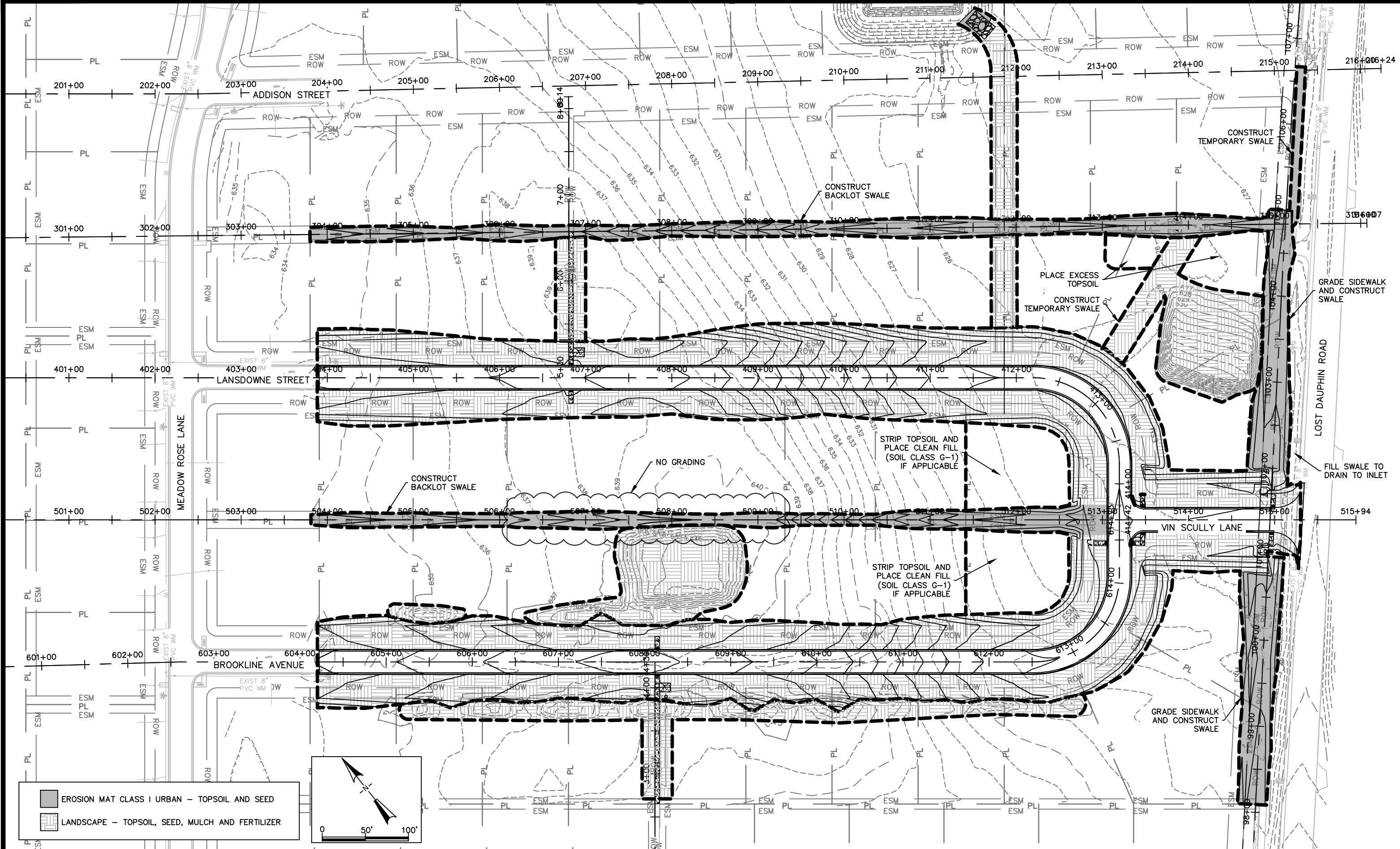


DE PERE

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ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

NAME: WATERVIEW HEIGHTS
PHASE II CONSTRUCTION
PROJECT # 24-04

SURVEYED		BY		DATE		REVISIONS / ISSUES		PAGE NO. C319
DRAWN		MAL		12-2023				
DESIGNED		MAL/EPH		12-2023				
CHECKED		EPH		12-2023				
		BT				REMARKS		



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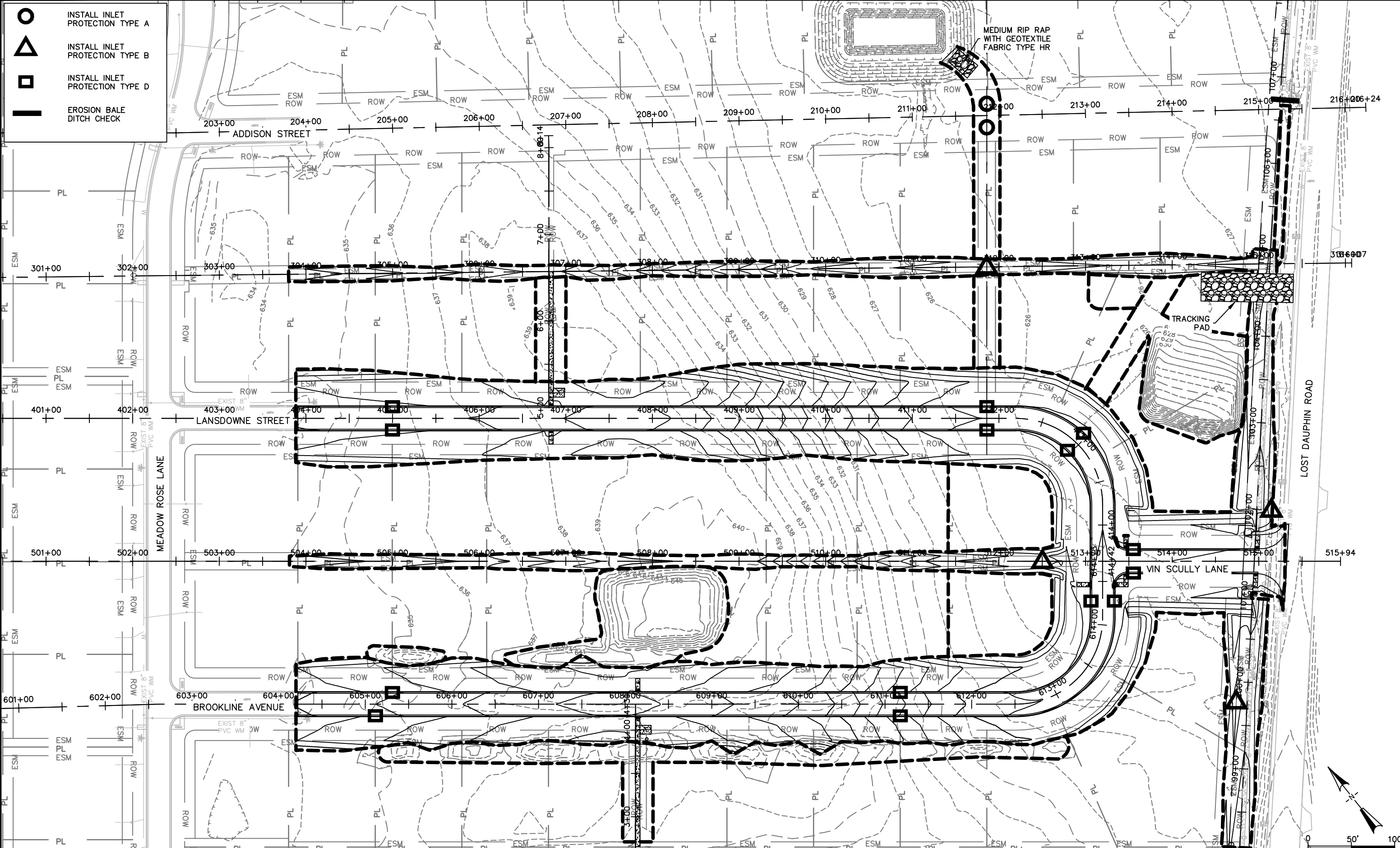
**WATERVIEW HEIGHTS
SITE GRADING AND RESTORATION PLAN**

