

# **CITY OF DE PERE**

## **PROJECT**

**22-04**

## **ALLEY RECONSTRUCTION**

### **BID DATE:**

**MARCH 31, 2022**

**@ 1:00 PM**

Bid documents, including plans and specifications, are available for download at [www.QuestCDN.com](http://www.QuestCDN.com). The QuestCDN website can also be accessed through the City website at [www.deperewi.gov/projects](http://www.deperewi.gov/projects) or by pressing the *Projects* icon at the bottom of any City website page. Download cost is \$15 for each contract. Bidders will be charged an additional fee of \$30 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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**SECTION 00 11 13**

**MARCH 11, 2022 – MARCH 18, 2022**

**CITY OF DE PERE**

**ADVERTISEMENT TO BID**

**PROJECT 22-04**

**ALLEY RECONSTRUCTION**

Online bids will be received and accepted for Project 22-04 Alley Reconstruction via the online electronic bidding service through QuestCDN.com, until 1:00 PM, Thursday, March 31, 2022, at which time they will be publicly accepted, displayed and read aloud.

Project 22-04 for which proposals are being sought includes the following approximate quantities:

- 500 LF Relay Sanitary Lateral Relay (4" to 6")
- 300 LF Relay and New Storm 12" Storm Sewer Main
- 200 LF New Storm Lateral (6" to 8")
- 2800 CY Unclassified Excavation
- 3200 CY Crushed Aggregate Base Course
- 710 Tons Asphaltic Concrete Pavement
- 2150 LF of 24" Concrete Curb and Gutter
- 900 SY 4" to 8" Concrete Sidewalk/Driveway
- 900 LF Conduit (2" to 3")
- 3700 LF 4 Gauge Wire
- 8 EA Light Poles
- 1 EA Light Control Cabinet and Meter

Complete digital project bidding documents are available for viewing and/or downloading at [www.QuestCDN.com](http://www.QuestCDN.com) or may be examined at the office of the Director of Public Works. Digital plan documents may be downloaded for \$15 by inputting Quest project #7407837 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 \$30 to submit a bid electronically. The QuestCDN website can also be accessed through the City website at [www.deperewi.gov/projects](http://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](mailto: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.

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 28, 2022. Prospective bidders who have previously submitted such forms subsequent to January 1, 2022 will not be required to separately submit such form 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 11th day of March 2022.

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

Project 22-04

**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 1<sup>st</sup> 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. No reports of explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.
- 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/297977445>

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  
- One-touch: <tel:+18668994679,,297977445#>

Access Code: 297-977-445

**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 22-04**

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 31, 2022 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: \$**\_\_\_\_\_

**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)

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 22-04**

**BID SCHEDULE – UNIT PRICE**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
<b>SANITARY SEWER</b>					
SS-01	Remove and Relay 6" or 4" PVC Sanitary Lateral w/Slurry Backfill	LF	80	\$ _____	\$ _____
SS-02	Remove and Relay 6" or 4" PVC Sanitary Lateral	LF	460	\$ _____	\$ _____
SS-03	Dig Down and Cap Lateral	EA	1	\$ _____	\$ _____
SS-04	Connect to Existing Sanitary Lateral	EA	11	\$ _____	\$ _____
SS-05	Televise Existing Sanitary Laterals	EA	11	\$ _____	\$ _____
<b>STORM SEWER</b>					
ST-01	Remove and Relay 12" RCP Class V Storm Sewer	LF	25	\$ _____	\$ _____
ST-02	Provide 12" RCP Class V Storm Sewer	LF	275	\$ _____	\$ _____
ST-03	Provide 8" C900 PVC Storm Sewer Lateral w/Slurry Backfill	LF	140	\$ _____	\$ _____
ST-04	Provide 8" C900 PVC Storm Sewer Lateral	LF	100	\$ _____	\$ _____
ST-05	Provide Storm Lateral Risers w/cap at Building	EA	7	\$ _____	\$ _____
ST-06	Core Drill Storm Sewer and Provide 8" Inserta Tee	EA	6	\$ _____	\$ _____
ST-07	Provide 4' Diameter Storm Manhole	VF	6	\$ _____	\$ _____
ST-08	Remove and Replace Type B Inlet	EA	1	\$ _____	\$ _____

**Project 22-04**  
**Alley Reconstruction**

**City of De Pere**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
<b>STORM SEWER CONTINUED</b>					
ST-09	Provide Type B Catch Basin	EA	3	\$_____	\$_____
ST-10	Provide Type B Inlet	EA	1	\$_____	\$_____
ST-11	Provide 30" Diameter Field Inlet	EA	1	\$_____	\$_____
ST-12	Connect to Existing Structure	EA	1	\$_____	\$_____
ST-13	Televise Existing Storm Lateral	EA	1	\$_____	\$_____
ST-14	Storm Sewer Lateral Dig Down and Repair (5 feet)	EA	1	\$_____	\$_____
ST-15	Storm Sewer Dig Down and Repair Offset Joint (5 Feet)	EA	1	\$_____	\$_____
ST-16	Abandon/Remove Existing Storm Sewer Appurtenances	LS	1	\$_____	\$_____
<b>STREET AND DRAINAGE</b>					
SD-01	Provide Clearing and Grubbing	LS	1	\$_____	\$_____
SD-02	Unclassified Excavation	CY	2,650	\$_____	\$_____
SD-03	Provide 1 1/4" Crushed Aggregate Base Course	TON	3,060	\$_____	\$_____
SD-04	Provide Asphaltic Concrete Pavement Type 4 LT 58-28 S, 1 3/4" Upper Layer	TON	320	\$_____	\$_____
SD-05	Provide Asphaltic Concrete Pavement Type 3 LT 58-28 S, 2 1/4" Lower Layer	TON	700	\$_____	\$_____
SD-06	Provide 24" Mountable/Driveway Concrete Curb and Gutter	LF	920	\$_____	\$_____
SD-07	Provide 24" Standard/Reverse Concrete Curb and Gutter	LF	1,070	\$_____	\$_____



**Project 22-04**  
**Alley Reconstruction**

**City of De Pere**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
<b>STREET AND DRAINAGE CONTINUED</b>					
SD-08	Provide 14" Integral Curb Head with Sidewalk	LF	405	\$_____	\$_____
SD-09	Provide 8" Concrete Sidewalk, Ramp, and Driveway	SY	360	\$_____	\$_____
SD-10	Provide 4" Concrete Sidewalk and Behind Curb	SY	700	\$_____	\$_____
SD-11	Provide #4 Reinforcement Bars for Curb and Sidewalk	LF	720	\$_____	\$_____
SD-12	Drilled Tie Bars (Existing Sidewalk, Driveway, and Curb and Gutter)	EA	30	\$_____	\$_____
<b>SPECIAL CONSTRUCTION</b>					
SC-01	Provide Flexible Sign Base with 8' Pole	EA	17	\$_____	\$_____
SC-02	Inlet Protection Type A	EA	1	\$_____	\$_____
SC-03	Inlet Protection Type D	EA	6	\$_____	\$_____
SC-04	Installing Bollards	EA	8	\$_____	\$_____
SC-05	Adjust Inlet	EA	1	\$_____	\$_____
SC-06	Adjust Manhole	EA	3	\$_____	\$_____
SC-07	Construct Dumpster	LS	1	\$_____	\$_____
SC-08	Pavement Marking Epoxy 4-Inch White	LF	1,505	\$_____	\$_____
SC-09	Pavement Marking (Handicap Symbol White) Epoxy	EA	4	\$_____	\$_____
SC-10	Traffic Control	LS	1	\$_____	\$_____

**Project 22-04**  
**Alley Reconstruction**

**City of De Pere**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
<b>ELECTRICAL</b>					
E-01	Conduit Rigid Nonmetallic Schedule 40, 2-Inch	LF	950	\$_____	\$_____
E-02	Pull Box 24x42 Inch (Nonconductive)	EA	1	\$_____	\$_____
E-03	Concrete Base, Type 5	EA	9	\$_____	\$_____
E-04	Poles, Type 5-Aluminum Anodized Black	EA	1	\$_____	\$_____
E-05	Decorative Poles, Spring City Hancock With Ladder Rest, 9'- 2" Lamp Post	EA	8	\$_____	\$_____
E-06	Transformer Base Breakaway 11 1/2 Bolt Circle, Anodized Black with Factory Applied Black Finish	EA	1	\$_____	\$_____
E-07	Luminaire Arms Single Member Mast Arm 4-1/2 Inch Clamp, 8-foot, Anodized Black	EA	1	\$_____	\$_____
E-08	Concrete Control Cabinet Base, Type L24	EA	1	\$_____	\$_____
E-09	Lighting Control Cabinet, 120/240 24-inch	EA	1	\$_____	\$_____
E-10	Electrical Service Meter Breaker Pedestal	EA	1	\$_____	\$_____
E-11	Electrical Wire Lighting 12 AWG	LF	130	\$_____	\$_____
E-12	Electrical Wire Lighting 4 AWG	LF	3,200	\$_____	\$_____
E-13	Luminaires Utility LED - Type 5 Pole	EA	1	\$_____	\$_____
E-14	Luminaires Utility LED - Spring City	EA	8	\$_____	\$_____

**Project 22-04**  
**Alley Reconstruction**

**City of De Pere**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
<b>LANDSCAPING</b>					
L-01	Provide Kentucky Coffee Tree - Stately Manor, 2" diameter	EA	4	\$_____	\$_____
L-02	Landscaping - Mississippi Pebble Mulch with Weed Barrier Fabric	SY	250	\$_____	\$_____
L-03	Landscaping – Topsoil, Seed, Fertilizer and Mulch	SY	65	\$_____	\$_____
L-04	Provide Backfill of Pulverized Topsoil at Trees (16" Depth)	CY	80	\$_____	\$_____
<b>DEMOLITION</b>					
D-01	Remove and Abandon Monitoring Well	EA	1	\$_____	\$_____
D-02	Remove and Salvage Sign	EA	3	\$_____	\$_____
<b>TOTAL AMOUNT BID</b>					<b>\$_____</b>

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 22-04 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>
Storm Sewer	RCP	
Storm Sewer	PVC	
Manholes	RCP	

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>
Concrete Pavement		
Asphaltic Concrete Pavement		
Concrete Driveway and Sidewalk		
Concrete Curb and Gutter		
Utility Work		
Electrical/Lighting Work		

SECTION 00 51 00

NOTICE OF AWARD

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

Project Description: 22-04 Alley Reconstruction

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 11, 2022 and March 18, 2022.

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 \_\_\_\_\_ 2022.

\_\_\_\_\_  
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 22-04 Alley Reconstruction, 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 11, 2022 and March 18, 2022.
- (b) Drawings designated for Project 22-04 dated March 11, 2022.
- (c) City of De Pere 2022 Construction Specifications.
- (d) Special Provisions dated March 11, 2022.
- (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 27)(\$ ) 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: 22-04 Alley Reconstruction

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 22-04, 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 22-04**  
**Alley Reconstruction**

**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)

\_\_\_\_\_  
(WITNESS)

\_\_\_\_\_  
(SURETY)

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 22-04, 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:

(Contractor)

(Date)

Payment of:

\$  
(Line 8 or other - attach explanation of other amount)

is recommended by:

(Owner)

(Date)

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:

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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, 2022 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. Alley from Fifth Street to Fourth Street, between Reid Street and Main Avenue.
2. Work will be performed under the following prime contract:
  - a. Project 22-04, Alley Reconstruction

#### **B. The Work includes:**

1. Selective demolition of monitoring well and signs.
2. Landscaping including trees, planting beds, stone mulch, and turf restoration.
3. Electrical services and lighting fixtures, new.
4. Storm sewer and associated appurtenances relay and new, spot storm sewer, inlet lead and inlet repair and replacement.
5. Sanitary sewer lateral replacement.
6. Manhole adjustment and repair.
7. Curb and gutter removal and replacement.
8. Driveway and sidewalk removal and replacement.
9. Pulverize asphaltic concrete pavement.
10. Unclassified excavation.
11. Asphaltic concrete paving.
12. Erosion Control.
13. Traffic Control.

### **1.4 WORK SEQUENCE/SCHEDULE**

- A. Paving and restoration shall be completed by September 2, 2022.
- B. Overall project shall be completed September 30, 2022.
- C. Conduct construction activities to maintain access to businesses and residences throughout construction.

- D. Topsoil, seed, and mulch shall be completed prior to asphaltic concrete pavement placement.
- E. Private development will be occurring concurrently at 499 Main Avenue. Significant coordination and staging is required for this development.
  - 1. Material is currently being stored in a fenced area from STA 0+90 to STA 3+20, 5 feet right of the center line to the north. This area will not be available for construction until early June. The other areas of the site will be available upon contract signatures.
  - 2. Curb and gutter from STA 0+90 to 3+20 left shall be completed by July 29<sup>th</sup>.
  - 3. Gravel access shall be provided to 499 Main Avenue for the first home Packer game.

#### 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. Owner has awarded a separate contract for performance of certain construction operations which will be conducted at the Project Site simultaneously with work under this Contract. This Contract includes the following:
  - 1. Project 22-10 – Main and Reid Street Signal Upgrades: The traffic signals at Reid and Fifth, Reid and Fourth, and Main and Fourth are being replaced. Partial closures of Fifth Street and Fourth Street will occur during this work.
  - 2. Private development will be occurring concurrently at 499 Main Avenue as noted under 1.4 WORK SEQUENCE/SCHEDULE.
  - 3. Utility relocations will occur during construction
  - 4. 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](mailto:lsarau@newwater.us)) (920-438-1039)
- B. AT&T, Victoria Kassab, ([vk352k@att.com](mailto:vk352k@att.com)) (920-202-4002)
- C. Wisconsin Public Service, Bob Laskowski, ([rtlaskowski@wisconsinpublicservice.com](mailto:rtlaskowski@wisconsinpublicservice.com)) (920-617-2775)
- D. Charter, Vince Albin, ([vince.albin@charter.com](mailto:vince.albin@charter.com)) (920-378-0444)
- E. Nsight, Rick Vincent, ([rick.vincent@nsight.com](mailto:rick.vincent@nsight.com)) (920-617-7316)
- F. TDS Metrocom, Steve Jakubiec, ([steve.jakubiec@tdstelecom.com](mailto:steve.jakubiec@tdstelecom.com)) (920-882-4166)
- G. Net-Lec (Mi-Tech Services), Dennis Lafave, ([dlafave@mi-tech.us](mailto:dlafave@mi-tech.us)) (920-619-9774)
- H. CenturyLink, Relocation Team, ([relocations@lumen.com](mailto:relocations@lumen.com)) (800-871-9244)
- I. Central Brown County Water Authority, Rob Michaelson, ([rmichaelson@mpu.org](mailto:rmichaelson@mpu.org)) (920-686-4354)

**1.9 MISCELLANEOUS PROVISIONS**

- A. Notification to Residents –notify individually all residents and businesses 2-weeks prior to the start of operations, giving an estimated time that vehicle movement will be limited or prohibited. Property owners shall be notified 24-hours prior to closing a drive.

- B. Utility installation shall be completed from existing paved or gravel surfaces and/or new gravel surfaces. All gravel surfaces will need to be maintained if the existing asphalt is removed at the beginning of the project and rutting, pumping, or failures occur. During street excavation, all exposed subgrade shall be graded and covered with crushed aggregate base course at the end of each day.
- C. Salvaged pulverized asphaltic concrete pavement, recycled crushed concrete, and/or virgin asphaltic concrete pavement will be allowed for the base course on the project per the plans. Pulverized asphaltic concrete pavement shall be placed on the bottom of the crushed aggregate base course.
  - 1. Pulverizing the asphaltic concrete pavement shall be accomplished by milling or crushing and mixing with crushed concrete or aggregate to conform to the requirements of Section 32 11 26.16.
  - 2. The existing alley was constructed in 2001 with 3" of asphaltic concrete pavement on 9" of crushed aggregate base course. There are no plans available for paved areas beyond the curb and gutter.
- D. Basement surveys shall be completed for 401, 407, 409, 413, 417, and 419 Main Avenue and 405 Fourth Street.
- E. Flexible spring based sign post shall conform to the following:
  - 1. 9.5" square 7 gauge standard steel base plate
  - 2. Carbon steel torsion spring with 1/2" aluminum tear-away bolts
  - 3. E-coat corrosion resistant barrier with durable black powder coat finish
  - 4. 8 foot galvanized steel 1- 5/8" round post – color black
  - 5. ADA compliant
  - 6. Mounting hardware included for concrete

**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 Laterals                    | SS-01, SS-02        |
| 2. Dig Down and Cap Lateral                   | SS-03               |
| 3. Connect to Existing Sanitary Sewer Lateral | SS-04               |
| 4. Televiser Sanitary Laterals                | SS-05               |
- 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 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. Granular or slurry backfill.
- 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.

### **1.4 DIG DOWN AND CAP SANITARY LATERAL**

- A. The unit price for Dig Down and Cap Sanitary Lateral work includes:
  1. General Work Items of Article 1.2.
  2. Backfilling and compacting.



3. Plug lateral.

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

C. The unit of measurement for payment is each.

**1.5 CONNECT TO EXISTING SANITARY SEWER LATERAL**

A. The unit price for Connect to Existing Sanitary Sewer Lateral 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 sheer bands and connection water tight seal.
3. Backfilling and compacting.

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

1. This item only applies to the connection near the building and not at the PVC wye.

C. The unit of measurement for payment is each.

**1.6 TELEVISIONING SANITARY SEWER LATERALS**

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

1. General Work Items of Article 1.2.
2. Televisioning of sewer laterals indicated by the Engineer to determine the condition of the lateral and whether to replace.

B. Measure of payment will be the actual number of sanitary laterals televised.

C. The unit 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-02               |
| 2. Storm Sewer Laterals                                      | ST-03, ST-04               |
| 3. Storm Lateral Risers                                      | ST-05                      |
| 4. Storm Sewer Service Connections                           | ST-06                      |
| 5. Storm Sewer Manholes                                      | ST-07                      |
| 6. Catch Basin/Inlets  | ST-08, ST-09, ST-10, ST-11 |
| 7. Connect to Existing Structure                             | ST-12                      |
| 8. Televis Storm Lateral                                     | ST-13                      |
| 9. Storm Sewer Main or Lateral Repair                        | ST-14, ST-15               |
| 10. Abandon/Remove Existing Storm Sewer and/or Appurtenances | ST-16                      |
- 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 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.

**1.5 STORM SEWER RISERS**

- A. The unit price for Storm Sewer Risers work includes:
  - 1. General Work Items of Article 1.2.
  - 2. Storm sewer riser pipe and fittings of material stated in the Unit Bid Schedule and installed using the open trench method.
  - 3. Risers to be installed at the building.
  - 4. Tracer wire.
  - 5. Cap.
- B. Measurement for payment will be the actual number installed.
- C. The unit of measurement for payment is each.

**1.6 STORM SEWER SERVICE CONNECTIONS**

- A. The unit price for Storm Sewer Service Connections 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 storm sewer main or installing a tee (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 for inlets.
  - 10. Providing a 24" sump for catch basins.
  - 11. Temporary cover over catch basin/inlet to prevent eroded materials from entering.
  - 12. 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 EXISTING STORM STRUCTURE**

- A. The unit price for Connect to Existing Storm Structure 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.
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 TELEVISIONING STORM SEWER LATERALS**

A. The unit price for Televising Storm Sewer Laterals work includes:

1. General Work Items of Article 1.2.
2. Televising of sewer laterals indicated by the Engineer to determine the condition of the lateral.

B. Measurement of payment will be the actual number of storm laterals televised.

C. The unit of measurement for payment is each.

#### **1.11 STORM SEWER MAIN OR LATERAL REPAIR**

A. The unit price work for Storm Sewer Main or Lateral Repair work includes:

1. General Work Items of Article 1.2.
2. Excavation.
3. Exposing storm sewer line for repairs.
4. Sawing existing storm sewer.
5. Remove and replace pipe.
6. Connection to existing storm sewer.
7. Repairing offset joints where present.

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

C. The unit of measurement for payment is each.

#### **1.12 ABANDON/REMOVE EXISTING STORM SEWER AND APPURTENANCES**

A. The unit price for Abandon/Remove Storm Sewer and Appurtenances work includes:

1. General Work Items of Article 1.2.
2. Excavating
3. Install bulkheads and abandon storm sewer and/or structures.
4. Removing existing storm sewer and/or structures where in conflict with other utilities.
5. Providing and placing flowable fill.
6. Backfilling and compacting.

- 7. Removal and disposal 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               |
| 3. Crushed Aggregate Base and Surface Course        | SD-03               |
| 4. Asphaltic Concrete Pavement                      | SD-04, SD-05        |
| 5. Portland Cement Concrete Curb and Gutter         | SD-06, SD-07        |
| 6. Portland Cement Integral Curb Head with Sidewalk | SD-08               |
| 7. Portland Cement Concrete Driveway and Sidewalk   | SD-09, SD-10        |
| 8. Deformed Reinforcement Bars                      | SD-11               |
| 9. Drilling Tie Bars                                | SD-12               |
- 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 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.

**1.6 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.

#### 1.7 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. Providing contraction joints.
6. Driveway entrances and handicap ramp entrances.
7. Adjustment of catch basin/inlets.
8. Finishing.
9. Protection.
10. 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.

#### 1.8 PORTLAND CEMENT INTEGRAL CURB HEAD WITH SIDEWALK

A. The unit price for Portland Cement Integral Curb Head With Sidewalk 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. Providing contraction joints.
6. Driveway entrances and handicap ramp entrances.
7. Finishing.
8. Protection.

9. 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.

#### **1.9 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. Providing contraction joints.
7. Handicap ramps.
8. Sidewalk steps.
9. Saw cutting adjacent surfaces.
10. Finishing.
11. Protection.
12. 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.

#### **1.10 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.

**1.11 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.

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. Flexible Sign Base with 8' Pole                 | SC-01               |
| 2. Inlet Protection Erosion Control                | SC-02, SC-03        |
| 3. Bollards  | SC-04               |
| 4. Adjusting Existing Structure Frame and Casting  | SC-05, SC-06        |
| 5. Dumpster Enclosure Construction and Restoration | SC-07               |
| 6. Pavement Marking Epoxy Lines                    | SC-08               |
| 7. Pavement Marking Epoxy Arrows, Words, Symbols   | SC-09               |
| 8. Traffic Control                                 | 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 FLEXIBLE SIGN BASE WITH 8' POLE**

- A. The unit price for Flexible Sign Base with 8' Pole work includes:
  - 1. General Work Items of Article 1.2.
  - 2. Providing and installing flexible spring sign base into concrete per Manufacturer's recommendations.
  - 3. Providing and installing 8' pole.
  - 4. Sign base shall be as supplied by TAPCO or approved equal.
- B. Measurement of payment will be based on the actual number of signs installed.
- C. The unit of measurement for payment is each.

**1.4 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.

**1.5 BOLLARDS**

- A. The unit price for Bollards work includes:
  - 1. General Work Items of Article 1.2.
  - 2. Providing any granular backfill for any voids created.
  - 3. Providing 4" diameter, 36" high carbon steel bollard powder coated yellow.
  - 4. Providing and installing all reflective signs as shown in the details.
- B. Measurement for payment will be the actual number of signs installed.
- C. The unit of measurement for payment is each.

**1.6 ADJUST EXISTING STRUCTURE FRAME CASTING**

- A. The unit price for Adjusting Existing Structure Frame Casting work includes:
  - 1. General Work Items of Article 1.2.
  - 2. Removal of existing adjusting rings from the structure as required.

3. Remove and Reinstall casting.
4. Providing concrete adjusting rings and a 2 inch rubber riser ring from the WisDOT approved product list.
5. Bituminous plastic cement sealing the exterior of the adjusting rings and casting.
6. The ring will be secured to the precast section with a 3 ½ inch wide Kent Seal or equal.
7. Above the concrete ring attach ¼ inch thru 3 inch thick ring using two <sup>5</sup>/<sub>16</sub> inch bead above and below the ring of sealant type as recommended by the rubber manufacturer.
8. Initial and final adjustment.
9. Backfilling and compacting.

B. Measurement for payment will be the actual number of structure frame casting adjusted.

C. The unit of measurement for payment is each.

#### **1.7 DUMPSTER ENCLOSURE CONSTRUCTION AND RESTORATION**

A. The unit price for Dumpster Enclosure Construction work includes:

1. Unclassified excavation
2. Construction of 6'-8" enclosure wall consisting of split-faced concrete masonry units with eight-inch by eight-inch bond beam.
3. Construction of eight-inch reinforced concrete slab with integral 12-inch by 12-inch footing and two #4 bars continuous at perimeter.
4. Construction of concrete filled galvanized steel pipe gate posts. Provide additional 4 bars per plan at gate posts.
5. Construction of tube steel welded form gate frames
6. Installation of all gate hinges, hasps, cane bolts, and corresponding holes in concrete for cane bolts
7. Construction and installation of 18-foot gate with vinyl fencing accents
8. Construction and installation of 5-foot gate with vinyl fencing accents
9. Construction and installation of 4-foot access with vinyl fencing accents
10. Construction of 2-inch by 8-inch concrete wall cap
11. Placement of crushed aggregate base course
12. Provide concrete footings and 8" concrete pavement for the dumpster
13. Grading of aggregate base course and other unclassified base materials
14. Installation of brick masonry and corresponding concrete and steel reinforcement.
15. Mortar for brick masonry work
16. Wetting of bricks and blocks

B. Measurement of payment will not be made.

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



**1.8 PAVEMENT MARKING EPOXY LINES**

- A. The unit price for Pavement Marking Epoxy Lines includes:
  - 1. General Work Items of Article 1.2.
  - 2. Providing and installing the Pavement Marking Epoxy Lines includes preparing the surface, including brush-off blasting of concrete, for providing all marking, including reflectorization with glass beads, for protecting marking until dry or cured, and for replacing marking improperly constructed or that fails during the warranty period.
  - 3. For remarking if initially applies at less than 90% of the specified rate.
- B. Measurement for payment will be by the linear foot, calculated as follows:
  - 1. For solid lines; by adding the linear feet of solid line measured end to end.
  - 2. For intermittent lines; by multiplying the specified length of the individual marking of the line by the number of markings in the intermittent line end to end.
- C. The unit of measurement for payment is linear feet.

**1.9 PAVEMENT MARKING EPOXY ARROWS, WORDS, SYMBOLS**

- A. The unit price for Pavement Marking Epoxy Arrows, Words, Symbols includes:
  - 1. General Work Items of Article 1.2.
  - 2. Providing and installing the Pavement Marking Epoxy Arrows, Words, Symbols includes preparing the surface, including brush-off blasting of concrete, for providing all marking, including reflectorization with glass beads, for protecting marking until dry or cured, and for replacing marking improperly constructed or that fails during the warranty period.
  - 3. For remarking if initially applies at less than 90% of the specified rate.
- B. Measurement for payment will be by each individual unit.
- C. The unit of measurement for payment is each.

**1.10 TRAFFIC CONTROL**

- A. The unit price for Traffic Control work includes:
  - 1. General Work Items of Article 1.2.
  - 2. Providing, installing, maintain, and removing the Traffic Control signing and barricades as shown on the plans and per the MUTCD.
  - 3. Traffic Detour, including covering signs when not in use.
  - 4. Flaggers per the MUTCD.
  - 5. Temporary traffic control signals (activated) per the MUTCD.
  - 6. Sidewalk closure.
- B. Measurement for payment will not be made.

1. This item applies to the specific bid items lists. All other traffic control is incidental to other items bid.
- C. The unit of measurement for payment is for each intersection lump sum.

END OF SECTION

**SECTION 01 22 10**

**MEASUREMENT AND PAYMENT ELECTRICAL**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- |  |                     |
|--|---------------------|
| A. Section includes:                         | <u>Bid Item No.</u> |
| 1. Conduit                                   | E-01                |
| 2. Pull Box                                  | E-02                |
| 3. Concrete Bases                            | E-03, E-08          |
| 4. Poles Type 5-Aluminum Anodized Black      | E-04                |
| 5. Decorative Poles                          | E-05                |
| 6. Transformer Base Breakaway                | E-06                |
| 7. Luminaire Arms                            | E-07                |
| 8. Lighting Control Cabinet, 120/240 24-Inch | E-09                |
| 9. Electrical Service Meter Breaker Pedestal | E-10                |
| 10. Electrical Wire                          | E-11, E-12          |
| 11. Luminaire                                | E-13, E-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 electric and lighting 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. Excavation/plowing
  5. Backfilling and compacting native obtained from the excavation.

6. Supplying, hauling, backfilling and compacting granular material.
7. Loading, hauling and disposing of surplus excavated material.
8. Landscaping – turf establishment surface restoration and trees and bushes damaged during construction.
9. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
10. Restroom facilities.
11. Easement and right-of-way requirements.
12. Construction staking and other survey work not provided by the Engineer.
13. Regulatory requirements.
14. Preconstruction videotaping and video equipment.
15. Quality assurance and quality control testing and inspections.
16. Shop drawings and other submittals.

### **1.3 CONDUIT**

- A. The unit price for Electrical Wire includes:
  1. General Work Items of Article 1.2.
  2. Providing and installing conduit for electrical wire.
  3. For providing all connectors.
- B. Measurement for payment will be by the linear foot.
- C. The unit of measurement for payment is linear feet.

### **1.4 PULL BOXES**

- A. The unit price for Pull Boxes includes:
  1. General Work Items of Article 1.2.
  2. Providing and installing all materials including drain piping components and aggregate.
  3. For providing and installing manhole frames and covers.
  4. For all pull box extensions and conduit extensions less than 10 feet long including fittings.
  5. For excavating, backfilling, and disposing of surplus materials, and for restoring the site.
- B. Measurement for payment will be as each individual box.
- C. The unit of measurement for payment is by each.

### **1.5 CONCRETE BASES**

- A. The unit price for Concrete Bases includes:
  1. General Work Items of Article 1.2.
  2. Providing, installing, and protecting the concrete base.
  3. For embedded conduit and electrical components.

4. For furnishing and installing anchor rods, nuts, washers, ground electrodes, connections, conduit and fittings.
5. For bar steel reinforcement, if required.
6. For excavating, backfilling, and disposing of surplus materials, and restoring the site.

B. Measurement for payment will be as each individual base.

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

**1.6 POLES, TYPE 5-ALUMINUM, ANODIZED BLACK**

A. The unit price for Poles, Type 5-Aluminum, Anodized Black includes:

1. General Work Items of Article 1.2.
2. Providing and installing poles including grounding lugs and related mounting hardware.
3. For hardware and fitting necessary to install the poles.
4. For leveling shims, dampeners, and for corrosion protection.

B. Measurement for payment will be as each individual pole.

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

**1.7 POLES, DECORATIVE**

A. The unit price for Poles, Decorative includes:

1. General Work Items of Article 1.2.
2. Providing and installing Spring City Hancock with Ladder Rest, 9' – 2" lamp post poles including grounding lugs and related mounting hardware.
3. For hardware and fitting necessary to install the poles.
4. For leveling shims, dampeners, and for corrosion protection.

B. Measurement for payment will be as each individual pole.

C. The unit of measurement for payment is each.

**1.8 TRANSFORMER BASE BREAKAWAY, ANODIZED BLACK WITH FACTORY APPLIED BLACK FINISH**

A. The unit price for Transformer Base Breakaway, Anodized Black with Factory Applied Black Finish includes:

1. General Work Items of Article 1.2.
2. Providing and installing the Transformer Base including grounding lugs and related mounting hardware.
3. For leveling shims and for corrosion prevention.

B. Measurement for payment will be as each individual transformer base.

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

**1.9 LUMINAIRE ARM, ANODIZED BLACK**

- A. The unit price for Luminaire Arm, Anodized Black includes:
  - 1. General Work Items of Article 1.2.
  - 2. Providing and installing the arm including related mounting hardware and shims.
- B. Measurement for payment will be as each individual arm.
- C. The unit of measurement for payment is by each.

**1.10 LIGHTING CONTROL CABINET, 120-240, 24-INCH**

- A. The unit price for Lighting Control Cabinet, 120-240, 24-Inch work includes:
  - 1. General Work Items of Article 1.2.
  - 2. Providing and installing the lighting cabinet together with the circuit wiring connections, hardware, and fittings.
  - 3. Providing 20 amp breakers for the six 2P branch breakers shown in the control cabinet schematic.
- B. Measurement of payment will be as each individual lighting control cabinet.
- C. The unit of measurement for payment is each.

**1.11 ELECTRICAL SERVICE METER BREAKER PEDESTAL**

- A. The unit price for Electrical Service Meter Breaker Pedestal work includes:
  - 1. General Work Items of Article 1.2.
  - 2. Furnishing and installing an approved meter breaker pedestal, steel tubing, stainless steel bolts, grounding electrodes, connections, steel reinforcement (where required), anchor rods, nuts, washers, conduit and fittings.
  - 3. All necessary conductors and equipment required by the local utility for a service connection.
  - 4. Installing an approved meter seal at all access points on the meter trough.
  - 5. For embedded conduit and electrical components.
  - 6. Providing, installing, and protecting the concrete foundation.
  - 7. For excavating, backfilling, disposing of surplus materials, and restoring the site.
  - 8. For providing the equipment and installation of a complete and operational system commencing from the load side of the service transformer.
  - 9. For requesting a commercial electrical inspection from the City's building inspection department. Anticipate three (3) business days for the City to complete the inspection. The fee for this inspection will be waived.

10. For coordinating with the City and Wisconsin Public Service Corporation (WSPC) before any equipment is installed.

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

C. The unit of measurement for payment is each.

#### **1.12 ELECTRICAL WIRE LIGHTING**

A. The unit price for Electrical Wire Lighting includes:

1. General Work Items of Article 1.2.
2. Providing and installing the electrical wire and for making all connections.
3. For providing all connectors, including wire nuts, fuses, fuse holders, splices, tape, insulating varnish or sealant, and for testing circuits.
4. Verify all voltages drops does not exceed 3% and make sure connections meet local, state, and federal codes.
5. Underground wiring shall be sized per load and code requirements.

B. Measurement for payment will be by the linear foot, measured separately for each conductor.

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

#### **1.13 LUMINAIRE**

A. The unit price for Luminaire work includes:

1. General Work Items of Article 1.2.
2. Furnishing and installing all materials, including a 250 watt equivalent LED luminaire with shorting cap, accessories, hardware, and fittings necessary to install the luminaire in workable first class condition for Type 5 pole.
3. Furnishing and installing all materials, including 100 watt equivalent LED luminaire for the Spring City lights for the plans.
4. Providing photometric point-by-point analysis drawings based on the spacing found on the plans using 0.75 as a combined depreciation factor.
5. Provide a minimum warranty of 10 years from the date of installation.

B. Measurement of payment will be as each individual lighting unit.

C. The unit of measurement for payment is each.

**END OF SECTION**

**SECTION 01 22 11**

**MEASUREMENT AND PAYMENT LANDSCAPING**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- |   |                     |
|---|---------------------|
| A. Section includes:                                  | <u>Bid Item No.</u> |
| 1. Trees  | L-01                |
| 2. Mississippi Pebble Mulch                           | L-02                |
| 3. Landscaping – Topsoil, Seed, Fertilizer, and Mulch | L-03                |
| 4. Backfill of Pulverized Topsoil for Tree Planting   | L-04                |
- 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. Excavation
  3. Soil amenities
  4. Provide and Install Planting Material as detailed in the plans.
  5. Provide and installing perennial plants as show in the plan and complying with American Standard for Nursery Stock (ANSI Z60.1-2004) for type, shape, and height (if applicable).
  6. Staking out location of the plantings for approval.
  7. Restoration

**1.3 TREES**

- A. The unit price for Trees work includes:
1. General Work Items of Article 1.2
  2. Providing, hauling, excavating and placement of identified tree types.



3. Watering, trimming and fertilizing.
4. Cleanup of planting areas, and all incidental work related to tree installation not specifically included with other items.

B. Measurement for payment will be the number installed.

C. The unit of measurement for payment is each.

#### **1.4 MISSISSIPPI PEBBLE MULCH**

A. The unit price for Mississippi Pebble Mulch work includes:

1. General Work Items of Article 1.2
2. Providing and placing a weed barrier fabric.
3. Providing, hauling, delivering and placing stone mulch material to a 4" depth.
4. Providing all labor, tools and equipment for placement of stone mulch.
5. Cleanup of mulch applied areas
6. All incidental work related to installation not specifically included with other items.

B. Measurement for payment will be the amount installed.

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

#### **1.5 LANDSCAPING- TOPSOIL, SEED, FERTILIZE AND MULCH**

A. The unit price for Landscaping- Topsoil, Seed, Fertilize, and Mulch 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.
6. Provide maintenance.

B. Measurement for payment will be the width and length not greater than the road right-of-way, not greater than the easement and not greater than fifteen (15) feet beyond the top of either side of ditches outside the right-of-way.

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

#### **1.6 BACKFILL OF PULVERIZED TOPSOIL FOR TREE BEDS**

A. The unit price for Backfill of Pulverized Topsoil for Tree Beds work includes:

1. General Work Items of Article 1.2.
2. Excavation to subgrades shown on Drawings (16" depth).
3. Hauling of unclassified material.

4. Placing pulverized topsoil.
- B. Measurement of payment will be based on the computed volume by calculating the length and width at a 16" depth.
- C. The unit of measurement for payment is cubic yards.

END OF SECTION

**SECTION 01 22 12**

**MEASUREMENT AND PAYMENT DEMOLITION**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- |                            |                     |
|----------------------------|---------------------|
| A. Section includes:       | <u>Bid Item No.</u> |
| 1. Remove and Abandon Well | D-01                |
| 2. Remove and Salvage Sign | D-02                |
- 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 demolition.
- 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 as shown on the drawings.
  4. Removing, hauling and disposal of foundations and structures as shown on the drawing.
  5. Dewatering.
  6. Bypass pumping.
  7. Excavation.
  8. Supplying, hauling, backfilling and compacting granular material.
  9. Loading, hauling and disposing of surplus excavated material.
  10. Landscaping – turf establishment surface restoration and trees and bushes damaged during construction.
  11. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
  12. Site access requirements including temporary aggregate material as required for local traffic access.

13. Dust control.
14. Restroom facilities.
15. Easement and right-of-way requirements.

- C. In general, this section does not include removal of items completed as part of other work or bid in other sections.

**1.3 REMOVE AND ABANDON MONITORING WELL**

- A. The unit price for Remove and Abandon Monitoring Well work includes:
1. General Work Items of Article 1.2.
  2. Fill monitoring well with Bentonite per WDNR standards and State Statute NR141.
  3. Excavating, backfilling, and compaction.
  4. Removing monitoring well cap.
- B. Measurement of payment will be for the actual number removed.
- C. The unit of measurement for payment is each.

**1.4 REMOVE AND SALVAGE SIGN**

- A. The unit price for Remove and Salvage Sign work includes:
1. General Work Items of Article 1.2.
  2. Removing the sign as bid.
  3. Salvage to owner.
- B. Measurement of payment will be actual number of signs removed and salvaged to owner.
- 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 4<sup>th</sup> 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 four (4) hard copies or electronic copies 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 four (4) copies of each required submittal. The Engineer will retain two (2) copies, and return the others 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.

**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.

**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 26 56 19**

**LED STREET LIGHTING**

**PART 1 – GENERAL**

**1.1 SUMMARY**

**A. Section Includes:**

1. Conduit
2. Pull Box 24x42-Inch
3. Concrete Bases
4. Electrical Wire Lighting
5. Electrical Service Meter Breaker Pedestal (Fortune Avenue)
6. Luminaires LED, 250 Watt equivalent
7. Poles, Type 5-Aluminum Anodized Black,  
Traffic Signal Standards-Aluminum, factory applied black finish  
Luminaire Arms Single Member, 4 ½-inch Clamp 8-FT, anodized  
black Transformer Base Breakaway 11 ½-Inch Bolt Circle, anodized  
black with factory applied black finish
8. Luminaire Fixtures
9. Lighting Control Cabinet (120/240 Volt) (24" Width)

**1.2 REFERENCES**

- A. State of Wisconsin, Department of Transportation, Standard Specification for Highway and Structure Construction, current edition, and all supplemental and interim supplemental specifications, as they may pertain, except the items: method of measurement and basis of payment shall not apply.
- B. American Association of State Highway and Transportation Officials (AASHTO).

**1.3 SUBMITTALS**

- A. Submit manufacturer's certification for each product stated that products delivered comply with the requirements of this section and the referenced standard.
- B. Solid-State Light Fixture Product Checklist (See appendix)
- C. Luminaire specification sheet.
- D. Driver specification sheet.
- E. Surge protection specification sheet.



- F. IES LM-79 test report (include photometry and colorimetry). The photometry should be based on an actual working product, not a prototype or computer model.
- G. Performance (photometric) calculations. Use the following additional design parameters in conjunction with the plan and the information provided on the “Solid-State Light Fixture Product Checklist” to calculate photometric point-by-point analysis drawings for the street. Submit these calculations to the Engineer in a drawing size necessary to ensure legibility of each number on the roadway. These drawings shall accompany the solid-state light fixture specification sheet and driver specification sheet. Be sure to assign the road name to each applicable fixture type. Number all pages for reference during review. A .dwg or point file can be provided on request.
  - 1. Additional Parameters:
    - a) The new pavement is type R1.
    - b) Provide the photometric coverage required based on plan pole locations and spacing. Use .75 as a combined depreciation factor.
- H. Product warranty information identifying a minimum warranty of 10 years.
- I. Light levels anticipated at 30% life in accordance with LM79.

## **PART 2 – PRODUCTS**

### **2.1 CONDUIT**

- A. Conform to WisDOT Standard Specification for Highway and Structure Construction Section 652 for electrical conduit. The minimum conduit size is 2-inch.

### **2.2 PULL BOX NON-CONDUCTING 24x42-INCH**

- A. Conform to WisDOT Standard Specification for Highway and Structure Construction Section 653 for Pull Boxes.

### **2.3 CONCRETE BASES**

- A. Conform to WisDOT Standard Specification for Highway and Structure Construction Section 654 for Concrete Bases.

### **2.4 ELECTRICAL WIRE LIGHTING**

- A. Conform to WisDOT Standard Specification for Highway and Structure Construction Section 655 for Electrical Wire Lighting.

**2.5 ELECTRICAL SERVICE METER BREAKER PEDESTAL**

- A. Furnish a service having a meter breaker pedestal in accordance with section 656.2.3 of the WisDOT specification and as the plans show.

**2.6 POLES - STANDARD**

- A. Include the following:
1. Poles, Type 5-Aluminum Anodized Black
  2. Traffic Signal Standards
  3. Luminaire Arms Single Member, 4 ½-Inch Clamp 8-Ft, Anodized Black
  4. Transformer Base Breakaway 11 ½-Inch Bolt Circle, Anodized Black with Factory Applied Black Finish
  5. Pedestal Base, Anodized Black with Factory Applied Black Finish.
- B. Conform to WisDOT Standard Specification for Highway and Structure Construction Section 657 for poles, arms, standards, and bases. Poles and arms will be aluminum anodized black. Transformer bases and pedestal bases will be anodized black and have a factory applied black finish.

