CONTRACT DOCUMENTS

FOR

LA 73 TURN LANES @ BROWN ROAD

ASCENSION PARISH

PARISH PRESIDENT
Kenny Matassa

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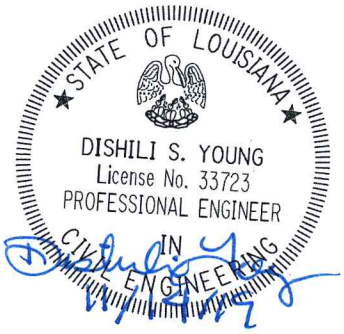

November 2019

Prepared by NEEL-SCHAFFER, INC.

for

Ascension Parish Engineering Transportation Department
Department of Public Works East
42077 Churchpoint Road Gonzales, Louisiana

MOVE ASCENSION PROJECT NO. MA-18-03-A
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Parish of Ascension

www.ascensionparish.net

KENNY MATASSA
ASCENSION PARISH PRESIDENT

INVITATION TO BIDDERS

Sealed bids will be received by Ascension Parish Government at the Ascension Parish Government Purchasing Office, 615 E. Worthey Street, Gonzales, Louisiana 70737 (mailing address P. O. Box 2392, Gonzales, Louisiana 70707-2392) until **11:00 a.m. CST** on **December 19, 2019**. Bids received after the closure time, as stated herein, will be returned unopened. Bids will be publicly opened and read aloud for the construction project entitled.

PROJECT NAME: LA 73 Turn Lanes @ Brown Road
PROJECT NO. MA-18-03-A
STATEMENT OF WORK: This is a pavement widening project to add in turn lanes at LA 73 and Brown Road intersection.
DESCRIPTION: Move Ascension Program
ROUTE: LA 73
PARISH: Ascension Parish
LENGTH: 0.243 miles.
LIMITS: The project begins approximately 2,935' north of LA 42 and LA 73 intersection and ends at approximately 1,420' south of LA 73 and LA 427 intersection. The project extends along Brown Road approximately 265' east of LA 73

PROJECT ENGINEER:	Neel-Schaffer, Inc. Mai Nguyen, P.E. mai.nguyen@neel-schaffer.com
ASCENSION PARISH TRANSPORTATION MANAGER:	Mr. Michael Enlow 225-450-1326 menlow@apgov.us
PROJECT MANAGER:	Ms. Tacie Rabalais, P.E. 225-450-1386 trabalais@apgov.us

Bids should be submitted in a sealed envelope and must be to the attention of the Ascension Parish Purchasing Department and clearly labeled on the outside of the envelope as **Bid Submittal, with the project No. MA-18-03-A and name LA 73 TURN LANES @ BROWN ROAD and Louisiana Contractor's License Number**, as well as all accompanying funds and documents, as follows:

Bid Submittal
Project No.: MA-18-03-A
Project Name: LA 73 TURN LANES @ BROWN ROAD
LA License No.:

"Official" Bid Documents are available and Electronic bids are accepted at Central Bidding and may be obtained from www.centralauctionhouse.com or www.ascensionparish.net. For questions related to the electronic bidding process, please call Central Bidding at (225) 810-4814.

COPIES OF CONTRACT DOCUMENTS. Hard copies of the drawings and specifications for use in preparing Bids may also be obtained from:

HNTB Corporation
10000 Perkins Rowe, Suite 640, Baton Rouge, Louisiana 70810

The cost is One Hundred Dollars ($100.00) per set, or free for an electronic copy (with contractor provided media). The Contractor to whom a contract is awarded will be furnished two (2) working copies of the specifications and the drawings, together with all Addenda thereto.

Bid packages may be submitted in different manners. Consult the bid documents for specific deadlines for desired submittal process before application. The following are acceptable methods:

Hand-delivered to:	*615 E. Worthey Road, Gonzales, Louisiana 70737*
Certified receipt mailed to:	*P. O. Box 2392, Gonzales, Louisiana 70707-2392*
Uploaded to:	www.centralauctionhouse.com

To address the above requirement for electronic bids, Ascension Parish Government will allow electronic bids submitted via the parish-approved online bid site to be submitted as follows (Refer to L.R.S. 38:2212):

A. A copy of the bid bond MUST be attached to the bid documents submitted electronically.
B. The original bid bond document must be received in our office no later than 48 hours after bid opening date and time.
C. The bid bond envelope must be clearly labeled as a Bid Bond with the project name, the vendor's name as it appears on the bid documents and the vendor's address.

All addenda, Amendments, Letters of Clarification, and Withdrawal Notices will be posted online at www.centralauctionhouse.com.

Construction proposal information may be accessed online at www.centralauctionhouse.com. Users shall select "Login" and, if necessary, submit and create a New User Registration to view and download drawings. Upon creating a user registration account, users must click "Ascension Parish Government" to view any current advertised listings. This listing is titled "LA 73 TURN LANES @ BROWN ROAD".

All registered users will have the ability to submit questions and view project information as well as view project drawings.

The Ascension Parish Government shall not be responsible if the bidder cannot complete and submit a bid due to failure or incomplete delivery of the files submitted via the internet.

All questions regarding this project and the bid packages shall be submitted to the Purchasing Department via purchasing@apgov.us by 10:00 a.m. CST on December 10, 2019. Responses will be coordinated with the Project Engineer and Posted on the www.centralauctionhouse.com website by 5:00 p.m. CST on December 13, 2019.

A **MANDATORY Pre-Bid meeting** will be held at 1**1:00 am CST** on **December 5, 2019** at the Ascension Governmental Complex located at 615 East the St. Gonzales, LA 70737 in room 110.

Bid security in the amount of five percent (5%) of the total bid must accompany each Bid and shall be made payable to Ascension Parish Government. See bid documents for specific criteria.

RS 38:2218. Evidence of good faith; countersigning:

A. The public entity advertising for bids for work shall require the bidders to attach a certified check, cashier's check, or bid bond for not more than five percent of the contract price of work to be done, as an evidence of good faith of the bidder. The public entity advertising for bids for work may require the bidders to attach a certified check, cashier's check, or bid bond for not more than five percent of the estimated price of supplies or materials, as evidence of good faith of the bidder.

No bidder may withdraw his bid within forty-five (45) days after the actual date of opening thereof.

The Parish of Ascension reserves the right to disqualify any Bid, response to a Request for Qualifications, or Request for Proposals if it is determined that the submitting business entity is not in good standing with the Louisiana Secretary of State or is not authorized to do business in the State of Louisiana.

The United States Department of Transportation (DOT) operates a toll free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., EST. Anyone with knowledge of possible bid rigging, bidder collusion or other fraudulent activities should call this hotline at 1 (800) 424-9071. All information will be treated confidentially and caller anonymity will be respected.

Ascension Parish Government reserves the right to reject any and all bids for just cause.

Ascension Parish Government
Kenny Matassa, Parish President

ADVOCATE - Please publish 11/21/2019, 11/28/2019, 12/05/2019
CHIEF - Please publish 11/21/2019, 11/28/2019, 12/05/2019
WEEKLY- Please publish 11/21/2019, 11/28/2019, 12/05/2019

GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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PART 1 - BIDDING AND CONTRACT DOCUMENTS

PART 1 - ARTICLE 2: INSTRUCTIONS TO BIDDERS

2.1 CROSS REFERENCE TO PRIMARY STATEMENTS. Definitions, requirements, and limitations affecting the bidding are contained in the various contract documents and are not necessarily repeated in these instructions.

2.2 QUALIFICATION OF BIDDERS. Bidders may be required to submit evidence that they have a practical knowledge of the particular task bid upon, and that they have the financial resources to complete the proposed scope in entirety.

In determining the Bidder's qualifications, the following factors will be considered: contracts previously completed by the Bidder and whether the Bidder (a) maintains a permanent place of business, (b) has adequate plant and equipment to do the task properly and expeditiously, (c) has the financial resources to meet all obligations incidental to the task, and (d) has appropriate technical experience.

Each Bidder may be required to show that he has completed similar work and that there are no just claims pending against such work. No Bid will be accepted from a Bidder who is engaged on any contract which would impair his ability to perform or finance his work.

2.3 LOUISIANA LICENSE REQUIREMENTS. Only Bids of Contractors licensed under LSA R.S. – 37:2150 et seq., will be considered. Contractors shall be licensed under Classification II – Highway, Street and Bridge Construction. Licensing is supervised by the Louisiana Licensing Board for Contractors, 7434 Perkins Road, Baton Rouge, Louisiana. Contractors desiring to bid shall submit with their Bids evidence that they hold a valid license in the proper classification.

2.4 FAMILIARIZATION WITH THE WORK. Before submitting their Bid, each prospective Bidder shall familiarize themselves with the scope of the task, the sites where the proposed improvements are to be performed, local labor conditions and all laws, regulations and other factors affecting performance of the work. The Bidder shall carefully correlate their observations with requirements of the Contract Documents and otherwise satisfy himself of the expense and difficulties attending performance of the Work. The submission of a Bid will constitute a representation of compliance by the Bidder. There will be no financial adjustment justification for lack of such familiarization. Additionally, evidence of having the lack of familiarization could result in contract termination or substantial financial impacts to the contractor due to liquidated damages or other variables.

2.4.1 SITE CONDITIONS. Each Bidder shall visit the sites of the Work and completely inform themselves relative to construction hazards and procedure, the availability of lands, the character and quantity of surface and subsurface materials, and utilities to be encountered, the arrangement and condition of existing structures and facilities, the procedure necessary for maintenance of uninterrupted operation of existing facilities, the character of construction equipment and facilities needed for performance of the Work,

and facilities for transportation, handling, and storage of materials and equipment. All such factors shall be properly investigated and considered in the preparation of the Bid.

2.4.2 ACCESS TO THE SITE(S). The project is to be constructed within the Parish of Ascension. Contractors and Suppliers wishing to inspect the various sites may do so at their convenience.

2.5 INTERPRETATIONS. The Drawings have been prepared by Neel-Schaffer, Inc., 10000 Perkins Rowe, Suite G630, Baton Rouge, LA 70810, who is hereinafter called the ENGINEER and who is to act as the OWNER's representative, assumes all duties and responsibilities and have the rights and authority assigned to the ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents. All questions about the meaning or intent of the Specifications and Contract Documents shall be submitted to the ENGINEER in writing. Replies will be issued by Addenda will be transmitted via facsimile, e-mail, or hand - delivered to all parties recorded by ENGINEER as having received the bidding documents and posted on the Central Auction House website. Addenda will be issued at least 72 hours, (3 working days, excluding weekends and holidays) prior to the time stated for opening bids. Questions received less than five (5) working days prior to the date for opening Bids will not be answered. Only answers furnished by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

2.6 TAXES AND PERMITS. Attention is directed to the requirements of the General Conditions and Supplemental Conditions regarding payment of taxes and obtaining permits. All taxes that are lawfully assessed against Owner or Contractor in connection with the Work shall be paid by Contractor. The bid prices shall include all such taxes and the costs of all required permits.

2.7 BID SECURITY. The amount of bid security is stated in the Invitation. The required security must be in the form of a certified or bank cashier's check or a bid bond. The bid bond must be executed by a surety meeting the requirements set forth in the General Conditions and Supplemental Conditions. Bid bond must have attached appropriate and satisfactory Power of Attorney. The bond shall also be countersigned by a person who is under contract with the Surety Company or Bond Issuer as a Licensed Agent in this State and who is residing in the State. Refer to R.S. 38:2218

The bid security shall be made payable without condition to the Owner. The bid security may be retained by and shall be forfeited to the Owner as liquidated damages if the Bid is accepted and a contract based thereon is awarded and the Bidder should fail to enter into a contract in the form prescribed, with legally responsible sureties, within fifteen (15) days after such award is made by Owner.

2.8 RETURN OF BID SECURITY. The bid security of the successful Bidder will be retained until the bidder has executed the Agreement and furnished the required Contract Security, whereupon checks furnished as bid security will be returned; if the bidder fails to execute and deliver the Agreement and furnish the required Contract Security within fifteen (15) days of 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 any Bidder whom Owner believes 'to have a reasonable chance of receiving the award' may be retained by Owner until the seventh day after the executed

Agreement is delivered by Owner to Contractor and the required Contract Security is furnished but not to exceed thirty (30) days after the Bid opening. Checks furnished as bid security by other Bidders will be returned within five (5) days of the Bid opening.

2.9 CONTRACT TIME. The Contract Time is an essential part of the contract and it may be necessary for each Bidder to satisfy Owner of his ability to complete the Work within the time set forth in the Bid Forms. Provisions for delays, liquidated damages, and extensions of time are set forth in the General and Supplemental Conditions.

The Contractor is responsible for equipment and material delivery. A time extension to the Contract duration will not be allowed for late material or equipment delivery.

2.10 SUBCONTRACTORS AND SUPPLIERS. Ten (10) days after Bids are opened, the successful Bidder, and any other Bidder so requested, shall submit a list of all Subcontractors and Suppliers he expects to use in the Work and to submit manufacturer's data on selected equipment, if requested by Owner.

2.10.1 SUBCONTRACTOR QUALIFICATION. Particular consideration will be given to the qualifications of each Subcontractor proposed. An experience statement with pertinent information as to similar projects and other evidence of qualification shall be furnished for each named Subcontractor, as requested by the Owner or Engineer. If Owner or Engineer, after due investigation has reasonable objection to any proposed Subcontractor, he may, before giving Notice of Award, request the successful Bidder to submit an acceptable substitute without an increase in his Bid. If the successful Bidder declines to make substitution he will not thereby sacrifice his bid security. Any Subcontractor so listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to the Owner and Engineer.

Contractor shall not be required to employ any Subcontractor against whom he has reasonable objection.

The use of Subcontractors listed by the Bidder and accepted by Owner prior to Notice of Award will be required in the performance of the Work.

2.10.2 SUPPLIERS. The list of Subcontractors shall also include the suppliers of the principal items of materials and equipment the Bidder expects to use in the Work unless such suppliers or manufacturers are named in the Bid. All material manufacturer, producer, supplier, source, or plant shall meet all qualifications required by LADOTD.

2.10.3 MANUFACTURER'S DATA. The list of Subcontractors submitted as provided herein shall be accompanied by two prints or copies of data on equipment and materials to be furnished by each supplier or manufacturer. Data so submitted shall illustrate the physical characteristics of the equipment and materials to be furnished. Although the drawings and specifications submitted prior to the Notice of Award need not be complete, but must contain sufficient detail for Engineer to determine whether the materials and equipment will conform to the Contract Documents.

The Contract Documents will take precedence over any nonconforming data submitted.

Any Bid specifically conditioned upon furnishing equipment or materials which are not responsive to the Contract Documents will not be considered.

2.11 BIDS.

2.11.1 BID FORM. The Bid Form is bound within the Contract Documents. Bid forms must be completed in ink or typed.

Bids by corporations must be executed in the corporate name by a president or vice-president (or other corporate officer) accompanied by evidence of authority to sign. The state of incorporation shall be shown below the corporate name. Bids by partnerships must be executed in the partnership name and signed by a partner; title and the official address of the partnership must be shown below the signature. Bids by joint ventures shall be signed by each participant in the joint venture or by an authorized agent of each participant.

The names of all persons signing must also be legibly printed below the signature. A Bid by a person who affixes to his signature the word "president", "secretary", "agent", or other designation without disclosing his principal may be held to be liable for the Bid.

All blank spaces in the Bid Form shall be filled. Bids received without all such items completed will be considered as a nonresponsive Bid.

The Bid shall contain an acknowledgement of receipt of all Addenda, the numbers and dates of which shall be filled in on the Bid Form.

No alterations in the Bids, or in the printed forms therein, by erasures, interpolations, or otherwise will be acceptable unless each such alteration is signed or initialed by the Bidder. If initialed, Owner may require the Bidder to clarify any alteration so initialed.

All questions regarding this project and the bid package shall be submitted to the Purchasing Department via purchasing@apgov.us ***by 10:00 am CST on December 10, 2019. Responses will be coordinated with the Project Engineer and posted on the centralauctionhouse.com web site by 5:00 PM CST on December 13, 2019.***

In addition to paper bids, electronic bids and electronic bid bonds for the project will be downloaded by the Ascension Parish Purchasing Department. Electronic bids and electronic bid bonds must be submitted through www.centralauctionhouse.com prior to the electronic bidding deadline. Beginning at ***11:00 AM CST*** **on December 19, 2019 all bids will be downloaded. No bids are accepted after *11:00 AM*. (CST) of DECEMBER 19th, 2019.**

2.11.2 AFFIDAVIT. Bidders shall include with their Bid the attached Non-Collusion Affidavit.

2.11.3 SUBMISSION OF BIDS. The bid shall consist of the Bid Form and the other documents that are required to be submitted along with the Bid Form.

Each Bid and accompanying data shall be enclosed in a sealed envelope or wrapping, addressed to:

Ascension Parish Government Purchasing Office
615 E. Worthey Street, Gonzales, Louisiana 70787
(P.O. Box 2392, Gonzales, Louisiana 70707)

and identified on the outside with the Bidder's name, Louisiana Contractor License Number and the words "***LA 73 TURN LANES @ BROWN ROAD***, ***MA-18-03-A***.

If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "**BID ENCLOSED**" on the face thereof.

Bids shall be deposited at the designated location prior to the time and date for receipt of Bids indicated in the Invitation for Bids, or the modified time and date indicated by Addendum. Bids received after the time and date for receipt of Bids will be returned unopened.

Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

Oral, telephone, or telegraph Bids are invalid and will not receive consideration.

No Bidder may submit more than one Bid. Multiple Bids under different names will not be accepted from one firm or association.

2.11.4 MODIFICATION AND WITHDRAWAL OF BIDS. Bids 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 at any time prior to the opening of Bids.

2.11.5 BIDS TO REMAIN OPEN. All Bids shall remain open for up to 45 days after the day of the Bid opening. Owner shall release Bids and return bid securities as specified in Section 2.8 under "Return of Bid Security".

2.12 AWARD OF CONTRACT.

2.12.1 To the extent permitted by the applicable local, state and federal laws and regulations, Owner reserves the right to reject any and all Bids for just cause. Ascension Parish Government reserves the right to reject any and all bids in accordance with Louisiana State Bid Law.

2.12.2 In order to be responsive, the apparent low bidder must submit the additional information and documentation required by the Owner and Engineer with the time delays established by law.

2.12.3 The apparent low Bidder must establish complete satisfaction of the Owner, a minimum, that he has: (a) adequate financial resources to meet bid Contractual obligations and will maintain same for the Contract Time; (b) adequate equipment to perform the Work properly and within the Contract Time; (c) the necessary experience and technical qualifications in the type of Work provided for in the Contract; (d) conformed to the Qualification Submittals as requested.

2.12.4 Owner may conduct such investigations as it deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors, and other persons and organizations to do the Work in accordance with the Contract Documents to the Owner's satisfaction within the prescribed time. Owner reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to Owner's satisfaction.

2.12.5 If the Contract is to be awarded for the Work, it will be awarded to the lowest responsive and responsible Bidder as determined by the evaluation of the corresponding Bid.

2.13 EXECUTION OF THE AGREEMENT. The Contractor shall be furnished four (4) copies of the Agreement, including insurance certificates, and other Contract Documents bound therewith. Within fifteen (15) days of Notice of Award, Contractor shall execute the Agreement, insert executed copies of the required bonds and power of attorney and submit all copies to Owner. The date of contract on the Agreement and Bond forms shall be left blank for filling in by Owner. The certification date on the power of attorney also shall be left blank for filling in by Owner.

Owner shall execute all copies, insert the date of contract on the Agreement, Bonds, and power of attorney, and return all copies to Engineer for review and distribution.

Once all contract documents have been executed, the Contractor shall be furnished one (1) set of original documents. The Owner shall have one (1) set of these documents recorded in the office of the Recorder of Mortgages in the jurisdiction where the work is to be performed.

2.14 COPIES OF CONTRACT DOCUMENTS. -- See Invitation to Bidders

2.15 LOCAL MATERIAL AND FIRMS. By statutory authority, preference is hereby given to materials, supplies, and provisions produced, manufactured, or grown in Louisiana, quality being equal to articles offered by competitors outside of the State (LSA R.S. – 38:2252), and preference is hereby given to firms doing business in the State of Louisiana (LSA R.S.– 38:2253).

PART 1 - ARTICLE 3: DRAFT CONTRACT

NOTICE
This is a DRAFT CONTRACT. The FINAL CONTRACT is subject to final negotiations and special conditions pending agreement approved by Ascension Parish Government Legal entities.

MASTER CONTRACT
For
PUBLIC WORKS/CONSTRUCTION

BE IT KNOWN that on this _____ day of _____, 20_____

Ascension Parish Government (hereinafter called OWNER), by and through the Office of the Parish President (hereinafter sometimes referred to as the PARISH), as approved by Resolution adopted by the Parish Council of Ascension on the ____ day of _____, 20_____.

AND

_____, (hereinafter called CONTRACTOR) qualified to do and doing business in this State and Parish (hereinafter referred to as "CONTRACTOR") and authorized to enter into this contract;

do hereby enter into contract under the following terms and conditions:

NOTE: This Contract or Agreement governs the relationship and rights between the Parties. While there may be other Documents (for example, General Conditions) which might exist between the Parties, those documents **do not** control in the event or to the extent that there is any conflict or contradiction with the terms of this Agreement or Contract. In the event that there is any conflict between the terms of this Agreement/Contract and any other document between the parties, THE PARTIES AGREE THAT THIS AGREEMENT/CONTRACT SHALL CONTROL AND GOVERN.

1. SCOPE OF WORK

A. CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents in conjunction with:

LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

2. ENGINEER

A. The Drawings have been prepared by ***NEEL-SCHAFFER, INC., 10000 PERKINS ROWE, SUITE G360, BATON ROGUE, LA 70810*** and prepared for Ascension Parish Government, who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all

duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

3. TERM OF CONTRACT

A. The Work will be substantially completed (See item #44 on page D28) within ***90 Calendar Days*** from the date identified on the Notice to Proceed from the Engineer.

B. The Notice to Proceed shall be issued within thirty (30) days from the execution of this contract unless the Owner or Owner's representative and the Contractor agree in writing to another specified date.

C. This Construction Contract shall terminate upon final acceptance by the Engineer and all justified payments are made to contractor.

4. PROJECT SCHEDULE

A. CONTRACTOR shall submit and strictly adhere to a project construction schedule throughout the allocated contract and associated time frame. CONTRACTOR is aware that OWNER may have a representative at each site where Work is being performed and that CONTRACTOR needs to coordinate with the OWNER'S REPRESENTATIVE or PROJECT MANAGER where Work on the CONTRACT will be performed. CONTRACTOR will coordinate with the OWNER'S REPRESENTATIVE by strictly following the project construction schedule or Progress Schedule. OWNER recognizes and understands that changes in project construction schedule or Progress Schedule may become necessary during the course of the project. However, in the event of any such change, the CONTRACTOR shall notify the OWNER'S REPRESENTATIVE **in writing** of a proposed change. Said written notice shall be provided at least 12 hours prior to the revised construction activity. Said notice shall be provided by emailing notice of change to menlow@apgov.us or trabalais@apgov.us and other contacts including testing company that is a team for member for the project.

B. Should the CONTRACTOR fail to timely notify the OWNER'S REPRESENTATIVE of such change, the OWNER'S REPRESENTATIVE will document the CONTRACTOR'S failure to notify of the change in work and SHALL assess stipulated damages as follows. For EACH failure to notify the OWNER'S REPRESENTATIVE of any change in the project construction schedule or Progress Schedule, the CONTRACTOR AGREES TO PAY **$150.00 per failure to notify the OWNER'S REPRESENTATIVE.** CONTRACTOR agrees that these stipulated damages reflect the lost time, manpower, and mileage incurred by OWNER attempting to locate the CONTRACTOR where a change in schedule occurs and the required notice was not provided. CONTRACTOR further agrees that **said amount shall be paid** by directly reducing the amount of monthly invoices/pay applications by the amount of penalties issued. The Penalty fees shall be itemized on monthly invoices.

5. LIQUIDATED DAMAGES

A. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and the

OWNER will suffer financial loss if the Work is not completed within the times specified in Section 3A above, plus any extensions thereof allowed in accordance with the contract conditions and approved time changes thereto. There are delays, expenses and difficulties involved in proving in a legal arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER the amount of $500 for each and every day that expires after the time specified in Section 3A for Substantial Completion until the Work is substantially complete.

6. CONTRACT PRICE

A. OWNER shall pay CONTRACTOR for completion of the Work completed in accordance with the Contract Documents in the amount specified therein, subject to adjustment as provided in the Contract Documents or amendments thereto. The estimated total of this contract is **$_____**.

7. PAYMENT PROCEDURES

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14.02 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

B. **Progress Payments**. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER, once each month during construction. All progress payments will be on the basis of progress of the Work measured by the schedule of values established in Part 2 Article 14.2 of the General Conditions (and in each case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Conditions. Payment will be made on work that has been installed, inspected, tested, verified, and done so to the satisfaction of the engineer.

C. Pursuant to LA R.S. – 38.2248 (Public Contract Law), Owner shall withhold retainage from each progress payment until payment is due under terms and conditions governing substantial completion or final payment. Retainage shall be ten percent (10%) of the amount of work completed to date.

D. **Fuel or Asphalt/Concrete Adjustments.** There shall be **NO** adjustments for prices or costs of any fuel or asphalt/concrete on this project, arising out of the work on this project/contract, or arising out of this contract. Further, the CONTRACTOR hereby waives any price adjustment for fuel or asphalt/concrete or the ability or right to request any price adjustment for fuel or asphalt/concrete. Particularly, the Louisiana DOTD provisions (or any such or similar provisions by any other third party) pertaining to or related to fuel or asphalt/concrete adjustments are not part of this contract, are not incorporated by reference or otherwise in this Contract, and shall not apply in any form or fashion to the contract. Any language in this Contract which implies that the CONTRACTOR may obtain an adjustment in price for fuel or asphalt/concrete is hereby to be interpreted that CONTRACTOR shall **not** receive any such adjustment. CONTRACTOR

shall not assert that any language in the CONTRACT creates any vagueness or ambiguity in the CONTRACT entitling CONTRACTOR to price adjustments for fuel or asphalt/concrete. CONTRACTOR hereby waives any right or ability to request any price adjustment for fuel or asphalt/concrete and CONTRACTOR shall **not** submit any request for any change in price for fuel or asphalt/concrete adjustments to the OWNER in any form.

E. **Final Payment**. Upon final completion and acceptance of the Work in accordance with paragraph 14.7 of the General Conditions. OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER.

F. There shall be no fees charged by, nor paid to, CONTRACTOR for consultation with the Parish.

G. CONTRACTOR hereby agrees that the responsibility for payment of taxes from the funds thus received under this agreement shall be said CONTRACTOR's obligation and identified under Federal Tax Identification Number as listed in the Scope.

H. The Parish agrees to make payment to CONTRACTOR for services upon receipt and approval of each invoice. The Parish will pay CONTRACTOR the amount due and payable within thirty (30) days or unless a conflict results in a delay of payment. Upon receipt of each invoice, the Parish shall have the right and opportunity to review, confirm or otherwise determine the accuracy of each invoice and performance of service. In the event that the Parish disputes or otherwise may question the accuracy of each invoice or quality of all work performed, the Parish may withhold payment of any invoice until a successful and satisfactory resolution can be had between the parties. Parish agrees to not unreasonably withhold payments of any invoice.

I. Other than the fee schedule herein, there will be absolutely no additional fees due CONTRACTOR to cover its overhead costs, general expenses, capital expenses, expenses for principal/branch/ field offices, employees' salaries, direct and indirect costs, additional costs or profit of any nature whatsoever in excess of the previously agreed hourly rate.

8. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

A. CONTRACTOR is familiar with the nature and extent of the Contract Documents, Work site, locality and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.

B. CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies, or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Paragraph 4.3 of the General Conditions.

C. CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions. Of the Contract Documents.

D. CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

9. CONTRACT DOCUMENTS

The Contract Documents which comprise of the contract between OWNER and CONTRACTOR, attached hereto and made a part hereof, consist of the documents listed in Table of Contents, and the documents identified below.

A. CONTRACTOR Bid Documents
B. Bid Bonds
C. Agreement
D. Payment Bond
E. Performance Bond
F. Notice of Award
G. Notice to Proceed
H. Technical Specifications and Special Provisions prepared by ENGINEER
I. Standard General Conditions
J. Drawings prepared by ENGINEER

10. CONTRACTOR DOCUMENTS

A. The CONTRACTOR shall also furnish sufficient as-built sets of plans, specifications and contract documents.

B. All data collected by the CONTRACTOR and all documents, notes, drawings, tracings and files shall remain the property of the OWNER except as otherwise provided herein. The CONTRACTOR shall furnish to the PROJECT MANAGER originals of any project documents used in completion of the project or in any way related to this project to the PROJECT MANAGER.

C. The Owner shall furnish without charge all standard plans and specifications and any other information which the Owner now has in its files which may be of use to the CONTRACTOR. CONTRACTOR has the duty to and must confirm and verify all information contained therein.

D. **Construction Documents.** The CONTRACTOR shall use the most current version of the standard forms of documents adopted and specified by the OWNER in the performance of the Contract, all as of the date of the signing of this contract. Notwithstanding anything to the contrary in any other provision of this contract, none of the contract documents provided by the OWNER are or will become the property of the CONTRACTOR but shall remain the property of the OWNER to the extent the OWNER has a property interest therein.

E. Notwithstanding any Section hereinafter, there will be retention of all related records:

i. All records, reports, documents and other material delivered or transmitted to CONTRACTOR by Parish shall remain the property of Parish, and shall be returned by CONTRACTOR to Parish, at CONTRACTOR's expense, at termination or expiration of this contract. All records, reports, documents, exhibits or other material related to this contract and/or obtained or prepared by CONTRACTOR in connection with the performance of the services contracted for herein shall become the property of Parish, and shall be returned by CONTRACTOR to Parish, at CONTRACTOR's expense, at termination or expiration of this contract.

ii. The Parish and CONTRACTOR acknowledge and agree that the Parish has the right to review retain all records, reports, worksheets or any other material of either party related to this contract. CONTRACTOR further agrees that CONTRACTOR will furnish to the Parish copies of any and all records, reports, worksheets, bills, statements or any other material of CONTRACTOR or Parish related to this contract.

iii. CONTRACTOR shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred and shall make such materials available at its offices at any reasonable time for inspection and copying by the Parish.

iv. CONTRACTOR shall retain all of its records and supporting documentation applicable to this contract with the Parish for a period of three (3) years after termination of the contract in accordance with state law, except as follows:

1. Records that are subject to Federal Funds and/or audit findings shall be retained for five (5) years after such findings have been resolved close out has been issued.

2. All such records and supporting documentation shall be made readily available for inspection, copying or audit by representatives of the Parish. In the event the CONTRACTOR goes out of existence, it shall turn over to the Parish all of its records relating to this contract to be retained by the Parish for the required period of time.

F. In the event there is re-use of any documents created by CONTRACTOR, CONTRACTOR invokes the privileges afforded it as per La. Revised Statute R.S. 38:2317.

G. The Parish agrees not to use CONTRACTOR’s work product on any other project without the express written notice to the CONTRACTOR.

H. All of CONTRACTOR’s pre-existing or proprietary computer programs, software, information, standard details or material developed by CONTRACTOR outside of this agreement shall remain the exclusive property of the CONTRACTOR.

11. NON-ASSIGNABILITY

A. CONTRACTOR shall not assign nor transfer any interest in this contract (whether by assignment or novation) without prior written consent of the Parish, provided however, that claims for money due or to become due to the CONTRACTOR from the Parish under this

contract may be assigned to a bank, trust company, or other financial institution without such prior written consent. Notice of any such assignment or transfer shall be furnished promptly to the Parish.

B. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

C. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representative to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

12. BUDGET LIMITATION

A. It is the responsibility of the CONTRACTOR to advise the Parish in advance if contract funds or contract terms may be insufficient to complete contract objectives. CONTRACTOR understands and specifically warrants that it assumes the sole responsibility to advise the Parish in advance if contract funds or contract terms may be insufficient to complete contract objectives. In providing opinions of probable construction cost, the Parish understands that the CONTRACTOR has no control over costs and price of labor, equipment or materials or over the general CONTRACTOR's method of pricing, and that the opinion of probable costs provided herein are made on the basis of the CONTRACTOR's qualifications and experience.

B. The continuation of this contract is contingent upon the appropriation of funds by the Parish to fulfill the requirements of the contract. If the Parish fails to appropriate sufficient monies to provide for the continuation of this or any other related contract, or if such appropriation is reduced by the veto of Parish President by any means provided in the appropriations Ordinance to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated

13. INSURANCE

A. The CONTRACTOR shall secure and maintain at its expense such insurance that will protect it and the Parish from claims under the Workmen's Compensation Acts and from claims for bodily injury, death or property damage which may arise from the performance of services under this agreement. All certificates of insurance shall be furnished to the Parish and shall provide that insurance shall not be canceled without thirty (30) days prior notice of cancellation given to the Parish of Ascension, in writing, on all of the required coverage provided to Ascension Parish. Where possible, all policies and notices should name the CONTRACTOR and Parish. The Parish may examine the policies at any time.

B. All policies and certificates of insurance shall contain the following clauses:

i. The CONTRACTOR's insurers will have no right of recovery or subrogation against the Parish of Ascension, it being the intention of the parties that the insurance policy so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance.

ii. The Parish of Ascension shall be named as additional named insured with respect to automobile and general liability.

iii. The insurance companies issuing the policy or policies shall have no recourse against the Parish of Ascension for payment of any premiums or for assessments under any form of policy.

iv. Any and all deductible in the described insurance policies shall be assumed by and be at the sole risk of the CONTRACTOR.

C. Prior to the execution of this agreement, the CONTRACTOR shall provide at its own expense, proof of the following insurance coverage required by the contract to the Parish of Ascension by insurance companies authorized to do business in the State of Louisiana. Insurance is to be placed with insurers with an A.M. Best rating of no less than B+.

i. Worker's compensation Insurance: As required by Louisiana State Statute exception; employer's liability shall be at least $1,000,000 per occurrence when work is to be over water and involves maritime exposures, otherwise this limit shall be no less than $500,000 per occurrence.

ii. Commercial General Liability Insurance with a Combined Single Limit of at least $500,000.00 per Occurrence for bodily injury and property damage. This insurance shall include coverage for bodily injury and property damage, and indicate on the certificate of insurance the following:

1. Premises Operations;
2. Broad form contractual liability;
3. Products and completed operations;
4. Personal injury;
5. Broad form property damage;
6. Explosion, collapse and underground coverage (not needed for design).

iii. Business Automobile Liability Insurance with a Combined Single Limit of $500,000.00 per Occurrence for bodily injury and property damage, unless otherwise indicated. This insurance shall include for bodily injury and property damage the following coverage:

1. Any automobiles;
2. Owned automobiles;
3. Hired automobiles;

4. Non-owned automobiles;
5. Uninsured motorist.

iv. An umbrella policy or excess policy may be used to meet minimum requirements.

v. The CONTRACTOR shall also secure and maintain at its expense professional liability insurance in the sum of at least One Million Dollars ($1,000,000.00) per claim.

vi. All policies of insurance shall meet the requirements of the Parish of Ascension prior to the commencing of any work. The Parish of Ascension has the right, but not the duty, to approve all insurance policies prior to commencing of any work. If at any time, it becomes known that any of the said policies shall be or becomes unsatisfactory to the Parish of Ascension as to form or substance; or if a company issuing any such policy shall be or become unsatisfactory to the Parish of Ascension, the CONTRACTOR shall promptly obtain a new policy, timely submit same to the Parish of Ascension for approval and submit a certificate thereof as provided above. The Parish agrees to not unreasonably withhold approval of any insurance carrier selected by CONTRACTOR. In the event that Parish cannot agree or otherwise authorize said carrier, CONTRACTOR shall have the option of selecting and submitting new insurance carrier within 30 days of said notice by the Parish. In the event that the second submission is insufficient or is not approved, then the Parish shall have the unilateral opportunity to thereafter select a responsive and responsible insurance carrier all at the cost of CONTRACTOR and thereafter deduct from CONTRACTOR's fee the cost of such insurance.

vii. Upon failure of CONTRACTOR to furnish, deliver and/or maintain such insurance as above provided, this contract, at the election of the Parish of Ascension, may be forthwith declared suspended, discontinued or terminated. Failure of the CONTRACTOR to maintain insurance shall not relieve the CONTRACTOR from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligation of the CONTRACTOR concerning indemnification.

viii. WAIVER: Except as otherwise provided by law, the coverage requirements of this section may be waived in whole or in part on agreements under $50,000.00, and the Parish is authorized to use its discretion in regard to insurance requirements for such contracts. Except as otherwise provided by law, the Parish President or the Parish Chief Administrative Officer is authorized to omit in whole or in part the insurance requirements of this section in connection with such contracts.

D. CONTRACTOR shall maintain a current copy of all annual insurance policies and provide same to the Parish of Ascension on an annual basis or as may be reasonably requested.

14. OTHER ITEMS AND CONDITIONS

A. **Licenses and Commissions.** The CONTRACTOR shall, at all times during the term of this contract, maintain valid Louisiana licenses and commissions as are customarily required of such a CONTRACTOR, including but not limited to those that may be required by this State and/or Parish. The CONTRACTOR agrees to renew and or keep current all licenses and commissions

herein. The CONTRACTOR agrees to maintain a copy of all such licenses or commissions on file at all time and make same available for review as may be reasonably requested by the Parish of Ascension.

B. The professional and technical adequacy and accuracy of designs, drawings, specifications, documents, and other work products furnished under this agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession in the Baton Rouge Metropolitan area including the parishes surrounding Ascension Parish. In the event the Parish must have work done by change order or addition resulting from an error or omission by the CONTRACTOR, CONTRACTOR shall provide, at no cost to Parish, all professional services attributable to the change order. This is in addition to Parish's right to recover from CONTRACTOR any damages for its errors and omissions.

C. The CONTRACTOR shall defend, indemnify, and hold the Parish harmless from against any and all actions, claims, demands, complaints, or lawsuits of any kind (whether in tort or in contract) for any sums of money, costs, liabilities, judgments, fines, or penalties asserted or alleged by any person, party, entity, firm or generation for any damage, injury, claim, or cause of action (of any kind) including, but not limited to, pecuniary and non-pecuniary damages/losses to person or property which are alleged to have been caused by or which were caused by or (wholly or partially), which grow out of, which arise from, or which result from any acts, errors, or omissions by CONTRACTOR, its agents, servants, or employees while engaged in connection with services required to be performed by the CONTRACTOR under this agreement. This paragraph is to be broadly interpreted to include any and all causes of action which result wholly or partially from the conduct or the CONTRACTOR.

D. This agreement shall be binding upon the successors and assigns for the parties hereto.

E. This agreement represents the entire Agreement between Parish and CONTRACTOR.

F. If there is any dispute concerning this agreement, the laws of Louisiana shall apply. The exclusive venue and jurisdiction for all lawsuits, claims, disputes, and other matters in questions between the parties to this agreement or any breach thereof shall be in the 23rd Judicial District Court for the Parish of Ascension, State of Louisiana. It is also understood and agreed that the laws and ordinances of Ascension shall apply.

G. In the event that the CONTRACTOR modifies the Parish's contract documents without the expressed prior written consent of the Parish, the CONTRACTOR shall indemnify and hold harmless the Parish from any claims, lawsuits, or damages that arise out of or are attributable to the modification. This indemnification and hold harmless obligation shall include not only the damages suffered by the Parish but also all reasonable expenses including, but not limited to, any and all litigation or other dispute resolution costs and any and all professional fees incurred by the Parish as a result of the CONTRACTOR's deviation from the Parish's contract documents.

H. CONTRACTOR agrees to a covenant against contingent fees. CONTRACTOR warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONTRACTOR, to solicit or secure this Contract, and that it has not paid or

agreed to pay any company or person, other than a bona fide employee working solely for the CONTRACTOR, any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, the Parish shall have the right to annul this contract without liability.

I. This contract may be amended only by mutual written consent of the respective parties.

J. **Third Party Beneficiary**. It is specifically agreed by and between the parties to this contract that no person or party is intended, deemed, considered, or construed to be a third party beneficiary of this contract.

K. Neither party will be liable for failure to fulfill its obligations when due to causes beyond its reasonable control.

L. Any failure or delay by either party in exercising any right or remedy will not constitute a waiver.

M. Severability: if any provision or item in this contract is held invalid or unenforceable for any reason, then such invalidity or unenforceability shall not affect other provisions or items of this contract. In such event, the remaining portions shall be given full force and effect without the invalid provision or item, and to this end the provisions or items of this contract are hereby declared severable.

N. It is specifically understood that the terms "agreement" and "contract" may be used interchangeably. It is specifically understood that the terms “OWNER”, “PROJECT MANAGER” and "Parish" and "the Parish of Ascension" may be used interchangeably.

O. **Conflict of Interest.** It is understood and agreed between the parties hereto that CONTRACTOR is not retained exclusively by the Parish but that the Parish may retain other CONTRACTORs during the term of this Contract. In the event of reasonably known conflicts of interest or potential conflicts of interest between the Parish and other parties who have engaged CONTRACTOR, the CONTRACTOR agrees to make full disclosure of the same, and that they will take no action on behalf of any other client directly adverse to the Parish, nor will CONTRACTOR take any action on behalf of the Parish directly adverse to any other client.

P. CONTRACTOR warrants that CONTRACTOR is qualified to perform the intended purposes of this agreement. In the event that CONTRACTOR becomes not fit nor qualified for any reason whatsoever, then CONTRACTOR agrees to withdraw from work herein at no cost to the Parish. In the event that the Parish determines that CONTRACTOR is not suited for Parish purposes or otherwise fails to represent Parish policies to the satisfaction of the Parish, then CONTRACTOR agrees to withdraw from this agreement.

Q. CONTRACTOR specifically agrees and understands that CONTRACTOR shall not maintain or otherwise claim that it possesses any security interest in any aspect of the work that forms the basis of this agreement.

R. CONTRACTOR agrees to ensure that its personnel are, at all times, educated and trained, and further, that CONTRACTOR and its personnel will perform all work and services in a workmanlike and professional manner.

S. CONTRACTOR recognizes and understands that time is of the essence. CONTRACTOR agrees to perform and provide services in accordance with this agreement and all incorporated attachments.

T. CONTRACTOR shall be responsible for any and all losses and damages suffered or incurred by the Parish, including but not limited to all costs, attorney's fees, out of pocket expenses, any & all Parish employee time, and any other expenditure by the Parish to defend, remedy, repair, replace, correct, or cure any condition or liability created or arising out of the actions or omissions to act of the CONTRACTOR, it's agents, officer, servants, or employees. This includes the payment of any cost or fees of any type or kind incurred by the Parish in defending any lawsuit, complaint, claim, claim filed or arising out of the action or omission to act of the CONTRACTOR.

U. CONTRACTOR agrees that it will be responsible for all of its own actual and reasonably related expenses for its on and off-site office work. CONTRACTOR further agrees that Parish will not be responsible for or in any way liable for CONTRACTOR's payroll costs, indirect or direct expenses, overhead, or any other amounts associated with CONTRACTOR's business other than the specific fees & costs generated under the terms of this agreement.

15. TERMINATION AND SUSPENSION

A. **Termination for Cause.** The Parish may terminate this Contract for cause based upon the failure of the CONTRACTOR to comply with the terms and/or conditions of the Contract, provided that the Parish shall give the CONTRACTOR written notice specifying the failure. If within thirty (30) days after receipt of such notice, the CONTRACTOR shall not have corrected such failure and thereafter proceeded diligently to complete such correction, then the Parish may, at its sole and exclusive option, place the CONTRACTOR in default and this contract shall terminate on the date specified in such notice. Work to be performed during this 30-day period shall not proceed without the actual knowledge of the Parish and specifically supervised by the Parish. Any work performed by CONTRACTOR during this period without the actual knowledge of the Parish and not under the supervision of the Parish shall not be compensated nor honored; CONTRACTOR specifically waives and forfeits any and all claims to payment, compensation, quantum merit, and/or reimbursement from the Parish of any work performed during this period in violation of this paragraph. CONTRACTOR agrees and understands specifically that satisfactory performance shall be unilaterally and exclusively determined by the Parish.

B. **Termination for Convenience.** Notwithstanding any other section herein, the Parish may terminate this contract at any time for any reason whatsoever by giving thirty (30) days written notice to the CONTRACTOR. The CONTRACTOR shall be entitled to payment for deliverables in progress; to the extent work has been actually and satisfactorily performed.

C. **Right to Cancel.**

i. The continuation of this contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the Parish. If the Parish fails to appropriate sufficient monies to provide for the continuation of this or any other contract, or if such appropriation is reduced by the veto of Parish President by any means provided in the appropriations Ordinance to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated. It is understood and agreed that the paragraph below may preempt this paragraph, all at the exclusive and unilateral option of the Parish.

ii. Either party shall have the right to cancel this contract, with or without cause, by giving the other party (30) days written notice.

D. Additional Causes for Termination or suspension:

i. The Parish has the right to cancel this contract upon less than thirty (30) days due to budgetary reductions and changes in funding priorities by the Parish.

ii. By mutual agreement and consent of the parties hereto.

iii. By the Parish as a consequence of the CONTRACTOR's failure to comply with the terms, progress or quality of work in a satisfactory manner, proper allowances being made for circumstances beyond the control of the CONTRACTOR.

iv. By either party upon failure to fulfill its obligations as set forth in this contract.

v. In the event of the abandonment of the project by the Parish.

vi. A Stop Work Order can be immediately issued by the Parish if they deem it necessary to protect the health, safety, and welfare of the community.

E. Upon termination, the CONTRACTOR shall be paid for actual work performed prior to the notice of termination on a pro-rata share of the basic fee based on the phase or percentage of work actually completed.

F. Upon termination, the CONTRACTOR shall deliver to the Parish all original documents, notes, drawings, tracings, computer files, and files except the CONTRACTOR’s personal and administrative files.

G. Should the Parish desire to suspend the work, but not definitely terminate the contract, this may be done by thirty (30) days’ notice given by the Parish to that effect, and the work may be reinstated and resumed in full force & effect upon receipt from the Parish of thirty (30) days’ notice in writing to that effect. CONTRACTOR shall receive no additional compensation during

the suspension period. The parties agree to revisit the terms of this contract during the suspension period which shall not exceed six (6) months, unless mutually agreed upon.

H. There is a right to cancel by the Parish by giving thirty (30) days' notice to CONTRACTOR and paying undisputed fees due for services on that portion of the work that has been satisfactorily, timely and/or professionally completed, all in the exclusive discretion of the Parish at any time herein.

I. In the event of a default and/or breach of this agreement and this matter is forwarded to legal counsel, then the prevailing party may be entitled to collect a reasonable attorney fees and all costs associated therewith whether or not litigation is initiated. Attorney fees shall be based upon the current, reasonable prevailing rate for counsel as provided on the fee schedule of the Louisiana Attorney General or in the private sector, whichever is greater. The parties agree to be responsible for such attorney fees, together for all with legal interest from date of agreement breach, plus all costs of collection.

J. Termination or cancellation of this agreement will not affect any rights or duties arising under any term or condition herein.

K. As to the filing of bankruptcy, voluntarily or involuntarily, by CONTRACTOR, CONTRACTOR agrees that if any execution or legal process is levied upon its interest in this contract, or if any liens or privileges are filed against its interest, or if a petition in bankruptcy is filed against it, or if it is adjudicated bankrupt in involuntary proceedings, or if it should breach this contract in any material respect, the Parish shall have the right, at its unilateral option, to immediately cancel and terminate this contract. In the event that CONTRACTOR is placed in any chapter of bankruptcy, voluntarily or involuntarily, or otherwise triggers any provision of the preceding sentence herein, it is understood and agreed that all materials, goods and/or services provided shall be and remain the property of the Parish. All rights of CONTRACTOR as to goods, wares, products, services, materials and the like supplied to Parish shall be deemed forfeited.

16. AUDITORS

Notwithstanding other Sections herein, CONTRACTOR shall maintain all records for a period of three years after the date of final payment under this contract. It is hereby agreed that the Parish Department of Finance or its designated auditor shall have the sole, unilateral and exclusive option of auditing all accounts of CONTRACTOR which relate to this contract. Such audit may be commenced at any reasonable time. CONTRACTOR agrees not to delay, retard, interrupt or unduly interfere with commencement and completion of such an audit. If in the exclusive and unilateral opinion of the Parish that CONTRACTOR delays, retards, interferes with or otherwise interrupts such an audit, the Parish may seek such relief as per law. In such an event, CONTRACTOR agrees to be liable for all reasonable attorney fees, costs of auditors, court costs, and any other reasonably related expenses with such litigation

17. DISCRIMINATION CLAUSE

CONTRACTOR agrees to comply with the Americans with Disabilities Act of 1990 and any current amendments thereto. All individuals shall have equal access to employment opportunities available to a similarly suited individual. CONTRACTOR agrees not to discriminate in its employment practices, and will render services under this contract without regard to race, color, religion, sex, national origin, veteran status, political affiliation, or disabilities. Any act of discrimination committed by CONTRACTOR, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this contract. CONTRACTOR agrees to abide by the requirements of all local, state, and/or federal law, including but not limited to the following: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Act of 1975, and the requirements of the Americans with Disabilities Act of 1990. CONTRACTOR warrants and guarantees that it is an Equal Employment Opportunity employer. In all hiring or employment made possible by or resulting from this Contract, there shall not be any discrimination against any person because of race, color, religion, sex, national origin, disability, age or veterans status; and where applicable, affirmative action will be taken to ensure that CONTRACTOR's employees are treated equally during employment without regard to their race, color, religion, sex, national origin, disability, age, political affiliation, disabilities or veteran status. This requirement shall apply to but not be limited to the following: employment upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. All solicitations or advertisements for employees shall state that all applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability, age or veteran status.

18. INDEPENDENT CONTRACTOR

A. While in the performance of services or carrying out obligations herein, the CONTRACTOR shall be acting in the capacity of an independent contractor and not as an employee of the Parish. The Parish shall not be obliged to any person, firm or corporation for any obligations of the CONTRACTOR arising from the performance of its services under this agreement. The CONTRACTOR shall not be authorized to represent the Parish with respect to services being performed, dealings with other agencies, and administration of specifically related contracts, unless done so in writing by the Parish.

B. CONTRACTOR hereby agrees to be responsible for payment of taxes from the funds thus received under this Contract. CONTRACTOR agrees to be responsible for and to pay all applicable federal income taxes, federal social security tax (or self-employment taxes in lieu thereof) and any other applicable federal or state unemployment taxes. CONTRACTOR agrees to indemnify and hold the Parish harmless for any and all federal and/or state income tax liability, including taxes, interest and penalties, resulting from the Parish's treatment of CONTRACTOR as independent contractor.

C. CONTRACTOR further agrees to reimburse Parish for any and all costs it incurs, including, but not limited to, accounting fees and legal fees, in defending itself against any such liability.

D. CONTRACTOR agrees and acknowledges that it (and its employees) is an **independent contractor** as defined in R.S. 23: 1021 (or any other provision of law) and as such nothing herein shall make CONTRACTOR an employee of the Parish nor create a partnership between CONTRACTOR and the Parish.

E. CONTRACTOR acknowledges exclusion of Workmen's Compensation Coverage. CONTRACTOR acknowledges of the exclusion of Unemployment Compensation Coverage.

F. CONTRACTOR agrees to a waiver of any and all sick and annual benefits from the Parish. It is expressly agreed and understood between the parties entering into this personal service contract, that CONTRACTOR, acting as an independent agent, shall not receive any sick and annual leave from the Parish.