NAME: WATERVIEW HEIGHTS
PHASE II
CONSTRUCTION
PROJECT # 24-04

	BY	DATE
SURVEYED	MAL	11-2023
DRAWN	MAL	11-2023
DESIGNED	MAL/EPR	11-2023
CHECKED	EPR	01-2024

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO.
C401



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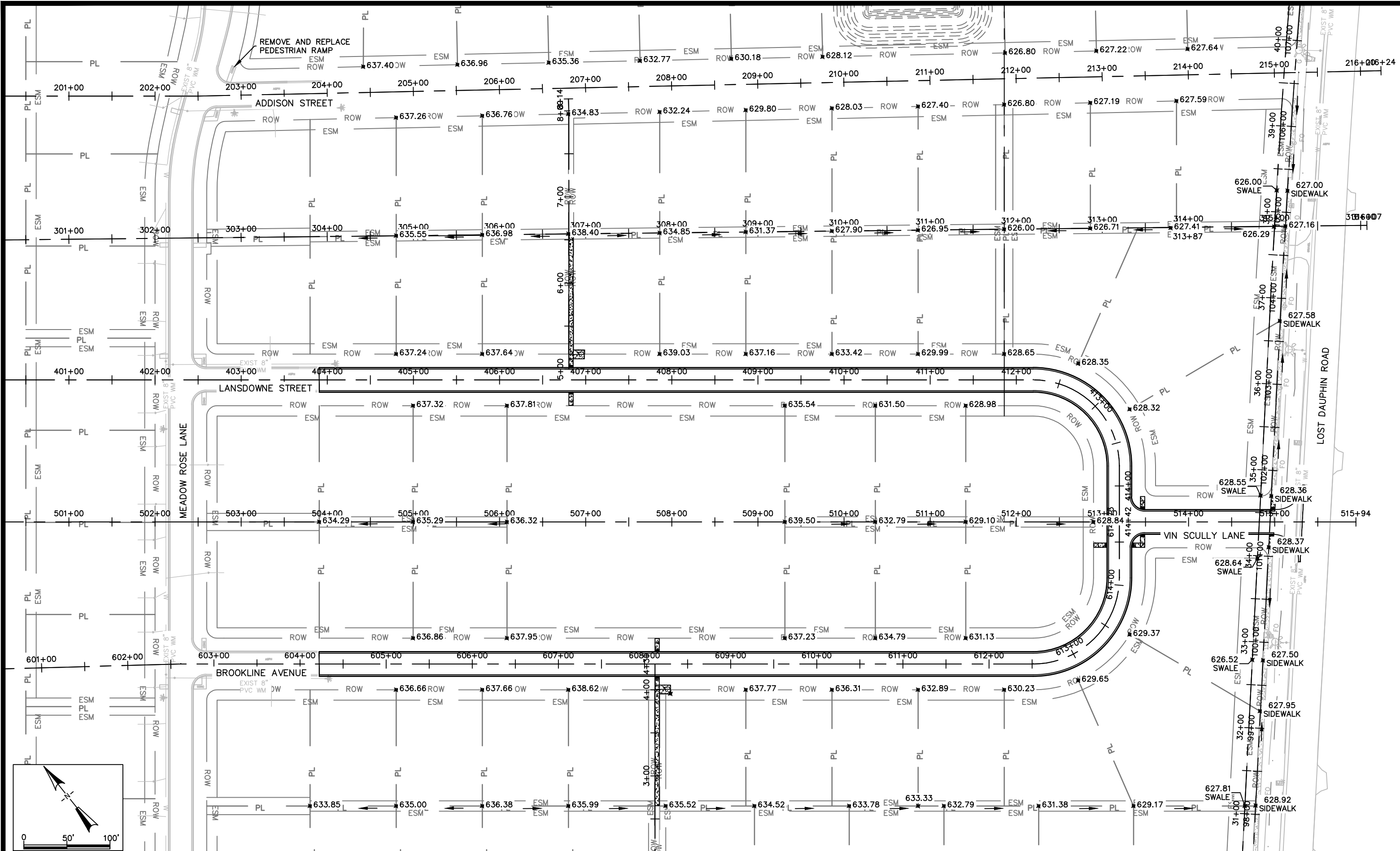
INSTALL INLET
PROTECTION TYPE A