**2.7 LUMINAIRE FIXTURES - STANDARD**

- A. The luminaire fixtures shall be one of the following:
1. RVM-160W96LED4K-R-LE3-(VOLT)-DMG-[API-008]-RCD7-GY3 (0.85 Total LLF for design) from Phillips.
  2. BXUL9112& (STR-LWY-3M-HT-10-E-(VOLT)-SV-700-40K-7PIN-UTL(+)) (0.855 Total LLF for design) from CREE.
  3. GC1-80F-(VOLT)-NW-3-GY-700-PCR7-WISDOT-C-SC (0.855 Total LLF for design) from Leotek.
  4. ATB2-60B-LEDE10-VOLT-R2-P7-SH-RFD189565 (0.846 Total LLF for design) from American Electric Acuity Brands Lighting, Inc.
  5. NVN-AE-03-D-VOLT-T3R-10K 4N7-AP-WISDOT (0.85 Total LLF for design) from Cooper.
- B. LUMINAIRE MATERIALS
1. General Requirements:
    - a. The luminaire manufacturer shall have produced LED street lighting luminaires for a minimum of 3 years at the time of bid.
    - b. Proposed products must be available, in full production, at the time of this project. Prototypes and conceptual products will not be accepted.
    - c. The manufacturer shall provide a warranty for 10 years (beginning on the date of substantial completion) for full replacement of fixture for catastrophic failure, or light levels below 70% of initially documented values excluding labor, tools, and miscellaneous materials with the following exception: Any documented light fixture failures exceeding 5% of the initial installed number of fixtures within the first 5 years shall afford the Owner the right to full replacement (including all necessary tools, labor, materials, traffic

control, and incidentals necessary to bring the lighting system back to a complete and operable system). The luminaire shall have a minimum 10 year warranty covering the entire luminaire (electronics, mechanical, finish). Knockdowns by the general public are excluded from manufacturer's responsibility. The warranty will begin on the date of substantial completion.

2. Mechanical Requirements:
  - a. Luminaire housing shall be made of cast or extruded aluminum, with low copper (<0.3%) alloys.
  - b. Heat sinking for the LEDs and electrical components shall be integral to the housing, with no moving or active parts (it should be a passive heat sink). It shall be shaped to maximize heat movement, and designed so that dirt and debris will not accumulate between fins or channels.
  - c. The luminaire shall include protection to keep birds from entering the housing.
  - d. There shall be a four-bolt mounting system accommodating 1.66" to 2.38" OD tenons. The housing shall be designed to allow installations at a tilt angle of +/- 5 degrees.
  - e. The luminaire shall have a minimum of 2G vibration rating per ANSI 136C.31. Situations requiring a 3G rating include bridges and overpasses.
  - f. The luminaire shall not weigh more than 40 pounds.
  - g. The luminaire shall operate in ambient temperatures of -40°C (-40°F) to +40°C (104°F).
  - h. The factory finish shall match the pole and may be anodized instead of painted. The finish must withstand extreme weather changes without cracking or peeling and be guaranteed for five full years or more.
3. LED (Light Source) Requirements:
  - a. The LEDs shall be from Cree, Phillips Lumileds, Nichia, or Osram.
  - b. The LED package shall be tested for a minimum of 6000 hours per IES LM-80-08.
  - c. The LEDs shall have a nominal correlated color temperature (CCT) between 4000 - 4500K.
  - d. The LEDs shall have a minimum color rendering index (CRI) of 70.
  - e. The projected L70 lifetime (the point in time at which the LEDs are expected to produce only 70% of their lumen output) for the luminaire shall be a minimum of 60,000 hours at 25° C.
4. Photometric Requirements:
  - a. The luminaire optics shall be available with IES Type II and III distributions.
  - b. Provide IES TM -15-07 optical precision for backlight, up light, and forward light (glare).
  - c. The luminaire shall deliver 65 lumens per watt (LPW) minimum at 530 mA drive current.
  - d. The optical portion of the luminaire must be protected to IP65 minimum, per ANSI C136.25, to prevent dirt and water from getting to the LED circuit board.
  - e. The luminaire shall have been photometrically tested per IES LM-79-08 by an independent laboratory, or an in-house laboratory with NIST NVLAP accreditation.
5. Electrical Requirements:
  - a. Provide all miscellaneous electrical components necessary to provide a complete and operable lighting system meeting local and National Electrical Code (NEC) requirements. All electrical components shall be UL listed for outdoor use.
  - b. Provide 120V system, Power Factor>90%, Total Harmonic Distortion<20%.

- c. The driver shall be available with input voltages ranges from 120-277 volts. Other installations may need to be available with dimming. Indicate if the fixture is compatible to be able to reduce light output by 50% and if there is an additional cost to provide.
- d. The driver, as operated in the luminaire, must not exceed the driver manufacturer's maximum case temperature limits for a rated life of at least 60,000 hours.
- e. The luminaire shall be protected against surges according to IEEE C62.42 C High (10kA and kV).
- f. The driver electronics shall be encapsulated and sealed to IP 65 rating. Drivers shall be easily accessible and removable without tools.
- g. The luminaire shall have a shorting cap.

## **2.8 DECORATIVE POLE AND LUMINAIRE**

- A. Description of Luminaire is ALMSCP-LE100/EVX/X2-22-CN5-TKSF-FAH. Include the following:
  - 1. Spring City Park Luminaire – Aluminum
  - 2. Lamping: 100 watt LED
  - 3. Voltage: Electronically Wire @ 120-277V
  - 4. Number of Boards: 2-Boards
  - 5. Color Temp: 2200K (Golden White)
  - 6. Distribution: Type V
  - 7. Globe: Keyslotted Frosted Acrylic
  - 8. Finial: Anaheim
  - 9. Finish: Powder Coat- Gloss Black
  - 10. Pole shall be the Hancock with Ladder Rest, 9'-2" lamp post as Manufactured by Spring City.

## **2.9 LIGHTING CONTROL CABINET**

- A. Furnish a lighting control cabinet in accordance with section 659 of the WisDOT specification together with the circuit wiring connections, hardware, and fittings as the plans show. Six 20 amp breakers will be required for the 2P branch breakers shown in the control cabinet schematic.

## **PART 3 – EXECUTION**

### **3.1 CONSTRUCTION METHODS LUMINARIES**

- A. Luminaries
  - 1. Furnish and install luminaries and all necessary miscellaneous accessories and hardware to complete the installation of the luminaries.
  - 2. Follow manufacturer's instructions regarding luminaire installation.
  - 3. Three single-conductor No. 12 stranded wired shall be used to connect the luminaries to their respective brand conductors in the pole base. Each luminaire feeder wire shall be protected by one 5-amp fuse. Fuses and fuse holders shall be as per the details in the Plan.

4. All exposed threaded equipment mounting hardware shall be stainless steel. All threaded stainless steel hardware and dissimilar metal, threaded hardware shall be coated with an approved zinc-based anti-seize compound (Loctite or Jet-Lube) by the Contractor.

END OF SECTION

**SECTION 31 05 10 SP**

**SOILS AND AGGREGATES – MISSISSIPPI PEBBLE MULCH, 1 ½ INCH**

**PART 1 – GENERAL**

**1.1 SUMMARY**

A. Section Includes:

1. Addition to the City of De Pere 2022 Standard Specifications to specify the gradation for Mississippi Pebble Mulch 1 ½ Inch.

**PART 2 – PRODUCTS**

**2.1 BANK RUN SOILS (MISSISSIPPI PEBBLE MULCH 1 ½ INCH)**

A. Mississippi Pebble Mulch 1 ½ Inch

Sieve Size	% Passing by Weight
1 ½ -inch	95
¾-inch	5

**PART 3 – EXECUTION**

**3.1 PREPARATION - BANK RUN SOILS (MISSISSIPPI PEBBLE MULCH 1 ½ INCH)**

- A. Place weed barrier fabric in Mississippi Pebble Mulch areas.
- B. Install Mississippi Pebble Mulch to a depth of 4 inches over entire area of bed.

**END OF SECTION**

**SECTION 32 01 16.10**

**PULVERIZE ASPHALT PAVEMENTS**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Cold Recycling of asphaltic pavements

**PART 2 – PRODUCTS**

**2.1 EQUIPMENT**

- A. Crushing Equipment
  - 1. Crushing equipment may be an in-place crusher or a central crusher.
  - 2. In-place crusher:
    - a. Provide a self-propelled machine designed and built for reduction in size of old pavement material in-place.
    - b. Provide a rotary reduction machine, having positive depth and control adjustments in increments of ½ inch and capable of reducing material to at least 6 inches thick.
    - c. Provide a totally enclosed drum to prevent discharge of any loosened material on adjacent areas.
- B. Compaction
  - 1. Provide a vibratory roller capable of exerting a minimum total force of 450 lbs. per linear inch of roller drum.

**PART 3 – EXECUTION**

**3.1 PREPARATION**

- A. Clean the pavement surfaces of excessive dirt, clay or other foreign material immediately prior to milling the pavement.
- B. Saw cut pavement at project ends and side roads to provide proper butt joint.

**3.2 APPLICATION**

- A. Work includes scarifying, pulverizing, crushing, redistributing, blending, shaping, rolling and compacting of recrushed aggregate material to proper elevation and slope.

- B. Protect from damage manholes, valve boxes, and any other items in the roadway.

END OF SECTION



**SECTION 32 91 00**

**PLANTING PREPARATION**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. Section Includes

**1.2 REFERENCES**

- A. A Wisconsin Department of Transportation (WisDOT), State of Wisconsin Standard Specifications for Highway Construction, Latest Edition (State Specifications)

**1.3 SUBMITTALS**

- A. Product Data.

1. A list of sources for plants shall be furnished before planting begins for fall-planted plants and before March 15 for spring-planted plants. All sources will be subject to verification by the engineer.
2. Provide source of rodent protection and five year life expectancy verification.

- B. Miscellaneous Submittals

1. Planting mixture blend shall be reviewed and approved by the engineer or construction representative before use on project.
  - a. Engineer may require the contractor to take samples (for USDA soil texture classification, pH, % organic matter, nutrient content, cation exchange capacity, soluble salts, and the presence of any materials deleterious to plant growth).
  - b. Provide testing through a qualified testing laboratory approved by the State of Wisconsin to confirm that topsoil meets the requirements outlined in the State Specifications.

**PART 2 – PRODUCTS**

**2.1 PLANT MATERIAL**

- A. All plants shall be grown within the states of Wisconsin, Minnesota, Michigan, or parts of northern Illinois, Indiana or Ohio located within Zone 5 of the “Plant Hardiness Zone Map” produced by the United States Department of Agriculture, Miscellaneous Publication No. 1475, issued January, 1990, unless otherwise approved by the engineer.

**2.2 PLANT PROTECTION**

- A. Rodent protection shall be rigid plastic mesh made of recycled DHPE with an open mesh matrix

¾" by ¾" with each strand approximately 1/8" x 1/8" x 1/8". Product shall be UV treated and shall have a life expectancy of up to five (5) years. Protection shall be 48 inches high. Use granular or similar rodent bait for shrub beds as needed and only as approve by engineer.

- B. Do not use wrapping on plant material.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A. The normal spring planting season for all plants shall extend to June 15. The normal fall planting season begins September 15 and shall be completed by November 15 or up until the ground is frozen. Planting of evergreen trees and shrubs, and perennials in the fall shall be completed by October 15.
- B. Stake out location of all plant holes and obtain approval of the stake locations from construction representative or field engineer before planting.

#### **3.2 INSTALLATION**

- A. The minimum horizontal measurement of the plant hole shall be no less than 24 inches greater than the diameter of the ball, container, or root mass for the full depth of the planting hole.
- B. Ensure that the bottom of the hole is adequately compacted to guard against settling. Tamp or water in as necessary to create a condition by which plants will not settle in the planting beds. The bottom of the root ball shall be in direct contract with the bottom of the hole.
- C. Remove the burlap and other wrapping materials including, but not limited to, twine, wire baskets, and plastic ribbon, from the entire root ball of B&B plants.
- D. Use 18" long soft polymer webbing strap with grommets at the end of the two ends to secure wire or twine to tree. Supply source of webbing straps to the engineer. All sources will be subject to verification and approval by the engineer.
- E. Take care not to damage or disturb adjacent finished landscape. Repair any and all damage caused to adjacent seeded and/or sodded areas.

#### **3.3 PROTECTION REMOVAL**

- A. Remove all staking, bracing wire material, and other plant stabilization material at the end of the warranty period.

- B. Leave in place all rodent protection measures at the end of the warranty period.

END OF SECTION

**APPENDIX A**

**CHAPTER NR 141  
GROUNDWATER MONITORING WELL REQUIREMENTS**

## Chapter NR 141

## GROUNDWATER MONITORING WELL REQUIREMENTS

NR 141.01 Purpose.  
 NR 141.03 Applicability.  
 NR 141.05 Definitions.  
 NR 141.055 Borehole protection.  
 NR 141.06 Soil testing.  
 NR 141.065 Well location.  
 NR 141.07 Well casing.  
 NR 141.09 Well screen.  
 NR 141.10 Tremie pipes and sealing procedures.  
 NR 141.11 Filter packs.  
 NR 141.13 Sealing requirements.

NR 141.15 Drilling methods and fluids.  
 NR 141.16 Cross contamination.  
 NR 141.17 Disposal and decontamination.  
 NR 141.19 Borehole diameter.  
 NR 141.20 Aquifer test or recovery wells.  
 NR 141.21 Well development.  
 NR 141.23 Well and borehole construction documentation.  
 NR 141.25 Abandonment requirements.  
 NR 141.27 Driven point wells.  
 NR 141.29 Temporary groundwater monitoring wells.  
 NR 141.31 Special circumstances and exceptions.

**NR 141.01 Purpose.** The purpose of this chapter is to establish minimum acceptable standards for the design, installation, construction, abandonment and documentation of groundwater monitoring wells. These rules are adopted under chs. 281, 160 and 227, Stats.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; correction made under s. 13.93 (2m) (b) 7., Stats., Register, March, 2000, No. 531.

**NR 141.03 Applicability.** This chapter applies to all persons installing and abandoning groundwater monitoring wells and boreholes for purposes regulated by the department under ch. 160, 281, 283, 289, 291, 292, 293 or 299, Stats., or in permits, plan approvals, licenses or orders issued under those chapters. In addition, this chapter applies to all persons installing groundwater monitoring wells and boreholes in fulfillment of terms of a contract with the department. All wells and boreholes installed for purposes regulated by the department under this chapter shall be abandoned according to s. NR 141.25. All other wells and boreholes shall be abandoned according to the provisions of ch. NR 812.

**Note:** Additional requirements concerning soil testing and groundwater sampling are located in other chapters regulating wastewater and solid and hazardous waste disposal, see chs. NR 110, 206, 213, 214, 508, 512 and the 600 and 700 series.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. Register, June, 1991, No. 426, eff. 7-1-91; correction made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477; corrections made under s. 13.93 (2m) (b) 7., Stats., Register, March, 2000, No. 531.

**NR 141.05 Definitions.** In this chapter:

(1) “Air rotary drilling” means a drilling method whereby the borehole is advanced using a circular rotating action applied to a string of drilling rods which have a diffused discharge bit attached to the bottom of the rods. Pressurized air is forced through the drilling rods and cools the drilling tools and removes the cuttings from the borehole.

(2) “Annular space seal” means the following:

(a) For wells constructed with filter packs, it is the material placed above the top of the filter pack or the filter pack seal up to the surface seal and between the well casing and the adjacent formation; or

(b) For wells constructed into bedrock formations and without well screens, it is the material placed from the bottom of the enlarged borehole up to the surface seal, between the well casing and the adjacent formation.

(2m) “Aquifer test well” means a well installed to provide information on the hydraulic conductivity, transmissivity, storage coefficient, capture zone, specific capacity, radius of influence or other physical parameters of an aquifer, defined geologic unit, or water bearing formation through the imposition of a sustained stress on the aquifer by removal of water.

(3) “ASTM” means american society for testing and materials.

(5) “Bedrock” means the solid rock underlying any loose surficial material such as soil, alluvium or glacial drift. Bedrock includes but is not limited to limestone, dolomite, sandstone, shale and igneous and metamorphic rock.

(6) “Bentonite” means a clay consisting of at least 85% sodium montmorillonite. Bentonite is available in the following forms:

(a) “Bentonite powder” means 200 mesh pure bentonite, without additives.

(b) “Bentonite granules” means 8 mesh pure bentonite, without additives.

(c) “Bentonite pellets” means commercially manufactured tablets made by compressing pure bentonite, without additives, into forms greater than 1/4" in size.

(d) “Bentonite chips” means commercially processed angular fragments of pure bentonite, without additives.

(7) “Bentonite — cement grout” means a mixture with the ratio of 5 pounds of bentonite with 94 pounds of Portland cement and 8.5 gallons of water from a known safe and uncontaminated source.

(8) “Bentonite — fine sand slurry” means a mixture with the minimum ratio of 50 pounds of bentonite with 100 gallons of water from a known safe and uncontaminated source and 10-25% sand by volume for a mud weight of 11 pounds per gallon.

(9) “Borehole” means a circular hole deeper than it is wide, constructed in earth material for the purpose of either installing a well or obtaining geologic or groundwater related data. Boreholes are also referred to as drillholes.

(10) “Clay” means an inorganic soil with low permeability characteristics and a plasticity index of 7 or more.

(11) “Coarse sand” means a well sorted sand with a predominant grain size between 4.76mm and 2.0mm as established by the unified soil classification system.

(12) “Concrete” means a slurry mixture with a ratio of 94 pounds of cement, equal volumes of dry sand and gravel and 5 to 6 gallons of water from a known safe and uncontaminated source. The ratio of sand and gravel to cement may not exceed 3 parts to one.

(13) “Department” means the department of natural resources.

(14) “Driven point well” means a well constructed by joining a drive point with lengths of pipe and driving the assembly into the ground with percussion equipment or by hand, without first removing material below the 10 foot depth.

(15) “Filter pack” means the sand, gravel or both placed in direct contact with the well screen.

(16) “Filter pack seal” means the sealing material placed in the annular space above the filter pack and below the annular

space seal to prevent the migration of annular space sealant into the filter pack.

(17) “Fine sand” means a well sorted sand with a predominant grain size between .42mm and .074mm, as established by the unified soil classification system.

(18) “Granular bentonite slurry” means a thoroughly blended mixture of up to 30 pounds of untreated bentonite powder added to 100 gallons of water from a known safe and uncontaminated source with a minimum of 100 pounds of untreated bentonite granules mixed together by a Venturi–hopper mud mixer or other equivalent high shear mixer.

(19) “Gravel” means an unconsolidated material with the predominant grain size being between 76.2mm and 4.76mm, as established by the unified soil classification system.

(20) “Groundwater” means any waters of the state, as defined in s. 281.01 (18), Stats., occurring in a saturated geologic formation of rock or unconsolidated material.

(21) “Groundwater monitoring well” means any cased excavation or opening into the ground made by digging, boring, drilling, driving, jetting or other methods for the purpose of determining the physical, chemical, biological or radiological properties of groundwater. Groundwater monitoring wells may be piezometers, water table observation wells or both.

(21m) “High–solids grout” means a thoroughly blended mixture of water from a known safe and uncontaminated source with untreated bentonite, without additives, which has been approved by the department.

(22) “Hollow stem auger drilling” means a drilling method where continuous flighting is welded to a hollow stem pipe. The flighting carries drill cuttings to the surface as the flighting is rotated and pushed down into the earth.

(23) “Inside diameter” means the horizontal distance between the inner walls of a well casing, hollow stem auger or tremie pipe.

(24) “Medium sand” means a well sorted sand with a predominant grain size between 2.0mm and .42mm, as established by the unified soil classification system.

(25) “Montmorillonite” means a group of expanding lattice clay minerals of the general formula:  $R_{.33}Al_2Si_4O_{10}(OH)_2 \cdot H_2O$ , where R means one or more cations of sodium, potassium, magnesium or calcium and where Al means aluminum, Si means silicon, O means oxygen and H means hydrogen.

(26) “Mud rotary drilling” means a drilling method whereby a borehole is advanced by using a circular rotating action applied to a string of drilling rods which have a diffused discharge bit attached to the bottom of the string. A bentonite and water mud slurry is used to provide borehole stability, to cool the bit and to carry cuttings to the ground surface.

(27) “Neat cement grout” means a slurry mixture with a ration of 94 pounds of Portland cement mixed with 5 to 6 gallons of water from a known safe and uncontaminated source.

(28) “Percussion drilling” means a drilling method using a cable tool drilling machine or a drilling method whereby the permanent or temporary well casing is driven, or is set into a borehole and then driven.

(29) “Permanent groundwater monitoring well” means any groundwater monitoring well in place for 60 days or longer.

(30) “Piezometer” means a groundwater monitoring well, sealed below the water table, installed for the specific purpose of determining either the elevation of the potentiometric surface or the physical, chemical, biological or radiological properties of groundwater at some point within the saturated zone or both.

(31) “Potentiometric surface” or “piezometric surface” means an imaginary surface representing the total head of groundwater and is the level to which water will rise in a well.

(32) “Psi” means pounds per square inch.

(33) “Purge” means an action that removes water from the well, commonly accomplished by using a pump or bailer.

(33m) “Recovery well” means a well intended and designed to capture and remove contaminated groundwater or non–aqueous phase liquids from the subsurface.

(34) “Rotary wash drilling” means a drilling method whereby metal temporary casing is advanced into the borehole by driving. At selected intervals, the temporary casing is cleaned out using rotary drilling tools by pumping clean water through the rod to flush out accumulated cuttings. This drilling method is also known as wash bore or wash down drilling.

(35) “Sand–cement grout” means a mixture of cement, sand and water in the proportion of 94 pounds of Portland cement, one cubic foot of dry sand and 5 to 6 gallons of water from a known safe and uncontaminated source.

(36) “Sediment” means any solid material dropping from suspension in water, including clay, silt, sand and gravel sized particles.

(37) “Solid stem auger drilling” means a drilling method where continuous flighting is welded onto a solid stem pipe. The flighting carries drill cuttings to the surface as the flighting is rotated and pushed down into the earth. The borehole is created by a cutting bit located at the tip of the lead auger.

(38) “Specific gravity” means the weight of a particular volume of substance compared to the weight of an equal volume of water at a reference temperature.

(39) “Surge” means an action causing water to move rapidly in and out of the well screen, thereby removing fine material from the surrounding aquifer.

(40) “Temporary groundwater monitoring well” means any groundwater monitoring well in place for less than 60 days.

(41) “Top of bedrock” or “top of firm rock” means at least 70% of the drill cuttings being either:

(a) Angular rock fragments, as in the case of crystalline rock; or

(b) Rock fragments composed of individual grains or rock particles that are cemented together to form an aggregate as opposed to a single sediment particle.

(42) “Tremie pipe” means a pipe or hose used to install well construction materials in an annular space or a borehole.

(43) “Unconsolidated material” means that material found above firm bedrock, composed of single sediment particles, individual grains or rock fragments. Unconsolidated material includes but is not limited to clay, silt, sand, gravel, loess, peat and organic soil.

(44) “Unified soil classification system” means the soil designation system based on the physical properties of the soil developed from the airfield classification system in 1952 and adopted by the American society for testing and materials in standard test method D2487–83.

**Note:** A copy of this publication is available for inspection at the offices of the department of natural resources, the secretary of state, and the legislative reference bureau and may be obtained for personal use from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

(45) “Water table” means the surface of unconfined groundwater where the water pressure is equal to atmospheric pressure.

(46) “Water table observation well” means any groundwater monitoring well, in which the screen or open borehole intersects a water table, which is installed for the specific purpose of determining either the elevation of the water table or the physical, chemical, biological or radiological properties of groundwater at the water table or both.

**Note:** Construction of a typical water table observation well is depicted in Figure 1.

(47) “Well” means any borehole or other excavation or opening in the ground deeper than it is wide constructed for the purpose of obtaining or monitoring groundwater.

(48) “Well depth” means the distance from the ground surface to the bottom of the well screen or to the bottom of the open hole when a well screen is not used.

(49) “Well volume” means the volume of water contained in the well casing and the filter pack.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. (7), (8) and (18), cr. (2m), (21m) and (33m), Register, June, 1991, No. 426, eff. 7-1-91; correction in (20) made under s. 13.93 (2m) (b) 7., Stats., Register, March, 2000, No. 531.

**NR 141.055 Borehole protection.** If a borehole is left open, protective measures shall be taken to prevent the borehole from acting as a conduit for contamination or becoming a safety hazard.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90.

**NR 141.06 Soil testing.** Specific soil sampling and testing procedures are specified in other chapters related to wastewater and solid and hazardous waste disposal facilities.

**Note:** See chs. NR 110, 206, 214, 508, 512, and 660 to 679.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90.

**NR 141.065 Well location.** (1) Monitoring wells installed where prior department approval is required shall be installed at the locations indicated on plans and specifications approved by the department prior to installation.

(2) Following installation of the wells, an as-built plan map shall be submitted specifying the exact vertical and horizontal location of the wells. All monitoring well locations shall be reported to the department on a plan map drawn to a specific scale. The map shall indicate structure boundaries, property boundaries, any nearby surface waters and a north arrow. The plan shall show the wells in relation to each other, to property and structure boundaries, and to a common reference point on a horizontal grid system. The origin of the grid system shall be located according to latitude and longitude or according to the state plane coordinate system. The exact vertical location of the top of the well casing shall be referenced to the nearest benchmark for the national geodetic survey datum to an accuracy of 0.01 feet. This plan map shall show the exact location of the installed well on a horizontal grid system which is accurate to within one foot. Direction of groundwater flow shall be indicated. In addition, an 8.5-inch by 11-inch site map drawn to scale according to the horizontal grid system shall be submitted showing the location of wells and structures on the site.

(3) The well casings for wells constructed in a floodplain or floodway shall terminate a minimum of 2 feet above the regional flood elevation for the well site.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. (2), Register, June, 1991, No. 426, eff. 7-1-91.

**NR 141.07 Well casing.** (1) SPECIFICATIONS. All permanent groundwater monitoring wells shall be constructed of new polyvinyl chloride (PVC) well casing materials except in situations where the rock, soil or groundwater may react with PVC, in which case an approval under s. NR 141.31 for alternative materi-

als shall be requested. All PVC casing materials shall meet national sanitation foundation standard 14 and ASTM D1785 specifications for any one of the following cell classifications: 12454-B, 12454-C, 11443-B, 14333-D, 13233 or 15223-B. All casing shall have a minimum inside diameter of 1.9 inches. In unconsolidated geologic formations, all wells less than or equal to 100 feet in depth shall be constructed of at least schedule 40 PVC casing and all wells greater than 100 feet in depth shall be constructed of at least schedule 80 PVC casing. Groundwater monitoring wells shall be installed with well casing no larger than a 4-inch inside diameter. Groundwater monitoring wells shall have a vented cap except as provided in s. NR 141.13 (4) (b).

(2) REFERENCE. The listed national sanitation foundation and ASTM references are available for inspection at the offices of the department of natural resources, the secretary of state, and the legislative reference bureau and may be obtained for personal use from the National Sanitation Foundation, 3475 Plymouth Road, P.O. Box 1468, Ann Arbor, Michigan 48106, and the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

(3) ASSEMBLY AND INSTALLATION. All casing couplings shall be constructed of flush threaded joints. Solvent welded joints may not be used without prior written approval by the department. The casing shall be centered in the borehole.

(4) INSPECTION. Prior to use, the casings and couplings shall be inspected for cuts, deformations, gouges, deep scratches, damaged ends and other imperfections. Any casing or coupling having such a defect may not be used.

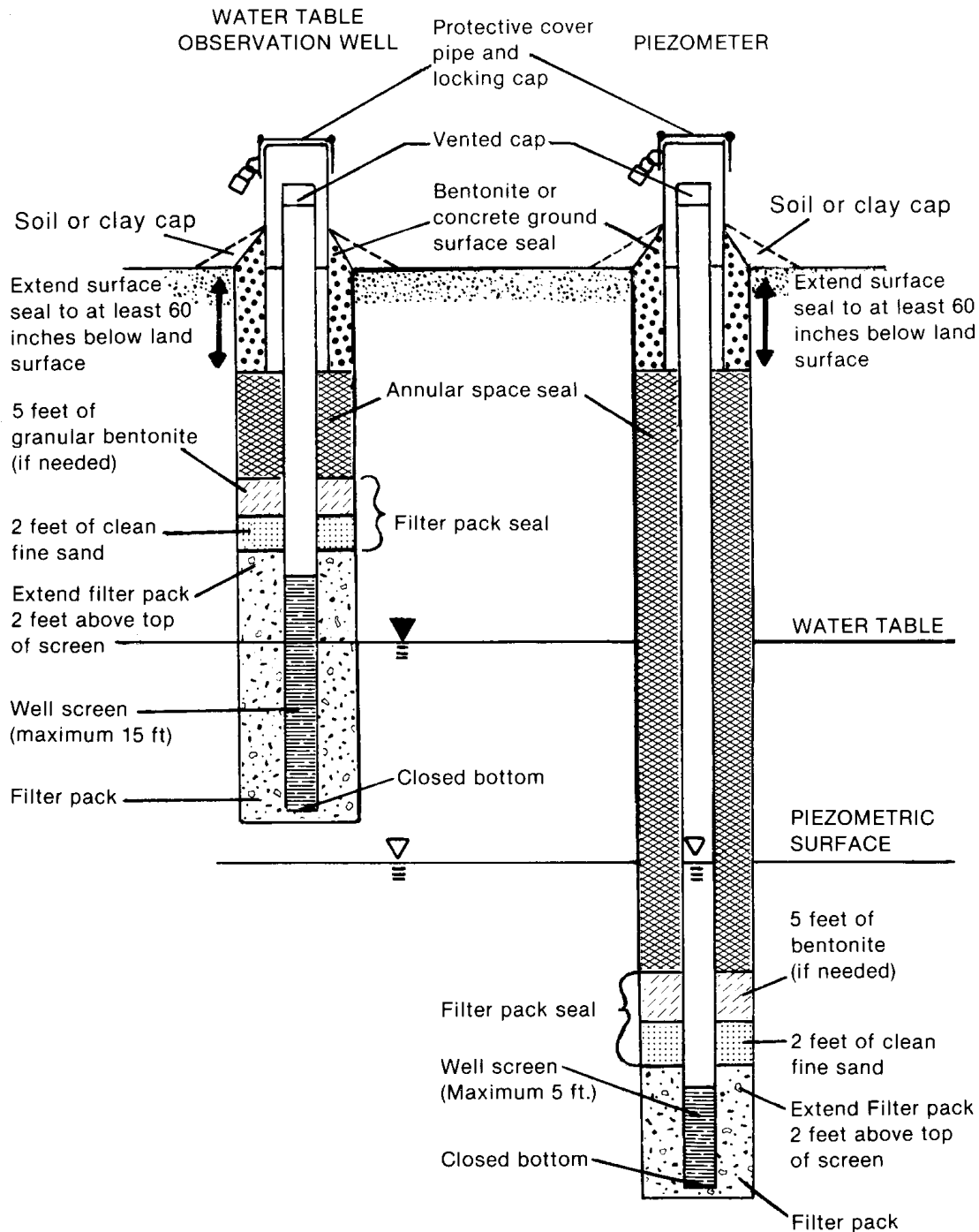
**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. (1), Register, June, 1991, No. 426, eff. 7-1-91; correction in (2) made under s. 13.92 (4) (b) 6., Stats., Register March 2011 No. 663.

**NR 141.09 Well screen.** (1) SPECIFICATIONS. All permanent groundwater monitoring well screens shall be constructed of material which is nonreactive with the constituents in soils and groundwater at the monitoring location. The well screen may not be hand cut and may not be wrapped with filter cloth. The well screen slot size shall be sized to retain at least 90% of the grain size of the collapsed formation, based on a sieve analysis, when collapsed formation is used as filter pack material or at least 90% of the grain size of the filter pack, based on a sieve analysis, if material other than collapsed formation is used. Well screens on water table observation wells may not exceed 15 feet in length. Well screens on piezometers installed for the purpose of determining the elevation of the potentiometric surface may not exceed 5 feet in length.

**Note:** Well screens for wells other than the water table observation wells and piezometers identified above may vary in length.

(2) ASSEMBLY AND INSTALLATION. All well screens shall be permanently joined to the well casing by flush threaded joints. All joints shall be watertight. All well screens shall be centered in the borehole. Monitoring wells installed in bedrock using an open borehole may be constructed without a well screen.

**Figure 1.**  
Typical water table observation well and piezometer construction details.



Not to scale

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. (1), Register, June, 1991, No. 426, eff. 7-1-91.



**NR 141.10 Tremie pipes and sealing procedures.**

**(1) MATERIALS.** The tremie pipe used for the placement of sealant materials shall be one of the following materials:

- (a) Metal pipe,
- (b) Rubber-covered hose reinforced with braided fiber or steel and rated for at least 300 psi, or
- (c) Thermoplastic pipe rated for at least 100 psi including:
  - 1. Polyvinyl chloride (PVC)
  - 2. Chlorinated polyvinyl chloride (CPVC),
  - 3. Polyethylene (PE),
  - 4. Polybutylene (PB), and
  - 5. Acrylonitrile butadiene styrene (ABS).

**(2) PROCEDURES.** This subsection describes department approved sealant placement methods when a tremie pipe is used.

(a) The estimated and actual volume of sealing material used shall be calculated and reported to the department.

(b) The sealant material shall be placed in one continuous operation in such a manner as to not disturb the integrity of the filter pack and seal.

(c) When a tremie pipe is used, the bottom end shall be kept submerged in the sealant material throughout the sealing process.

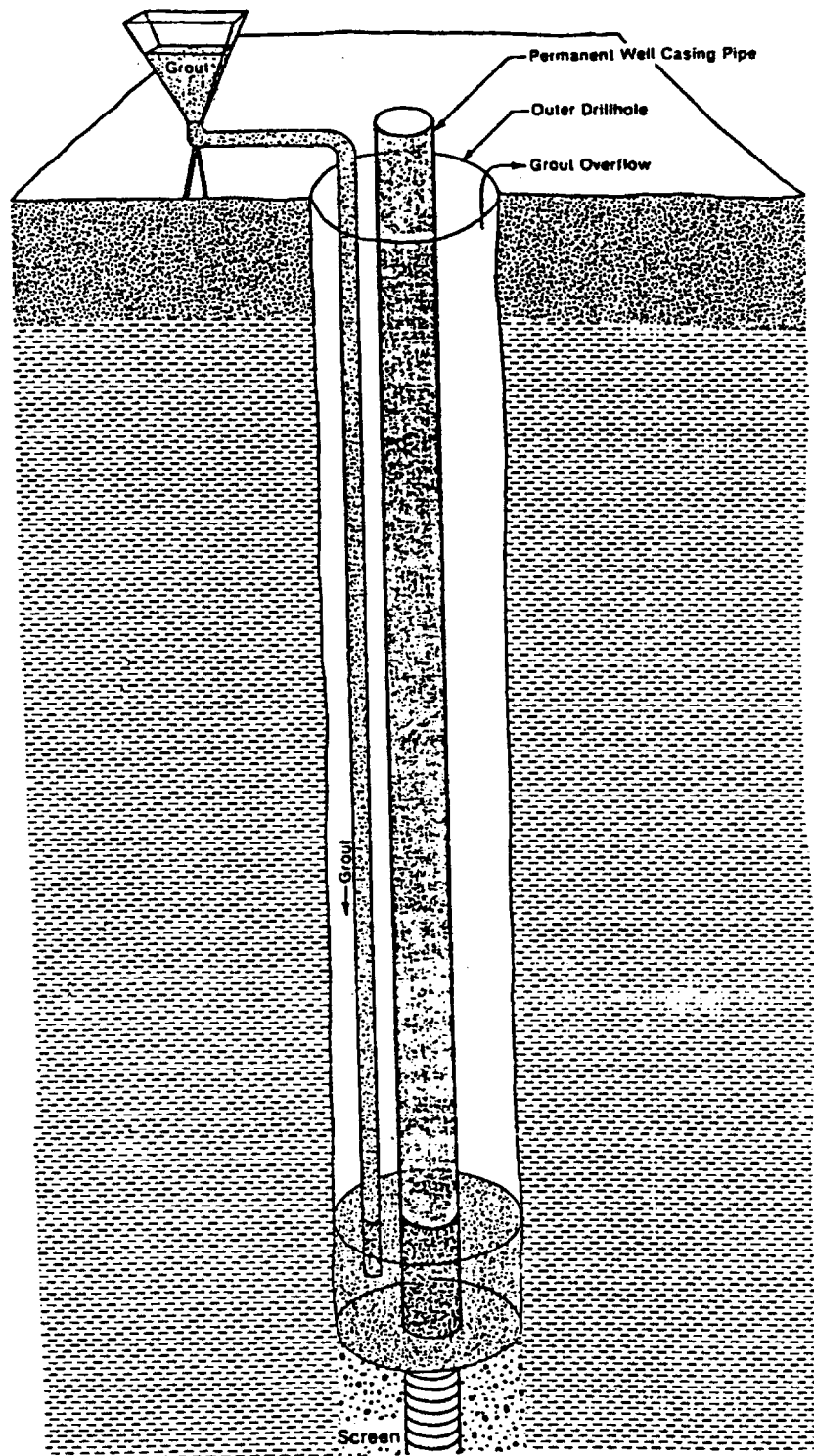
(d) The sealant material shall be brought up to the ground surface seal. The density of the sealant material in the annular space or borehole at the bottom of the ground surface seal shall be the same as the density of the sealant material being placed. Any settling of the sealant material shall be topped off.

(e) Tremie pipe — gravity. As depicted in Figure 2, sealing material may flow by gravity through a funnel or hopper connected to a tremie pipe. The tremie pipe shall be lowered to the bottom of the annular space or borehole to be sealed and the sealing material placed from the bottom up. The end of the tremie pipe shall be kept submerged in the grout or slurry at all times.

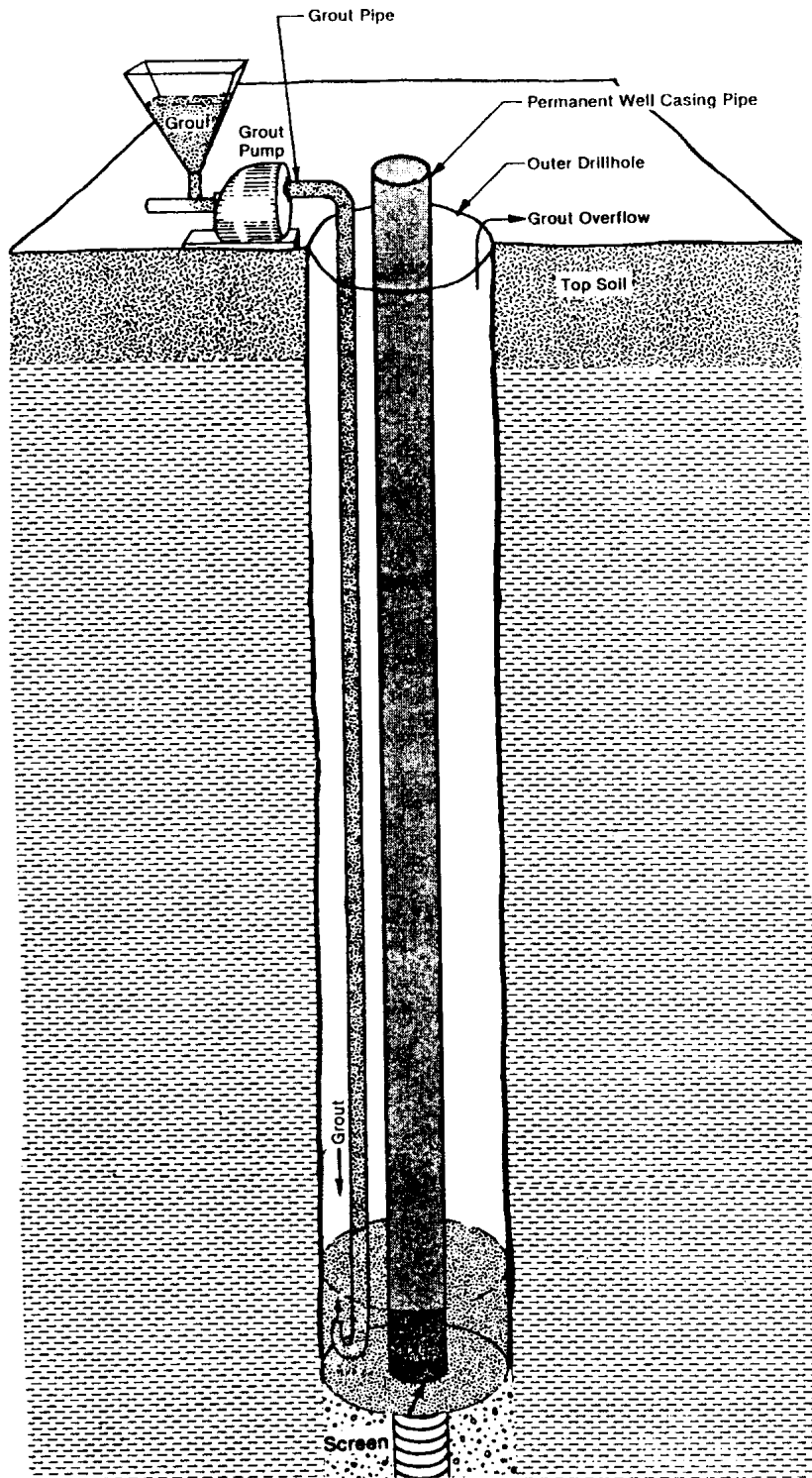
(f) Tremie pipe — pumped. As depicted in Figure 3, the sealing material shall be placed by a pump through a tremie pipe into the annular space or borehole. Tremie pipes used for the placing of pumped slurry or grout shall be fitted with a J-hook end or a closed end with side discharge ports.

**Note:** The J-hook end or closed end with side discharge ports of the tremie pipe will direct the flow of the materials to the side or upward

Figure 2.  
Conductor (tremie) pipe — gravity method



**Figure 3.**  
Conductor (tremie) pipe — pumped method



**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. (2) (d) and (f), Register, June, 1991, No. 426, eff. 7-1-91.

**NR 141.11 Filter packs.** All permanent groundwater monitoring wells installed in unconsolidated material and used for the collection of water quality samples shall be constructed with filter packs. Permanent groundwater monitoring wells installed

in bedrock may be constructed with filter packs. When used, the filter pack shall be the only material in contact with the well screen. The estimated and actual volume of filter pack material used shall be calculated and reported to the department. All com-

mercially prepared filter packs installed in permanent groundwater monitoring wells shall meet the requirements in sub. (1). All other filter packs shall meet the requirements in sub. (3).

(1) **SPECIFICATIONS.** The filter pack shall be a well sorted, silica based sand or gravel. The sand or gravel used for filter packs shall be hard and durable and shall have an average specific gravity of not less than 2.50. The sand and gravel shall be visibly free of clay, dust and micaceous and organic matter. Not more than 5% of the sand or gravel shall be soluble in a 10% hydrochloric acid solution. Thin, flat or elongated pieces of gravel, the maximum dimension of which exceeds 3 times the minimum dimension, may not constitute more than 2% of the material by weight. The filter pack for wells installed in unconsolidated material shall be sized to retain at least 50% of the surrounding formation based on a sieve analysis. In formations which are predominantly silt and clay, the filter pack shall be a fine sand. In bedrock, the filter pack shall be a medium or coarse sand or gravel. Crushed limestone, dolomite or any material containing clay or any other material that will adversely impact on the performance of the monitoring well may not be used as filter pack.