19. NOTICES

All notices shall be by certified mail, return receipt requested, and sent to the following individuals at the following addresses. Changes of person and addresses are to be exchanged in a like manner:

Parish of Ascension: Office of the Parish President
P. O. Box 1659
Gonzales, LA 70707

CONTRACTOR:

20. AUTHORITY TO ENTER CONTRACT

The undersigned representative of CONTRACTOR warrants and personally guarantees that he/she has the requisite and necessary authority to enter and sign this contract on behalf of the corporate entity. The undersigned parties warrant and represent that they each have the respective authority and permission to enter this agreement. The Parish shall require, as an additional provision, that CONTRACTOR provide a certified copy of a corporate resolution authorizing the undersigned to enter and sign this agreement in the event that CONTRACTOR is a member of a corporation, partnership, LLC, LLP, and any other juridical entity.

This agreement is executed in two (2) originals. IN TESTIMONY WHEREOF, they have executed this agreement, the day and year first above written.

WITNESSES

_____
Title: Parish President
Ascension Parish Government
Date:

WITNESSES

_____
Title:
Date:

PART 2 - GENERAL CONDITIONS

PART 2 - ARTICLE 1: DEFINITIONS AND TERMINOLOGY

1.1 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*—The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of

Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.3 in the case of Unit Price Work).

14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.

16. Cost of the Work—See Paragraph 11.1.A for definition.

17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*—The individual or entity named as such in the Agreement.

20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*—Sections of Division 1 of the Specifications.

22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed

thereto.

23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*—Polychlorinated biphenyls.

31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.

37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.

46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.

47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

49. *Unit Price Work*—Work to be paid for on the basis of unit prices.

50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.2 *Terminology*

A. The words and terms discussed in Paragraph 1.2.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to

assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.4 or 14.5).

E. *Furnish, Install, Perform, Provide:*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

PART 2 - ARTICLE 2: PRELIMINARY MATTERS

2.1 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.2 *Copies of Documents*

A. Owner shall furnish to Contractor up to two (2) printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.3 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence within thirty (30 calendar days after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed.

2.4 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.5 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides

the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.6 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.5.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.7 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.5.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

PART2: ARTICLE 3: CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.2 *Reference Standards*

D. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.3 *Reporting and Resolving Discrepancies*

E. Reporting Discrepancies:

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field

measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

F. *Resolving Discrepancies:*

1 Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.4 *Amending and Supplementing Contract Documents*

G. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

H. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of

Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.5 *Reuse of Documents*

I. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

J. The prohibitions of this Paragraph 3.5 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.6 *Electronic Data*

K. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

L. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

M. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

PART 2 - ARTICLE 4: AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.1 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.5.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

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).

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. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, 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.

4.3 *Differing Subsurface or Physical Conditions*

4.3.1 *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

4.3.1.1 is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.2 is materially inaccurate; or

4.3.1.2 is of such a nature as to require a change in the Contract Documents; or

4.3.1.3 differs materially from that shown or indicated in the Contract Documents; or

4.3.1.4 is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

4.3.2 *Engineer's Review*: After receipt of written notice as required by Paragraph 4.3.1, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

4.3.3 *Possible Price and Times* Adjustments*:*

4.3.3.1 The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.3.A; and

b. with respect to Work that is paid for on a unit price basis, any adjustment in

Contract Price will be subject to the provisions of Paragraphs 9.7 and 11.3.

4.3.3.2 Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

b. Contractor failed to give the written notice as required by Paragraph 4.3.1.

4.3.3.3 If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.4 *Underground Facilities*

4.4.1 *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.4.1.1 Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

4.4.1.2 the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data;

b. locating all Underground Facilities shown or indicated in the Contract Documents;

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

4.4.2 *Not Shown or Indicated:*

4.4.2.1 If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

4.4.2.2 If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.5.

4.5 *Reference Points*

4.5.1 Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.6 *Hazardous Environmental Condition at Site*

4.6.1 *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

4.6.2 *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. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

4.6.2.1 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

4.6.2.2 other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

4.6.2.3 any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

4.6.3 Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

4.6.4 If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.6.E.

4.6.5 Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor

as provided in Paragraph 10.5.

4.6.6 If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.5. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

4.6.7 To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph
4.6.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

4.6.8 The provisions of Paragraphs 4.2, 4.3, and 4.4 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

PART 2 - ARTICLE 5: BONDS AND INSURANCE

5.1 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.7, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents. All bonds must be countersigned by a resident agent of the State in which the Project is done.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch,
U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney- in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.1.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.1.B and 5.2.

5.2 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.3 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.4 *Contractor's Insurance*

A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

5. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

6. by any other person for any other reason;

7. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

8. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.4 shall:

1. with respect to insurance required by Paragraphs 5.4.A.3 through 5.4.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.7; and

6. include completed operations coverage.

C. The limits of liability for the insurance required by Paragraph 5.4 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.4.A.1 and A.2 of the General Conditions:

a.	State:	Statutory
b.	Applicable Federal (e.g., Longshoreman's):	Statutory
c.	Employer's Liability:	Statutory

2. Contractor's General Liability under Paragraphs 5.4.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:

a.	General Aggregate	$500,000
b.	Products Completed Operations Aggregate	$500,000
c.	Personal and Advertising Injury	$500,000
d.	Each Occurrence (Bodily Injury and Property Damage)	$500,000
e.	Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable	
f.	Excess or Umbrella Liability General Aggregate	$1,000,000
	Each Occurrence	$500,000

3. Automobile Liability under Paragraph 5.4.A.6 of the General Conditions:

a.	Bodily Injury:	
	Each person	$500,000
	Each Accident	$500,000
b.	Property Damage:	
	Each Accident	$500,000 or
	Combined Single Limit of	$500,000

4. The Contractual Liability coverage required by Paragraph 5.4.B.4 of the General Conditions shall provide coverage for not less than the following amounts:

a.	Bodily Injury:	
	Each person	$100,000
	Each Accident	$300,000
b.	Property Damage:	
	Each Accident	$300,000

D. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.5 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.4, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations

under the Contract Documents.

5.6 *Property Insurance*

A. Contractor shall purchase and maintain property insurance upon Work at the Sites in the amount of the full replacement cost thereof. Contractor shall be responsible for any deductible or self-insured retention. This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, Engineer, and the officers, directors, partners, employees, agents and other consultants, and subcontractors of any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup;

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued; and

8. comply with the requirements of Paragraph 5.6C of the general Conditions.

B. Contractor shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable

interest and shall be listed as a loss payee.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.6 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.7.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.6, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.7 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.6 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insurers or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.5, after Substantial Completion pursuant to Paragraph 14.4, or after final payment pursuant to Paragraph 14.7.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.7.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.8 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.6 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.8.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.9 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other

party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.1.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.5, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.6 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

PART 2 - ARTICLE 6: CONTRACTOR'S RESPONSIBILITIES

6.1 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.2 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours (6am-6pm). Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.3 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.4 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.7 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.7) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.5 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.5.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

and

3) it has a proven record of performance and availability of responsive service.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.5.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.5.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,

b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services; and

4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.5.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.5.A and 6.5.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.5.A.2 and 6.5.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each

proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.6 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.6, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

H. Owner may furnish to any Subcontractor or Supplier, to the extent practical, information about amounts paid to Contractor on account of Work performed for Contractor by a particular Subcontractor or Supplier.

6.7 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out

of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.8 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.9 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.3.

B. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the

amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of* Debris *During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. Contractor shall *maintain* in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.7.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval

in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.7). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

    a. Submit number of copies specified in the General Requirements.

    b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

    a. Submit number of Samples specified in the Specifications.

    b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

    a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

    b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

    c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

    d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners,

employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

B. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared

by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

PART 2 - ARTICLE 7: OTHER WORK AT THE SITE

7.1 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.5.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.2 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination

of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.3 *Legal Relationships*

A. Paragraphs 7.1.A and 7.2 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.1.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

PART 2 - ARTICLE 8: OWNER'S RESPONSIBILITIES

8.1 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.2 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.3 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.4 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.2.C and 14.7.C.

8.5 *Lands and Easements; Reports and Tests*

A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.1 and 4.5. Paragraph 4.2 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.6 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.7 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.3.

8.8 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.3.B.

8.9 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.6.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

PART 2 - ARTICLE 9: ENGINEER'S STATUS DURING CONSTRUCTION

9.1 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.2 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.9. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.3 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.9. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

B. The Resident Project Representative (RPR) will be Owner's employee or agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with

Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be through or with the full knowledge and approval of Contractor. The RPR shall:

1. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.

2. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.

3. *Liaison:*

    a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.

    b. Assist Engineer in serving as liaison with Contractor when Contractor's operations affect Owner's on-site operations.

    c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

4. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

5. *Shop Drawings and Samples:*

    a. Record date of receipt of Samples and approved Shop Drawings.

    b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.

6. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.

7. *Review of Work and Rejection of Defective Work:*

    a. Conduct onsite observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the

Contract Documents.

b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

8. *Inspections, Tests, and System Startups:*

a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.

b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

9. *Records:*

a. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.

b. Maintain records for use in preparing Project documentation.

10. *Reports:*

a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.

b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.

c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition.

11. *Payment Requests*: Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment

requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

12. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

13. *Completion:*

    a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.

    b. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.

    c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).

2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor's superintendent.

4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work unless such advice or directions are specifically required by the Contract Documents.

5. Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.

8. Authorize Owner to occupy the Project in whole or in part.

9.4 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a

Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.5.

9.5 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.4, whether or not the Work is fabricated, installed, or completed.

9.6 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.7 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual

conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.5.

9.8 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.5.B.

B. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.5.

C. When functioning as interpreter and judge under this Paragraph 9.8, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.9 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.7.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.9 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

PART 2 - ARTICLE 10: CHANGES IN THE WORK; CLAIMS

10.1 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.5.

10.2 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.4, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.4.D.

10.3 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.1.A, (ii) required because of acceptance of defective Work under Paragraph 13.8.A or Owner's correction of defective Work under Paragraph 13.9, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.5; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.4 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.5 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.9, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.1.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.2.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;

2. approve the Claim; or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.5.C or denial pursuant to Paragraphs 10.5.C.3 or 10.5.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.5.

PART 2 - ARTICLE 11: COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.1 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.1.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.1.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

   a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

   b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

   c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

   d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

   e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

   f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.6.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

   g. The cost of utilities, fuel, and sanitary facilities at the Site.

   h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.1.A.1 or specifically covered by Paragraph 11.1.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.1.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.1.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.1.A and 11.1.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.2 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such

sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances:*

1. Contractor agrees that:

the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to *final* payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.3 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.7.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1. if the Bid price of a particular item of Unit Price Work amounts to 25% percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 10% percent from the estimated quantity of such item indicated in the Agreement; and

2. if there is no corresponding adjustment with respect to any other item of Work; and

3. if Contractor believes that Contractor has incurred additional expense as a result thereof or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity ofUnit Price Work performed.

PART 2 - ARTICLE 12: CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.1 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.5.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.3); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.1.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.1.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.1) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.1.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.1.A.1 and 11.1.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.1.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.1.C.2.a and 12.1.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.1.A.1 and 11.1.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next

lower tier Subcontractor, provided, however, that on any subcontracted work the total maximum fee to be paid by Owner under this subparagraph shall be no greater than 27 percent of the costs incurred by the Subcontractor who actually performs the work;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.1.A.4, 11.1.A.5, and 11.1.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.1.C.2.a through 12.1.C.2.e.

12.2 *Change of Contract Times*

a. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.5.

b. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.3 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.2.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.3.C.

D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

PART 2 - ARTICLE 13: TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.1 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.2 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.3 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. For inspections, tests, or approvals covered by Paragraphs 13.3.C and 13.3.D below;

2. Costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.4.B shall be paid as provided in Paragraph 13.4.C; and

3. For **Failed** tests or Laboratory callouts when the Contractor is not ready; and

4. As otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in

connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

F. Uncovering Work as provided in Paragraph 13.3.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.4 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.5.

D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.5.

13.5 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however,

this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.6 *Correction or Removal of Defective Work*

Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

When correcting defective Work under the terms of this Paragraph 13.6 or Paragraph 13.7, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.7 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.7, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.7 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.7 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.8 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.5. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.9 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.6.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven (7) days written notice to Contractor, correct, or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.9, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances,

construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.9 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.5. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.9.

PART 2 - ARTICLE 14: PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.7.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.2 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment

will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;
b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.7, and any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.2.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

    a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

    b. the Contract Price has been reduced by Change Orders;

    c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

    d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.2.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

    a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

    b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

    c. there are other items entitling Owner to a set-off against the amount recommended; or

    d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.2.B.5.a through 14.2.B.5.c or Paragraph 15.2.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer)

stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.2.C.1 and subject to interest as provided in the Agreement.

14.3 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.4 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties

and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.5 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.4.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.6 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is

complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.7 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.4.B.6;

   b. consent of the surety, if any, to final payment;

   c. a list of all Claims against Owner that Contractor believes are unsettled; and

   d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.7.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is

satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.9. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.8 *Final Completion Delayed*

If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.9 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.6, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

PART 2 - ARTICLE 15: SUSPENSION OF WORK AND TERMINATION

15.1 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.5.

15.2 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.7 as adjusted from time to time pursuant to Paragraph 6.4);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's repeated disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.2.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.2.B, Contractor shall not be entitled to receive

any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.2.B and 15.2.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.1.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.2.B and 15.2.C.

15.3 *Owner May Terminate For Convenience*

A. Upon thirty (30) days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.4 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.3.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.4 are not intended to preclude Contractor from making a Claim under Paragraph 10.5 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

PART 2 - ARTICLE 16: DISPUTE RESOLUTION

16.1 Any and all disputes that arise out of the performance of this Contract shall litigated in the 23rd Judicial District Court in and for the Parish of Ascension. Any reference to arbitration in any Contract Documents is hereby expressly waived and deleted.

PART 2 - ARTICLE 17: MISCELLANEOUS

17.1 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.2 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.3 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.4 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.5 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.6 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

PART 3 - BID FORMS

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Ascension Parish Government
P. O. Box 2392
Gonzales, Louisiana 70707

BID FOR: LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Mai Nguyen, P.E. and dated: November 2019.

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____ .

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * the sum of:

_____ Dollars ($ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

~~**Alternate No. 1** *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:~~

_____ N/A _____ Dollars ($ N/A)

~~**Alternate No. 2** *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:~~

_____ N/A _____ Dollars ($ N/A)

~~**Alternate No. 3** *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:~~

_____ N/A _____ Dollars ($ N/A)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(O).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218(A) is attached to and made a part of this bid.

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Ascension Parish Government
42077 Church Point Road
Gonzales, Louisiana 70737

BID FOR: LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	CLEARING AND GRUBBING			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
201-01-00100	1	LUMP		

DESCRIPTION:	REMOVAL OF STRUCTURES AND OBSTRUCTIONS			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
202-01-00100	1	LUMP		

DESCRIPTION:	REMOVAL OF TREES			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
202-02-00010	6	EACH		

DESCRIPTION:	REMOVAL OF ASPHALT DRIVES			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
202-02-02000	272.3	SQYD		

DESCRIPTION:	REMOVAL OF ASPHALT PAVEMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
202-02-02020	553	SQYD		

DESCRIPTION:	REMOVAL OF BASE (SOIL CEMENT, ASPHALT OR BCS)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
202-02-03000	553	SQYD		

DESCRIPTION:	REMOVAL OF CONCRETE WALKS AND DRIVES			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
202-02-06100	319.2	SQYD		

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Ascension Parish Government
42077 Church Point Road
Gonzales, Louisiana 70737

BID FOR: LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	REMOVAL OF SIGN AND U-CHANNEL POST			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
202-02-38300	3	EACH		

DESCRIPTION:	GENERAL EXCAVATION			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
203-01-00100	1,940	CUYD		

DESCRIPTION:	EMBANKMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
203-03-00100	188	CUYD		

DESCRIPTION:	TEMPORARY HAY BALES			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
204-02-00100	12	EACH		

DESCRIPTION:	TEMPORARY SILT FENCING			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
204-06-00100	2,500	LNFT		

DESCRIPTION:	CLASS II BASE COURSE (12" THICK)(CRUSHED STONE OR RECYCLED PCCP)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
302-02-12070	2,515	SQYD		

DESCRIPTION:	LIME			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
304-01-00100	35.7	TON		

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Ascension Parish Government
42077 Church Point Road
Gonzales, Louisiana 70737

BID FOR: LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	LIME TREATMENT (TYPE E)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
304-05-00100	2,515	SQYD		

DESCRIPTION:	AGGREGATE SURFACE COURSE (ADJUSTED VEHICULAR MEASUREMENT)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
401-02-00100	45	CUYD		

DESCRIPTION:	NON-MAINLINE TRAFFIC MAINTENCE SURFACING (AGGREGATE) (VEHICULAR MEASUREMENT)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
402-03-00100	100	CUYD		

DESCRIPTION:	ASPHALT CONCRETE			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
502-01-00100	1,181.6	TON		

DESCRIPTION:	ASPHALT CONCRETE, DRIVES, TURNOUTS AND MISCELLANEOUS			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
502-01-00200	78.3	TON		

DESCRIPTION:	MILLING ASPHALT PAVEMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
509-01-00100	3,110	SQYD		

DESCRIPTION:	PAVEMENT PATCHING (12" MINIMUM THICKNESS)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
510-01-00200	100	SQYD		

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Ascension Parish Government
42077 Church Point Road
Gonzales, Louisiana 70737

BID FOR: LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	STORM DRAIN PIPE (30" RCP/PP)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
701-03-01060	265	LNFT		

DESCRIPTION:	STORM DRAIN PIPE ARCH (30" EQ. RCPA)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
701-04-01060	112	LNFT		

DESCRIPTION:	SIDE DRAIN PIPE (18" RCP/PP/CMP)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
701-05-01040	44	LNFT		

DESCRIPTION:	SIDE DRAIN PIPE (24" RCP/PP/CMP)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
701-05-01060	181	LNFT		

DESCRIPTION:	SIDE DRAIN PIPE ARCH (18" EQ. RCPA/CMPA)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
701-06-01020	126	LNFT		

DESCRIPTION:	SIDE DRAIN PIPE ARCH (30" EQ. RCPA/CMPA)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
701-06-01060	56	EACH		

DESCRIPTION:	CATCH BASINS (CB-01)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
702-03-00100	3	EACH		

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Ascension Parish Government
42077 Church Point Road
Gonzales, Louisiana 70737

BID FOR: LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	CONCRETE DRIVE (6" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
706-02-00200	261.7	SQYD		

DESCRIPTION:	RIGHT-OF-WAY MONUMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
708-01-00100	10	EACH		

DESCRIPTION:	RIGHT-OF-WAY MONUMENT WITNESS POST			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
708-02-00100	6	EACH		

DESCRIPTION:	RIPRAP (30 LB, 18" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
711-01-03020	100	SQYD		

DESCRIPTION:	TEMPORARY SIGNS AND BARRICADES			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
713-01-00100	1	LUMP		

DESCRIPTION:	TEMPORARY PAVEMENT MARKINGS (4" WIDTH)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
713-02-00100	7,712	LNFT		

DESCRIPTION:	MULCH (VEGETATIVE)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
716-01-00100	2.5	TON		

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Ascension Parish Government
42077 Church Point Road
Gonzales, Louisiana 70737

BID FOR: LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	SEEDING			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
717-01-00100	38	POUND		

DESCRIPTION:	FERTILIZER			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
718-01-00100	1,260	POUND		

DESCRIPTION:	BEDDING MATERIAL			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
726-01-00100	20.5	CUYD		

DESCRIPTION:	MOBILIZATION			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
727-01-00100	1	LUMP		

DESCRIPTION:	SIGN (TYPE A) (FURNISH AND INSTALL)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
729-01-00102	24.4	SQFT		

DESCRIPTION:	OBJECT MARKER ASSEMBLY (TYPE 3)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
729-16-00300	4	EACH		

DESCRIPTION:	U-CHANNEL POST			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
729-21-00100	5	EACH		

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Ascension Parish Government
42077 Church Point Road
Gonzales, Louisiana 70737

BID FOR: LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	REFLECTORIZED RAISED PAVEMENT MARKERS			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
731-02-00100	380	EACH		

DESCRIPTION:	PLASTIC PAVEMENT STRIPING (4" WIDTH) (THERMOPLASTIC 90 MIL)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
732-01-01000	6,535	LNFT		

DESCRIPTION:	PLASTIC PAVEMENT STRIPING (8" WIDTH) (THERMOPLASTIC 90 MIL)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
732-01-01040	260	LNFT		

DESCRIPTION:	PLASTIC PAVEMENT STRIPING (24" WIDTH) (THERMOPLASTIC 125 MIL)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
732-01-02080	38	LNFT		

DESCRIPTION:	PLASTIC PAVEMENT STRIPING (DOTTED LINE) (8"W)(2'L)(THERMOPLASTIC 90 MIL)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
732-03-02030	0.05	MILE		

DESCRIPTION:	PLASTIC PAVEMENT LEGENDS AND SYMBOLS (ARROW-LEFT TURN)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
732-04-01080	3	EACH		

DESCRIPTION:	PLASTIC PAVEMENT LEGENDS AND SYMBOLS (ARROW-RIGHT TURN)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
732-04-01100	2	EACH		

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: Ascension Parish Government
42077 Church Point Road
Gonzales, Louisiana 70737

BID FOR: LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	MAILBOXES			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
735-01-00100	7	EACH		

DESCRIPTION:	MAILBOX SUPPORTS (SINGLE)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
735-02-00100	7	EACH		

DESCRIPTION:	CONSTRUCTION LAYOUT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
740-01-00100	1	LUMP		

DESCRIPTION:	REINFORCED CONCRETE BOX CULVERTS (EXTENSION) (8'X6')			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
805-16-01400	46	LNLF		

DESCRIPTION:	SAW CUTTING ASPHALTIC CONCRETE PAVEMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
NS-500-00340	1,248	INLF		

DESCRIPTION:	SAW CUTTING ASPHALTIC CONCRETE PAVEMENT OVER PCC COMPOSITE PAVEMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
NS-500-00360	24,480	INLF		

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

BID BOND FORM

FOR
LA 73 TURN LANES @ BROWN ROAD
MA-18-03-A

Date: _____

KNOW ALL MEN BY THESE PRESENTS:

That _____ of _____, as Principal, and, _____ as Surety, are held and firmly bound unto the _____ (Obligee), in the full and just sum of five (5%) percent of the total amount of this bid, including all alternates, lawful money of the United States, for payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents.

Surety represents that it is listed on the current U. S. Department of the Treasury Financial Management Service list of approved bonding companies as approved for an amount equal to or greater that the amount for which it obligates itself in this instrument or that it is a Louisiana domiciled insurance company with at least an A - rating in the latest printing of the A. M. Best's Key Rating Guide. If surety qualifies by virtue of its Best's listing, the Bond amount may not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide.

Surety further represents that it is licensed to do business in the State of Louisiana and that this Bond is signed by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its proposal to the Obligee on a Contract for:

_____
___

NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract with surety acceptable to the Obligee, then this obligation shall be void; otherwise this obligation shall become due and payable.

_____	_____
PRINCIPAL (BIDDER)	SURETY
BY: _____	BY: _____
AUTHORIZED OFFICER-OWNER-PARTNER	AGENT OR ATTORNEY-IN-FACT(SEAL)

BIDDER'S NON-COLLUSION AFFIDAVIT
(FURNISH WITH BID PACKAGE)

STATE OF LOUISIANA

PARISH OF _____

BEFORE ME, the undersigned authority, personally came and appeared

_____ who after being by me duly sworn, deposed and

said that he is the fully authorized _____ of

_____(Herein after referred to as "BIDDER") the party

who submitted a bid for

_____

_____ which bid was received by ASCENSION PARISH, LOUISIANA on

_____ and said affiant further said:

(1) That bidder employed no person, corporation, firm, asocial, or other organization, either directly or indirectly, to secure public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration, or demolition of the public building or project or in securing the public contract were in the regular course of their duties for bidder, and

(2) That no part of the contract price received by bidder was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction, alteration, or demolition of the public building or project were in the regular course of their duties for bidder.

(3) Said bidder is genuine and the bidder has not colluded, conspired or agreed directly or indirectly with any other bidder to offer a sham or collusive bid.

(4) Said bidder has not in any manner directly or indirectly agreed with any other person to fix the bid price of affiant or any other bidder, or to fix any overhead profit or cost element of said bid price, of that of any other bidder, or to induce any other person to refrain from bidding.

(5) Said bid is not intended to secure an unfair advantage of benefit from Ascension Parish, Louisiana or in favor of any persons interested in the proposed contract.

(6) All statement contained in said bid are true and correct.

(7) Neither affiant nor any member of his company has divulged information regarding said bid or any data relative thereto to any person, firm, or corporation.

By:_____
(Signature)

_____
(Type or Print Name)

_____
(Type or Print Title)

SUBSCRIBED AND SWORN TO BEFORE ME THIS _____DAY OF _____, 20_____.

_____
Notary Public

RESOLUTION AUTHORIZING SUBMISSION OF BID, SIGNATURE OF BID AND SIGNATURE OF CONTRACT

BE IT RESOLVED by the Board of Directors of _____ Corporation organized and existing under the laws of the State of _____, and domiciled in the City of _____, that _____ President of the Corporation and/or _____ of the Corporation, be and are hereby authorized and empowered to submit bids and to execute any and all contracts of whatever kind on behalf of the Corporation and to do all things necessary in the premise's.

CERTIFICATE

I, _____, Secretary of _____ do hereby certify that the foregoing resolution is a true and exact copy unanimously adopted by the Board of Directors of said Corporation at a meeting thereof legally held on the _____ day of _____, 20_____, that said resolution is duly entered into the records of said Corporation; that it has not been rescinded or modified; and that it is now in full force and effect.

IN TESTIMONY WHEREOF, I have hereunto set my hand and the seal of said Corporation this _____ day of _____, 20_____.

_____

SECRETARY

PERFORMANCE BOND

_____ as Principal, and _____ a surety company or companies authorized to do business in Louisiana, as Surety, are bound, in solido, unto _____ an unto all subcontractors, workmen, and finishers of materials and equipment, jointly in the sum of _____ dollars ($_____).

Payable and lawful money of the United States, and to this bond do obligate their heirs, successors and assigns. In the case of co-sureties, co-sureties assume and obligation in the sum of_____ dollars ($_____).

For _____ and _____ dollars ($_____).

The consideration for this bond is such, that if the Principal shall perform this contract, made and entered into on the _____ day of _____, 20_____, to construct the project entitled:

LA 73 TURN LANES @ BROWN ROAD, MA-18-03-A, consisting of drainage, base course, pavement widening, box culvert extension, milling and overlay operations according to the stipulations in said contract attached hereto and made a part thereof, at the time and in the manner and for specified; perform all labor and work; and shall furnish all materials as specified in said contract, and the drawings and specifications thereto attached and made a part thereof, this obligation shall be void; otherwise to remain in effect.

It is agreed by the parties that this bond is given in accordance with Louisiana Revised Statues of 1950, Title 38, Chapter 10.

In faith whereof, we have subscribed this obligation at _____, Louisiana.

Witness our hands and seals, this _____ day of _____, 20_____.

WITNESSES

_____ _____

Principal

_____ By _____

_____

(Typed or Printed Name)

_____ _____

First Surety

_____ By _____

Attorney in Fact

_____

(Typed or Printed Name)

_____ _____

Second Surety

_____ By _____

Attorney in Fact

_____

(Typed or Printed Name)

I certify that I am as of the date of this bond a licensed Resident Agent of Louisiana in good standing with the Louisiana Insurance Commission and authorized to countersign this bond on behalf of the Surety of Sureties.

First Surety

By_____

_____

(Typed or Printed Name)

_____

(Typed or Printed Name)

_____

Address

Second Surety

By_____

_____

(Typed or Printed Name)

_____

(Typed or Printed Name)

_____

Address

PAYMENT BOND FORM

_____

_____

as Principal, and

a surety company or companies authorized to do business in Louisiana, as Surety, are

bound, in solido, unto _____

_____ and unto all subcontractors, workmen, and furnishers of materials and equipment, jointly

in the sum of _____

_____Dollars ($_____).

Payable in lawful money of the United States, and to this bond do obligate their heirs, successors and assigns. In the case of co-sureties, co-sureties assume an obligation in the sum of

_____

_____Dollars ($_____).

For and

_____Dollars ($_____).

The consideration for this bond is such, that if the Principal shall perform this contract, made and entered into on the_____day of_____,

20_____, To construct the project entitled:

LA 73 TURN LANES @ BROWN ROAD

It is agreed by the parties that this bond is given in accordance with Louisiana Revised Statutes of 1950, Title 38, Chapter 10.

Witness our hands and seals, this_____day of_____, 20_____.

Witnesses

_____ _____
Principal

_____ By_____

_____
Typed or Printed Name

_____ _____
First Surety

_____ By_____(Seal)
Attorney-in-Fact

_____
Typed or Printed Name Second

_____ _____
Surety

_____ By_____(Seal)
Attorney-in-Fact

_____
Typed or Printed Name

I certify that I am as of the date of this bond a licensed Resident Agent of Louisiana in good standing with the Louisiana Insurance Commission and authorized to countersign this bond on behalf of the Surety of Sureties.

First Surety Second Surety

By_____By_____

_____ _____
Typed or Printed Name Typed or Printed Name

_____ _____
Typed or Printed Name Typed or Printed Name

_____ _____
Address Address

HOLD HARMLESS AGREEMENT

OWNER: **PARISH OF ASCENSION**
P. O. BOX 1659
GONZALES, LOUISIANA 70707-1659

ENGINEER: **NEEL-SCHAFFER, INC.**
10000 PERKINS ROWE, SUITE G360
BATON ROUGE, LA 70810

The Contractor shall indemnify and hold harmless the Owner and the Engineers and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense: (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself), including the loss of use resulting therefrom: and (b) is caused in whole or in part by any negligent act or omission of the Contractor, and subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not is caused in part by a party indemnified hereunder.

In any and all claims against the Owner or the Engineers, or any of their agents or employees by any employee of the Contractor, and subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may liable, the indemnification obligation under this Agreement shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under Workmen's Compensation acts, disability benefit acts or other employee benefit acts.

The obligations of the Contractor under this Agreement shall not extend to the liability of the Engineers, their agents or employees arising out of. (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications: or (2) the giving of or the failure to give directions or instructions by the Engineers, their agents or employees provided such giving or failure to give its primary cause of the injury or damage.

CONTRACTOR

_____

By:_____

_____

WITNESSES

_____

_____

PART 4 - CONTRACT FORMS

NOTICE OF AWARD

Date of Award: _____

To: _____

Address: _____

_____

PROJECT: LA 73 TURN LANES @ BROWN ROAD

Owner's Contract Number:

Engineer's Project Number: MA-18-03-A

Contract for: LA 73 TURN LANES @ BROWN ROAD, MA-18-03-A

FISCAL YEAR 2019

ASCENSION PARISH

You are hereby notified that your Bid dated _____ for the above contract has been considered. You are the apparent Successful Bidder and have been awarded a Contract for: LA 73 TURN LANES @ BROWN ROAD; MA-18-03-A (FISCAL YEAR 2019 ASCENSION PARISH).

The Contract Price of your Contract is: _____

_____Copies of each of the proposed Contracts accompany this Notice of Award

_____Sets of the complete Contract Documents, including Drawings, will be delivered separate during the Preconstruction Conference or otherwise made available to you immediately.

You must comply with the following conditions precedent within fifteen (15) days of the date of this Notice of Award, this is by:

H. You must deliver to the Owner four (4) fully executed counterparts of the proposed Contract, including the Agreement. Each copy of the Contract must bear your signature on all signatory lines within the Agreement.
I. You must deliver with the executed Agreement, the Contract Security (Bonds) as specified in the Instructions to Bidders (Division 0—Article 2) and General Conditions (Division 1—Article 5).
J. You must deliver with the executed Agreement, Certificate of Insurance including certificates verifying additional insurers as required in the General Conditions (Division 1—Article 5).

K. Failure to comply with these conditions within the time specified will entitle the Owner to consider your bid in default, to annul this Notice of Award, and to declare your Bid Security forfeited.

L. Within ten (10) days after you comply with the above conditions, the Owner will return to you one (1) fully signed counterpart of the Agreement with the Contract Documents attached.

PARISH OF ASCENSION

By:_____

(Authorized Signature)

_____

(Title)

ACCEPTANCE OF AWARD

_____

(Contractor)

By:_____

(Authorized Signature)

_____

(Title)

_____

(Date)

NOTICE TO PROCEED

TO: _____

ADDRESS: _____

_____

PROJECT: LA 73 TURN LANES @ BROWN ROAD

Owner's Contract Number:

Engineer's Project Number: MA-18-03-A

Contract for: LA 73 TURN LANES @ BROWN ROAD; MA-18-03-A

FISCAL YEAR 2019

ASCENSION PARISH

You are notified that the Contract Times under the above Contract will commence to run on _____. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Paragraph 3 of the Agreement, the dates of Substantial Completion and completion and readiness for Final Payment are:

_____ and _____

Before you may start any Work at the site, Article 2.1 of the General Conditions provides that you and the Owner must each deliver to the other (with copies to the Engineer) and other identified additional insurers) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the site you must notify Owner/Engineer of Start Date.

PARISH OF ASCENSION

By:_____

(Authorized Signature)

_____

(Title)

ACKNOWLEDGED:

_____

(Contractor)

By:_____

(Authorized Signature)

_____

(Title)

_____

(Date)

APPLICATION FOR PAYMENT

NO.: _____

TO: _____

_____

PROJECT: LA 73 TURN LANES @ BROWN ROAD

Owner's Contract Number:

Engineer's Project Number: MA-18-03-A

Contract for: LA 73 TURN LANES @ BROWN ROAD; MA-18-03-A

FISCAL YEAR 2019

ASCENSION PARISH

For work accomplished through the date of: _____.

ITEM	CONTRACTOR'S SCHEDULE OF			WORK COMPLETED	
	UNIT PRICE	QUANTITY	AMOUNT	QUANTITY	AMOUNT
ITEM	$0.00	0	$0.00	0	$0.00
ITEM	$0.00	0	$0.00	0	$0.00
ITEM	$0.00	0	$0.00	0	$0.00
ITEM	$0.00	0	$0.00	0	$0.00
ITEM	$0.00	0	$0.00	0	$0.00
ITEM	$0.00	0	$0.00	0	$0.00
ITEM	$0.00	0	$0.00	0	$0.00
TOTALS:			$0.00		$0.00

Accompanying Documents Gross Amount Due: $_____

_____Less X% Retainage $_____

_____Amount Due to Date: $_____

_____Less Previous Payments: $_____

_____Amount Due This Application: $_____

CONTRACTOR CERTIFICATION:

The undersigned CONTRACTOR certifies that (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied to discharge in full all obligations of CONTRACTOR incurred in connection with Work covered by prior Applications for Payment numbered _____ through _____ inclusive; (2) title to all Work materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER ant the time payment free and clear of all liens, claims, security interest and encumbrances (except such as are covered by Bond acceptance to Owner indemnifying Owner against any such lien, claim, security interest or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective as that term is defined in the Contract Documents.

DATED: _____

_____

CONTRACTOR

By:_____

(Authorized Signature)

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

DATED: _____

_____

ENGINEER

By:_____

(Authorized Signature)

WORK CHANGE DIRECTIVE

NO.: _____

PROJECT:	LA 73 TURN LANES @ BROWN ROAD; MA-18-03-A
DATE OF ISSUANCE:	
EFFECTIVE DATE:	

OWNER:	PARISH OF ASCENSION
OWNER'S CONTRACT NO.:	
ENGINEER:	NEEL-SCHAFFER, INC.
ENGINEER CONTRACT NO.:	225-614-2816
CONTRACTOR:	

You are directed to make the following changes in the Contract Documents:

DESCRIPTION:

PURPOSE OF WORK DIRECTIVE:

ATTACHMENTS (List documents supporting changes):

If a claim is made that the above change(s) have affected the Contract Price or Contract Times, any claim for a change order based thereon will involve one or more of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:

_____Unit Prices

_____Lump Sum

_____Other:_____

Method of determining change in Contract Time:

_____Contractor's Records

_____Engineer's Records

_____Other_____

NET TO CONTRACT AMOUNT: $_____

NET TO CONTRACT TIME: _____days

NEW DATE OF COMPLETION:

If the change involves an increase in Contract Price or Contract Times, the estimated amount is not to be exceeded without further authorization.

RECOMMENDED: By:_____
Date:_____
ENGINEER (Authorized Signature)

APPROVED: By:_____
Date:_____
OWNER (Authorized Signature)

ACCEPTED: By:_____
Date:_____
CONTRACTOR (Authorized Signature)

CHANGE ORDER

CHANGE ORDER NO.: _____

PROJECT: LA 73 TURN LANES @ BROWN ROAD, MA-18-03-A

DATE OF ISSUANCE:

EFFECTIVE DATE:

OWNER: PARISH OF ASCENSION

OWNER'S CONTRACT NO.:

ENGINEER: NEEL-SCHAFFER, INC.

ENGINEER CONTRACT NO.: 225-614-2816

CONTRACTOR:

It is hereby mutually agreed that when this Change Order has been signed by the contracting parties, the following described changes in the work required by the Contract except as herein stipulated and agreed.

DESCRIPTION:

SPECIFICATIONS:

TIME:

SCOPE AND JUSTIFICATION OF CHANGES:

ITEM NO.	ITEM	UNIT PRICE	CHANGE		CURRENT QUANTITY	REVISED QUANTITY	% CHANGE
			QUANT.	AMOUNT			
000-00-000	ITEM DESCRIPTION	$		$			$

STATEMENT OF CONTRACT AMOUNT

ORIGINAL CONTRACT AMOUNT:	$
PREVIOUS ADDITIONS:	$
PREVIOUS DEDUCTIONS:	$
NET CONTRACT AMOUNT PRIOR TO THIS CHANGE:	$
AMOUNT OF THIS CHANGE:	$
CONTRACT AMOUNT TO DATE:	$

NET TO CONTRACT TIME: _____days

NEW DATE OF COMPLETION:

CONTRACTOR'S PROPOSAL FOR THE ABOVE DESCRIBED CHANGES

I/We hereby agree to the modification of the Contract as described above and agree to furnish all materials, equipment and labor necessary to perform all work in connection therewith in accordance with the requirements for similar work in the existing Contract except as otherwise stipulated herein, for the following consideration.

PROPOSED: By:_____
Date:_____
CONTRACTOR (Authorized Signature)

RECOMMENDED: By:_____
Date:_____
ENGINEER (Authorized Signature)

APPROVED: By:_____
Date:_____
ASCENSION PARISH GOVERNMENT
(Authorized Signature)

APPROVED: By:_____
Date:_____
PARISH PRESIDENT (Authorized Signature)

CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT: LA 73 TURN LANES @ BROWN ROAD, MA-18-03-A

OWNER: PARISH OF ASCENSION

OWNER'S CONTRACT NO.:

ENGINEER: NEEL-SCHAFFER, INC.

ENGINEER CONTRACT NO.: 225-614-2816 CDC CONTACT #

CONTRACTOR:

This [TENTATIVE]/[DEFINITIVE] Certificate of Substantial Completion applies to:

_____All Work under the Contract Documents.

-OR-

_____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 Owner, 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 Responsibilities

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

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

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:_____
Date:_____

ENGINEER

(Authorized Signature)

ACCEPTED:

By:_____
Date:_____

CONTRACTOR

(Authorized Signature)

ACCEPTED:

By:_____
Date:_____

OWNER

(Authorized Signature)

TECHNICAL SPECIFICATIONS AND SPECIAL CONDITIONS TO THE CONSTRUCTION CONTRACT

Technical Specifications

The Technical Specifications for this project shall consist of the Louisiana Standard Specifications for Roads and Bridges, 2016 Edition (LSSRB), State of Louisiana, Department of Transportation and Development, Baton Rouge, Louisiana. The unit price pay items included in this project are numbered in accordance with the 2016 Edition of the Louisiana Department of Transportation and Development Standard Specifications for Roads and Bridges and all work included in these pay items shall be constructed in strict conformance with the appropriate Sections, Sub-sections, and references made within the LSSRB including any current revisions to which as published by the Louisiana Department of Transportation and Development and/or as modified, supplemented, or added to which herein.

Specifications including materials, equipment, prosecution of the work, payment, procedures, testing, sampling, quality assurance, and quality control items shall conform to the LSSRB and the latest revised Supplemental Specifications to which unless explicitly amended the Special Provisions. All materials supplied shall be listed on and comply with the latest revised Approved Materials List maintained by the Louisiana Department of Transportation and Development at the time of bidding, unless otherwise noted. Payment and measurement will be based on the item and unit measure specified in the LSSRB, or as amended otherwise within this document.

Supplemental Conditions

These Special Provisions amend or supplement the Louisiana Standard Specifications for Roads and Bridges, State of Louisiana Department of Transportation and Development, 2016 Edition. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Special Provisions have the meanings stated in the Louisiana Standard Specifications for Roads and Bridges. Additional terms used in these Special Provisions have the meanings stated below, which are applicable to both the singular and plural thereof.

Any wording in the above noted Louisiana Standard Specifications for Roads and Bridges, 2016 Edition (LSSRB) as may refer to the Governor, State, State Highway Department, Department, Director, Owner, or similar references to other personnel or to sections, departments, and agencies included thereof shall be deemed to read "Ascension Parish Government" and its authorized personnel, agents, departments and sections.

Any wording in the above noted Louisiana Standard Specifications for Roads and Bridges, 2016 Edition (LSSRB) that may refer to the Engineer, Project Engineer, Chief Engineer, or similar references to similar personnel or to sections under the direction thereof shall be deemed to read "**NEEL-SCHAFFER, INC.**" and its authorized personnel and agents.

Any discrepancy, in whole or in part, between the Sections and/or Subsections not listed above, which are said to remain in full effect, and Sections A thru F included in this document shall be resolved as follows:

(1) In accordance with applicable Local, State, or Federal laws
(2) In the best interest of the Owner as determined by the Owner and/or Engineer
(3) In accordance with the provisions stated with Sections A thru F of this document
(4) In accordance with the Engineer's recommendation

The following Sections and/or Subsections of the LSSRB have been deleted and the contents thereof are considered to be replaced and/or amended by the applicable parts of Sections A thru F of this document. Any Section of Subsection of the LSSRB not specifically listed below shall be considered to apply in full force as written in the LSSRB or as amended by the latest revised Supplemental Specifications to which as published by the LADOTD. The address system used in these Special Provisions is the same as the address system used in the Louisiana Standard Specification for Roads and Bridges, with the prefix "SC" added thereto.

SC-SECTION 102.03-04	Delete entire section.
SC-SECTION 102.06-13	Delete entire section.
SC-SECTION 103.02-08	Delete entire section.
SC-SECTION 104.02-05	Delete entire section.
SC-SECTION 105.17-19	Delete entire section.
SC-SECTION 106.02	Delete entire section.
SC-SECTION 106.05	Delete entire section.
SC-SECTION 107.02	Delete entire section.
SC-SECTION 107.13-14	Delete PART 1 – GENERAL PROVISIONS in its entirety except for Sections 109 "Measurement and Payment", 107.13 "Forest Protection", and 107.14 "Environmental Protection". Replace with General Conditions included in these documents herewith.
SC-SECTION 108.01	Delete entire section.
SC-SECTION 108.03-04	Delete entire section.
SC-SECTION 108.07-11	Delete entire section.
SC-SECTION 109.03-08	Delete entire section.
SC-SECTION 201.04	Delete second Paragraph in its entirety.

SC-SECTION 202.01	Delete last line in Paragraph 4 "If structures or obstructions are encountered which differ materially from those ordinarily encountered, the provision of 105.18 shall apply.".
SC-SECTION 202.02	A. Delete eighth line in first Paragraph "When no storage sites are specified, deliver salvaged materials to the nearest DOTD maintenance unit." B. Delete second Paragraph in its entirety and replace with "If any fuel storage tanks or other environmentally sensitive or contaminated sites are located during construction, stop construction activity in the immediate vicinity of the environmentally sensitive or contaminated site and notify the Project Engineer." C. Delete last Paragraph in its entirety.
SC-SECTION 202.03.3	Delete last Paragraph in its entirety.
SC-SECTION 202.05	Delete in its entirety, and replace with the following "When removal or remediation of any environmentally sensitive or contaminated sites is required during construction, coordinate construction operations with the Project Engineer.".
SC-SECTION 202.05.1	Delete first Paragraph its entirety and replace with "When information is available, the plans will indicate which structures contain friable or non-friable asbestos. If a structure is identified to have asbestos, and is not shown on the plans, the Contractor should notify the Project Engineer. If asbestos removal is identified, a certified asbestos abatement contractor shall be used. Also, the Contractor shall notify the Department of Environmental Quality (DEQ), Air Quality Division, and follow all state requirements. The Contractor shall maintain and furnish all records pertaining to the disposal of the asbestos containing material within 21 calendar days of the material being removed from the site for disposal. Asbestos-containing materials in structures that are removed or relocated without disturbing asbestos will not be abated. Contractor shall provide a release to the Engineer.".
SC-SECTION 202.03.3	A. Delete first sentence in the first Paragraph in its entirety and replace with "Before removal, underground fuel tanks will be registered with the DEQ by the Contractor as abandoned underground storage tanks." B. Delete third sentence in first Paragraph in its entirety.

C. Delete fifth and six sentences in first Paragraph in its entirety and replace with "Submit closure test results, all documentation, and all necessary forms to the Engineer. The Contractor and/or the certified UST subcontractor shall be responsible for all contact and/or coordination with DEQ."

D. Delete third sentence in third Paragraph in its entirety.

E. Delete last sentence in third Paragraph in its entirety and replace with "Contract shall provide a copy of all laboratory analysis to the Engineer for verification prior to profiling materials for landfill acceptance.".

SC-SECTION 202.05.3

A. Delete "or as directed by the Materials and Testing Section" in the last sentence of the first Paragraph.

B. Delete last sentence in Paragraph 4 in its entirety.

SC-SECTION 202.05.4

Delete second and fifth Paragraphs in their entirety.

SC-SECTION 202.05.5

A. Delete fourth Paragraph in its entirety and replace with "The Contractor will be responsible for obtaining an approved disposal site, arranging for transporting the material and/all testing required."

B. Delete "to the Department" at the end of Paragraph 5.

SC-SECTION 202.05.6

Delete "Department" where indicated and replace with "Engineer"

SC-SECTION 202.08

A. Delete last sentence of item 3 in Paragraph 5.

B. Delete fifth sentence in Paragraph 9.

SPECIAL PROVISIONS OF THE CONSTRUCTION CONTRACT

NOT USED

SPECIAL PROVISIONS

These Special Provisions amend or supplement the Louisiana Standard Specifications for Roads and Bridges, State of Louisiana Department of Transportation and Development, 2016 Edition. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Special Provisions have the meanings stated in the 2016 Louisiana Standard Specifications for Roads and Bridges. Additional terms used in these Special Provisions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Special Provisions is the same as the address system used in the 2016 Louisiana Standard Specification for Roads and Bridges, with the prefix "SP" added thereto.

NOVEMBER, 2019

NOT USED

FINAL PLANS
11/1/2019 11:20:48 AM
Title sheet_La 73 @ Brown.dgn

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND LAYOUT MAP
2 - 2a	TYPICAL SECTIONS AND DETAILS
3	SUMMARY OF ESTIMATED QUANTITIES
4 - 7	PLAN AND PROFILE SHEETS
8	EXISTING DRAINAGE MAP
9 - 10	DESIGN DRAINAGE MAP
11	GEOMETRIC DETAILS
12	PAVEMENT MARKINGS AND SIGNS LAYOUT
13	SUGGESTED SEQUENCE OF CONSTRUCTION
14 - 17	RIGHT-OF-WAY MAPS

SPECIAL DETAILS

101	SHOULDER WEDGE
102 - 107	BD.2.7.2.01-04,08-09
108 - 109	BD.2.7.3.01-02

STANDARD PLANS

		REV. DATE
201 - 202	BM-01 (2 SHTS.)	08-22-2007
203	CB-01	11-02-2000
204	CC.S.M.6-8.R.90°.1	01-11-1978
205	DW-02	11-17-2017
206 - 207	FC-01 (2 SHTS.)	10-01-2008
208	HS-03	04-07-2014
209 - 210	MB-01 (2 SHTS.)	08-25-2017
211 - 216	MC-01 (6 SHTS.)	05-25-2018
217	PC-01	03-01-2011
218 - 220	PM-01, 02, 05	02-28-2019
221	RCB EXTENSION	04-08-2009
222	RM-01	06-03-2009
223	RM-02	03-13-2019
224 - 233	TTC-00 (A-D), 01-04, 11, 18	07-02-2018
234	WP-01	12-23-2013

CROSS SECTIONS

401 - 406	LA 73
407 - 408	BROWN ROAD

TOTAL SHEETS = 69

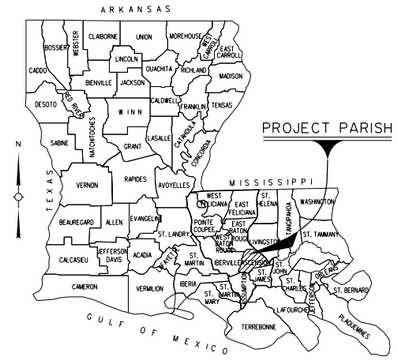
STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

PLANS OF PROPOSED STATE HIGHWAY

MOVE ASCENSION PROJECT NO. MA-18-03-A

LA 73 TURN LANES @ BROWN ROAD

ASCENSION PARISH



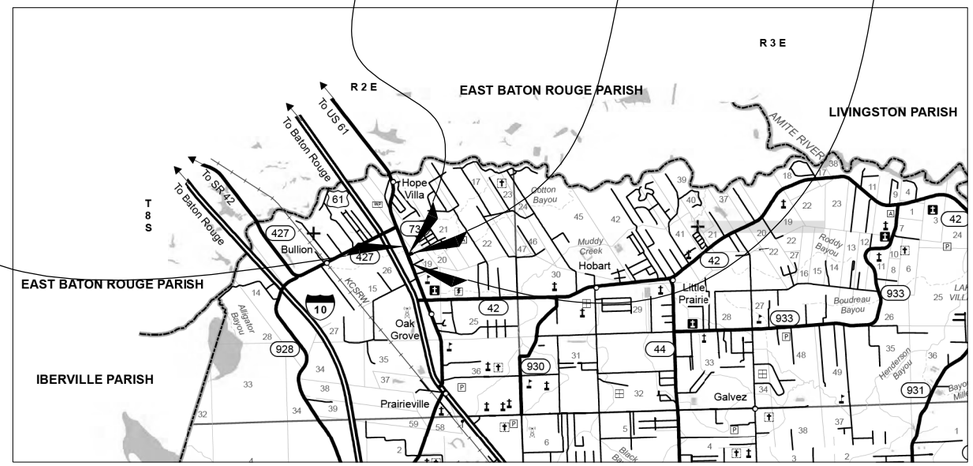
VICINITY MAP

END PROJECT
C.S. 077-03
LOG MILE 1.930
STA. 116+20.00

BEGIN CONSTRUCTION
C.S. 000-03
LOG MILE 0.003
STA. 50+17.00

END CONSTRUCTION
C.S. 000-03
LOG MILE 0.053
STA. 52+82.40

BEGIN PROJECT
C.S. 077-03
LOG MILE 1.737
STA. 106+00.00



LAYOUT MAP

SCALE: 1 INCH = 1 MILE

1 0 1 2 3

DATE	REVISION	DATE	RECOMMENDED	DATE	APPROVED

SCHEDULE OF REVISIONS

TRAFFIC DATA

2018 A.D.T. = 12,312
2038 A.D.T. = 18,661
D = 66 %
K = 9 %
T = 2 %

DESIGN SPEED = 50 MPH (LA 73), 40 MPH (BROWN RD)
POSTED SPEED = 45 MPH (LA 73), 25 MPH (BROWN RD)
ROADWAY CLASS = URBAN ARTERIAL

DESIGN CLASSIFICATION:
PRR GUIDELINES FOR URBAN NON-INTERSTATE
ROUTE REPLACEMENT & MAJOR REHABILITATION
(SIGNED 09/30/10)

TYPE OF CONSTRUCTION

LEFT AND RIGHT TURN LANES, MILL AND OVERLAY
CLASS II BASE COURSE, BASE WIDENING,
ASPHALT CONCRETE, BOX CULVERT EXTENSION
AND DRAINAGE STRUCTURES.