INSTALL INLET
PROTECTION TYPE B

INSTALL INLET
PROTECTION TYPE D

EROSION BALE
DITCH CHECK

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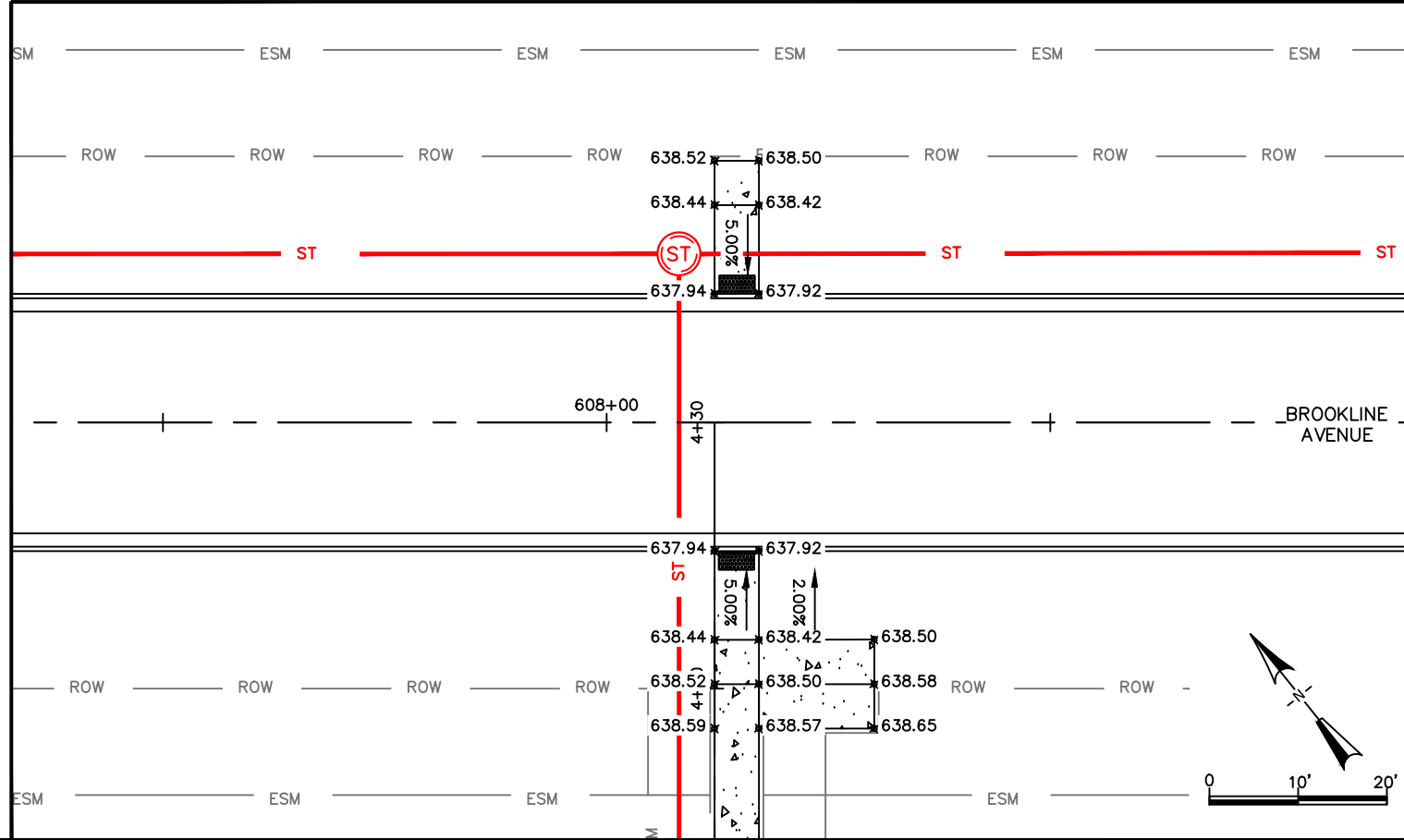