(2) **INSTALLATION.** The filter pack shall extend from 6 inches beneath the bottom of the well to 2 feet above the top of the well screen. For water table observation wells constructed in areas where the depth to water table is less than 7 feet, the required filter pack height above the top of the well screen may be reduced to 6 inches to allow for the required amount of annular space sealant to be placed. To ensure that the filter pack is installed evenly surrounding the well screen and casing over the proper depth interval, a tape measure, measuring rod or similar device shall be used to measure the height of the filter pack. The tape measure, measuring rod or similar device shall be carefully raised and lowered while the filter pack is being installed to identify bridging. If bridging occurs the filter pack material shall be tamped into place, surrounding the well screen and casing, using a measuring rod or similar device.

(3) **COLLAPSED FORMATION.** Collapsed formation may be used as filter pack material if the collapsed formation will limit the passage of formation fines into the well screen and either an artificial filter pack cannot be installed or the formation grain size is greater than or equal to fine sand sized grains. The grain size distribution of the collapsed formation shall be such that at least 90% of the formation will be retained by the well screen based on a sieve analysis. Analysis of the collapsed formation for specific gravity and particle size shall be performed and documentation shall be submitted to the department to support its use as an acceptable filter pack. Following review of the submitted information, the department may require new well construction if the collapsed formation analysis is not consistent with the filter pack specifications.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. (1) to (3), Register, June, 1991, No. 426, eff. 7-1-91.

**NR 141.13 Sealing requirements.** All materials and procedures used in the installation of seals for permanent groundwater monitoring wells shall meet the requirements of this section. The calculated and actual volume of sealant material used for the filter pack seal and annular space seal shall be reported to the department.

(1) **FILTER PACK SEAL.** (a) *Specifications.* All permanent groundwater monitoring wells installed with filter packs shall be constructed with a filter pack seal. For all water table observation wells and piezometers, the filter pack seal shall extend 2 feet upward from the top of the filter pack and shall consist of 2 feet of clean fine sand. When high-solids grout, granular bentonite slurry, bentonite-cement grout or neat cement grout is used as the annular space sealant, 5 feet of bentonite shall be placed on top of the clean fine sand seal. Bentonite chips no greater than 3/8 inch in diameter or bentonite pellets shall be used for seals placed below the water table. Bentonite granules may be used for seals when there is no standing water above the filter pack and the bore-

hole is less than 25 feet or in areas where the depth to water table is less than 7 feet. For water table observation wells constructed in areas where the depth to water table is less than 16 feet, the filter pack seal shall be reduced to 2 feet of bentonite to allow for the required amount of annular space sealant to be placed. For water table observation wells constructed in areas where the depth to water table is less than 7 feet, the required filter pack seal may be reduced to allow for the required amount of annular space sealant to be placed.

(b) *Installation.* A tape measure, measuring rod or similar device shall be used to ensure that the filter pack seal is installed over the proper depth interval. The tape measure, measuring rod or similar device shall be carefully raised and lowered while the filter pack seal material is being placed to identify bridging. If bridging occurs the filter pack seal material shall be tamped into place, surrounding the well casing, using a measuring rod or similar device. When a tremie pipe is used to place the filter pack seal the procedures of s. NR 141.10 (2) shall be followed. Bentonite pellets, bentonite chips or bentonite granules shall be hydrated in 2 foot lifts as placed in the borehole when placed above the water table.

(2) **ANNULAR SPACE SEAL.** (a) *Specifications.* All permanent groundwater monitoring wells shall be installed with an annular space seal designed to achieve a permeability of  $1 \times 10^{-7}$  centimeters per second or less. For permanent groundwater monitoring wells constructed with filter packs, the annular space seal shall extend from the filter pack seal to the ground surface seal and shall be at least 2 feet in length. For water table observation wells constructed in areas where the depth to water table is less than 7 feet, the annular space seal shall be bentonite granules. For monitoring wells constructed into bedrock formations and without well screens, the annular space seal shall extend from the bottom of the outer borehole to the ground surface seal and shall be at least 2 feet in length. Sealant materials may not contain additives. These requirements may be met by:

**Note:** The department does not recommend the use of neat cement grout or cement mixtures in fractured formations because they may impact water quality.

1. Bentonite granules slurry may be used as an annular space sealant in any type of monitoring well except where the depth to the water table is less than 7 feet.

2. Bentonite sand slurry may be used as an annular space sealant in any type of monitoring well except where the depth to the water table is less than 7 feet.

3. Bentonite pellets, bentonite chips or bentonite granules may be used to seal the annular space under the following conditions:

a. Bentonite granules may be used when there is no standing water in the well above the filter pack and the total well depth is less than 25 feet or the depth to water table is less than 7 feet.

b. Bentonite chips with diameter no larger than 3/8 inch or bentonite pellets may be used when the depth of standing water in the well is less than 30 feet and the total depth of the annular space seal is less than 50 feet except where the depth to the water table is less than 7 feet.

4. High-solids grout approved by the department, bentonite-cement grout or neat-cement grout may be used to seal the annular space in which a bentonite filter pack seal has been placed except where the depth to the water table is less than 7 feet.

(b) *Installation.* 1. When bentonite chips with diameter no larger than 3/8 inch, bentonite pellets or granules are used to seal the annular space, they may either be poured freely down the borehole or added through a tremie pipe, provided the specifications of par. (a) are met. When a tremie pipe is used to place the annular space sealant the procedures of s. NR 141.10 (2) (a) and (b) shall be followed.

2. When grouts or slurries are used to seal the annular space, the material may be poured freely down a tremie pipe or pumped down a borehole with the use of a tremie pipe, provided the speci-



fications of par. (a) are met. For wells 100 feet in depth or greater the sealant material shall be pumped down the borehole with the use of a tremie pipe. When a tremie pipe is used to place the annular space sealant the procedures of s. NR 141.10 (2) shall be followed.

3. When any slurry or grout is used, there shall be a 12-hour period between the time the annular space seal is installed and the time the protective cover pipe is installed. Any settling in the annular space seal shall be topped off before the protective cover pipe is installed.

4. The top of the well casing shall be covered with a protective cap.

**(3) GROUND SURFACE SEAL AND PROTECTIVE COVER PIPE.** (a) *Ground surface seal.* All permanent groundwater monitoring wells shall be constructed with a bentonite or concrete ground surface seal. The ground surface seal shall extend to a minimum of 60 inches below the land surface, and the top shall be sloped away from the well casing. If bentonite is used, the top of the surface seal shall terminate 2 inches below the land surface and shall be covered with top soil or native soil to prevent drying out. The ground surface seal shall be installed around the protective cover and may not be placed between the protective cover pipe and the well casing. If the monitoring well depth is such that both a minimum 2 foot annular space seal and a minimum 5 foot ground surface seal cannot both be placed, the ground surface seal may be shortened.

**Note:** Certain soils are prone to frost heave and the department does not recommend use of concrete as a ground surface seal in these situations.

(b) *Protective cover pipe.* The protective cover pipe shall consist of a metal casing at least 2 inches larger in diameter than the well casing with a locking cap. The protective cover pipe shall extend from the bottom of the ground surface seal to a minimum of 24 inches above the ground surface except as provided in sub. (4).

(4). There may be no more than 4 inches between the top of the well casing and the top of the protective cover pipe. The protective cover pipe shall always extend above the top of the well casing. For water table observation wells constructed in areas where the depth to water table is less than 7 feet, the required length of protective cover shall be reduced and may not extend through the annular space seal or into the filter pack. If the monitoring well

is located in a floodplain, the protective cover pipe shall be watertight. The department may require additional protective devices, such as rings of brightly colored posts around the well, as necessary. Weep holes or vents may be used in protective cover pipes.

**(4) GROUND SURFACE SEAL AND FLUSH MOUNTED PROTECTIVE COVER PIPE.** (a) *Ground surface seal.* All permanent groundwater monitoring wells with a flush mounted protective cover pipe shall be constructed with a concrete ground surface seal. The ground surface seal shall extend to, but not beyond, the total depth of the flush mounted protective cover pipe. The ground surface seal shall be installed around the flush mounted protective cover pipe and may not be placed between the flush mounted protective cover pipe and the well casing.

(b) *Flush mounted protective cover pipe.* The flush mounted protective cover pipe may be installed only in high vehicular traffic areas and may not be installed in areas subject to ponding or flooding. The flush mounted protective cover's lid shall have the wording "monitoring well" on its outer surface. Flush mounted protective cover pipes shall be installed through an impervious surface such as asphalt or concrete. If an impervious surface does not exist one shall be created which will support the weight of the traffic in the area. The flush mounted protective cover pipe shall consist of a watertight metal casing with an inside diameter at least 4 inches greater than the inside diameter of the monitoring well casing. The flush mounted protective cover pipe shall be one continuous metal piece or 2 metal pieces which are joined with a continuous weld. The flush mounted protective cover pipe shall be a minimum of 12 inches in length. There may be no more than 8 inches between the top of the monitoring well casing and the top of the flush mounted protective cover pipe after installation. The flush mounted protective cover pipe shall have an exterior flange or lugs. The flush mounted protective cover pipe may not extend beyond the annular space seal. The flush mounted protective cover pipe or the monitoring well shall have a locking mechanism. The monitoring well installed within any flush mounted protective cover pipe shall have a watertight cap.

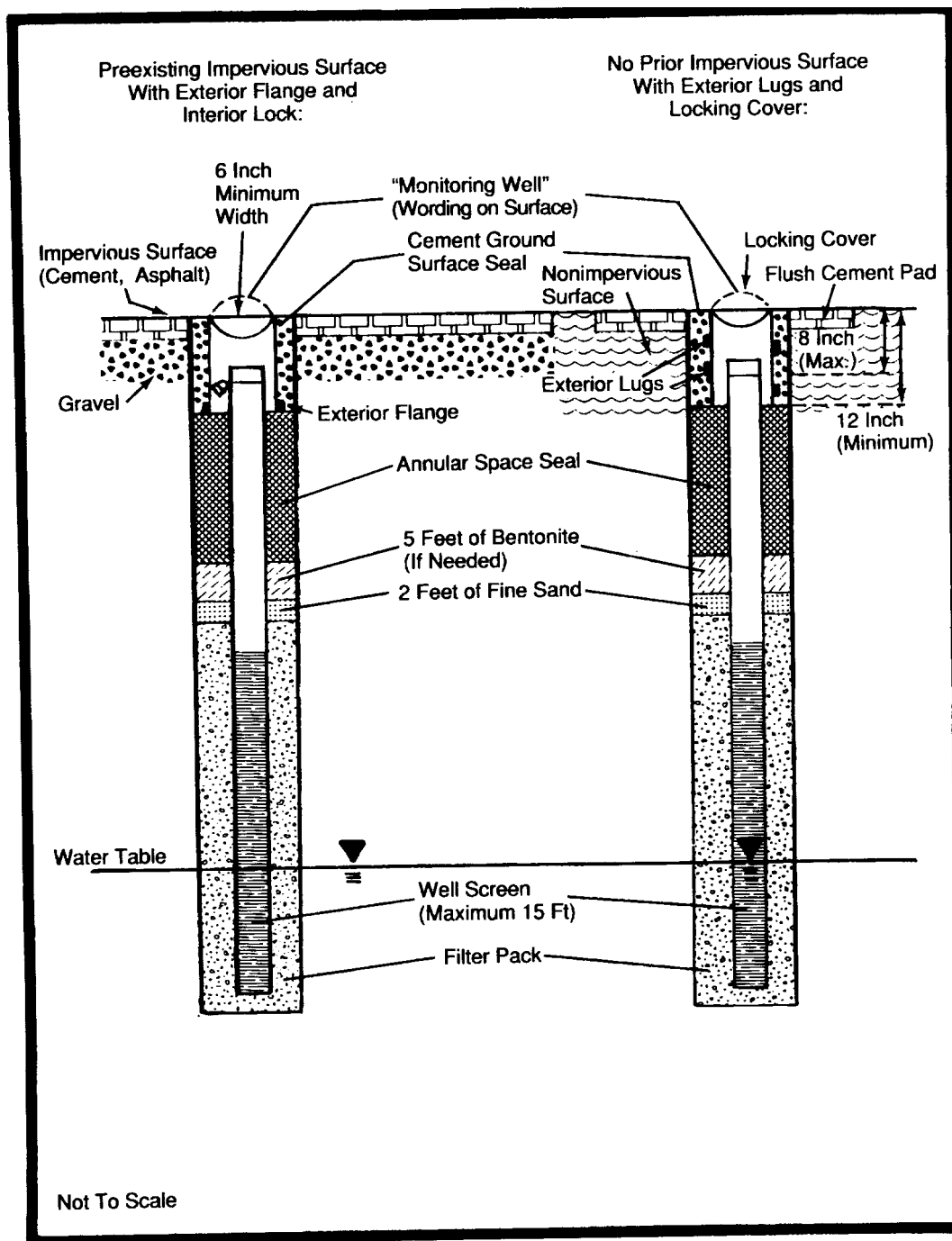
**Note:** Figure 4 depicts 2 typical flush mounted protective cover pipes after installation.

**Note:** An exterior flange or lugs will aid in the stabilization of the flush mounted protective cover pipe within the ground surface seal.

**Note:** After removing the watertight cap and prior to taking a pressure head measurement a waiting period is recommended to enable the water level to stabilize.

Figure 4.

Two typical flush mounted protective cover pipes after installation.



**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. (1), (2) (a) (intro.), 1., 2. and 3. and (b) 1. and 4. and (3), r. and recr. (2) (a) 4., r. (2) (a) 5. and 6., cr. (4), Register, June, 1991, No. 426, eff. 7-1-91.

**NR 141.15 Drilling methods and fluids.** The drilling method shall introduce the least possible amount of foreign material into the borehole, produce the least possible disturbance to the formation and permit the proper construction and development of the required diameter well. Only air, water from a known safe source free of bacterial and chemical contamination or bentonite

drilling muds, mixed with water from a known safe and uncontaminated source, may be used as drilling fluids. The water used for drilling shall be stored in such a manner as to prevent contamination of the clean water. The department may require chemical analysis of the water used to produce drilling fluids. Hammer drill lubricants, used with air rotary drill rigs, may not be used for installing groundwater monitoring wells. If air is used as a drilling fluid, the air shall be filtered by a coalescing air filter. If water is

used, the source of the water shall be reported. Drilling fluid additives may not be used without prior written department approval.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90.

**NR 141.16 Cross contamination.** Precautions shall be taken to prevent cross contamination of aquifers or uncontaminated zones.

**History:** Cr. Register, June, 1991, No. 426, eff. 7-1-91.

**NR 141.17 Disposal and decontamination.** (1) All drill cuttings and fluids and surge and wash waters from borehole and groundwater monitoring well construction and development shall be disposed of in a manner approved by the department.

(2) All borehole and groundwater monitoring well construction and development equipment shall be decontaminated by washing and triple rinsing or high pressure heat cleaning to prevent cross-contamination of boreholes or groundwater monitoring wells.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90.

**NR 141.19 Borehole diameter.** (1) BOREHOLES IN UNCONSOLIDATED GEOLOGIC FORMATION. For all permanent groundwater monitoring wells in unconsolidated geologic formations, the borehole diameter shall meet the following requirements:

(a) If hollow stem augers are used, their inside working diameter shall be at least 2 ¼ inches greater than the inside diameter of the permanent well casing.

(b) If solid stem augers are used, their outside diameter shall be at least 4 inches greater than the inside diameter of the permanent well casing.

(c) If an air or mud rotary method is used, the borehole diameter shall be at least 4 inches greater than the inside diameter of the permanent well casing. If a temporary outer casing is used, the inside diameter of the temporary outer well casing shall be at least 4 inches greater than the inside diameter of the permanent well casing. The temporary outer casing shall be pulled as the annular space is being sealed.

**Note:** The dual-tube or triple-tube reverse rotary systems are rotary methods.

(d) If percussion methods, including the rotary wash, wash down and wash bore methods, with a temporary outer casing are used, in unconsolidated geologic formations, the inside diameter of the temporary outer casing shall be at least 4 inches greater than the inside diameter of the permanent well casing. The temporary outer casing shall be removed during the sealing of the annular space.

(2) BOREHOLES IN BEDROCK GEOLOGIC FORMATIONS. For all permanent groundwater monitoring wells installed deeper than 2 feet past the top of the bedrock, the borehole diameter shall meet the following requirements:

(a) If an air or mud rotary method is used to construct the monitoring well, the requirements of sub. (1) (c) shall be followed.

(b) If percussion methods are used to construct the monitoring well, the requirements of sub. (1) (d) shall be followed.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90.

**NR 141.20 Aquifer test or recovery wells.** The installation, location and construction of any aquifer test well or recovery well installed for a purpose regulated by the department under ch. 160, 281, 285, 289, 291, 292, 293, or 299, Stats., shall be approved by the department program responsible for overseeing work at the site prior to installation. Unless another time period is specified by law, the department shall complete its review and make a determination on all applications for approval within 65 business days after receipt of the complete application for approval. Applications may be included with other submittals for

work to be performed at the site. The start of the 65 day review period will not begin until a complete application is received by the department. All requests for approval shall be in writing, except that for situations that require immediate response, an approval may be requested verbally and an advanced verbal approval may be granted by the department and followed up with a written confirmation. Aquifer test wells or recovery wells may be used for pressure head monitoring or water quality monitoring only with the approval of the department. All aquifer test and recovery wells shall be abandoned according to s. NR 141.25 and documented according to s. NR 141.23.

**Note:** See ch. NR 812 for additional requirements that apply to aquifer test wells and recovery wells.

**History:** Cr. Register, June, 1991, No. 426, eff. 7-1-91; corrections made under s. 13.93 (2m) (b) 7., Stats., Register, March, 2000, No. 531.

**NR 141.21 Well development.** All permanent groundwater monitoring wells shall be developed according to the requirements of section. Wells sealed with grout or slurry shall be developed after a minimum waiting period of 12 hours after installation is completed. The goal of well development is to produce water free of sediment and all drill cuttings and drilling fluids.

(1) WELLS THAT CANNOT BE PURGED DRY. All permanent groundwater monitoring wells that cannot be purged dry shall be developed by the following procedure:

(a) Alternately surge and purge the well for a minimum of 30 minutes. The surge and purge cycle shall consist of several minutes of surging followed by several minutes of purging to remove the material collecting in the bottom of the well. The surging shall move formation water in and out of the well screen. The surging shall be accomplished by using either a bailer or surge block or by pumping the well sufficiently to cause a drawdown and then allowing the well to recover and repeating the process.

**Note:** When a surge block is used, care should be taken to avoid drawing the annular space seal material into the filter pack or well screen.

(b) After the final surge and purge cycle is completed, the well shall be pumped or bailed until 10 well volumes of water are removed or until the well produces sediment free water. If sediment free water is not obtained any remaining sediment shall be removed from the bottom of the well. Well volume shall be calculated in the following manner:

$V_1 + V_2 = \text{well volume}$

$V_1 = \text{volume of water in well casing}$

$$V_1 = \pi \left( \frac{D_1}{2} \right)^2 H_1$$

$V_2 = \text{volume of water in filter pack}$

$$V_2 = N \pi H_2 \left[ \left( \frac{D_3}{2} \right)^2 - \left( \frac{D_2}{2} \right)^2 \right]$$

$N = \text{porosity of filter pack}$

$D_1 = \text{inside diameter of well casing}$

$D_2 = \text{outside diameter of well casing}$

$D_3 = \text{diameter of borehole}$

$H_1 = \text{height of water column}$

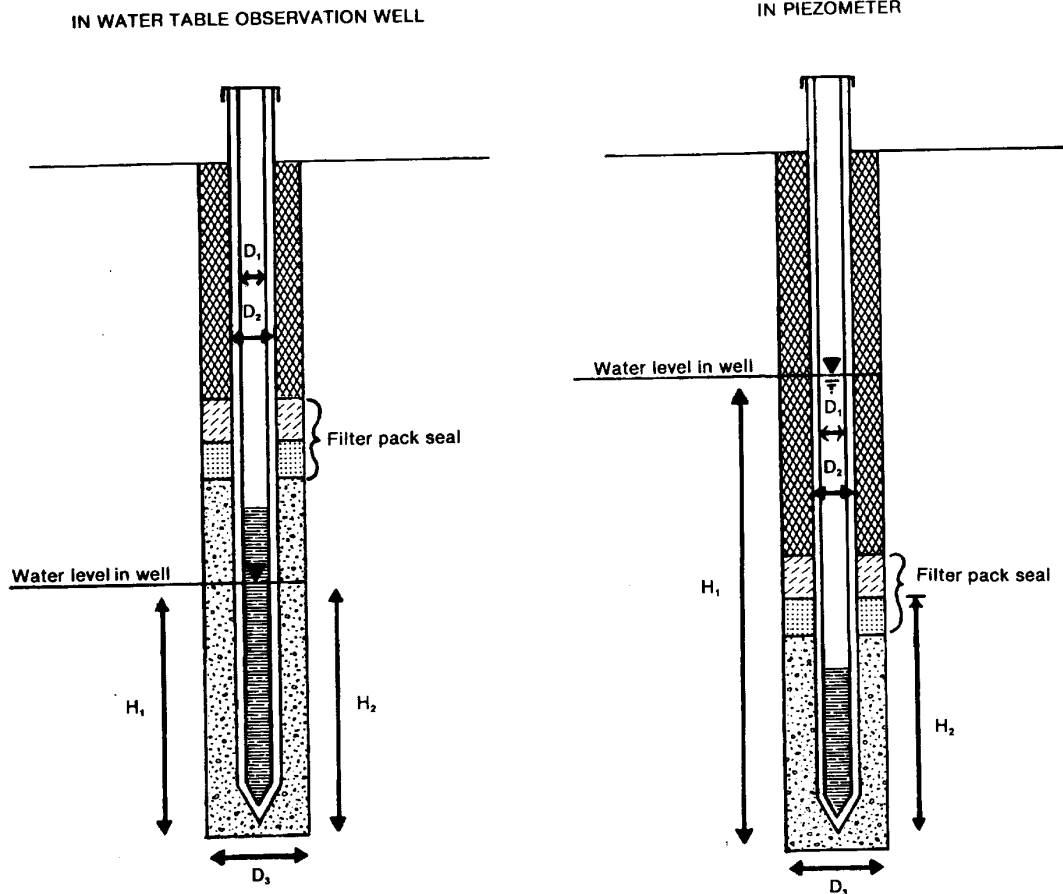
$H_2 = \text{length of sand used in filter pack and fine sand filter pack seal or the height of the water column in water table observation wells.}$

**Note:** There are 7.48 gallons per cubic foot.

$H_1 = \text{height of water column}$

$H_2 = \text{length of filter pack or the height of the water column in water table observation wells.}$

## CALCULATION OF WELL VOLUME



(2) **WELLS THAT CAN BE PURGED DRY.** All permanent groundwater monitoring wells that can be purged dry shall be developed in a manner which limits agitation by slowly purging the well dry. Wells which can be purged dry may not be surged and no water may be added to the well.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. (intro.), (1) (a) and (b) and (2), Register, June, 1991, No. 426, eff. 7-1-91.

**NR 141.23 Well and borehole construction documentation.** (1) All permanent groundwater monitoring well construction shall be reported to the department, using forms and instructions provided by the department, within 60 days after the well has been installed. The completed report shall include the following information:

- Well location,
- Well casing material and installation procedures,
- Well screen materials and installation procedures,
- Filter pack materials and installation procedures,
- Sealing materials and installation procedures,
- Drilling methods and fluids used for installation,
- Borehole diameter,
- Well development procedures,
- Sieve analysis, and
- Any other information deemed necessary by the department.

(2) All permanent groundwater monitoring wells installed after February 1, 1990 shall be labeled with labels supplied by the department.

(3) All borehole construction data shall be reported to the department using forms and instructions supplied by the department within 60 days after construction. The completed report shall include the following data: the results of any soil tests done and a description of the soil structure, soil color, mottling, moisture content, layering, jointing, lenses, fractures, organic matter and voids and any other information deemed necessary by the department. The constructor shall report any decontamination procedures used between borehole installations.

**History:** Cr. Register, January, 1990, No. 409, eff. 2-1-90; am. (1) (h), renum. (1) (i) to (j), cr. (1) (i), Register, June, 1991, No. 426, eff. 7-1-91.

**NR 141.25 Abandonment requirements.** The following requirements apply to the abandonment of all boreholes greater than 10 feet deep or which intersect a water table and all groundwater monitoring wells. The department may require, by order or other appropriate means, that any borehole or monitoring well be abandoned. The department shall consider the following factors in determining whether a borehole or monitoring well should be abandoned: purpose, location, groundwater quality, age and condition of the well or borehole potential for groundwater contamination and well or borehole construction.



(1) **TIMELINES FOR ABANDONMENT.** (a) A borehole shall be abandoned within 3 working days after its use has been discontinued.

(b) Any permanent groundwater monitoring well no longer being used to gather information on geologic or groundwater properties shall be abandoned within 60 days after its use has been discontinued.

(c) Any groundwater monitoring well found by the department to be acting as a conduit for groundwater contamination shall be abandoned within 15 working days after written notification by the department.

(d) Any groundwater monitoring well constructed after February 1, 1990 not meeting the requirements of this chapter shall be abandoned and replaced with a monitoring well meeting the requirements of this chapter or any department approval granted under this chapter within 60 days after installation of the noncomplying well or 15 days after written notification by the department that the well is noncomplying.

(2) **ABANDONMENT PROCEDURES.** (a) *Boreholes.* Any borehole intersecting the water table or greater than 10 feet deep, whose use has been discontinued, shall be abandoned according to the requirements of par. (d).

(b) *Monitoring wells — impermeable annular space seals.* A permanent groundwater monitoring well known to be constructed with an impermeable annular space seal shall be abandoned according to the requirements of par. (d) after the protective cover pipe and ground surface seal have been removed and the well casing cut off at least 30 inches below the ground surface. The well casing may be completely removed during abandonment by pulling the well casing, overdrilling around the casing and then pulling the well casing out of the ground or by drilling out the well casing completely. If the well casing is to be removed, the well shall be sealed as the casing is removed.

(c) *Monitoring wells — permeable annular space seals and wells in waste areas.* A groundwater monitoring well not known to be constructed with an impermeable annular space seal or located in an existing or planned future waste disposal or treatment area shall be abandoned by removing the protective cover pipe and the ground surface seal and then completely removing the well casing. The well casing shall be pulled out of the ground as the well is filled according to the requirements of par. (d).

(d) *Sealing requirements.* Boreholes and groundwater monitoring wells shall be abandoned by complete filling with neat cement grout, bentonite–cement grout, sand–cement grout, concrete or bentonite–sand slurry. When a tremie pipe is used to place the sealing material, the procedures of s. NR 141.10 (2) shall be followed. A tremie pipe shall be used to abandon groundwater wells and boreholes greater than 30 feet in depth or with standing water. Groundwater monitoring wells and boreholes greater than 100 feet in depth shall be sealed with a tremie pipe–pumped method. Bentonite may be used as a sealing material without the use of a tremie pipe under the following conditions:

1. Bentonite granules may be used for abandonment of boreholes and groundwater monitoring wells less than 25 feet deep and when there is no standing water above the filter pack seal.

2. Bentonite chips no greater than 3/8 inch in diameter or bentonite pellets may be used for abandonment of boreholes and groundwater monitoring wells less than 50 feet deep and the depth of standing water is less than 30 feet.

3. Bentonite chips no greater than 3/8 inch in diameter or bentonite pellets may be used for abandonment of boreholes and

groundwater monitoring wells which are greater than 4 inches in diameter and less than 250 feet deep and the depth of standing water is less than 150 feet.

(3) **SEALANT SETTLEMENT.** Any settling of the sealant material shall be topped off. Sealing material may be terminated 30 inches below the ground surface in agricultural areas to avoid interference with agricultural activities. A native soil plug shall be placed on top of the settled sealing material in such cases.

(4) **ABANDONMENT DOCUMENTATION.** All borehole and permanent groundwater monitoring well abandonments shall be reported to the department within 60 days of the abandonment on forms supplied by the department. In addition to the information required on the form, the person performing the abandonment shall report any decontamination procedures used between borehole and well abandonments.

**History:** Cr. Register, January, 1990, No. 409, eff. 2–1–90; am. (2) (b), (2) (d) 1. to 3. and (3), Register, June, 1991, No. 426, eff. 7–1–91.

**NR 141.27 Driven point wells.** Driven point wells with galvanized steel drive pipes and contaminant compatible well screens may be used as permanent groundwater monitoring wells if prior department approval is obtained. Written documentation shall be supplied to the department prior to installation indicating:

(1) That the well is to be used only for water table elevation measurements or to monitor for parameters for which the well casing and screen material will not interfere with the analytical results;

(2) That the well will not provide a conduit for contaminants to enter the groundwater; and

(3) That information on subsurface stratigraphy is not needed. In situations where subsurface geologic information is needed, a separate borehole shall be constructed to collect the required data.

**History:** Cr. Register, January, 1990, No. 409, eff. 2–1–90.

**NR 141.29 Temporary groundwater monitoring wells.** Temporary groundwater monitoring wells may be installed according to less stringent standards than specified for permanent groundwater monitoring wells. Any temporary monitoring well construction shall be approved by the department prior to its installation. All temporary monitoring wells shall be abandoned in accordance with s. NR 141.25 within 120 days after their installation.

**History:** Cr. Register, January, 1990, No. 409, eff. 2–1–90.

**NR 141.31 Special circumstances and exceptions.** (1) The department may require or approve more restrictive or alternative well material, assembly, installation, development or abandonment if the contaminant concentrations or geologic setting require alternative construction. Prior written approval is required before any alternative materials are used in monitoring well installation.

(2) Exceptions to the requirements of this chapter may be approved by the department prior to installation or abandonment. An exception request shall state the reasons why compliance with the rule requirements is infeasible. The department may conditionally approve an exception by requiring materials or procedures which safeguard against contamination and result in groundwater monitoring well construction which is substantially equivalent to the requirements of this chapter. Failure to comply with the conditions of an exception voids the department's approval of the exception.

**History:** Cr. Register, January, 1990, No. 409, eff. 2–1–90.

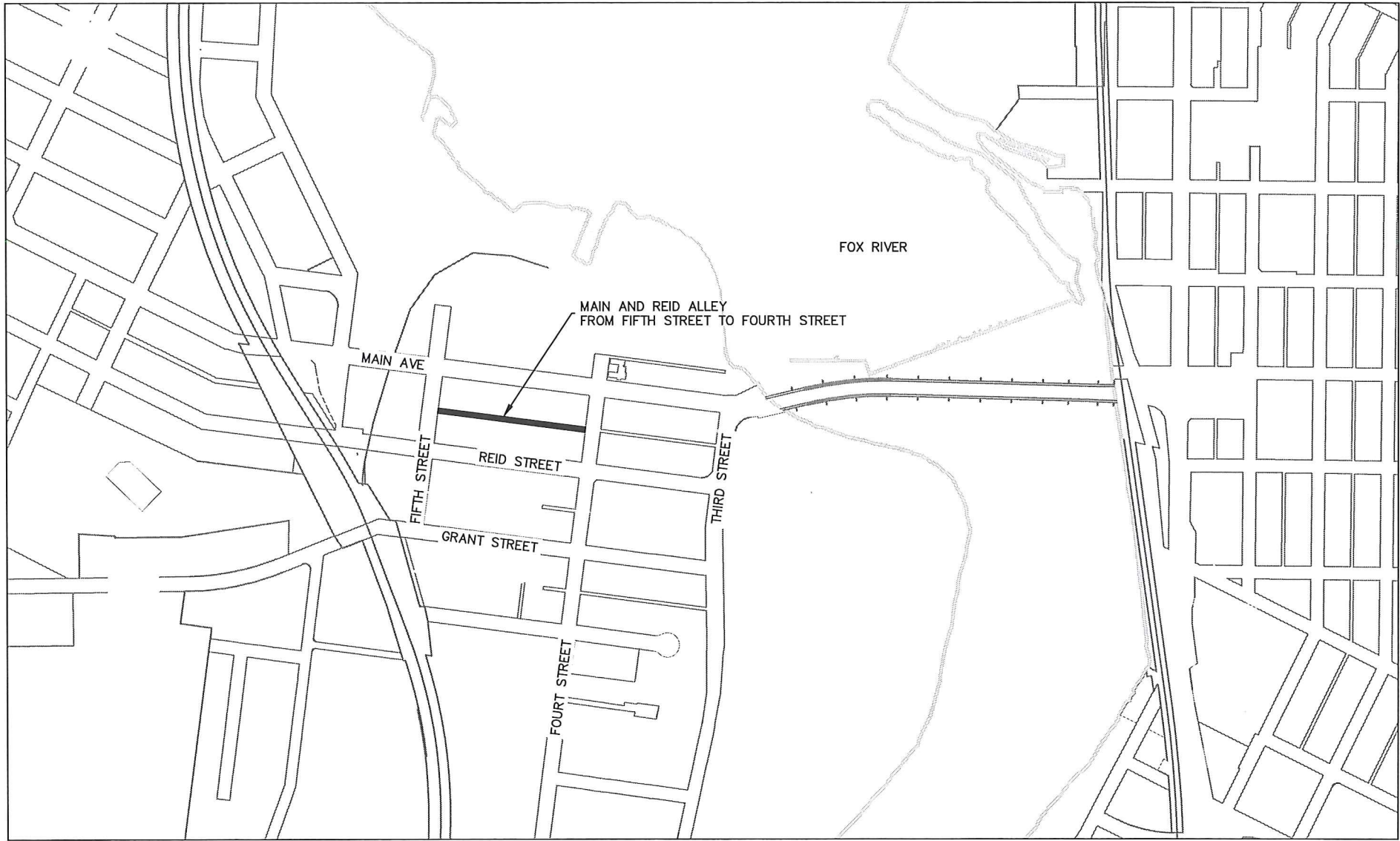
# PROJECT# 22-04

## ALLEY RECONSTRUCTION

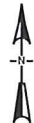
CITY OF DE PERE



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-G004	TYPICAL SECTIONS
G005	DEMOLITION PLAN
C101 - C102	SANITARY AND WATER PLAN AND PROFILE SHEETS
C103 - C104	STORM AND STREET PLAN AND PROFILE SHEETS
C105 - C106	CURB FLANGE PLAN AND PROFILE SHEETS
C301 - C304	CROSS SECTIONS
C401	ALIGNMENT, BENCHMARKS, AND CONTROL POINTS PLAN
C402	PAVEMENT SURFACE AND RESTORATION PLAN
C403	PAVEMENT MARKINGS AND SIGNAGE PLAN
C404 - C406	MATCH POINT PHOTOS PLAN
C407 - C411	ALLEY GRADES DETAILS
C412	DUMPSTER ENCLOSURE PLAN
C413	TRAFFIC CONTROL PLAN
C501 - C502	CONSTRUCTION DETAILS
E101	STREET LIGHTING AND ELECTRICAL PLAN
E501 - E503	ELECTRICAL CONSTRUCTION DETAILS

CITY OF DE PERE  
BOARD OF PUBLIC WORKS

3/10/2022	<i>E.P. Rakers</i>
DATE	CITY ENGINEER
3/10/22	<i>Justine Schmidt-Levin</i>
DATE	ASSISTANT CITY ADMINISTRATOR
3/10/22	<i>J. J. Boyd</i>
DATE	MAYOR

STAMPS:





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	O	OIL
BL	BASELINE	O&C	OIL AND CHIP
BLDG	BUILDING	OBLIT	OBLITERATE
BM	BENCHMARK	OD	OUTSIDE DIAMETER
BOW	BACK OF SIDEWALK	PC	POINT OF CURVATURE
BSMT	BASEMENT	PCC	POINT OF COMPOUND CURVE
C	CUT	PCC	PORTLAND CEMENT CONCRETE
C&G	CURB AND GUTTER	PED	PEDESTAL
C/C	CENTER TO CENTER	PLE	PERMANENT LIMITED EASEMENT
CABC	CRUSHED AGGREGATE BASE COURSE	PVMT	PAVEMENT
CB	CATCH BASIN	PE	PRIVATE ENTRANCE
CE	CONSTRUCTION ENTRANCE	PI	POINT OF INTERSECTION
CI	CAST IRON PIPE	PJF	PRE-FORMED JOINT FILLER
CL	CENTERLINE	PL	PROPERTY LINE
CMP	CORRUGATED METAL PIPE	POC	POINT OF CURVE
CNTY	COUNTY	POT	POINT ON TANGENT
CO	CLEANOUT	PP	POLYETHYLENE
CONC	CONCRETE	PRC	POINT OF REVERSE CURVATURE
CONSTR	CONSTRUCTION	PROJ	PROJECT
CONSTR JT	CONSTRUCTION JOINT	PROP	PROPOSED
CP	CONTROL POINT	PSI	POUND PER SQUARE INCH
CTH	COUNTY TRUNK HIGHWAY	PT	POINT OF TANGENCY
CTRL JT	CONTROL JOINT	PVC	POLYVINYL CHLORIDE
CTV	CABLE TV	R	RANGE OR RADIUS
CY	CUBIC YARD	RCP	REINFORCED CONCRETE PIPE
D	DEPTH	REBAR	REINFORCEMENT BAR
DIA	DIAMETER	REL	RELOCATE
DI	DUCTILE IRON PIPE	REM	REMAINING
DISCH	DISCHARGE	REQD	REQUIRED
DW	DRIVEWAY	RL	REFERENCE LINE
E	EAST (SEE ELEC BELOW)	ROW	RIGHT OF WAY
EA	EACH	RP	REFERENCE POINT
EB	EASTBOUND	RR	RAILROAD
EBS	EXCAVATION BELOW SUBGRADE	RT	RIGHT
ECS	EXTERNAL CHIMNEY SEAL	RW	RETAINING WALL
EL	ELEVATION	S	SOUTH
ELEC	ELECTRIC (E WHEN USED IN LINE STYLE)	SALV	SALVAGE
EMB	EMBANKMENT	SAN	SANITARY
ENTR	ENTRANCE	SB	SOUTHBOUND
EP	EDGE OF PAVEMENT	SDWK	SIDEWALK
EW	ENDWALL	SE	SOUTHEAST
EXC	EXCAVATION	SF	SQUARE FEET
EXIST	EXISTING	SHLDR	SHOULDER
F	FILL	SY	SQUARE YARD
F/F	FACE TO FACE	SS	STORM SEWER
FDN	FOUNDATION	SSD	STOPPING SIGHT DISTANCE
FE	FIELD ENTRANCE	STA	STATION
FERT	FERTILIZER	STD	STANDARD
FIN GR	FINISHED GRADE	STH	STATE HIGHWAY TRUNK
FL	FLOWLINE	STM	STORM
FO	FIBER OPTIC	STP	SEWAGE TREATMENT PLANT
FOW	FRONT OF SIDEWALK	STRUCT	STRUCTURE OR STRUCTURAL
FT	FOOT	SW	SOUTHWEST
FTG	FOOTING	TAN	TANGENT
G	GAS	T	TOWN (T WHEN USED FOR TELEPHONE LINE)
GV	GAS VALVE	TEL	TELEPHONE
GW	GUY WIRE	TEMP	TEMPORARY
HDPE	HIGH DENSITY POLYETHYLENE	TLE	TEMPORARY LIMITED EASEMENT
HR	HANDICAP RAMP	TOC	TOP OF CURB
HSE	HOUSE	TOW	TOP OF WATER
HT	HEIGHT	TRANS	TRANSITION
HYD	HYDRANT	TYP	TYPICAL
I	INTERSECTION ANGLE	UG	UNDERGROUND
ICS	INTERNAL CHIMNEY SEAL	USH	US HIGHWAY
ID	INSIDE DIAMETER	VC	VERTICAL CURVE
IN	INCH	VERT	VERTICAL
INL	INLET	VOL	VOLUME
INTERS	INTERSECTION	VPC	VERTICAL POINT OF CURVATURE
INV	INVERT	VPI	VERTICAL POINT OF INTERSECTION
IP	IRON PIPE OR PIN	VPRC	VERTICAL POINT OF REVERSE CURVE
JCT	JUNCTION	VPT	VERTICAL POINT OF TANGENCY
L	LENGTH (OF CURVE)	W	WEST
LC	LONG CHORD OF CURVE	WB	WESTBOUND
LP	LIGHTPOLE	WM	WATERMAIN
LS	LIFT STATION OR LUMP SUM	WSO	WATER SHUTOFF VALVE
LT	LEFT	WTP	WATER TREATMENT PLANT
MAINT	MAINTENANCE	WV	WATER VALVE
MATL	MATERIAL	WWTP	WASTE WATER TREATMENT PLANT
MB	MAILBOX	YD	YARD
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 - INELT		
FIELD INLET		
GAS VALVE		
HEDGE		
HYDRANT		
IRON PIPE		
LIGHTPOLE		
MAILBOX		
MANHOLE ELECTRIC		
MANHOLE SANITARY		
MANHOLE STORM		
MONITORING WELL		
POWER POLE		
LIGHT POLE		
SIGN		
SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE		
SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE		
STUMP		
TELEPHONE MANHOLE		
TELEPHONE PEDESTAL		
TREE		
WELL		
WATER SERVICE VALVE		
BUTTERFLY WATER VALVE		
WATER VALVE		

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL	
	PLAN	
EXISTING SANITARY SEWER LINE	<div>(SIZE AND MATERIAL) San</div>	
PROPOSED SANITARY SEWER LINE	<div>100'-8" PVC SAN San</div>	
EXISTING STORM SEWER LINE	<div>(SIZE AND MATERIAL) ST</div>	
PROPOSED STORM SEWER LINE	<div>100'-8" PVC STM ST</div>	
EXISTING WATER MAIN LINE	<div>(SIZE AND MATERIAL) W</div>	
PROPOSED WATER MAIN LINE	<div>100'-8" PVC WM (TEE-BEND) W</div>	
EXISTING ELECTRICAL LINE	<div>E</div>	
EXISTING GAS MAIN LINE	<div>G</div>	
EXISTING TELEPHONE LINE	<div>T</div>	
EXISTING CABLE TV LINE	<div>TV</div>	
EXISTING SANITARY LATERAL	<div>San</div>	
EXISTING WATER SERVICE	<div>w</div>	
RIGHT OF WAY	<div>ROW</div>	
PROPERTY LINE	<div>PL</div>	
EASEMENT	<div>Esm Esm</div>	
SILT FENCE EROSION CONTROL	<div></div>	
EXISTING FIBER OPTIC	<div>FO</div>	
EXISTING MAJOR CONTOUR	<div>615</div>	
EXISTING MINOR CONTOUR	<div>612</div>	
PROPOSED MAJOR CONTOUR	<div>615</div>	
PROPOSED MINOR CONTOUR	<div>612</div>	

DESCRIPTION	SYMBOL	
	PROFILE	
EXISTING SANITARY SEWER LINE	<div>(SIZE AND MATERIAL)</div>	
PROPOSED SANITARY SEWER LINE	<div>100'-8" PVC SAN @ 0.40%</div>	
EXISTING STORM SEWER LINE	<div>(SIZE AND MATERIAL)</div>	
PROPOSED STORM SEWER LINE	<div>100'-8" PVC STM @ 1.0%</div>	
EXISTING WATER MAIN LINE	<div>(SIZE AND MATERIAL)</div>	
PROPOSED WATER MAIN LINE	<div>PROPOSE 8" PVC WM</div>	

PATCH SYMBOLS

ASPHALTIC CONCRETE PAVEMENT		CRUSHED AGGREGATE BASE COURSE	
PORTLAND CEMENT CONCRETE			

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.



CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115  
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STANDARD ABBREVIATIONS  
AND SYMBOLS

NAME: ALLEY  
RECONSTRUCTION

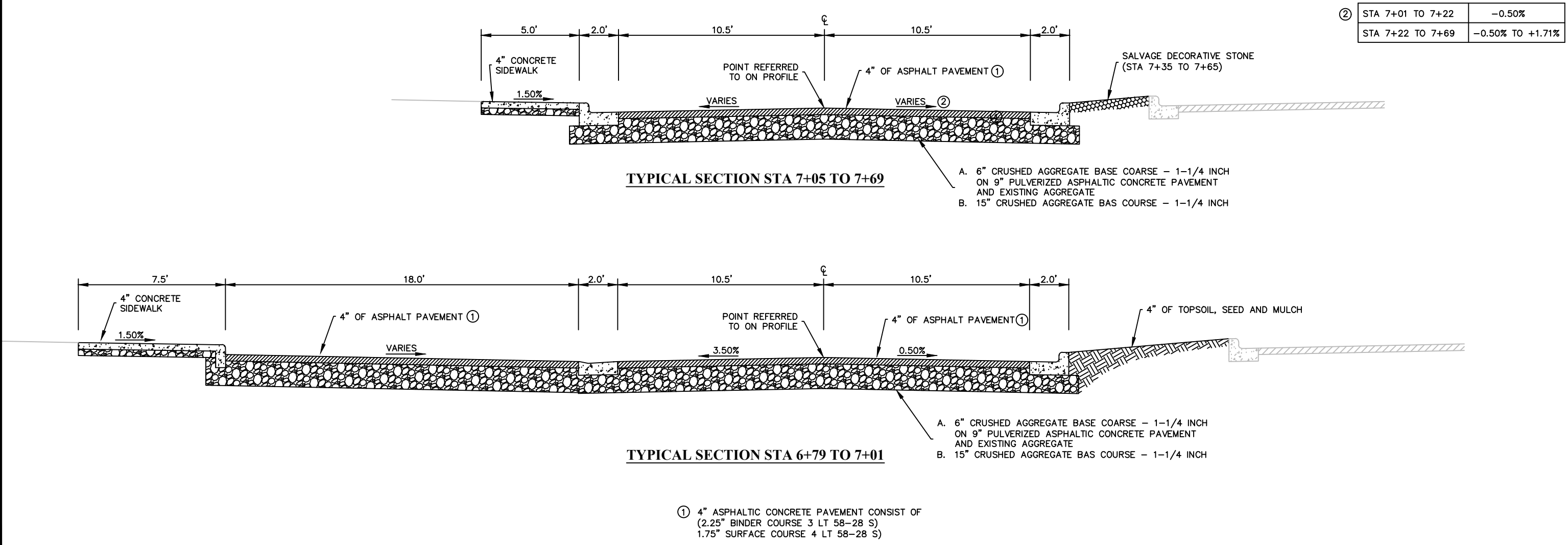
PROJECT # 22-04

BY	DATE	REVISIONS / ISSUES			
		NO.	DATE	BY	REMARKS
SURVEYED					
DRAWN	KAD		10-2018		
DESIGNED					
CHECKED					

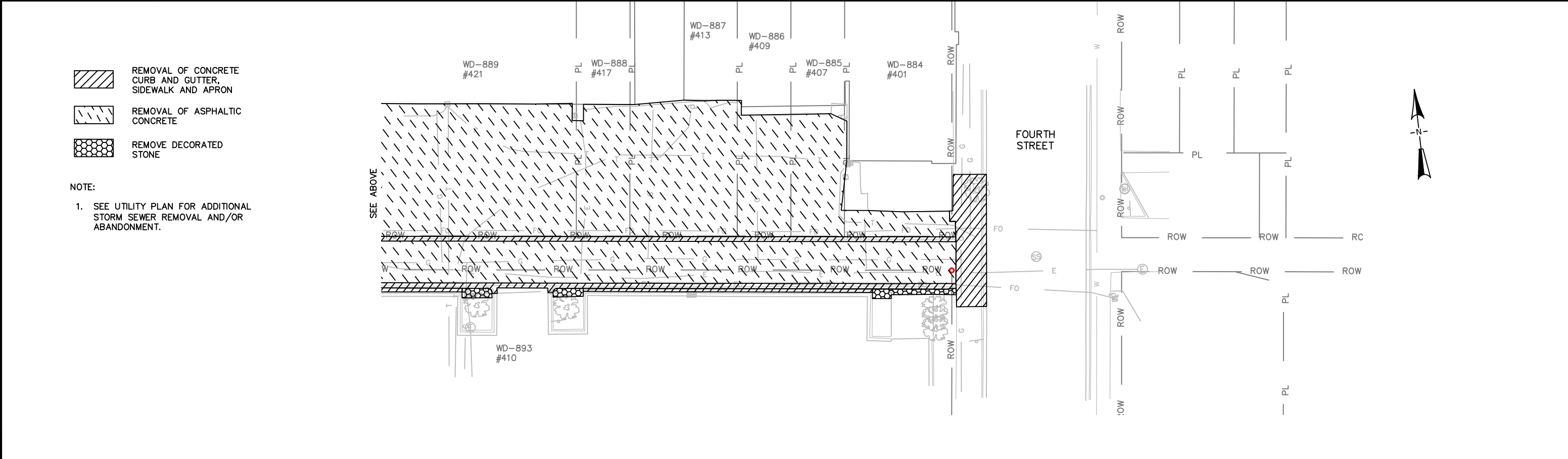
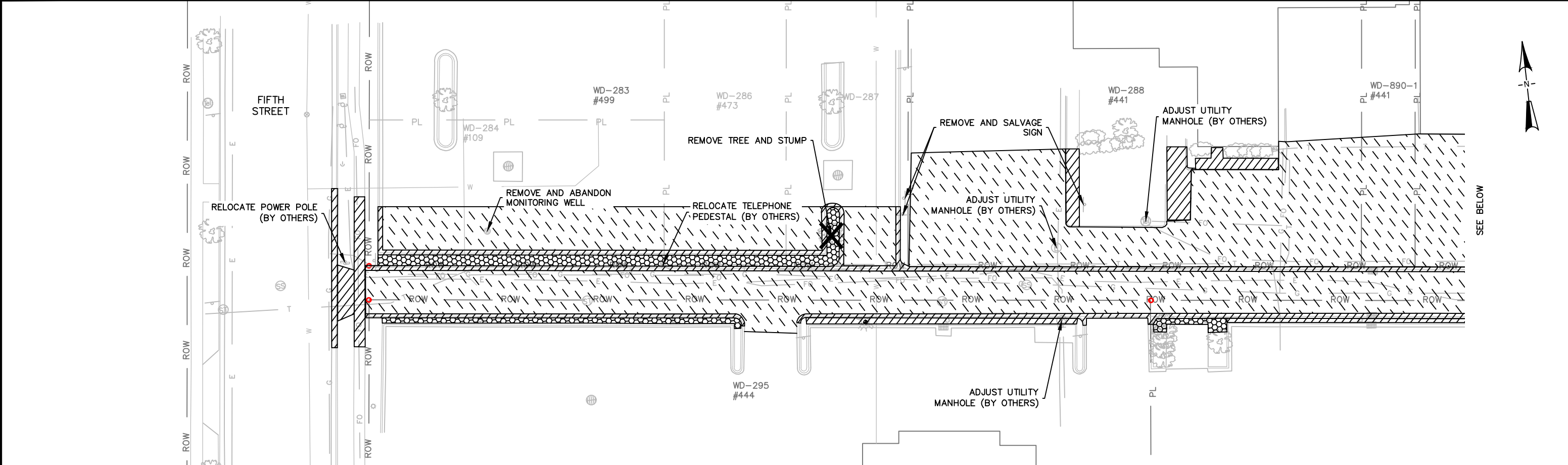
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G002





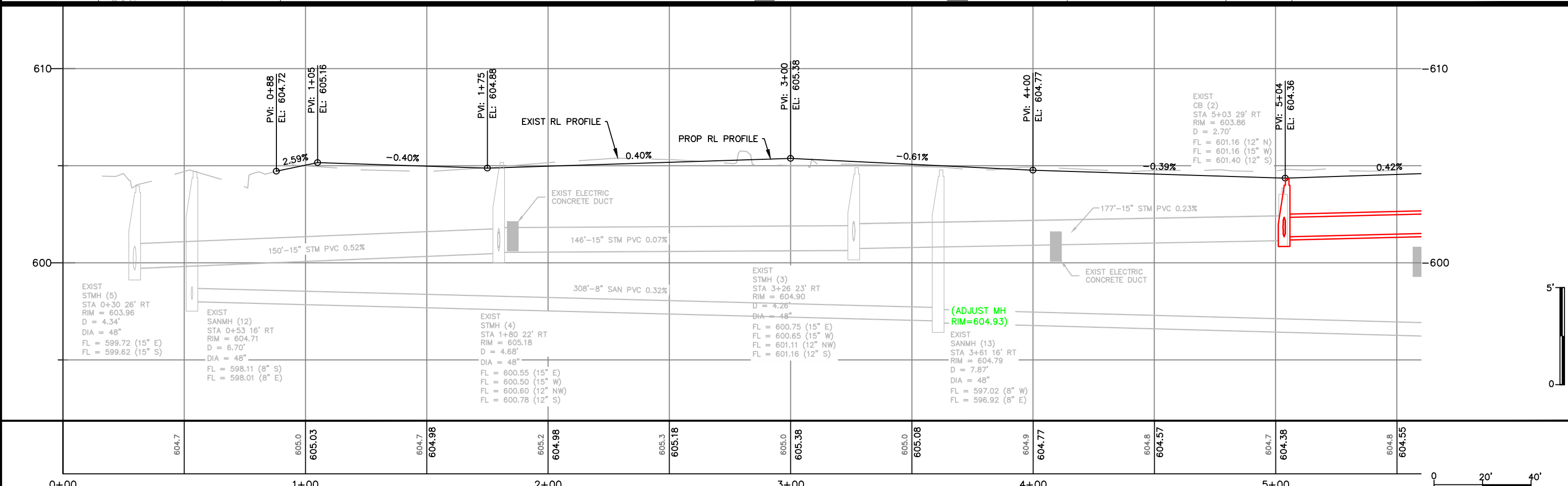
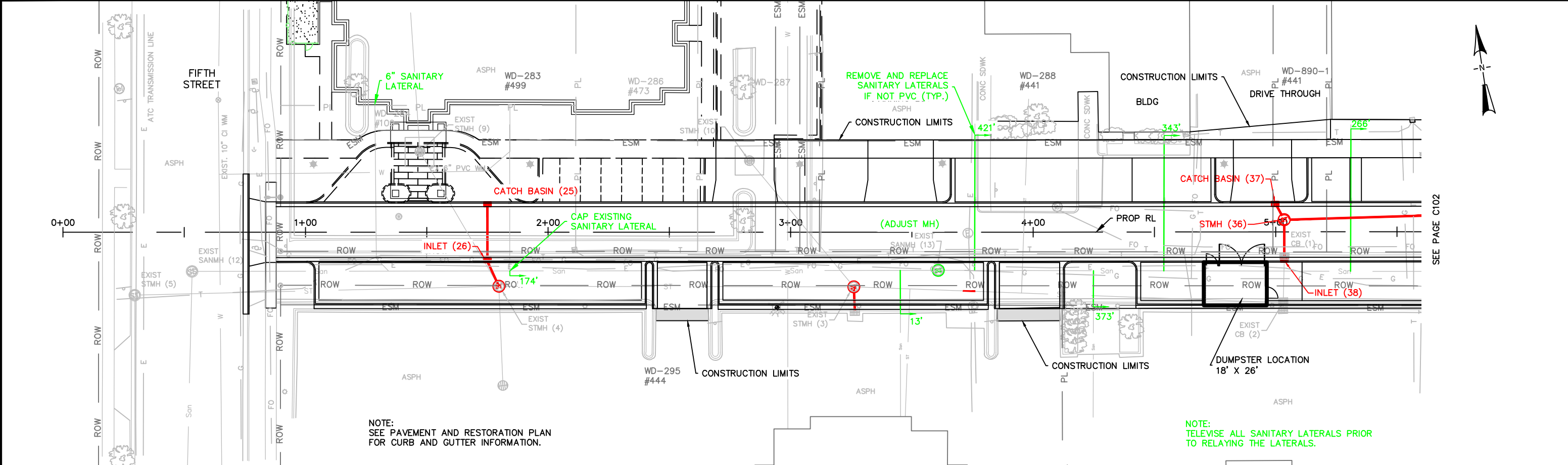
X:\ENG\Projects\City Projects\2021\Project 21-04 Alley Reconstruction\200- CAD\21-04 Typical Sections.dwg



- REMOVAL OF CONCRETE CURB AND GUTTER, SIDEWALK AND APRON
- REMOVAL OF ASPHALTIC CONCRETE
- REMOVE DECORATED STONE

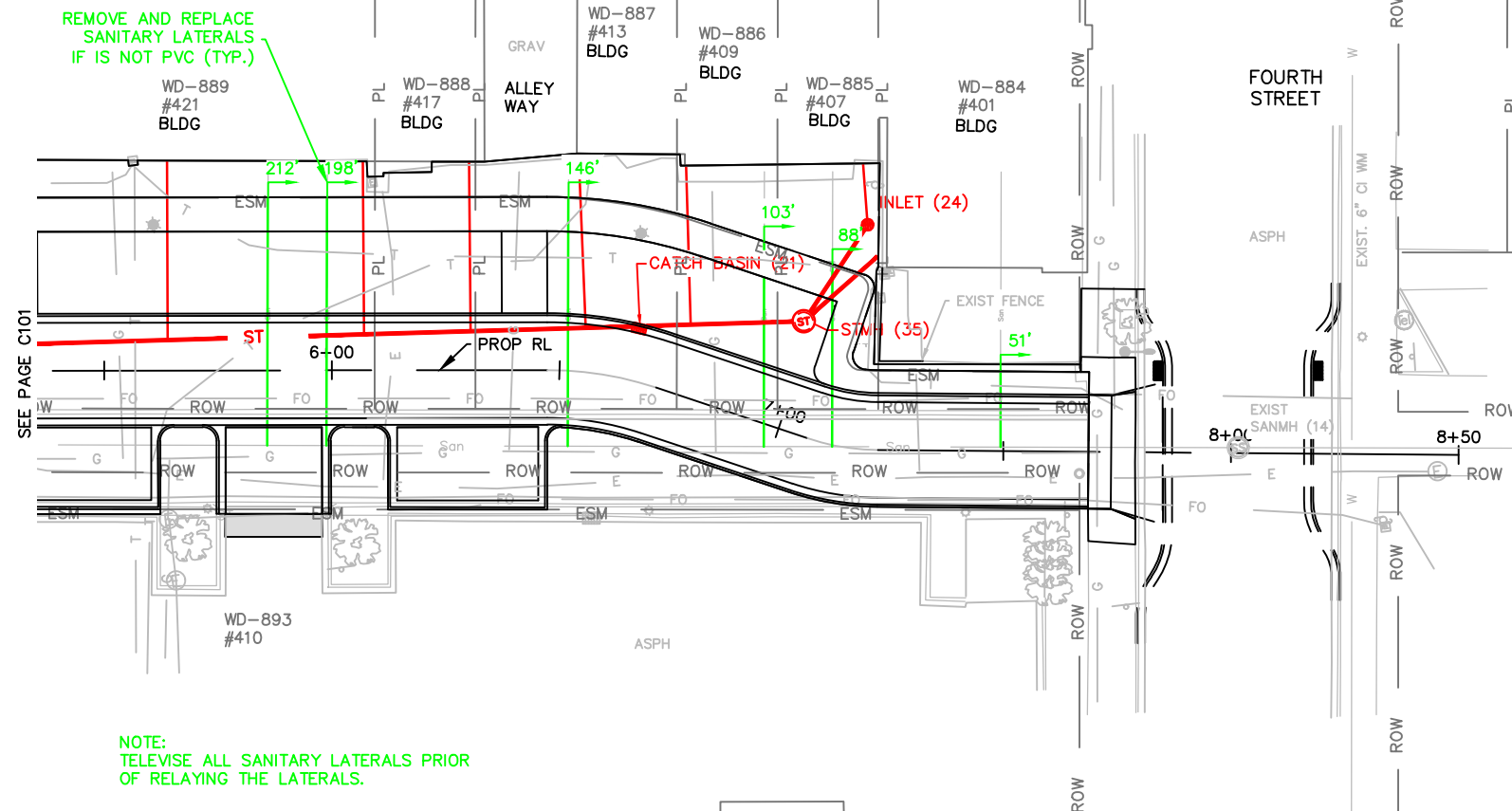
NOTE:  
1. SEE UTILITY PLAN FOR ADDITIONAL STORM SEWER REMOVAL AND/OR ABANDONMENT.

X:\ENG\Projects\City Projects\2021\Project 21-04 Alley Reconstruction\1200- CAD\21-04 Demolition.dwg



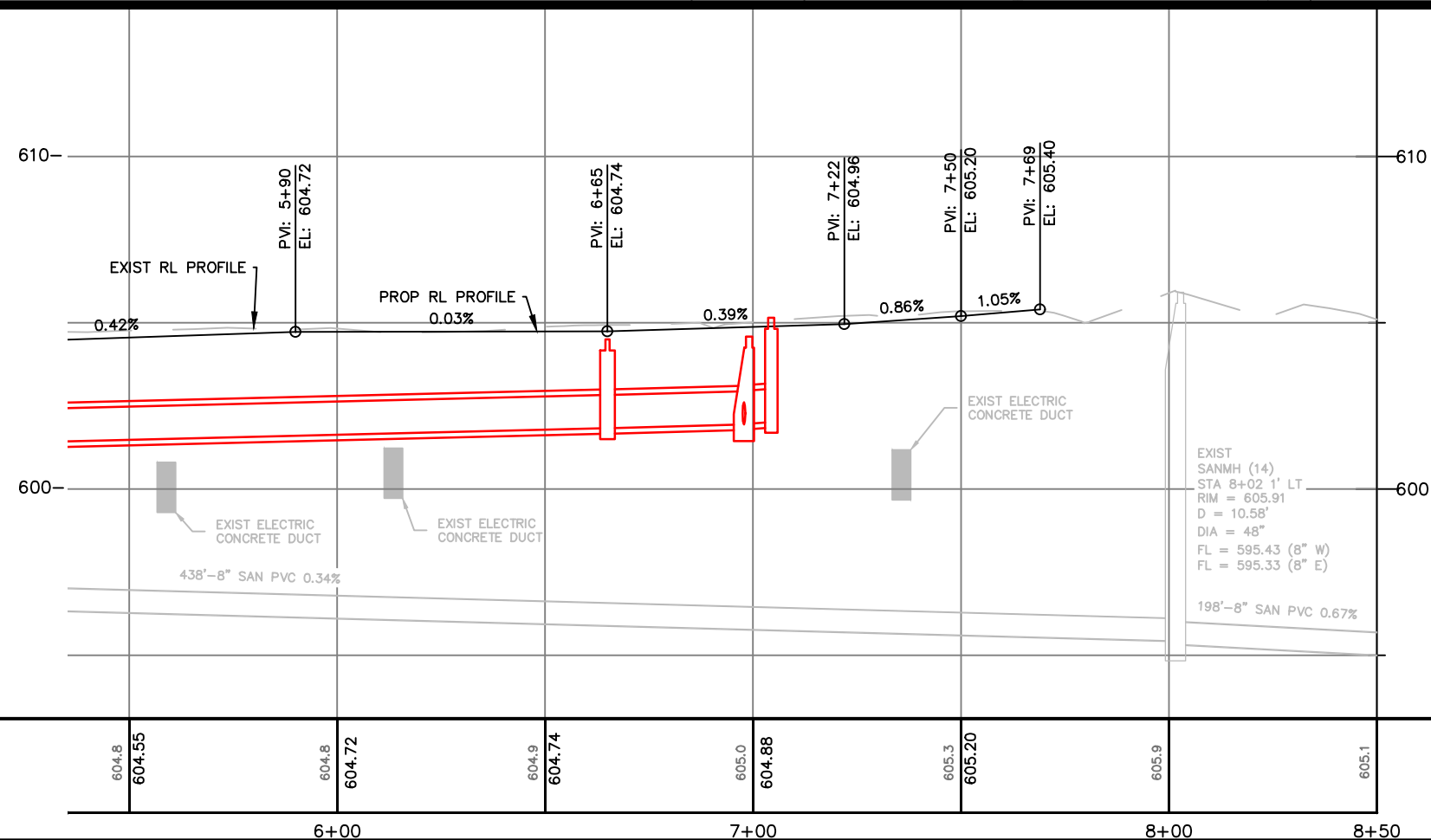
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NOTE:  
SEE PAVEMENT AND RESTORATION PLAN  
FOR CURB AND GUTTER INFORMATION.

NOTE:  
TELEWISE ALL SANITARY LATERALS PRIOR  
OF RELAYING THE LATERALS.



## CITY OF DE PERE

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

### MAIN/REID AND FIFTH/FOURTH ALLEY 500' SE OF FIFTH STREET TO FOURTH STREET SANITARY SEWER AND WATER

NAME:  
ALLEY RECONSTRUCTION  
PROJECT # 22-04

BY	DATE
SRL	3-2020
SRL	4-2020
SRL	10-2020
EPR	11-2020

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

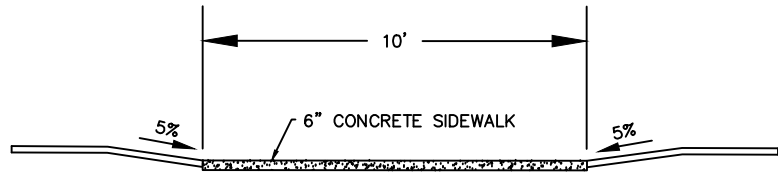
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NO.

C102

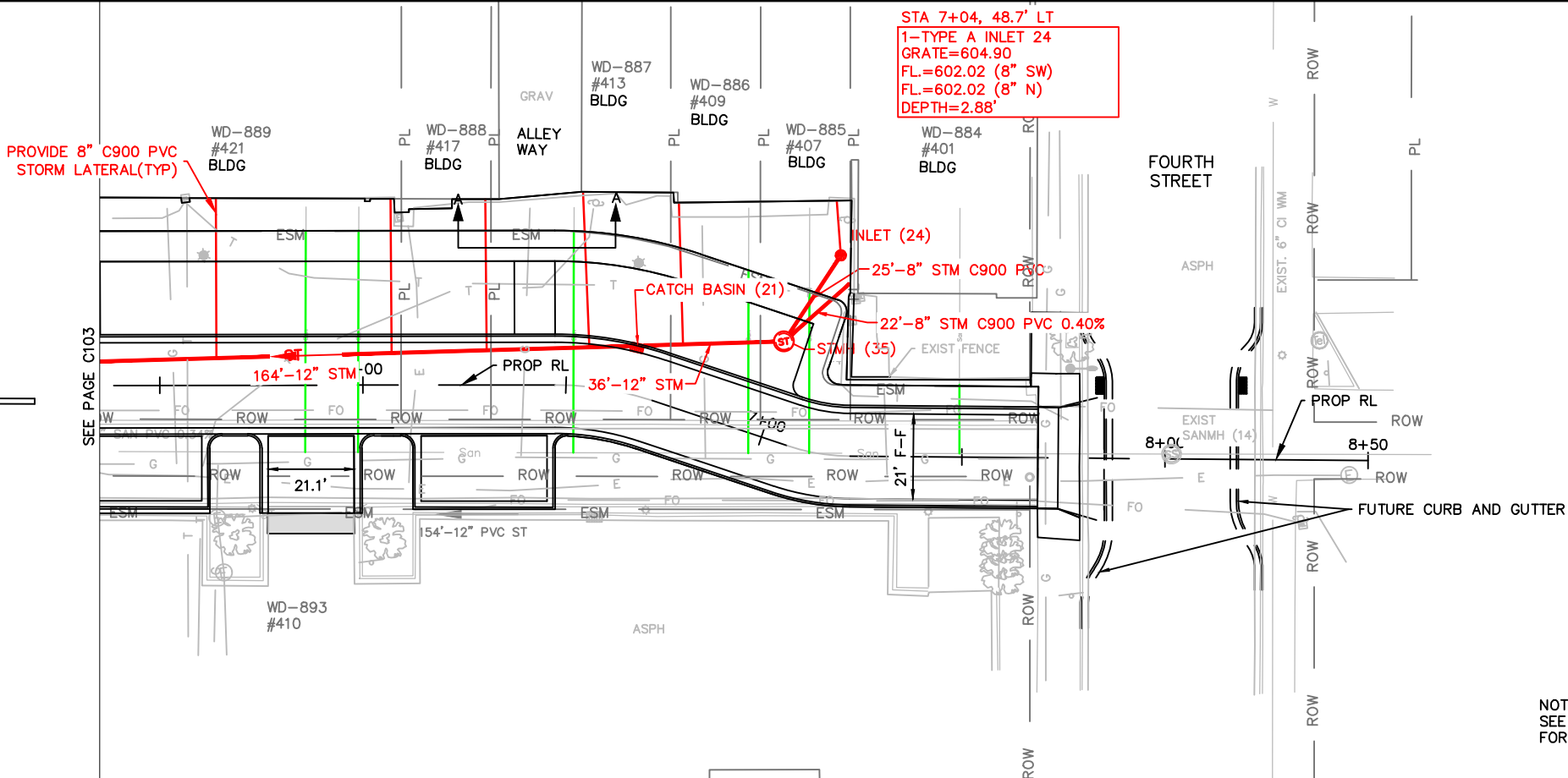
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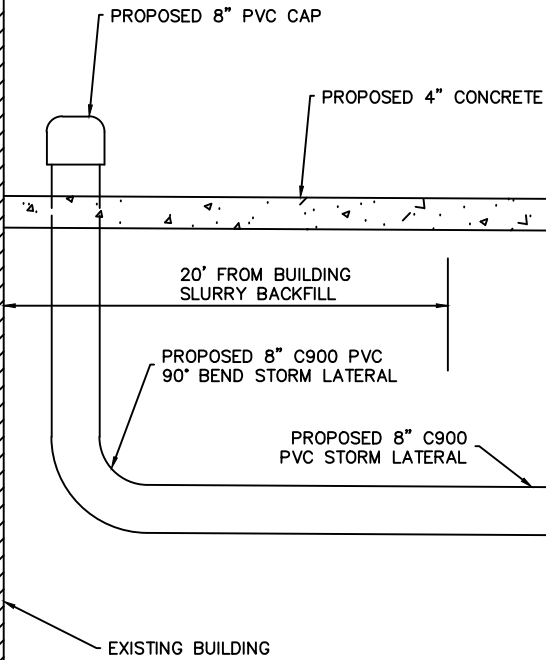




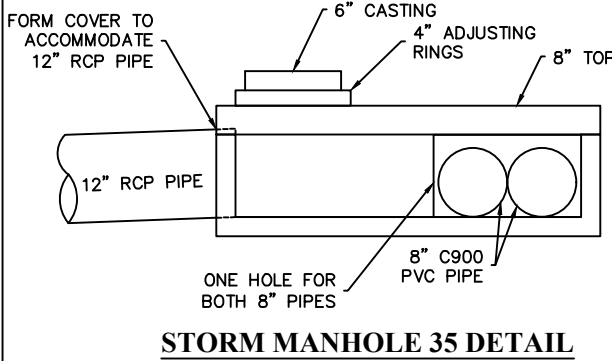
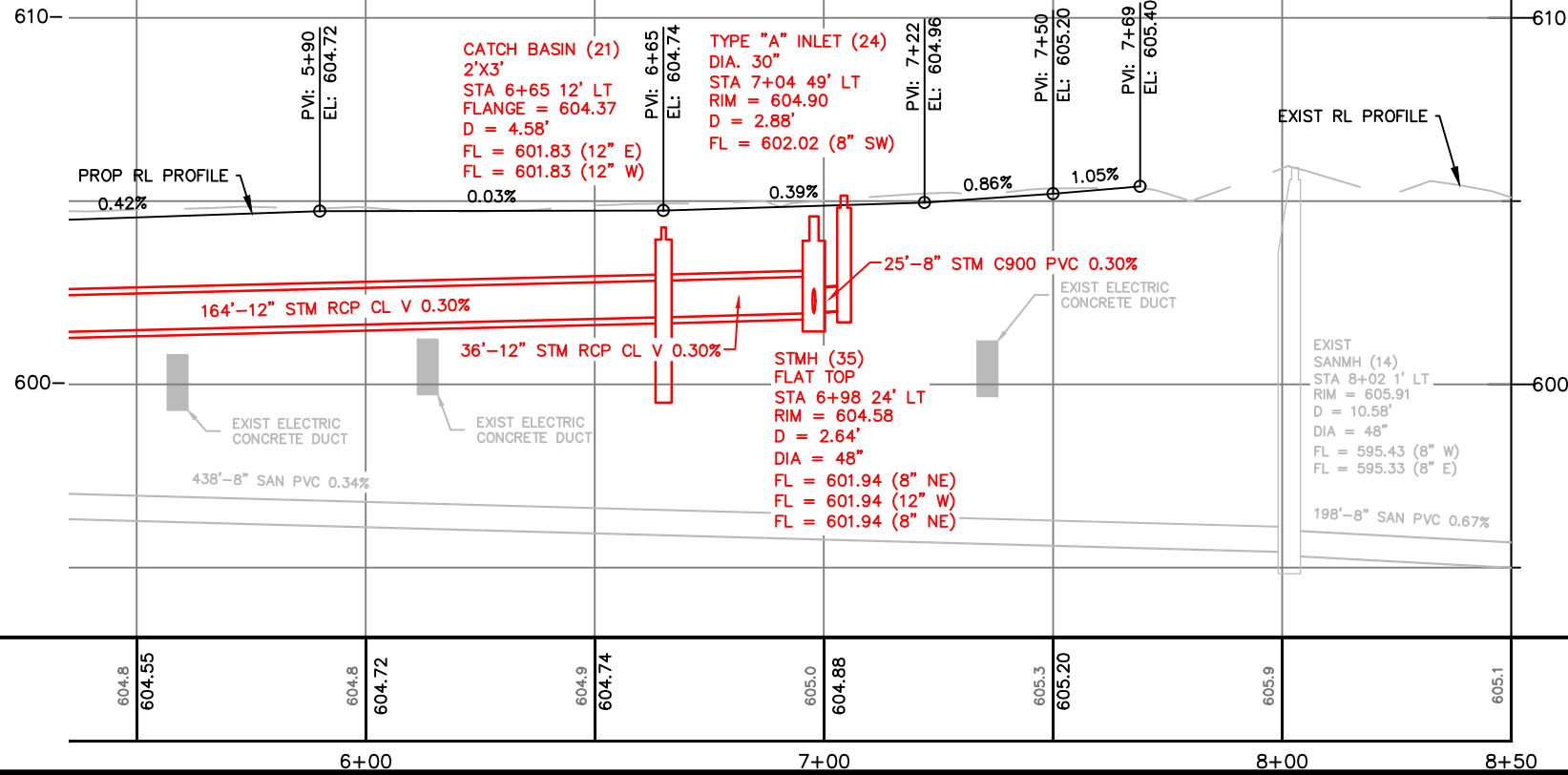
SECTION A-A



NOTE:  
SEE PAVEMENT AND RESTORATION PLAN  
FOR CURB AND GUTTER INFORMATION.



PROPOSE STORM LATERAL AT EXISTING BUILDING



STORM MANHOLE 35 DETAIL



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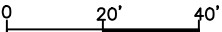
MAIN/REID AND FIFTH/FOURTH ALLEY  
500' SE OF FIFTH STREET TO FOURTH STREET  
STORM SEWER AND STREET

NAME: ALLEY RECONSTRUCTION  
PROJECT # 22-04

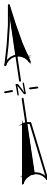
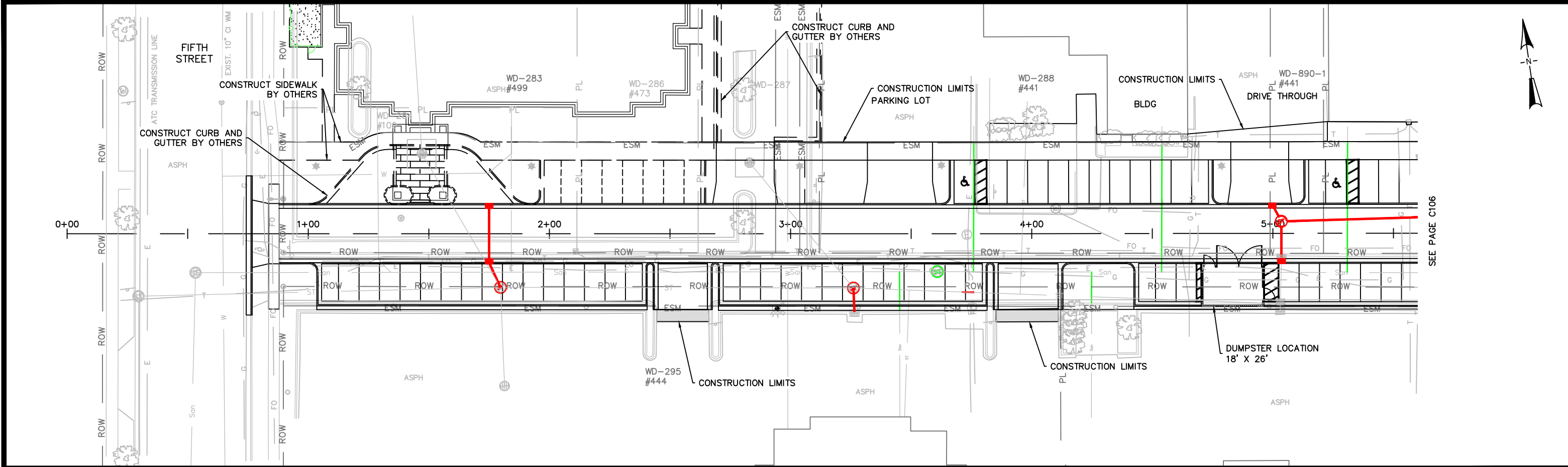
BY: SRL  
DATE: 3-2020  
DRAWN: SRL  
DESIGNED: SRL  
CHECKED: EPR

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

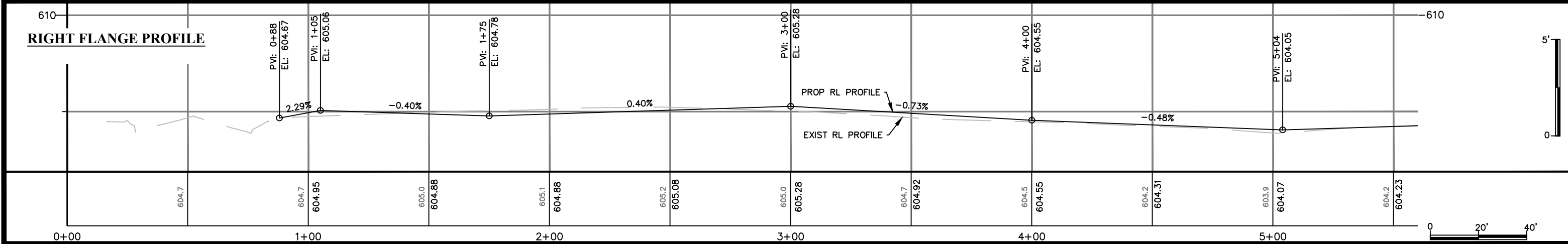
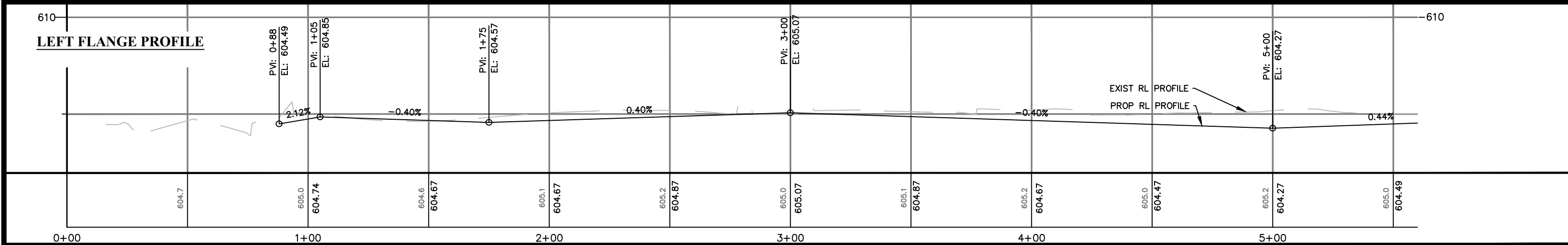
PAGE NO.  
**C104**



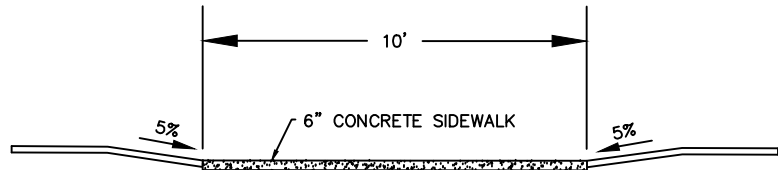
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SEE PAGE C106

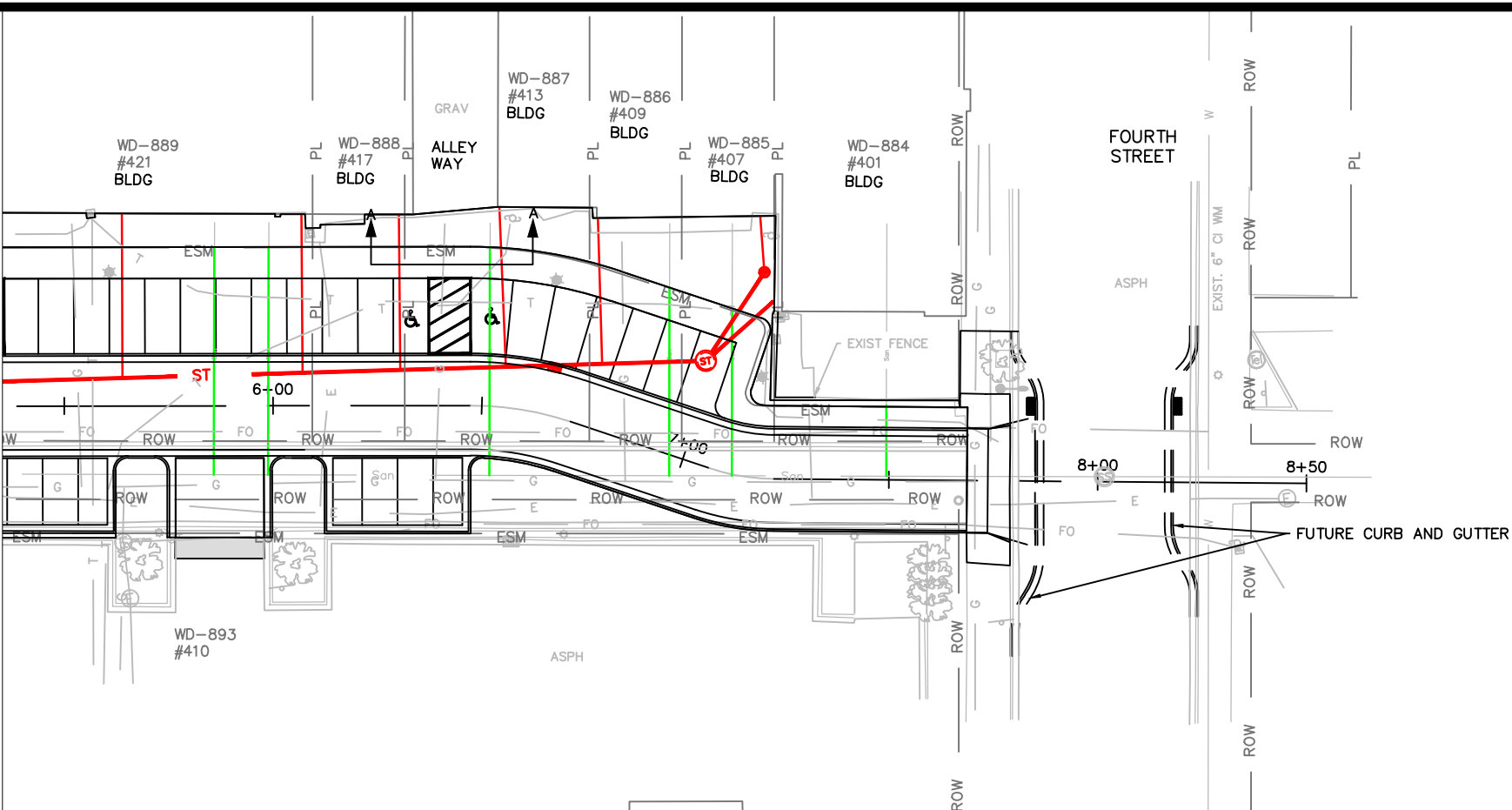


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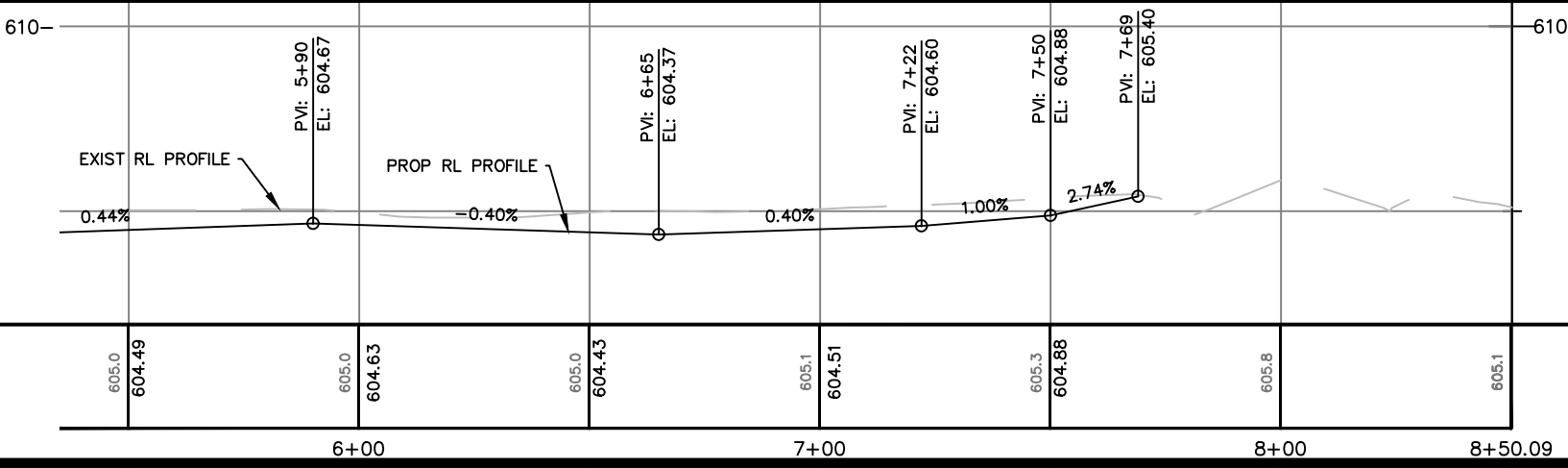