SURVEY

DATUM USED NAVD 88
MAGNETIC VAR.
BEARINGS ARE LA STATE PLANE COORDINATES
ZONE 1702
HORIZONTAL CONTROL NAD 83
TRANSIT BOOKS

SCALES

PLAN VIEW: 1" = 20'
PROFILE HORIZ: 1" = 20'
PROFILE VERT: 1" = 4'

STANDARD SPECIFICATIONS

THE 2016 EDITION OF THE LOUISIANA DOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS AMENDED BY THE PROJECT SPECIFICATIONS, SHALL GOVERN.

LENGTH AND LOCATION OF WORK

ROAD NAME	CONTROL SECTION	STATION BEGIN	STATION END	LOGMILE BEGIN	LOGMILE END	ALGEBRAIC SUM OF ALL EQUATIONS	GROSS LENGTH	EXCEPTION	ROADWAY LENGTH	
						FEET	FEET	FEET	FEET	MILES
LA 73	077-03	106+00.00	116+20.00	1.737	1.930		1020.00		1020.00	0.193
BROWN RD	000-03	50+17.00	52+82.40	0.003	0.053		265.40		265.40	0.050
						TOTAL LENGTH OF ROADWAY			1285.40	0.243
						TOTAL MILES				0.243

DISHILI S. YOUNG
License No. 33723
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/25/19

MAI X. NGUYEN
REG. No. 38189
REGISTERED
PROFESSIONAL
ENGINEER
IN
CIVIL ENGINEERING
10/25/19

SHEET NUMBER	1		
PARISH	ASCENSION	CONTROL SECTION	077-03
PROJECT	MA-18-03-A		
DESIGNED	MXN	DETAILED	SRP
CHECKED	DSY	CHECKED	MXN
SERIES NUMBER	1 OF 1		

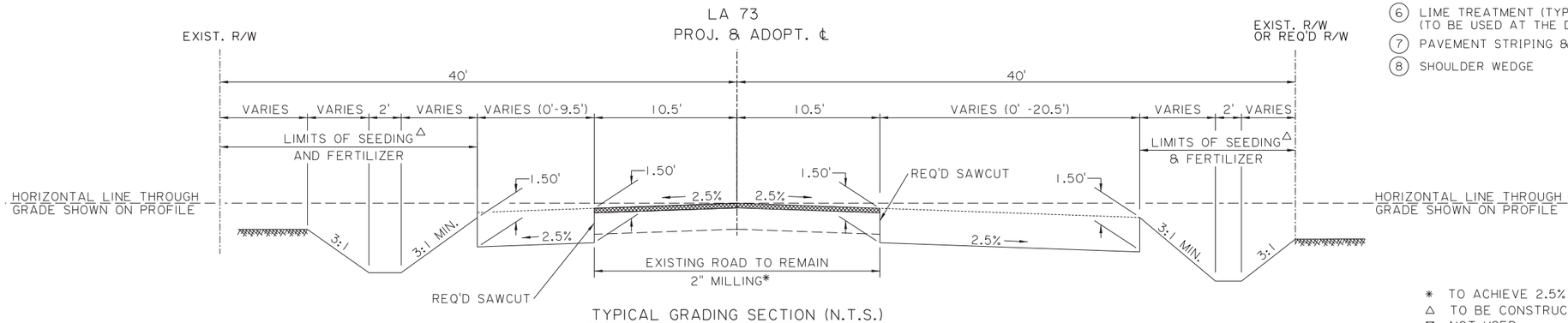
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

TITLE SHEET AND LAYOUT MAP

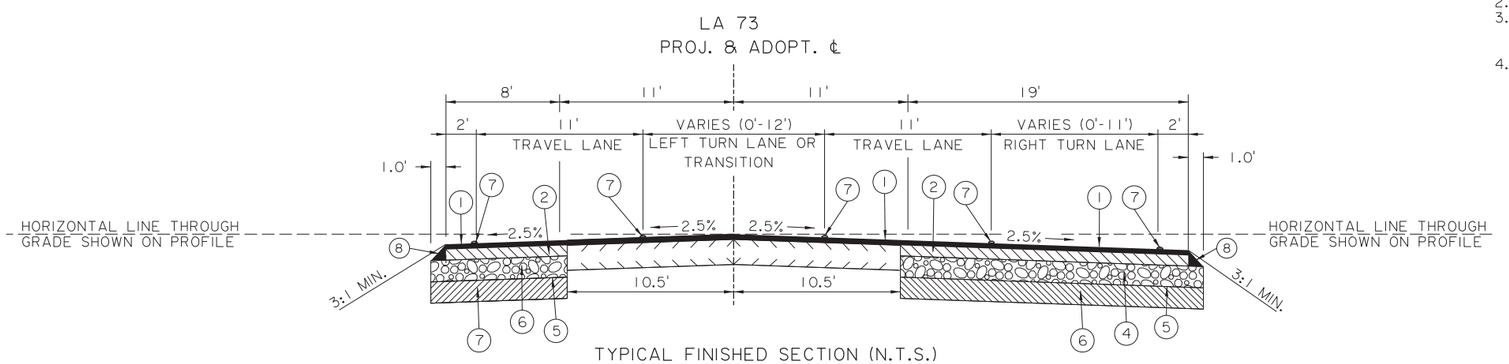
LA 73 TURN LANES @ BROWN ROAD

NEEL-SCHAFFER INC.

10/25/2019 8:01:07 AM
FINAL PLANS
Typical section_La 73 @ Brown.dgn



TYPICAL GRADING SECTION (N.T.S.)
APPLIES STA. 106+00.00 TO STA. 116+20.00



TYPICAL FINISHED SECTION (N.T.S.)
APPLIES STA. 106+00.00 TO STA. 116+20.00

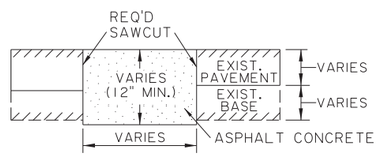
LEGEND

(1) 2" ASPHALT CONCRETE (WEARING COURSE) (LEVEL 2F)
(2) 4" ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2F)
⊠(3) 2" ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2F)
(4) 12" CLASS II BASE COURSE (CRUSHED STONE OR RECYCLED PCCP)
(5) GEOTEXTILE FABRIC (TYPE D) (TO BE PAID FOR UNDER 302-02-12000)
(6) LIME TREATMENT (TYPE E) (12" THICK) (9% BY VOLUME)
(TO BE USED AT THE DISCRETION OF THE PROJECT ENGINEER)
(7) PAVEMENT STRIPING &/OR REFLECTORIZED MARKERS
(8) SHOULDER WEDGE

* TO achieve 2.5% CROSS SLOPE
△ TO BE CONSTRUCTED FREE OF OBSTRUCTIONS
⊠ NOT USED

NOTES:

1. FOR SHOULDER WEDGE DETAILS SEE SHOULDER WEDGE SPECIAL DETAIL SHEET 101
2. FULL DEPTH SAWCUT REQUIRED FOR PAVEMENT REMOVAL
3. FUGRO RECOMMENDS A TENSAR GLASGRID OR SIMILAR SYSTEM TO BE USED TO BRIDGE THE JOINT BETWEEN EXISTING AND PROPOSED PAVEMENT SECTION (TO BE PAID FOR UNDER ITEM 302-02-12000)
4. ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2F) TO BE USED FOR FOR LEVELING COURSE IF REQUIRED IN OVERLAY SECTION



PAVEMENT PATCHING DETAILS (NTS)

LOCATION TO BE DETERMINED BY PROJECT ENGINEER
EXTEND DEPTH TO BOTTOM OF EXISTING BASE (12" MIN.)

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED
PROFESSIONAL
ENGINEER
IN
CIVIL ENGINEERING
10/25/19

SHEET NUMBER	2
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED MXN / CHECKED DSY	SERIES NUMBER 1 OF 2
DETAILED SRP / CHECKED MXN	

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

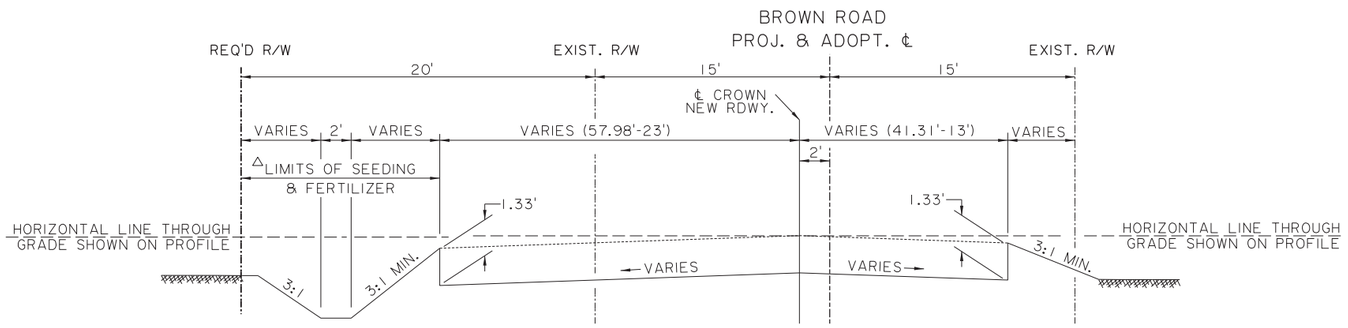
PARISH OF ASCENSION LOUISIANA

TYPICAL SECTIONS AND DETAILS

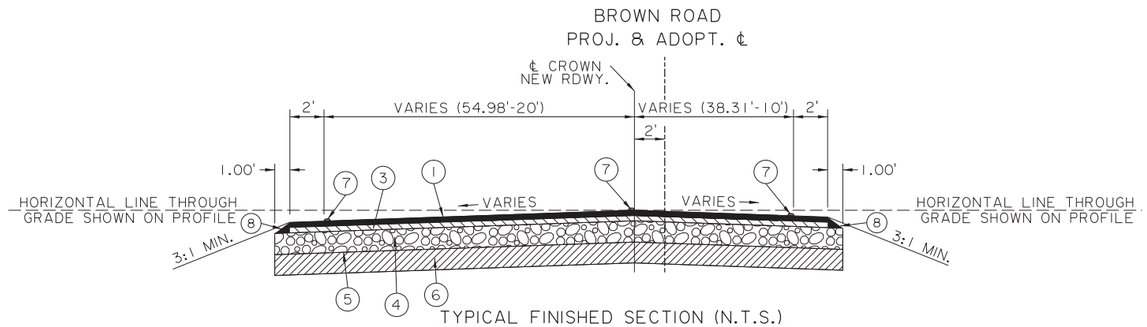
LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION
NEEL-SCHAFFER INC.

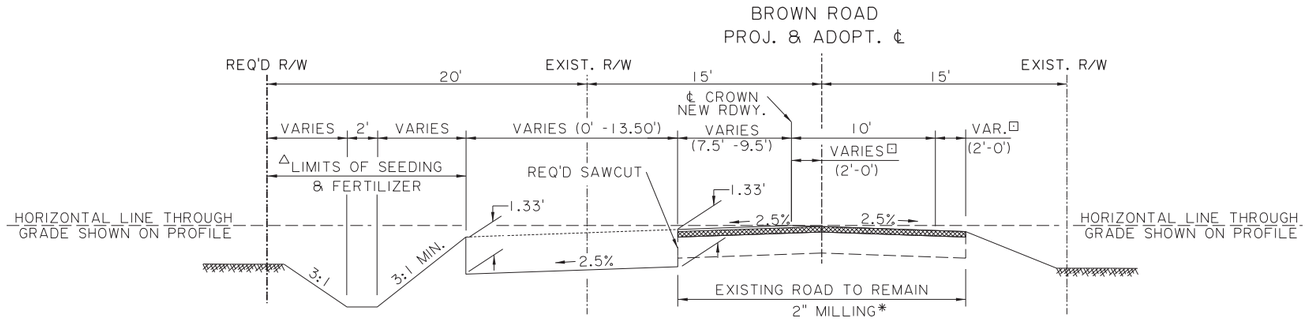
FINAL PLANS
10/25/2019 8:01:09 AM
Typical section_La 73 @ Brown_Lane Shift.dgn



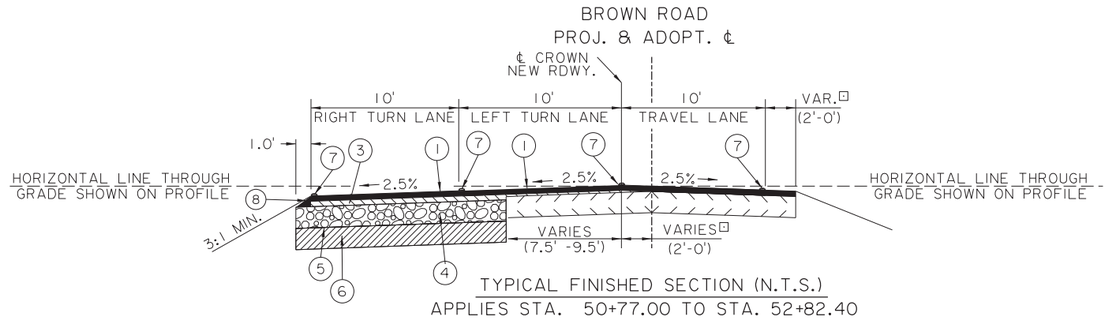
TYPICAL GRADING SECTION (N.T.S.)
APPLIES STA. 50+17.00 TO STA. 50+61.30



TYPICAL FINISHED SECTION (N.T.S.)
APPLIES STA. 50+17.00 TO STA. 50+77.00



TYPICAL GRADING SECTION (N.T.S.)
APPLIES STA. 50+77.00 TO STA. 52+82.40



TYPICAL FINISHED SECTION (N.T.S.)
APPLIES STA. 50+77.00 TO STA. 52+82.40

LEGEND

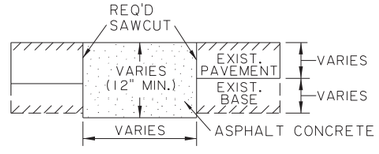
1. 2" ASPHALT CONCRETE (WEARING COURSE) (LEVEL 2F)
2. ⊠ 4" ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2F)
3. 2" ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2F)
4. 12" CLASS II BASE COURSE (CRUSHED STONE OR RECYCLED PCCP)
5. GEOTEXTILE FABRIC (TYPE D) (TO BE PAID FOR UNDER 302-02-12000)
6. LIME TREATMENT (TYPE E) (12" THICK) (9% BY VOLUME) (TO BE USED AT THE DISCRETION OF THE PROJECT ENGINEER)
7. PAVEMENT STRIPING &/OR REFLECTORIZED MARKERS
8. SHOULDER WEDGE

* TO ACHEIVE 2.5% CROSS SLOPE
△ TO BE CONSTRUCTED FREE OF OBSTRUCTIONS
⊡ 2'-0' FROM STA. 50+77.00 - STA. 51+72.63
0' FROM STA. 51+72.63 - STA. 52+82.40
⊠ NOT USED

NOTES:

1. FOR SHOULDER WEDGE DETAILS SEE SHOULDER WEDGE SPECIAL DETAIL SHEET 101
2. FULL DEPTH SAWCUT REQUIRED FOR PAVEMENT REMOVAL
3. FUGRO RECOMMENDS A TENSAR GLASGRID OR SIMILAR SYSTEM TO BE USED TO BRIDGE THE JOINT BETWEEN EXISTING AND PROPOSED PAVEMENT SECTION (TO BE PAID FOR UNDER ITEM 302-02-12000)
4. ASPHALT CONCRETE (BINDER COURSE) (LEVEL 2F) TO BE USED FOR FOR LEVELING COURSE IF REQUIRED IN OVERLAY SECTION

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/25/19



PAVEMENT PATCHING DETAILS (NTS)

LOCATION TO BE DETERMINED BY PROJECT ENGINEER
EXTEND DEPTH TO BOTTOM OF EXISTING BASE (12" MIN.)

SHEET NUMBER	2a
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED / CHECKED	MXN / DSY
DETAILED / CHECKED	SRP / MXN
SERIES NUMBER	2 OF 2

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

TYPICAL SECTIONS AND DETAILS

LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION
NEEL-SCHAFFER INC.

SUMMARY OF ESTIMATED QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY	
	201-01-00100	CLEARING AND GRUBBING	LUMP	1	
	202-01-00100	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP	1	
	202-02-00010	REMOVAL OF TREES	EACH	6	
	202-02-02000	REMOVAL OF ASPHALT DRIVES	SQYD	272.3	
	202-02-02020	REMOVAL OF ASPHALT PAVEMENT	SQYD	553	
	202-02-03000	REMOVAL OF BASE (SOIL CEMENT, ASPHALT OR BCS)	SQYD	553	
	202-02-06100	REMOVAL OF CONCRETE WALKS AND DRIVES	SQYD	319.2	
	202-02-38300	REMOVAL OF SIGN AND U-CHANNEL POST	EACH	3	
	203-01-00100	GENERAL EXCAVATION	CUYD	1,940	
	203-03-00100	EMBANKMENT	CUYD	188	
	204-02-00100	TEMPORARY HAY BALES	EACH	12	
	204-06-00100	TEMPORARY SILT FENCING	LN FT	2,500	
	302-02-12070	CLASS II BASE COURSE (12" THICK)(CRUSHED STONE OR RECYCLED PCCP)	SQYD	2,515.0	
	304-01-00100	LIME	TON	35.7	
	304-05-00100	LIME TREATMENT (TYPE E)	SQYD	2,515	
	401-02-00100	AGGREGATE SURFACE COURSE (ADJUSTED VEHICULAR MEASUREMENT)	CUYD	45.0	
	402-03-00100	NON-MAINLINE TRAFFIC MAINTENANCE SURFACING (AGGREGATE)(VEHICULAR MEASUREMENT)	CUYD	100	
▧	502-01-00100	ASPHALT CONCRETE	TON	1,181.6	
	502-01-00200	ASPHALT CONCRETE, DRIVES, TURNOUTS AND MISCELLANEOUS	TON	78.3	
	509-01-00100	MILLING ASPHALT PAVEMENT	SQYD	3,110.0	
	510-01-00200	PAVEMENT PATCHING (12" MINIMUM THICKNESS)	SQYD	100	
	701-03-01060	STORM DRAIN PIPE (30" RCP/PP)	LN FT	265	
	701-04-01060	STORM DRAIN PIPE ARCH (30" EQ. RCPA)	LN FT	112	
	701-05-01040	SIDE DRAIN PIPE (18" RCP/PP/CMP)	LNFT	44	
	701-05-01060	SIDE DRAIN PIPE (24" RCP/PP/CMP)	LNFT	181	
	701-06-01020	SIDE DRAIN PIPE ARCH (18" EQ. RCPA/CMPA)	LNFT	126	
	701-06-01060	SIDE DRAIN PIPE ARCH (30" EQ. RCPA/CMPA)	LNFT	56	
	702-03-00100	CATCH BASINS (CB-01)	EACH	3	
	706-02-00200	CONCRETE DRIVE (6" THICK)	SQYD	261.7	
⚠	708-01-00100	RIGHT-OF-WAY MONUMENT	EACH	10	
⊕	708-02-00100	RIGHT-OF-WAY MONUMENT WITNESS POST	EACH	6	
	711-01-03020	RIPRAP (30 LB, 18" THICK)	SQYD	100	
	713-01-00100	TEMPORARY SIGNS AND BARRICADES	LUMP SUM	1	
	713-02-00100	TEMPORARY PAVEMENT MARKINGS (4" WIDTH)	LNFT	7,712	
	716-01-00100	MULCH (VEGETATIVE)	TON	2.5	
	717-01-00100	SEEDING	POUND	38	
	718-01-00100	FERTILIZER	POUND	1,260	
	726-01-00100	BEDDING MATERIAL	CUYD	20.5	
	727-01-00100	MOBILIZATION	LUMP	1	
	729-01-00102	SIGN (TYPE A) (FURNISH AND INSTALL)	SQFT	24.4	
	729-16-00300	OBJECT MARKER ASSEMBLY (TYPE 3)	EACH	4	
	729-21-00100	U-CHANNEL POST	EACH	5	
	731-02-00100	REFLECTORIZED RAISED PAVEMENT MARKERS	EACH	380	
	732-01-01000	PLASTIC PAVEMENT STRIPING (4" WIDTH) (THERMOPLASTIC 90 MIL)	LN FT	6,535	
	732-01-01040	PLASTIC PAVEMENT STRIPING (8" WIDTH) (THERMOPLASTIC 90 MIL)	LN FT	260	
	732-01-02080	PLASTIC PAVEMENT STRIPING (24" WIDTH) (THERMOPLASTIC 125 MIL)	LN FT	38	
	732-03-02030	PLASTIC PAVEMENT STRIPING (DOTTED LINE) (8" W)(2' L) (THERMOPLASTIC 90 MIL)	MILE	0.05	
	732-04-01080	PLASTIC PAVEMENT LEGENDS AND SYMBOLS (ARROW-LEFT TURN)	EACH	3	
	732-04-01100	PLASTIC PAVEMENT LEGENDS AND SYMBOLS (ARROW-RIGHT TURN)	EACH	2	
	735-01-00100	MAILBOXES	EACH	7	
	735-02-00100	MAILBOX SUPPORTS (SINGLE)	EACH	7	
	740-01-00100	CONSTRUCTION LAYOUT	LUMP	1	
✳	805-16-01400	REINFORCED CONCRETE BOX CULVERTS (EXTENSION) (8' x 6')	LNFT	46	
	NS-500-00340	SAW CUTTING ASPHALTIC CONCRETE PAVEMENT	INLF	1,248	
	NS-500-00360	SAW CUTTING ASPHALTIC CONCRETE PAVEMENT OVER PCC COMPOSITE PAVEMENT	INLF	24,480	

✳ INCLUDES ALL MATERIALS, EXCAVATION, BACKFILL, LABOR, HEADWALLS, REMOVALS AS NEEDED, AND EQUIPMENT TO CONNECT TO EXISTING STRUCTURES (SEE STANDARD PLANS C.C.S.M. 6-8. R. 90" 1, CM-49, AND RCB EXTENSION). CULVERT EXTENTION QUANTITY BASED ON "SECTION THRU BARREL EXISTING HEADWALL REMAINS". CONTRACTOR MAY USE EITHER OPTIONS OF RCB EXTENSIONS AT NO ADDITIONAL COST TO THE OWNER.

▧ INCLUDES 140.0 TONS FOR LEVELING AND 42.3 TONS FOR SHOULDER WEDGE.

⊕ NOT REQUIRED ALONG BROWN ROAD

⚠ RIGHT-OF-WAY MARKERS ALONG BROWN RD TO BE PROVIDED BY ASCENSION PARISH GOVERNMENT

ASPHALT CONCRETE				
DESCRIPTION	LA 73		BROWN ROAD	
	2" WEARING COURSE (LEVEL 2F)	4" BINDER COURSE (LEVEL 2F)	2" WEARING COURSE (LEVEL 2F)	2" BINDER COURSE (LEVEL 2F)
	TONS	TONS	TONS	TONS
ROADWAY WIDENING	194.7	389.5	50.3	50.3
OVERLAY	261.8		52.7	
TOTALS	**456.5**	**389.5**	**103.0**	**50.3**



NEEL-SCHAFFER INC.

SUMMARY OF ESTIMATED QUANTITIES

LA 73 TURN LANES @ BROWN ROAD

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

DESIGNED / CHECKED	MXN / DSY	PARISH	ASCENSION
DETAILED / CHECKED	SRP / MXN	CONTROL SECTION	077-03
SERIES NUMBER	1 OF 1	PARISH PROJECT	MA-18-03-A

SHEET NUMBER 3

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FINAL PLANS

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LEGEND - EXISTING TOPOGRAPHY

CONTROL POINT
TEMPORARY BENCH MARK
PHOTO TARGET
PAVEMENT EDGE
SHOULDER EDGE
SLOPE TOE
GUARDRAIL TOP
HIGH BANK
WATER'S EDGE
HIGH WATER MARK
BOX CULVERT
PIPE CULVERT
CATCH BASIN TOP (ROUND)
DROP INLET TOP (ROUND)
DRAINAGE MANHOLE TOP
LEVEE TOP
DITCH CENTERLINE
TREE
WOODS EDGE
MARSH LINE
SWAMP LINE
TREE CLUSTER
HEDGE
BUSH
TREE LINE
FENCE LINE
GATE
CATTLE GUARD
PROPERTY CORNER
RIGHT OF WAY MONUMENT
SECTION CORNER
FENCE CORNER
TELEVISION CABLE
TELEVISION PEDESTAL
POWER POLE
DEADMAN
POWER LINE
POWER JUNCTION BOX
POWER VAULT
TRANSFORMER
COMBINATION POLE
POWER DROP
PIPELINE
PIPELINE VENT
PIPELINE REGULATOR
GAS WELL
HAY BALES
SILT FENCE
INLET SILT TRAP

GAS LINE
GAS METER
GAS SERVICE (NO METER)
GAS REGULATOR
GAS RISER
GAS TEST BOX
GAS VALVE
GAS LINE/CASING
GAS VENT
RAILROAD MILEPOST
RAILROAD SIGNAL
RAILROAD SWITCH
RAILROAD TRACK
RR TRAFFIC SIGNAL BOX
SEWER LINE
SEWER MANHOLE TOP
SEWER BLOWOUT VALVE
SEWER CLEANOUT
SEPTIC TANK
SEWER PUMP (PRIVATE)
SEWER TREATMENT (INDIVIDUAL)
FEDERAL AID MARKER
TRAFFIC CONTROLLER BOX
TRAFFIC COUNTER
TRAFFIC SIGNAL
TRAFFIC SIGNAL SUPPORT POLE
LIGHT POLE
LIGHT PEDESTAL
LIGHT POWER VAULT
TRAFFIC SIGN
PARKING METER
TELEPHONE POLE
TELEPHONE LINE
TELEPHONE BOOTH
TELE CROSS CONNECT BOX
TELEPHONE PEDESTAL
TELEPHONE PRESSURE BOX
WATER LINE
WATER LINE/CASING
WATER CLEANOUT
WATER METER
WATER VALVE
WATER VALVE VAULT
WATER WELL
FIRE HYDRANT
BILLBOARD
FUEL PUMP
POST
SIGN POST
STORAGE TANK (ROUND)
GRAVE
MAILBOX
ORNAMENTAL LIGHT
FLAG POLE
GRAVE
GAS SEVICE MARKER

LEGEND

- REQ'D ASPHALT PAVEMENT
- REQ'D CONCRETE
- REQ'D AGGREGATE
- REMOVAL OF ASPHALT PAVEMENT AND BASE
- EXIST. TO REMAIN
- REMOVAL OF DRIVEWAY

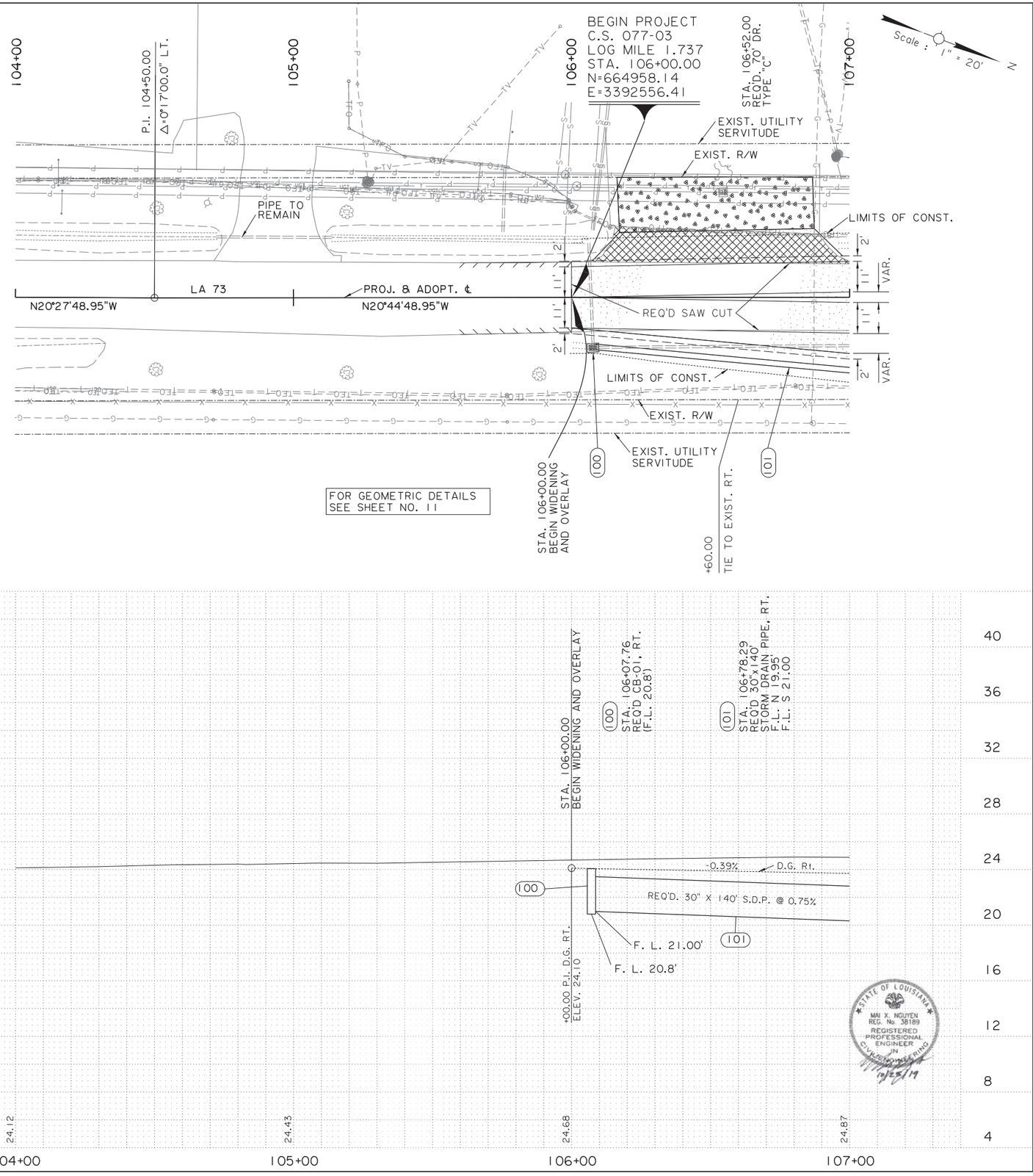
GENERAL NOTES:

1. ALL DIMENSIONS SHOWN ARE DESIGN DIMENSIONS AND WILL BE FOLLOWED TO THE NEAREST PRACTICAL LIMITS IN THE FIELD AS DETERMINED BY THE PROJECT ENGINEER IF TOLERANCES ARE NOT OTHERWISE SPECIFIED.
2. MAILBOXES TO BE PLACED AS DIRECTED BY PROJECT ENGINEER.
3. LOCATION OF PAVEMENT PATCHING TO BE DETERMINED BY PROJECT ENGINEER.
4. ALL TREE REMOVALS TO BE PAID FOR UNDER ITEM 202-02-00010.

DRAINAGE NOTES:

1. SIDE DRAIN PIPES SHALL HAVE TYPE I JOINTS
2. REMOVALS OF EXISTING DRAINAGE STRUCTURES TO BE PAID FOR UNDER ITEM 202-01-00100
3. EXISTING DRAINAGE TO BE REMOVED UNLESS OTHERWISE NOTED

SEE SUBSURFACE UTILITY ENGINEERING PLANS FOR UTILITY COMPANIES INFORMATION AND BORING LOCATION



STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

SHEET NUMBER	4
PARISH	ASCENSION
CONTROL SECTION	077-03
STATE PROJECT	MA-18-03-A
DESIGNED MXN / CHECKED DSY	SERIES NUMBER 1 OF 4
DETAILED SRP / CHECKED DSY	

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

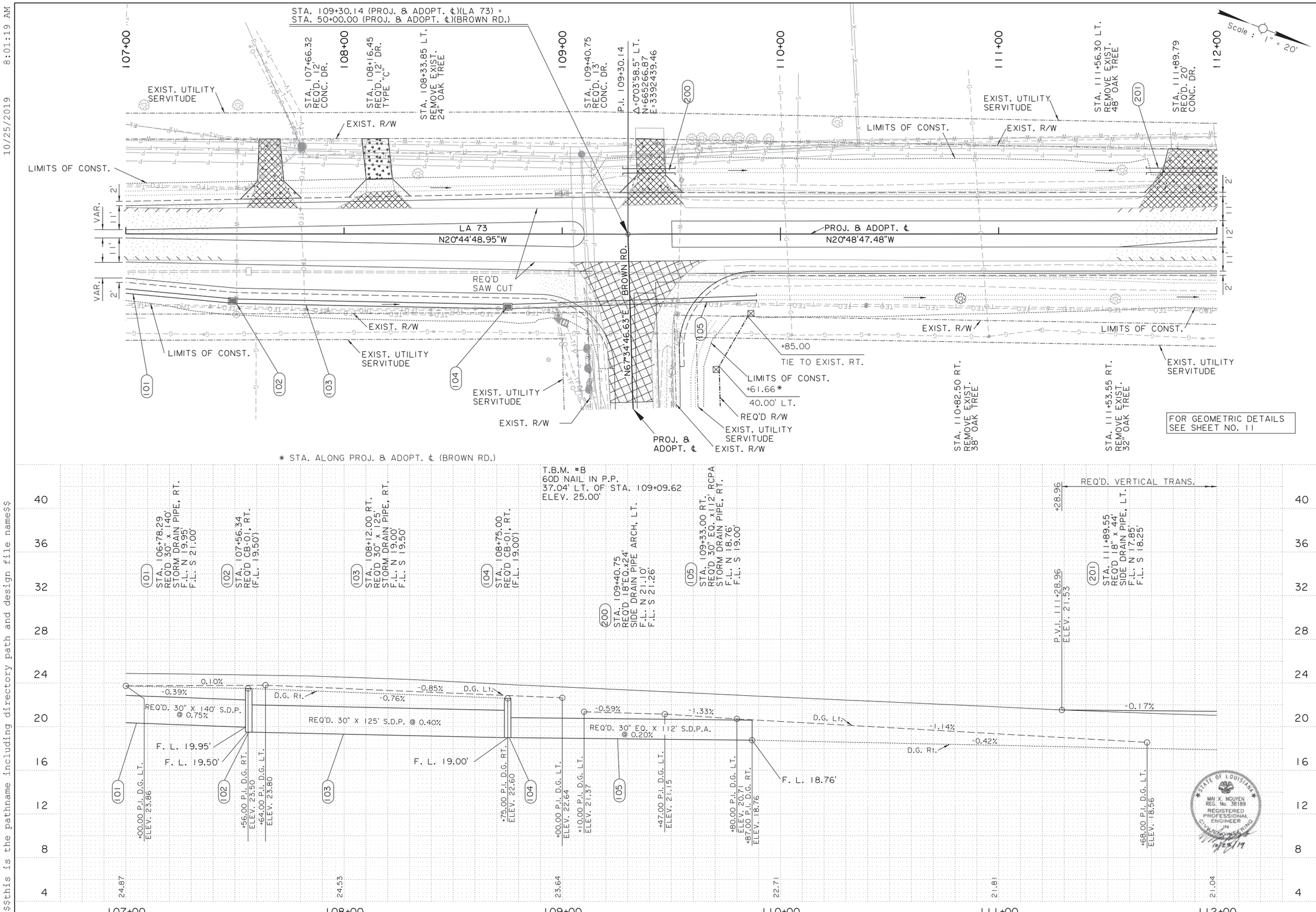
PLAN AND PROFILE SHEET

LA 73 TURN LANES @ BROWN ROAD

PARISH OF ASCENSION * LOUISIANA *

MOVE ASCENSION

NEEL-SCHAFFER, INC.



FINAL PLANS

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SHEET NUMBER 5

PARISH: ASCENSION
CONTROL SECTION: 077-03
STATE PROJECT: MA-18-03-A

DESIGNED: MXN
CHECKED: DSY
DETAILED: SRP
CHECKED: DSY
SERIES NUMBER: 2 OF 4

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PLAN AND PROFILE SHEET

LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION

NEEL-SCHAFFER INC.

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

FINAL PLANS
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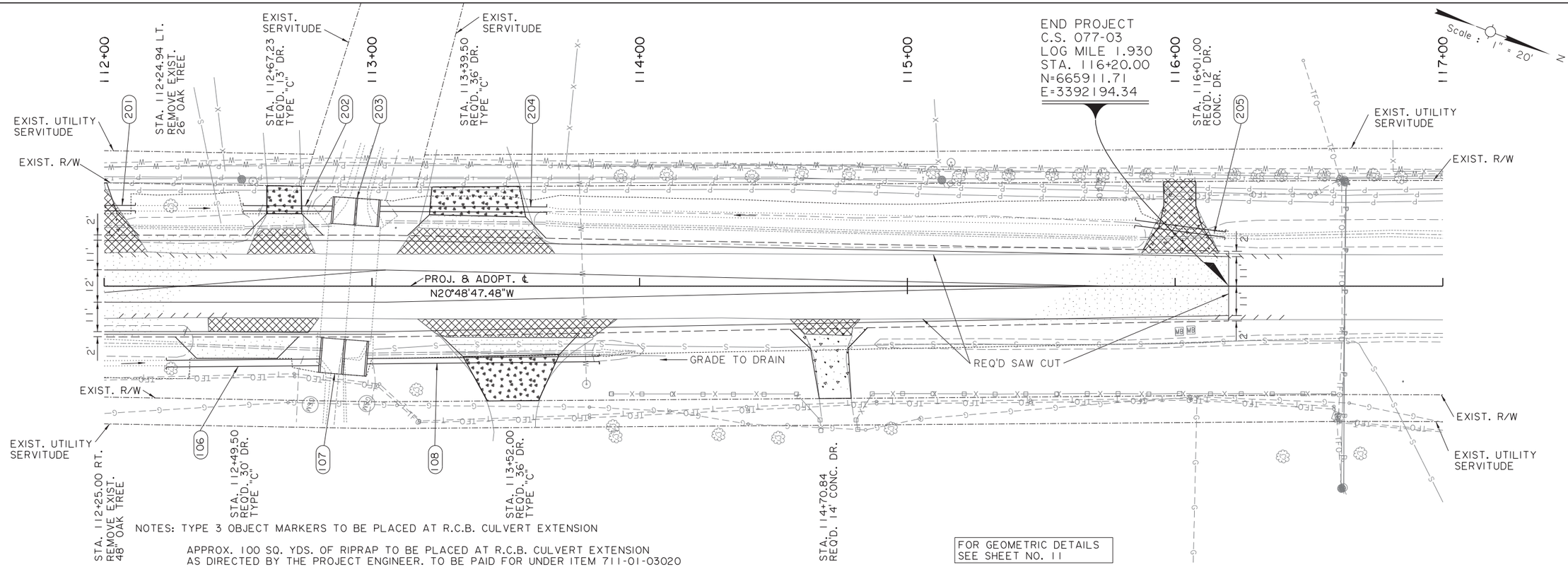

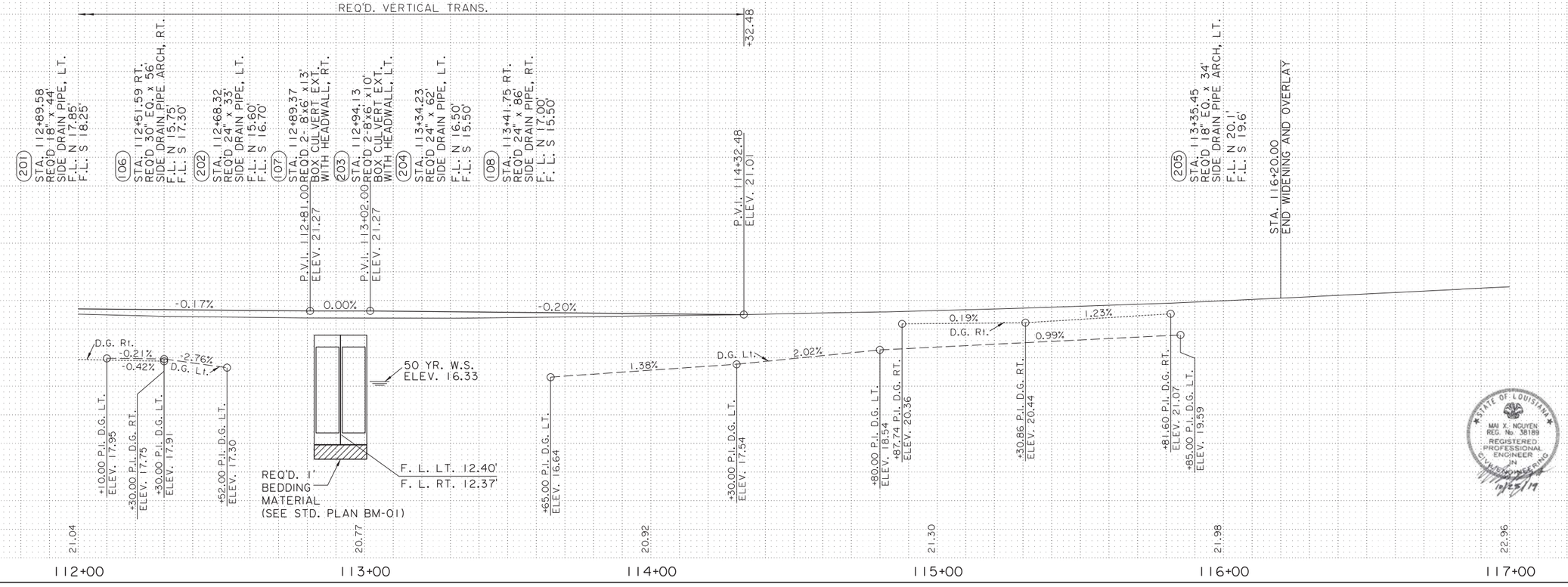

SHEET NUMBER	6
PARISH	ASCENSION
CONTROL SECTION	077-03
STATE PROJECT	MA-18-03-A
DESIGNED MXN / CHECKED DSY	
DETAILED SRP / CHECKED MXN	
SERIES NUMBER	3 OF 4

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PARISH OF ASCENSION LOUISIANA

PLAN AND PROFILE SHEET

LA 73 TURN LANES @ BROWN ROAD

MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/25/19

MOVE ASCENSION

NEEL-SCHAFFER INC.

FINAL PLANS

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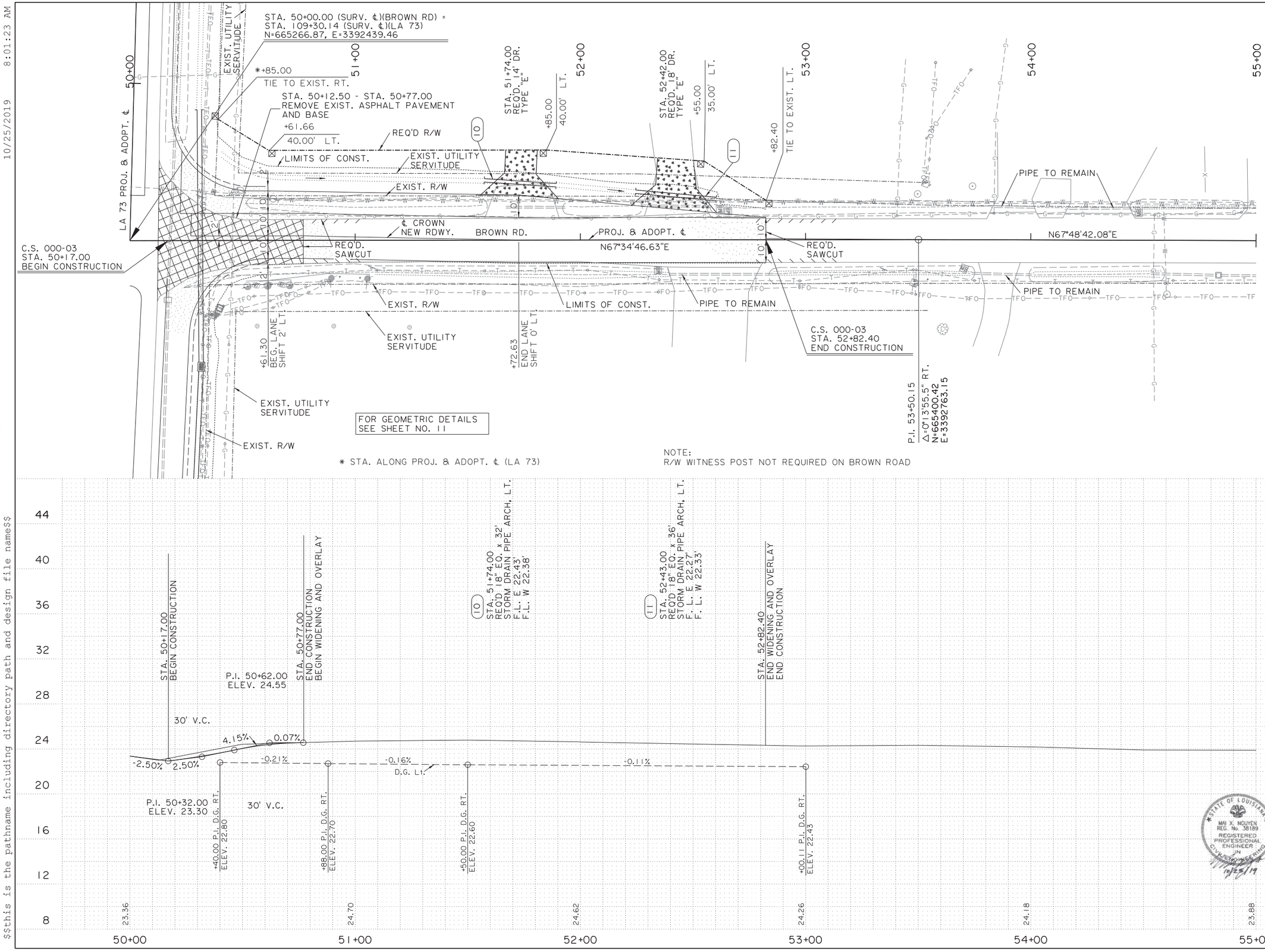

SHEET NUMBER	7
PARISH	ASCENSION
CONTROL SECTION	077-03
STATE PROJECT	MA-18-03-A
DESIGNED MXN / CHECKED DSY	
DETAILED SRP / CHECKED DSY	
SERIES NUMBER	4 OF 4

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PARISH OF ASCENSION LOUISIANA

MOVE ASCENSION

NEEL-SCHAFFER INC.

PLAN AND PROFILE SHEET

LA 73 TURN LANES @ BROWN ROAD

FINAL PLANS

10/28/2019 2:38:07 PM

US 61

Scale : 1" = 100'

N

100+00

105+00

110+00

115+00

120+00

BEGIN PROJECT
C.S. 077-03
LOG MILE 1.737
STA. 106+00.00

END PROJECT
C.S. 077-03
LOG MILE 1.930
STA. 116+20.00

PROJ. & ADOPT. ℄

LA 73

50+00

55+00

15"X20' RCP

18"X41' CMP

30"X36' CMP

18"x19' RCP

12"X17' RCP

15"X29' RCP

15"X133' CMP

D.A.=2.28 AC.

D.A.=1.15 AC.

D.A.=1.40 AC.

2-8'X6'X43' RCB

24"X34' RCP

24"X60' PP

D.A.=0.32 AC.

D.A.=0.18 AC.

D.A.=0.19 AC.

D.A.=1.90 AC.

D.A.=0.60 AC.

30"X145' PP

30"X146' PP

D.A.=1.07 AC.

D.A.=1.16 AC.

D.A.=0.40 AC.

30"X75' PP

24"X50' CMP

D.A.=0.26 AC.

12"X26' CMP

18"X46' RCP

D.A.=0.16 AC.

15"X31' CMP

D.A.=1.24 AC.

D.A.=0.40 AC.

18"X88' PP

D.A.=1.18 AC.

D.A.=4.61 AC.

BEGIN CONSTRUCTION
C.S. 000-03
STA. 50+17.00

15"X27' RCP

D.A.=0.21 AC.

D.A.=0.04 AC.

12"X19' CMP

12"X30' CMP

15"X29' PP

15"X49' PP

12"X61' CMP

15"X80' PP

BROWN RD.

PROJ. & ADOPT. ℄

15"X46' PP

WELSH GULLY

END CONSTRUCTION
C.S. 000-03
STA. 52+82.40

LEGEND

DRAINAGE AREA BOUNDARY

DRAINAGE OVERLAND FLOW

CROSS DRAIN INFORMATION

STATION	DESCRIPTION	INVERT ELEV.		DRAINAGE AREA
		LT.	RT.	
112+89.37	2-8'X6'X43' RCB	12.40	12.37	208 AC.

STATE OF LOUISIANA
DISHILI S. YOUNG
License No. 33723
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/25/19

SHEET NUMBER	8
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED WCS / CHECKED DSY	
DETAILED SRP / CHECKED MXN	
SERIES NUMBER	1 OF 1

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PARISH OF ASCENSION * LOUISIANA *

EXISTING DRAINAGE MAP

LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION

NEEL-SCHAFFER INC.