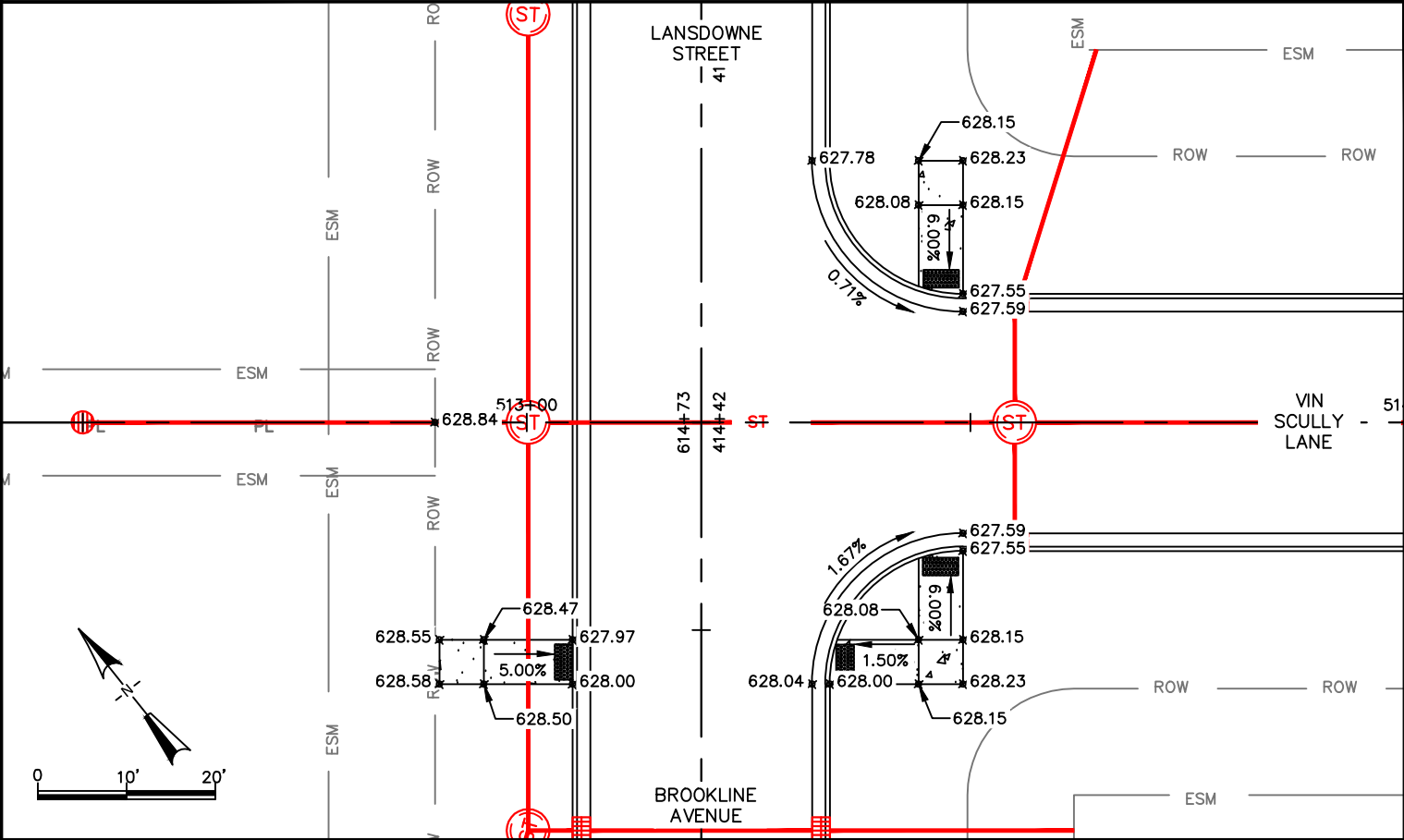
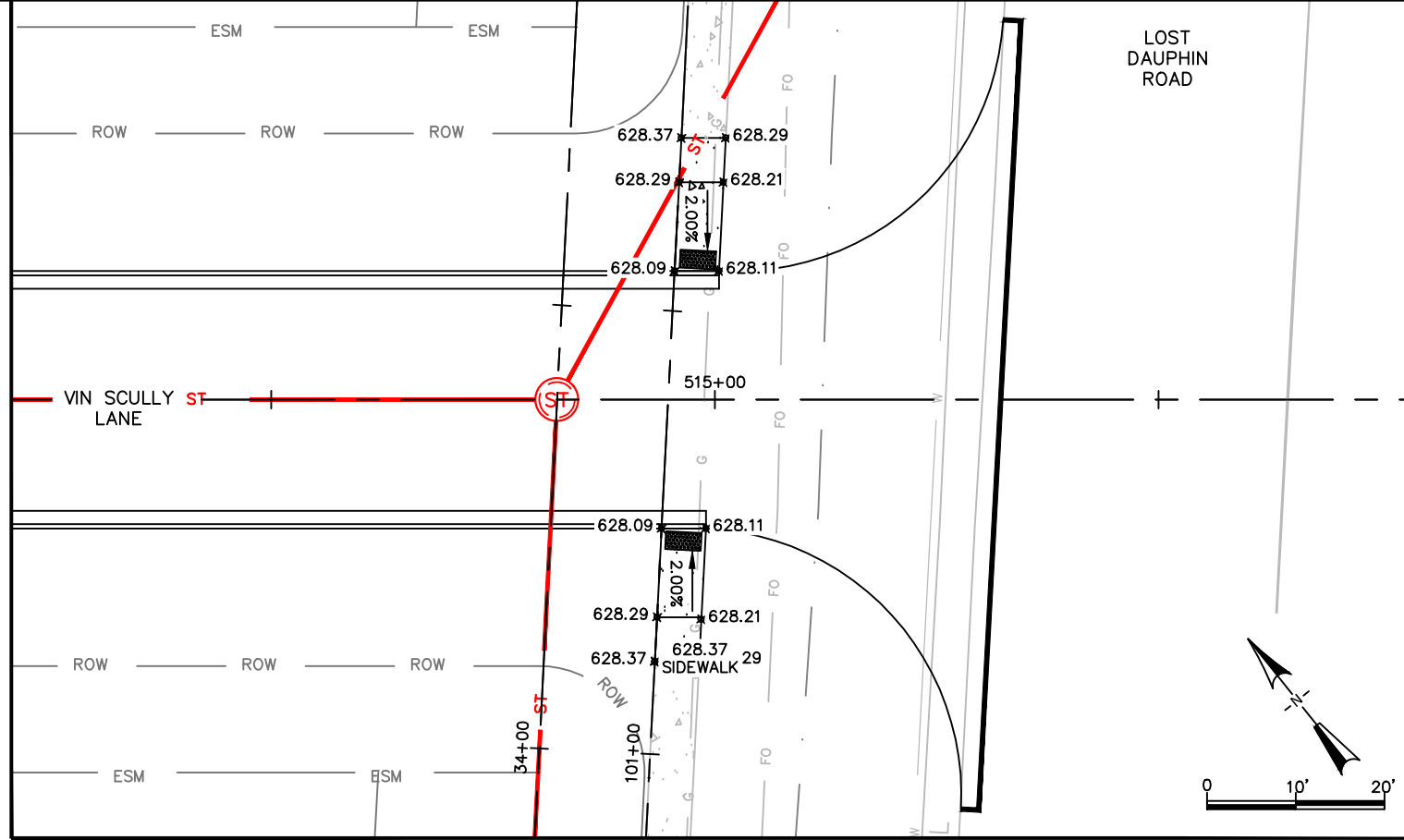
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**WATERVIEW HEIGHTS
LOT GRADING PLAN**