SECTION A-A

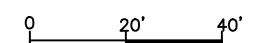
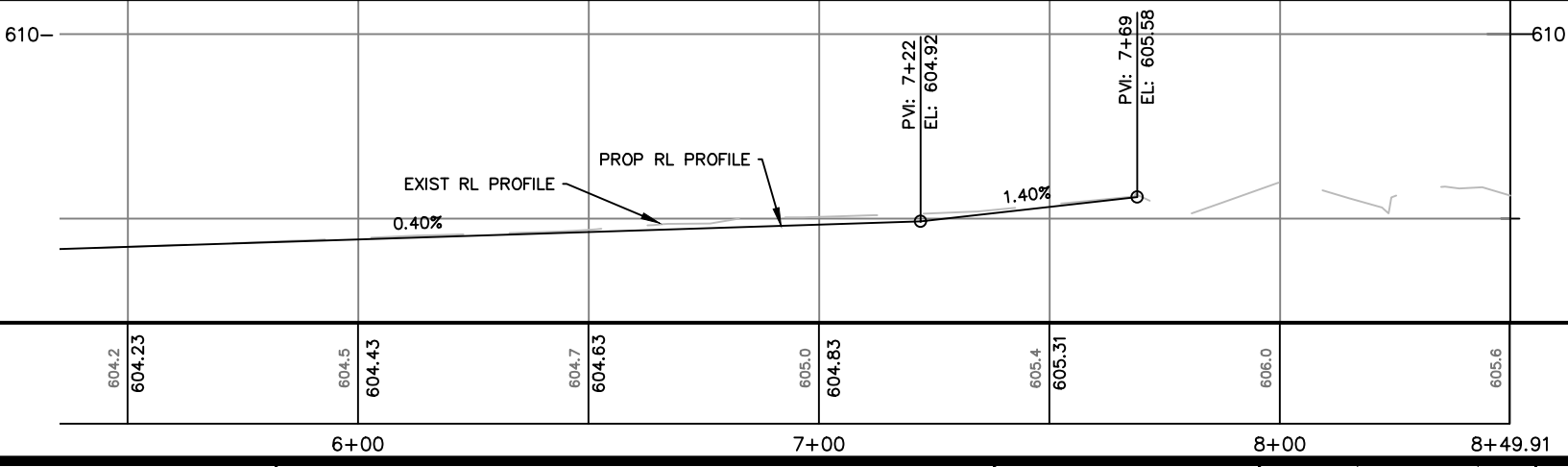
SEE PAGE C105



LEFT FLANGE PROFILE



RIGHT FLANGE PROFILE



**CITY OF DE PERE**

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115  
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**MAIN/REID AND FIFTH/FOURTH ALLEY  
500' SE OF FIFTH STREET TO FOURTH STREET  
CURB FLANGE PROFILES**

NAME: ALLEY RECONSTRUCTION  
PROJECT # 22-04

SURVEYED	BY SRL	DATE 3-2020
DRAWN	BY SRL	DATE 4-2020
DESIGNED	BY SRL	DATE 10-2020
CHECKED	BY EPR	DATE 11-2020

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

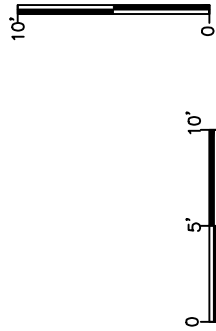
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## **MAIN/REID AND FIFTH/FOURTH ALLEY CROSS SECTIONS**

	BY	DATE	REVISIONS / ISSUES			
			NO.	DATE	BY	REMARKS
SURVEYED	SRL	03-2020				
DRAWN	SRL	11-2020				
DESIGNED	SRL	02-2022				
CHECKED	EPR	02-2022				

PAGE  
NO.  
**C301**





CITY OF DE PERE

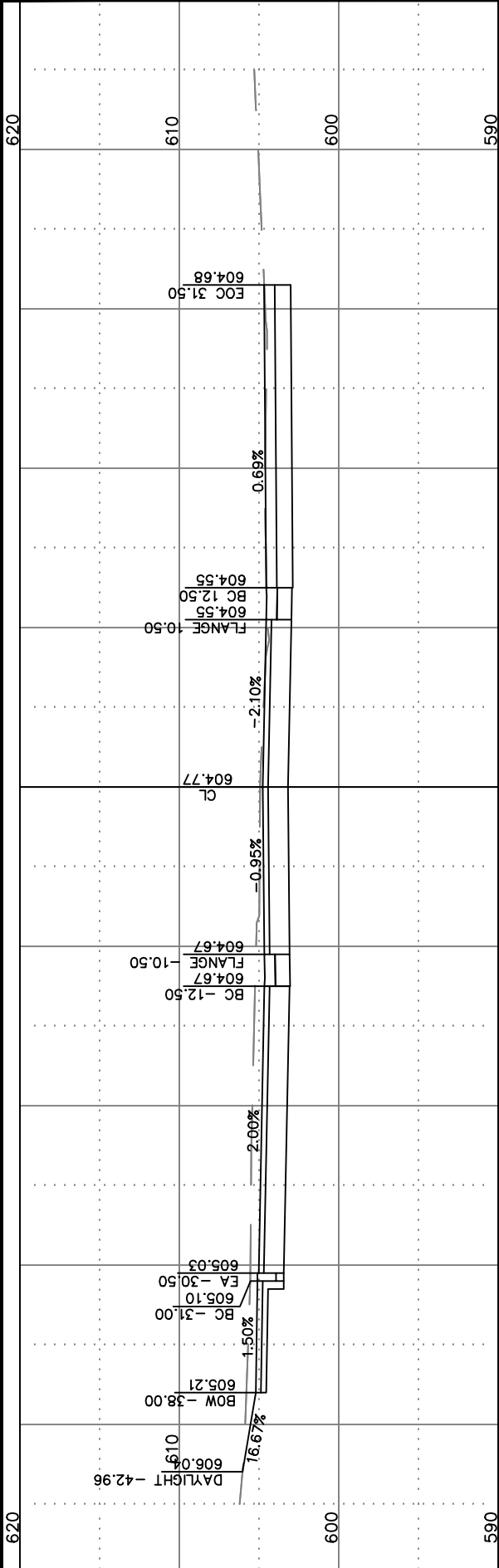
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115  
OFFICE 920-339-4061 FAX 920-339-4071

MAIN/REID AND FIFTH/FOURTH ALLEY  
CROSS SECTIONS

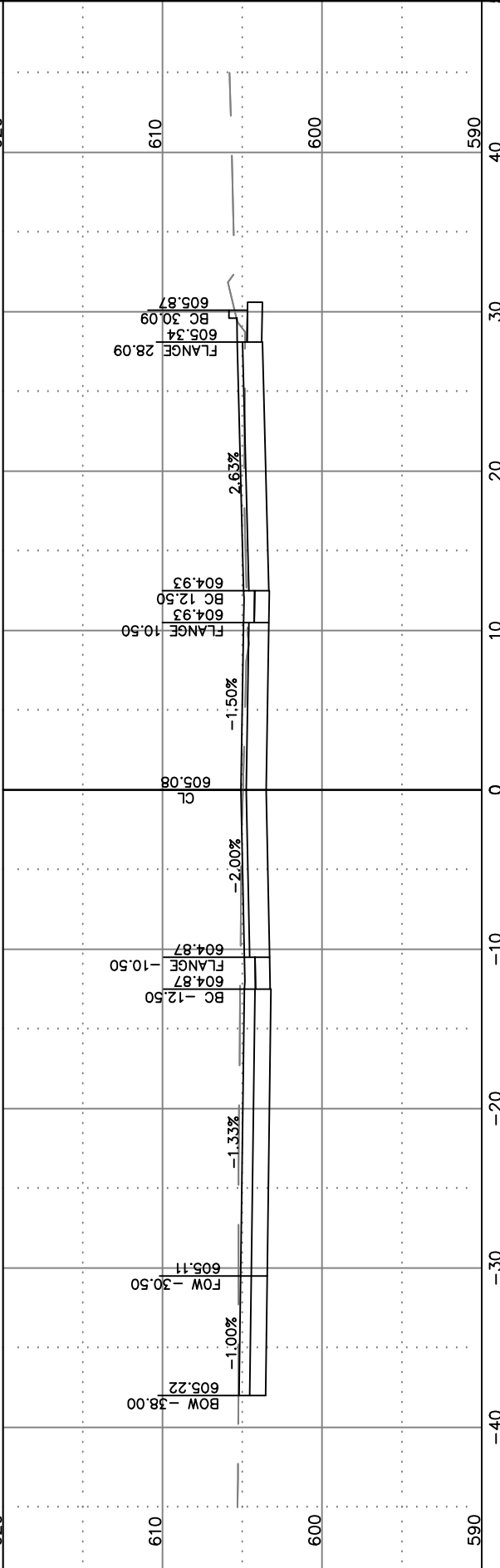
NAME: ALLEY RECONSTRUCTION  
PROJECT # 22-04

	BY	DATE
SURVEYED	SRL	03-2020
DRAWN	SRL	11-2020
DESIGNED	SRL	02-2022
CHECKED	EPR	02-2022

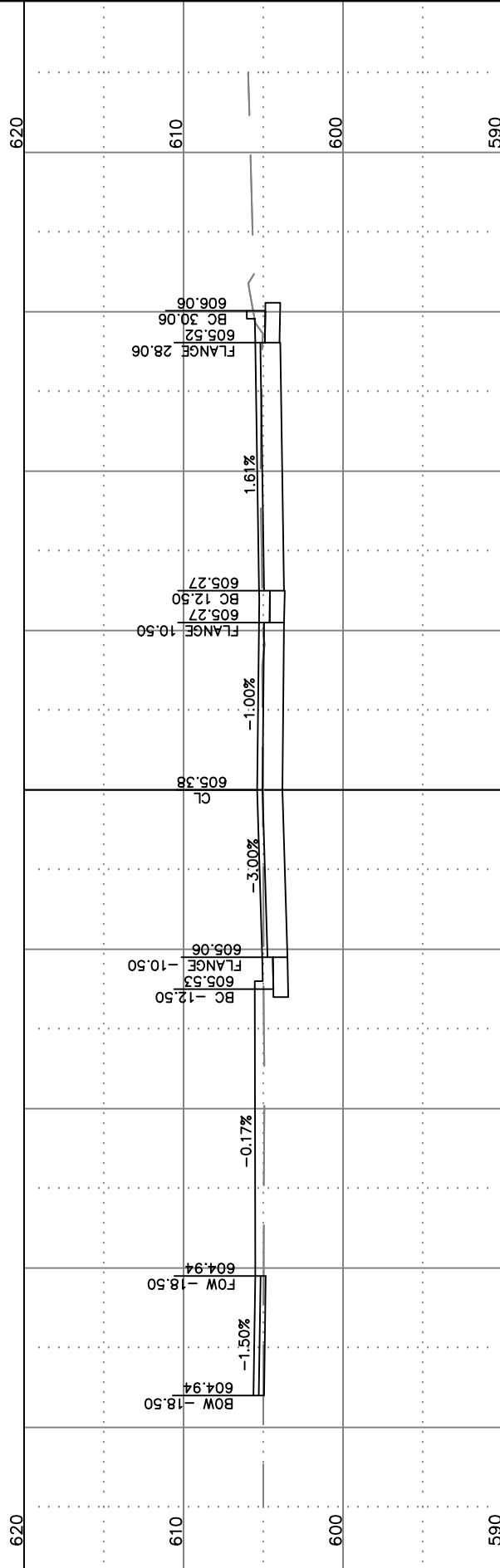
REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS



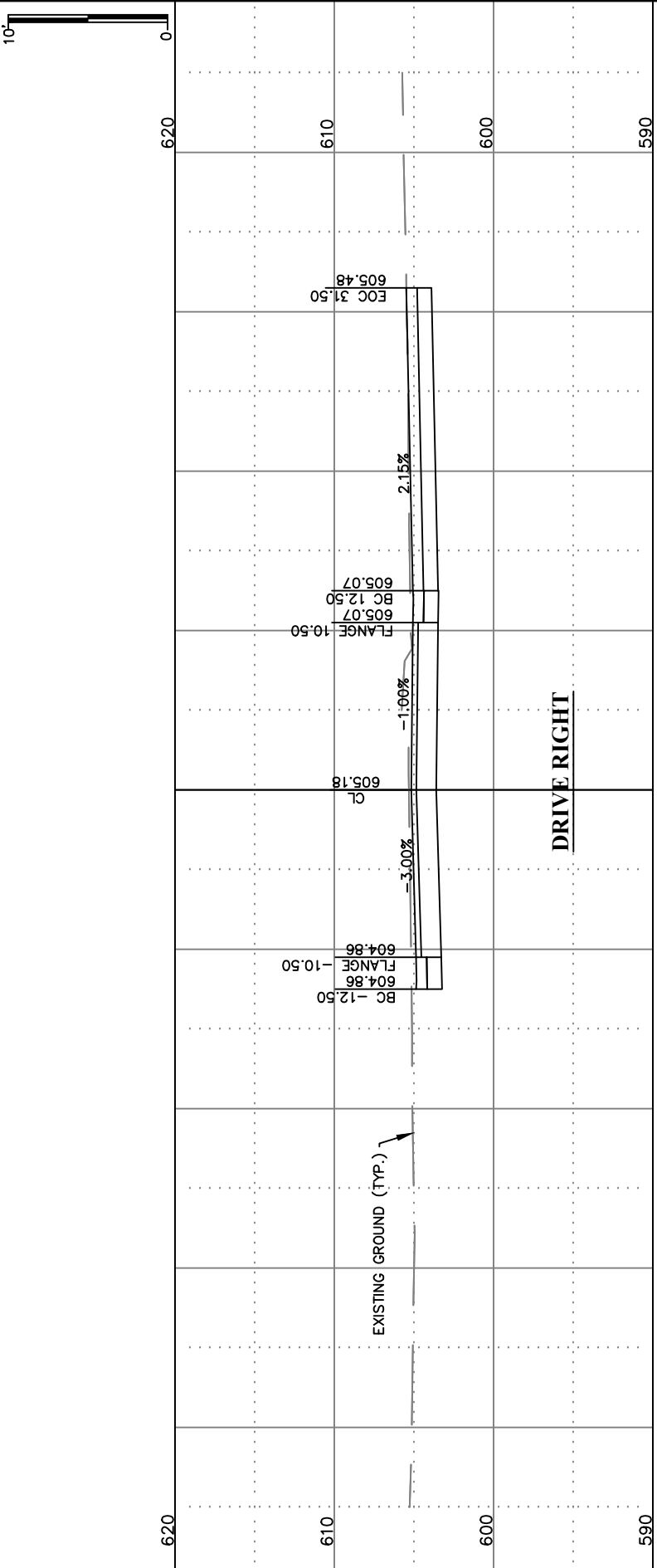
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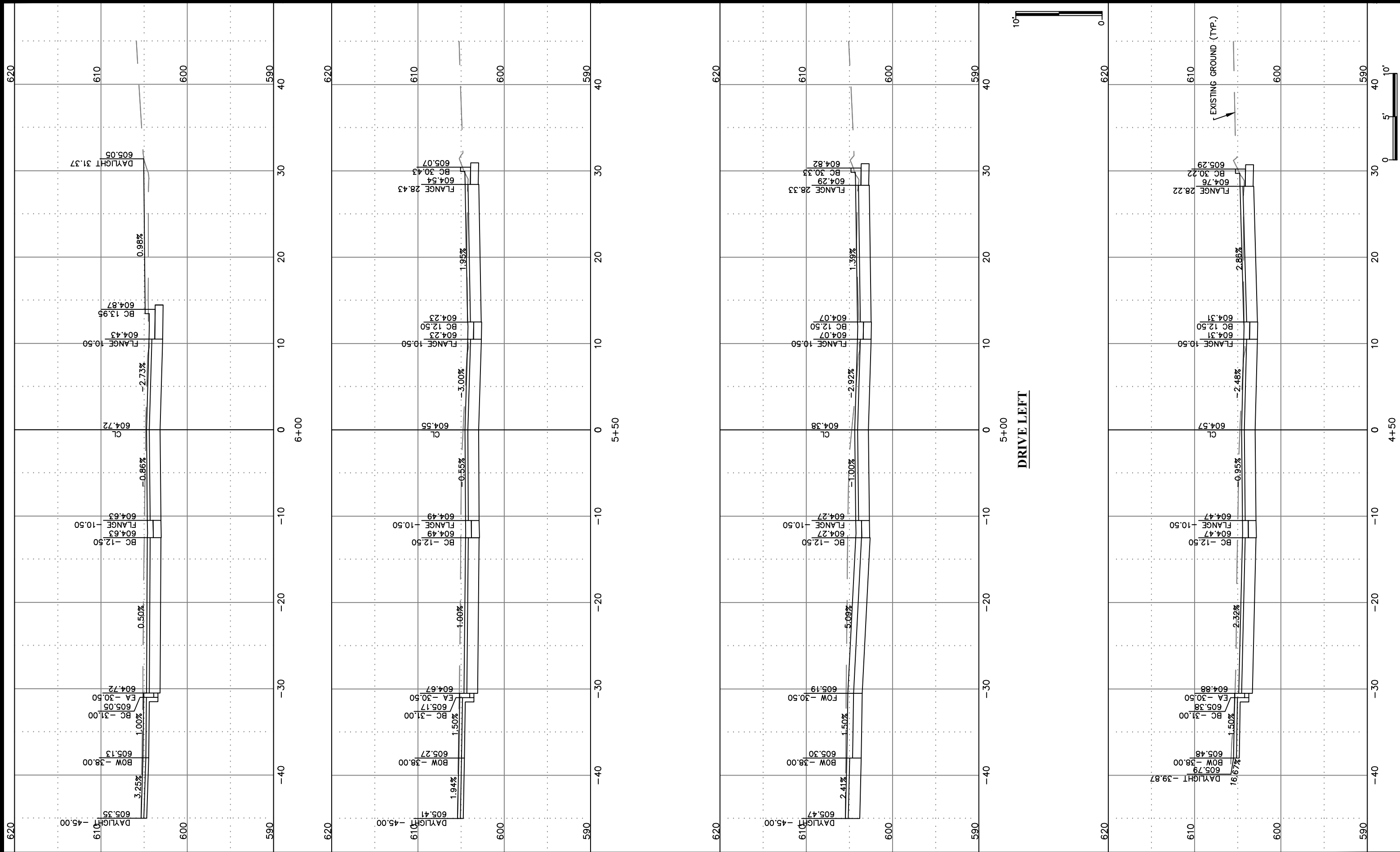


DRIVE LEFT



3+00









CITY OF DE PERE

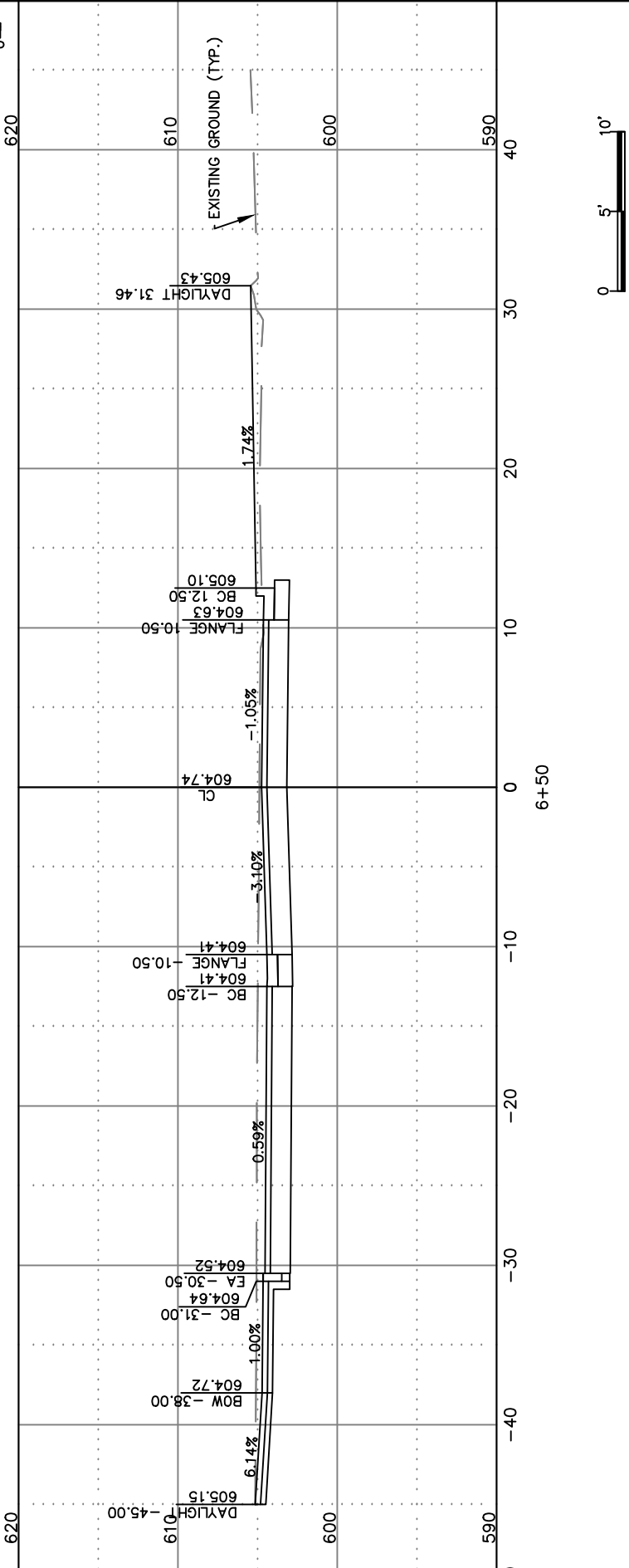
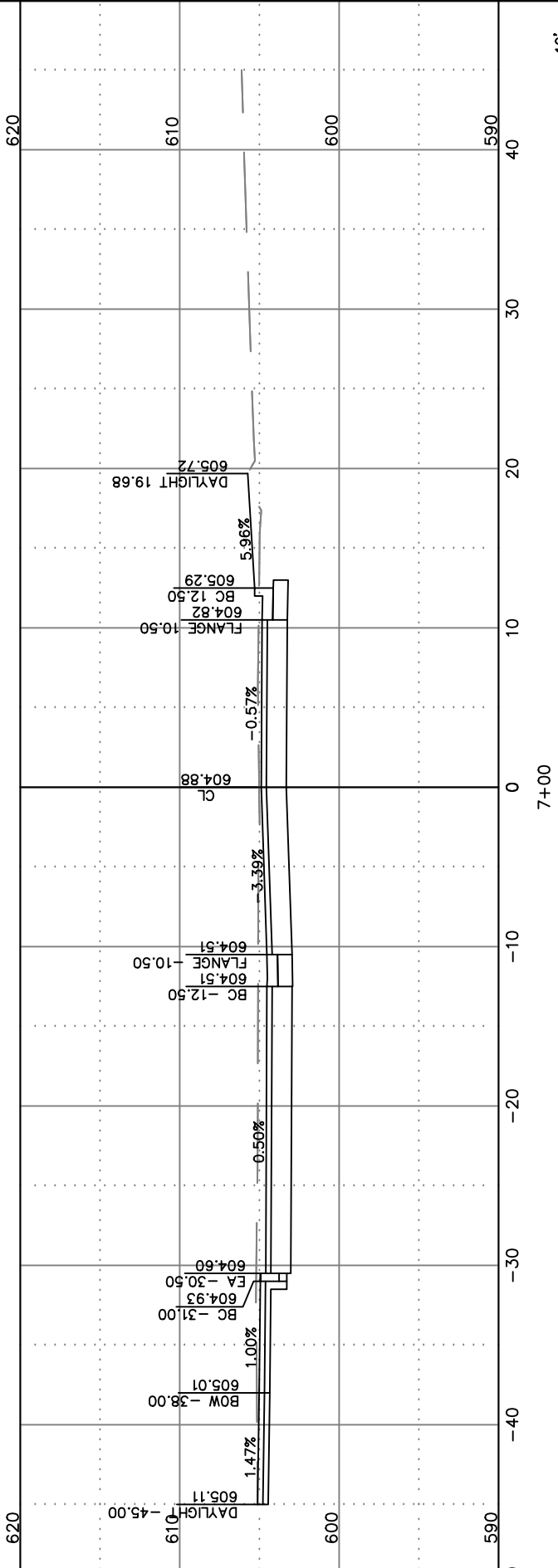
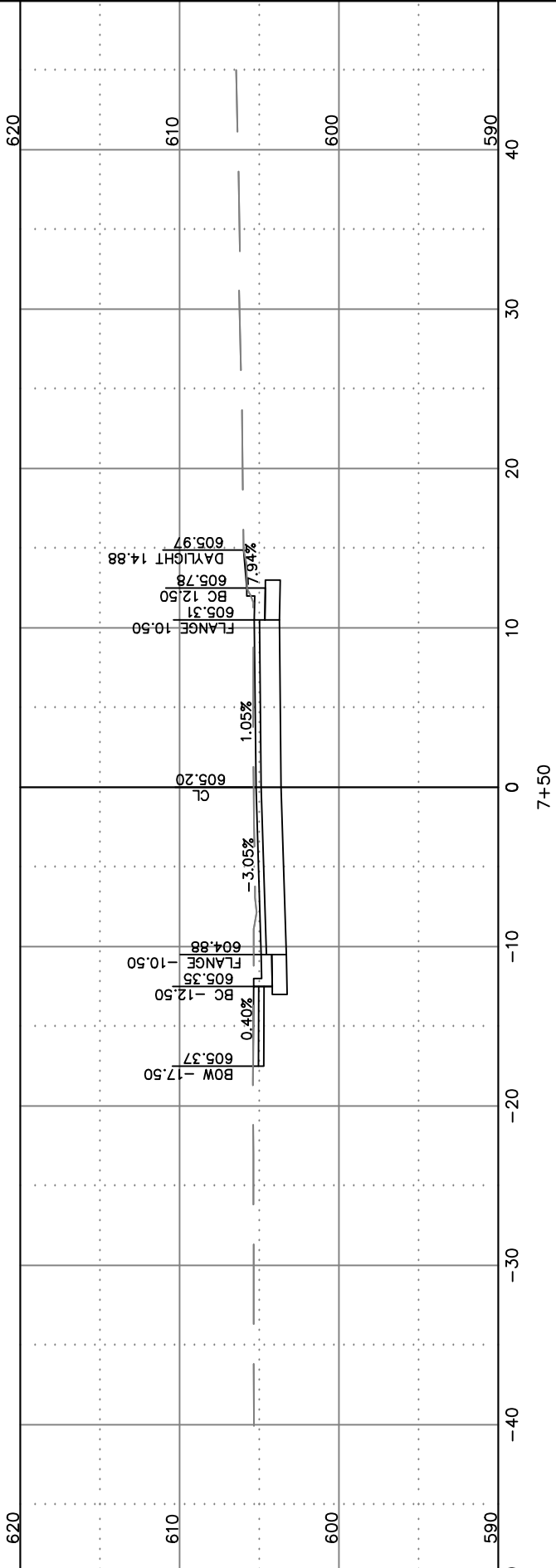
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115  
OFFICE 920-339-4061 FAX 920-339-4071

MAIN/REID AND FIFTH/FOURTH ALLEY  
CROSS SECTIONS

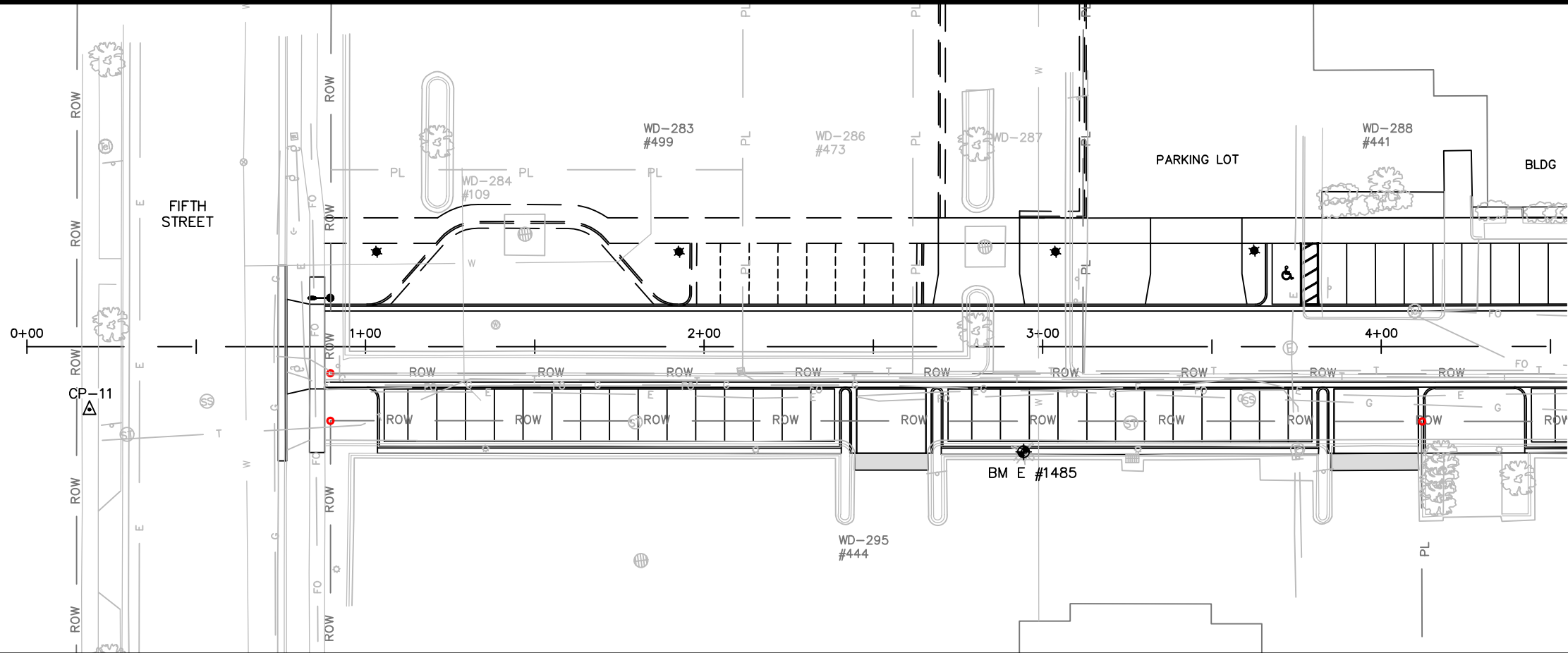
NAME:  
ALLEY  
RECONSTRUCTION  
PROJECT # 22-04

	BY	DATE
SURVEYED	SRL	03-2020
DRAWN	SRL	11-2020
DESIGNED	SRL	02-2022
CHECKED	EPR	02-2022

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS



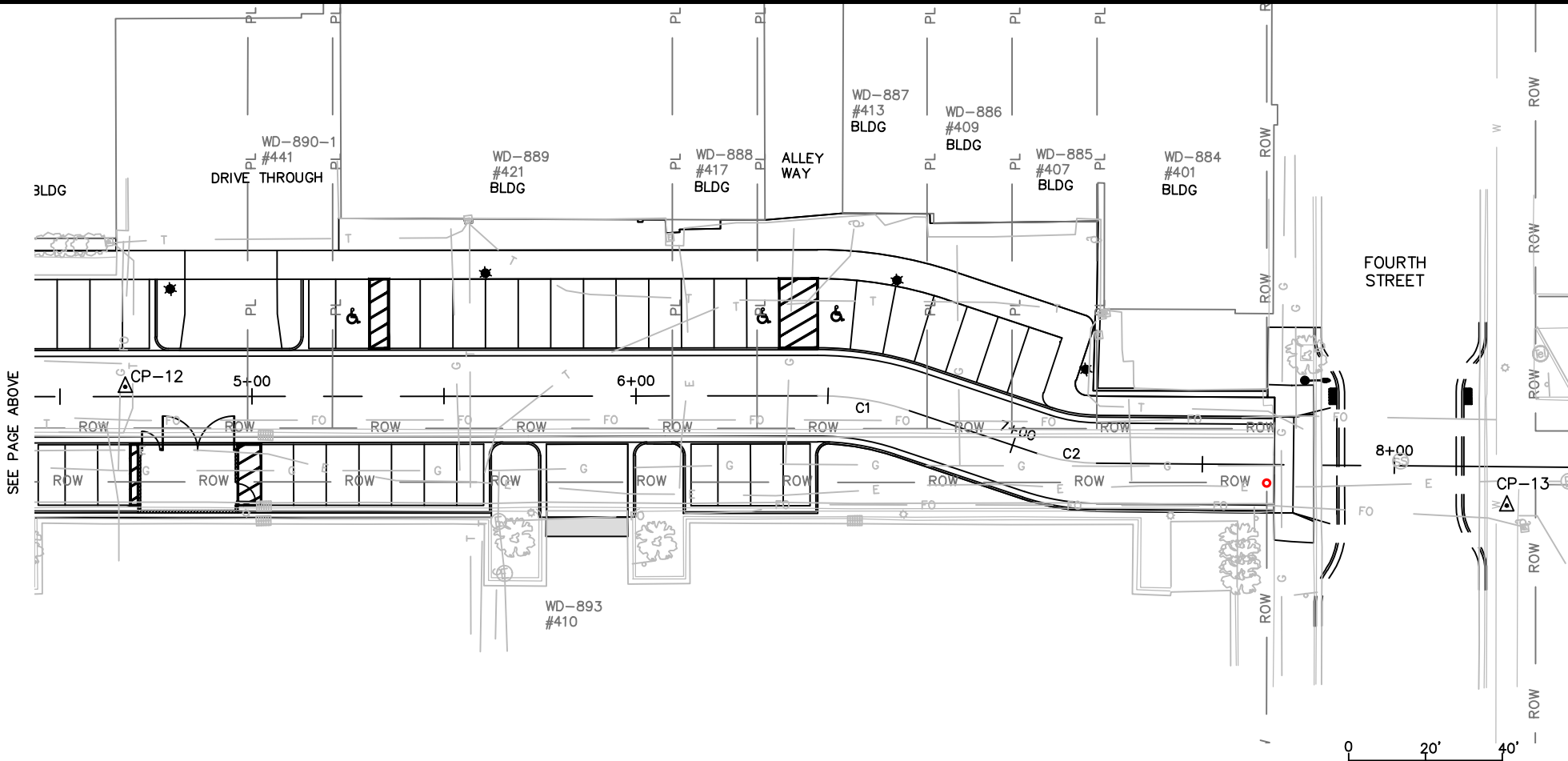




SEE PAGE BELOW

MAIN/REID AND FIFTH/FOURTH ALLEY ALIGNMENT								
STATION	NORTHING	EASTING	COURSE	LENGTH	DELTA	RADIUS	LENGTH	CHORD
0+00.00 (PT)	542,711.389	84,417.587						
			S82°38'33.8"E	398.484'				
3+98.48 (PT)	542,660.360	84,812.790						
			S82°42'50.2"E	248.864'				
6+47.35 (PC)	542,628.799	85,059.644						
C1	542,554.404	85,050.133			18°32'07.3"	75.00	24.263'	24.157'
6+71.61 (PT)	542,621.916	85,082.800						
			S64°10'42.9"E	35.129'				
7+06.74 (PC)	542,606.615	85,114.422						
C2	542,651.623	85,136.200			17°58'48.2"	50.00	15.691'	15.626'
7+22.43 (PT)	542,602.090	85,129.379						
			S82°09'31.1"E	127.570'				
8+50.00 (PT)	542,584.686	85,255.756						

BENCHMARKS & CONTROL POINTS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM (E #33)	542471.053	84491.419	609.24	TOP NUT
BM (E #1485)	542642.838	84705.624	608.56	TOP NUT
CP (11)	542690.521	84433.548	604.49	PK NAIL
CP (12)	542654.157	84881.075	604.89	PK NAIL
CP (13)	542577.437	85233.929	605.78	PK NAIL



SEE PAGE ABOVE



CITY OF DE PERE

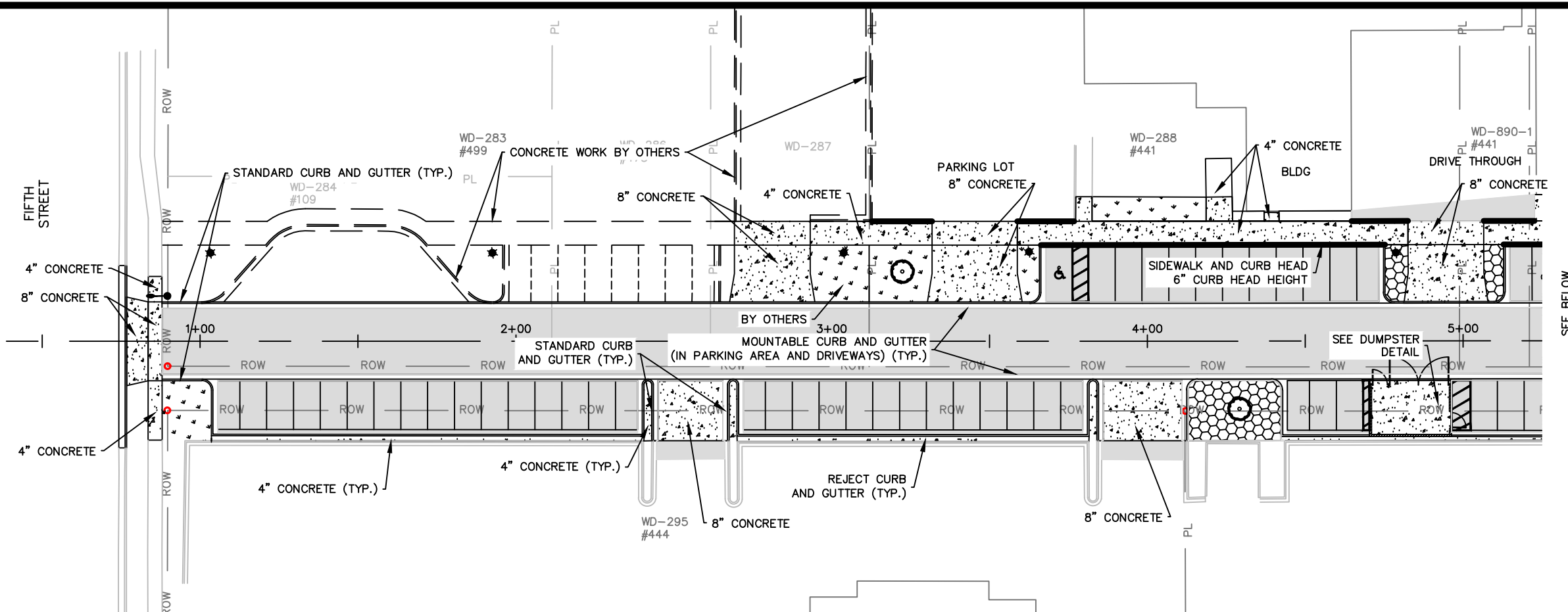
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115  
OFFICE 920-339-4061 FAX 920-339-4071

MAIN/REID AND FIFTH/FOURTH ALLEY  
ALIGNMENT, BENCHMARKS AND CONTROL POINTS

NAME: ALLEY RECONSTRUCTION  
PROJECT # 22-04

	BY	DATE
SURVEYED	SRL	3-2020
DRAWN	SRL	11-2020
DESIGNED	SRL	11-2020
CHECKED	EPR	11-2020

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS



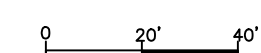
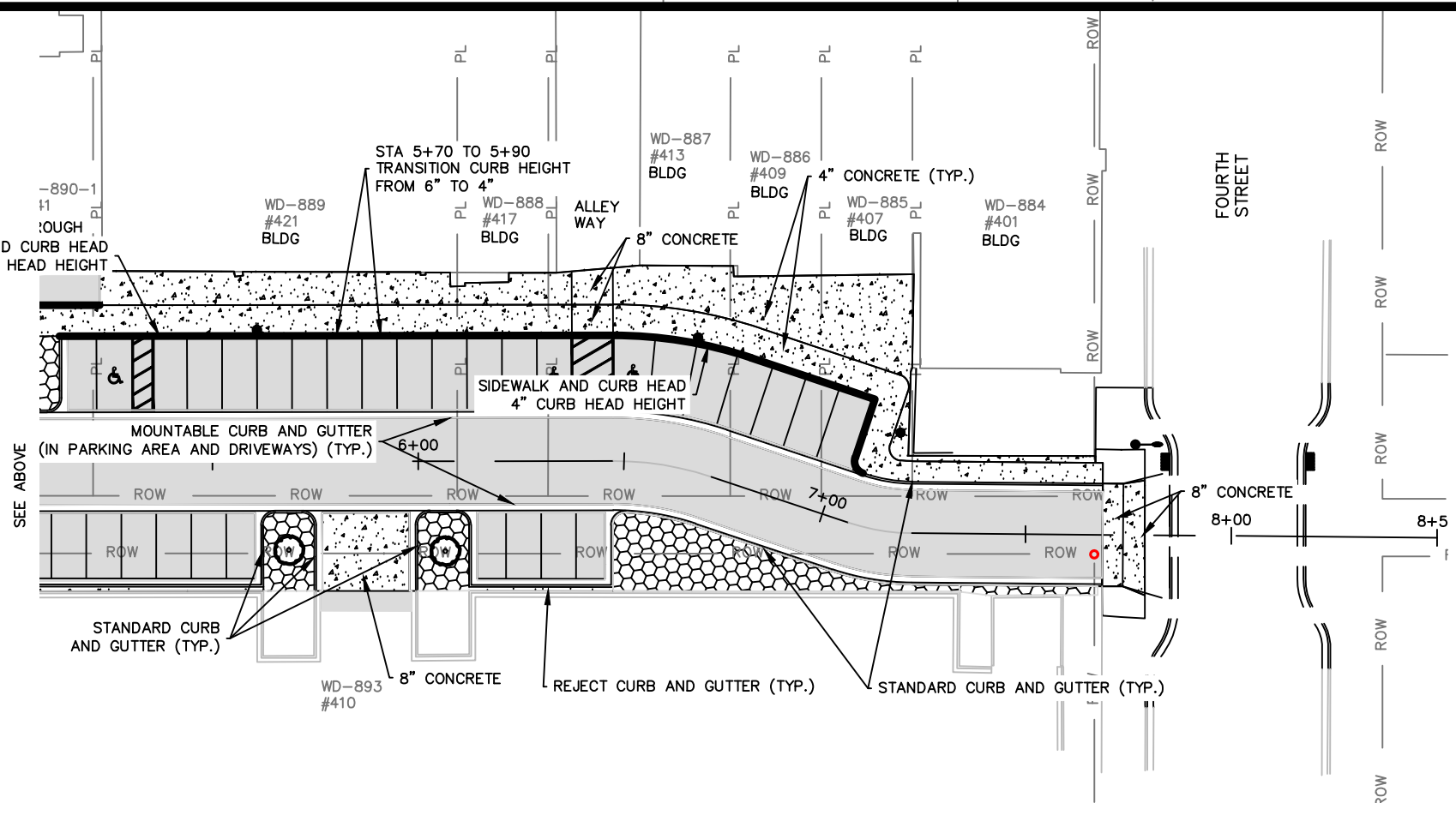
- SHADE TREE— KENTUCKY COFFEE TREE — 2" Ø TRUNK**  
 PROVIDE 16" DEPTH PULVERIZED TOPSOIL IN ENTIRE LANDSCAPE AREA AT TREE LOCATIONS (SEE DETAIL)
- CONCRETE AREAS**  
 (THICKNESS AS LABEL)
- ASPHALTIC CONCRETE PAVEMENT**  
 (2.25" BINDER COURSE 3 LT 58-28 S  
 1.75" SURFACE COURSE 4 LT 58-28 S)
- GRASS AREAS (4" TOPSOIL, SEED AND MULCH)**
- DECORATIVE MISSISSIPPI PEBBLE MULCH (4" DEPTH) WITH WEED BARRIER FABRIC**