ED_MAP_LA73_AT_BROWN_14090.dgn

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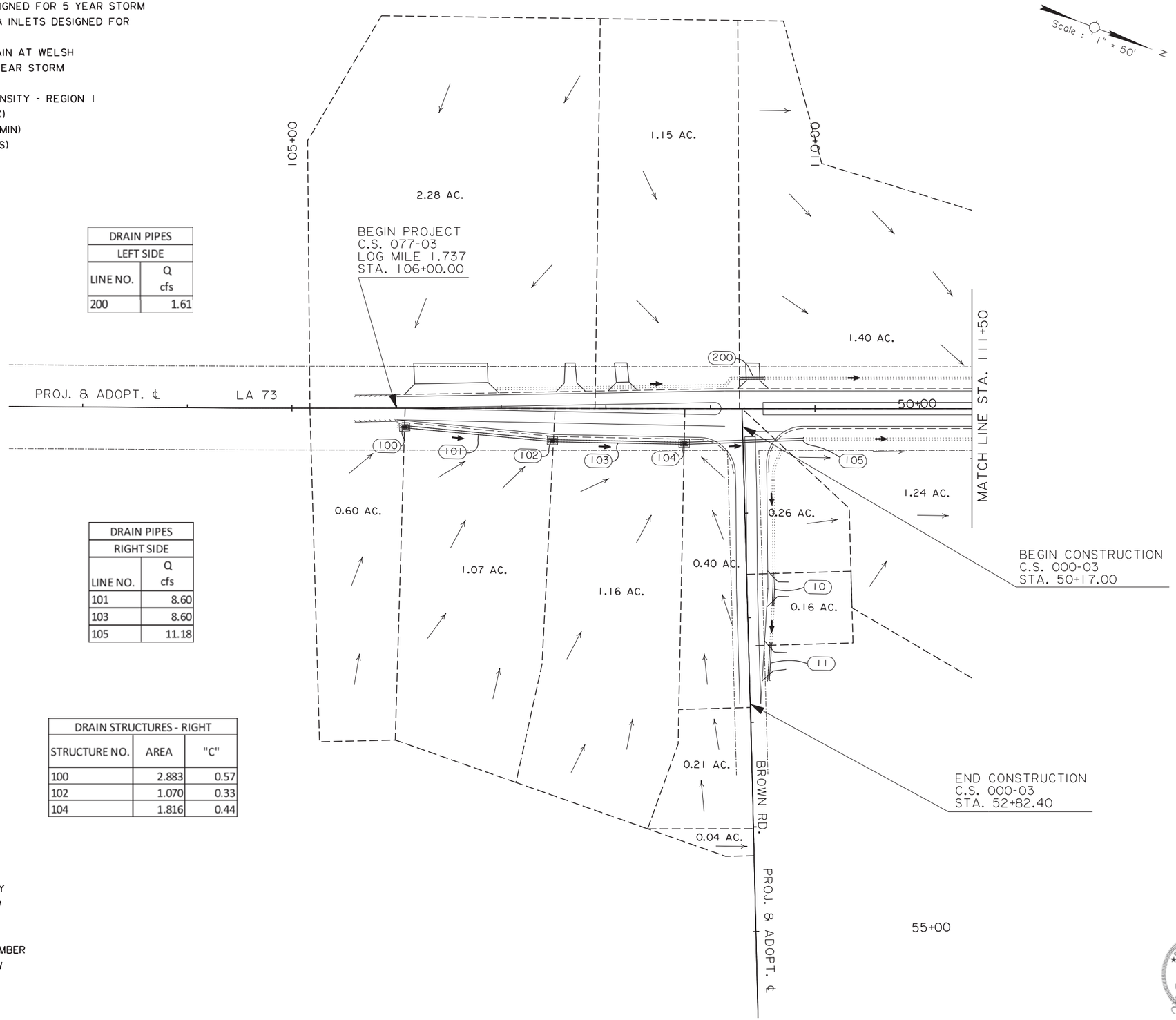
FINAL PLANS

DESIGN CRITERIA

1) ALL SIDE DRAIN PIPES DESIGNED FOR 5 YEAR STORM
2) ALL STORM DRAIN PIPES, & INLETS DESIGNED FOR 10 YEAR STORM
3) EXTENSIONS TO CROSS DRAIN AT WELSH GULLY DESIGNED FOR 50 YEAR STORM
4) Q = CIA
5) SOURCE OF RAINFALL INTENSITY - REGION I
6) C = 0.95 (PAVEMENT - MAX) AND 0.30 (OPEN LAND - MIN)
7) A = DRAINAGE AREA (ACRES)



DRAIN PIPES	
LEFT SIDE	
LINE NO.	Q cfs
200	1.61

DRAIN PIPES	
RIGHT SIDE	
LINE NO.	Q cfs
101	8.60
103	8.60
105	11.18

DRAIN STRUCTURES - RIGHT		
STRUCTURE NO.	AREA	"C"
100	2.883	0.57
102	1.070	0.33
104	1.816	0.44

LEGEND
- DRAINAGE AREA BOUNDARY
- DRAINAGE OVERLAND FLOW
- REQUIRED OPEN CHANNEL
- PROPOSED INLET
- (999) PROPOSED STRUCTURE NUMBER
- PROPOSED DRAINAGE FLOW

STATE OF LOUISIANA
DISHILI S. YOUNG
License No. 33723
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/25/19

SHEET NUMBER 9

PARISH: ASCENSION
CONTROL SECTION: 077-03
PARISH PROJECT: MA-18-03-A
DESIGNED WCS / CHECKED DSY
DETAILED SRP / CHECKED MXN
SERIES NUMBER 1 OF 2

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PARISH OF ASCENSION LOUISIANA

DESIGN DRAINAGE MAP

LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION
NEEL-SCHAFFER INC.

DD_MAP_1_LA73_AT_BROWN.dgn

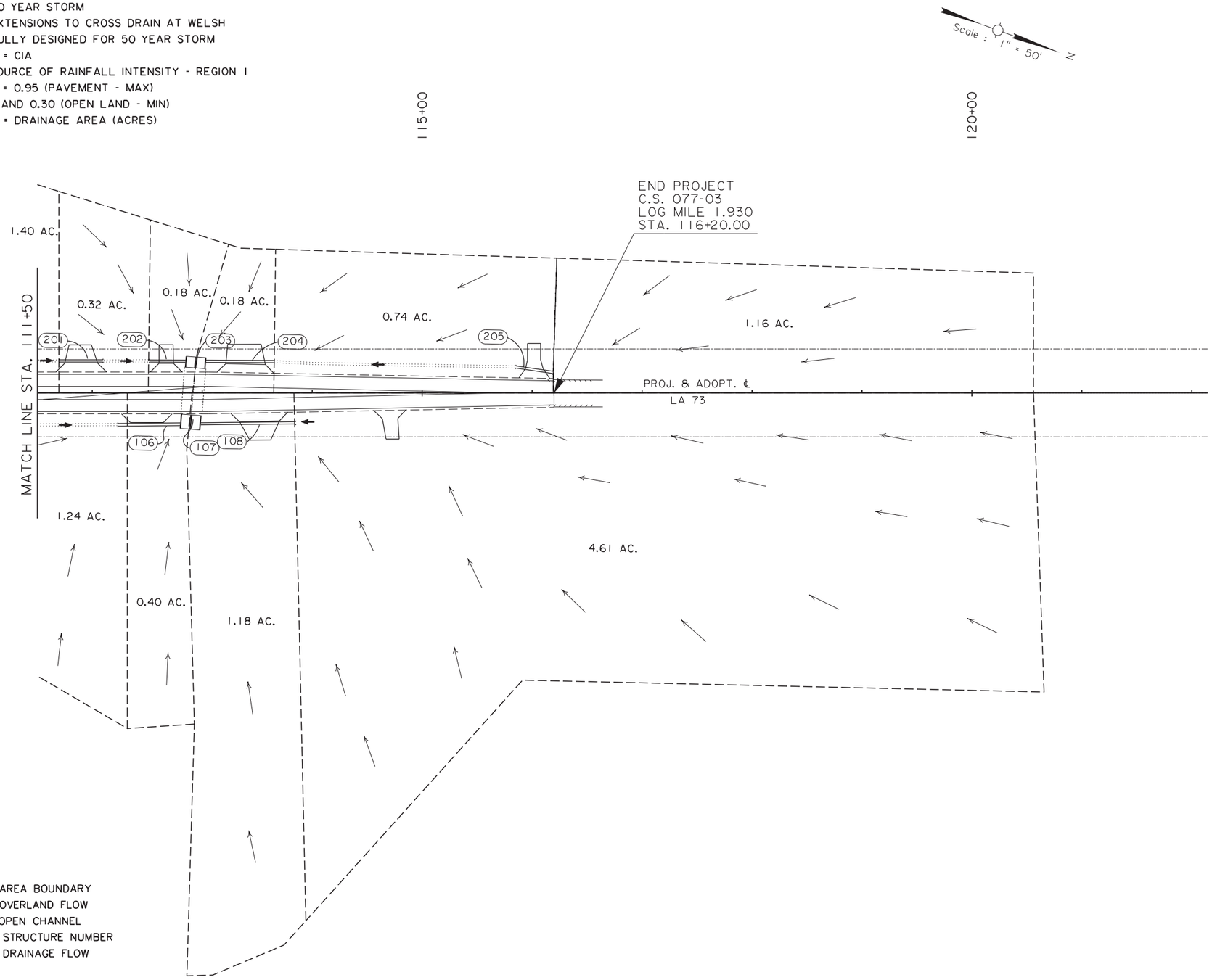
FINAL PLANS
10/28/2019 2:38:10 PM

DESIGN CRITERIA

1) ALL SIDE DRAIN PIPES DESIGNED FOR 5 YEAR STORM
2) ALL STORM DRAIN PIPES, & INLETS DESIGNED FOR 10 YEAR STORM
3) EXTENSIONS TO CROSS DRAIN AT WELSH GULLY DESIGNED FOR 50 YEAR STORM
4) Q = CIA
5) SOURCE OF RAINFALL INTENSITY - REGION 1
6) C = 0.95 (PAVEMENT - MAX) AND 0.30 (OPEN LAND - MIN)
7) A = DRAINAGE AREA (ACRES)

DRAIN PIPES	
LEFT SIDE	
LINE NO.	Q cfs
201	4.71
202	5.67
204	2.79
205	1.68

DRAIN PIPES	
RIGHT SIDE	
LINE NO.	Q cfs
106	14.47
108	7.12



LEGEND
- DRAINAGE AREA BOUNDARY
- DRAINAGE OVERLAND FLOW
- REQUIRED OPEN CHANNEL
- (999) PROPOSED STRUCTURE NUMBER
- PROPOSED DRAINAGE FLOW

DISHILI S. YOUNG
License No. 33723
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/25/19

SHEET NUMBER	10
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED WCS / CHECKED DSY	
DETAILED SRP / CHECKED MXN	
SERIES NUMBER	2 OF 2

REVISION OR CHANGE ORDER DESCRIPTION | BY | NO. | DATE

DESIGN DRAINAGE MAP

LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION

NEEL-SCHAFFER INC.

DD_MAP_2_LA73_AT_BROWN.dgn

FINAL PLANS

10/28/2019 2:38:11 PM

Scale : 1" = 40'

BEGIN PROJECT
C.S. 077-03
LOG MILE 1.737
STA. 106+00.00
N=664958.14
E=3392556.41

END PROJECT
C.S. 077-03
LOG MILE 1.930
STA. 116+20.00
N=665911.71
E=3392194.34

STA. 109+30.14 (SURV. ℄)(LA 73)=
STA. 50+00.00 (SURV. ℄)(BROWN RD.)
N=665266.87, E=3392439.46

STA. 50+17.00
BEGIN CONSTRUCTION

105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00

+00.00 BEG. TRANS. 13.00' LT.

+14.00 END TRANS. 19.00' LT.

P.I. 109+30.14
Δ=0°03'58.5" LT.

+50.00

+55.00 BEG. TURN LANE TAPER

+05.00 END TURN LANE TAPER BEG. TRANS. 19.00' LT.

+20.00 END TRANS. 13.00' LT.

LA 73

PROJ. & ADOPT. ℄
N20°48'47.48"W

N20°44'48.95"W

+04.19 5.81' LT.

+04.19 5.81' RT.

+14.00 17.00' RT.

108+89.58 29.54' RT.

50+61.30 12.00' RT.

109+88.62 19.00' RT.

50+61.30 24.00' LT.

50+75.50 24.00' LT.

+77.00 2.00' LT. BEG. LANE SHIFT

+00.00 13.00' RT. BEG. TURN LANE TAPER

+50.00 26.88' RT. END TURN LANE TAPER

+05.00 19.00' RT.

+20.00 13.00' RT.

51+00

N67°34'46.63"E

P.B.A. ℄

BROWN ROAD

+72.63 0.00' LT. END LANE SHIFT

+72.63 20.00' LT. BEG. TURN LANE TAPER

52+00

CURVE DATA

①	②	③
R=5.81'	R=35.00'	R=35.00'
Δ=182°11'19.85	Δ=87°13'55.65	Δ=91°36'25.88

+82.40 10.00' RT.

+82.40 10.00' LT. END TURN LANE TAPER

53+00

STA. 52+82.40
END CONSTRUCTION

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

SHEET NUMBER	11
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED MXN CHECKED DSY	
DETAILED SRP CHECKED MXN	
SERIES NUMBER	1 OF 1

NO.	REVISION OR CHANGE ORDER DESCRIPTION	DATE	BY

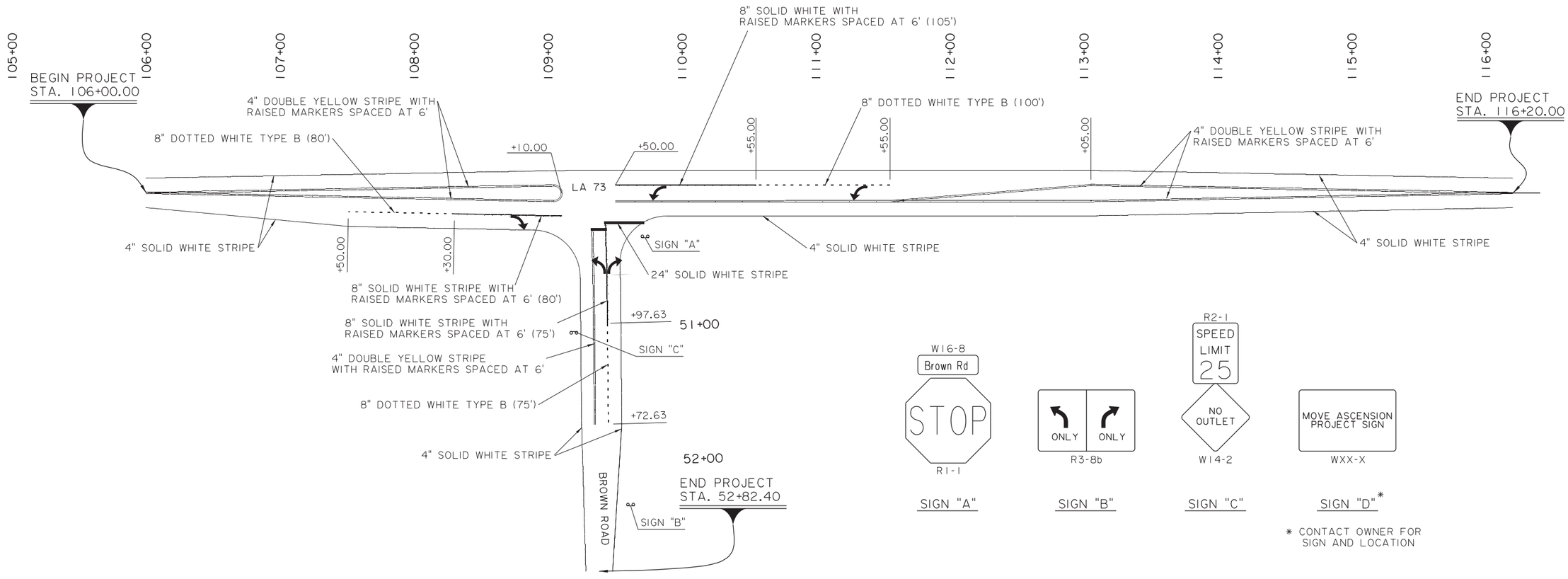
GEOMETRIC DETAILS

LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION
NEEL-SCHAFFER INC.

Geometric Layout_Lane shift.dgn

FINAL PLANS
10/25/2019 8:01:30 AM
Pavement Marking Layout.dgn



SIGN "A" SIGN "B" SIGN "C" SIGN "D"*

* CONTACT OWNER FOR SIGN AND LOCATION

NOTES:
SEE STANDARD PLANS PM-01, 02, AND 05 FOR PAVEMENT MARKING DETAILS
SEE ROADSIDE TRAFFIC SIGNS DETAILS BD.2.7.2.0 FOR SIGNS FACING AND INSTALLATION
SIGN LOCATIONS TO BE DETERMINED BY THE DIST. 61 D.T.O.E.

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

SHEET NUMBER 12

PARISH	CONTROL SECTION	PARISH PROJECT
ASCENSION	077-03	MA-18-03-A

DESIGNED / CHECKED	DETAILED / CHECKED	SERIES NUMBER
MXN / DSY	SRP / MXN	1 OF 1

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PARISH OF ASCENSION * LOUISIANA *

PAVEMENT MARKINGS AND SIGNS LAYOUT

LA 73 TURN LANES @ BROWN ROAD

Move Ascension

NEEL-SCHAFFER INC.

10/25/2019 8:01:32 AM

FINAL PLANS

SUGGESTED SEQUENCE OF CONSTRUCTION

CLEARING AND GRUBBING

1. PLACE CONSTRUCTION SIGNING ACCORDING TO LADOTD TTC STANDARDS AND MUTCD
2. PERFORM CLEARING AND GRUBBING FOR THE PROJECT

PHASE 1: PAVEMENT WIDENING AT BROWN ROAD

1. ADJUST CONSTRUCTION SIGNING AND INSTALL TEMPORARY EROSION CONTROLS ACCORDING TO LADOTD STANDARD PLANS AND MUTCD
2. GRADE DITCH ACCORDING TO PLANS AND INSTALL PROPOSED DRAINAGE STRUCTURES WHILE MAINTAINING TRAFFIC ON EXISTING PAVEMENT
3. PERFORM GRADE WORK ON WIDENING AREA INCLUDING TURNOUT, PLACE BASE COURSE AND ASPHALT LAYER

PHASE 2: PAVEMENT WIDENING EAST OF ℄ LA 73

1. ADJUST CONSTRUCTION SIGNING ACCORDING AND PLACE TEMPORARY EROSION CONTROLS ACCORDING TO LADOTD STANDARD PLANS AND MUTCD
2. EXTEND EXISTING REINFORCED CONCRETE BOX, GRADE DITCH ACCORDING TO PLANS AND PLACE PROPOSED DRAINAGE STRUCTURES ACCORDING TO LADOTD STANDARD PLANS AND SPECIAL DETAILS
3. SAWCUT EXISTING PAVEMENT AND GRADE EARTHWORK ON WIDENING AREA
4. PLACE BASE COURSE AND ASPHALT LAYER

PHASE 3: PAVEMENT WIDENING WEST OF ℄ LA 73

1. ADJUST CONSTRUCTION SIGNING AND PLACE TEMPORARY EROSION CONTROLS ACCORDING TO LADOTD STANDARD PLANS AND MUTCD
2. EXTEND EXISTING REINFORCED CONCRETE BOX, GRADE DITCH ACCORDING TO PLANS AND PLACE PROPOSED DRAINAGE STRUCTURES ACCORDING TO LADOTD STANDARD PLANS AND SPECIAL DETAILS
3. SAWCUT EXISTING PAVEMENT AND GRADE EARTHWORK ON WIDENING AREA
4. PLACE BASE COURSE AND ASPHALT LAYER

PHASE 4: LA 73 AND BROWN ROAD

1. ADJUST CONSTRUCTION SIGNS AND PLACE TEMPORARY EROSION CONTROLS ACCORDING TO LADOTD STANDARD PLANS AND MUTCD
2. CONSTRUCT TURNOUT AND DRIVEWAYS
3. MILL SURFACE, PATCH EXISTING PAVEMENT AND PLACE LEVELING COURSE AND WEARING COURSE
4. PLACE PERMANENT PAVEMENT MARKINGS AND REQUIRED SIGNS
5. REMOVE ALL CONSTRUCTION SIGNS AND OPEN ROADWAY TO TRAFFIC

GENERAL NOTES:

CONTRACTOR SHALL MAINTAIN EXISTING TRAFFIC FLOW DURING CONSTRUCTION. NO LANE CLOSURES WILL BE ALLOWED FROM 6:00 AM - 9:00 AM AND 3:00 PM - 7:00 PM ON MONDAYS THROUGH FRIDAYS. UNLESS OTHERWISE APPROVED BY OWNER IN WRITING

ALL TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO CONSTRUCTION ACTIVITY

TRAFFIC CONTROL SHALL BE INSTALLED IN ACCORDANCE TO LADOTD STANDARDS AND MUTCD. FOR ADDITIONAL SIGNING DETAILS SEE STANDARD PLANS TTC-00 (A-D), 01-04, 11, 18

DROP-OFF GREATER THAN 10" REQUIRES VERTICAL PANELS AND EDGE LINE

TEMPORARY OR EXISTING SIGNS NOT APPLICABLE DURING CONSTRUCTION SHALL BE COVERED AS APPROVED BY PROJECT ENGINEER

CONTRACTOR SHALL MAINTAIN ADEQUATE TEMPORARY DRAINAGE

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

SHEET NUMBER 13

PARISH: ASCENSION
CONTROL SECTION: 077-03
PARISH PROJECT: MA-18-03-A

DESIGNED MXN
CHECKED DSY
DETAILED SRP
CHECKED MXN
SERIES NUMBER 1 OF 1

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PARISH OF ASCENSION LOUISIANA

SUGGESTED
SEQUENCE OF CONSTRUCTION

LA 73 TURN LANES @ BROWN ROAD

Move Ascension

NEEL-SCHAFFER INC.

Sequence of Construction.dgn

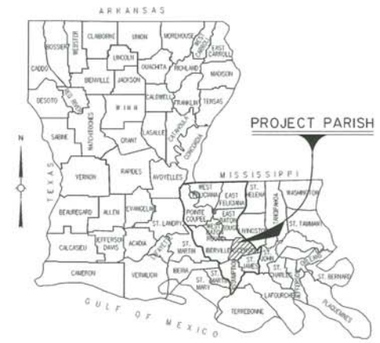
STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

PLANS OF PROPOSED STATE HIGHWAY

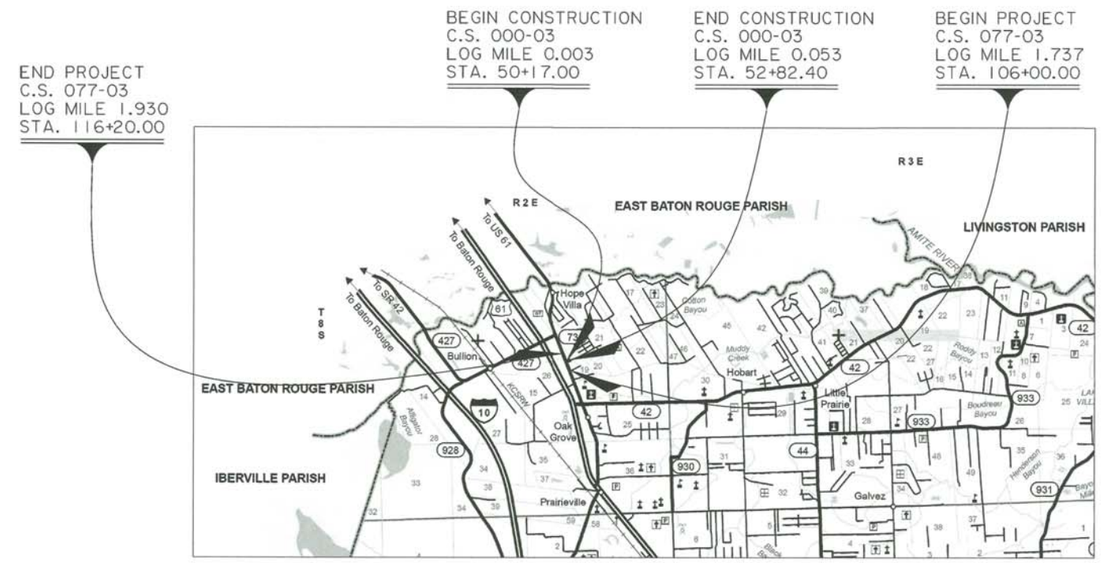
MOVE ASCENSION PROJECT NO. MA-18-03-A

LA 73 TURN LANES @ BROWN ROAD

ASCENSION PARISH



VICINITY MAP



LAYOUT MAP

SCALE: 1 INCH = 1 MILE

1 0 1 2 3

SETH J. MOSBY
License No. 5073
PROFESSIONAL
LAND SURVEYOR
STATE OF LOUISIANA
10-30-2019

SHEET NUMBER	14
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
COMPUTED JMR CHECKED SJM	
DATE	2-15-2019
SCALE	1" = 1 MILE
SERIES NUMBER	1 OF 4
BY	JMR
DATE	10-30-2019
REVISION DESCRIPTION	REVISED PARISH PROJECT NUMBER & LOG MILE

RIGHT OF WAY MAP
MOVE ASCENSION
PROJECT NO. MA-18-03-A

LOUISIANA HIGHWAY 73 TURN LANES AT BROWN ROAD

FILE NO. | R/W SHEET NO. TITLE

SOUTHEASTERN LAND DISTRICT, EAST OF THE MISSISSIPPI RIVER
T8S – R2E
SECTION 15

177 INVESTMENTS LLC | HARRY G. WELLS | HARRY STANLEY

BEGIN PROJECT
C.S. 077-03
LOG MILE 1.737
STA. 106+00.00

P.I. STA. 109+30.14
Δ=00°03'58.5" LT.

110+00

STA. 109+30.14 (PROJ. & ADOPT. CL.) (HWY. 73)
STA. 50+00.00 (PROJ. & ADOPT. CL.) (BROWN RD.)

106+02.83
41.50'
1/2" IRON PIPE
(FOUND)

Y=664958.1395
X=3392556.4086

Y=665266.8731
X=3392439.4612

N20°44'48.95"W
PROJECTED & ADOPTED ℄ PARISH PROJECT NO. MA-18-03-A
La 73

N20°48'47.48"W

107+26.59
36.70'
1/2" IRON PIPE
(FOUND)

109+11.59
35.90'
1" IRON PIPE
(FOUND)

109+51.16
37.17'
1" IRON PIPE
(FOUND)

109+85.00
37.75'

N19°49'44"W
33.85'

S80°48'40"E 26.29'

50+61.66
40.00'

EXISTING R/W
LIMITS OF CONSTRUCTION
EXISTING 12' UTILITY SERVITUDE
EXISTING 10' UTILITY SERVITUDE
EXISTING 15' UTILITY SERVITUDE

12.00' | 80.00' | 36.70' | 35.90' | 19.59' | 19.99' | 37.17' | 39.25' | 39.53' | 40.47' | 10.00'

M&R BROUSSARD LLC | M&R BROUSSARD LLC | HARRY G. WELLS | HARRY G. WELLS

N6734'46.63"E
PROJECTED & ADOPTED ℄ BROWN ROAD

S67°45'45"W 187.99'
N67°34'47"E 123.34'
N20°23'45"W 17.69'
41.47'
N71°39'55"E

REQUIRED R/W

51+85.00
40.00'

52+26.36
37.05'

19.38'

52+25.74
19.37'
1" IRON PIPE
(FOUND)

S69°22'49"W 56.70'
28.71'
N71°39'55"E

52+55.00
35.00'

32.47'
S79°58'57"E

52+82.40
17.59'

END CONSTRUCTION
C.S. 000-03
STA. 52+82.40

Y=665374.6321
X=3392700.6468

12.00' | 36.52' | 10.00'

WALTER J. WELLS

1-1
1-2

LEGEND

EXISTING R/W | REQUIRED R/W
EXISTING C. of A. | REQUIRED C. of A. — CONTROL OF ACCESS
EXIST R/W & EXIST C. of A. | REQ'D R/W & REQ'D C. of A. — RIGHT OF WAY & CONTROL OF ACCESS
LIMITS OF CONSTRUCTION
LOT LINE
APPARENT PROPERTY LINE
EXISTING SERVITUDE LINE
SECTION LINE

NOTES:

1. ALL PIPES AND MONUMENTS SHOWN HEREON WERE FOUND.

2. THE COORDINATES AND BEARINGS SHOWN HEREON ARE BASED ON LOUISIANA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD 83 (2011) EPOCH 2010.00). TO CONVERT FROM GRID BEARINGS TO TRUE BEARINGS USE: 00°10'30.7"

BASE STATION (CORS):

DL8631
BC ALWES CORS ARP
LAT= N30°06'00.96248"
LONG= W90°58'58.63439"
Y= 582125.44
X= 3391627.90

AJ7833
HAMMOND CORS ARP
LAT= 30°30'47.05150"
LONG= W90°28'03.42841"
Y= 733115.66
X= 3553447.23

DL 8635
GALVEZ MIDDLE SCH CORS ARP
LAT= N30°18'51.79675"
LONG= W90°54'13.02952"
Y= 660080.70
X= 3416422.45

3. DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES. TO CONVERT DISTANCES DERIVED FORM COORDINATES SHOWN HEREON TO HORIZONTAL GROUND DISTANCES. USE SCALE FACTOR: 0.9992724

PARCEL	OWNER	ACQUISITION	AREA
1-2	WALTER J. WELLS	INST. NO. 535073 JANUARY 28, 2003	0.017 ACRES 722 SQUARE FEET
1-1	HARRY G. WELLS	INST. NO. 320345 JANUARY 28, 2003	0.090 ACRES 3,918 SQUARE FEET

STATE OF LOUISIANA
SETH J. MOSBY
License No. 5073
PROFESSIONAL
LAND SURVEYOR
10-30-2019

FILE NO. | R/W SHEET NO. 1

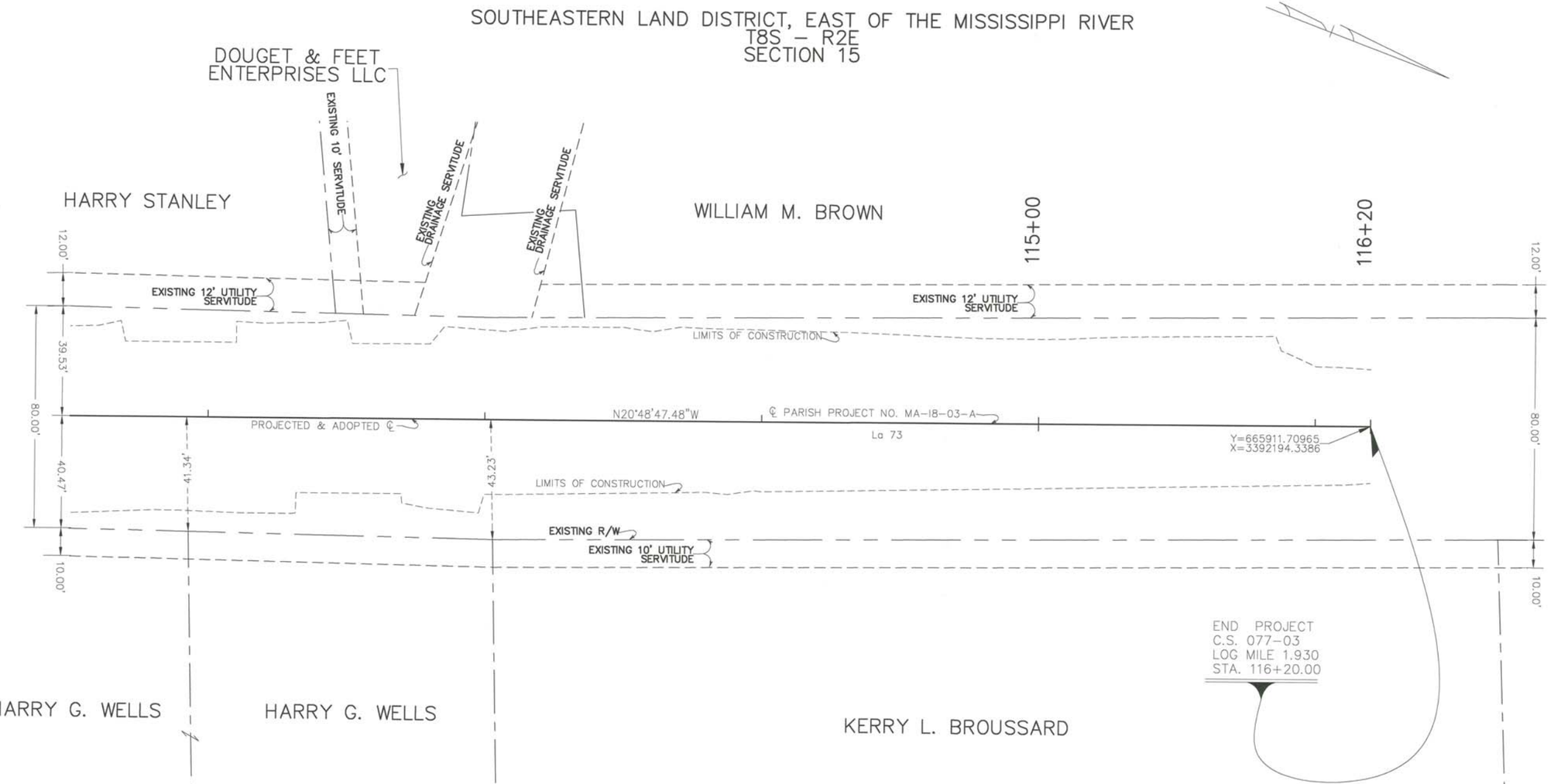
SHEET NUMBER 15
PARISH: ASCENSION
CONTROL SECTION: 077-03
PARISH PROJECT: MA-18-03-A
COMPUTED: JMR
CHECKED: SJM
DATE: 2-15-2019
SCALE: 1" = 20'
SERIES NUMBER: 2 OF 4
BY: JMR
REVISED PARISH PROJECT NUMBER & LOG MILE
REVISION DESCRIPTION
10-30-2019 DATE

PARISH OF ASCENSION LOUISIANA

RIGHT OF WAY MAP
MOVE ASCENSION
PROJECT NO. MA-18-03-A
LOUISIANA HIGHWAY 73 TURN LANES AT BROWN ROAD

MOVE ASCENSION
QUALITY

SOUTHEASTERN LAND DISTRICT, EAST OF THE MISSISSIPPI RIVER
T8S – R2E
SECTION 15



LEGEND

EXISTING R/W / REQUIRED R/W	
EXISTING C. of A. / REQUIRED C. of A.	CONTROL OF ACCESS
EXIST R/W & EXIST C. of A. / REQ'D R/W & REQ'D C. of A.	RIGHT OF WAY & CONTROL OF ACCESS
	LIMITS OF CONSTRUCTION
	LOT LINE
	APPARENT PROPERTY LINE
	EXISTING SERVITUDE LINE
	SECTION LINE

NOTES:

1. ALL PIPES AND MONUMENTS SHOWN HEREON WERE FOUND.

2. THE COORDINATES AND BEARINGS SHOWN HEREON ARE BASED ON LOUISIANA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD 83 (2011) EPOCH 2010.00).
TO CONVERT FROM GRID BEARINGS TO TRUE BEARINGS
USE: 00°10'30.7" ÷ +

BASE STATION (CORS):

DL8631
BC ALWES CORS ARP
LAT= N30°06'00.96248"
LONG= W90°58'58.63439"
Y= 582125.44
X= 3391627.90

AJ7833
HAMMOND CORS ARP
LAT= 30°30'47.05150"
LONG= W90°28'03.42841"
Y= 733115.66
X= 3553447.23

DL 8635
GALVEZ MIDDLE SCH CORS ARP
LAT= N30°18'51.79675"
LONG= W90°54'13.02952"
Y= 660080.70
X= 3416422.45

3. DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES.
TO CONVERT DISTANCES DERIVED FORM COORDINATES SHOWN HEREON
TO HORIZONTAL GROUND DISTANCES. USE SCALE FACTOR: 0.99992724

STATE OF LOUISIANA
SETH J. MOSBY
License No. 5073
PROFESSIONAL
LAND SURVEYOR
10-30-2019

FILE NO. | (R/W SHEET NO. 2

SHEET NUMBER 16

PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
COMPUTED	JMR
CHECKED	SJM
DATE	2-15-2019
SCALE	1" = 20'
SERIES NUMBER	3 OF 4
BY	JMR
DATE	10-30-2019

REVISED PARISH PROJECT NUMBER & LOG MILE
REVISION DESCRIPTION

PARISH OF ASCENSION LOUISIANA

RIGHT OF WAY MAP
MOVE ASCENSION
PROJECT NO. MA-18-03-A

LOUISIANA HIGHWAY 73 TURN LANES AT BROWN ROAD

MOVE ASCENSION
QUALITY

SOUTHEASTERN LAND DISTRICT, EAST OF THE MISSISSIPPI RIVER
T8S – R2E
SECTION 15

177 INVESTMENTS, L.L.C.

HARRY G. WELLS

HARRY STANLEY

DOUGET & FEET ENTERPRISES LLC

WILLIAM M. BROWN

BEGIN PROJECT
C.S. 077-03
LOG MILE 1.737
STA. 106+00.00

STA. 109+30.14 (PROJ. & ADOPT. CL.) (HWY. 73)
STA. 50+00.00 (PROJ. & ADOPT. CL.) (BROWN RD.)

110+00

115+00

END PROJECT
C.S. 077-03
LOG MILE 1.930
STA. 116+20.00

℄ PARISH PROJECT NO. MA-18-03-A

50+00

M&R BROUSSARD, L.L.C.

HARRY G. WELLS

R.A.=0.426 AC. (SCALED)

BROWN ROAD

END CONSTRUCTION
C.S. 000-03
STA. 52+82.40

WALTER J. WELLS
R.A.=1.016 AC. (SCALED)

KERRY L. BROUSSARD

SECTION 15
SECTION 19

JOHNNY R. WELLS

JACOB HARTLEY

SECTION 15
SECTION 19

LEGEND

EXISTING R/W	REQUIRED R/W
EXISTING C. of A.	REQUIRED C. of A.
EXIST R/W & EXIST C. of A.	REQ'D R/W & REQ'D C. of A.

CONTROL OF ACCESS
RIGHT OF WAY & CONTROL OF ACCESS
LIMITS OF CONSTRUCTION
LOT LINE
APPARENT PROPERTY LINE
EXISTING SERVITUDE LINE
SECTION LINE

STATE OF LOUISIANA
SETH J. MOSBY
License No. 5073
PROFESSIONAL LAND SURVEYOR
10-30-2019

FILE NO. | (R/W SHEET NO. 3)

SHEET NUMBER 17

PARISH: ASCENSION
CONTROL SECTION: 077-03
PARISH PROJECT: MA-18-03-A

COMPUTED: JMR
CHECKED: SJM
DATE: 2-15-2019
SCALE: 1" = 20'
SERIES NUMBER: 4 OF 4

DRAWN: JMR
BY:

REVISED PARISH PROJECT NUMBER & LOG MILE — 10-30-2019
REVISION DESCRIPTION — DATE

RIGHT OF WAY MAP
MOVE ASCENSION
PROJECT NO. MA-18-03-A
RESIDUAL

LOUISIANA HIGHWAY 73 TURN LANES AT BROWN ROAD

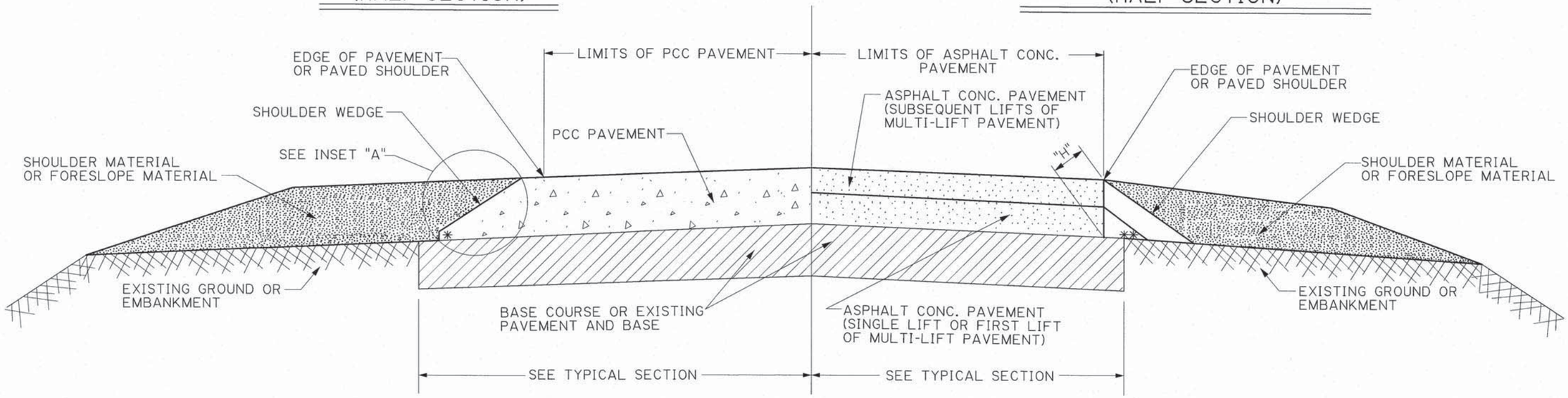
PARISH OF ASCENSION STATE OF LOUISIANA

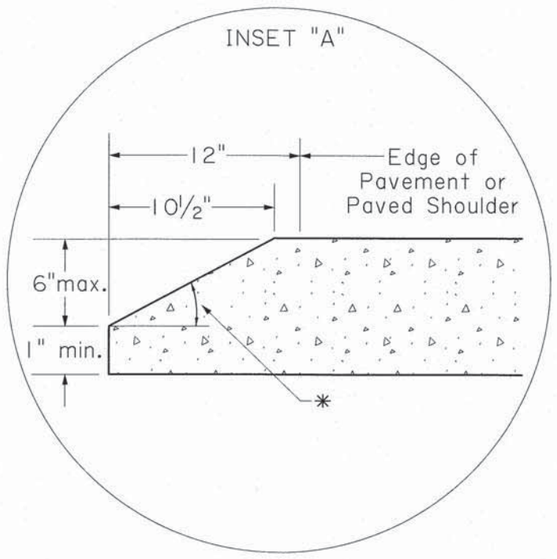
MOVE ASCENSION

QUALITY ENGINEERING & SURVEYING, LLC

CONCRETE PAVEMENT (HALF-SECTION)

ASPHALT CONCRETE PAVEMENT (HALF-SECTION)





* 30° desired

** 35° desired

NOTES:

1) SHOULDER WEDGES SHALL BE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).

2) FOR ASPHALT CONCRETE PAVEMENTS: SHOULDER WEDGES SHALL BE UTILIZED ON SINGLE LIFTS IF THE LAYER THICKNESS IS GREATER THAN OR EQUAL TO 2" AND, AT A MINIMUM, ON EACH OF THE 2 TOP LIFTS OF MULTI-LIFT PAVEMENT.

3) EQUIP THE PAVER WITH A MECHANICAL DEVICE THAT WILL PRODUCE A WEDGE WITH A UNIFORM TEXTURE, SHAPE, AND DENSITY, WHILE AUTOMATICALLY ADJUSTING TO VARYING HEIGHTS ENCOUNTERED ALONG THE SHOULDER EDGE.

4) THE CONTRACTOR SHALL BLADE AND SHAPE EXISTING GROUND OR SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE ASPHALT SHOULDER WEDGE PRIOR TO PLACEMENT OF THE PAVEMENT.

5) FOR ASPHALT CONCRETE PAVEMENTS: THE MAXIMUM SHOULDER WEDGE HEIGHT ("H") SHALL EQUAL 6". IF THE TOTAL ASPHALT THICKNESS IS GREATER THAN 6" THE CONTRACTOR SHALL STAGE CONSTRUCTION BY PULLING UP THE SHOULDERS OR FORESLOPE MATERIAL IN THE LOWER LIFTS, THEN UTILIZING THE WEDGE IN EACH OF THE FINAL 2 LIFTS.

6) REQUIRED BASE WIDTHS ARE AS SHOWN ON TYPICAL SECTIONS. FOR ASPHALT SHOULDER WEDGE, REQUIRED BASE WIDTH MIGHT NOT INCLUDE WIDTH OF ASPHALT WEDGE. ASPHALT SHOULDER WEDGE MAY BE SUPPORTED BY THE EXISTING GROUND OR SHOULDER MATERIAL. FOR CONCRETE SHOULDER WEDGE, REQUIRED BASE WIDTH IS TO INCLUDE THE WIDTH OF SHOULDER WEDGE AND THE DESIRED ADDITIONAL WIDTH BEYOND THE SURFACING.

STATE OF LOUISIANA
MARK A. CHENEVERT
REG. No. 29589
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
15 MARCH 2016

SHEET NUMBER 101

PARISH | CONTROL SECTION | STATE PROJECT

DESIGNED MAC | CHECKED MAC
DETAILED TL | CHECKED MAC
SERIES NUMBER 1 OF 1

NO. | DATE | REVISION OR CHANGE ORDER DESCRIPTION | BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SHOULDER WEDGE DETAIL

DOTD ROAD DESIGN

GENERAL NOTES - ROADSIDE TRAFFIC SIGNS

CONSTRUCTION SPECIFICATIONS: CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES. LATEST EDITION EXCEPT AS SUPPLEMENTED OR AMENDED BY THE PLANS, SUPPLEMENTAL SPECIFICATIONS AND/OR SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 1994 AND INTERM SPECIFICATIONS.

STEEL: STEEL SHALL CONFORM TO A.S.T.M. A-709, GRADE 36. STEEL TUBING SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF A.S.T.M. DESIGNATION A-36 OR HOT-FORMED TUBING (A-501) OR PIPE (A-53) TYPE "E" OR "S", GRADE "B" OR COLD-FORMED TUBING (A-500) GRADE "B" OR "C", UNLESS OTHERWISE NOTED.

ALUMINUM: ALL ALUMINUM EXCEPT SIGN PANELS SHALL CONFORM TO ASTM B-221, B-308, OR B-429 ALLOY 6061-T6 UNLESS OTHERWISE NOTED. SIGN PANELS SHALL BE .080" THICK ALUMINUM CONFORMING TO ASTM B-209 ALLOY 5052-H38 OR 6061-T6.

CONCRETE AND REINFORCING STEEL: CONCRETE SHALL BE CLASS "M", UNLESS OTHERWISE NOTED.DIMENSIONS RELATING TO REINFORCING STEEL FABRICATION ARE OUT TO OUT OF BAR UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO REINFORCING STEEL SPACING ARE CENTER TO CENTER OF BAR OR FACE OF CONCRETE TO CENTERLINE OF BAR. REINFORCING STEEL SHALL HAVE A MINIMUM COVERING OF 2" EXCEPT WHEN CONCRETE IS CAST AGAINST THE EARTH THEN THE COVERING WILL BE 3". ALL REINFORCING STEEL SHALL BE GRADE 60. THE FIRST DIGIT OF REINFORCING BAR NUMBER INDICATES THE BAR SIZE. THE TOP EDGES OF THE FOOTING SHALL BE CHAMFERED ¾".

CONCRETE FINISH: ALL PORTIONS OF THE FOOTINGS FOR CANTILEVERS AND TRUSSES ABOVE GROUNDLINE SHALL HAVE A FINISH IN ACCORDANCE WITH LOUISIANA SPECIFICATION. 805.08.3.

WELDING: ALL WELDING SHALL CONFORM TO THE LA. STANDARD SPECIFICATIONS-SECTION 809 AND SUPPLEMENTAL SPECIFICATIONS.

GALVANIZING: ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A-123. DAMAGE TO GALVANIZED SURFACES THAT ARE NOT TO BE ENCASED IN CONCRETE SHALL BE REPAIRED IN ACCORDANCE WITH LA. STANDARD SPECIFICATIONS SUBSECTION 8 1.08. ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A-153 . ALL FIELD HOLES IN GALVANIZED MATERIAL SHALL BE TREATED WITH A COLD GALVANIZING COMPOUND FROM THE A.M.L..

BOLTS: UNLESS NOTED, ALL THREADED CONNECTIONS SHALL INCORPORATE A LOCKING DEVICE AND HAVE A MINIMUM OF 3 THREADS BEYOND THE NUTS. ALL BOLTS SHALL BE HIGH STRENGTH BOLTS, A.S.T.M. A-325, UNLESS OTHERWISE NOTED. ANCHOR BOLTS SHALL CONFORM TO AASHTO M314, GRADE 55 (OR APPROVED EQUAL) AND BE HOT DIP GALVANIZED TO A.S.T.M. A-153. STAINLESS STEEL FOR BOLTS SHALL CONFORM TO A.S.T.M. DESIGNATION A-320 B8, CLASS 2 TYPE 304, OR A-193 B8, CLASS 2 TYPE 304, UNLESS OTHERWISE NOTED. STAINLESS STEEL NUTS SHALL CONFORM TO A.S.T.M. DESIGNATION A-194, GRADE 8, TYPE 304. ALUMINUM BOLTS SHALL CONFORM TO A.S.T.M. F-468 ALLOY 2024-T4 AND NUTS ARE A.S.T.M. F-467 ALLOY 6061-T6 OR 6262-T9. WHERE BOLTS ARE USED ON BEVELED SURFACES, BEVELED WASHERS SHALL BE PROVIDED TO GIVE FULL BEARING TO THE HEAD AND/OR THE NUT.

RIVETS: ALL RIVETS SHALL BE ¼" DIAMETER BLIND RIVETS WITH POSITIVE MANDREL RETENTION. THE RIVET BODY AND MANDREL SHALL BE ALUMINUM WITH A ½" MAXIMUM DIAMETER DOME HEAD. THE RIVETS SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH = 875 LBS., AND CONFORM TO ASTM B-316 5056-H32.

BREAK-AWAY BASE: BASES FOR SIGNS LOCATED ADJACENT TO MORE THAN ONE ROADWAY (RAMP TERMINALS, INTERSECTIONS, ETC.) SHALL BE ORIENTED IN THE DIRECTION OF THE HIGHEST SPEED TRAFFIC. ALL MULTI-POST SIGNS WITH A DISTANCE BETWEEN POSTS OF 7'-0" CENTERS OR LESS SHALL HAVE BEVELED BASE CONNECTION. BASE CONNECTIONS SHALL BE WRAPPED PRIOR TO POURING THE FOOTING, WITH MATERIAL SUFFICIENT TO PREVENT CONCRETE SPLATTER ON THE BREAK-AWAY BASE ASSEMBLY.

ANCHOR BOLTS: ANCHOR BOLT NUTS TO BE TIGHTENED A MINIMUM ROTATION OF 240° (⅔ TURNS) FROM THE SNUG TIGHT CONDITION.

SIGN SHEETING: UNLESS OTHERWISE NOTED, ALL SIGN MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 1015 IN THE STANDARD SPECIFICATIONS. IN ORDER TO OBTAIN AN ACCEPTABLE COLOR MATCH BETWEEN MULTIPLE PANELS ON A GUIDE SIGN, ALL OF THE BACKGROUND SHEETING FOR ANY GUIDE SIGN SHALL BE THE MINIMUM WIDTH OF THE LARGEST PANEL AND SHALL COME FROM THE SAME LOT OR RUN NUMBER FROM THE SHEETING MANUFACTURER UNLESS OTHERWISE APPROVED IN WRITING. RETRO-REFLECTIVE SHEETING SHALL BE APPLIED TO ALL PANELS IN SUCH A MANNER THAT THERE ARE NO HORIZONTAL SPLICES.

OVERLAY PANELS FULL SIGN OVERLAY PANELS SHALL BE IN ACCORDANCE WITH SECTION 729.05.3. PARTIAL SIGN OVERLAYS AND ALL SHIELDS SHALL HAVE SHIMS AT ALL RIVETS. SHIMS SHALL BE AT LEAST .080" THICK AND SIZED SO THEY WILL NOT EXTEND BEYOND EDGE OF OVERLAY. RIVETS SHALL BE AS SPECIFIED ON THIS STANDARD DETAIL SHEET.

SIGN LOCATIONS: FOR GROUND MOUNTED SIGN INSTALLATIONS, THE ENGINEER MAY ADJUST THE TYPE D AND E SIGN LOCATIONS INDICATED ON THE PLANS. THIS WILL BE ALLOWED TO AVOID PLACEMENT IN DEEP DITCHES, STEEP BACKSLOPES, TREE LINES, AND ANY OTHER UNACCOUNTED FOR FIELD CONDITIONS AND TO PROVIDE BETTER MESSAGE PRESENTATION. ANY ADJUSTMENTS MUST BE WITH THE CONCURRENCE OF THE GEOMETRIC DESIGN ENGINEER.

SIGN TYPES: TYPE A = SMALL SIGN WITH ONE POST; TYPE B = CLUSTER ASSEMBLY OF TYPE A SIGNS; TYPE D = LARGE RECTANGULAR SIGN ADJACENT TO TRAFFIC MOUNTED WITH MULTIPLE POSTS; TYPE E = SECONDARY SIGN (SUCH AS AN EXIT NUMBER PANEL) ATTACHED TO A LARGE RECTANGULAR PRIMARY SIGN; DELINEATOR, MILEPOST AND OBJECT MARKER SIGNS ARE NOT COVERED UNDER TRAFFIC SIGNS. SEE STANDARD PLAN HS-03.

MISCELLANEOUS: THE CONTRACTOR SHALL MARK THE DATE OF FABRICATION, SHEETING MANUFACTURER CODE, AND SIZE OF SIGN ON THE BACK OF EACH SIGN WITH AN APPROVED WEATHER RESISTANT PAINT STICK. MARK SHALL BE 2" MINIMUM HEIGHT ON MULTI-POST SIGNS. SEE DETAIL "A" SHEET 6 OF 11.