NAME: WATERVIEW HEIGHTS
PHASE II
CONSTRUCTION
PROJECT # 24-04

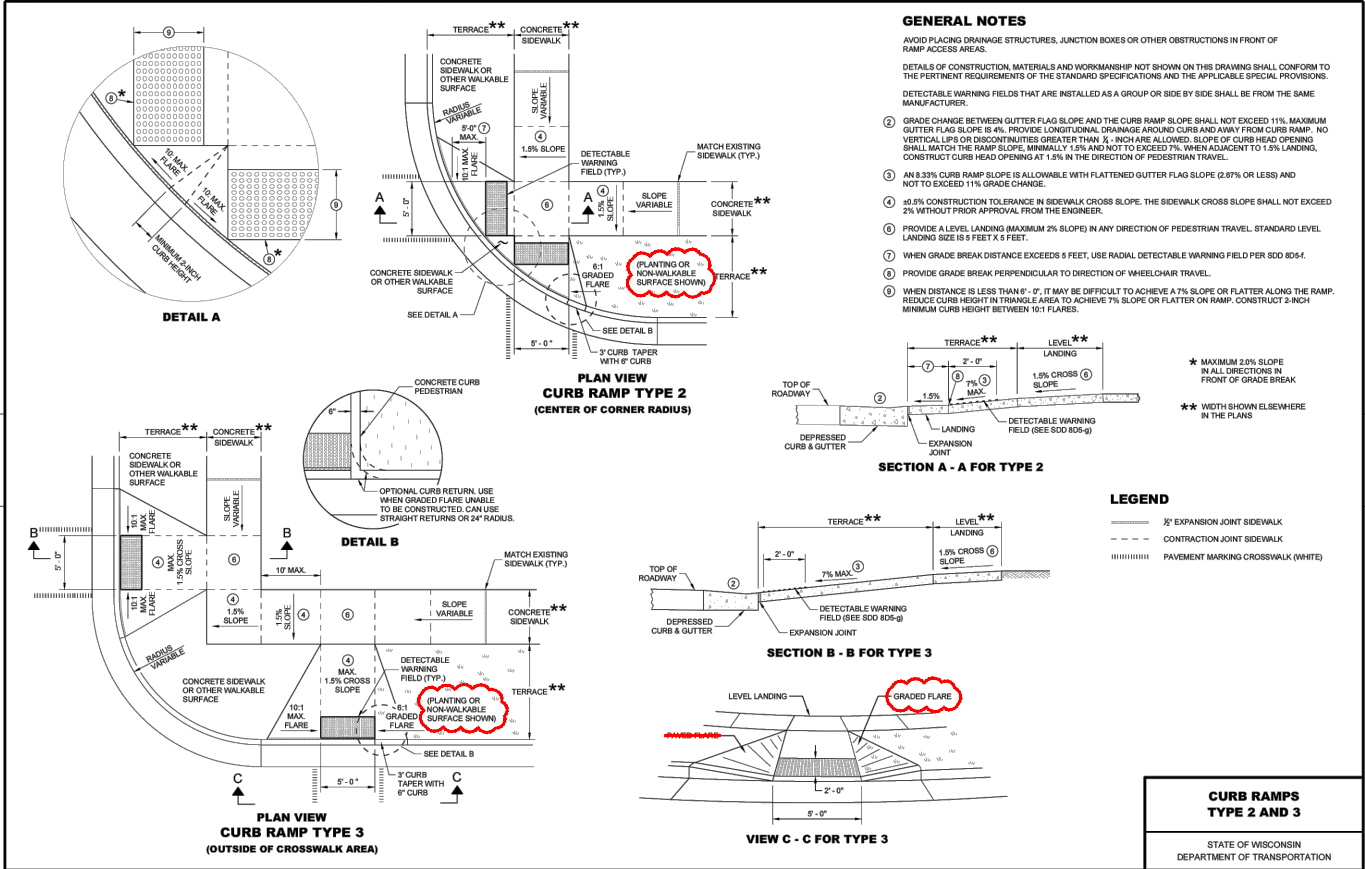
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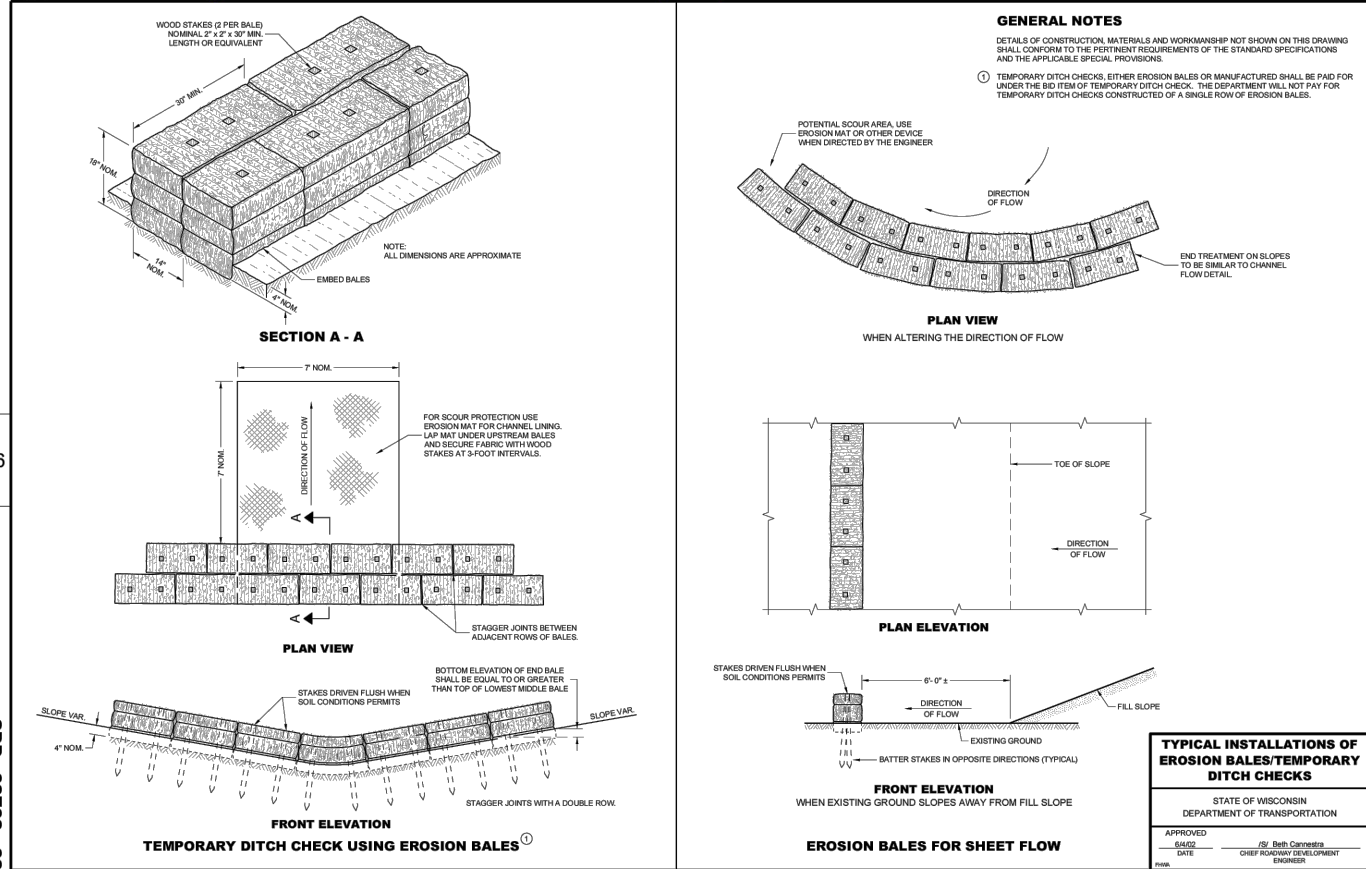