**CURB AND GUTTER**

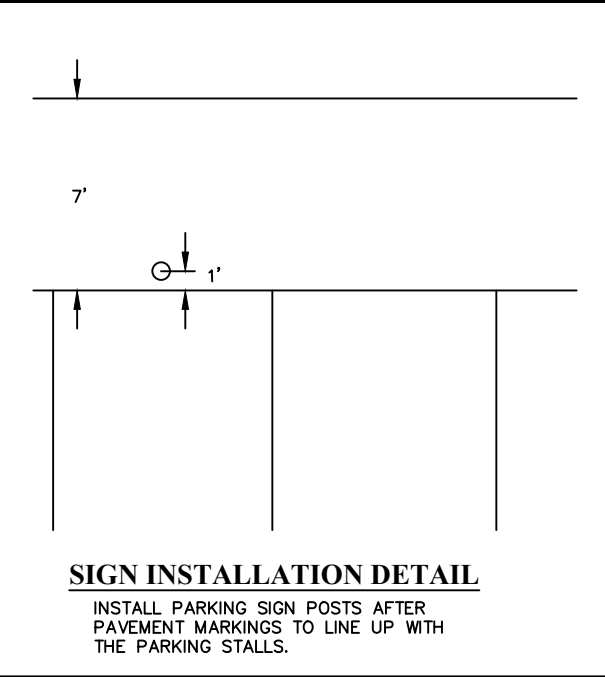
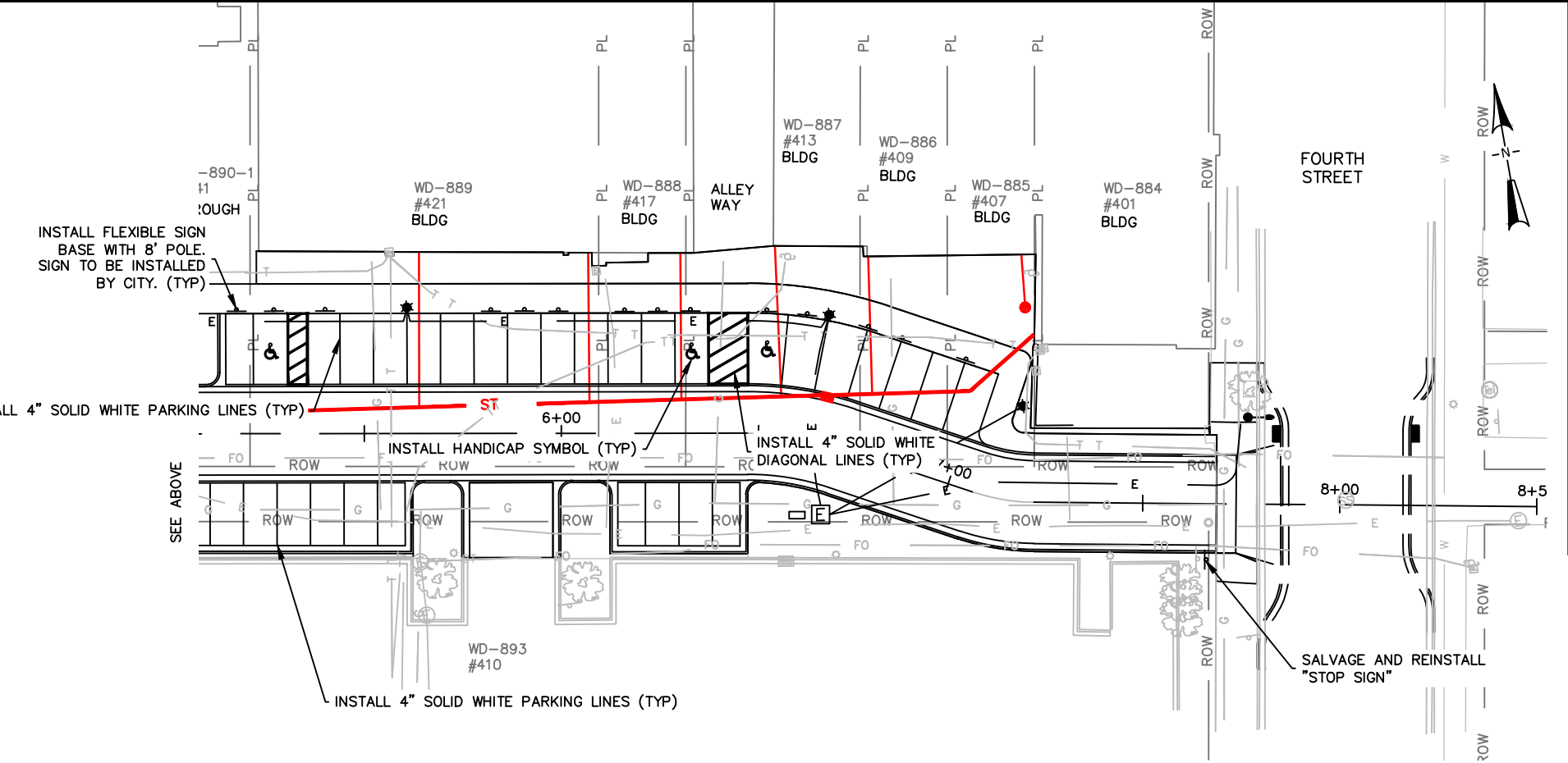
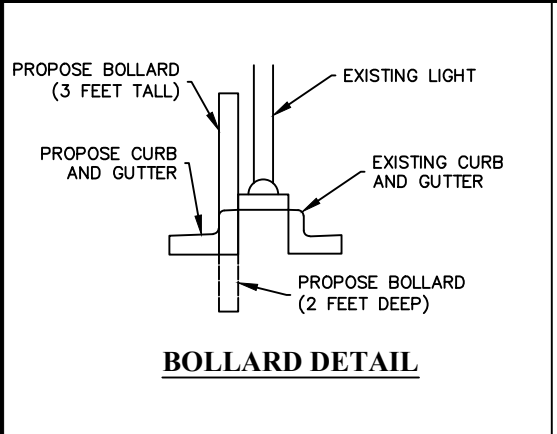
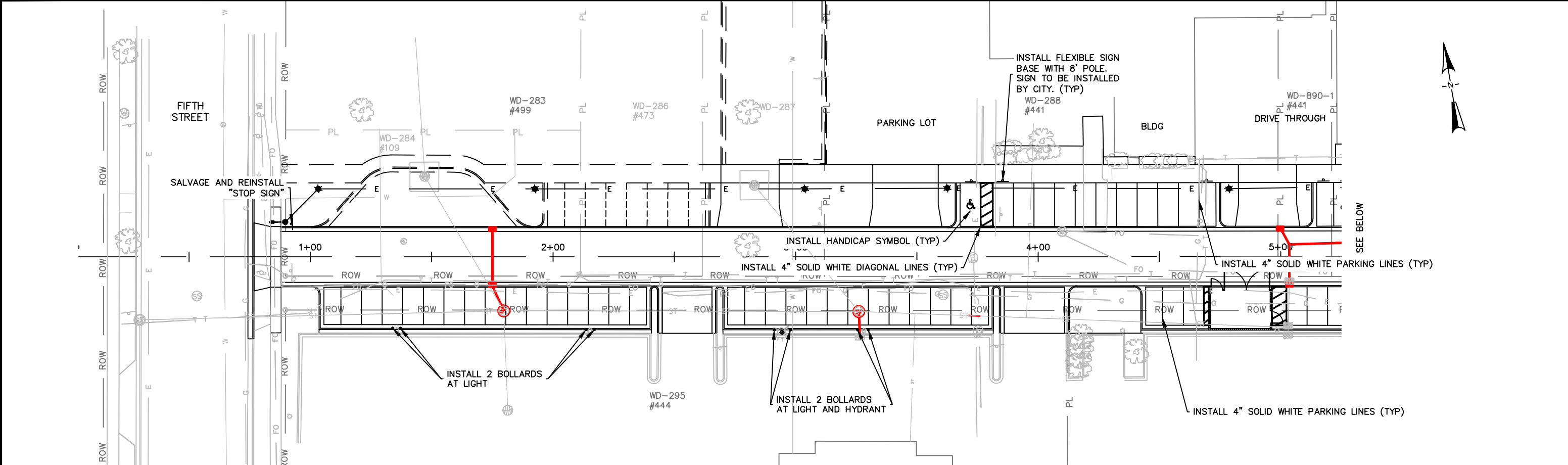
**MOUNTABLE CURB AND GUTTER — IN PARKING AREA AND IN DRIVEWAY AREA ON THE ALLEY.**

**STANDARD CURB AND GUTTER — IN ISLAND AREA AND IN THE BEGINNING AND THE END OF THE ALLEY.**

**REJECT CURB AND GUTTER — SOUTH SIDE OF THE PARKING AREA AT THE BACK SIDE OF PARKING.**



X:\ENG\Projects\City Projects\2021\Project 21-04 Alley Reconstruction\200- CAD\21-04 Pavement surface.dwg



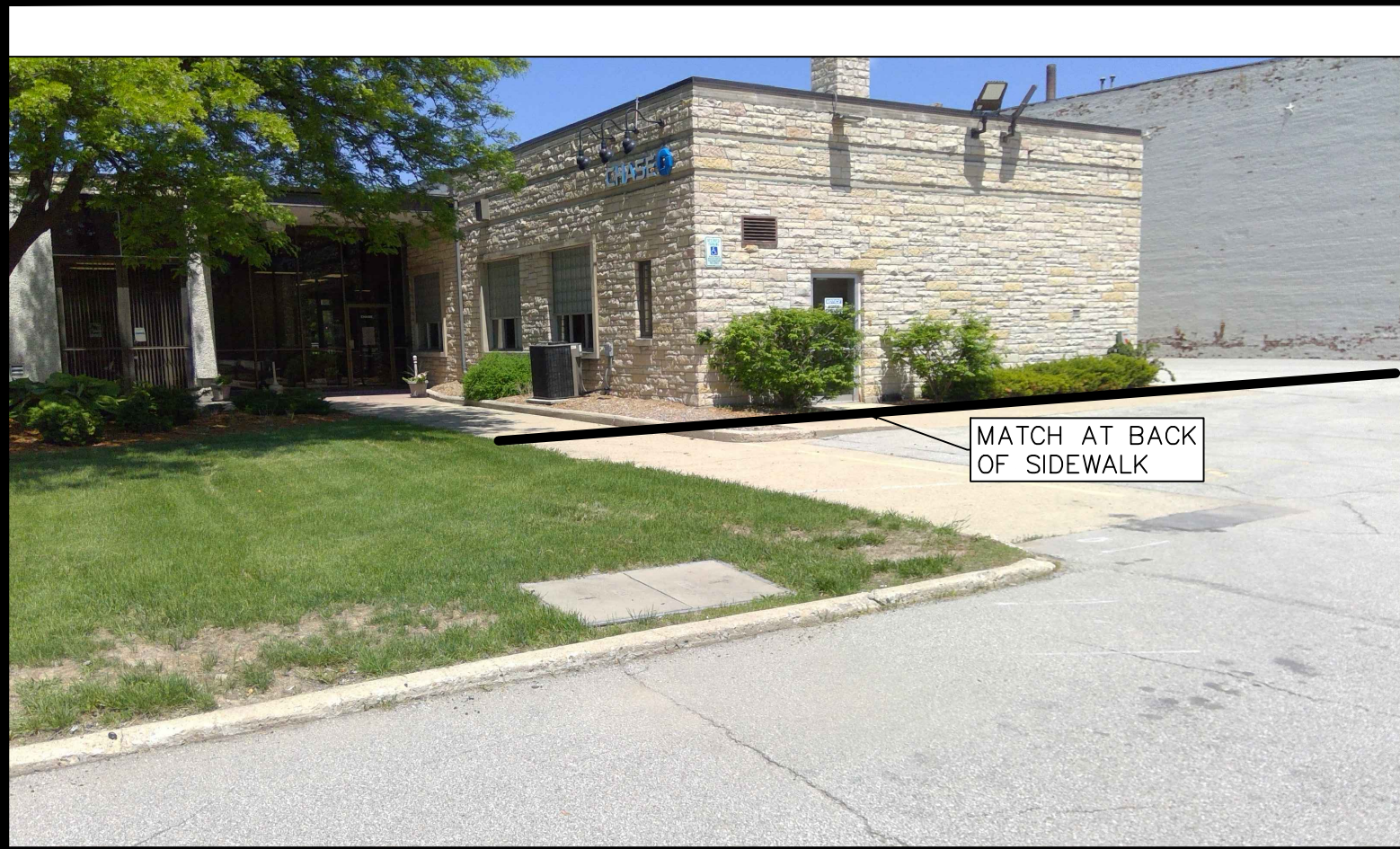
**CITY OF DE PERE**  
 ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115  
 OFFICE 920-339-4061 FAX 920-339-4071

**MAIN/REID AND FIFTH/FOURTH ALLEY  
 PAVEMENT MARKING & SIGNAGE PLAN**

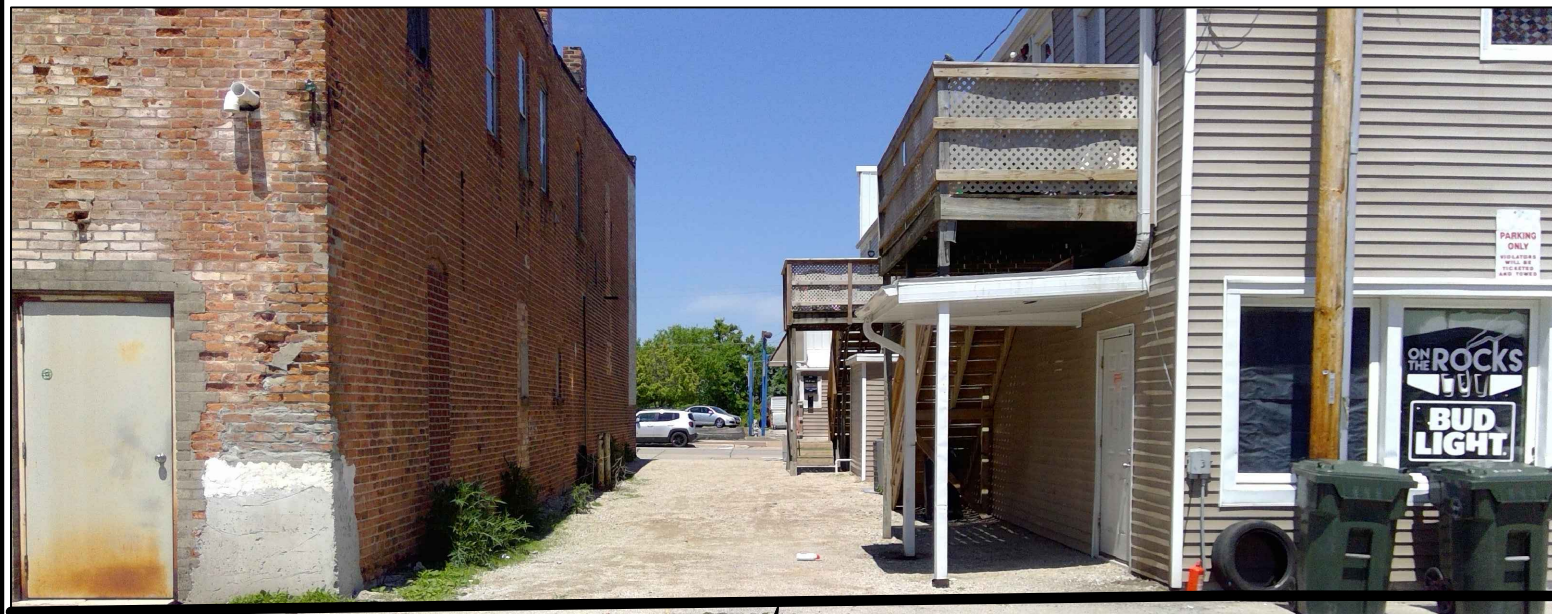
NAME: ALLEY RECONSTRUCTION	BY SRL	DATE 3-2020	REVISIONS / ISSUES		PAGE NO. <b>C403</b>
PROJECT # 22-04	SURVEYED SRL	9-2020	NO.	DATE	
	DRAWN SRL	10-2020		BY	
	DESIGNED SRL	11-2020		REMARKS	
	CHECKED EPR				

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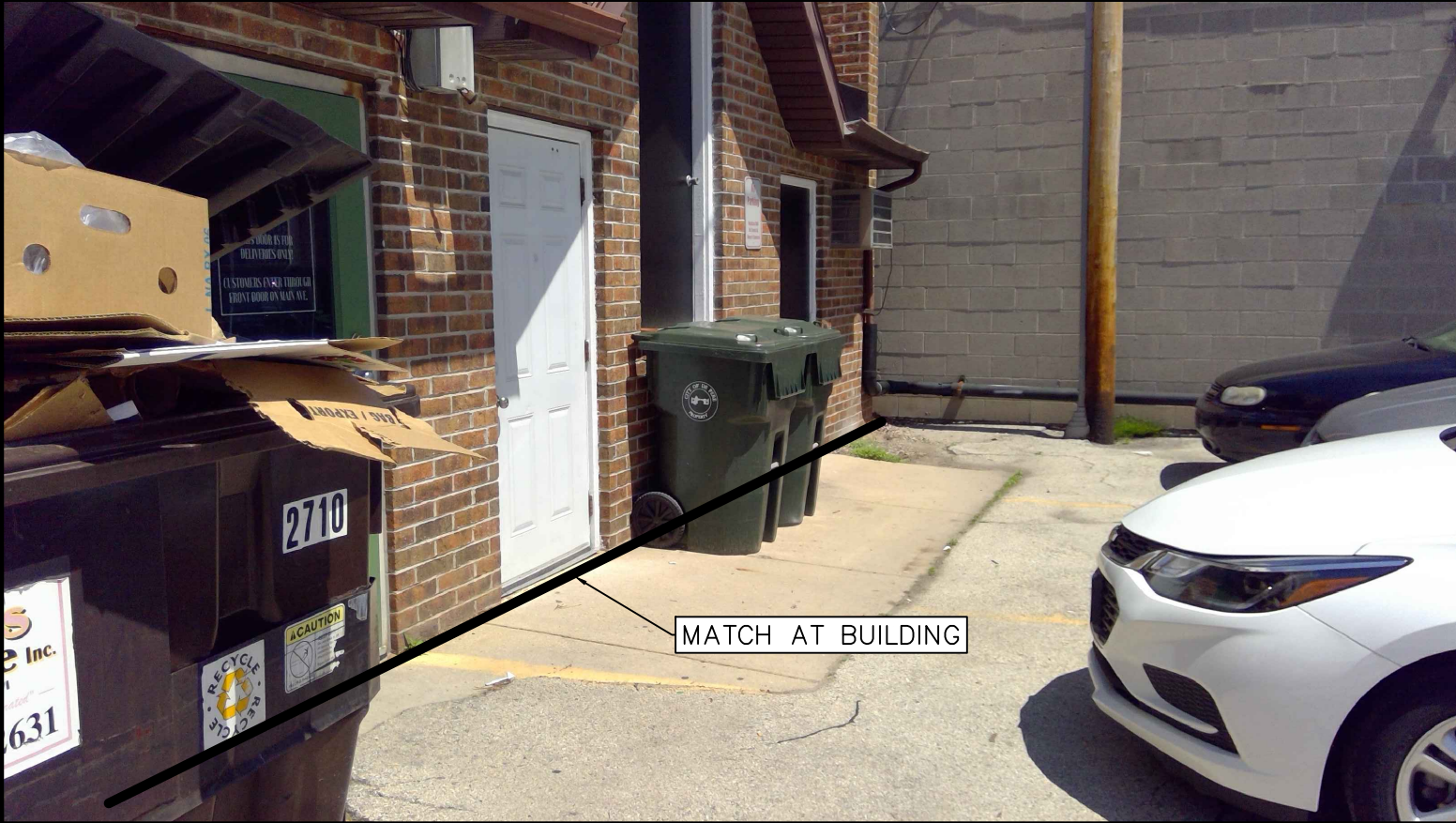




MATCH AT GRAVEL



MATCH AT BUILDING  
AND DOOR



MATCH AT BUILDING



CONNECT TO STORM

MATCH IN FRONT  
OF BOLLARDS





40'



**CITY OF DE PERE**

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

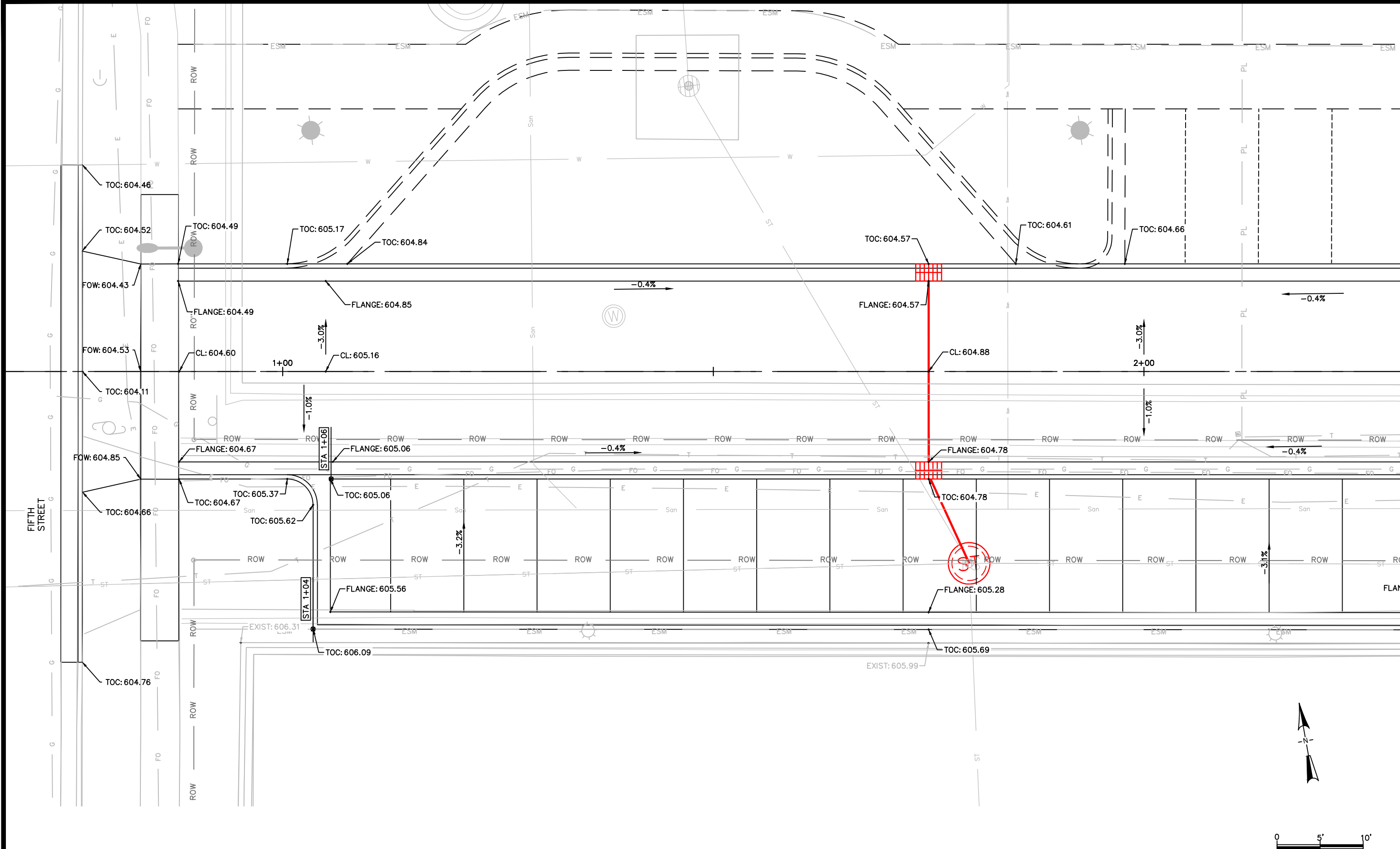
**MAIN/REID AND FIFTH/FOURTH ALLEY**  
**MATCH POINT PHOTOS**

NAME: ALLEY  
RECONSTRUCTION

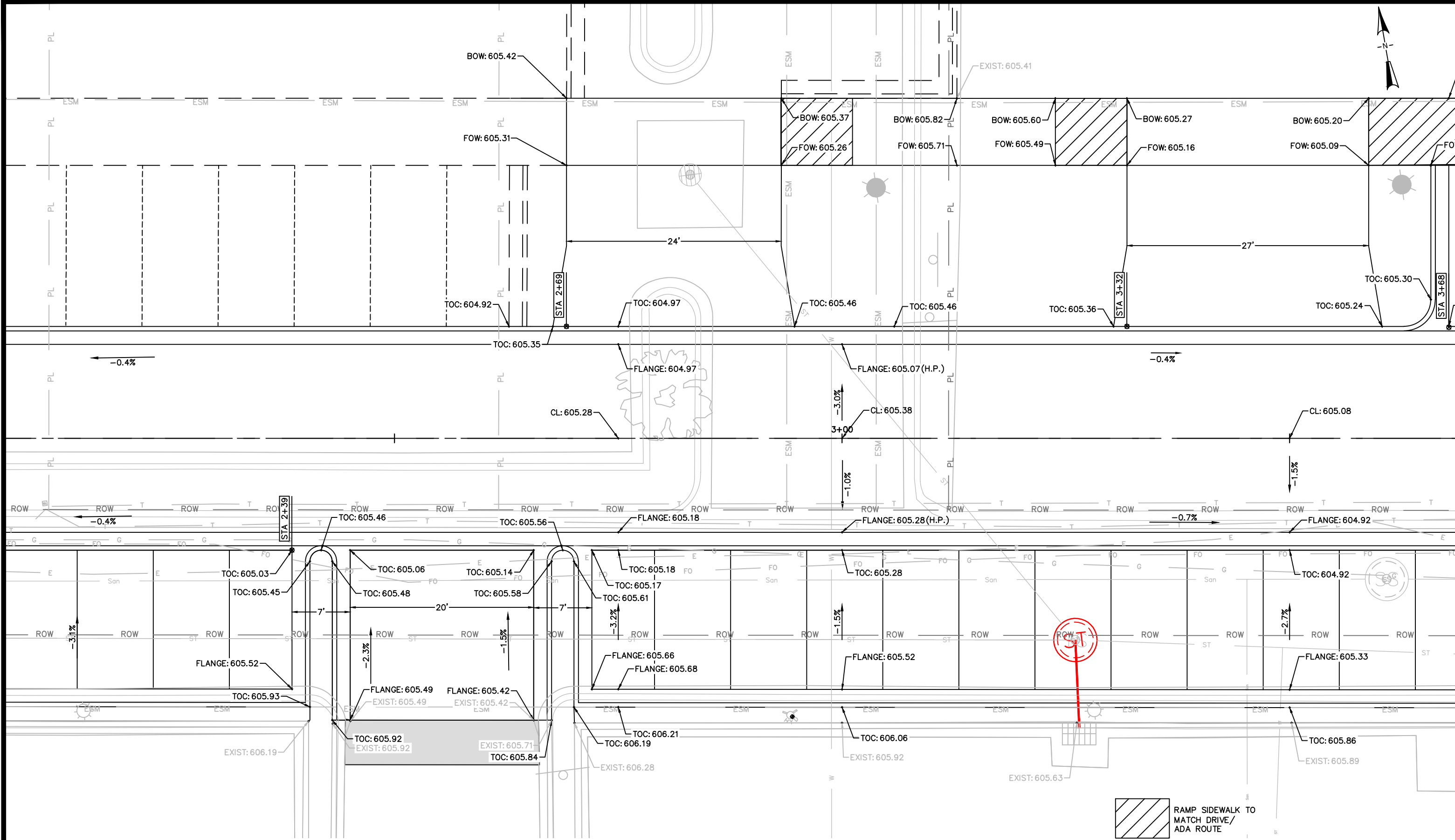
PROJECT # 22-04

	BY	DATE
SURVEYED	SRL	3-2020
DRAWN	JML	07-2020
DESIGNED	SRL	11-2020
CHECKED	EPR	11-2020

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS



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

**MAIN/REID AND FIFTH/FOURTH ALLEY**  
**150' E/O FIFTH ST TO 300' E/O FIFTH ST**  
**ALLEY GRADES**

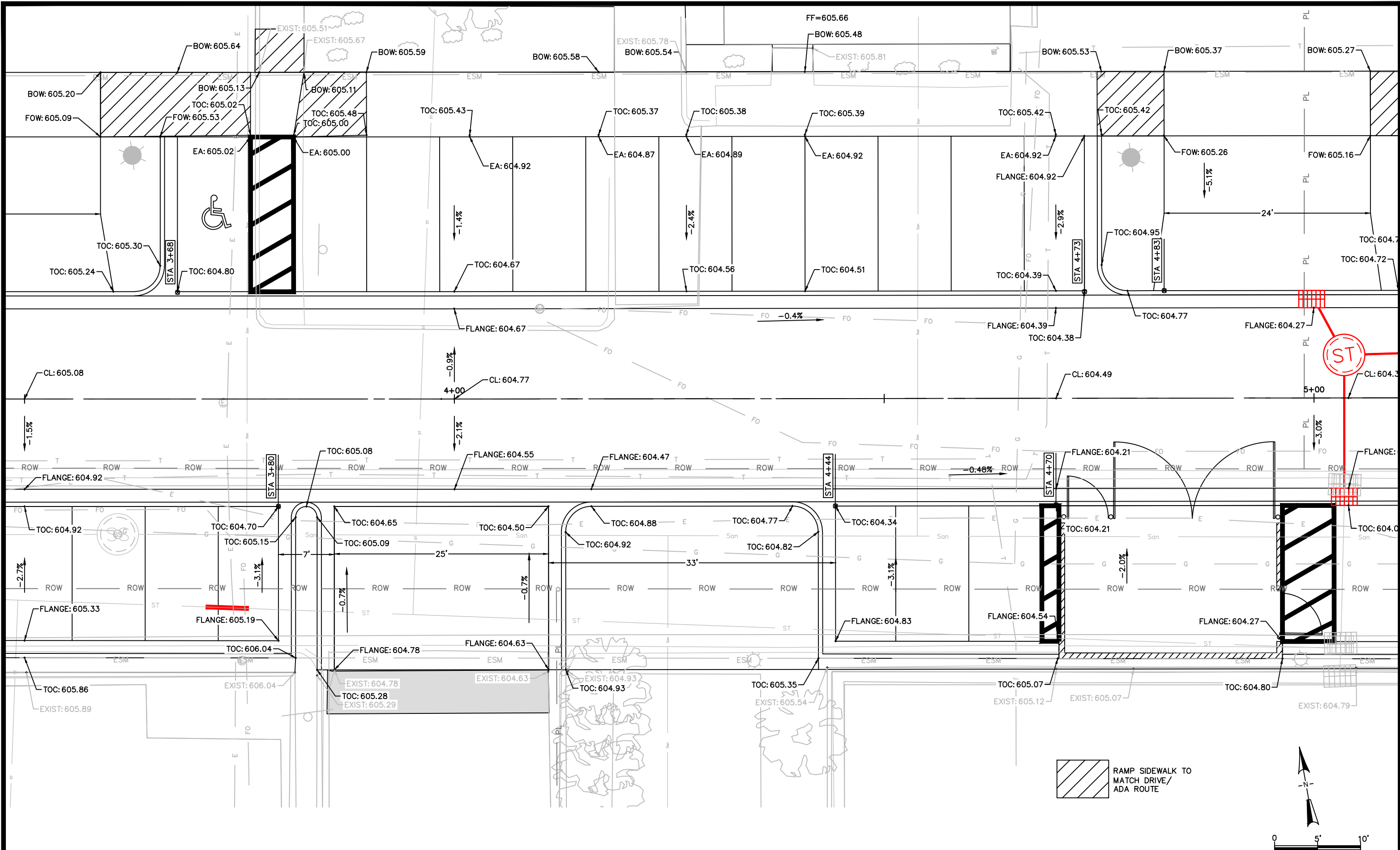
NAME:  
ALLEY  
RECONSTRUCTION  
PROJECT # 22-04

	BY	DATE
SURVEYED	SRL	3-2020
DRAWN	SRL	11-2020
DESIGNED	SRL	11-2020
CHECKED	EPR	11-2020

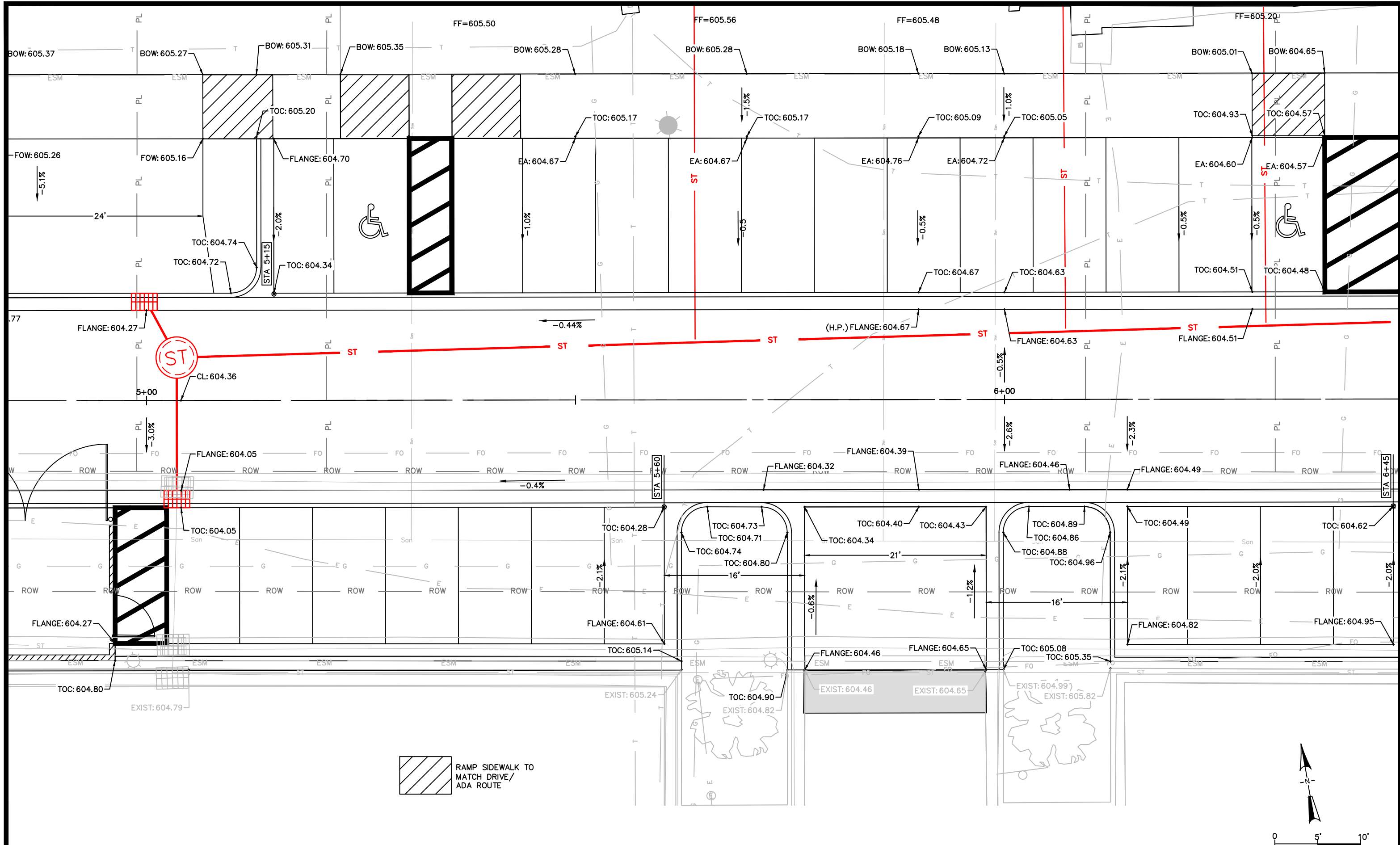
REVISIONS / ISSUES				
NO.	DATE	BY	REMARKS	

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**CITY OF DE PERE**

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

**MAIN/REID AND FIFTH/FOURTH ALLEY  
300' W/O FOURTH TO 150' W/O FOURTH STREET  
ALLEY GRADES**

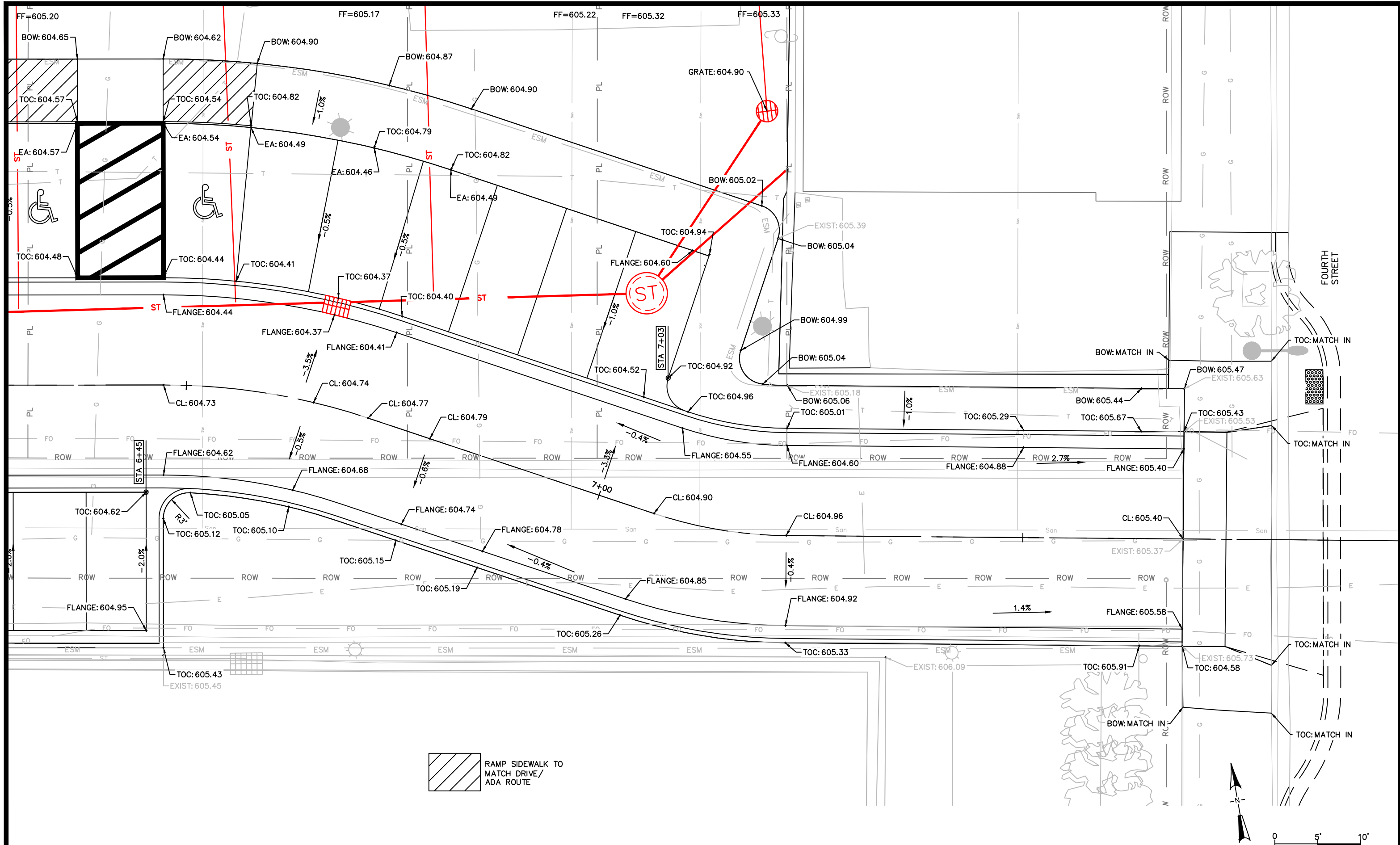
NAME:  
ALLEY  
RECONSTRUCTION  
PROJECT # 22-04