POST HINGE SPLICE ON MULTI-POST SIGNS WITH ALL POSTS CONNECTED BY A SECONDARY SIGN SHALL BE LOCATED BELOW THE SECONDARY SIGN. STUB POST SHALL BE ASSEMBLED TO SIGN POST WITH REQUIRED BOLTS AND ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES PRIOR TO SHIPMENT. POST SPLICE SLIP PLATE SHALL BE ASSEMBLED TO MINIMUM BOLT TENSION IN SHOP PRIOR TO SHIPMENT. SIGN POST SHALL BE SHIPPED TO JOB SITE ASSEMBLED WITH ALL HARDWARE REQUIRED IN PLACE AND SECURED. EXPOSED ENDS OF ALL PIPE SHALL BE CAPPED. USE OF SECTIONS PROVIDING EQUAL OR GREATER STRENGTH FOR ANY MEMBER DESIGNATED ON THE PLANS SHALL BE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL.

ALL DIMENSIONS REQUIRED FOR SATISFACTORY INSTALLATION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE FABRICATION. ADJUSTMENTS SHALL BE MADE AS DIRECTED BY THE ENGINEER.

ALL ALUMINUM SURFACES PLACED IN CONTACT WITH, OR FASTENED TO UNGALVANIZED STEEL MEMBERS SHALL BE THROUGHLY COATED WITH AN APPROVED ALUMINUM IMPREGNATED CAULKING COMPOUND. PAINT ALUMINUM SECTIONS IN CONTACT WITH CONCRETE WITH A HEAVY COAT OF AN ALKALI RESISTANT BITUMINOUS PAINT OR A COAT OF ZINC CHROMATE PAINT AND ALLOW TO DRY BEFORE PLACING.

TREE TRIMMING: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MISCELLANEOUS BRUSH AND TREE TRIMMING TO ALLOW FOR FULL SIGN PRESENTATION AS DIRECTED BY THE PROJECT ENGINEER.

SHOP DRAWINGS: NOT REQUIRED FOR SIGN BACKING AND SMALL GROUND MOUNTED SIGN SUPPORTS, UNLESS FABRICATOR INTENDS TO DEVIATE FROM THE DETAILS HEREIN. SHOP DRAWING ARE REQUIRED FOR ALL STRUCTURE MOUNTED SIGNS.



WIND LOAD MAP

WIND LOAD MAP LEGEND			
SYMBOL	ROADSIDE MOUNTED		
	ZONE	WIND VELOCITY (MPH)⊗	WIND LOAD (PSF) △
	1	70	20
	2	80	27

⊗ 25 YEAR MEAN RECURRENCE INTERVAL

△ INCLUDES C_d = 1.2

SHEET	BRIDGE STANDARD INDEX NO.	DESCRIPTION
1 OF 11	BD.2.7.2.0.1	INDEX, WIND LOAD MAP AND GENERAL NOTES
2 OF 11	BD.2.7.2.0.2	PANEL DETAILS TYPE A AND B SIGNS
3 OF 11	BD.2.7.2.0.3	MOUNTING DETAILS TYPE A AND B SIGNS
4 OF 11	BD.2.7.2.0.4	PANEL AND MOUNTING DETAILS TYPE A AND B SIGNS
5 OF 11	BD.2.7.2.0.5	PANEL DETAILS TYPE D AND E SIGNS
6 OF 11	BD.2.7.2.0.6	EXTRUDED ALUMINUM SIGNS TYPE D AND E SIGNS
7 OF 11	BD.2.7.2.0.7	EXTRUDED ALUMINUM PANEL TYPE D AND E SIGNS
8 OF 11	BD.2.7.2.0.8	ROADSIDE MOUNTED SUPPORT DETAILS TYPE A, B AND D SIGNS
9 OF 11	BD.2.7.2.0.9	ROADSIDE MOUNTED SUPPORT DETAILS TYPE A AND B SIGNS
10 OF 11	BD.2.7.2.0.10	ROADSIDE MOUNTED SUPPORT DETAILS TYPE D SIGNS
11 OF 11	BD.2.7.2.0.11	ROADSIDE MOUNTED SUPPORT DETAILS TYPE D SIGNS

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
2/22/18

SHEET NUMBER 102

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED P. FOSSIER
CHECKED K. BRAUNER
DETAILED K. BRAUNER
CHECKED B. ALLEN
DATE FEB. 2018
SHEET 1 OF 11

NO. | DATE | REVISION DESCRIPTION | BY

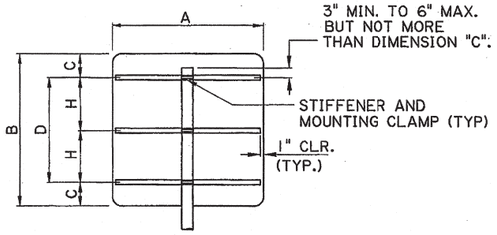
WIND LOAD MAP & GENERAL NOTES

BD.2.7.2.0.1 - ROADSIDE TRAFFIC SIGNS

BRIDGE AND STRUCTURAL DESIGN

7/26/2018 14:17

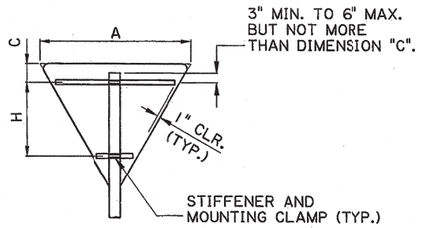
IP_PWP:d0695341\BD.2.7.2.0.01 - Roadside Traffic Signs 01.dgn



SQUARE, RECTANGLE, CIRCLE, OCTAGON AND ROUTE MARKERS

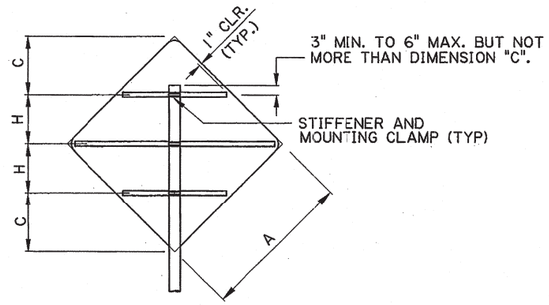
SQUARE, RECTANGLE, CIRCLE, OCTAGON AND ROUTE MARKERS					
A (IN.)	B (IN.)	C (IN.)	D (IN.)	H (IN.)	STIFFENER NUMBER REQUIRED
VARIABLE 12" TO 48"	6	3			1
	12	6			1
	15	7.5			1
	18	9			1
	24	6	12		2
	30	7.5	15		2
	36	7.5	21		2
	48	10	28		2
	60	9	42	21	3
	72	11	6 △	25	3
	84	10.5	6 △	21	4
48	96	12	6 △	24	4

△ LOCATION OF BORDER ANGLE FROM EDGE



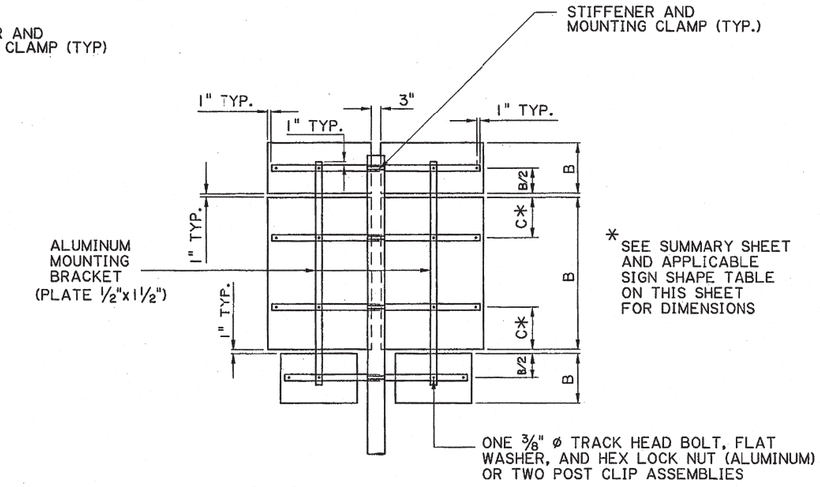
EQUILATERAL TRIANGLE

EQUILATERAL TRIANGLE			
A (IN.)	C (IN.)	H (IN.)	STIFFENER NUMBER REQUIRED
24	8		1
30	6	10	2
36	6	12.5	2
48	6	23	2
60	6	33.5	2



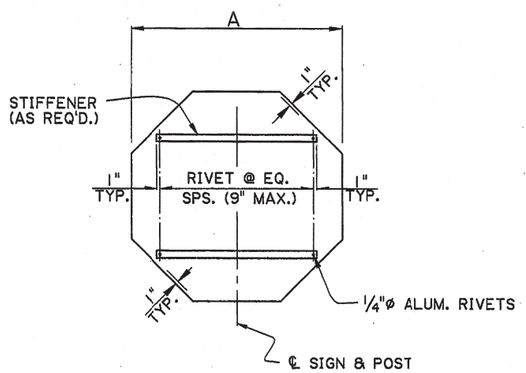
DIAMOND

DIAMOND			
A (IN.)	C (IN.)	H (IN.)	STIFFENER NUMBER REQUIRED
24	10	6.97	1
30	12	9.21	2
36	14	11.46	2
48	18.5	15.44	3
60	22.5	19.93	3



TYPE B SIGN
(CLUSTER ASSEMBLY)

TYPE A SIGNS



TYPICAL SIGN BACKING DETAIL

NOTES:

NO BOLTS SHALL BE PLACED THROUGH FACE OF SIGN.

ALL TRACK HEAD BOLTS SHALL HAVE HEADS DESIGNED TO FIT AND TRANSMIT LOAD TO BOLT SLOTS IN THE STIFFENER.

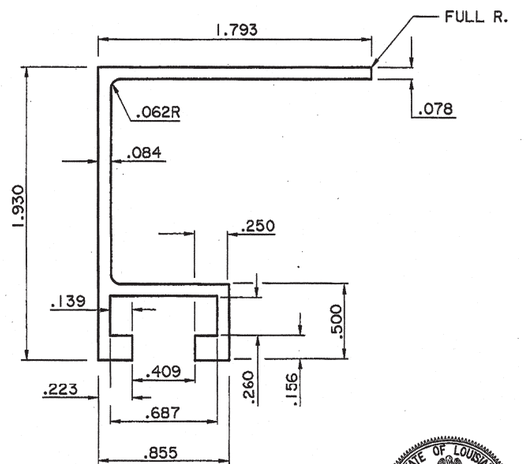
STIFFENERS SHALL BE ALUMINUM EXTRUSIONS AS DETAILED ON THIS SHEET UNLESS OTHERWISE NOTED.

MOUNTING CLAMP REQUIRED AT EACH HORIZONTAL STIFFENER.

SIGN PANELS AND POSTS SHALL BE THE SIZE REQUIRED ON THE PLANS AND SUMMARY SHEET.

SEE OTHER SHEETS FOR MOUNTING DETAILS.

THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTE SHEET.



EXTRUSION STIFFENER

STATE OF LOUISIANA
PAUL B. FOSSIER, JR.
REG. No. 21028
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8-31-00

SHEET NUMBER 103

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED A. ALLEN
CHECKED A. ALLEN
DETAILED E. DANIEL
CHECKED
DATE JULY 2000
SHEET 2 OF 11

NO. | DATE | BY | REVISION DESCRIPTION

PANEL DETAILS
TYPE A & B SIGNS

BD.2.7.2.0.2 - ROADSIDE TRAFFIC SIGNS

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DOTD

BRIDGE AND STRUCTURAL DESIGN

7/26/2018 14:17

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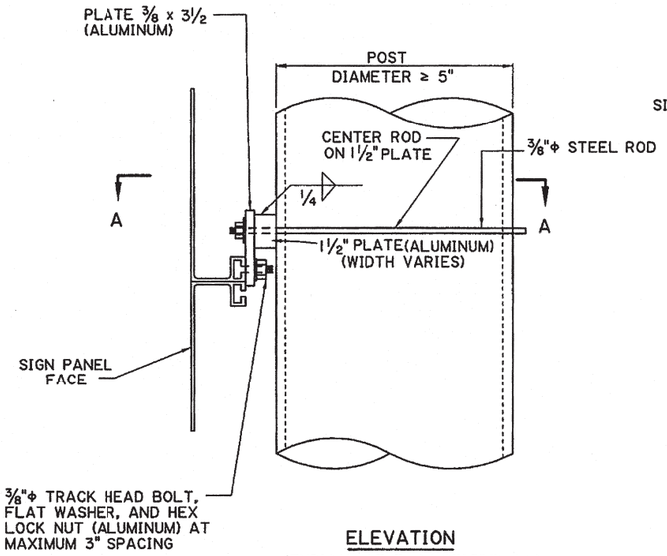
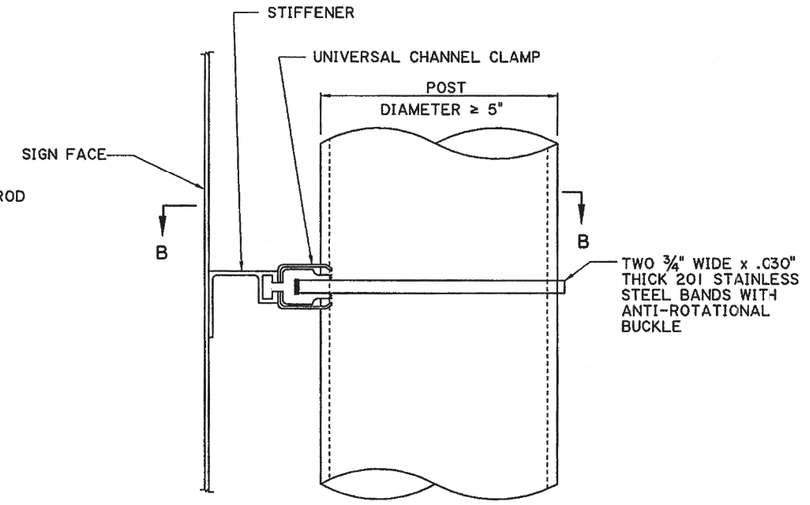
7/26/2018 14:18



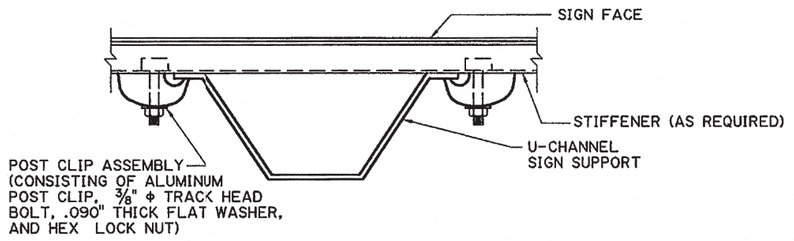
ELEVATION

(TYPICAL AT EACH STIFFENER.)

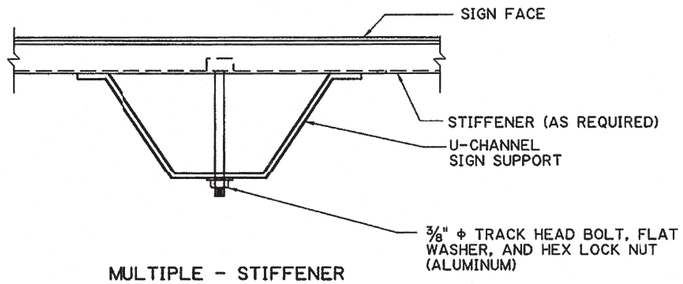


ELEVATION

(TYPICAL AT EACH STIFFENER.)

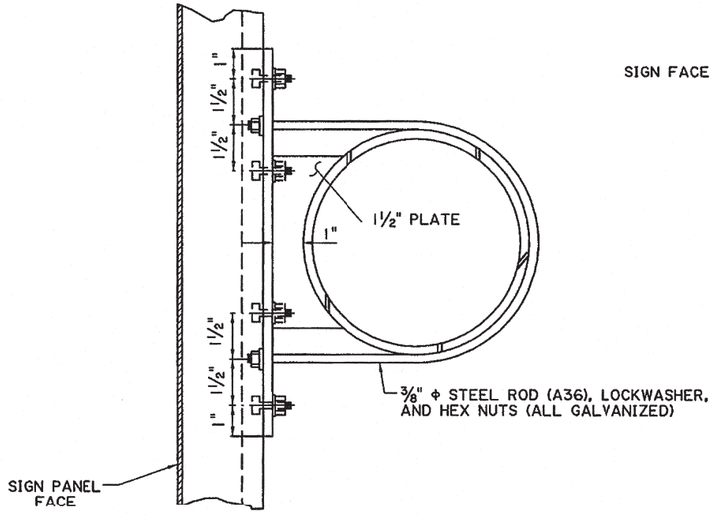


SINGLE AND MULTIPLE STIFFENER



MULTIPLE - STIFFENER

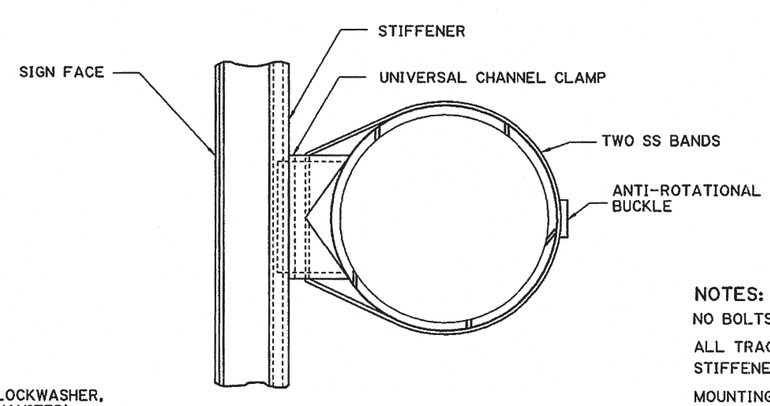
(OPTIONAL)



SECTION A-A

MOUNTING DETAIL (TYPE I)

(FOR NON-TAPERED ROUND METAL POST SIZES ≥ 5" DIAMETER AND SIGNS > 20 SQ. FT).



SECTION B-B

MOUNTING DETAIL (BAND TYPE)

(FOR ALL POSTS ≥ 5" AND WITH SIGN AREAS ≤ 20 SQ. FT. OR LESS THAN 4 FEET WIDE)

MOUNTING DETAIL (U-CHANNEL POST)

NOTES:

NO BOLTS SHALL BE PLACED THROUGH FACE OF SIGN.

ALL TRACK HEAD BOLTS SHALL HAVE HEADS DESIGNED TO FIT AND TRANSMIT LOAD TO BOLT SLOTS IN THE STIFFENER.

MOUNTING CLAMP REQUIRED AT EACH HORIZONTAL STIFFENER.

U-CHANNEL POSTS SHALL BE AT LEAST 3 POUND PER FOOT FLANGED CHANNEL STEEL FABRICATED FROM STEEL CONFORMING TO A.S.T.M. A-499, GRADE 60. HOLES 3/8" IN DIAMETER SHALL BE PUNCHED THROUGH EACH POST ON ONE INCH CENTERS ALONG THE CENTERLINE OF THE POST FOR ITS FULL LENGTH.

U-CHANNEL POSTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH A.S.T.M. A-123.

U-CHANNEL POSTS FOR GROUND MOUNTED SMALL SIGNS SHALL BE DRIVEN TO A DEPTH OF 3 FEET BELOW NATURAL GROUND USING A SUITABLE PROTECTIVE DRIVING CAP AND SHALL BE VERTICAL.

U-CHANNEL POST USE WILL BE LIMITED TO A TOTAL SIGN AREA OF LESS THAN 6.4 SQUARE FEET PER POST AND WITH A CENTROID LESS THAN 8' FROM THE GROUND.

STATE OF LOUISIANA
PAUL E. FOSSIER, JR.
REG. No. 21028
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

Paul E. Fossier, Jr. 6/31/00

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED A. ALLEN | DETAILED E. DANIEL | DATE JULY 2000 | SHEET 3 OF 11

CHECKED A. ALLEN | CHECKED | BY

REVISION DESCRIPTION | NO. | DATE

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

MOUNTING DETAILS

TYPE A & B SIGNS

BD.2.7.2.0.3 - ROADSIDE TRAFFIC SIGNS

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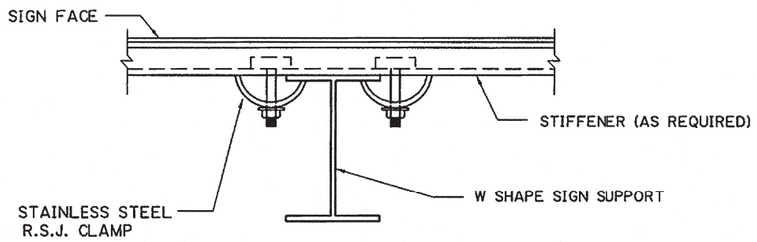
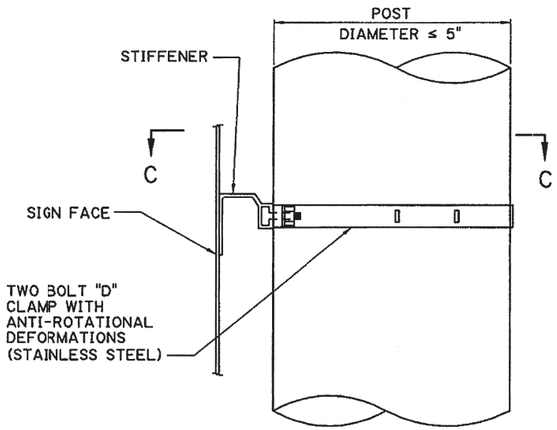
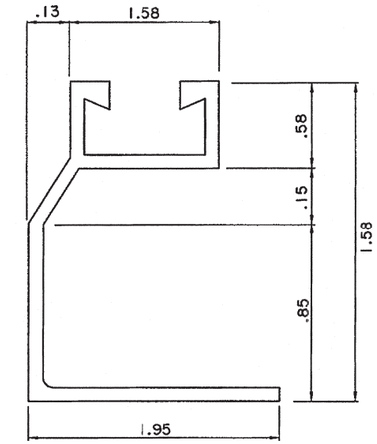


MOUNTING DETAIL (TYPE II)

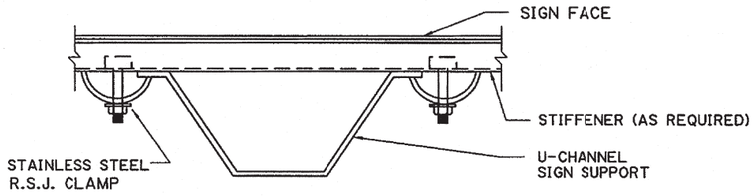


ELEVATION

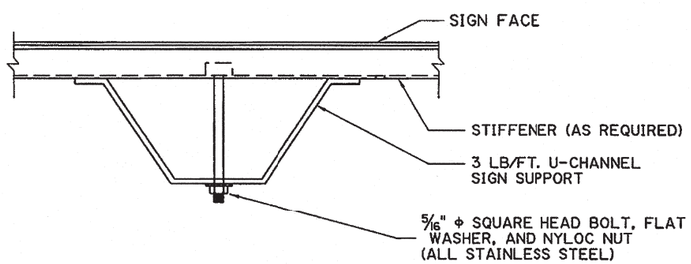


LARGE CORNER ANGLE EXTRUSION

(ALTERNATE TO EXTRUSION STIFFENER)



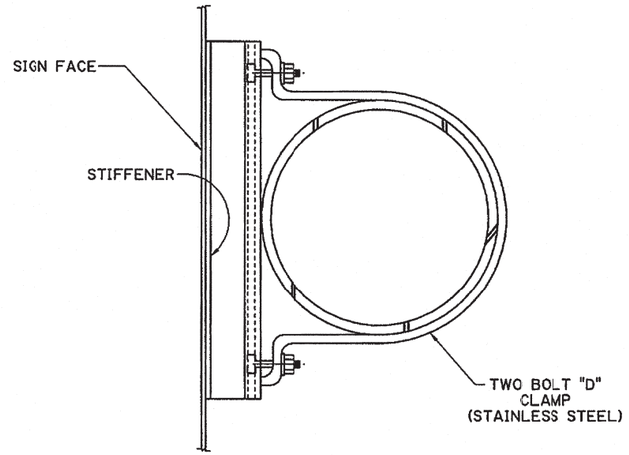
SINGLE AND MULTIPLE STIFFENER



MULTIPLE - STIFFENER

(OPTIONAL)

MOUNTING DETAIL (U-CHANNEL POST)



SECTION C-C

TYPE III & IV MOUNTING DETAIL

(FOR ALL POSTS ≤ 5" DIAMETER
AND SIGNS ≤ 20 SQ. FT.)

NOTES:

ALL BOLTED ATTACHMENTS SHALL INCORPORATE SIGN-FIX STAINLESS STEEL 5/16" ϕ LIP-LOC BOLTS, FLAT WASHERS, AND NYLOC NUTS, UNLESS OTHERWISE NOTED.

SQUARE HEAD BOLTS SHALL HAVE HEADS DESIGNED TO FIT AND TRANSMIT LOAD TO THE BOLT SLOTS IN THE STIFFENER.

FOR BACK-TO-BACK MOUNTING ON ALL ROUND METAL POSTS ≤ 5" DIAMETER AND SIGNS ≤ 20 SQUARE FEET, USE EITHER:

1) BACK-TO-BACK CHANNEL CLAMPS
2) TWO BOLT "D" CLAMPS, STAGGERED, AND FACE IN OPPOSITE DIRECTIONS.

MOUNTING CLAMP REQUIRED AT EACH HORIZONTAL STIFFENER.
THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTE SHEET.

STATE OF LOUISIANA
PAUL B. FOSSIER, JR.
REG. No. 21028
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

8/31/00

SHEET NUMBER 105

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED A. ALLEN
CHECKED A. ALLEN
DETAILED E. DANIEL
CHECKED
DATE JULY 2000
SHEET 4 OF 11

NO. | DATE | BY | REVISION DESCRIPTION

PANEL & MOUNTING DETAIL
TYPE A & B SIGNS

BD.2.7.2.0.4 - ROADSIDE TRAFFIC SIGNS

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT DOTD

BRIDGE AND STRUCTURAL DESIGN

7/26/2018 14:18

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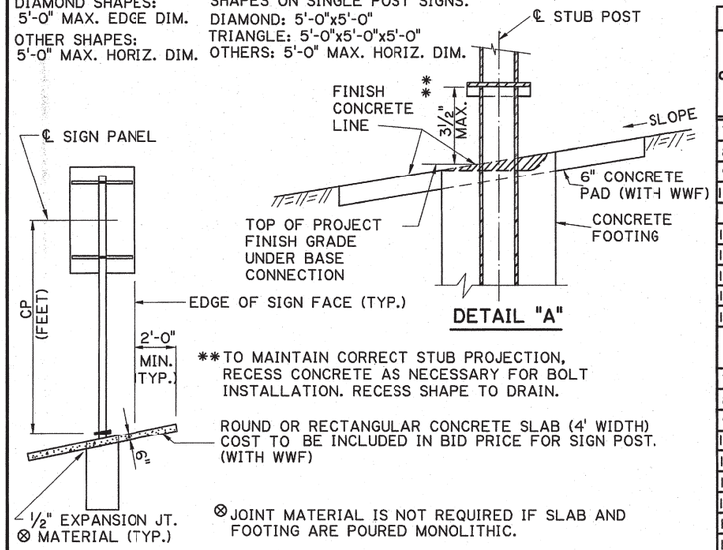
TYPE A SIGN

RECTANGULAR SHAPES:
4'-0" MAX. HORIZ. DIM.
DIAMOND SHAPES:
5'-0" MAX. EDGE DIM.
OTHER SHAPES:
5'-0" MAX. HORIZ. DIM.

TYPE B SIGN

CLUSTER ASSEMBLY
MAX. DIM. FOR DIFFERENT SIGN BLANK SHAPES ON SINGLE POST SIGNS.
DIAMOND: 5'-0"x5'-0"
TRIANGLE: 5'-0"x5'-0"x5'-0"
OTHERS: 5'-0" MAX. HORIZ. DIM.



DETAIL "A"

** TO MAINTAIN CORRECT STUB PROJECTION, RECESS CONCRETE AS NECESSARY FOR BOLT INSTALLATION. RECESS SHAPE TO DRAIN.

ROUND OR RECTANGULAR CONCRETE SLAB (4' WIDTH) COST TO BE INCLUDED IN BID PRICE FOR SIGN POST. (WITH WWF)

⊗ JOINT MATERIAL IS NOT REQUIRED IF SLAB AND FOOTING ARE POURED MONOLITHIC.

REAR ELEVATION OF SINGLE POST MOUNTING

SINGLE POST MOUNTS

CP	TOTAL SQ. FT. SIGN AREA — ALUMINUM ALTERNATE — ZONE I								ZONE II							
	5	10	15	20	25	30	35		5	10	15	20	25	30	35	
7	5	5	6	6	7	7	7		5	6	6	7	7	7	7	
8		5		6							6					
9		6		6							6					
10				7							7					
11																
12			6								5					7
13			7								6	6				8
14												7			7	
15												7			8	
16	5	6	7	7	7	7	7		6	7	7	7	7	8	8	
	STEEL ALTERNATE — ZONE I								ZONE II							
7	1	1	1	2	2	2	3		1	1	2	2	3	3	3	
8			2			2					1					
9						3					2					
10					2							2				
11			1			3						3				
12	1	2									1					
13	2			2							2					3
14				3								2				4
15				3								3				4
16	2	2	2	3	3	3	3		2	2	3	3	3	3	4	

NOTES:

W POST SECTIONS AND TABLE:
COLUMNS HEADED BY THE NUMBERS 42, 34, 27 AND 20 REPRESENT THE DESIGN WIND PRESSURE IN POUNDS PER SQUARE FOOT.
SEE ACCOMPANYING LOUISIANA WIND MAP TO DETERMINE THE DESIGN WIND PRESURE.
L - LENGTH OF SIGN PANEL DESIGNED.
H - HEIGHT OF SIGN PANEL DESIGNED.
ALL DIMENSIONS ARE IN INCREMENTS OF EVEN FEET.

THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTE SHEET.

CONCRETE SLAB TO BE REINFORCED WITH A.S.T.M. A-185 WWF 4x4-W4.0 x W4.0 AND SHALL RECEIVE A CLASS 6 SIDEWALK FINISH IN ACCORDANCE WITH LA. STD. SPECS. 805.08.

✡ 30' FREEWAYS AND EXPRESSWAYS. 15' NORMAL FOR CONVENTIONAL, FRONTAGE ROADS & INTERSTATE RAMPS. THE MINIMUM CLEARANCE OUTSIDE THE USABLE ROADWAY SHOULDER, RIGHT OR LEFT SIDE OF THE ROADWAY SHALL BE 2'-0". FOR THE REQUIRED OFFSET AND MOUNTING HEIGHTS SEE SIGN SUMMARY SHEETS.

△ FOR DOUBLE POST SIGN MOUNTINGS WITH A MAX. SIGN AREA OF 20 SQ. FT. AND CP=12 FT., S3x5.7 STEEL POST SECTION SHOULD BE USED.

⊠ 6' MINIMUM FOR ROUTE MARKERS, WARNING AND REGULATORY SIGNS.

⊠ 8' MINIMUM FOR GUIDE SIGNS WHEN SECONDARY SIGN MOUNTED BELOW.

⊙ UNLESS OTHERWISE NOTED ON THE SIGN SUMMARY SHEET.

⊕ TO BE USED ON NON-BREAKWAY SUPPORTS ONLY.

SINGLE POST PIPE & TUBE SECTIONS AND INDEX NUMBERS

NO.	ALUMINUM	NO.	STEEL
5	3"øx3/16" WALL	1	2½" ø SCHED. 40
6	4"øx3/16" WALL	2	3½" ø SCHED. 40
7	6"øx1/4" WALL	3	5" ø SCHED. 40 ⊕
8	8"øx1/4" WALL	4	6" ø SCHED. 40 ⊕

W POST SECTIONS FOR DOUBLE & TRIPLE POST MOUNTINGS

PL	ALUM.				STEEL				PL	ALUM.				STEEL				PL	ALUM.				STEEL				PL	ALUM.				STEEL			
L H	42	34	27	20	42	34	27	20	L H	42	34	27	20	42	34	27	20	L H	42	34	27	20	42	34	27	20	L H	42	34	27	20	42	34	27	20
5 1	7	7	7	7	1	1	1	1	12 5	9	8	8	8	2	2	2	1	16 5	12	11	11	10	5	5	4	4	21 8	11	10	10	9	4	4	3	3
5 2	7	7	7	7	1	1	1	1	12 6	9	9	8	8	2	2	2	2	16 6	12	12	11	10	5	5	4	4	21 9	11	11	10	10	4	4	4	3
5 3	7	7	7	7	1	1	1	1	12 7	9	9	8	8	3	2	2	2	17 4	9	9	8	8	2	2	2	2	21 10	11	11	10	10	5	4	4	3
5 4	7	7	7	7	1	1	1	1	12 8	10	9	9	8	3	2	2	2	17 5	9	9	9	8	3	2	2	2	21 11	12	11	11	10	5	4	4	4
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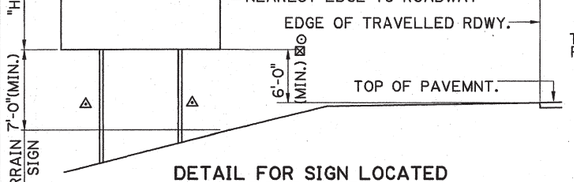
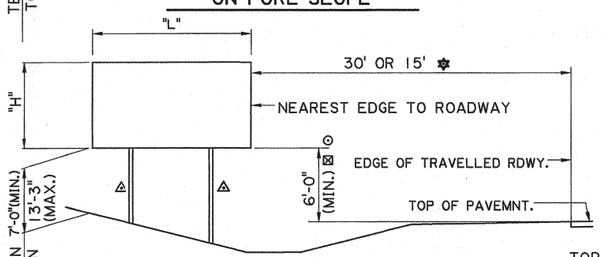
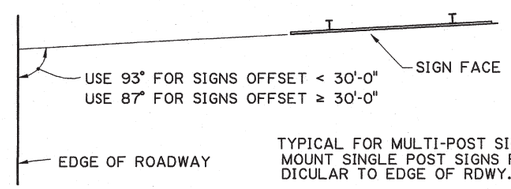


DETAIL FOR SIGN LOCATED ON FORE SLOPE

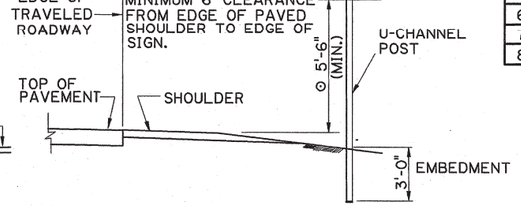


DETAIL FOR SIGN LOCATED ON BACK SLOPE

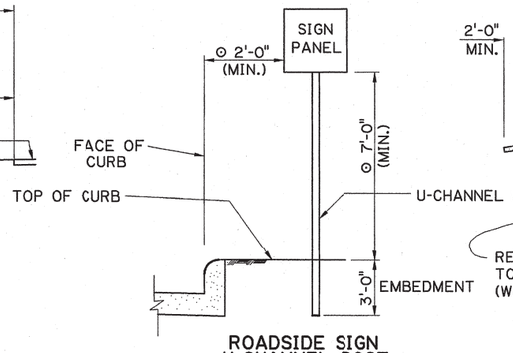


TYPICAL FOR MULTI-POST SIGNS. MOUNT SINGLE POST SIGNS PERPENDICULAR TO EDGE OF RDWY.

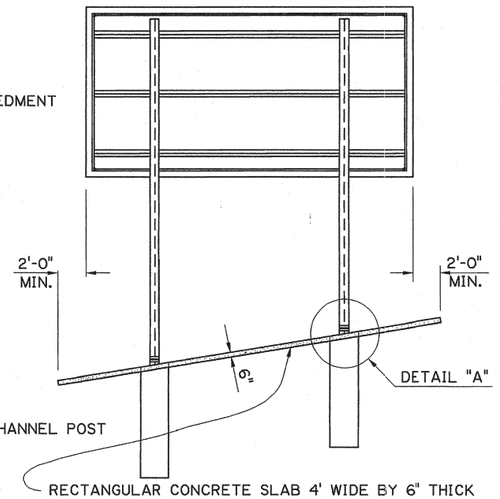
LOCATION OF GROUND MOUNTED SIGN STRUCTURES



ROADSIDE SIGN U-CHANNEL POST
RURAL



ROADSIDE SIGN U-CHANNEL POST
URBAN



REAR ELEVATION OF MULTI - POST MOUNTING

W SECTIONS & INDEX NUMBERS

NO.	STEEL	NO.	ALUMINIUM
1	W6x12	7	6WF 4.16
2	W8x18	8	8WF 5.90
3	W8x24	9	8WF 8.32
4	W10x33	10	10WF 11.41
5	W12x40	11	12WF 13.84
6	W12x45	12	12WF 18.34

STATE OF LOUISIANA
PAUL B. FOSSIER, JR.
REG. No. 21028
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
9/31/00

SHEET NUMBER 106

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED J.C. PORTER
CHECKED A. BRIDGES
DETAILED E.DEARMOND
CHECKED
DATE JULY, 2000
SHEET 8 OF 11
BY K.M.B.

NO. 1 | DATE 12-02-16 | REVISION DESCRIPTION UPDATE FOR 2016 SPECIFICATIONS

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DOTD
BRIDGE AND STRUCTURAL DESIGN

ROADSIDE MOUNTED SUPPORT DETAILS

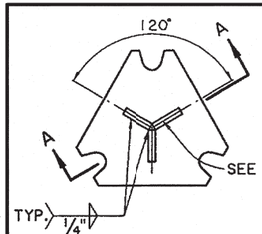
TYPE A, B AND D SIGNS

BD.2.7.2.0.8 - ROADSIDE TRAFFIC SIGNS

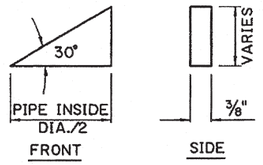
7/26/2018 14:18

IP PWP:d0695341\BD.2.7.2.0.08 - Roadside Traffic Signs 08.dgn

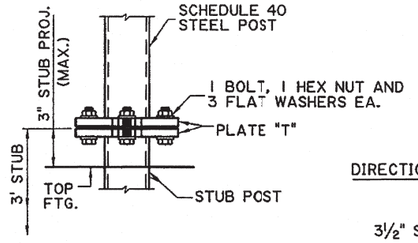
14:18
7/26/2018



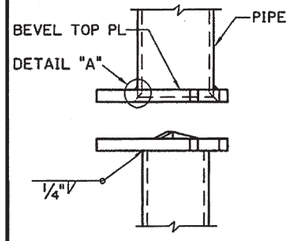
TOP VIEW STUB POST



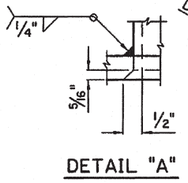
DETAIL "B"
3 REQ'D.



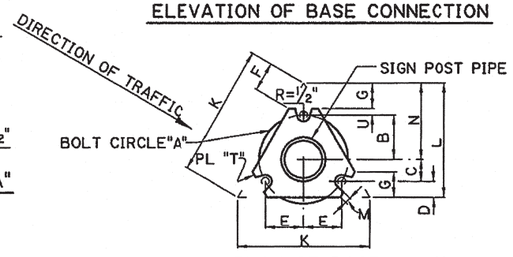
ELEVATION OF BASE CONNECTION



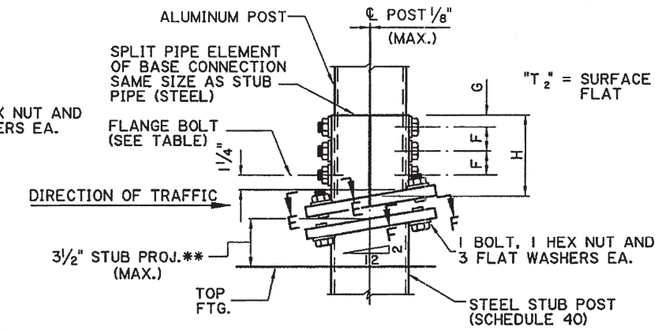
SECTION A-A



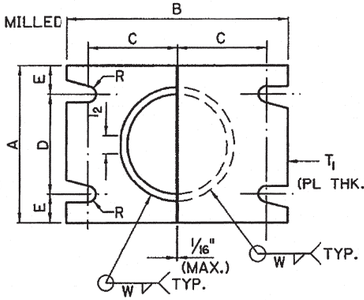
DETAIL "A"



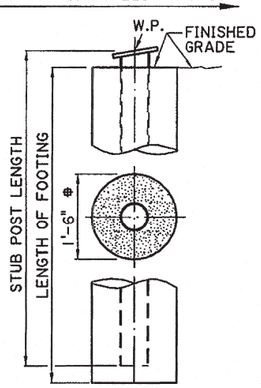
PLAN OF BASE



ELEVATION OF BEVELED BASE CONNECTION



SECTION E-E SECTION F-F



⊕ FOR 2½"Φ (STEEL) AND 3"Φ (ALUM.) POST SECTIONS, FOOTING DIAMETER SHALL BE 1'-0"

FOOTING DETAIL PIPE SECTIONS

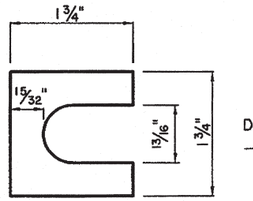
UNI-DIRECTIONAL BASE
ALUMINUM ALTERNATE

STEEL MULTI-DIRECTIONAL BASE CONNECTION DATA																	
NOMINAL PIPE SIZE	BOLT SIZE & TORQUE ⊙	WELD SIZE	T	Y	A	B	C	D	E	F	G	K	L	M	N	U
2½" OR 3½" DIA.	⅝" T=226	⅜"	⅝"	7"	7"	3½"	1¾"	1¼"	3"	2⅝"	2"	10⅜"	9"	½"	6"	½"

FOR STUB POST LENGTH & FOOTING DIMENSION SEE TABLE BELOW AND FOOTING DETAIL. ⊙ TORQUE IN INCH-LBS., BOLTS ARE HIGH STRENGTH

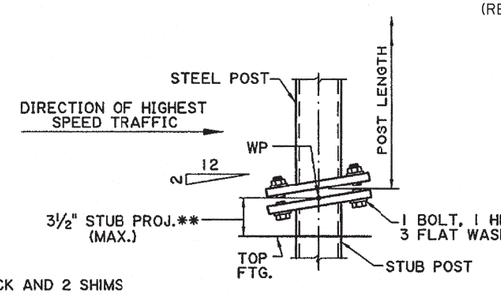
NOTE:
MULTI-DIRECTIONAL BREAK-AWAY FEATURE IS TO BE USED ONLY AT LOCATIONS WHERE SIGN IS LIKELY TO BE STRUCK FROM MORE THAN ONE DIRECTION.

MULTI-DIRECTIONAL BASE
SINGLE STEEL POST ONLY



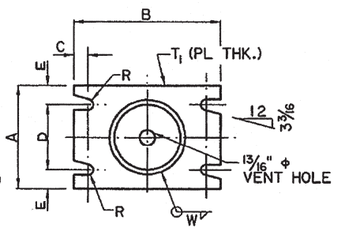
SHIM DETAIL
BOLTS UP TO ¾" Φ BOLTS

FURNISH 2 SHIMS 0.012"± THICK AND 2 SHIMS 0.032"± THICK PER POST. SHIMS SHALL BE BRASS CONFORMING TO A.S.T.M. SPEC B-36 AND BE USED AS DIRECTED BY THE PROJECT ENGINEER.



ELEVATION OF BEVELED BASE CONNECTION

**TO MAINTAIN CORRECT STUB PROJECTION, RECESS CONCRETE AS NECESSARY FOR BOLT INSTALLATION (RECESS SHALL BE SHAPED TO DRAIN)

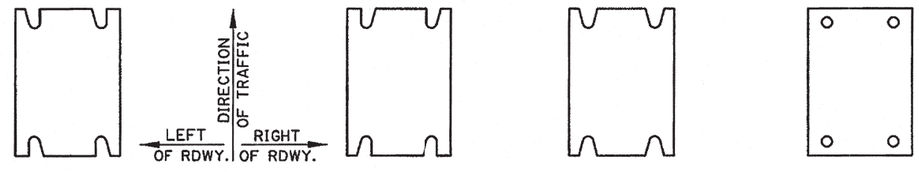


PLAN
BASE PLATE AND PIPE POST

UNI-DIRECTIONAL BASE
STEEL ALTERNATE

TYPE POST	DIMENSION (INCH) / SECTION	UNI-DIRECTIONAL BASE CONNECTION DATA: BOLT SIZE &* TORQUE LIMITS	A	B	C	D	E	F	G	H	T_1	T_2	W	R	FLANGE BOLTS	FOOTING DATA: STUB LTH.	LTH. OF FTG.	STEEL STUB POST	CU. YD. CONC.
STEEL SCH. 40	2½"Φ	½"Φ T=95-142	4½	6½	¾	2½	1	—	—	—	¾	—	5/16	9/32	—	36	36	2½"Φ	0.09
	3½"Φ	½"Φ T=95-142	5½	7¾	¾	3½	1	—	—	—	1	—	⅜	9/32	—	36	36	3½"Φ	0.20
	5"Φ	⅝"Φ T=226-345	6½	9¾	¾	4	1¼	—	—	—	1¼	—	7/16	11/32	—	48	48	5"Φ	0.26
	6"Φ	¾"Φ T=369-554	8	11	⅞	5½	1¼	—	—	—	1¼	—	⅜	13/32	—	60	60	6"Φ	0.33
ALUM. SCH. 40 (TUBE)	3"Φ x 3/16"	½"Φ T=95-142	5	8	3	3	1	1½	1	5⅝	¾	1	¼	9/32	½"Φ	36	36	3"Φ	0.09
	4"Φ x 3/16"	½"Φ T=95-142	6	9½	4	4	1	1½	1	5⅝	¾	1	⅜	9/32	½"Φ	36	36	4" Φ	0.20
	6"Φ x ¼"	⅝"Φ T=226-345	8	11	4½	5½	1¼	2	1	6¾	¾	1¼	7/16	11/32	⅝"Φ	48	48	6"Φ	0.26

* ALL BOLTS SHALL HAVE A MINIMUM OF 3 THREADS BEYOND THE NUT. BOLT TORQUE LIMITS IN INCH POUNDS. (THE HIGH STRENGTH BOLTS AT THE BASE CONNECTION SHOULD BE TORQUED WITHIN THE LIMITS SPECIFIED, HOWEVER, THE LOWER LIMIT IS DESIRABLE). FOR NON-BREAKAWAY USE TORQUE LIMITS GIVEN IN THE STANDARD SPECIFICATIONS.



LEFT HAND SLOTS

FOR ONE-WAY TRAFFIC LANES. FOR TWO-WAY TRAFFIC LANES, USE RIGHT HAND SLOTS ONLY.

RIGHT HAND SLOTS

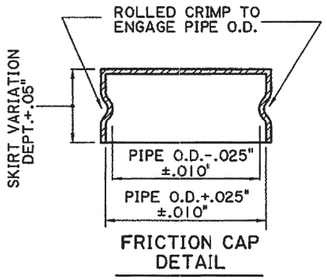
TWO-WAY SLOTS

FOR GORE INSTALLATIONS

HOLES

FOR BRIDGE MOUNTED SIGNS & SIGNS BEHIND GUARDRAIL

ORIENTATION AND USE OF SLOTS AND HOLES



FRICTION CAP DETAIL
(USED AT TOP OF ALL POSTS)

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

SPECIAL CAE SHALL BE TAKEN TO SET THE BASE PLUM TO AVOID EXCESSIVE SHIMMING AT THE BREAK-AWAY FEATURE AFTER FINAL INSTALLATION. EXCESSIVE SHIMMING COULD IMPAIR THE BREAK-AWAY FEATURE FOR WHICH THIS INSTALLATION WAS DESIGNED. SHIM PACKS SHOWN ON THIS DRAWING SHOULD BE SUFFICIENT TO ALLOW FOR NORMAL MISALIGNMENT.

1. BASE SHALL BE ALIGNED AND SET PLUM BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
2. H.S. BOLTS IN BASE PLATE SHALL BE TIGHTENED TO THE PRESCRIBED TORQUE. CARE SHALL BE TAKEN TO AVOID OVERTIGHTING.

FRICTION CAPS:

CAPS MAY BE MANUFACTURED FROM EITHER HOT ROLLED OR COLD ROLLED STEEL SHEETS. FOR PIPE SIZES 3½" AND SMALLER THE MINIMUM SHEET METAL THICKNESS SHALL BE 24 GAUGE. THE RIM EDGES SHALL BE REASONABLY STRAIGHT AND SMOOTH. CAPS SHALL BE SIZED AND FORMED IN SUCH A MANNER AS TO PRODUCE A DRIVE-ON FRICTION FIT AND HAVE NO TENDENCY TO ROCK WHEN SEATED ON THE PIPE. THE DEPTH SHALL BE SUFFICIENT TO GIVE POSITIVE PROTECTION AGAINST ENTRANCE OF RAINWATER. THEY SHALL BE FREE OF SHARP CREASES OR INDENTATIONS AND SHOW NO EVIDENCE OF METAL FRACTURE. CAPS SHALL HAVE A ELECTRODEPOSITED COATING OF ZINC IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. SPECIFICATION B633 SC4, TYPE I.

THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTE SHEET.

STATE OF LOUISIANA
PAUL B. FOSSIER, JR.
REG. No. 21028
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Paul B. Fossier 8/31/00

SHEET NUMBER 107

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED J.C. PORTER | DETAILED A. BRIDGES | CHECKED E.DEARMOND | DATE JULY 2010 | SHEET 9 OF 11

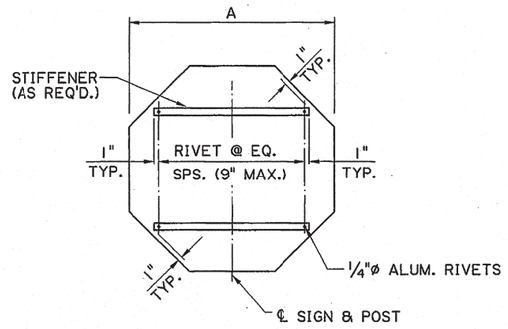
BY K.M.B.

NO. | DATE | REVISION DESCRIPTION
D | 12-02-16 | UPDATE FOR 2016 SPECIFICATIONS

ROADSIDE MOUNTED SUPPORT DETAIL
TYPE A & B SIGNS
BD.2.7.2.0.9 - ROADSIDE TRAFFIC SIGNS

BRIDGE AND STRUCTURAL DESIGN

IP_PWP:d0695341\BD.2.7.2.0.09 - Roadside Traffic Signs 09.dgn



TYPICAL SIGN BACKING DETAIL

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS:

CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, STANDARD SPECIFICATONS FOR ROADS AND BRIDGES LATEST EDITION. EXCEPT AS SUPPLEMENTED OR AMENDED BY THE PLANS, SUPPLEMENTAL SPECIFICATIONS AND/OR SPECIAL PROVISIONS

ALUMINUM:

ALUMINUM EXCEPT SIGN PANELS SHALL CONFORM TO A.S.T.M. B-221, B-308, OR B-429 ALLOY 6061-T6 OR 6063-T6 UNLESS OTHERWISE NOTED. SIGN PANELS SHALL BE .080" THICK ALUMINUM CONFORMING TO A.S.T.M. B-209 ALLOY 5052-H38 OR 6061-T6.

RIVETS:

ALL RIVETS SHALL BE 1/4" DIAMETER BLIND RIVETS WITH POSITIVE MANDREL RETENTION. THE RIVET BODY AND MANDREL SHALL BE ALUMINUM WITH A 1/2" MAXIMUM DIAMETER DOME HEAD. THE RIVETS SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH = 875 LBS.