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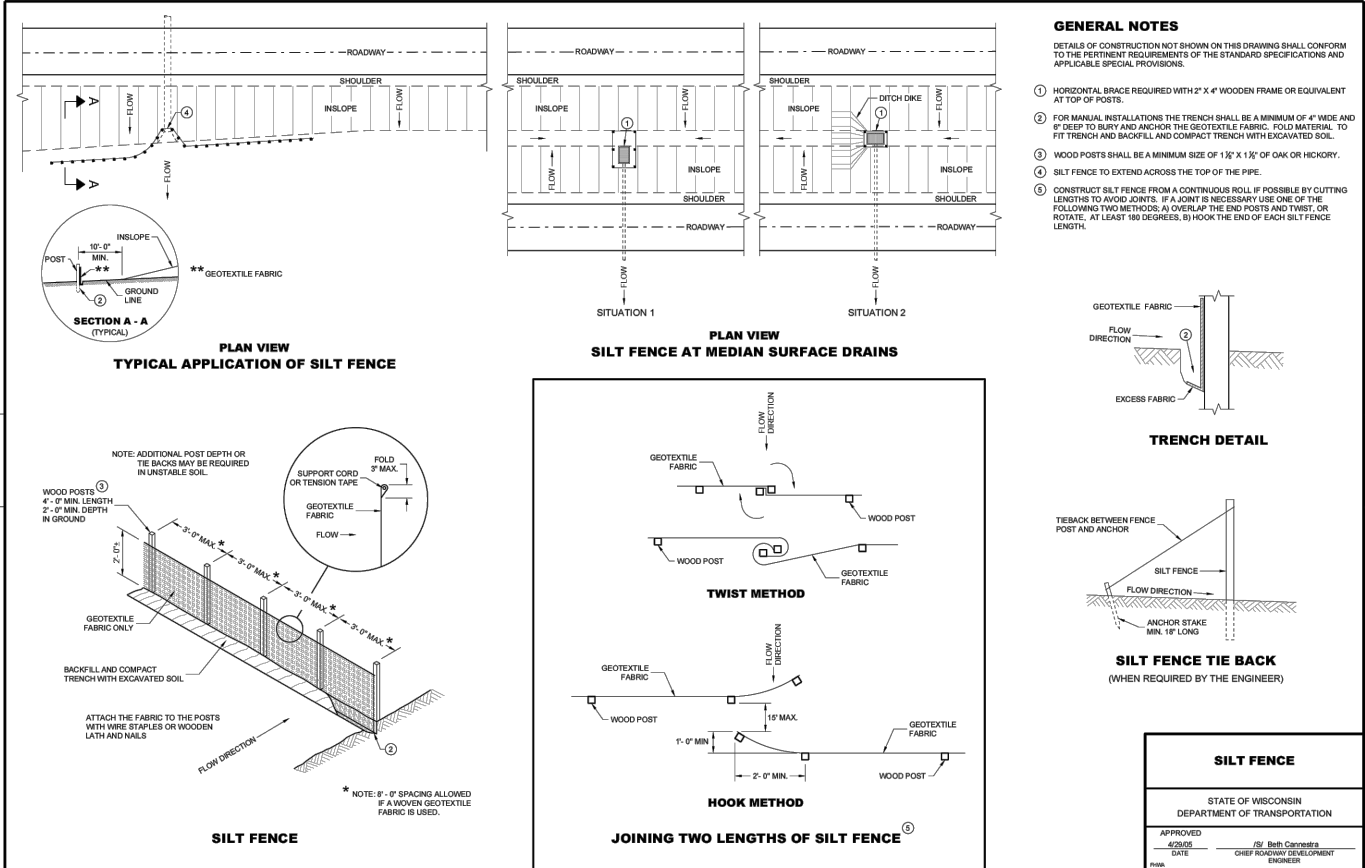
SDD 08D05-b Curb Ramps Types 2 and 3



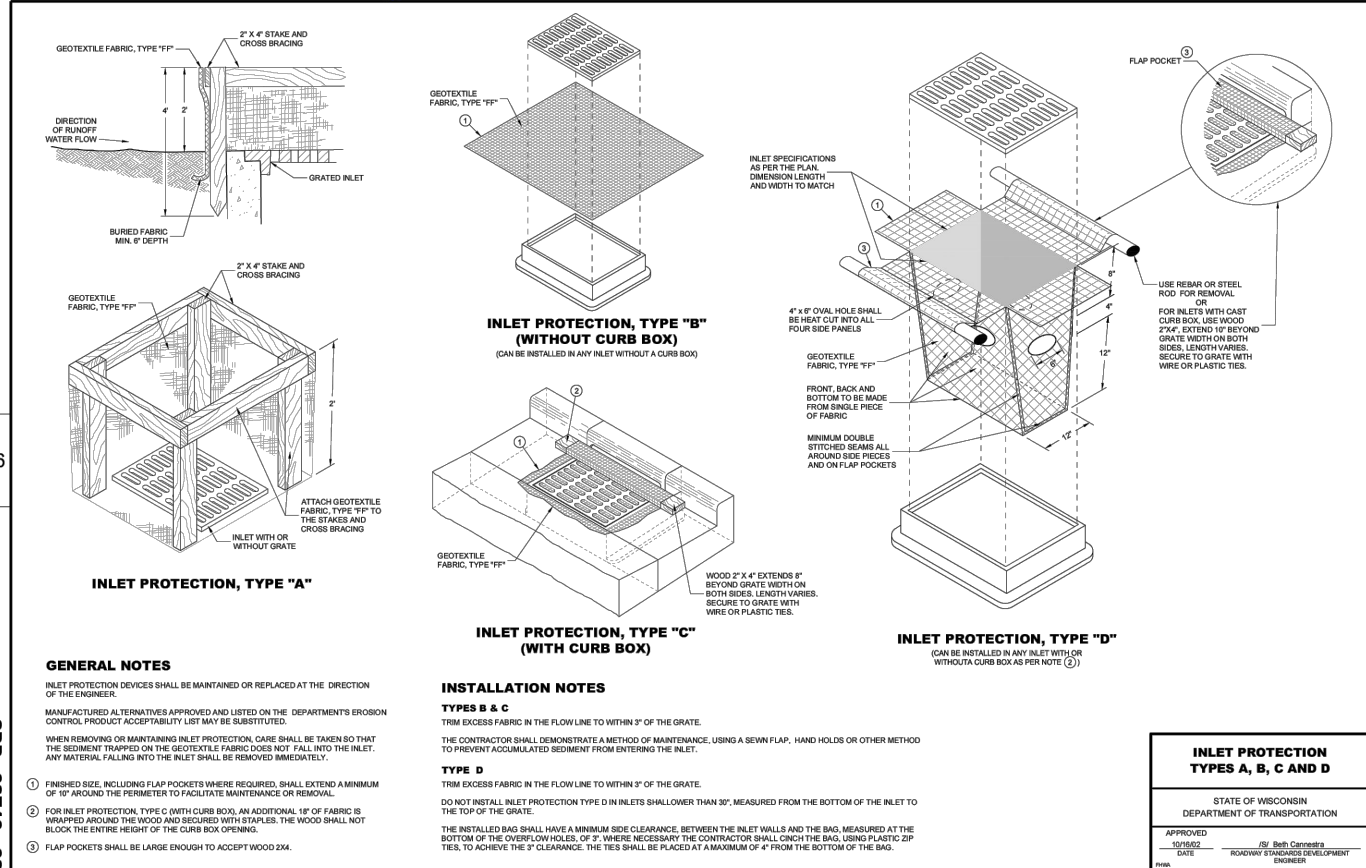
SDD 08E08 Typical Installations of Erosion Bales / Temporary Ditch Checks



SDD 08E09 Silt Fence



SDD 08E10 Inlet Protection, Types A, B, C and D



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WATERVIEW HEIGHTS
CONSTRUCTION DETAILS