	BY	DATE
SURVEYED	SRL	3-2020
DRAWN	SRL	11-2020
DESIGNED	SRL	11-2020
CHECKED	EPR	11-2020

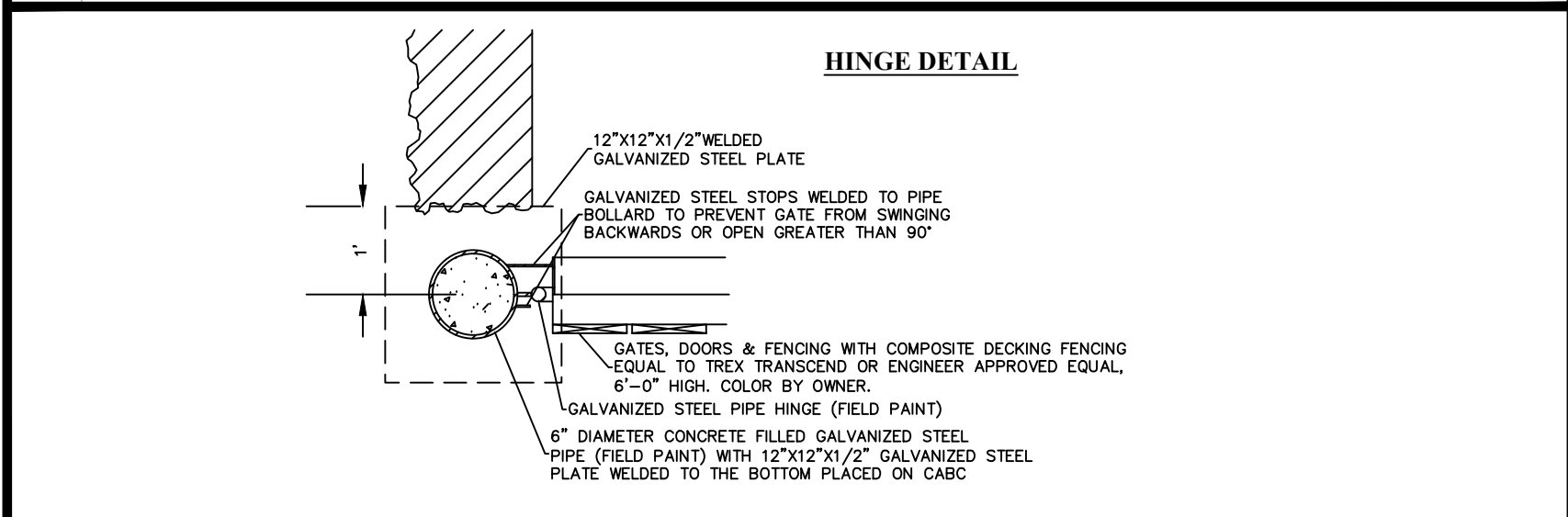
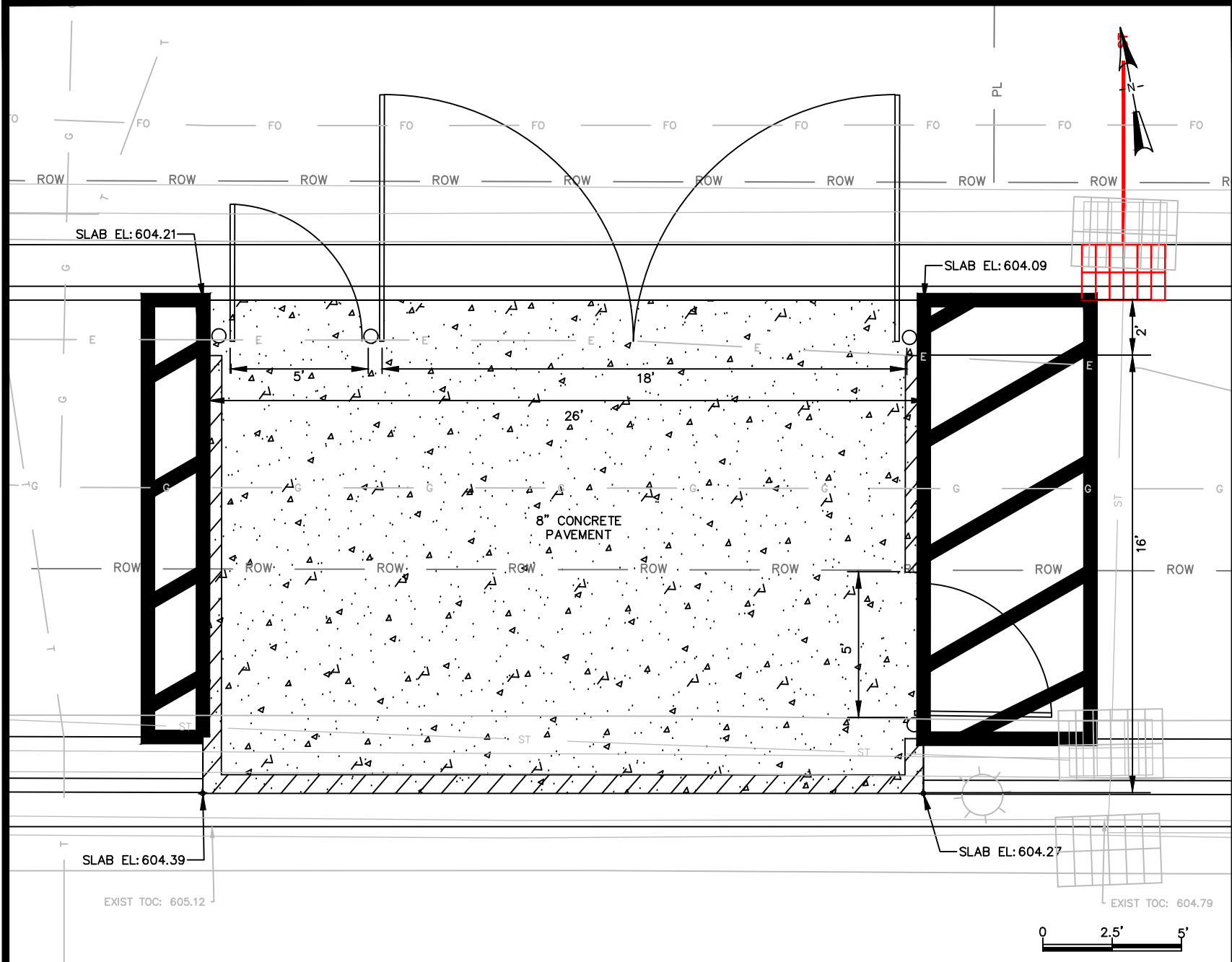
REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE  
NO.  
**C410**

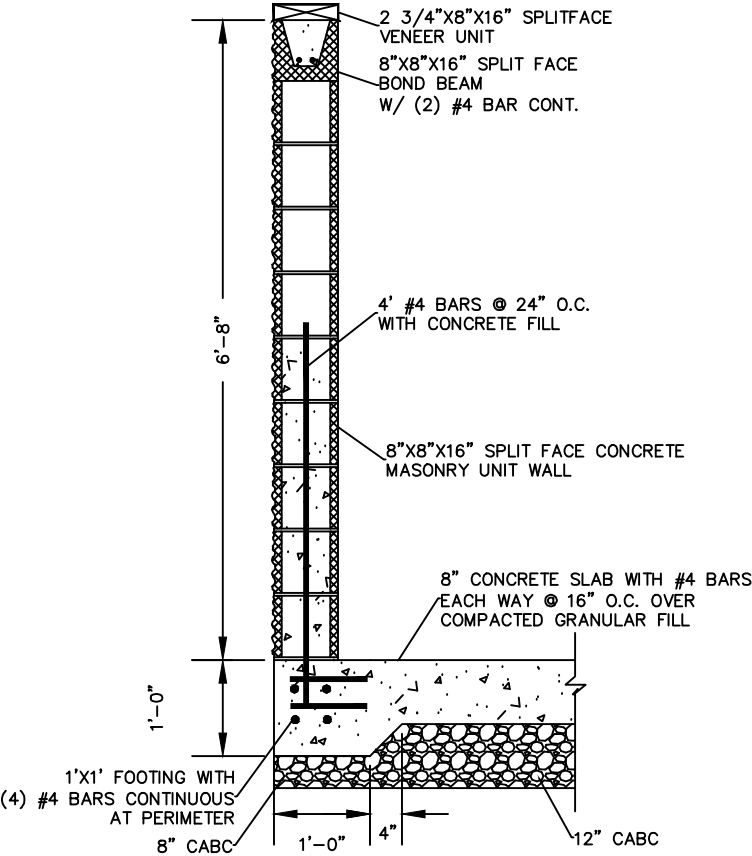
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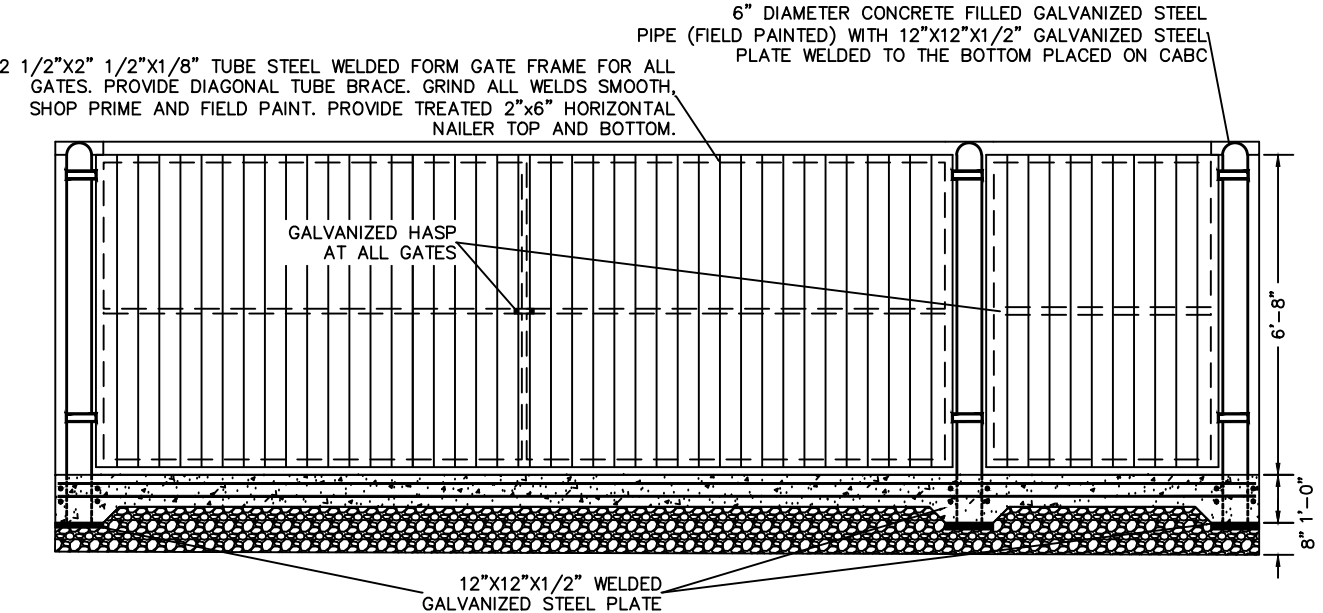
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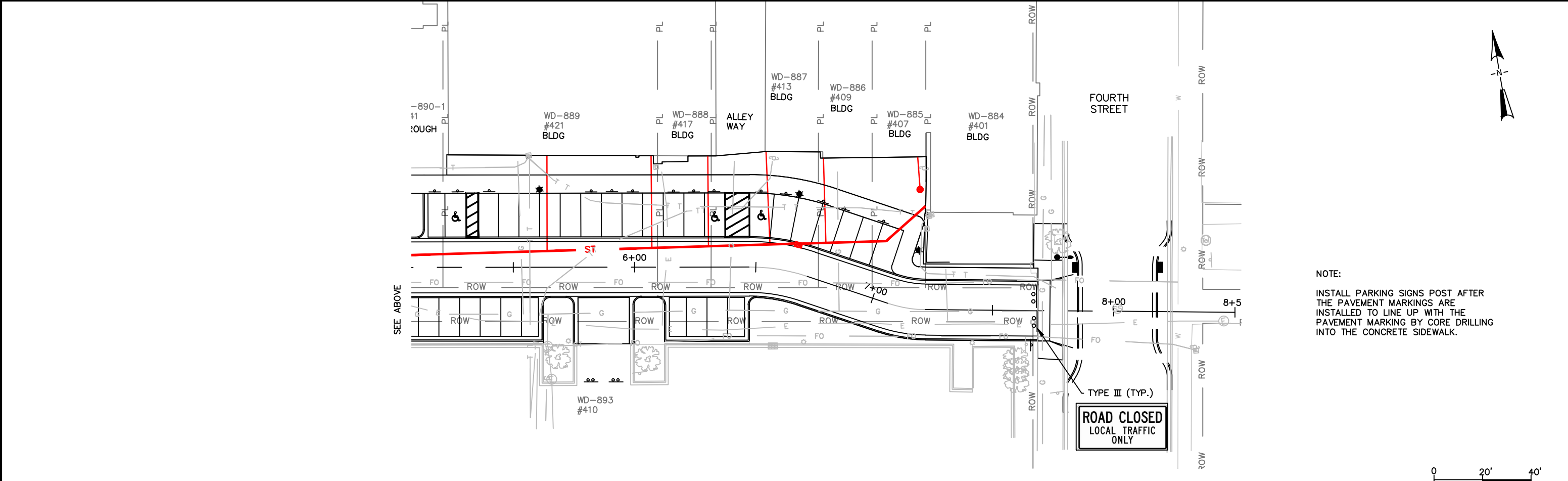
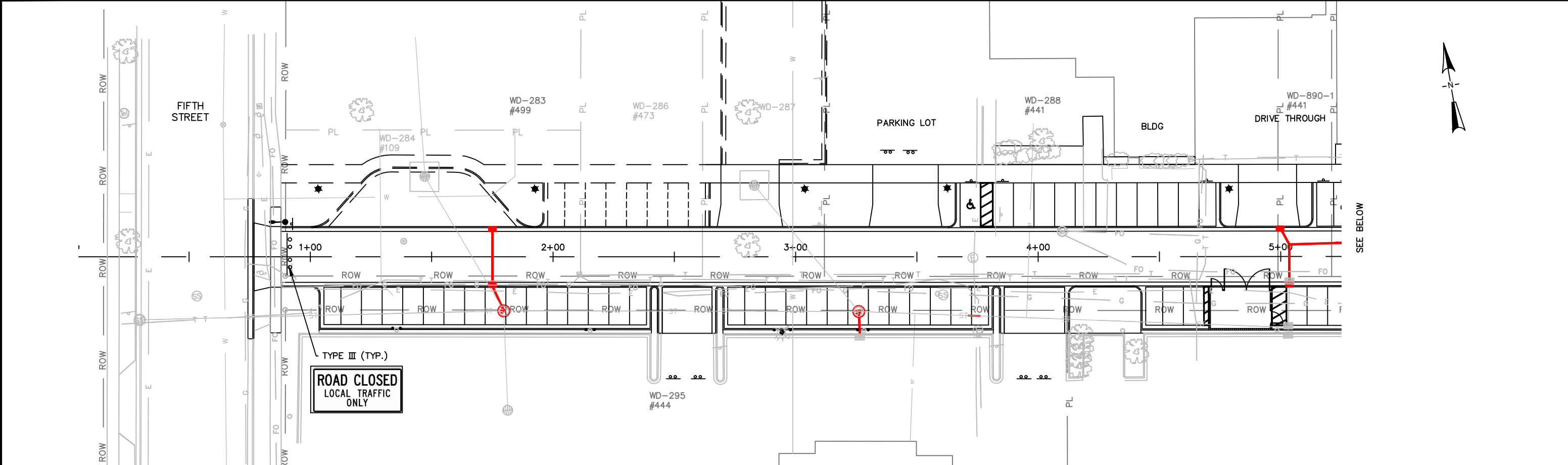
# CONCRETE SLAB AND WALL DETAIL



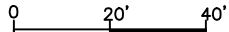
# FRONT ELEVATION



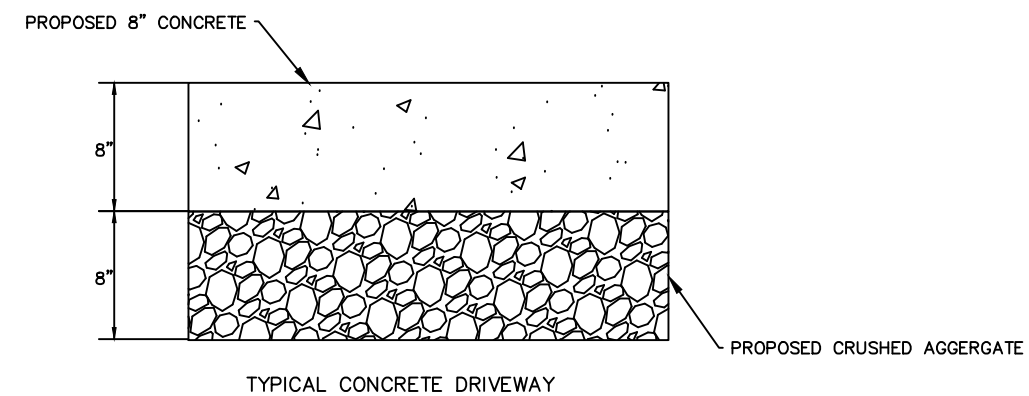
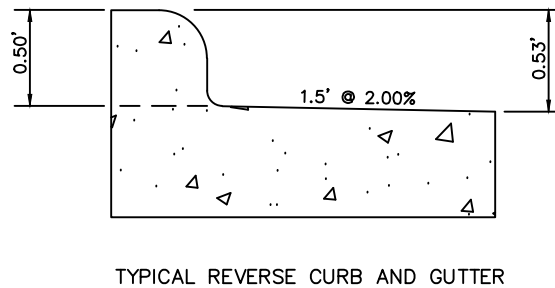
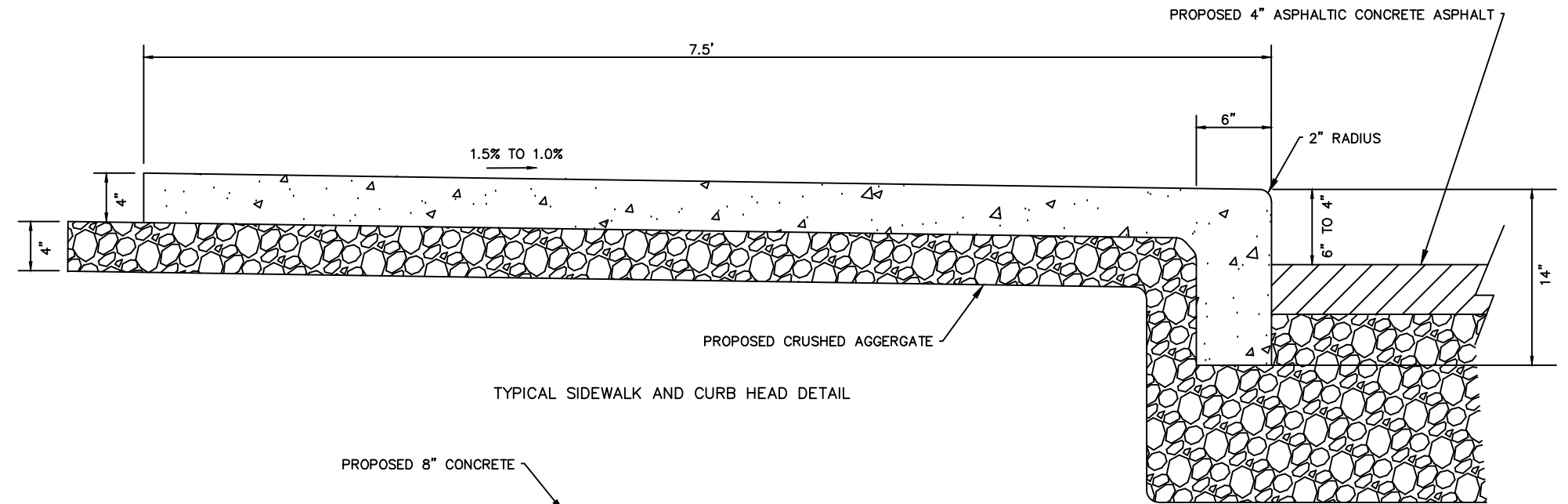
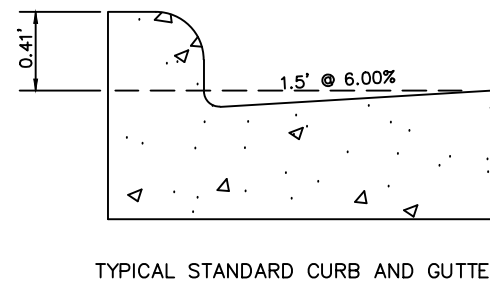
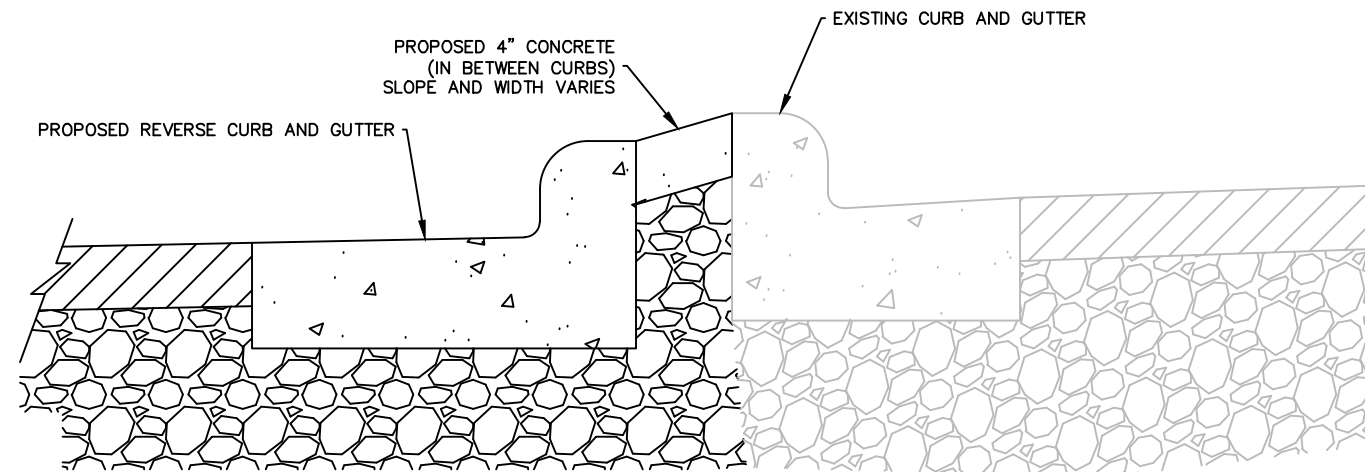
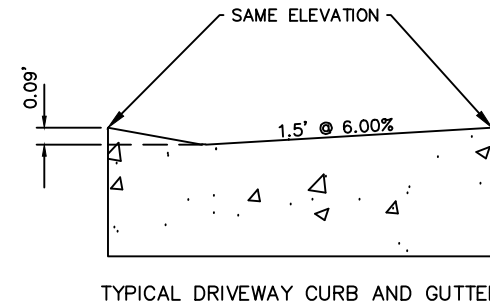




NOTE:  
INSTALL PARKING SIGNS POST AFTER  
THE PAVEMENT MARKINGS ARE  
INSTALLED TO LINE UP WITH THE  
PAVEMENT MARKING BY CORE DRILLING  
INTO THE CONCRETE SIDEWALK.



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# CITY OF DE PERE

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

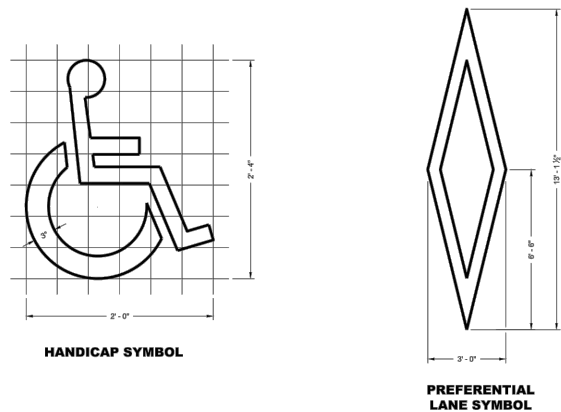
## CONSTRUCTION DETAIL CURB AND GUTTER DETAILS

NAME: ALLEY RECONSTRUCTION  
PROJECT # 22-04

		BY	DATE	REVISIONS / ISSUES		
				NO.	DATE	REMARKS
SURVEYED	SRL	3-2020				
DRAWN	SRL	2-2021				
DESIGNED	SRL	2-2021				
CHECKED	EPR	2-2021				

PAGE NO.  
**C501**

SDD 15C07-a Pavement Marking Symbols

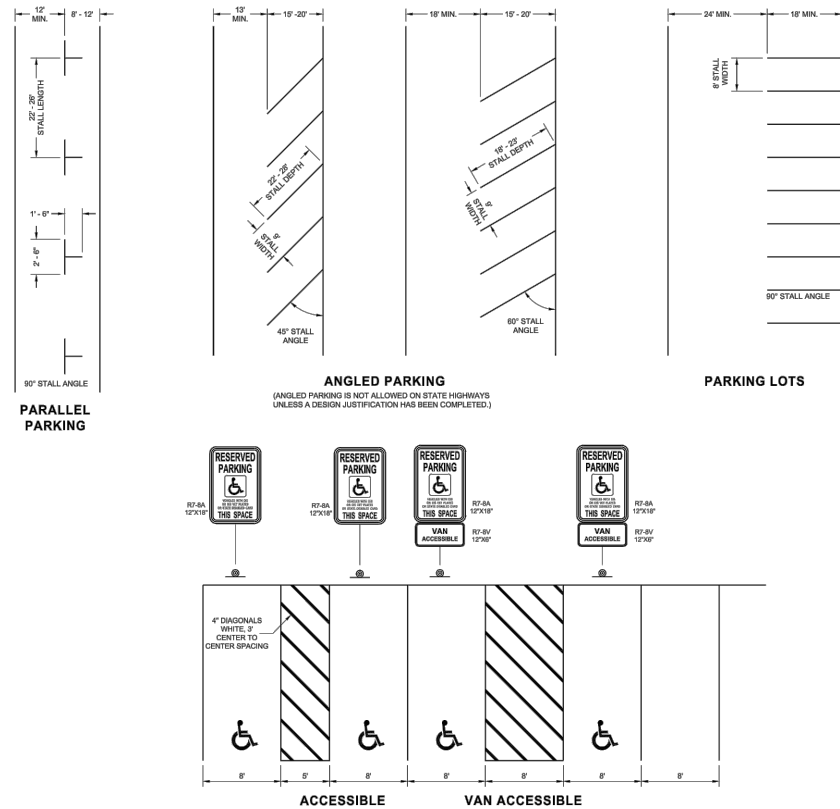


**GENERAL NOTES**  
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING SYMBOLS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2019 DATE	BY Matthew Rauch STATE SIGNING AND MARKING ENGINEER

SDD 15C07 - 15a

SDD 15C36 Parking Stall Marking



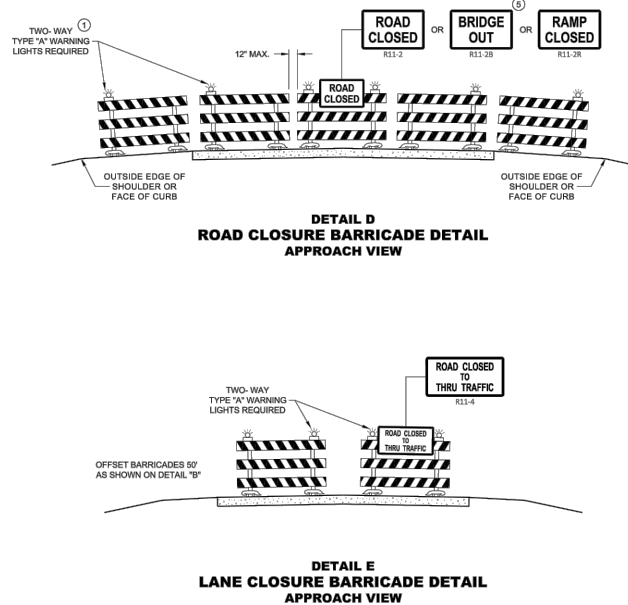
**GENERAL NOTES**  
ALL LINES 4" WHITE (UNLESS OTHERWISE NOTED)  
LAST PARKING STALL IS A MINIMUM OF 10' FROM THE CROSSWALK.

**LEGEND**  
SIGN ON PERMANENT SUPPORT

PARKING STALL MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2019 DATE	BY Matthew Rauch STATE SIGNING AND MARKING ENGINEER

SDD 15C36 - 01

SDD 15C02-b Barricades and Sign for Various Closures



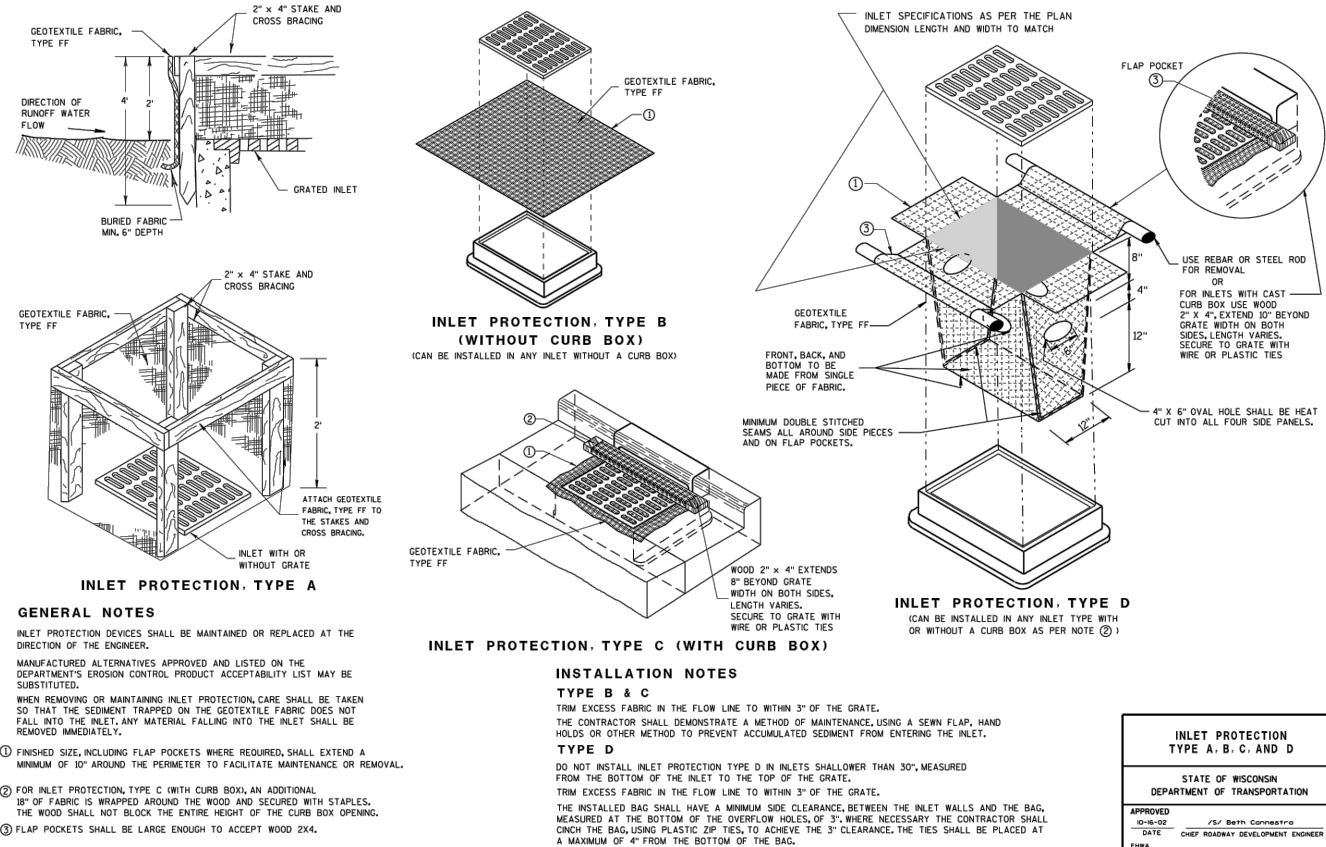
**GENERAL NOTES**  
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.  
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.  
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.  
BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.  
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.  
ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.  
TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.  
THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 81 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.  
"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.  
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:  
R11 - 2 SHALL BE 48" X 30"  
R11 - 3 SHALL BE 48" X 30"  
M4 - 9 SHALL BE 30" X 24"  
M3 - X SHALL BE 24" X 12" (30" X 18" IF NEEDED TO MATCH EXISTING SIGNS)  
M4 - 8 SHALL BE 24" X 12" (30" X 18" IF NEEDED TO MATCH EXISTING SIGNS)  
M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)  
MOS - 1 AND MOS - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)  
D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.  
R1 - 1 SHALL BE 30" X 30"

- TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	BY Andrew Heddles WORK ZONE ENGINEER

SDD 15C02 - 08b

SDD 8e10 Inlet Protection Type A, B, C and D



**GENERAL NOTES**

- INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.  
MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.  
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.  
① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.  
② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 10" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.  
③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

**INSTALLATION NOTES**

- TYPE B & C**  
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.  
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.  
**TYPE D**  
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.  
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.  
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CRIMP THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10-18-19 DATE	BY Brian Coughlin CHIEF ROADWAY DEVELOPMENT ENGINEER

S.D.D. 8 E 10-2



CITY OF DE PERE

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

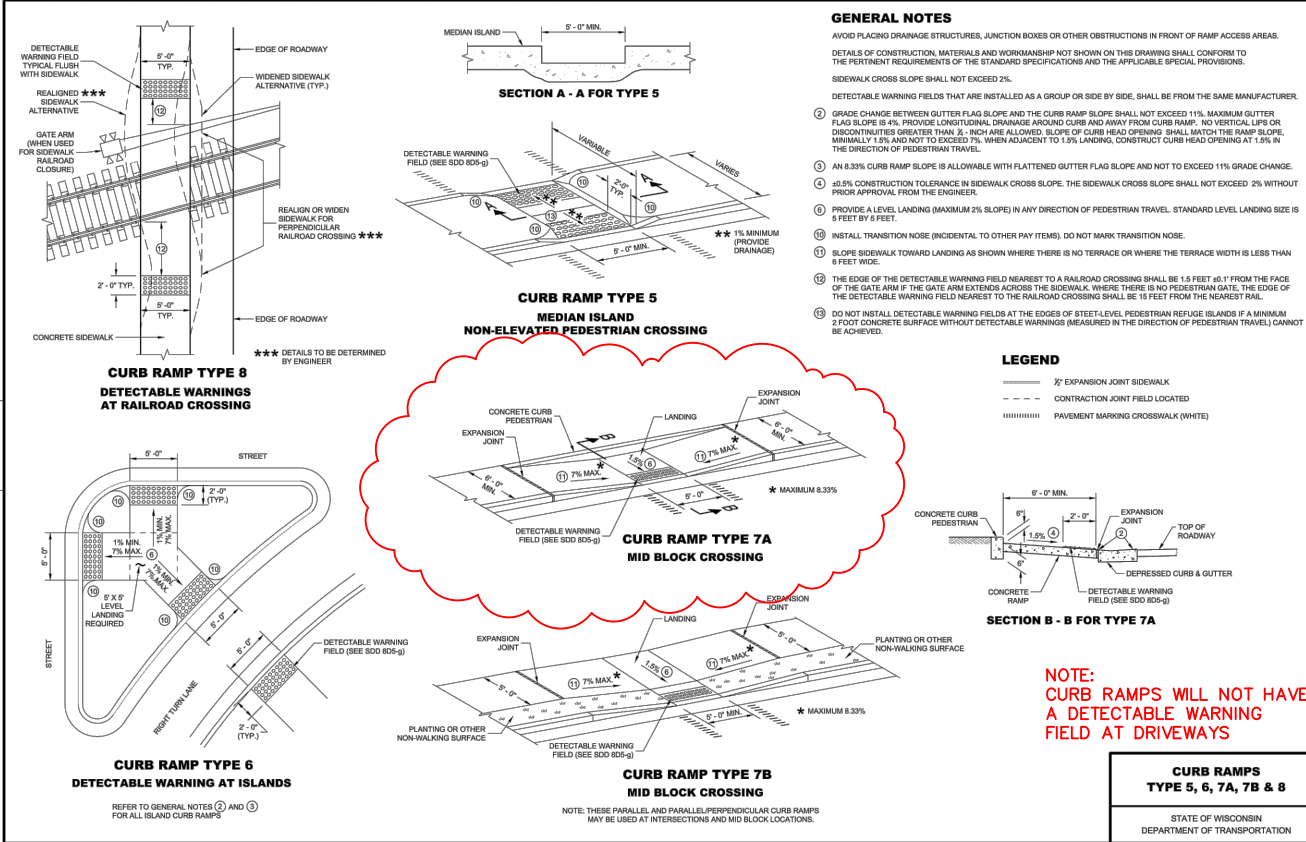
CONSTRUCTION DETAIL  
CONSTRUCTION DETAILS

NAME: ALLEY RECONSTRUCTION		BY		DATE		REVISIONS / ISSUES	
PROJECT # 22-04		SURVEYED		3-2020		NO. DATE BY REMARKS	
		DRAWN		2-2021			
		DESIGNED		2-2021			
		CHECKED		2-2021			

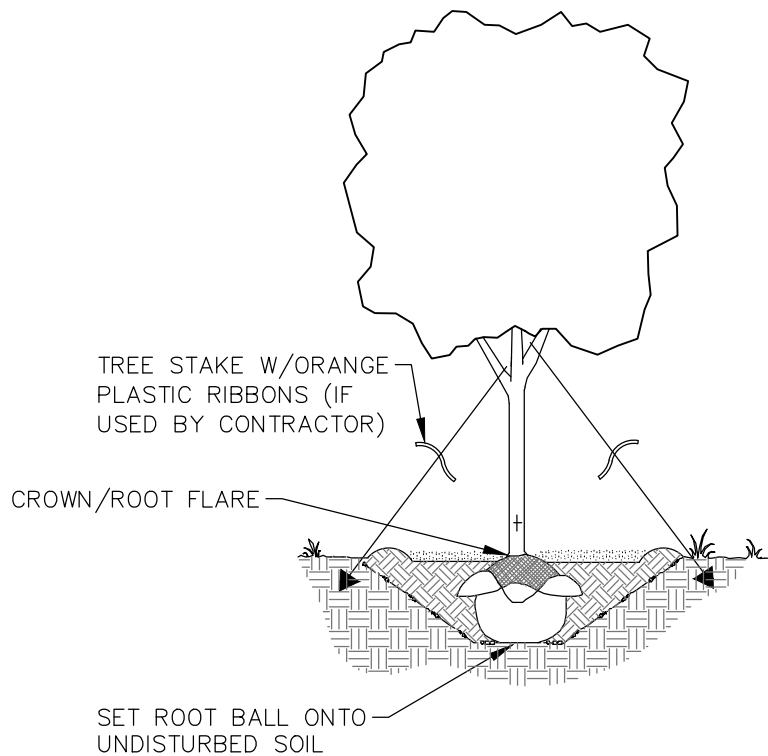
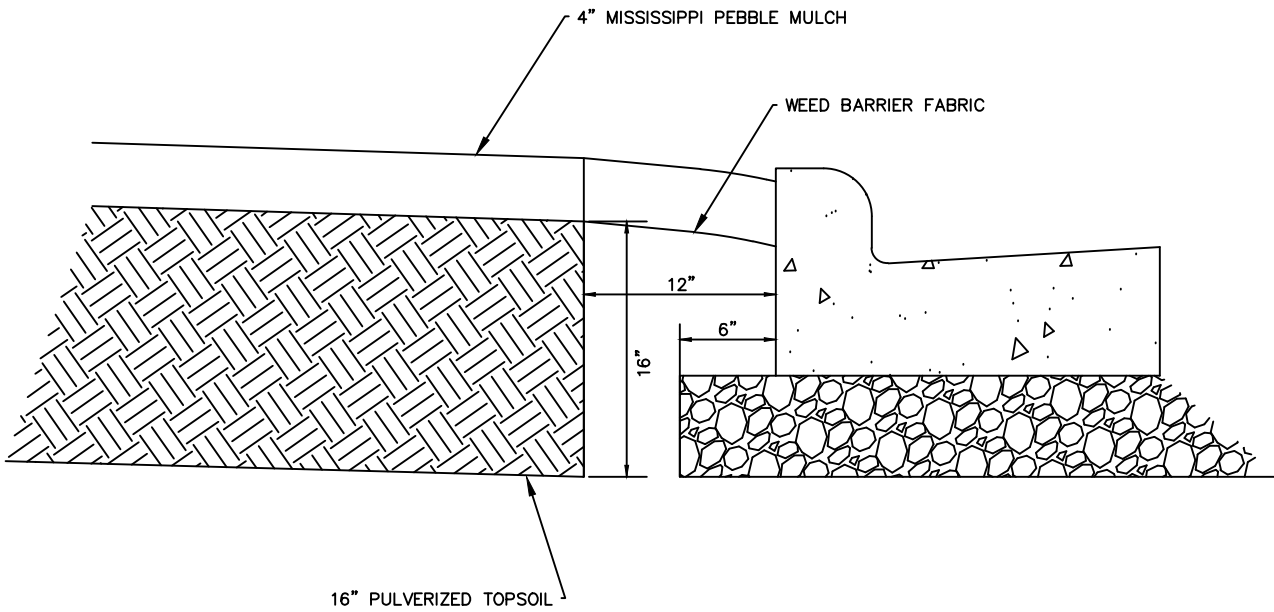
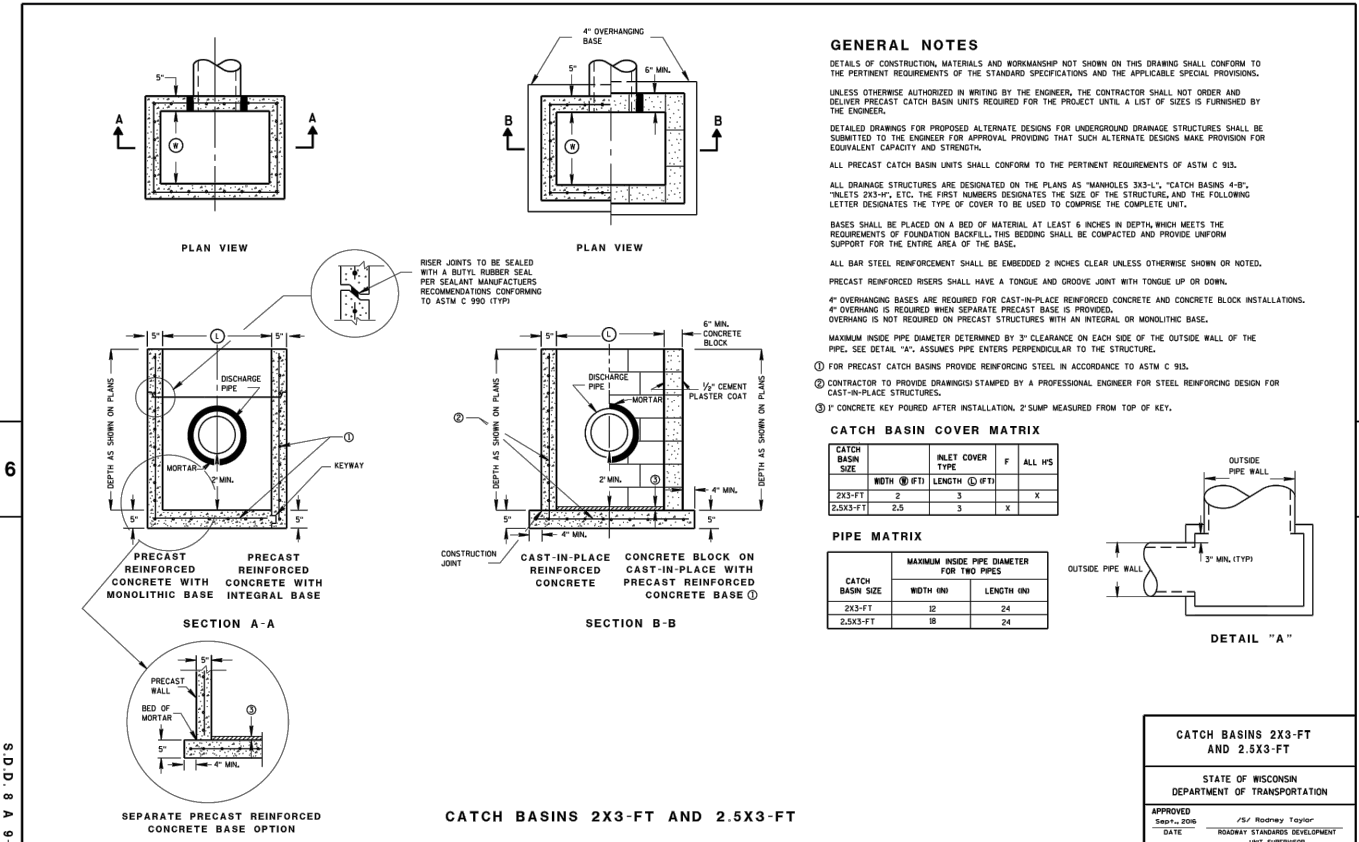
PAGE NO.  
C502



SDD 08D05-e: Curb Ramps Types 5, 6, 7A, 7B and 8



SDD 8A9 Catch Basins 2x3-FT and 2.5x3-FT



- PRIOR TO DIGGING TREE, MARK NORTH SIDE OF TRUNK. INSTALL TREE IN SAME ORIENTATION.
- EXCAVATE PLANTING PIT 3-TIMES THE DIA. & APPROXIMATELY THE HEIGHT OF ROOT BALL DEPTH. ROOT FLARE SHALL BE AT OR SLIGHTLY HIGHER THAN ADJACENT F.G.
- LOOSEN SUBSOIL W/PICK TO ENSURE POROSITY.
- SELECT BEST VIEWING ANGLE, LIFT STOCK BY BALL AND PLACE IN PLANTING PIT.
- CUT AND REMOVE ALL STRING AND WIRE AND UNWRAP TOP HALF OF ROOT BALL. BACKFILL PLANTING PIT WITH EXISTING SOIL UP TO BASE OF ROOT FLARE.
- PACK BACKFILL AROUND BASE OF ROOT BALL TO STABILIZE IT.
- BACKFILL REMAINDER OF PLANTING HOLE USING WATER PERIODICALLY TO REDUCE AIR POCKETS.
- FORM 3" HT. SAUCER IN 6'-0" DIAMETER AROUND TREE & FILL WITH 3" SHREDDED HARDWOOD BARK MULCH.
- KEEP STONE 6 INCHES AWAY FROM TRUNK.
- WATER IMMEDIATELY & FREQUENTLY.
- PLANT SIZES SPECIFIED ARE MINIMUM ACCEPTABLE.