SIGN SHEETING:

UNLESS OTHERWISE REQUIRED, ALL SIGN MATERIAL SHALL BE TYPE III REFLECTIVE SHEETING. TYPE VIII RETROREFLECTIVE SHEETING WILL BE USED ON STOP SIGNS, YIELD SIGNS, 4-WAY, ALL WAY, DO NOT ENTER, CHEVRONS, NO PASSING ZONE PENNANTS, AND WRONG WAY SIGNS. UNLESS OTHERWISE APPROVED IN WRITING, REFLECTIVE SHEETING SHALL BE APPLIED TO PANELS IN SUCH A MANNER THAT THERE ARE NO HORIZONTAL SPLICES.

SIGN TYPES:

TYPE A = SMALL SIGN WITH ONE POST; TYPE B= CLUSTER ASSEMBLY OF TYPE A SIGNS; TYPE D= LARGE RECTANGULAR SIGN GROUND MOUNTED WITH MULTIPLE POSTS; TYPE E= EXIT NUMBER PANEL; OVERHEAD MOUNTED= LARGE RECTANGULAR SIGN THAT CAN BE TRUSS, CANTILEVER, BUTTERFLY, OR FICA MOUNTED. TYPE D, E, AND OVERHEAD MOUNTED SIGNS ARE NOT INCIDENTAL SO ARE NOT COVERED UNDER THESE DETAILS. DELINEATOR, MILEPOST, AND OBJECT MARKERS ARE NOT COVERED UNDER TRAFFIC SIGNS, SEE STANDARD PLAN HS-03.

BOLTS:

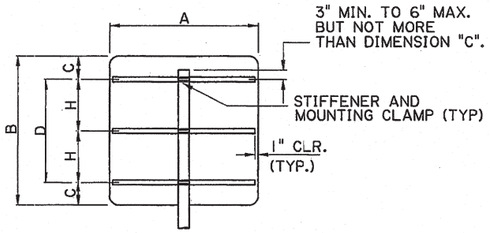
UNLESS NOTED, ALL BOLTS SHALL HAVE A MINIMUN OF 3 THREADS BEYOND THE NUTS. STAINLESS STEEL BOLTS SHALL CONFORM TO A.S.T.M. DESIGNATION A-320, GRADE B8, TYPE 304, CLASS 2, UNLESS OTHERWISE NOTED. STAINLESS STEEL NUTS SHALL CONFORM TO A.S.T.M DESIGNATION A-194 ,GRADE 8, TYPE 304. ALUMINUM BOLTS SHALL CONFORM TO A.S.T.M. F-468 ALLOY 2024-T4 AND ALUMINUM NUT TO A.S.T.M. F-467 ALLOY 6061-T6 OR 6262-T9.

NO BOLTS SHALL BE PLACED THROUGH FACE OF SIGN.

ALL TRACK HEAD BOLTS OR SIG-FIX SQUARE HEAD BOLTS SHALL HAVE HEADS DESIGNED TO FIT AND TRANSMIT LOAD TO BOLT SLOTS IN THE STIFFENER.

FOR SIGN-FIX ALTERNATES, ALL BOLTED ATTACHMENTS SHALL INCORPORATE STAINLESS STEEL 5/16' ø LIP-LOC BLTS, FLAT WASHERS, AND NYLOC NUTS, UNLESS OTHERWISE NOTED.

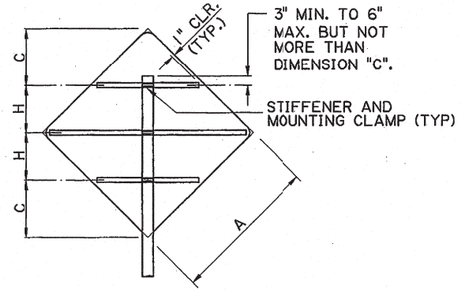
SEE SHEET 2 OF 2 FOR ADDITIONAL NOTES AND MOUNTING DETAILS.



SQUARE, RECTANGLE, CIRCLE, OCTAGON AND ROUTE MARKERS

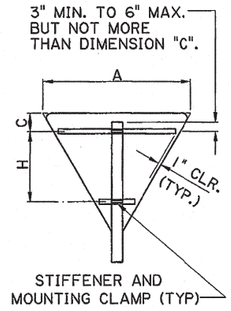
SQUARE, RECTANGLE, CIRCLE, OCTAGON AND ROUTE MARKERS					
A (IN.)	B (IN.)	C (IN.)	D (IN.)	H (IN.)	STIFFENER NUMBER REQUIRED
VARIABLE 12" TO 48"	6	3			1
	12	6			1
	15	7.5			1
	18	9			1
	24	6	12		2 WHEN A ≥ 36
	30	7.5	15		2 WHEN A ≥ 36
	36	7.5	21		2
	48	10	28		2
	60	9	42	21	3
	72	11	6△	25	3
	84	10.5	6△	21	4
48	96	12	6△	24	4

△ LOCATION OF BORDER ANGLE FROM EDGE



DIAMOND

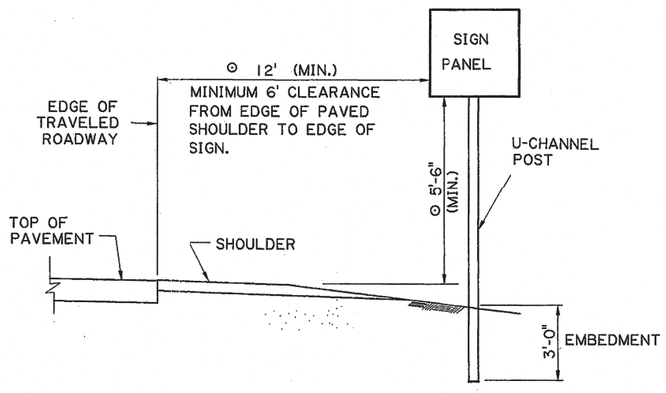
DIAMOND			
A (IN.)	C (IN.)	H (IN.)	STIFFENER NUMBER REQUIRED
24	10	6.97	1
30	12	9.21	2
36	14	11.46	2
48	18.5	15.44	3
60	22.5	19.93	3



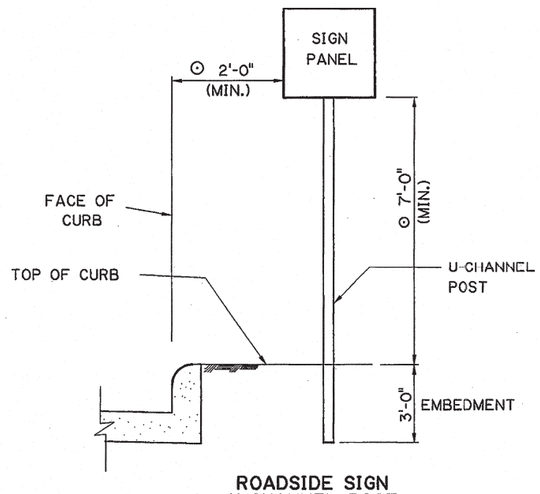
EQUILATERAL TRIANGLE

EQUILATERAL TRIANGLE			
A (IN.)	C (IN.)	H (IN.)	STIFFENER NUMBER REQUIRED
24	8		1
30	6	10	2
36	6	12.5	2
48	6	23	2
60	6	33.5	2

TYPE A SIGNS



ROADSIDE SIGN
U-CHANNEL POST
RURAL



ROADSIDE SIGN
U-CHANNEL POST
URBAN

STATE OF LOUISIANA
PAUL B. FOSSIER, JR.
REG. No. 21028
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
8-31-00

SHEET NUMBER 108

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED A. ALLEN | DETAILED E. DANIEL | DATE JULY, 2000
CHECKED | CHECKED | SHEET 1 OF 2

REVISION DESCRIPTION | BY | NO. | DATE

INCIDENTAL SIGNS ON U-CHANNEL POSTS

BD.2.7.3.0.1 - U-CHANNEL TRAFFIC SIGNS

BRIDGE AND STRUCTURAL DESIGN

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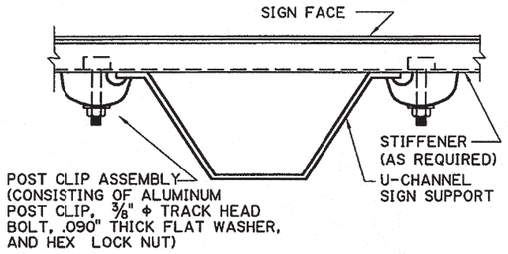
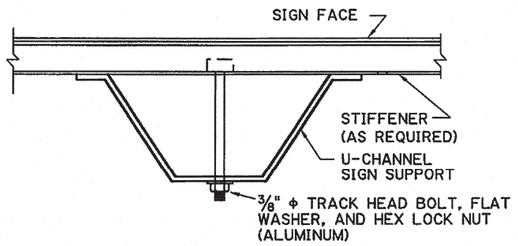
7/26/2018 14:1

7/26/2018 14:1

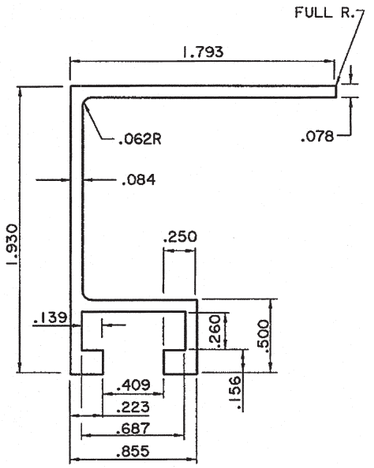


SINGLE AND MULTIPLE STIFFENER



MULTIPLE - STIFFENER

(OPTIONAL)



EXTRUSION STIFFENER

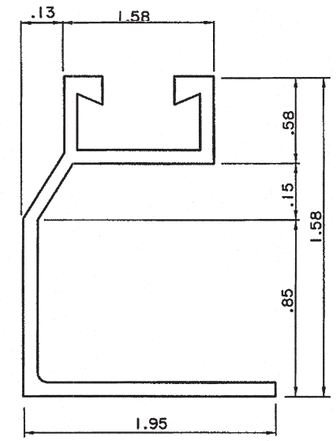
SINGLE AND MULTIPLE STIFFENER

(SIGN-FIX ALTERNATE)

MULTIPLE - STIFFENER

(OPTIONAL SIGN-FIX ALTERNATE)

MOUNTING DETAIL (U-CHANNEL POST)



LARGE CORNER ANGLE EXTRUSION

(SIGN FIX ALTERNATE TO EXTRUSION STIFFENER)

MISCELLANEOUS NOTES:

U-CHANNEL POST USE WILL BE LIMITED TO A TOTAL SIGN AREA OF LESS THAN 6.4 SQUARE FEET PER POST AND WITH A CENTROID LES THAN 8" FROM THE GROUND.

U-CHANNEL POSTS SHALL BE AT LEAST 3 POUND PER FOOT FLANGED CHANNEL STEEL FABRICATED FROM STEEL CONFORMING TO A.S.T.M. A-499, GRADE 60. HOLES 3/8" IN DIAMETER SHALL BE PUNCHED THROUGH EACH POST ON ONE INCH CENTERS ALONG THE CENTERLINE OF THE POST FOR ITS FULL LENGTH.

U-CHANNEL POSTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH A.S.T.M. A-123

U-CHANNEL POSTS FOR GROUND MOUNTED SMALL DSIGNS SHALL BE DRIVEN TO A DEPTH OF 3 FEET BELOW NATURAL GROUND USING A SUITABLE PROTECTIVE DRIVING CAP AND SHALL BE VERTICAL. THE CONTRACTOR SHALL MARK THE DAATE OF FABRICATION, SHEETING MANUFACTURER, PRODUCT CODE, AND SIZE OF SIGN ON THE BACK OF EACH SIGN WITH AN APPROVED WEATHER RESISTANT PAINT STICK, MARK SHALL BE 2" MINIMUM HEIGHT ON MULTI-POST SIGNS.

STIFFENERS SHALL BE ALUMINUM EXTRUSIONS AS DETAILED ON THIS SHEET, UNLESS OTHERWISE NOTED.

MOUNTING CLAMP REQUIRED AT EACH HORIZONTAL STIFFENER.

STATE OF LOUISIANA
PAUL B. FOSSIER, JR.
REG. No. 21028
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

8/31/00

SHEET NUMBER 109

PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED A. ALLEN	DETAILED E. DANIEL	DATE JULY, 2000
CHECKED	CHECKED	SHEET 2 OF 2

NO.	DATE	REVISION DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DOTD

BRIDGE AND STRUCTURAL DESIGN

INCIDENTAL SIGNS
ON U-CHANNEL POSTS

BD.2.7.3.0.2 - U-CHANNEL TRAFFIC SIGNS

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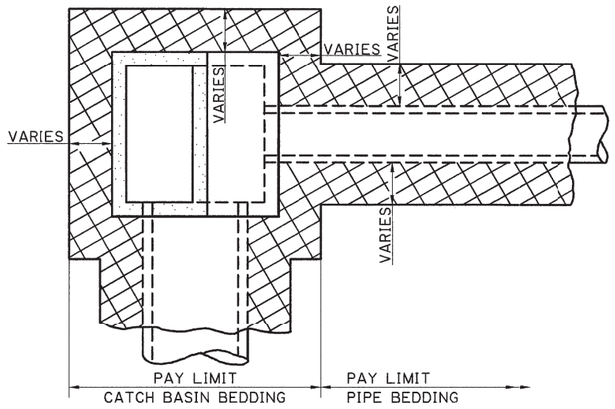
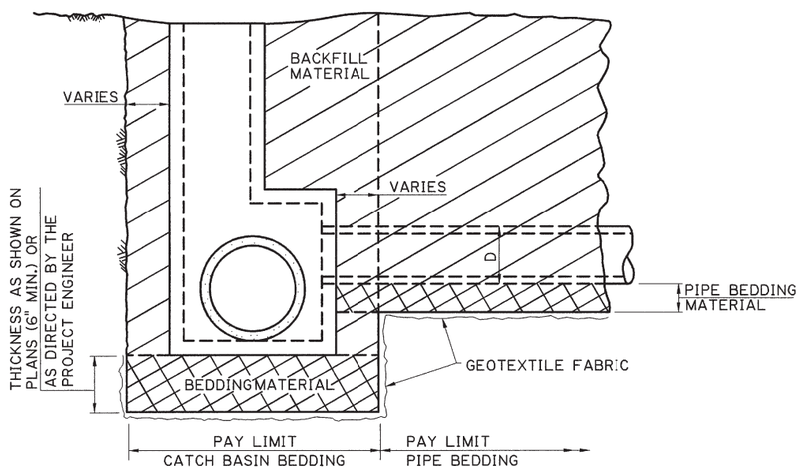
8/15/2018 07:09

TYPICAL CATCH BASIN AND STORM SEWER PIPE INSTALLATION WITH BEDDING MATERIAL

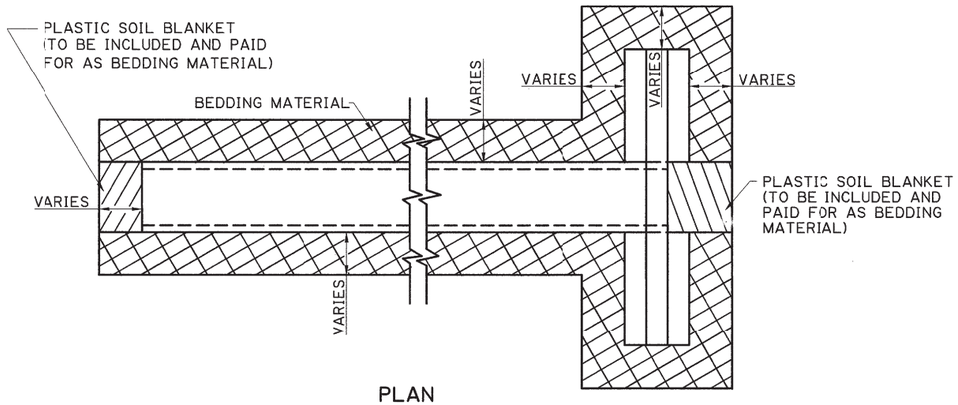


PLAN OF TYPICAL CATCH BASIN (MANHOLE OR JUNCTION BOX) AND PIPE

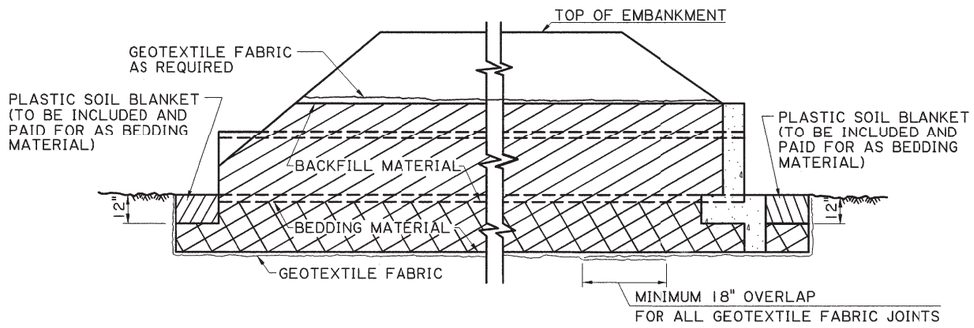


PROFILE OF TYPICAL CATCH BASIN (MANHOLE OR JUNCTION BOX) AND PIPE

TYPICAL CROSS DRAIN INSTALLATION WITH BEDDING MATERIAL

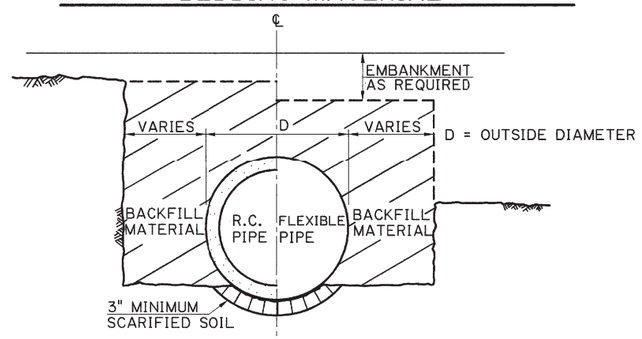


PLAN



PROFILE

TYPICAL PIPE INSTALLATION WITHOUT BEDDING MATERIAL



SECTION THRU TRENCH/EMBANKMENT

HALF-SECTION SHOWING TOP OF PIPE GREATER THAN 12" BELOW ORIGINAL GROUND (TRENCH INSTALLATION)	HALF-SECTION SHOWING TOP OF PIPE ABOVE ORIGINAL GROUND (EMBANKMENT INSTALLATION)

GENERAL NOTES

1. CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LA DOTD STANDARD SPECIFICATIONS
2. STANDARD DOTD PIPE INSTALLATION, BEDDING, BACKFILL (TYPE "A" OR "B") AND TRENCH WIDTH ARE DEFINED IN SECTIONS 701 AND 726 OF THE LA DOTD STANDARD SPECIFICATIONS.
3. THE NEED AND/OR THE THICKNESS OF BEDDING MATERIAL WILL BE DETERMINED BY THE GEOTECHNICAL SECTION AND WILL BE SHOWN ON THE PLANS. ADDITIONAL BEDDING MATERIAL MAY BE REQUIRED BY THE PROJECT ENGINEER AT NO COST TO THE CONTRACTOR.
4. THE DETAILS ON THIS SHEET DEPICT PAY LIMITS FOR BEDDING MATERIALS. THE BEDDING MATERIAL PAY QUANTITIES ARE TO BE BASED ON THE THEORETICAL NET SECTION WITH NO PIPE DEDUCTIONS.
5. THE BACKFILL IS TO BE MEASURED AND PAID IN ACCORDANCE WITH SECTION 701 OF LA DOTD STANDARD SPECIFICATIONS.
6. BEDDING SHOWN ON THIS STANDARD PLAN CONFORMS TO THE CURRENT AASHTO SPECIFICATIONS.
7. FLEXIBLE PIPE CONSISTS OF ALL CORRUGATED METAL AND PLASTIC PIPE.
8. REINFORCED CONCRETE PIPE AND FLEXIBLE PIPE ARE SHOWN AS TYPICAL STRUCTURES. DETAILS FOR REINFORCED CONCRETE BOX, REINFORCED CONCRETE PIPE ARCH, CORRUGATED METAL PIPE ARCH AND CORRUGATED STRUCTURAL PLATE STRUCTURES ARE SIMILAR.
9. MINIMUM COVER IS 12" FOR ALL PIPE. THERE IS NO MINIMUM COVER REQUIREMENT FOR RCB.

SHEET NUMBER 201

PARISH	FEDERAL PROJECT	STATE PROJECT

DESIGNED	JDK
CHECKED	JDK
DETAILED	PAA
CHECKED	JCM
DATE	6-8-71
SHEET	1 OF 2

DATE	REVISION DESCRIPTION	BY
8-22-07	REVISION TO COMPLY WITH CURRENT SPECIFICATIONS	JDK
1-8-07	ADDED FINAL AND INITIAL BACKFILL	JDK
7-11-05	REDRAFTED, REVISED FOR TYPE A & B BACKFILL	JDK

APPROVED BY CHIEF ENGINEER: [signature]
DATE: 8.22.07

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

BEDDING AND BACKFILL FOR DRAINAGE STRUCTURES

STANDARD PLAN BM-01

HYDRAULICS SECTION

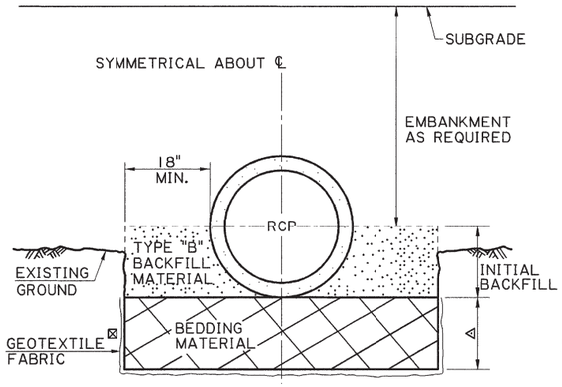
IP_PWP:dms09544\BM-01(SHEET 1).dgn

TYPICAL PIPE INSTALLATION WITH BEDDING MATERIAL

EMBANKMENT INSTALLATION

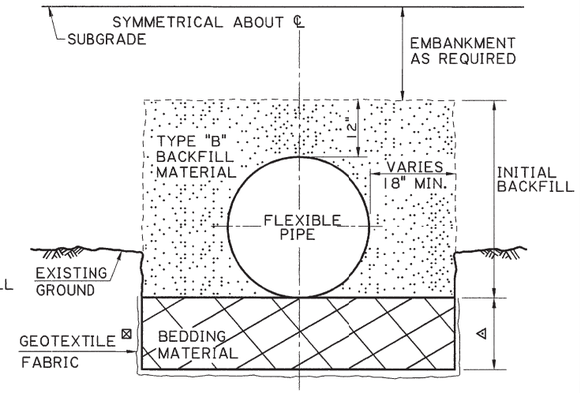
① FOR RIGID PAVEMENTS, FLEXIBLE PAVEMENTS OR OTHER AREAS

REINFORCED CONCRETE PIPE



TOP OF PIPE ABOVE EXISTING GROUND

FLEXIBLE PIPE



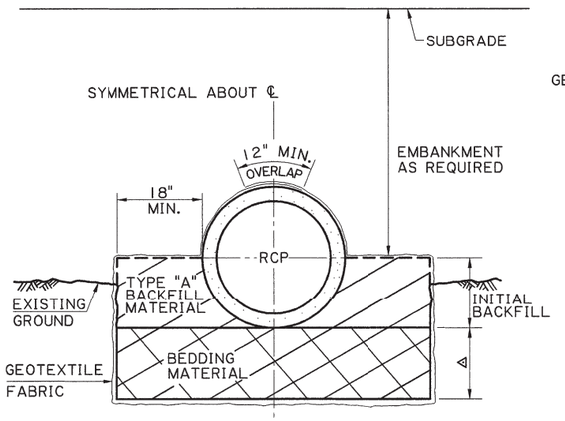
TOP OF PIPE ABOVE EXISTING GROUND

① FOR RIGID PAVEMENTS: APPLIES TO ALL PIPE UNDER RIGID PAVEMENT, EXCEPT AS NOTED FOR FLEXIBLE PAVEMENT NOTE ③ BELOW.
FOR FLEXIBLE PAVEMENTS: APPLIES TO PIPES THAT DO NOT CROSS THE CENTERLINE OF NEW OR EXISTING ROADWAY
FOR OTHER AREAS: APPLIES TO PIPES IN NONPAVED AREAS OR PAVED AREAS THAT SERVE AS DRIVEWAYS OR SHOULDERS

⊠ IF DIRECTED BY THE PROJECT ENGINEER, GEOTEXTILE FABRIC WILL BE INSTALLED AROUND THE TYPE "B" BACKFILL AND PAID UNDER THE PAY ITEM FOR GEOTEXTILE FABRIC, SECTION 711 OR 203 OF LA DOTD STANDARD SPECIFICATIONS OR BY CHANGE ORDER.

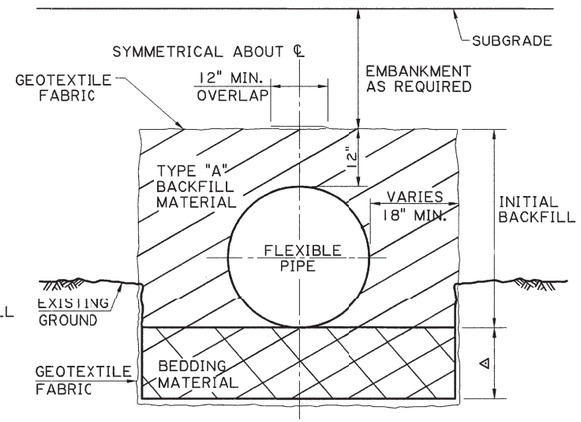
FOR FLEXIBLE PAVEMENTS ② ③

REINFORCED CONCRETE PIPE



TOP OF PIPE ABOVE EXISTING GROUND

FLEXIBLE PIPE



TOP OF PIPE ABOVE EXISTING GROUND

② APPLIES TO PIPE CROSSING THE CENTERLINE OF NEW OR EXISTING ROADWAYS

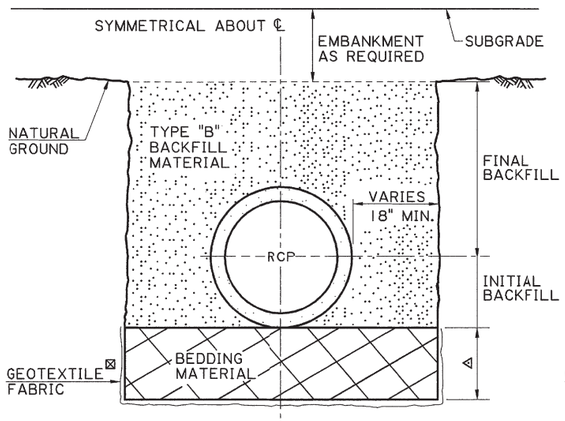
③ ALSO APPLIES UNDER RIGID PAVEMENTS FOR PIPES CROSSING THE CENTERLINE OF NEW OR EXISTING PAVEMENTS WHEN THE PROJECT IS BID USING A RIGID VS FLEXIBLE ALTERNATE (A + B + C) BID MODEL.

△ THICKNESS AS SHOWN ON PLANS (6" MIN.) OR AS DIRECTED BY THE PROJECT ENGINEER

TRENCH INSTALLATION

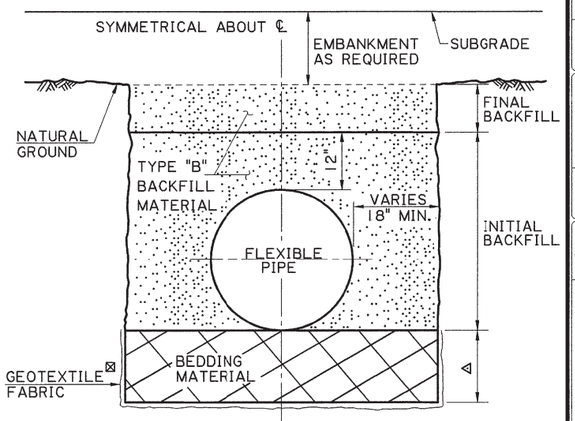
① FOR RIGID PAVEMENTS, FLEXIBLE PAVEMENTS OR OTHER AREAS

REINFORCED CONCRETE PIPE



TRENCH

FLEXIBLE PIPE



TRENCH

① FOR RIGID PAVEMENTS: APPLIES TO ALL PIPE UNDER RIGID PAVEMENT, EXCEPT AS NOTED FOR FLEXIBLE PAVEMENT NOTE ③ BELOW.
FOR FLEXIBLE PAVEMENTS: APPLIES TO PIPES THAT DO NOT CROSS THE CENTERLINE OF NEW OR EXISTING ROADWAY
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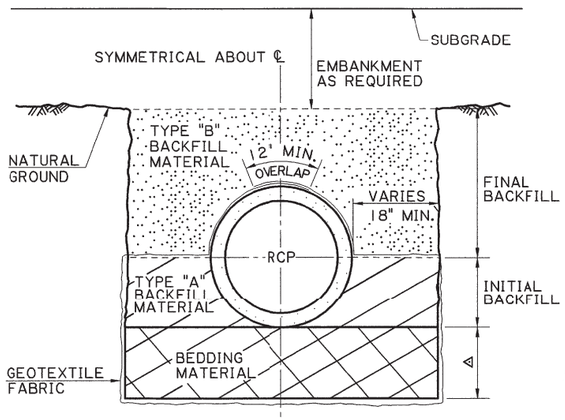
⊠ IF DIRECTED BY THE PROJECT ENGINEER, GEOTEXTILE FABRIC WILL BE INSTALLED AROUND THE TYPE "B" BACKFILL AND PAID UNDER THE PAY ITEM FOR GEOTEXTILE FABRIC, SECTION 711 OR 203 OF LA DOTD STANDARD SPECIFICATIONS OR BY CHANGE ORDER.

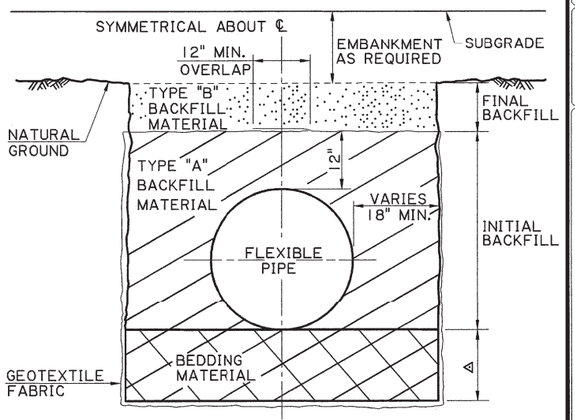
FOR FLEXIBLE PAVEMENTS ② ③

REINFORCED CONCRETE PIPE



TRENCH

FLEXIBLE PIPE



TRENCH

② APPLIES TO PIPE CROSSING THE CENTERLINE OF NEW OR EXISTING ROADWAYS

③ ALSO APPLIES UNDER RIGID PAVEMENTS FOR PIPES CROSSING THE CENTERLINE OF NEW OR EXISTING PAVEMENTS WHEN THE PROJECT IS BID USING A RIGID VS FLEXIBLE ALTERNATE (A + B + C) BID MODEL.

△ THICKNESS AS SHOWN ON PLANS (6" MIN.) OR AS DIRECTED BY THE PROJECT ENGINEER

SHEET NUMBER 202

DESIGNED	DETAILED	PARISH	FEDERAL PROJECT	STATE PROJECT
CHECKED JDK	CHECKED JDK			
DATE SHEET	BY			
6-8-71 2 OF 2	PAA JCM			

DATE	REVISION DESCRIPTION	BY
8-22-07	REVISION TO COMPLY WITH CURRENT SPECIFICATIONS	JDK
1-8-07	ADDED FINAL AND INITIAL BACKFILL	JDK
7-11-05	REDRAFTED, REVISED FOR TYPE A & B BACKFILL	JDK

APPROVED BY CHIEF ENGINEER: Wendell Temple DATE: 8-22-07

BEDDING AND BACKFILL FOR DRAINAGE STRUCTURES

STANDARD PLAN BM-01

HYDRAULICS SECTION

8/15/2018 07:10

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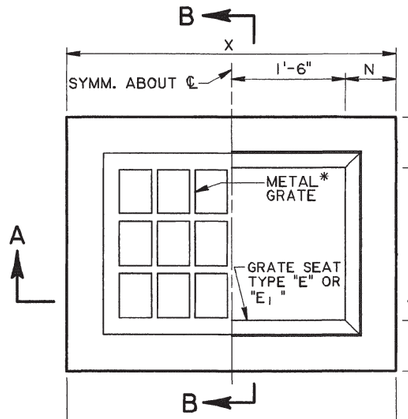
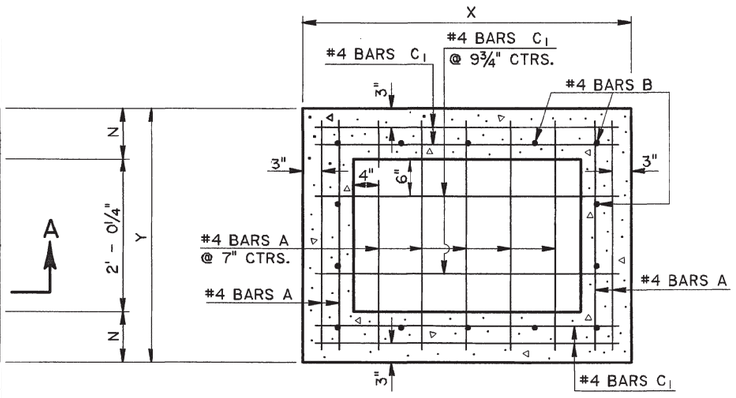


PLAN

* GRATE TO BE TYPE "B" OR "C"
TYPE "B" SHOWN.



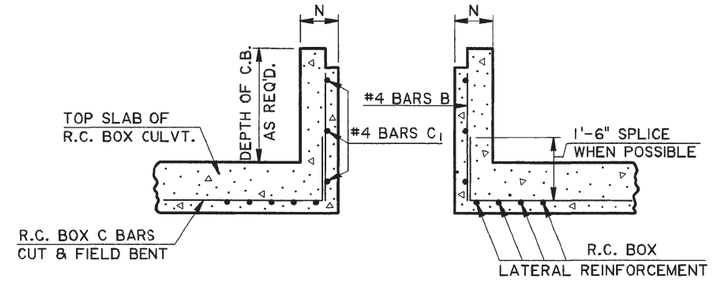
HORIZONTAL SECTION

SHOWING BOTTOM SLAB REINFORCING STEEL

NOTE: TYPE "B" GRATE TO BE USED WHERE NO PEDESTRIAN TRAFFIC IS EXPECTED.

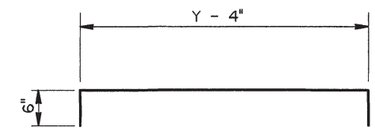
TYPE "C" GRATE TO BE USED WHERE PEDESTRIAN TRAFFIC IS EXPECTED.

DIMENSIONS			
DEPTH OF BASIN	N	X	Y
FT.	IN.	FT.- IN.	FT.- IN.
0 - 8	7	4-2	3-2¼
8.1 - 12	8	4-4	3-4¼

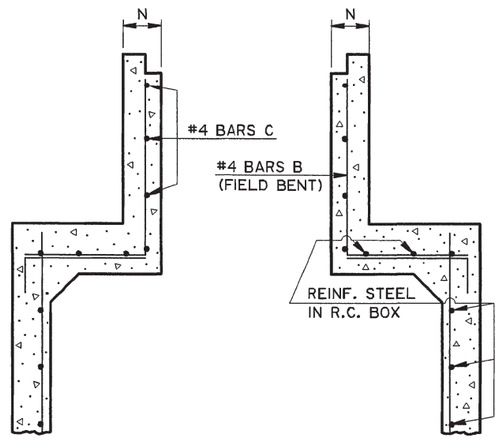


LONGITUDINAL SECTION

SHOWING CATCH BASIN
USED WITH R.C. BOX CULVERT.

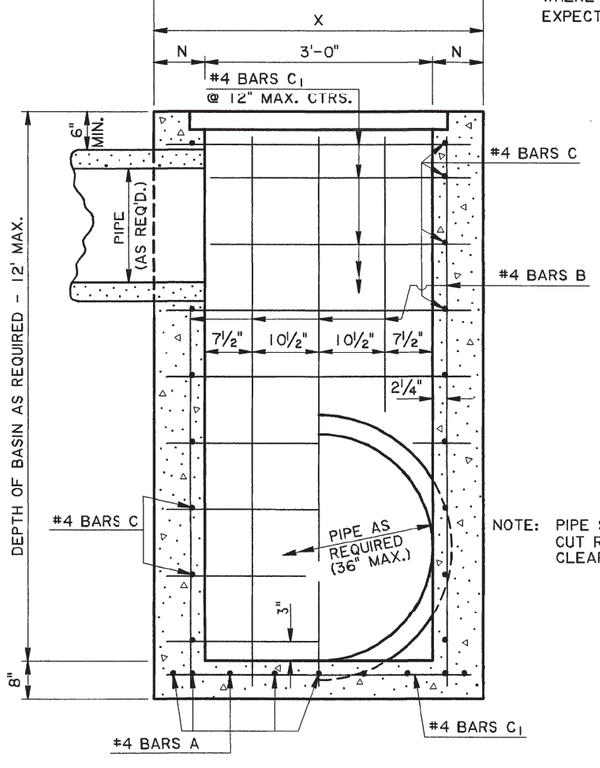


#4 BARS A



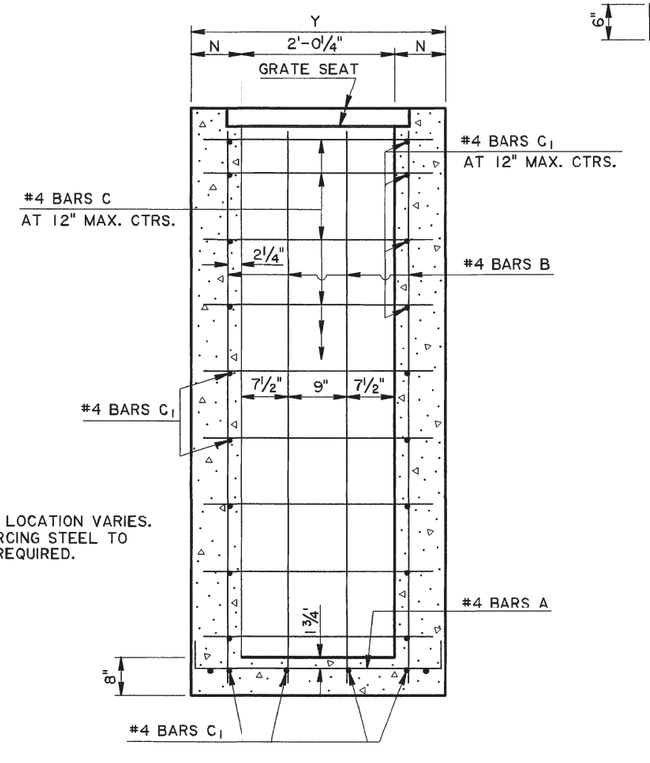
TRANSVERSE SECTION

SHOWING CATCH BASIN
USED WITH R.C. BOX CULVERT.



SECTION A-A

NOTE: PIPE SIZE & LOCATION VARIES. CUT REINFORCING STEEL TO CLEAR, AS REQUIRED.



SECTION B-B

GENERAL NOTES:

SECTION 702 OF THE CURRENT DOTD STANDARD SPECIFICATIONS SHALL APPLY.

DIMENSIONS RELATING TO REINFORCING STEEL ARE TO BAR CENTERS.

VERTICAL REINFORCING STEEL MAY BE SPLICED. SPLICE LENGTH IS 35 DIAMETERS.

FOR DETAILS OF GRATE AND SEAT, SEE STD. PLAN MC-01 (TYPE B or C).

SEE PLANS FOR TYPE OF GRATE TO BE USED FOR EACH CATCH BASIN.

SHEET NUMBER 203

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED PAA | CHECKED | DETAILED KAJ | CHECKED WMR | DATE 1-31-97 | SHEET 1 OF 1

11-2-00 Converted Metric CB-01M to English CB-01 JCM

DATE | REVISION DESCRIPTION | BY

APPROVED BY CHIEF ENGINEER

DATE: 11-2-00

CONCRETE OPEN TOP CATCH BASIN
Max. Pipe: 36" x 24"
Max. Depth: 12'
To Be Used In Conjunction With Std. Plan MC-01

STANDARD PLAN CB-01

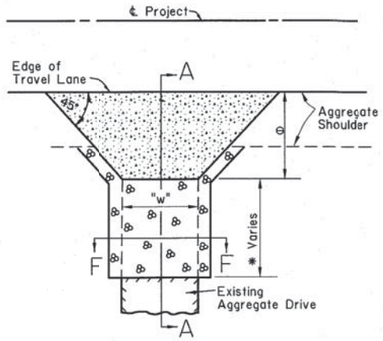
HYDRAULICS SECTION

IP_PWP:dms09544\CB-01.dgn

F.A.P.	STATE PROJECT	PARISH	SHEET NO.
			204

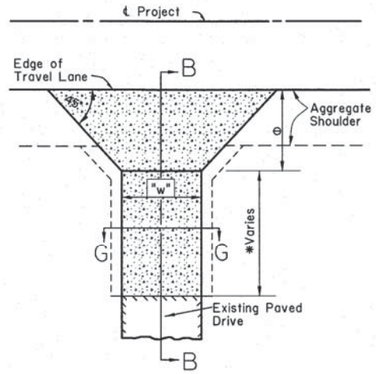
BILL OF REINFORCING STEEL FOR 44'-0" CULVERT

| OPENINGS | | BARREL | | | | | | | | | | | | | | | | WINGS AND CURBS | | | | | | | | | | | | | | | |



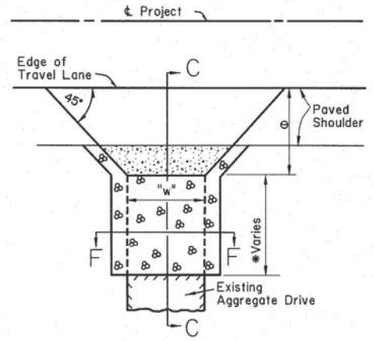
TYPE "A"

Paved Drive Along Aggregate Shoulder



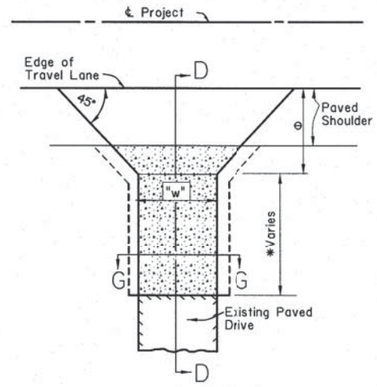
TYPE "B"

Paved Drive Along Aggregate Shoulder Connecting Existing Paved Drive



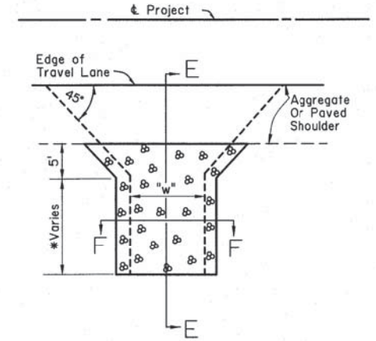
TYPE "C"

Paved Drive Along Paved Shoulder



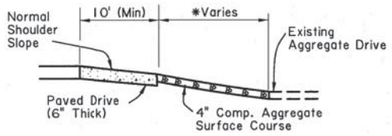
TYPE "D"

Paved Drive Along Paved Shoulder Connecting Existing Paved Drive

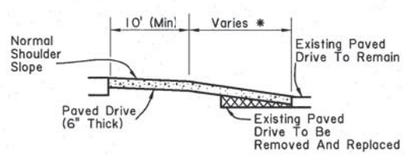


TYPE "E"

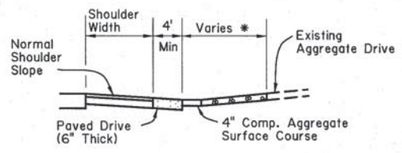
Aggregate Surface Course Drive To Be Used At Locations Where Drive Does Not Connect To Residence Or Commercial Establishments



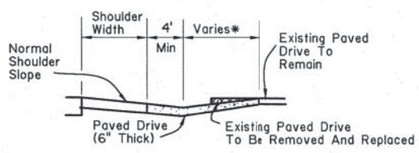
SECTION A-A



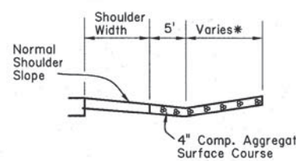
SECTION B-B



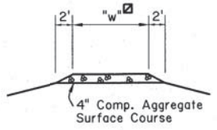
SECTION C-C



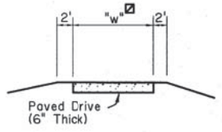
SECTION D-D



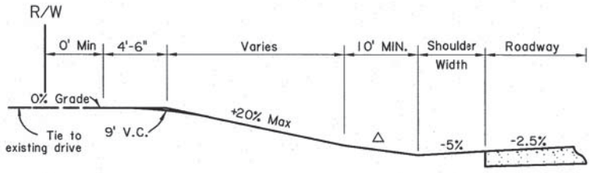
SECTION E-E



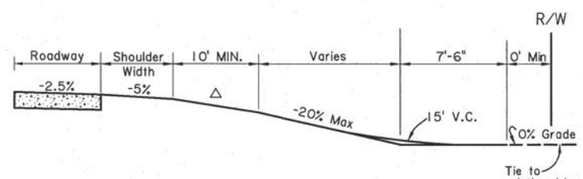
SECTION F-F



SECTION G-G



TYPICAL DRIVEWAY IN CUT



TYPICAL DRIVEWAY IN FILL

Ø "W" = Width as per plans

NOTES:

1. PORTLAND CEMENT CONCRETE DRIVES WILL BE CONSTRUCTED TO REPLACE OR CONNECT TO EXISTING CONCRETE DRIVES. ALL OTHER DRIVES ARE TO BE ASPHALT CONCRETE, EXCEPT AGGREGATE SURFACE COURSE IS TO BE USED ON INFREQUENTLY USED DRIVES WHICH DO NOT CONNECT TO RESIDENCES OR COMMERICAL ESTABLISHMENTS.

* 2. SEE PLANS: APPLIES WHERE EXISTING DRIVE IS TO BE REMOVED FOR ROADWAY CONSTRUCTION AND/OR TO ACHIEVE VERTICAL GEOMETRY REQUIREMENTS.

θ 3. PAVEMENT SHALL EXTEND 10' MIN FROM EDGE OF PAVED ROADWAY SURFACE (TRAVEL LANE) FOR SINGLE-FAMILY RESIDENTIAL/NON-COMMERICAL AGRICULTURE TYPE CONNECTIONS, AND 25' FOR TRAFFIC GENERATOR (COMMERCIAL) TYPE CONNECTIONS, OR AS PER THE PLANS. PAVED DRIVEWAY FLARE SHALL EXTEND 4' MINIMUM FROM EDGE OF PAVED SHOULDER. RADII TRANSITION SHAPE MAY BE USED IN LIEU OF FLARE.

4. WHEN PAVED DRIVES ARE PLACED IN TWO LIFTS, BINDER COURSE MAY BE USED IN THE FIRST LIFT.

5. COMPACTION OF SUBGRADE AND GRADING WORK FOR CONSTRUCTION OF THE PAVED DRIVES SHALL BE SATISFACTORY TO THE ENGINEER AND PAYMENT SHALL BE INCLUDED IN THE DRIVEWAY ITEMS.

△ 6. MAXIMUM DRIVEWAY GRADE SHALL BE 20% (25% FOR SPECIAL CASES). MAXIMUM BREAK IN GRADE WITHOUT A VERTICAL CURVE SHALL BE 10% FOR CRESTS AND 9% FOR SAGS, AT NOT LESS THAN 10' INTERVALS.

NOTES FOR OVERLAY PROJECTS:

1. WHEN PAVED DRIVES ARE PLACED IN TWO LIFTS, BINDER COURSE MAY BE USED IN THE FIRST LIFT.

2. DRIVE WIDTHS AND FLARE DIMENSIONS TO BE ADJUSTED TO MATCH EXISTING CONDITIONS AS DIRECTED BY THE PROJECT ENGINEER.

3. LENGTH OF OVERLAY TRANSITION TO BE SET BY PROJECT ENGINEER TO ACHIEVE A SUITABLE CONNECTION FOR EXISTING DRIVE.

LEGEND

PAVED

AGGREGATE

REMOVAL

11/7/2017
STATE OF LOUISIANA
PATRICK BENJAMIN TONEY
License No. 29644
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
Patrick B. Toney

SHEET NUMBER 205

DESIGNED P. TONEY	PARISH	CONTROL SECTION	STATE PROJECT
CHECKED D. SMITH			
DETAILED P. TONEY			
CHECKED D. SMITH			
SERIES NUMBER 1 of 1			

NO.	DATE	REVISION DESCRIPTION	BY

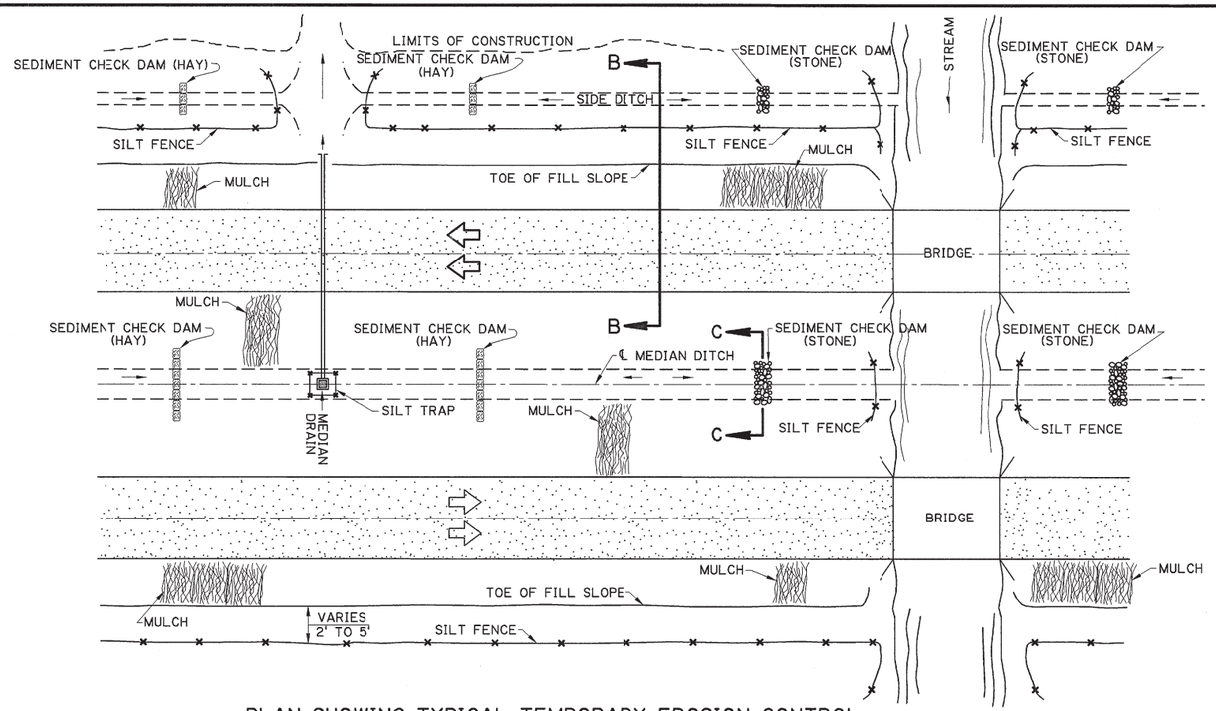
APPROVED BY CHIEF ENGINEER: Patrice P. Williams
DATE: 11-7-17

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DRIVEWAYS ON NON-CURBED ROADWAYS

STANDARD PLAN DW-02

DOTD ROAD DESIGN

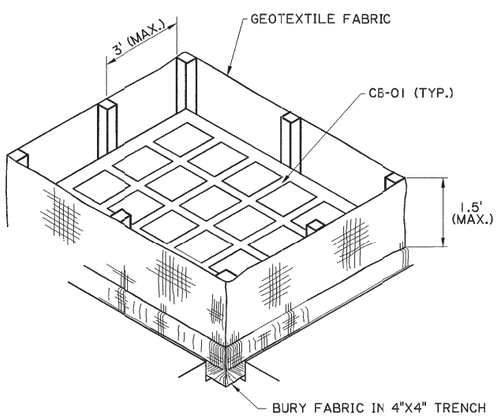


PLAN SHOWING TYPICAL TEMPORARY EROSION CONTROL

MULCHES

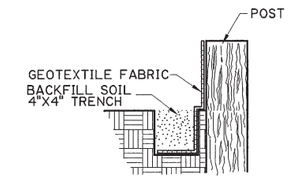
MULCHES ARE THE APPLICATION OF MATS OF MATERIAL PLACED ON THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND TO REDUCE THE VELOCITY OF OVERLAND FLOW. MULCHES CAN BE ORGANIC OR SYNTHETIC. MULCHES SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL. A FEW GUIDELINES FOR THE USE OF MULCHES ARE:

1. USE ON CUT AND EMBANKMENT SLOPES WHICH HAVE NOT BEEN COMPLETED TO PLAN GRADE OR WHERE THE WEATHER OR SOIL CONDITIONS WILL NOT PERMIT COMPLETING THEM WITHIN A REASONABLE TIME
2. USE ON CLEARED, GRUBBED , AND SCALPED AREAS WHERE SOIL EROSION IS LIKELY TO OCCUR
3. USE WITH TEMPORARY SEEDING

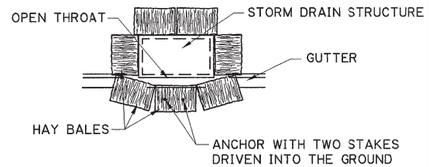


ISOMETRIC VIEW SHOWING GEOTEXTILE FABRIC

(BACKFILL SOIL NOT SHOWN)



SECTION THRU TRENCH SHOWING GEOTEXTILE FABRIC



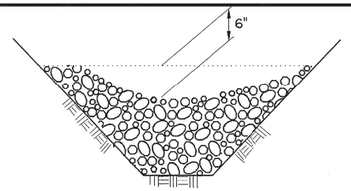
PLAN SHOWING HAY BALES

PAY ITEM: TEMPORARY HAY OR STRAW BALES

TEMPORARY INLET SILT TRAP

THE TEMPORARY DROP INLET SILT TRAP IS TO BE USED FOR SMALL DRAINAGE AREAS (LESS THAN 1 ACRE) WHERE THE STORM DRAIN IS FUNCTIONAL BEFORE THE AREA IS STABILIZED. THE TRAP CAN BE EITHER GEOTEXTILE FABRIC OR HAY BALES.