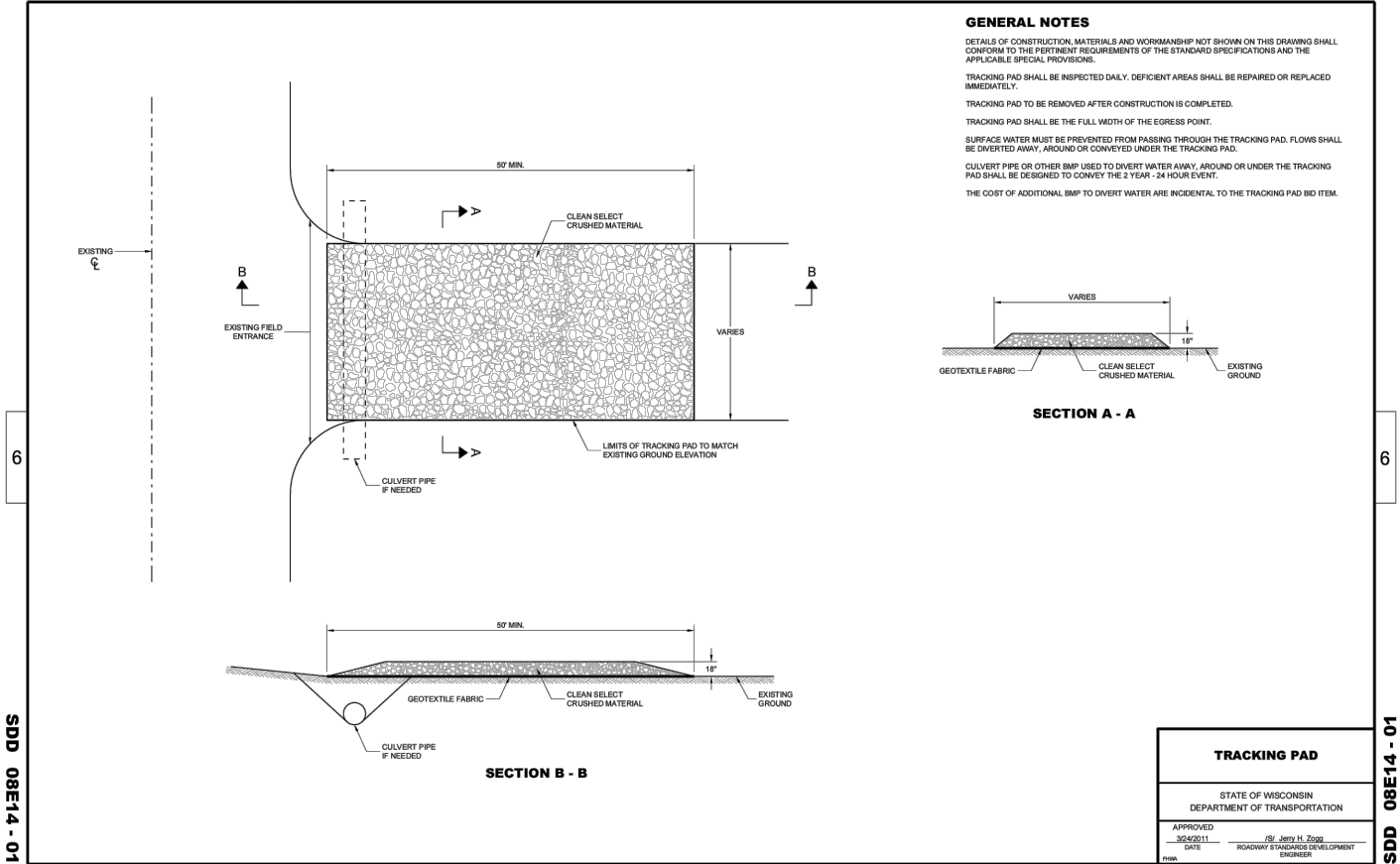
NAME: WATERVIEW HEIGHTS
PHASE II
CONSTRUCTION
PROJECT # 24-04

REVISIONS / ISSUES				REMARKS	
NO.	DATE	BY	DATE		
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DRAWN	MAL	11-2023			
DESIGNED	MAL/EPR	11-2023			
CHECKED	EPR	01-2024			