CITY OF DE PERE

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CONSTRUCTION DETAIL  
CONSTRUCTION DETAILS

NAME: ALLEY RECONSTRUCTION  
PROJECT # 22-04

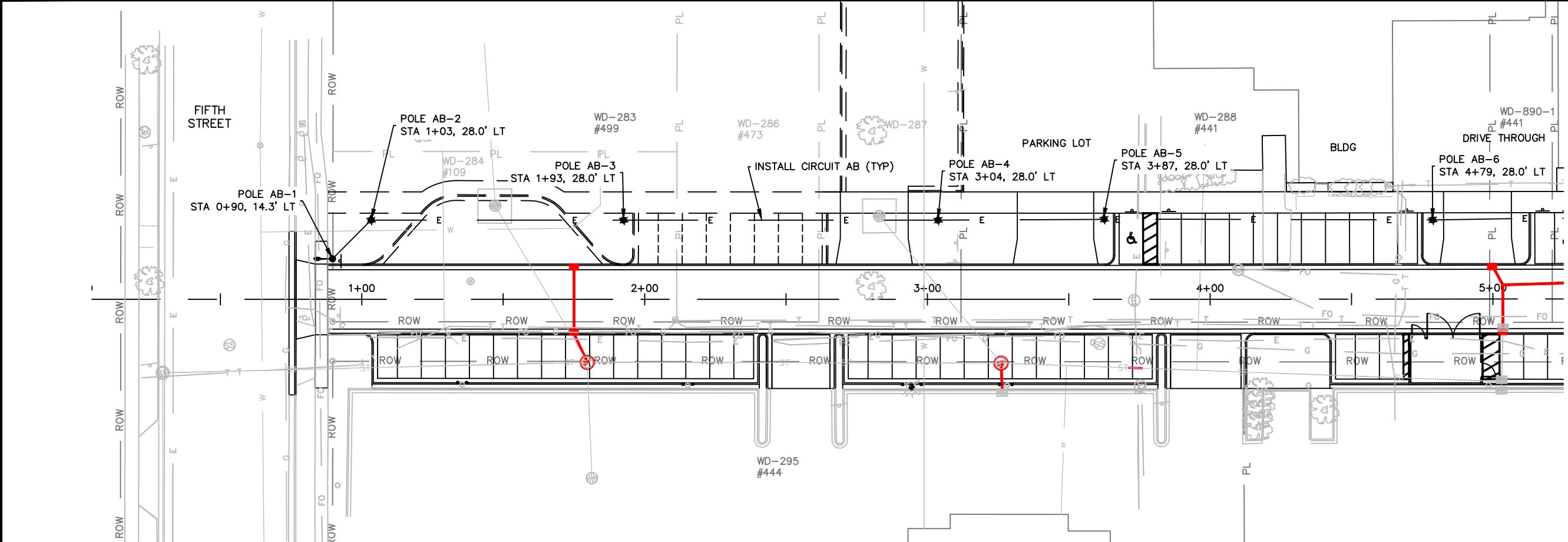
BY: SRL  
DATE: 3-2020  
DRAWN: SRL  
DESIGNED: SRL  
CHECKED: EPR

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO.

C503



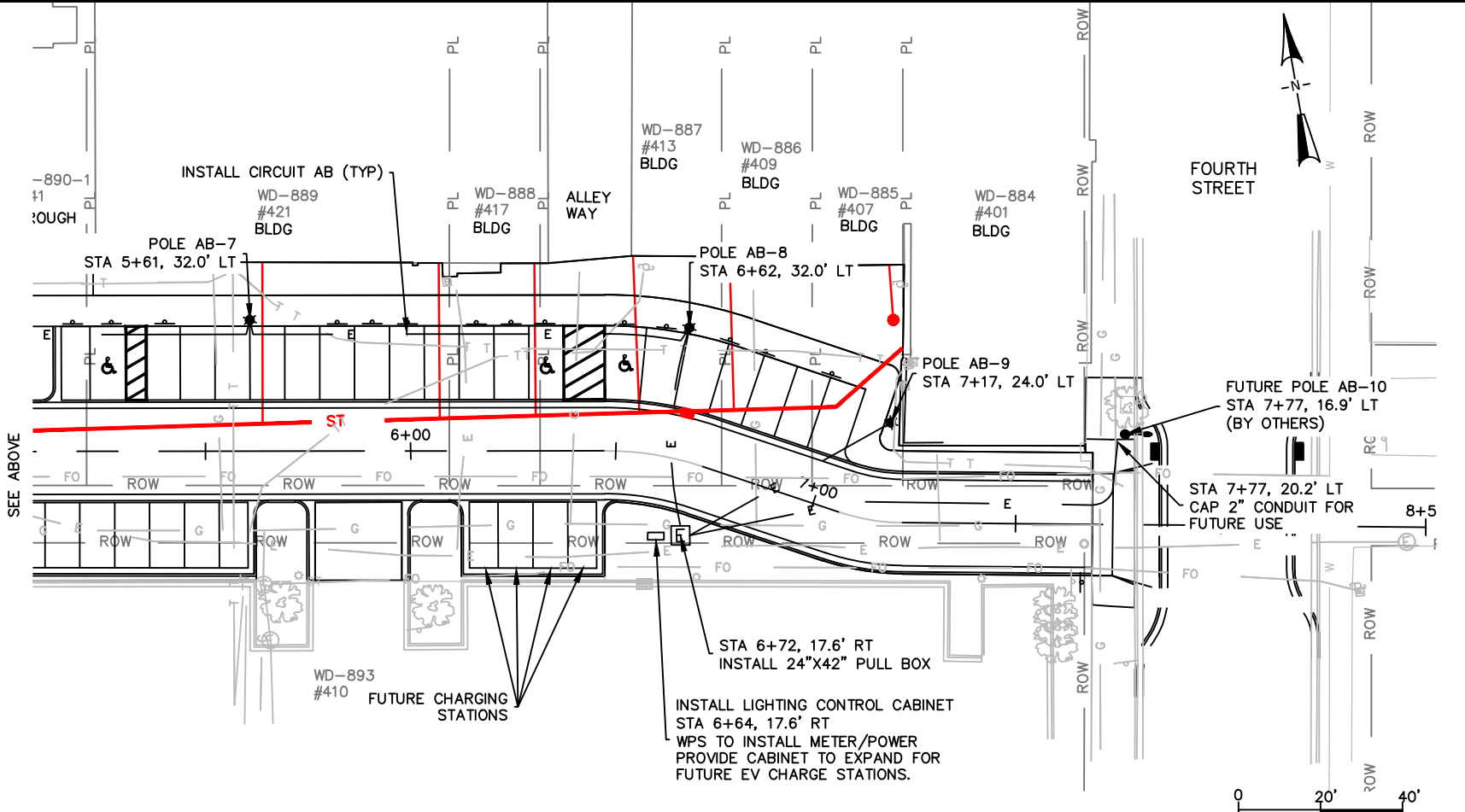


SEE BELOW

- DECORATIVE LIGHT
- OVER HEAD LIGHT

NOTE:  
ALL CONDUIT CROSSING THE STORM SEWER WILL GO UNDER THE STORM SEWER AND STORM LATERAL.  
PLACE ALL ODD NUMBERED LIGHTS ON 1 CIRCUIT AND ALL EVEN NUMBERED LIGHTS ON 1 CIRCUIT.

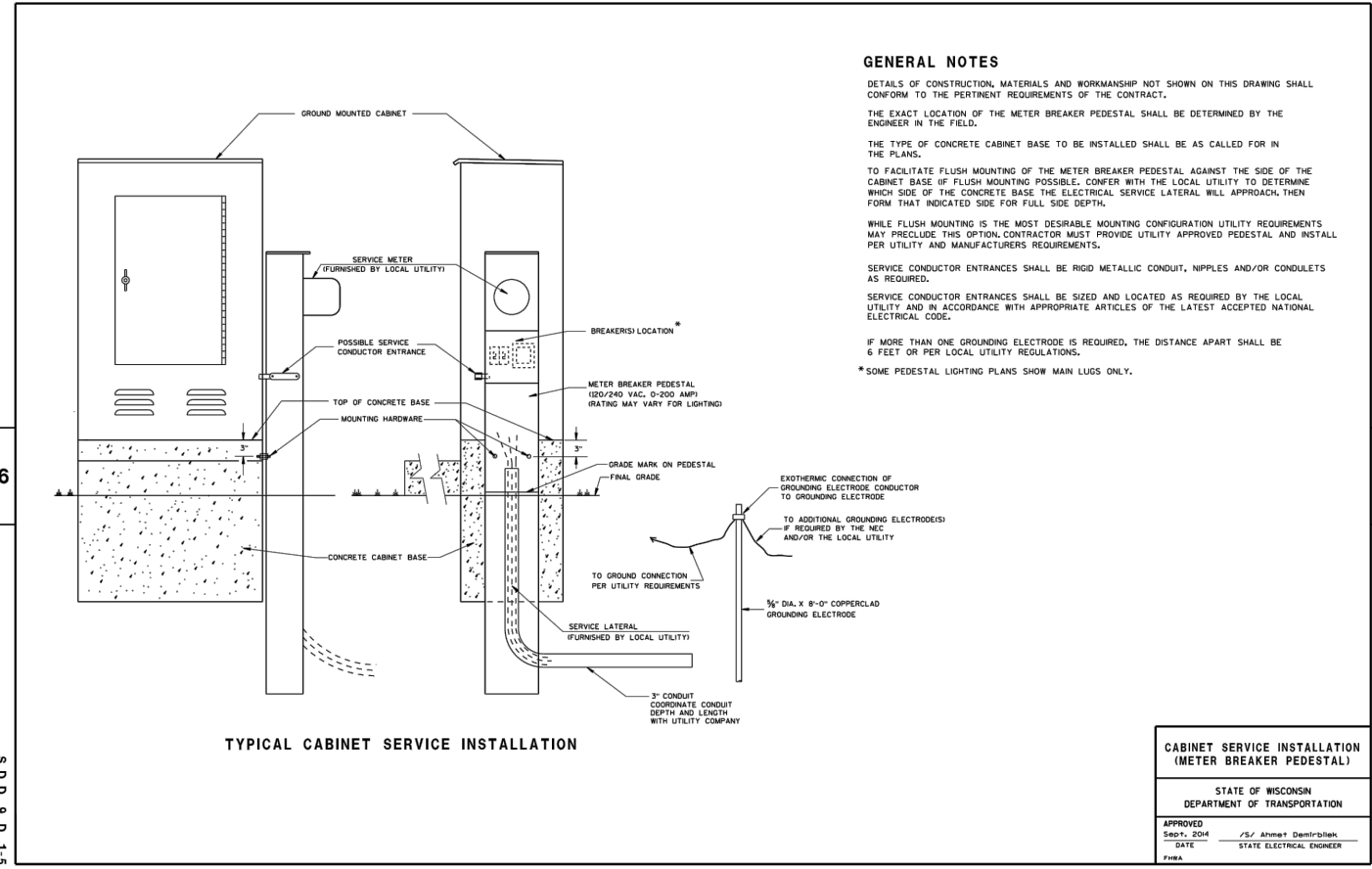
ELECTRICAL WIRING SCHEDULE					
LOCATION	DISTANCE	CONDUIT SIZE	# OF WIRES	TYPE OF WIRE	GAUGE
PULL BOX (6+72) TO CAP (7+77)	117'	2"			
PULL BOX (6+72) TO POLE AB-1 (0+90)	740'	2"	4	2 HOT 1 NEUTRAL 1 GROUND	4
PULL BOX (6+72) TO POLE AB-9 (7+17)	68'	2"	3	1 HOT 1 NEUTRAL 1 GROUND	4
TYPE 5 POLES (1EA)	46'		1		12
DECORATIVE POLES (8EA)	10'		1		12



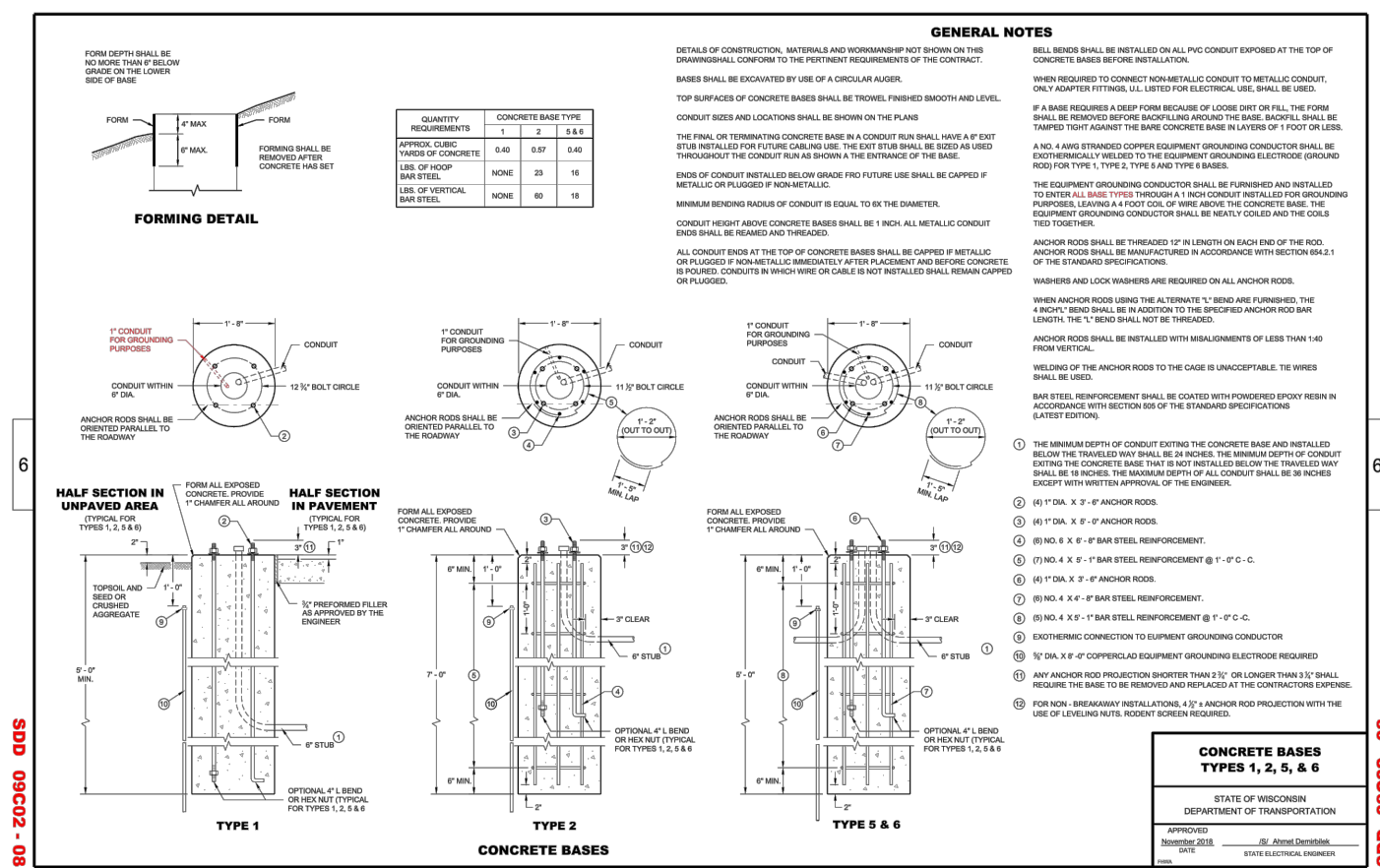
0 20' 40'

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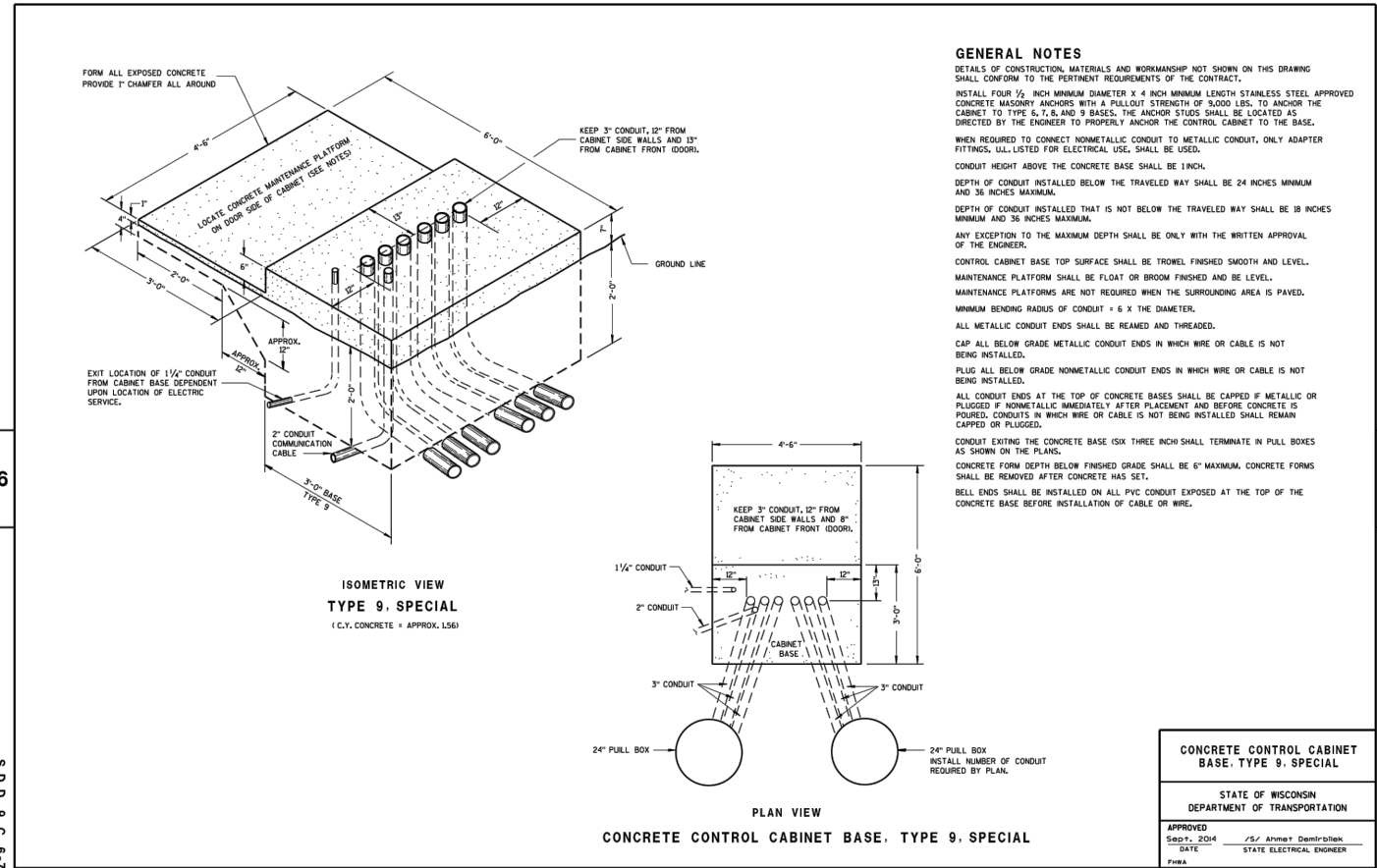
SDD 9d1 Cabinet Service Installation (Meter Breaker Pedestal)



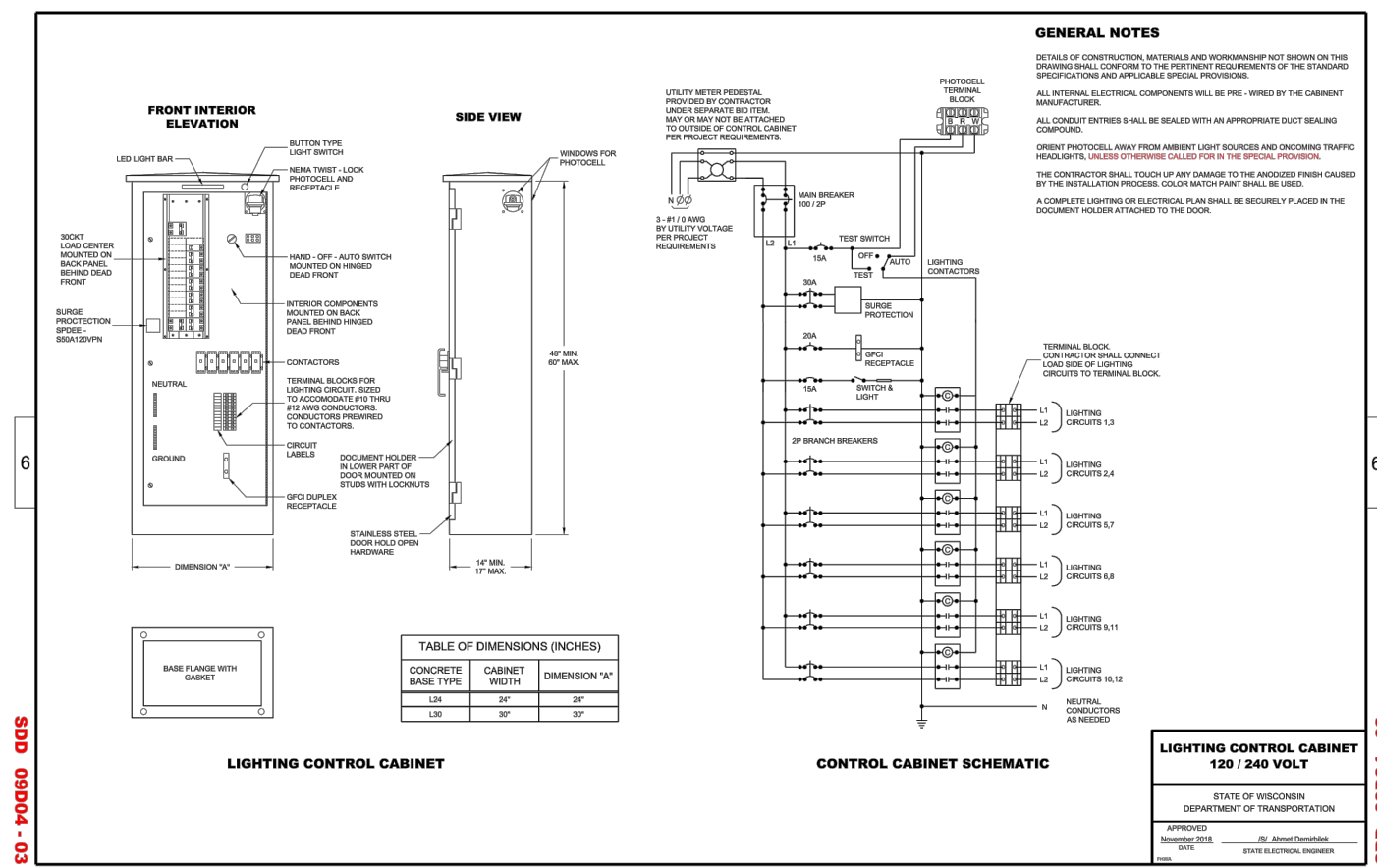
SDD 9c2 Concrete Bases Types 1, 2, 5 and 6



SDD 9c6 Concrete Control Cabinet Base, Type 9, Special



SDD 9d4 Lighting Control Cabinet 120/240 Volt



CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115  
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MAIN/REID AND FIFTH/FOURTH ALLEY  
ELECTRICAL CONSTRUCTION DETAILS

NAME: ALLEY RECONSTRUCTION	BY SRL	DATE 11-2020	REVISIONS / ISSUES	PAGE NO.
PROJECT # 22-04	DRAWN SRL	DESIGNED SRL	NO. DATE BY REMARKS	E501
	CHECKED EPR			



SDD 9B16 Pull Boxes Non-Conductive

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		NON-CONDUCTIVE PULL BOX	
BOX DIAMETER ** INSIDE	A	24	24
BOX OVERALL OUTSIDE DIAMETER	B	27	27
BOX LENGTH	C	36	42
FRAME OPENING	D	22 1/2	22 1/2
WEIGHT IN POUNDS *			
COVER		50	50
BOX ONLY		75	85

\* THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY MAY VARY NOT TO EXCEED 500 LBS INDIVIDUALLY.

\*\* DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TER IS LOADING AS SPECIFIED IN AND/OR SECTION 11.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE COEFFICIENTS LESS THAN 1/4". COVER SHALL BE MECHANICALLY LOCATABLE.

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

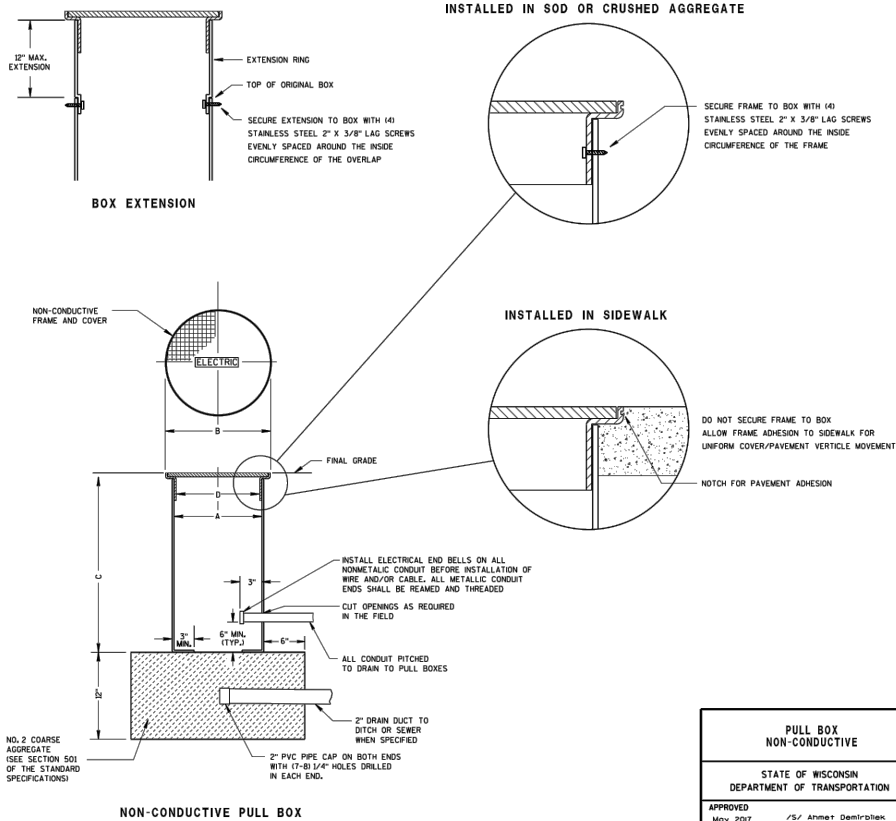
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4". THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BURIED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS AND MAGNETIC LOCATABLE DEVICE.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL AND LIGHTING SYSTEMS, "WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.



PULL BOX NON-CONDUCTIVE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2011	/s/ Ahmed Demirkhan
DATE	STATE ELECTRICAL ENGINEER
FWB	

SDD 09E01-d Pole Mountings for Lighting Units, Type 5

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 1/2" ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.109".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (0.1199").

THE SPLITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8" INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SPLITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

1 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) 1/2" X 3/4" - 20 TPI, STAINLESS STEEL, HEX HEAD BOLTS.

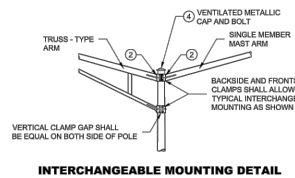
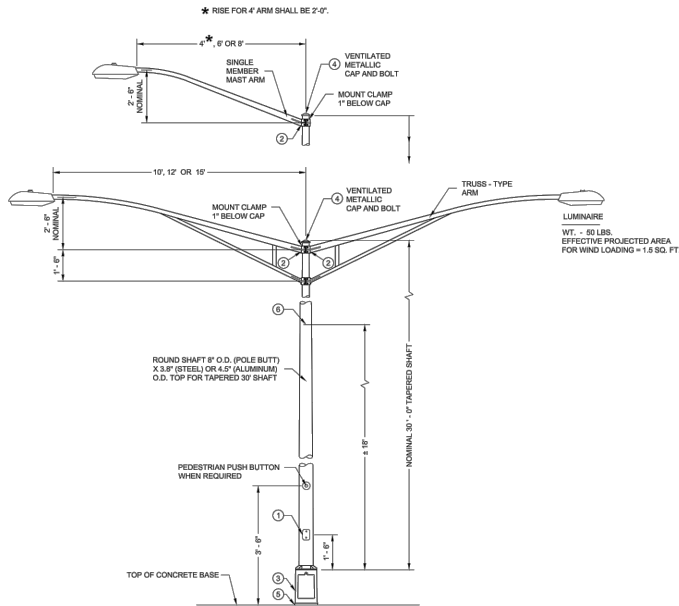
2 GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 1/2" HOLE IN POLE SHAFT FOR WIRES.

3 CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

4 FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/2" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

5 SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

6 INTERNAL DUMBBELL - TYPE VIBRATION DAMPER.



POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	/s/ Ahmed Demirkhan
DATE	STATE ELECTRICAL ENGINEER
FWB	

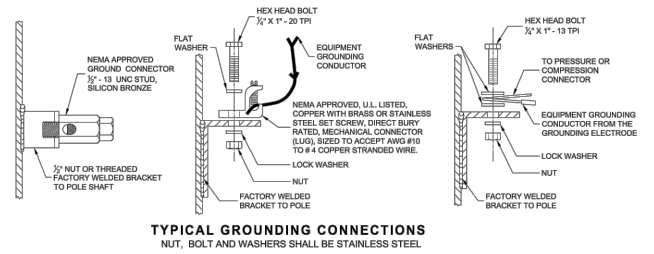
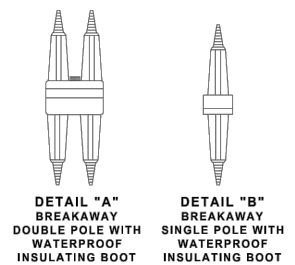
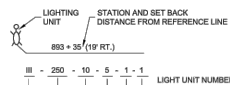
SDD 9e3 Non-Freeway Lighting Unit Pole Wiring

GENERAL NOTES

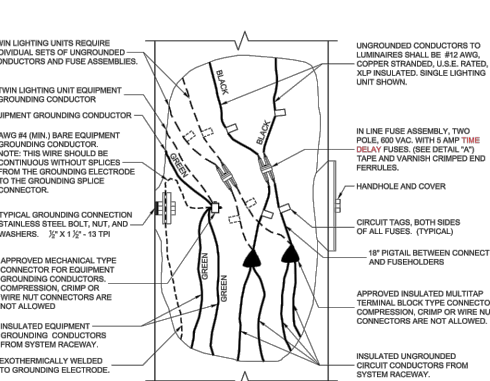
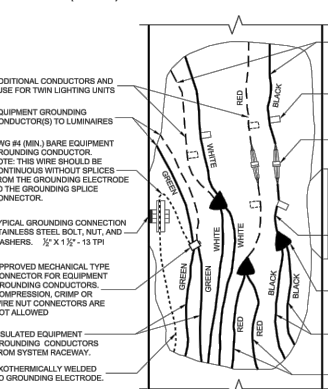
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



LIGHTING UNIT CODE (TYPICAL)



NON - FREEWAY LIGHTING UNIT POLE WIRING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2018	/s/ Ahmed Demirkhan
DATE	STATE ELECTRICAL ENGINEER
FWB	

SDD 09E01-g Hardware Details for Pole Mounting

GENERAL NOTES

CLAMP BOLT NUT TIGHTENING TORQUE SHALL BE INDICATED BY INCH STAMPING (12 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

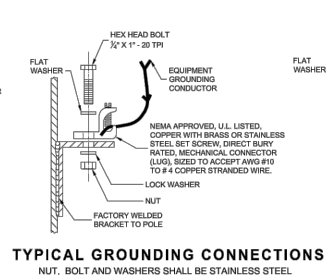
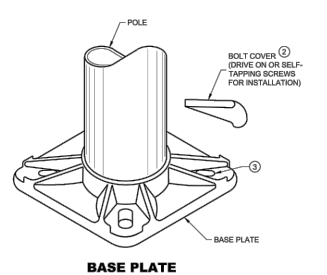
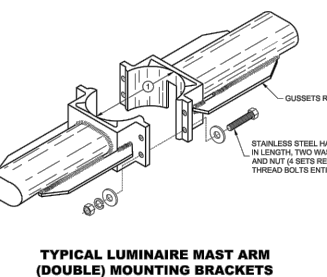
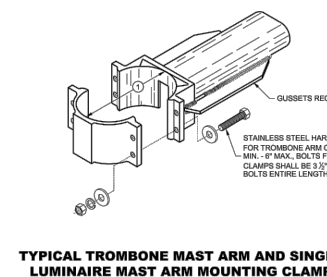
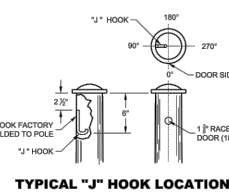
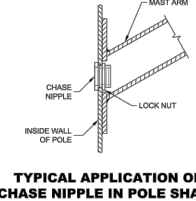
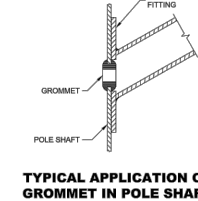
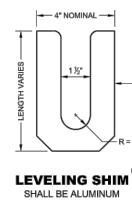
1 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP, 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

2 INDIVIDUAL BASE PLATE ANCHOR ROD COVERS, (4 REQUIRED)

3 BASE PLATE BLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

4 LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



HARDWARE DETAILS FOR POLE MOUNTING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2018	/s/ Ahmed Demirkhan
DATE	STATE ELECTRICAL ENGINEER
FWB	



CITY OF DE PERE

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

MAIN/REID AND FIFTH/FOURTH ALLEY ELECTRICAL CONSTRUCTION DETAILS

NAME: ALLEY RECONSTRUCTION	BY: SRL	DATE: 11-2020
PROJECT # 22-04	DESIGNED: SRL	11-2020
	CHECKED: EPR	11-2020

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

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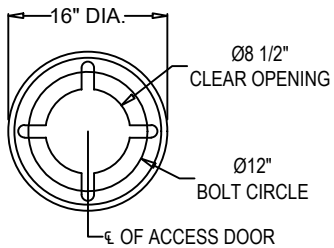
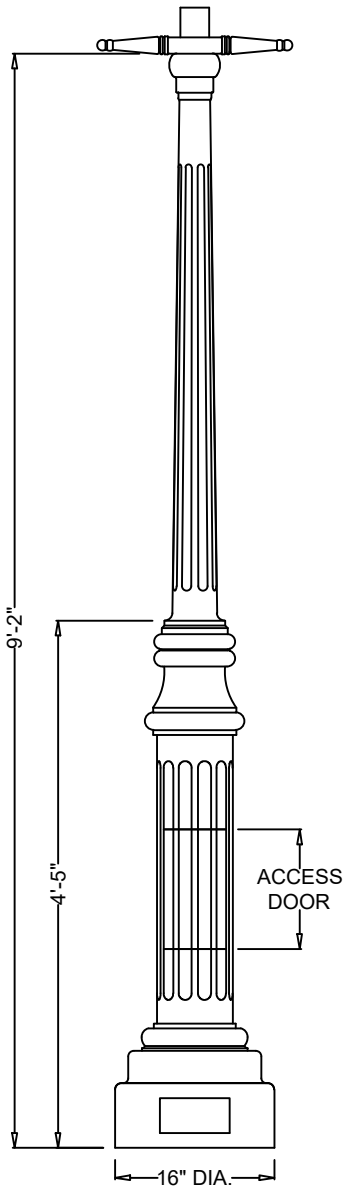
LAMP POST SPECIFICATIONS

STYLE: HANCOCK INTERNAL WITH LADDER REST  
HEIGHT: 9'-2"  
BASE: 16" DIAMETER  
MATERIAL: PLEASE ADVISE BELOW  
FINISH: PLEASE ADVISE BELOW  
ACCESS DOOR: LOCATED IN BASE SECURED WITH TAMPER PROOF HEX SOCKET SECURITY MACHINE SCREWS  
GROUND PROVISIONS: DRILL AND TAP INSIDE WALL OF BASE OPPOSITE ACCESS DOOR TO ACCOMMODATE A 1/4"-20 GROUND STUD (STUD SUPPLIED BY OTHERS)  
ANCHOR BOLTS: (4) 3/4" DIA. X 24" LONG + 3" HOOK (FULLY GALVANIZED WITH 1 GALVANIZED NUT AND 1 GALVANIZED WASHER PER BOLT)  
BOLT PROJECTION: 3" REQUIRED  
TENON: PLEASE ADVISE BELOW  
CATALOG NO.: PSNHC-16-9-17-LR-TN- / - / - C

MATERIAL	CAT. NO.
1 PIECE, CAST ALUMINUM ALLOY ANSI 356 PER A.S.T.M. B26-95	A
1 PIECE, CAST IRON PER A.S.T.M. A48-83 CLASS 30	I
1 PIECE, CAST DUCTILE IRON PER A536-84 GRADE 65-45-12	D

TENON	CAT. NO.
2 7/8" DIA. X 3" HIGH	TN2.88/3.00
3" DIA. X 3" HIGH	TN3.00/3.00
3 1/2" DIA. X 3" HIGH	TN3.50/3.00
4" DIA. X 3" HIGH	TN4.00/3.00
X.XX" DIA. X X.XX" HIGH	TNX.XX/X.XX

FINISH	CAT. NO.
POWDER COAT - PLEASE ADVISE RAL #	CU
PRIME PAINT THEN FINISH PAINT SHERWIN WILLIAMS - PLEASE ADVISE COLOR	CW



BASE PLATE DETAIL



Spring City Electrical Mfg. Co.  
HALL AND MAIN STREETS - P.O. BOX 19 - SPRING CITY, PA. 19475  
PHONE (610) 948-4000 - FAX (610) 948-5577 - WWW.SPRINGCITY.COM

DESCRIPTION THE HANCOCK WITH LADDER REST  
9'-2" LAMP POST

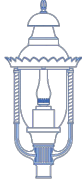
Spring City Cast Frame LED Luminaires



A



B



C



D



F



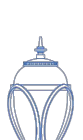
G



H



H-2



I



J



K



L



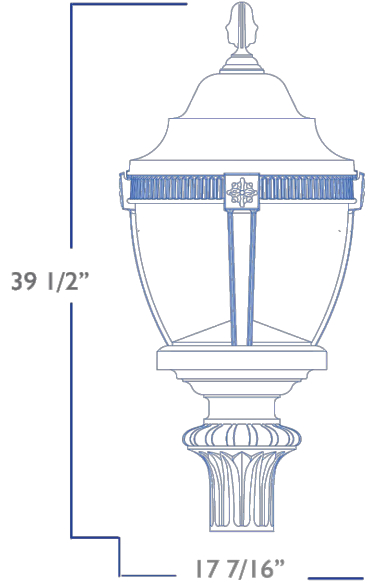
M



N




O



ORDERING INFORMATION

BUILDING A PART NUMBER

Lamping		Voltage		Light Engine		Color Temperature		Optics		Globe	Chimney	Finial	Finish
ALMAGS	LE060	EVI	X2	45	CR3	GPLO	---	FCW	PGSCLBLAC				
<div>LE020 = 20 W LE030 = 30 W LE040 = 40 W LE060 = 60 W LE065 = 65 W LE080 = 80 W LE095 = 95 W LE100 = 100 W LE120 = 120 W LE125 = 125 W *custom available</div>		<div>120 V = EV1 208 V = EV8 240 V = EV2 277 V = EV7 480 V = EV4</div>	<div>22 = 2200 K 30 = 3000 K 40 = 4000 K 45 = 4500 K 60 = 6000 K</div>		<div>GPLO = K, L Glass Clear YPLF = K, L Frosted YBRO = A, B, C, D Clear YS19 = G, H, H-2, J, I Clear YKSF = G, H, H-2, N Frosted YCLO = F Clear YCLF = F Frosted YF20 = M Frosted YHRC = O Clear YHRF = O Frosted</div>		<div>CMP = Small *Only for A-D</div>		<div>FBR = A, B, C, D, L, O FAH = H, I FBY = F FAC = G FPA = J, K - = M FCP = N</div>				
<div>CR3 = Type III, Clear Refractive CR4 = Type IV, Clear Refractive CN5 = Type V, No Optics</div>		<div>FH3 = Type III, 20:1 High Transmission Frosted FH4 = Type IV, 20:1 High Transmission Frosted FM3 = Type III, 04:1 Medium Transmission Frosted FM4 = Type IV, 04:1 Medium Transmission Frosted FL3 = Type III, 02:1 Low Transmission Frosted FL4 = Type IV, 02:1 Low Transmission Frosted</div>		<div>Paint System A = Acrolon* T = Tnemic* P = Powder Coat D = Tiger Drylac Powder Coat</div>		<div>Finish Styles M = Matte* S = Semi-Gloss G = Gloss *Powder Coat Only</div>		<div>Powder Coat Texture S = Smooth R = River M = Micro</div>		<div>Color Examples CLBLAC = Classic Black BOGREE = Bottle Green SHGREE = Shutter Green R8012 = RAL 8012 R6012 = RAL 6012 27038 = Federal Black</div>			
<div>ALMBRH = A Borough ALMQLT = B Quality Hill ALMGPL = C Gross Point Woods Large ALMGPS = D Gross Point Woods Small ALMBRY = F Bryant Park ALMCTR = G Center City District ALMFKS = H Franklin Square ALMFKS-M2 = H-2 Franklin Square ALMSCP = I Spring City Park ALMRVR = J Riverside ALMAGS = K Augusta ALMRCH = L Richmond ALMNRF = M Norfolk ALMPCL = N Park Central ALMRDG = O Reading</div>													



Spring City<sup>TM</sup>

One South Main St  
Spring City, PA 19475  
610-948-4000



CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115  
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MAIN/REID AND FIFTH/FOURTH ALLEY  
ELECTRICAL CONSTRUCTION DETAILS

NAME:		BY		DATE		REVISIONS / ISSUES	
ALLEY RECONSTRUCTION		SRL		11-2020		NO. DATE BY REMARKS	
PROJECT # 22-04		SRL		11-2020			
		EPR		11-2020			

PAGE NO.

E503