1. THE GEOTEXTILE FABRIC SHALL CONFORM TO PROJECT SPECIFICATIONS FOR GEOTEXTILE FABRIC (CLASS G).
2. WOODEN STAKES SUPPORTING THE FABRIC SHALL BE 2" X 2" OR 2" X 4" WITH A MINIMUM LENGTH OF 3 FEET. THE STAKES SHALL BE SPACED AROUND THE INLET AT A MAXIMUM SPACING OF 3 FEET.
3. THE HEIGHT OF THE FABRIC ABOVE THE INLET SHALL BE LIMITED TO 1.5' AND THE BOTTOM OF THE FABRIC SHALL BE BURIED IN A TRENCH APPROXIMATELY 4" WIDE BY 4" DEEP. THE FABRIC SHALL BE STAPLED TO THE POST WITH ½" STAPLES.
4. THE TRAP SHOULD BE INSPECTED REGULARLY AND AFTER EACH STORM. THE SEDIMENT SHOULD BE REMOVED AND EACH STAKE SHOULD BE FIRMLY IN THE GROUND.
5. HAY BALES SHALL BE PLACED SO THAT THE BINDING WIRE OR TWINE IS NOT IN CONTACT WITH THE GROUND.



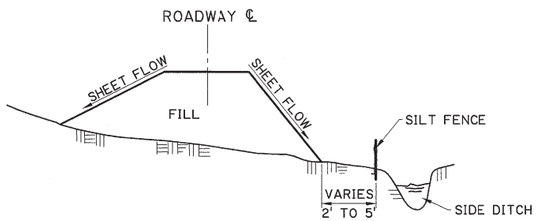
SECTION C-C

TEMPORARY SEDIMENT CHECK DAM (STONE)

PAY ITEM: TEMPORARY SEDIMENT CHECK DAM (STONE)

NOTES:
A STONE CHECK DAM IS A SMALL TEMPORARY DAM CONSTRUCTED ACROSS A SWALE OR DRAINAGE DITCH. THE PURPOSE OF THIS MEASURE IS TO REDUCE THE VELOCITY OF CONCENTRATED STORM WATER FLOWS, THEREBY REDUCING EROSION OF THE SWALE OR DITCH. THE STONE CHECK DAM WILL TRAP SMALL AMOUNTS OF SEDIMENTS GENERATED IN THE DITCH ITSELF, HOWEVER IT SHOULD NOT BE USED AS A SEDIMENT TRAPPING DEVICE. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF STONE CHECK DAMS ARE:

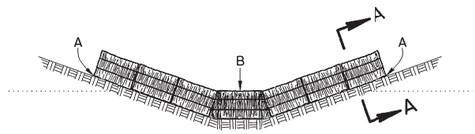
1. USE IN SMALL OPEN CHANNELS WHICH DRAIN 10 ACRES OR LESS
2. DO NOT USE IN A LIVE STREAM
3. USE IN A TEMPORARY DITCH OR SWALE WHICH, BECAUSE OF THEIR SHORT LENGTH OF SERVICE, CANNOT RECEIVE A NON- ERODIBLE LINING
4. USE IN PERMANENT DITCHES OR SWALES WHICH WILL NOT RECEIVE A PERMANENT LINING FOR AN EXTENDED PERIOD OF TIME
5. USE IN TEMPORARY OR PERMANENT DITCHES OR SWALES WHICH NEED PROTECTION DURING THE ESTABLISHMENT OF GRASS LININGS
6. FOR STONE SPECIFICATIONS, SEE PROJECT SPECIFICATIONS FOR RIPRAP, (CLASS 2 LB)



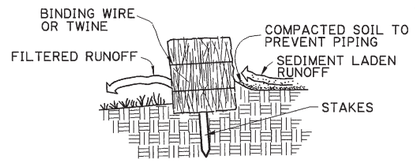
SECTION B-B

TEMPORARY SILT FENCE APPLICATION

(FOR CONSTRUCTION DETAILS AND SPECIFICATIONS SEE SHEET 2 OF 2.)



ELEVATION



SECTION A-A

TEMPORARY SEDIMENT CHECK DAM (HAY)

PAY ITEM: TEMPORARY SEDIMENT CHECK DAM (HAY)

NOTES:
A HAY BALE BARRIER IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF A ROW OF ENTRENCHED AND ANCHORED BALES OF STRAW OR HAY. THE HAY BALE BARRIER IS ALSO USED AS A CHECK DAM TO REDUCE THE VELOCITY IN SMALL DITCHES OR SWALES. THE HAY BALES SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL.
A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A HAY BALE BARRIER ARE:

1. USE WHERE EROSION WOULD OCCUR IN THE FORM OF SHEET AND RILL EROSION
2. USE IN MINOR SWALES OR DITCHES WHERE THE MAXIMUM DRAINAGE AREA IS 2 ACRES
3. ONLY USE WHERE THE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS
4. DO NOT USE IN LIVE STREAMS OR IN SWALES OR DITCHES WHERE THERE IS A POSSIBILITY OF A WASHOUT

SHEET NUMBER 206

PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED JCM / CHECKED	DETAILED KAJ / CHECKED JCM	DATE 1-14-94 / SHEET 1 OF 2

NO.	DATE	REVISION DESCRIPTION	BY
1	10-1-08	REMOVE SPECIFIC PAY ITEM NOS., GENERAL REVISIONS	MH

APPROVED BY CHIEF ENGINEER: Wm. H. Temples

DATE: 10.1.08

TEMPORARY EROSION CONTROL DETAILS

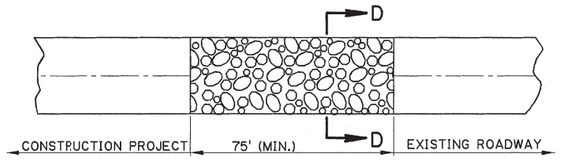
STANDARD PLAN EC-01

HYDRAULICS SECTION

8/15/2018 07:10

IP_PWP:dms09544\EC-01(SHEET 1).dgn

8/15/2018 07:10



PLAN



SECTION D-D

TEMPORARY STONE CONSTRUCTION ENTRANCE

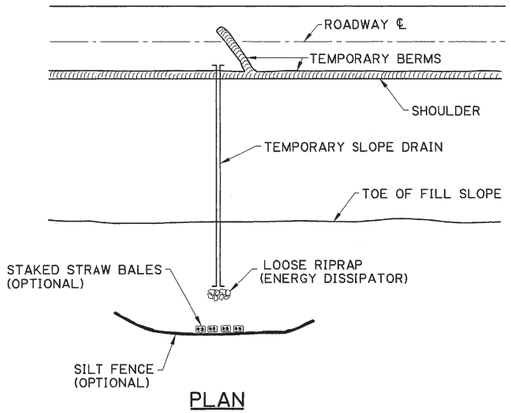
PAY ITEM: TEMPORARY STONE CONSTRUCTION ENTRANCE

NOTES:

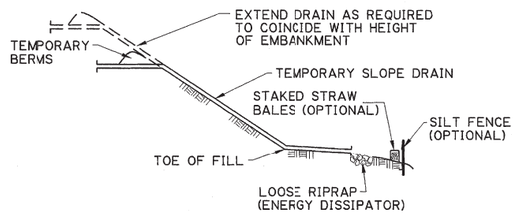
TEMPORARY STONE CONSTRUCTION ENTRANCE AND/OR WASH RACK

A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON THE CONSTRUCTION SITE TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PUBLIC ROADS. IF THE ACTION OF THE VEHICLE TRAVELING OVER THE GRAVEL PAD IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF THE MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLE ENTERS A PUBLIC ROAD. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A STONE ENTRANCE AND/OR WASH RACKS ARE:

1. THE STONE LAYER MUST BE AT LEAST 6 INCHES THICK.
2. THE STONE SHALL CONFORM TO PROJECT SPECIFICATIONS FOR RIPRAP (CLASS 2 LB).
3. THE LENGTH OF THE PAD MUST BE A LEAST 75 FEET AND IT MUST EXTEND THE FULL WIDTH OF THE VEHICULAR INGRESS AND EGRESS.
4. A GEOTEXTILE FABRIC UNDERLINER IS REQUIRED. THE GEOTEXTILE FABRIC SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR GEOTEXTILE FABRIC (CLASS D).
5. IF A WASH RACK IS NECESSARY, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF-SITE.



PLAN



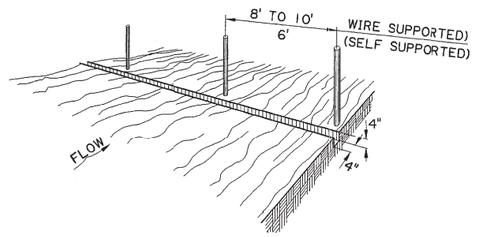
ELEVATION

TEMPORARY SLOPE DRAIN

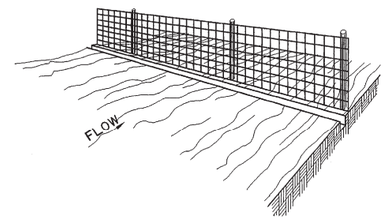
A TEMPORARY SLOPE DRAIN IS A DEVICE USED TO CARRY WATER FROM THE CONSTRUCTION WORK AREA TO A LOWER ELEVATION. SLOPE DRAINS MAY BE PLASTIC SHEET, METAL OR PLASTIC PIPE, STONE GUTTERS, FIBER MATS, OR CONCRETE OR ASPHALT DITCHES. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A TEMPORARY SLOPE DRAIN ARE:

1. THE SPACING OF THE SLOPE DRAINS VARIES WITH THE ROAD GRADE.
   FOR GRADES: 0.0% - 2.0% USE 500' SPACING
   2.1% - 5.0% USE 200' SPACING
   GREATER THAN 5.0% USE 100' SPACING
2. SLOPE DRAIN MATERIAL: SMOOTH PIPE - 8" MINIMUM - 3 MILS THICK MIN.
   CORRUGATED PIPE - 12" MINIMUM
   PLASTIC SHEETING - 4' WIDE MINIMUM
   PLASTIC SHEETING - 3 MILS THICK MIN.
3. PLASTIC SHEETING CAN BE STAKED DOWN OR WEIGHTED WITH ROCKS OR LOGS. THE AREA UNDER THE SHEETING SHOULD BE SHAPED TO PROVIDE AN ADEQUATE CHANNEL.
4. THE OUTLET END SHOULD BE PROTECTED OR HAVE SOME MEANS OF DISSIPATING ENERGY. THE FLOW SHOULD BE DIRECTED THROUGH A SEDIMENT TRAP SUCH AS A SILT FENCE, HAY BALES, OR OTHER APPROVED SEDIMENT CONTROL DEVICES.
5. TO INSURE PROPER OPERATION, TEMPORARY SLOPE DRAINS SHOULD BE INSPECTED REGULARLY AND AFTER EACH STORM, FOR CLOGGING OR DISPLACEMENT. EROSION AT THE OUTLET SHOULD BE CHECKED AND THE SILT TRAPS CLEANED IF NECESSARY.

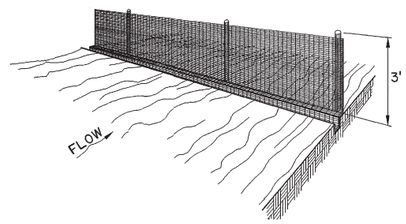
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.



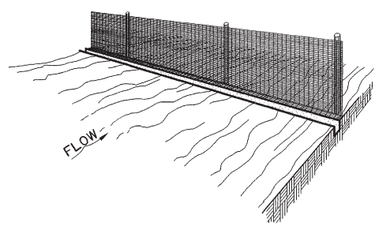
2. STAPLE WIRE FENCING TO THE POSTS.



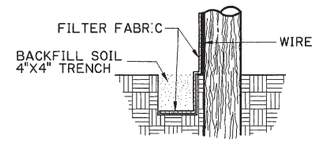
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT EXCAVATED SOIL.



EXTENSION OF FABRIC INTO THE TRENCH.



CONSTRUCTION OF TEMPORARY SILT FENCING

(WIRE SUPPORTED SILT FENCE IS SHOWN. SELF SUPPORTED SILT FENCE WILL BE CONSTRUCTED ACCCRDING TO MANUFACTURERS SPECIFICATIONS.)

NOTES:

SILT FENCING IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF A FILTER FABRIC SUPPORTED BY POSTS AND STRETCHED ACROSS AN AREA TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT. THE SILT FENCING SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL. A FEW BASIC GUIDELINES FOR THE USE OF SILT FENCING ARE:

1. USE WHERE EROSION WOULD OCCUR IN THE FORM OF SHEET AND RILL EROSION
2. USE WHERE THE MAXIMUM DRAINAGE AREA BEHIND THE SILT FENCE IS 1/4 ACRE PER 100 FEET OF SILT FENCE LENGTH
3. USE WHERE THE MAXIMUM SLOPE LENGTH BEHIND THE BARRIER IS 100 FEET
4. USE THERE THE MAXIMUM GRADIENT BEHIND THE BARRIER IS 2:1
5. DO NOT USE SILT FENCES IN LIVE STREAMS OR IN DITCHES OR SWALES WHERE FLOWS EXCEED ONE CUBIC FOOT PER SECOND

SHEET NUMBER 207

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED JCM
CHECKED
DETAILED KAJ
CHECKED JCM
DATE 1-14-94
SHEET 2 OF 2

BY	REVISION DESCRIPTION	DATE
MH	REMOVE SPECIFIC PAY ITEM NOS., GENERAL REVISIONS	10-1-08

DATE: 10-1-08

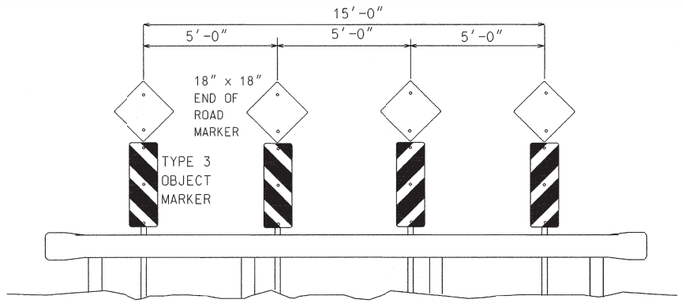
APPROVED BY CHIEF ENGINEER: Wilbert L. Temple

TEMPORARY EROSION CONTROL DETAILS

STANDARD PLAN EC-01

HYDRAULICS SECTION

IP_PWP:dms09544\EC-01(SHEET 2).dgn



END-OF-ROADWAY INSTALLATION

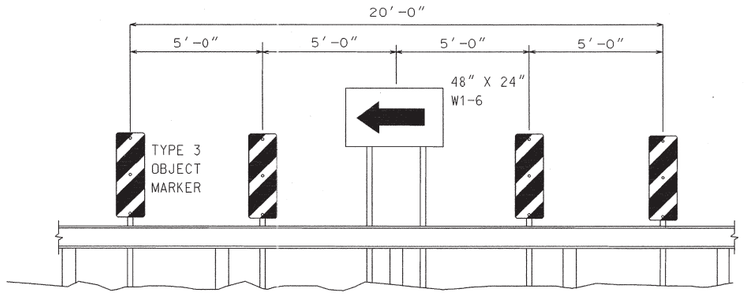
DEAD END ROAD INSTALLATION

(TYPE A - WITH GUARD RAIL, TYPE D - WITHOUT GUARDRAIL)

For End of Road installation Object Marker stripes shall slope downward toward the center.

Guardrail to be installed in accordance with guardrail Standard Plans.

Typical installation requires 25 ft. of rail with flared end sections.



TURN INSTALLATION

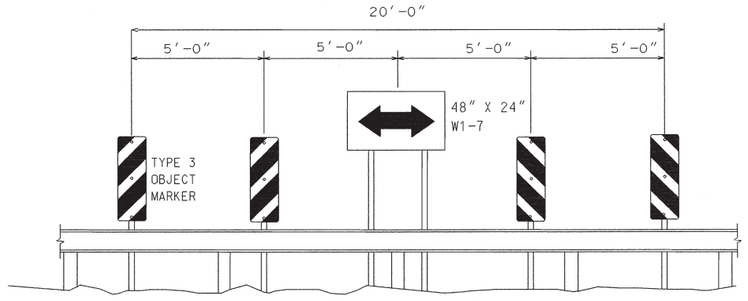
DEAD END ROAD INSTALLATION

(TYPE B - WITH GUARD RAIL, TYPE C - WITHOUT GUARDRAIL)

For Turn installations Object Marker stripes shall slope downward toward the direction of travel.

Guard rail to be installed in accordance with guardrail Standard Plans.

Typical installation requires 25 ft. of rail with flared end sections.



T-INTERSECTION INSTALLATION

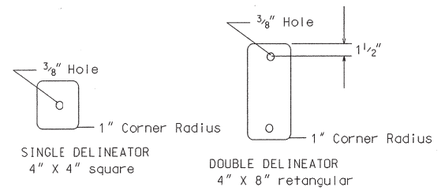
DEAD END ROAD INSTALLATION

(TYPE B - WITH GUARD RAIL, TYPE C - WITHOUT GUARDRAIL)

For T-intersection installations Object Marker stripes shall slope away from center.

Guardrail to be installed in accordance with guardrail Standard Plans.

Typical installation requires 25 ft. of rail with flared end sections.



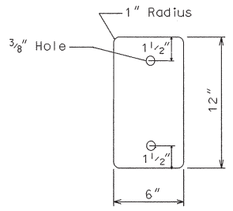
DETAIL OF DELINEATORS

Colors shall be red, white, or yellow.
The sheeting shall be in accordance with DOTD Standard Specification

For alternate Delineator/Flexible Post systems see the DOTD Approved Materials List. Alternates shall have an equivalent area of sheeting and shall not be less than 3 in. wide.

The mounting height shall be the same as for Milepost Markers.

Post penetration in ground shall be a minimum of 2 ft.

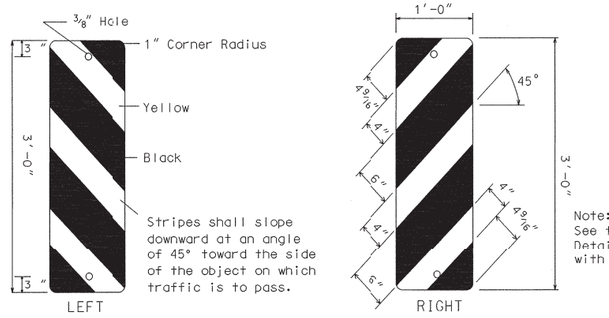


DETAIL OF TYPE 2 OBJECT MARKER

The face shall be yellow. The sheeting shall be in accordance with DOTD Standard Specification. The typical mounting height from the ground line to the bottom of the object marker shall be 36 in.

Post penetration in ground shall be a minimum of 2 ft.

Type 2 Object Markers are typically used in the right-of-way to mark objects for mowing operations.



Note: For mile markers on conventional roads. See the details shown on the Special Signing Details sheets-B. This is in accordance with MUTCD signs D10-4 & D10-5 in Figure 2H-4.

DETAIL OF TYPE 3 OBJECT MARKER

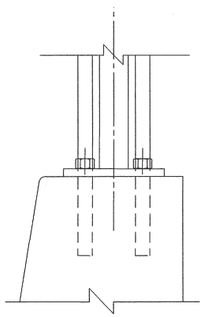
The markings on the Object Markers shall be diagonal, black and yellow stripes. The sheeting shall be in accordance with DOTD Standard Specifications.

Post penetration in ground shall be a minimum of 3 ft.

Type 3 Object Markers are typically used to mark objects in the roadway (travel lanes and shoulder) and to mark guard rail installation (see guard rail Standard Plans) .

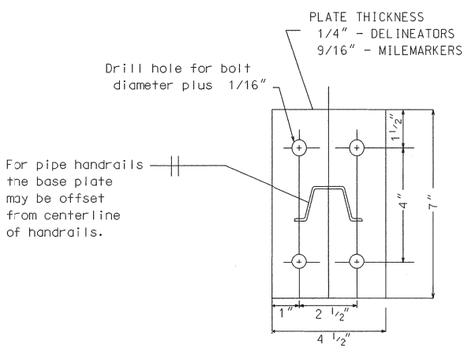
When used for marking objects in the roadway or objects that are 8 ft. or less from the shoulder or curb, the mounting height to the bottom of the object marker should be at least 4 ft. above the surface of the nearest traffic lane.

When used to mark objects more than 8 ft. from the shoulder or curb, the mounting height to the bottom of the object marker should be at least 4 ft. above the ground.



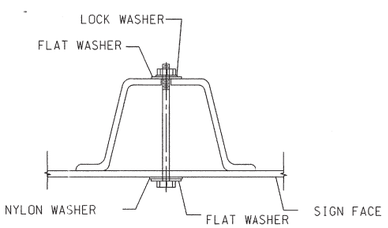
Anchor Bolts
1/4 in. plate - 5/16 in. x 4 in. bolt
9/16 n. plate - 1/2 in. x 5 in. bolt

For bolt anchors see DOTD Approved Materials List.



Steel base plate and channel posts shall be galvanized after fabrication.

DETAIL FOR MOUNTING SIGN POST TO CONCRETE BARRIER RAIL



Steel U-channel sign post shall have 3/8 in. dia. holes drilled in channel on 1 in. centers from top of post. Steel tube post (Min. 2.23 lb/ft) may be used in lieu of U-channel posts.

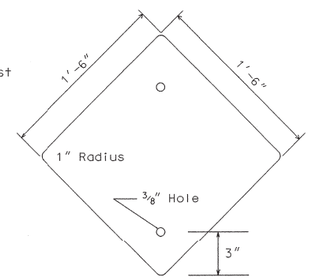
Post Weight: 2.0 lbs/ft - DELINEATORS and TYPE 2 OBJECT MARKERS
2.5 lbs/ft - MILEMARKERS and TYPE 3 OBJECT MARKERS
3.0 lbs/ft - WARNING SIGNS, W1-6, W1-7

Fasteners shall be either bolts or rivets.

Bolts shall be 5/16 in. diameter electroplated steel hex head bolts with one nylon washer, two flat washers, one lock washer, and one vandal resistant hex nut.

Rivets shall be vandal resistant 1/4 in. diameter aluminum blind rivets with smooth, low profile heads on each end.

DETAIL FOR MOUNTING SIGN TO U-CHANNEL POST



DETAIL OF END OF ROAD MARKER

Colors shall be red.

The sheeting shall be in accordance with DOTD Standard Specification.

The minimum mounting height from the ground line to the bottom of the marker shall be 5 ft.

Post peretration in ground shall be a minimum of 3 ft.

MOUNTING DETAILS

SHEET NUMBER 208

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED J. COLVIN
CHECKED P. ALLAIN
DETAILED M.D.ORDOGNE
CHECKED J. COLVIN
DATE 02/13/2013
SHEET

REVISION DESCRIPTION | BY | DATE: 4-17-2018

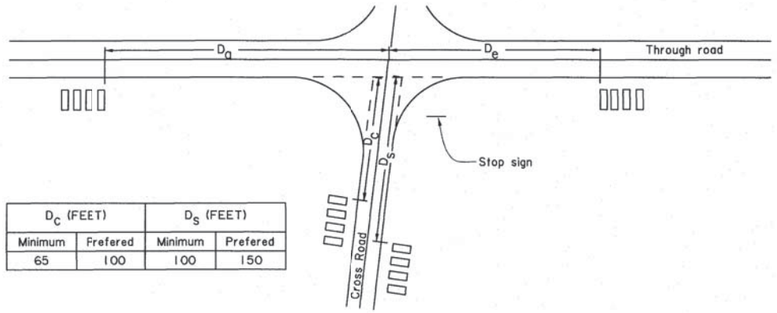
APPROVED BY CHIEF ENGINEER: Jeanne P. Williams

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

OBJECT MARKERS AND DEAD END ROAD INSTALLATION

STANDARD PLAN HS-03

TRAFFIC ENGINEERING



D_c (FEET)		D_s (FEET)	
Minimum	Prefered	Minimum	Prefered
65	100	100	150

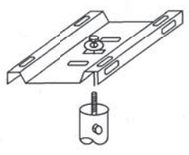
Through Road Speed (M.P.H.)	D_a (FEET)		D_e (FEET)		
	$n\ V_c\ V_m \leq 4000$	$n\ V_c\ V_m > 4000$	$\frac{V_c}{1.5n-.5} \leq 50$	$50 < \frac{V_c}{1.5n-.5} \leq 400$	$\frac{V_c}{1.5n-.5} > 400$
35	65	200	65	100	100
≥ 55	65	295	150	150	200

V_c = Average daily traffic on cross road (vehicles per day)

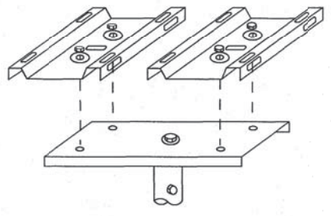
V_m = Average daily traffic on through road (vehicles per day)

n = Number of mailboxes at mail stop

MINIMUM CLEARANCES TO NEAREST MAILBOX IN MAIL STOPS AT INTERSECTIONS

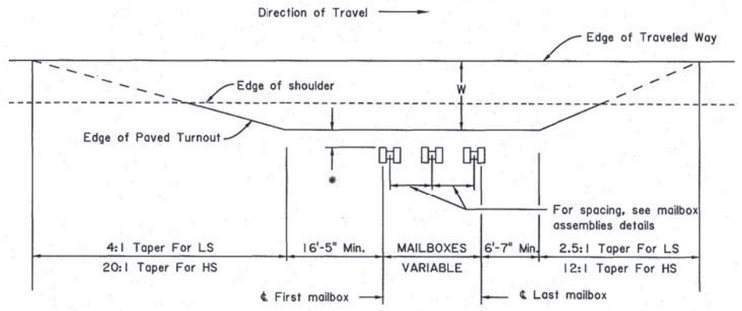


SINGLE MAILBOX MOUNT



DOUBLE MAILBOX MOUNT

SINGLE AND DOUBLE
MAILBOX MOUNTS
SERIES C



LS = A Minimum Design for Roads Carrying Low-Speed Traffic and for Local and Collector Roads.
HS = For Roads Carrying High-Speed Traffic.
W = For Suggested Widths, see Table Below.
MAILBOXES = A Minimum Design for Roads Carrying Low-Speed Traffic and for Local and Collector Roads.
* = For Mailbox Face Offset, see Table Below, 0" - 12".

DETAIL OF MAILBOX TURNOUT

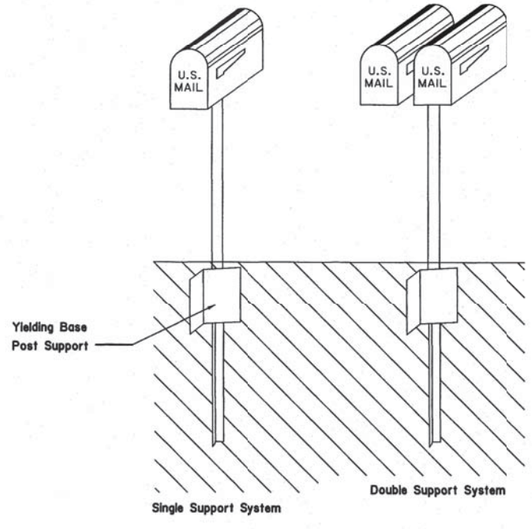
*** Suggested Guidelines for Lateral Placement of Mailboxes**

Highway Type and ADT (vpd)	Width of All-Weather Surface Turnout or Available Shoulder At Mailbox[a] (ft)		Distance Roadside Face of Mailbox is to be Offsset Behind Edge of Turnout or Usable Shoulder (in)	
	Preferred	Minimum	Preferred	Minimum
Rural Highway Over 10,000	12	8	6 to 8	0
Rural Highway 1,500 to 10,000	12	8		
Rural Highway 400 to 1,500	10	8		
Rural Highway Over 10,000	8	6[b]		6[c]
Residential Street Without Curb or All-Weather Shoulder	6	0		
Curbed Residential Street	Not Applicable		8 to 12[d]	6[d]

Notes: ADT = average daily traffic
vpd = vehicles per day

a) If increase access is needed, the following may be considered in conjuction with the local postmaster:
- Provide a level clear space 30 in. by 48 in. centered on the box for either side or forward approach.
- Provide an accessible passage to and from the mailbox and project into a circulation route--no more than 4 in. if between 28 in. and 80 in.-- so that the mailbox does not become a protruding object for pedestrians with impaired vision.

b) Provide an accessible passage to and from the mailbox. The mailbox projection into a circulation route shall not be more than 4 in., so that the mailbox does not become a protruding object for pedestrians with impaired vision.
c) If a turnout is provided, this may be reduced to zero.
d) Behind traffic-face of curb.



EXAMPLES OF
SINGLE AND DOUBLE MAILBOX INSTALLATIONS ⊗
SERIES C

⊗ Note: Support frame and foundation shown are proprietary products.

Notes:

No mailbox will be permitted where access is obtained from the lanes of a freeway or where access is otherwise prohibited by law or regulation.

Mailboxes shall be located on the right-hand side of the roadway in the direction of delivery route except on one-way streets where they may be placed on either side. The bottom of the box shall be set at an elevation (H) established by the U.S. Postal Service, usually between 3'4" and 4'0" above the roadway surface. The roadside face of the box shall be offset from the edge of the traveled way, see the Suggested Guidelines for Lateral Placement of Mailboxes at left.

All mailbox installations must conform to the requirements of the U.S. Postal Service.

Where a mailbox is located at a driveway entrance, it shall be placed on the far side of the driveway in the direction of the delivery route. For location of mailboxes at an intersecting roadway, see detail at left.

Mailboxes shall be of light sheet metal or plastic construction manufactured by an approved manufacturers conforming to the requirements of the U.S. Postal Service. Mailboxes must be full-scale crash tested in accordance with the latest edition of MASH. Newspaper delivery boxes shall be of light sheet metal or plastic construction of minimum dimensions suitable for holding a newspaper.

Manufacturers whose mailboxes have been approved by the Postmaster General will be listed in the Postal Operation Manual (POM) and published in the Postal Bulletin.

No more than two mailboxes may be mounted on a support structure unless the support structure and mailbox arrangement have been shown to be safe by crash testing in accordance with the latest edition of MASH. However, lightweight newspaper boxes may be mounted below the mailbox on the side of the mailbox support.

Mailbox supports shall not be set in concrete unless the support design has been shown to be safe by crash testing in accordance with the latest edition of MASH when so installed.

Posts shall be strong enough to support the box, but capable of bending when struck by an automobile or a light truck. Maximum strength posts are either a metal post with a strength no greater than a 2" diameter standard strength steel pipe or a 2#/ft flanged channel or a 4"x4" wooden post. Posts are acceptable mailbox supports when embedded no more than 24" into the ground. A metal post shall not be fitted with an anchor plate, but may have an anti-twist device that extends no more than 10" below the ground surface.

The post-to-box attachment shall be of sufficient strength to prevent the box from separating from the post top if the installation is struck by an automobile or light truck.

The minimum spacing between the centers of support posts shall be three-fourths the height of the posts above the ground line

Mailbox support designs not detailed will be acceptable if full-scale crash tested in accordance with the latest edition of MASH and if approved by the engineer.

For post-to-box attachment details, see sheet 2 of 2.

MASH - Manual for Assessing Safety Hardware.

STATE OF LOUISIANA
HAI D. VU
REG. No. 34755
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
8/28/17

SHEET NUMBER 209

PARISH | CONTROL SECTION | STATE PROJECT

DESIGNED H. VU
CHECKED S. ARDOIN
DETAILED H. VU
CHECKED S. ARDOIN
DATE MAY 2017
SHEET 1 OF 2

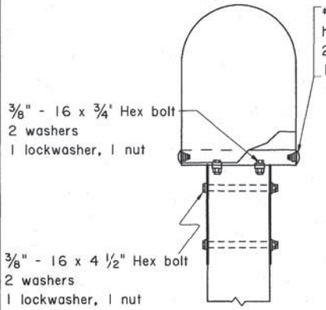
REVISION DESCRIPTION | BY | DATE: 8-25-17

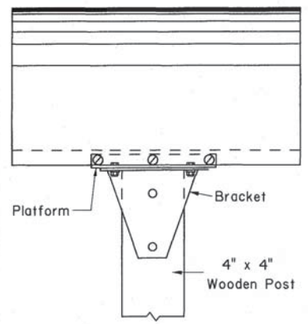
DATE | APPROVED BY: CHIEF ENGINEER: Jessie P. Williams

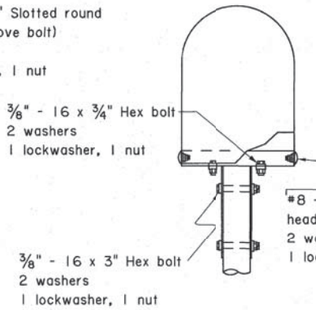
MAILBOX INSTALLATION DETAILS

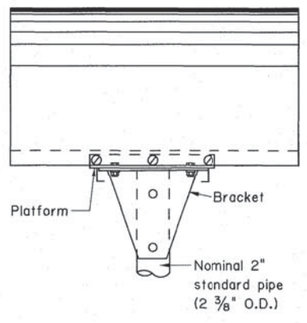
MB-01

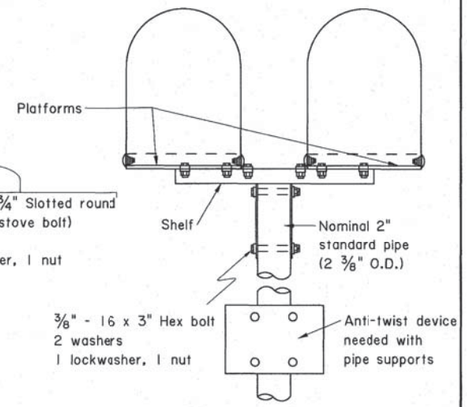
DOTD ROAD DESIGN



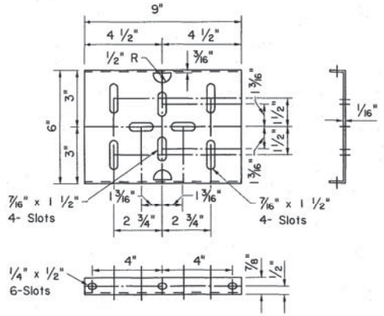




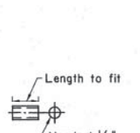


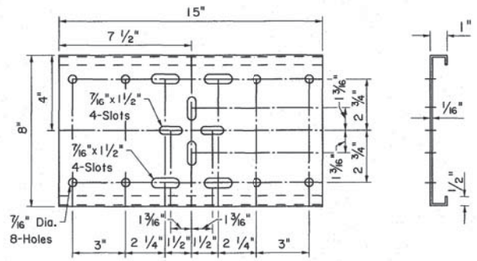


SINGLE AND DOUBLE
MAILBOX ASSEMBLIES
SERIES A

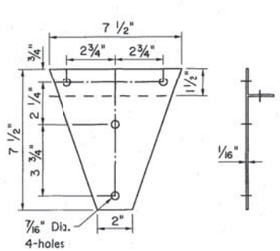


PLATFORM





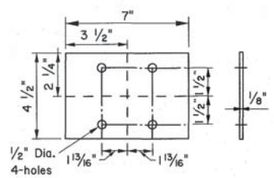
SHELF



BRACKET



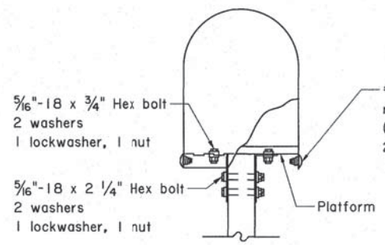
CLAMP

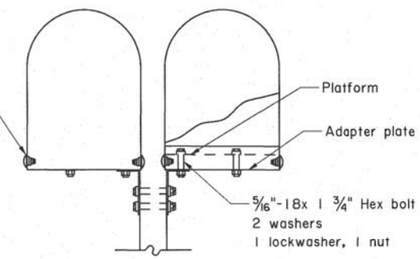


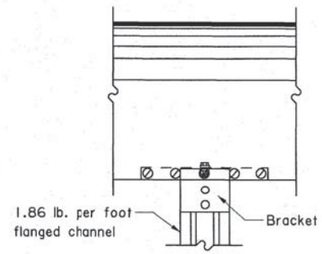
ANTI-TWIST DEVICE

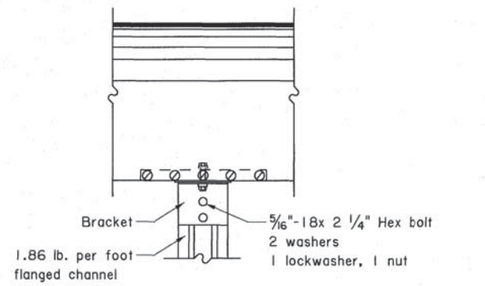


MAILBOX SUPPORT HARDWARE SERIES A

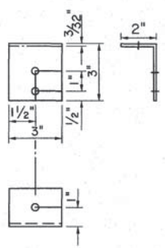








SINGLE AND DOUBLE MAILBOX ASSEMBLIES
SERIES B



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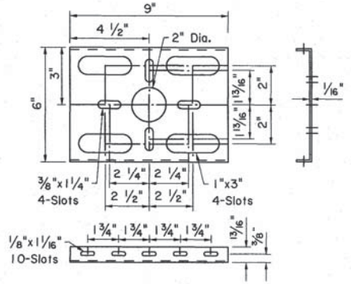
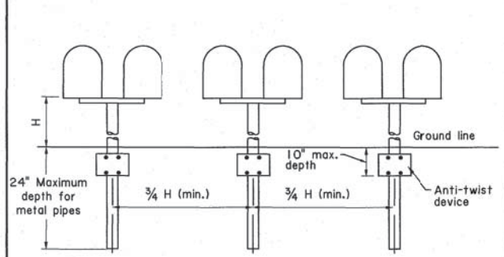
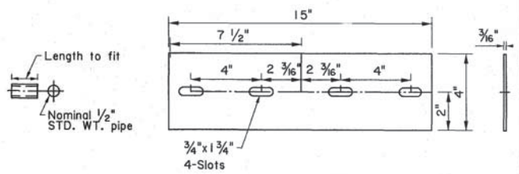


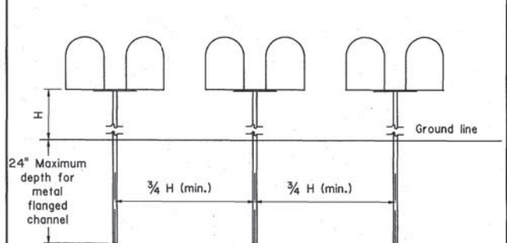
PLATFORM



SPACING FOR MULTIPLE POST INSTALLATION
SERIES A



SPACER



ADAPTER PLATE

MAILBOX SUPPORT HARDWARE
SERIES B

SPACING FOR MULTIPLE POST INSTALLATION
SERIES B

SHEET NUMBER 210

DESIGNED	H. VU
CHECKED	S. ARDOIN
DETAILED	H. VU
CHECKED	S. ARDOIN

PARISH | CONTROL SECTION | STATE PROJECT

DATE | MAY 2017
SHEET | 2 OF 2

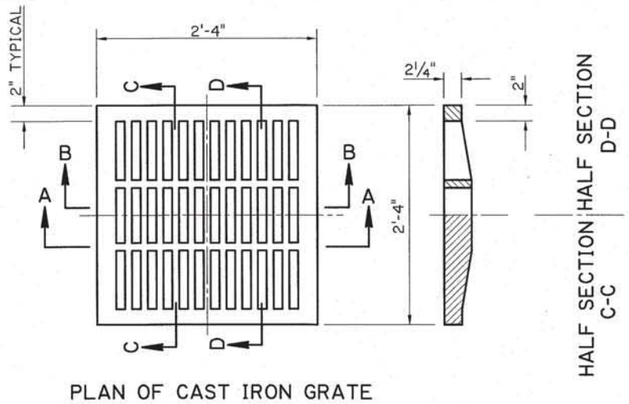
BY | REVISION DESCRIPTION | DATE: 8/28/17

APPROVED BY CHIEF ENGINEER: Jamie P. Williams

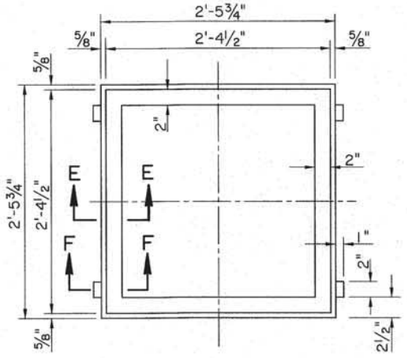
MAILBOX INSTALLATION DETAILS

MB-01

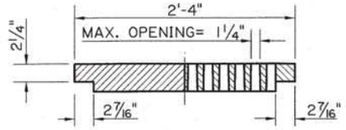
DOTD ROAD DESIGN



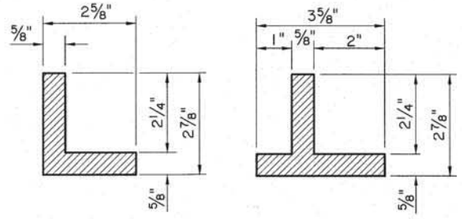
PLAN OF CAST IRON GRATE



PLAN OF CAST IRON FRAME



HALF SECTION A-A | HALF SECTION B-B

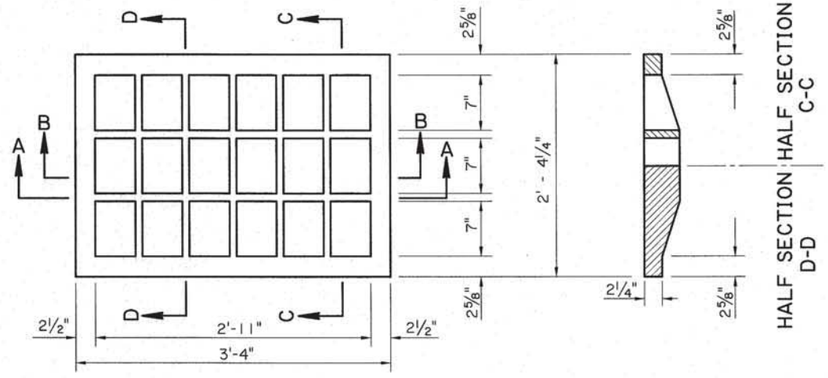


SECTION E-E SECTION F-F

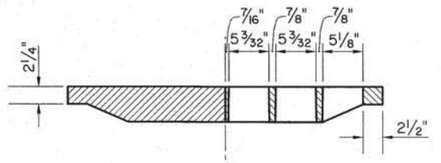
TYPE "A"

CAST IRON GRATE & FRAME

MIN. OPENING = 290 SQ. IN. AREA



PLAN OF CAST IRON GRATE



HALF SECTION A-A | HALF SECTION B-B

TYPE "B"

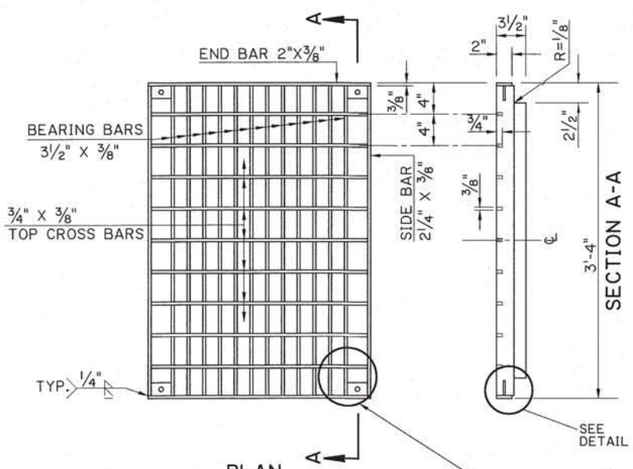
CAST IRON GRATE

NOTE: UNLESS OTHERWISE STATED, TYPE "E" FRAME WILL BE USED WITH THIS GRATE.

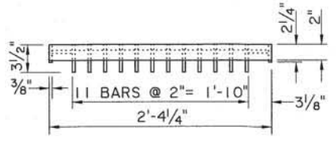
TYPE "C"

STEEL DRAIN GRATE

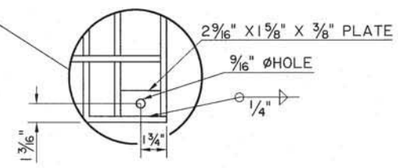
NOTES:
1. GRATES TO BE GALVANIZED AFTER FABRICATION.
2. UNLESS OTHERWISE STATED, TYPE "E1" FRAME IS TO BE USED WITH THESE GRATES. (SEE SHEET 2)
3. SUPPLIER OF GRATE ALSO IS TO FURNISH PRE-FITTED GRATE FRAME.



PLAN



ELEVATION



HOLD-DOWN PLATE

WELDED & SEALED DRAIN GRATE

ALL JOINTS FULL DEPTH ¼" FILLET WELDS WITH SEAL WELDS TOP AND BOTTOM UNLESS NOTED OTHERWISE.

ALL BEARING BARS TO BE SET FLUSH ON GRATE FRAME.

WEIGHT OF DRAIN GRATE = 233 LBS. ± 5%

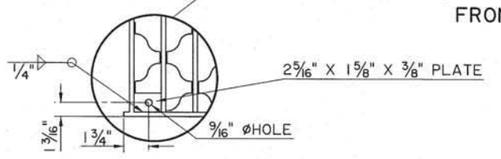
RIVETED RETICULINE DRAIN GRATE (ALTERNATE)

ALL JOINTS FULL DEPTH ¼" FILLET WELDS WITH SEAL WELDS TOP AND BOTTOM UNLESS NOTED OTHERWISE.

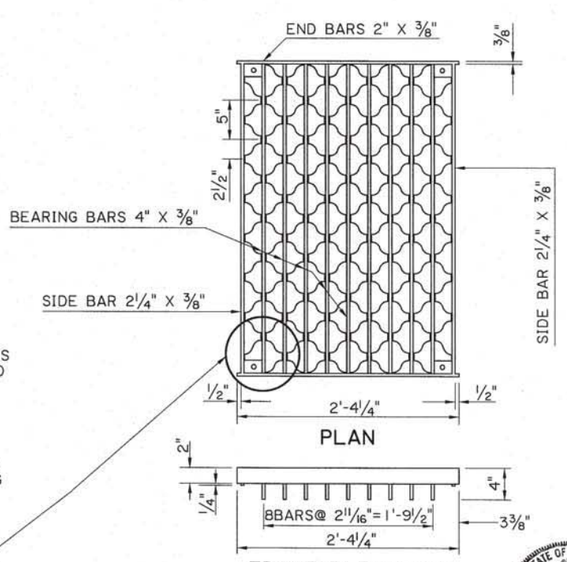
ALL BEARING BARS TO BE SET FLUSH ON GRATE FRAME.

CENTER TO CENTER OF BEARING BARS EQUAL 2 5/16" PLUS BEARING BAR THICKNESS.

WEIGHT OF DRAIN GRATE = 266 LBS. ± 5%



HOLD-DOWN PLATE

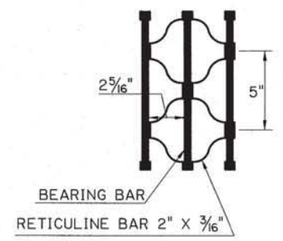


PLAN

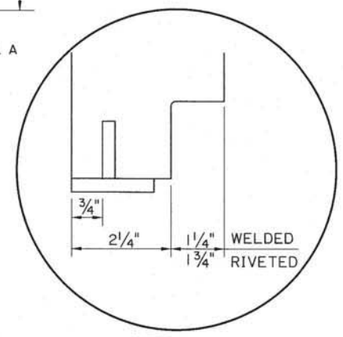
FRONT ELEVATION



SIDE ELEVATION



DRAIN GRATE DETAIL (ALTERNATE)



DETAIL A

STATE OF LOUISIANA
ALDEN M. ALLEN
REG. No. 20252
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
5-25-2018

DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

STANDARD PLAN NO. MC-01

HYDRAULICS SECT.