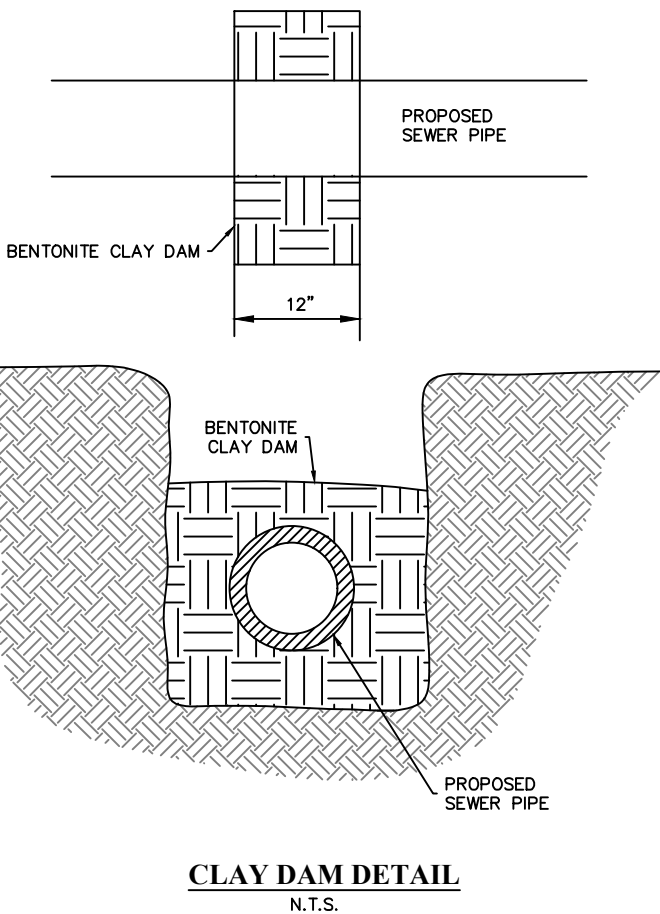
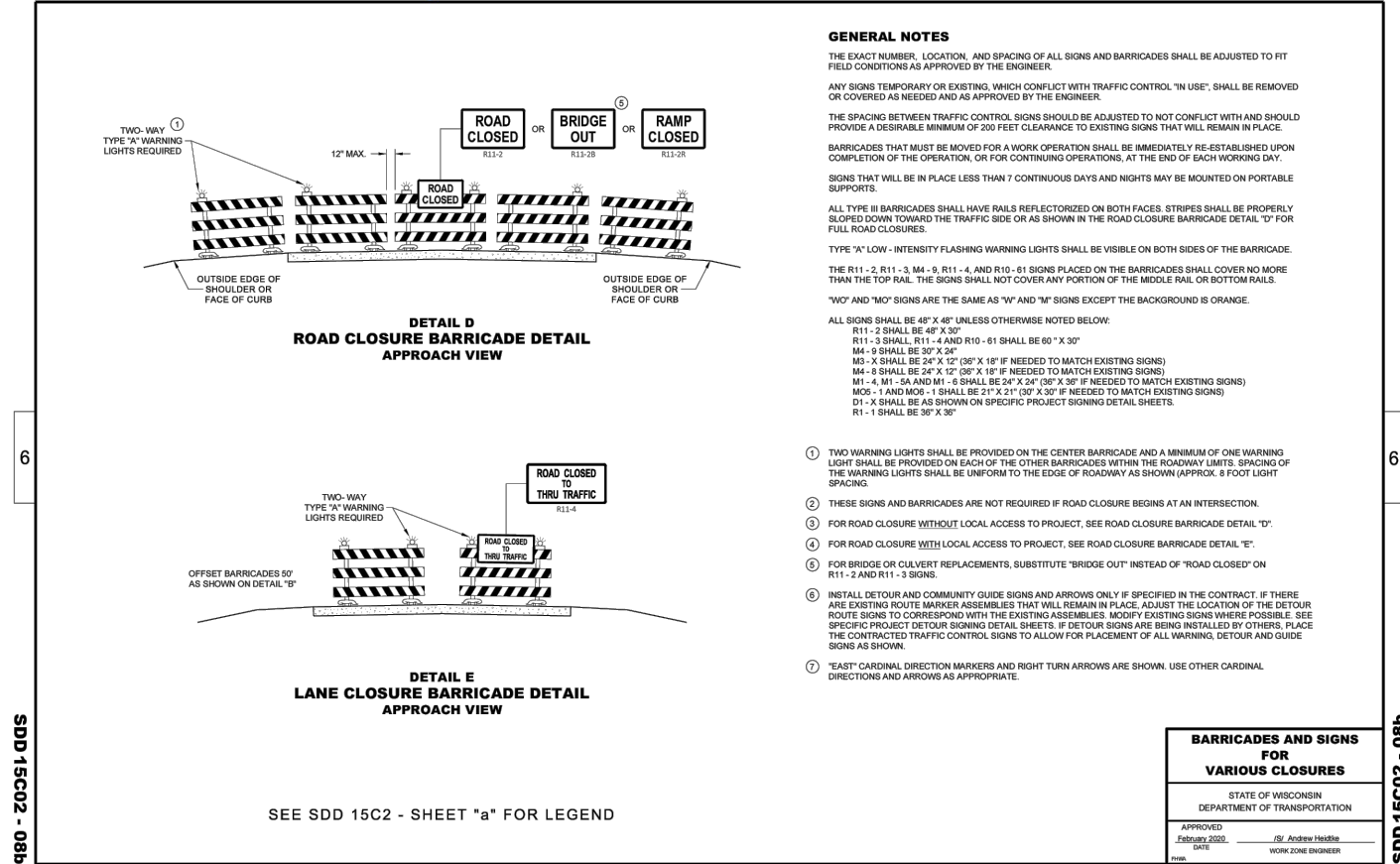
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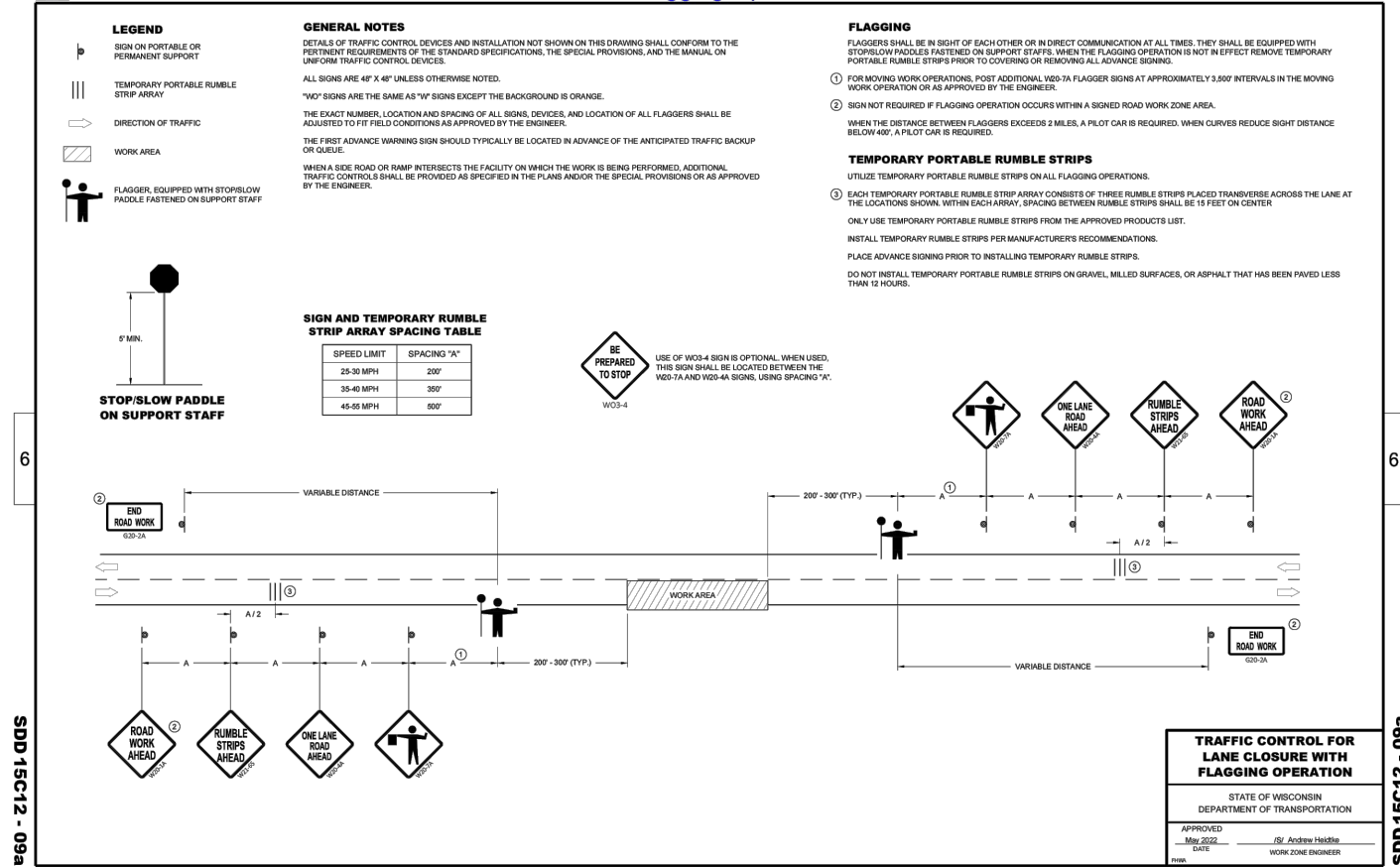
SDD 08E14 Tracking Pad



SDD 15C02-b Barricades and Sign for Various Closures



SDD 15C12-a Traffic Control for Lane Closure With Flagging Operation



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WATERVIEW HEIGHTS
CONSTRUCTION DETAILS

NAME: WATERVIEW HEIGHTS
PHASE II
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REVISIONS / ISSUES

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