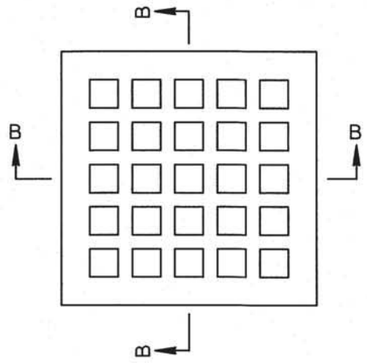
SHEET NUMBER	211

PARISH	CONTROL SECTION	STATE PROJECT

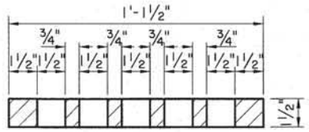
DESIGNED	AMA
CHECKED	AMA
DETAILED	TL
CHECKED	AMA
SERIES NUMBER	9/01/17
	1 OF 6

REVISION DESCRIPTION	BY	DATE
		5/25/18

APPROVED BY CHIEF ENGINEER



PLAN

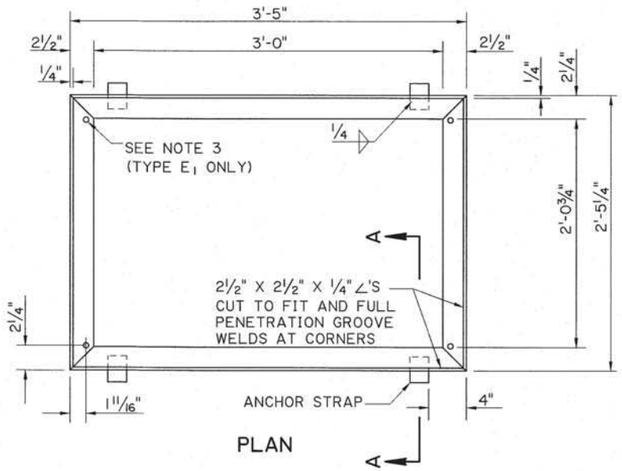


SECTION B-B

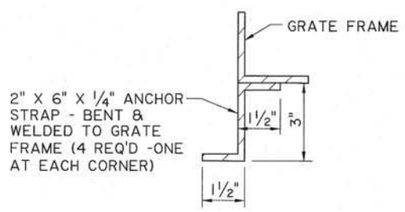
TYPE "D"

CAST IRON GRATE

WEIGHT OF CASTING = 49 LBS



PLAN

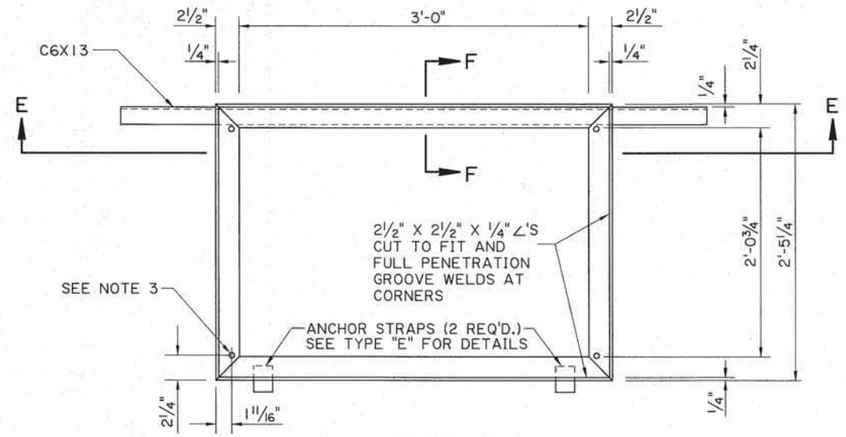


SECTION A-A

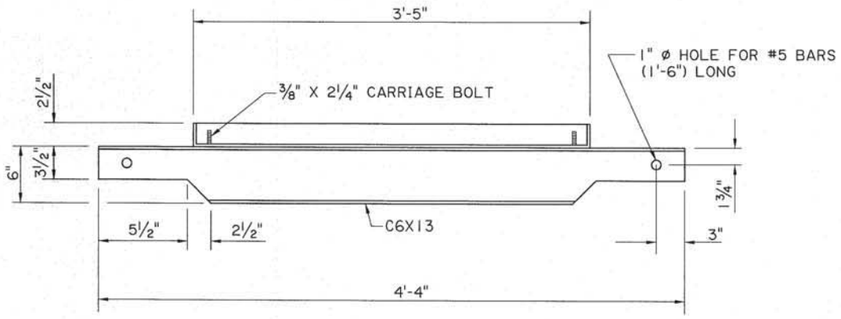
TYPE "E" AND "E₁"

STEEL GRATE FRAME

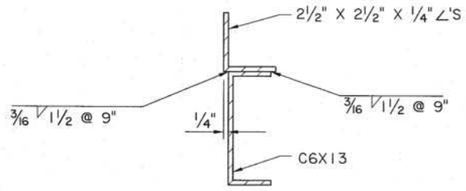
NOTES:
1. GRATE FRAME TO BE GALVANIZED AFTER FABRICATION
2. WEIGHT OF GRATE FRAME = 52 LBS
3. SQUARE PUNCH HOLE PRIOR TO GALVANIZING. ADD A ⅜ ø x 2¼" LONG -16 UNC ROUND HEAD SQUARE NECK CARRIAGE BOLT WITH JAM NUT, HEX HEAD NUT, AND FLAT WASHER (ALL STAINLESS STEEL) AFTER FRAME IS GALVANIZED.



PLAN



SECTION E-E



SECTION F-F

TYPE "F"

STEEL GRATE FRAME

NOTES:
1. GRATE FRAME TO BE GALVANIZED AFTER FABRICATION
2. WEIGHT OF GRATE FRAME = 52 LBS ± 5%
3. SQUARE PUNCH HOLE PRIOR TO GALVANIZING. ADD A ⅜ ø x 2¼" LONG -16 UNC ROUND HEAD SQUARE NECK CARRIAGE BOLT WITH JAM NUT, HEX HEAD NUT, AND FLAT WASHER (ALL STAINLESS STEEL) AFTER FRAME IS GALVANIZED.

STATE OF LOUISIANA
ALDEN M. ALLEN
REG. No. 20252
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
5-25-2018

SHEET NUMBER 212

PARISH	CONTROL SECTION	STATE PROJECT

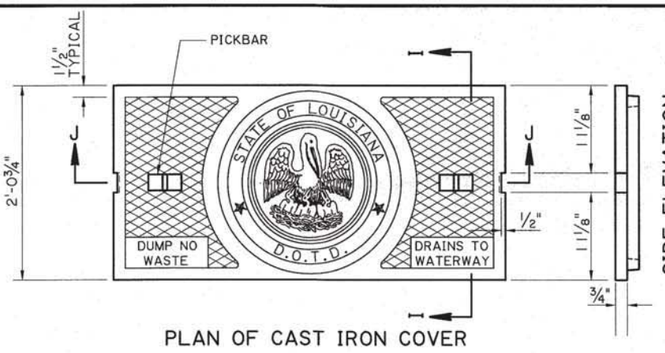
DESIGNED AMA	DETAILED TL	SERIES NUMBER	DATE: 5/25/18
CHECKED AMA	CHECKED AMA	9/01/17 2 OF 6	

REVISION DESCRIPTION — BY — DATE — APPROVED BY CHIEF ENGINEER:

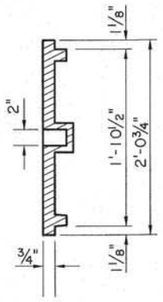
DOTD — HYDRAULICS SECT.

DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

STANDARD PLAN NO. MC-01

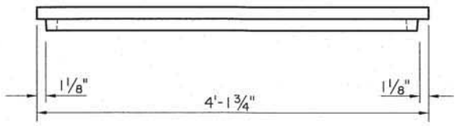


PLAN OF CAST IRON COVER

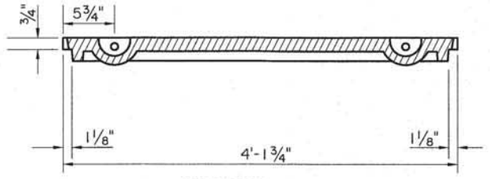


SIDE ELEVATION

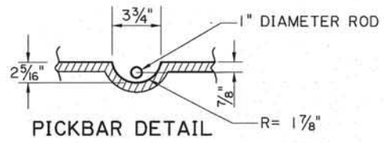
SECTION I-I



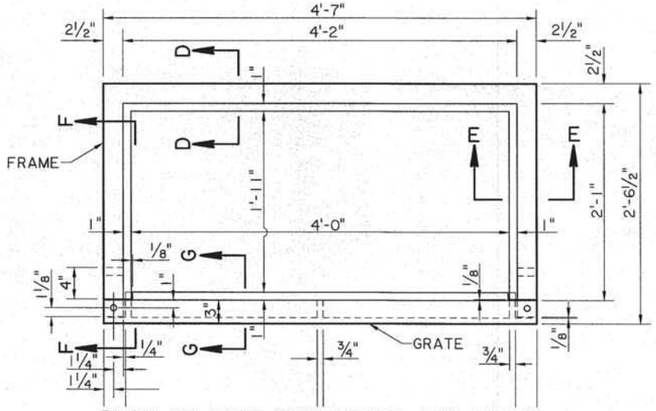
FRONT ELEVATION OF CAST IRON COVER



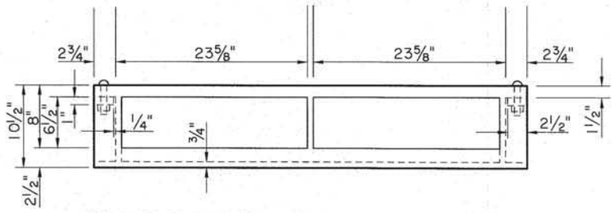
SECTION J-J



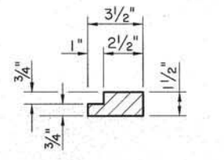
PICKBAR DETAIL



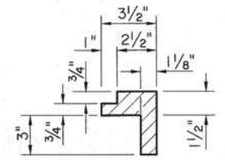
PLAN OF CAST IRON GRATE AND FRAME



FRONT ELEVATION OF CAST IRON GRATE

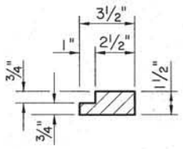


FOR CATCH BASIN "H"

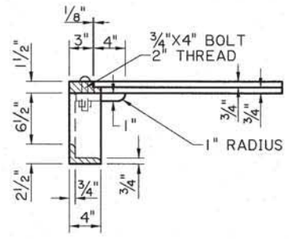


FOR PAVED GUTTER "H₁"

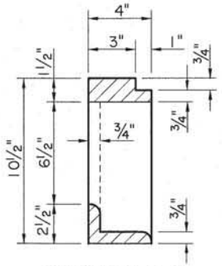
SECTION D-D



SECTION E-E



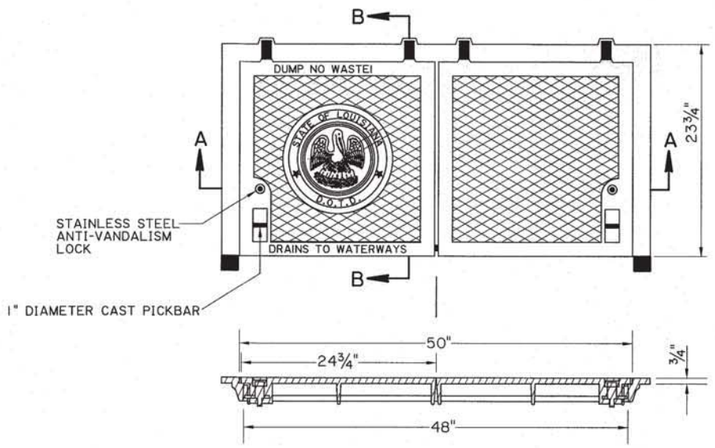
SECTION F-F



SECTION G-G

TYPE "H" AND "H₁"

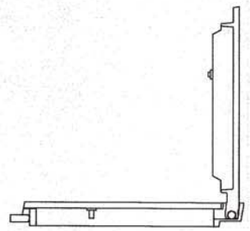
CAST IRON COVER, GRATE AND FRAME



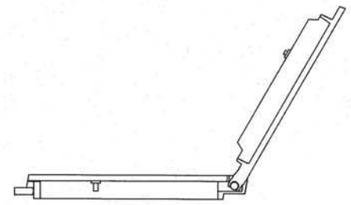
SECTION A-A



SECTION B-B



COVER AT 90 DEGREES
SAFETY STOP POSITION



COVER FULLY OPEN
TO 120 DEGREES

TYPE "H_S"

CAST IRON COVER AND FRAME SHOWN (SEE GRATE ABOVE)

STATE OF LOUISIANA
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PROFESSIONAL ENGINEER
5-25-2018

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PARISH

CONTROL SECTION

STATE PROJECT

DESIGNED AMA
CHECKED AMA
DETAILED TL
CHECKED AMA
SERIES NUMBER 9/01/17
3 OF 6

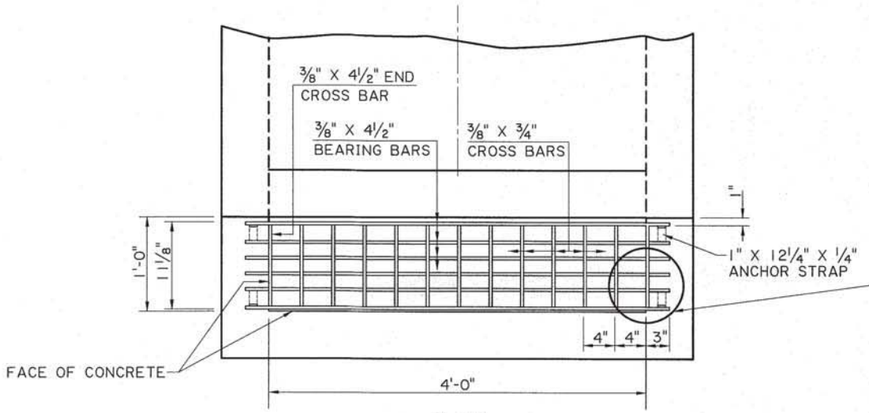
REVISION DESCRIPTION | BY | DATE: 5/25/18

DATE
APPROVED BY
CHIEF ENGINEER:

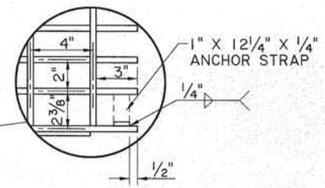
DOTD
HYDRAULICS SECT.

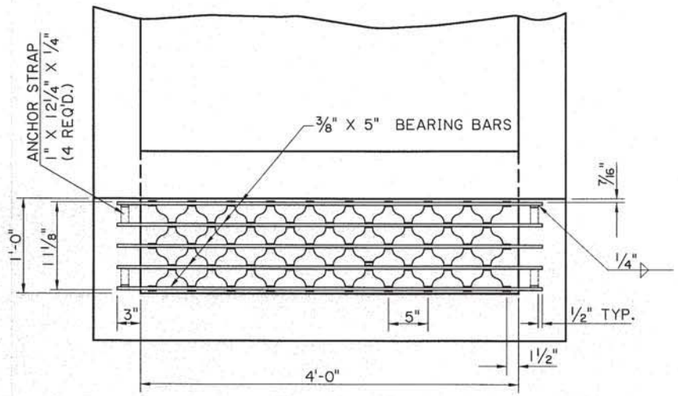
STANDARD PLAN | MC-01

DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

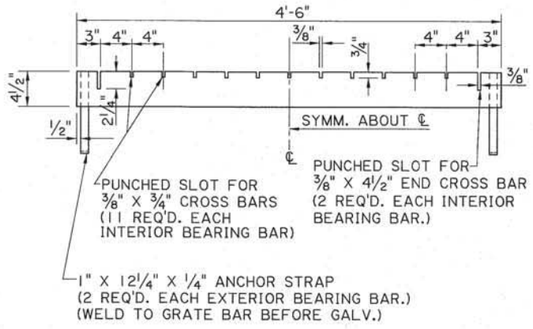


PLAN





PLAN

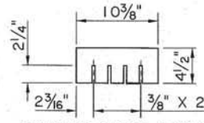


ELEVATION

WELDED & SEALED DRAIN GRATE

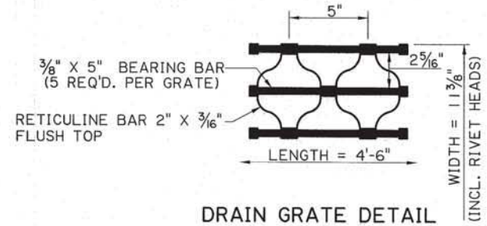
ALL JOINTS FULL DEPTH 1/4" FILLET WELDS WITH SEAL WELD TOP AND BOTTOM UNLESS NOTED OTHERWISE.

WEIGHT OF DRAIN GRATE = 185 LBS. ± 5%

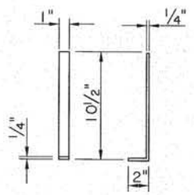


PUNCHED SLOTS @ 2" CTRS.

3/8"X4 1/2" END CROSS BAR
(2 REQ'D. PER GRATE)



DRAIN GRATE DETAIL
(ALTERNATE)



STEEL ANCHOR STRAP
(4 REQ'D. PER GRATE)

RIVETED RETICULINE DRAIN GRATE (ALTERNATE)

CENTER TO CENTER OF BEARING BARS EQUAL 2 11/16".

WEIGHT OF DRAIN GRATE = 176 LBS. ± 5%

TYPE " I "

STEEL DRAIN GRATE

GRATE TO BE GALVANIZED AFTER FABRICATION.

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PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED AMA
CHECKED AMA
DETAILED TL
CHECKED AMA
SERIES NUMBER 9/01/17
4 OF 6

REVISION DESCRIPTION | BY | DATE: 5/25/18

APPROVED BY CHIEF ENGINEER: DATE

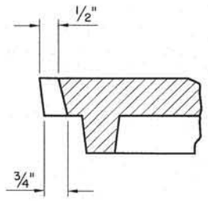
DOTD HYDRAULICS SECT.

STANDARD PLAN NO. MC-01

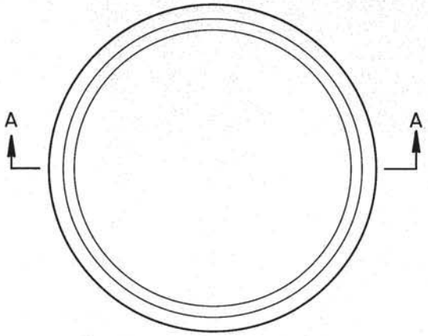
DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES



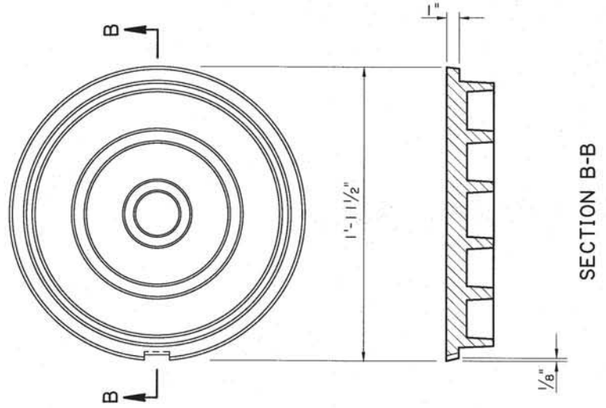
PLAN OF CAST IRON COVER



PICKSLOT DETAIL

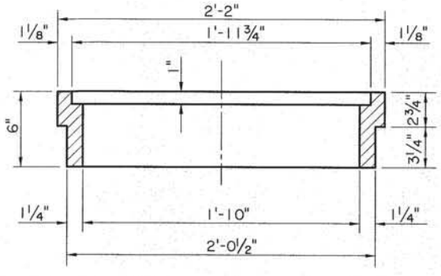


PLAN OF CAST IRON FRAME



SECTION B-B

BOTTOM OF CAST IRON COVER

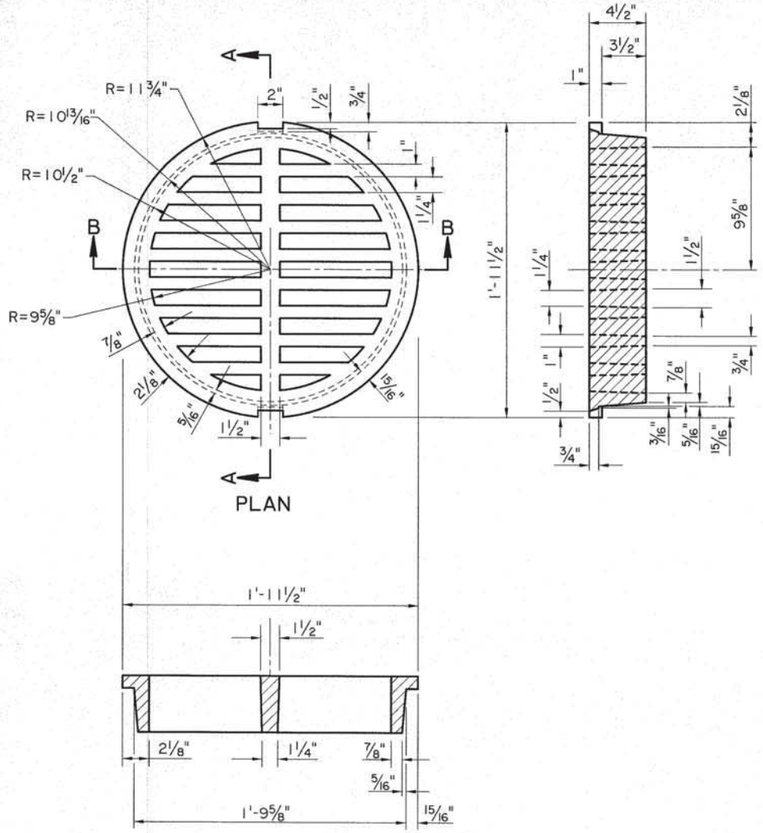


SECTION A-A

TYPE "K"

CAST IRON COVER & FRAME

PICKBAR DETAIL LEFT TO FABRICATOR



PLAN

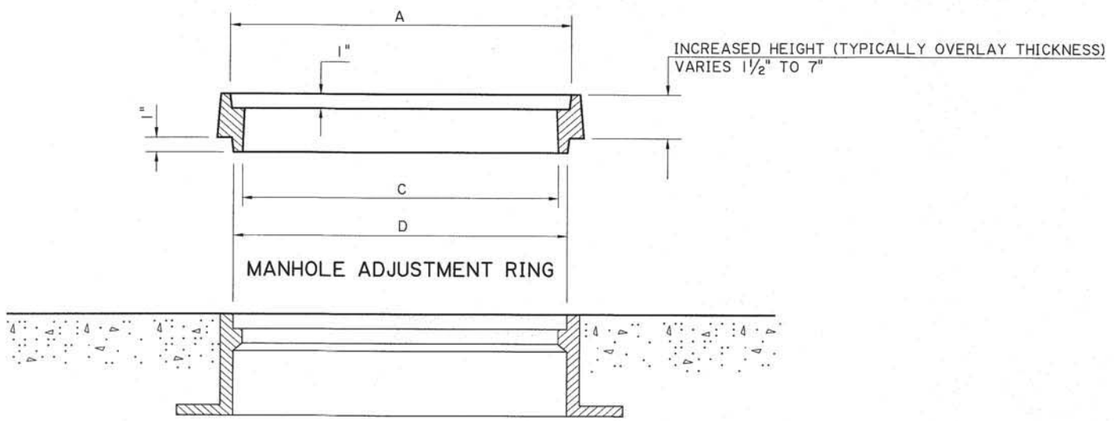
SECTION A-A

SECTION B-B

TYPE "K$_1$"

CAST IRON GRATE

NOTES: 1. APPROX. WEIGHT OF CAST IRON COVER = 250 LBS.
2. TO BE USED WITH TYPE "K" CAST IRON FRAME.



EXISTING GRATE SEAT

MANHOLE ADJUSTMENT RINGS		
A (IN.)	C (IN.)	D (IN.)
23 1/2	22 1/4	23 1/2
23 3/4	22 1/2	23 3/4

MANHOLE ADJUSTMENT RING

CAST IRON OR STEEL

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DESIGNED	AMA	PARISH		
CHECKED	AMA			
DETAILED	TL	CONTROL SECTION		
CHECKED	AMA			
SERIES NUMBER	9/01/17 5 OF 6	STATE PROJECT		

REVISION DESCRIPTION	BY	DATE: 5/25/18

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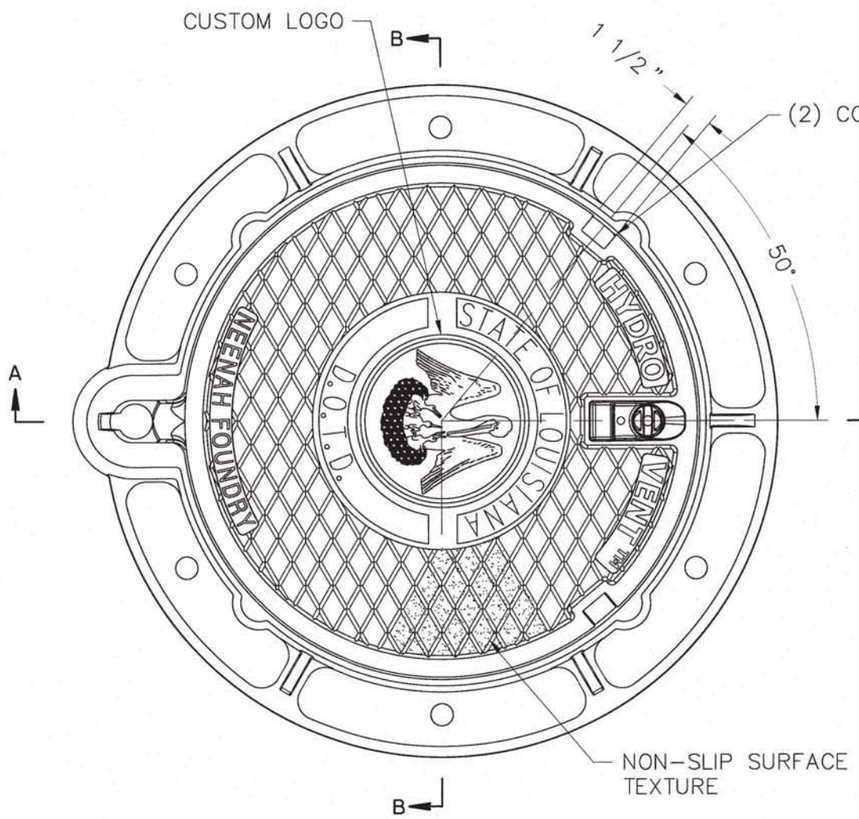
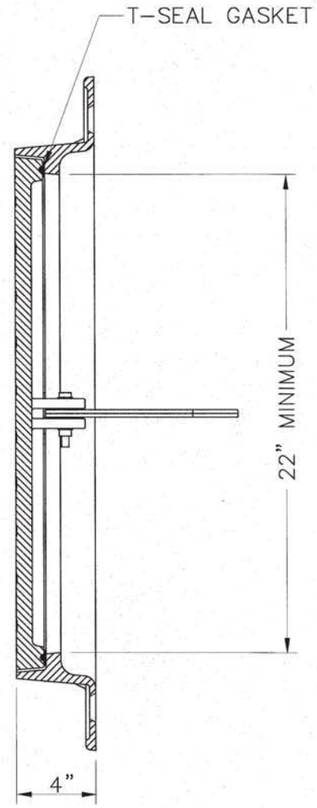
DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

STANDARD PLAN MC-01

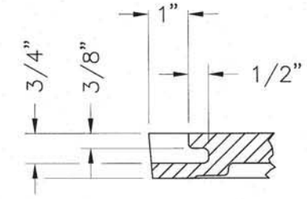
DOTD HYDRAULICS SECT.



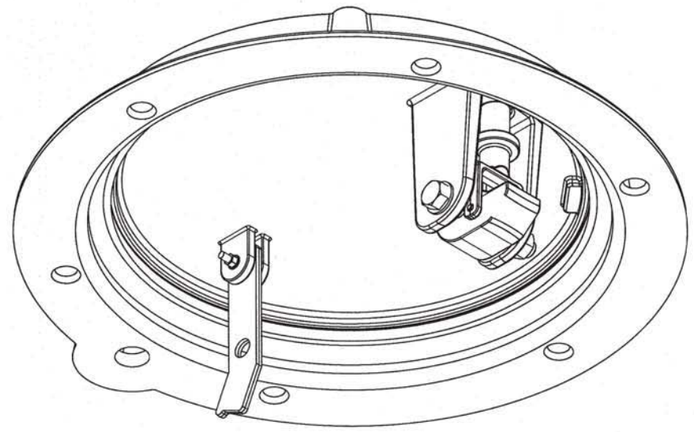
PLAN OF CAST IRON COVER



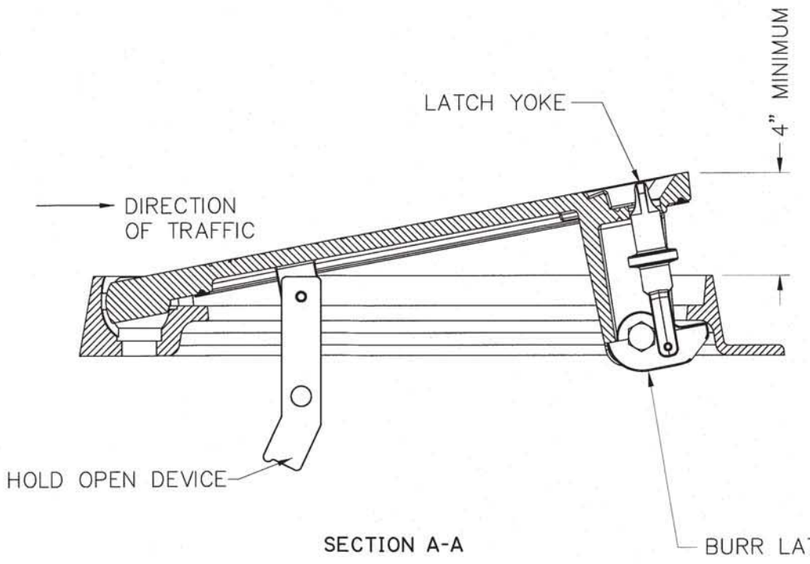
SECTION B-B



CONCEALED PICKHOLE DETAIL



ISOMETRIC BOTTOM VIEW



SECTION A-A

VENTING MANHOLE

CAST IRON COVER AND FRAME

NEENAH FOUNDRY 1650-HV SHOWN
EJ STORMSURGE 24 APPROVED BUT NOT SHOWN

STATE OF LOUISIANA
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5-25-2018

SHEET NUMBER 216

PARISH | CONTROL SECTION | STATE PROJECT

DESIGNED AMA
CHECKED AMA
DETAILED TL
CHECKED AMA
SERIES NUMBER 12/01/17 6 OF 6

REVISION DESCRIPTION | BY | DATE: 5/25/18

APPROVED BY CHIEF ENGINEER:

DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES

STANDARD PLAN MC-01

DOTD HYDRAULICS SECT.

8/15/2018 07:11

GENERAL NOTES:

1) THESE PRECAST UNITS ARE TO BE USED AS THE LOWER PORTION OF A COMPOSITE STRUCTURE. THE CAST-IN-PLACE FINISHING DETAILS ARE SHOWN ON OTHER STANDARD PLANS.

2) DESIGNED ACCORDING TO 4TH ED. 2007 AASHTO LRFD PROCEDURES. LA DOTD STANDARD SPECIFICATIONS SHALL APPLY.

3) CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI BEFORE ACCEPTANCE & SHIPPING OF UNITS. REINFORCING STEEL TO BE GRADE 60.

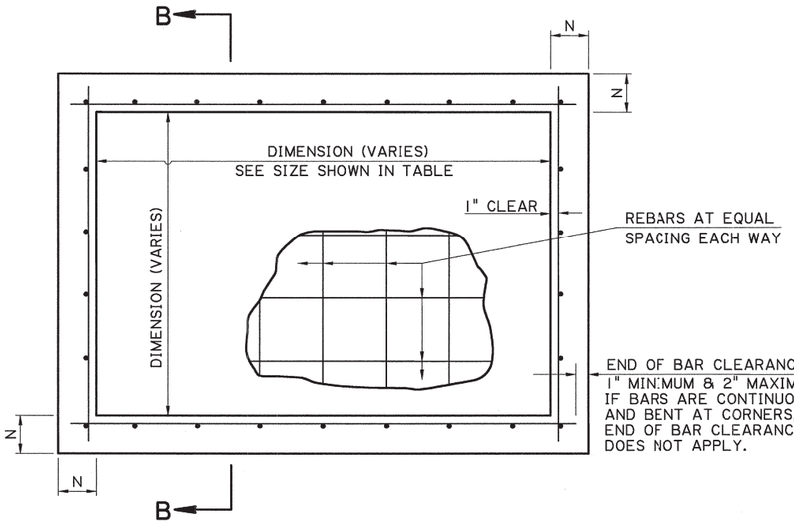
4) PIPE OPENING TO BE FORMED ONLY WHEN REQUIRED. OTHERWISE, WALL SECTION SHALL BE AS SHOWN.

5) PIPE OPENING TO BE OUTSIDE DIAMETER (O.D.) OF PIPE + 4"± ½".

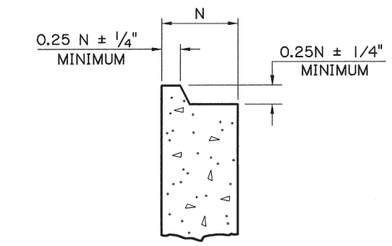
6) PIPE TO BE GROUTED IN AFTER INSTALLATION. FOR 42" PIPE AND GREATER, CONCRETE COLLAR TO BE USED.

7) JOINTS BETWEEN PRECAST UNITS TO BE SEALED WITH FLEXIBLE PLASTIC GASKET MATERIAL AND WRAPPED WITH A 12" WIDTH OF GEOTEXTILE FABRIC (SEE LADOTD QPL).

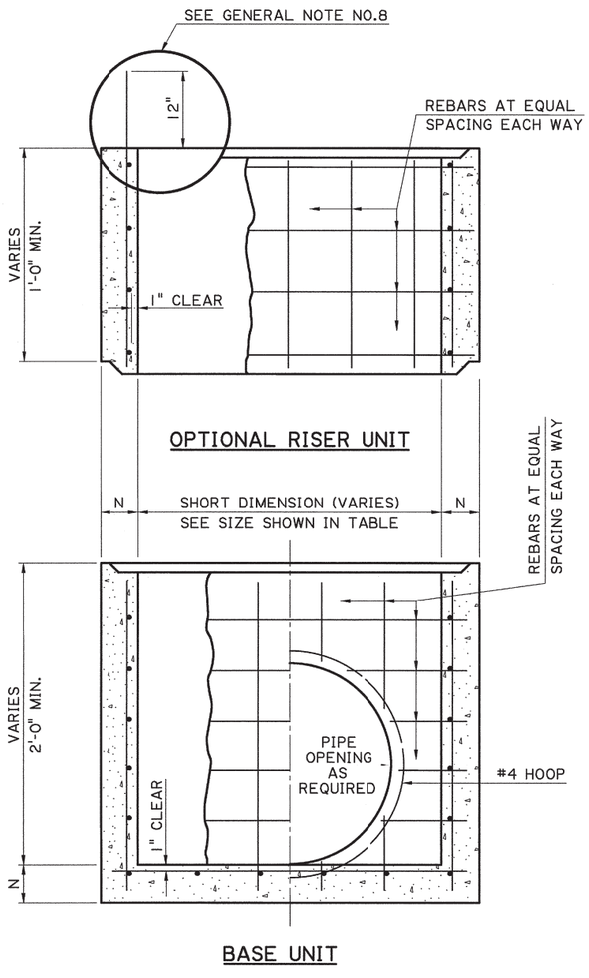
8) JOINT BETWEEN CAST-IN-PLACE SECTION AND PRECAST UNIT TO BE TONGUE AND GROOVE AND SEALED WITH TYPE II GRADE A EPOXY (SEE LADOTD QPL) OR FLAT JOINT WITH A MINIMUM OF 12" OF NO. 4 BARS AT 18" CTRS. (MAX.) EXTENDED ABOVE THE JOINT.



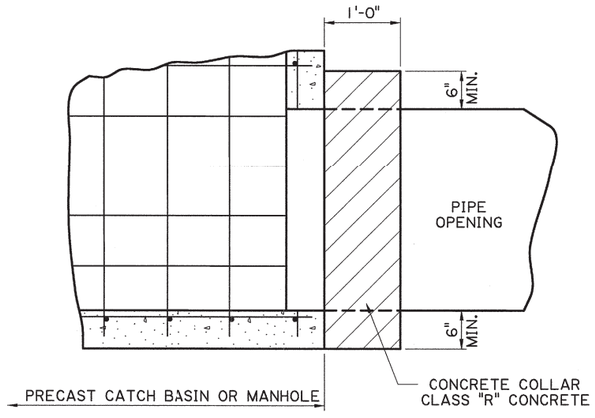
PLAN



JOINT DETAIL

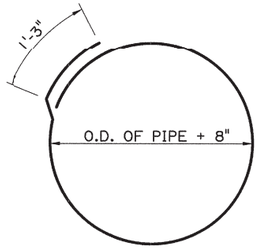


SECTION B-B

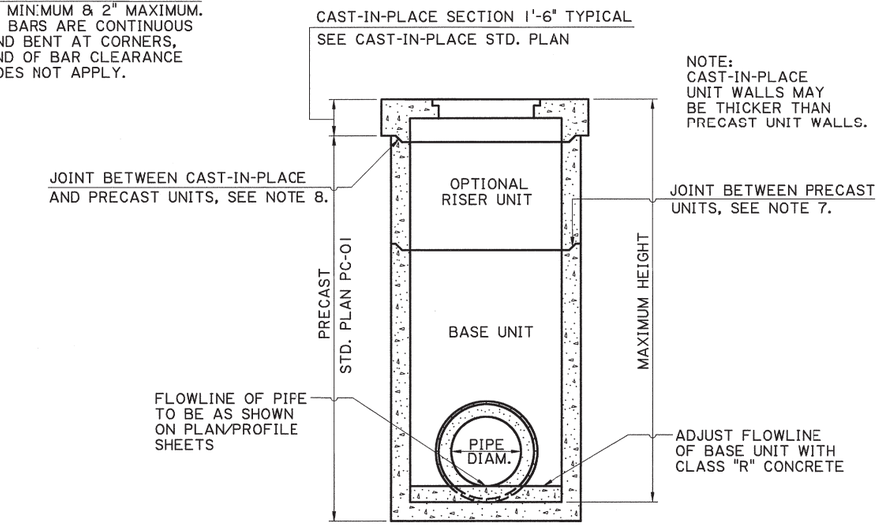


COLLAR DETAIL
(PARTIAL SECTION)

NOTE: CONCRETE COLLAR IS REQUIRED FOR 42" PIPE AND GREATER. COST OF CONCRETE COLLAR TO BE INCLUDED IN COST OF PRECAST STRUCTURE.



#4 HOOP



TYPICAL COMPOSITE STRUCTURE

PRECAST UNITS FOR CATCH BASINS & MANHOLES

MAXIMUM HEIGHT	N	4' MAX. DIMENSION			6' MAX. DIMENSION			8' MAX. DIMENSION			10' MAX. DIMENSION		
		⊙TYPICAL SIZES 3'X3' 4'X4'			⊙TYPICAL SIZES 6'X4' 6'X6'			⊙TYPICAL SIZES 8'X4' 8'X6' 8'X8'			⊙TYPICAL SIZES 10'X4' 10'X6' 10'X8' 10'X10'		
FT.	IN.	BAR SIZE	SPAC.* IN.	As⊠ IN²/FT.	BAR SIZE	SPAC.* IN.	As⊠ IN²/FT.	BAR SIZE	SPAC.* IN.	As⊠ IN²/FT.	BAR SIZE	SPAC.* IN.	As⊠ IN²/FT.
8	4	4	8	0.30									
8	6	4	12	0.20	4	8	0.30	4	5.5	0.44	5	5.5	0.68
14	6	4	9	0.27	4	6	0.40	5	5	0.74	5	4.0	0.93
20	6	4	7	0.34	4	4.5	0.53						

⊙ OTHER SIZES ARE ACCEPTABLE AS LONG AS THE DIMENSIONS DO NOT EXCEED THE MAXIMUM DIMENSIONS.

* BAR SPACING APPLIES TO BOTH DIRECTIONS AND AT ALL LOCATIONS.

⊠ BAR SIZES AND SPACING MAY DIFFER FROM VALUES SHOWN, BUT THE AREA OF STEEL (A_s) SHALL BE EQUAL TO OR GREATER THAN VALUE SHOWN, AND BAR SPACING SHALL NOT EXCEED 12 INCHES. THE AREA OF STEEL (A_s) MAY BE PROVIDED WITH WELDED STEEL WIRE FABRIC.

SHEET NUMBER 217

PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED PAA	DETAILED KAJ	DATE 2-21-90
CHECKED	CHECKED PAA	SHEET 1 OF 1

REVISION DESCRIPTION	BY	DATE
Added Collar Detail, New Sheet, Drafting & Note Revisions	WMR	3-1-11
EDITORIAL	PAA	4-16-90

APPROVED BY CHIEF ENGINEER:

DATE: 3-1-11

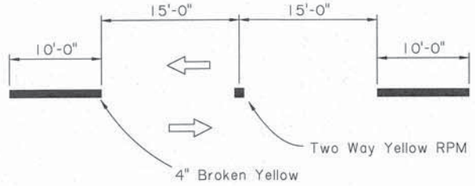
PRECAST CATCH BASINS AND MANHOLES

STANDARD PLAN PC-01

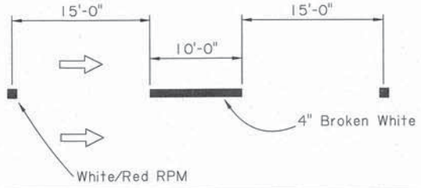
HYDRAULICS SECTION

IP_PWP:dms09544\PC-01.dgn

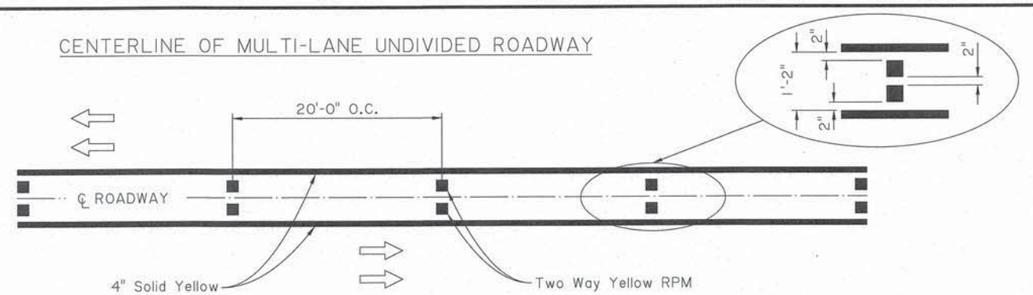
Ⓐ CENTERLINE OF TWO-LANE ROADWAY WITH TWO-WAY TRAFFIC



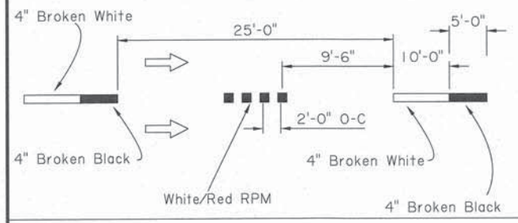
Ⓑ LANE LINE BETWEEN LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION



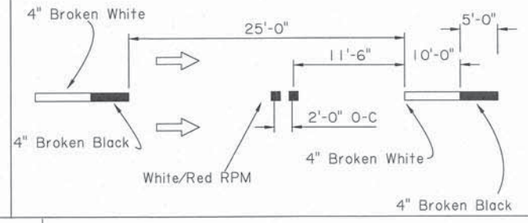
Ⓒ CENTERLINE OF MULTI-LANE UNDIVIDED ROADWAY



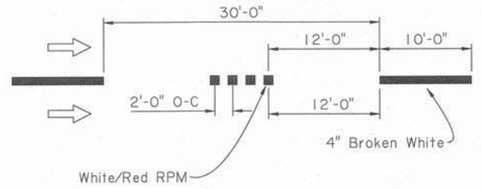
Ⓓ CONTRAST LANE LINE BETWEEN LANES ON PORTLAND CEMENT CONCRETE ADT ≥ 80,000



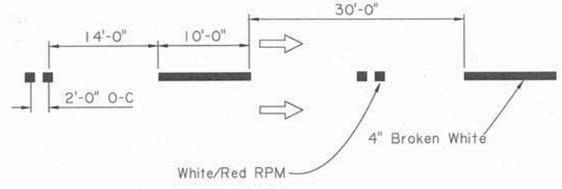
Ⓔ CONTRAST LANE LINE BETWEEN LANES ON PORTLAND CEMENT CONCRETE ADT < 80,000



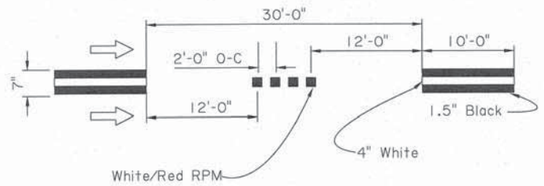
Ⓕ LANE LINE BETWEEN LANES ON ASPHALT CONCRETE WITH ADT ≥ 80,000



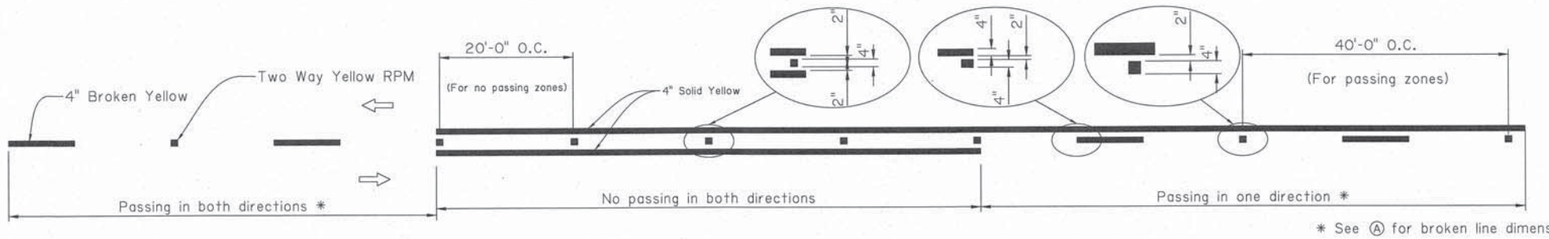
Ⓖ LANE LINE BETWEEN LANES ON ASPHALT CONCRETE WITH ADT < 80,000



Ⓗ CONTRAST LANE LINE BETWEEN LANES ON PORTLAND CONCRETE ADT ≥ 80,000

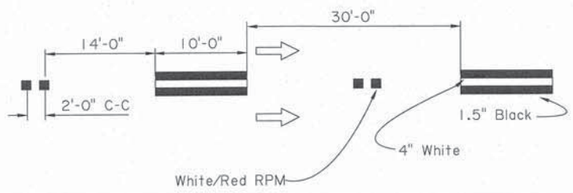


Ⓘ CENTERLINE OF TWO-LANE ROADWAY WITH TWO-WAY TRAFFIC WITH PASSING RESTRICTIONS



* See Ⓐ for broken line dimensions.

Ⓙ CONTRAST LANE LINE BETWEEN LANES ON PORTLAND CONCRETE ADT < 80,000



Ⓚ TYPE A DOTTED

Used for entrance, exit and auxiliary lanes, lane drop markings and shared use bicycle paths.



Note: Width and color shall match line extending unless otherwise noted.

Ⓛ TYPE B DOTTED

Used for lane line extensions through intersections, turn lane taper markings, edge line extensions and bulb outs.



Note: Width and color shall match line extending unless otherwise noted.

GENERAL NOTES:

1. 4" Edge lines shall be placed on all roadways.
2. Place edge lines, centerlines and lane lines to avoid longitudinal joints as directed by the project engineer.
3. Edge lines in a curb and gutter section should be kept out of the gutter and clear from debris.
4. If rumble strips are used, striping details remain unchanged.
5. Centerlines shall be placed on roadways with a traveled way width of 16 feet or greater.
6. Where the clear width of a bridge is less than the clear width of the roadway, reflectorized pavement markers shall be placed adjacent to the edge line at 20' centers.
7. ⇨ indicates the direction of travel (not a pavement marker).
8. For non-interstate striping, use one Raised Reflectorized Pavement Marker.
9. White Reflectorized Pavement Marker faces same direction traffic and red faces opposing traffic.

STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 28220
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

2-27-19

SHEET NUMBER 218

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED	G. LEBLANC
CHECKED	J. COLVIN
DETAILED	K. WILLIAMS
CHECKED	G. LEBLANC
DATE	
SHEET	

DATE 2/28/19

APPROVED BY: CHIEF ENGINEER

PM-01

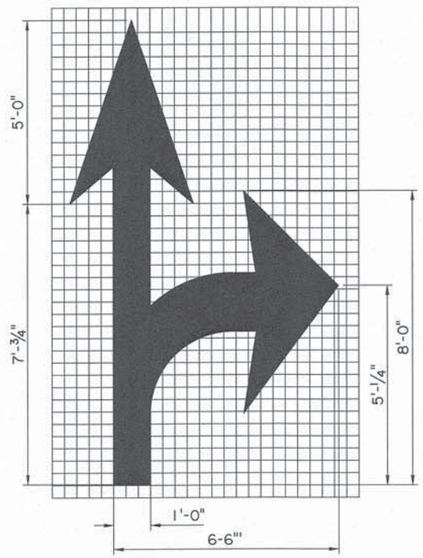
Centerline and Edgeline Markings

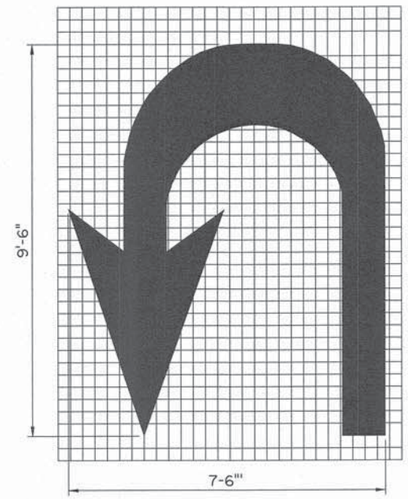
PAVEMENT MARKING DETAILS

DOTD

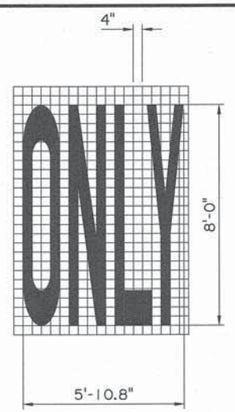
TRAFFIC ENGINEERING

(A) TURN ARROW AND ONLY WORD MARKING

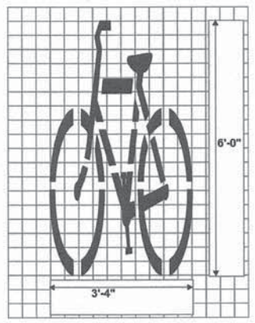




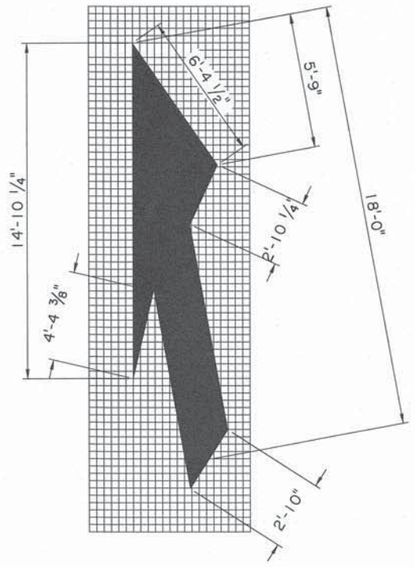
*For left turn arrow, use mirror image.



(B) BIKE SYMBOL

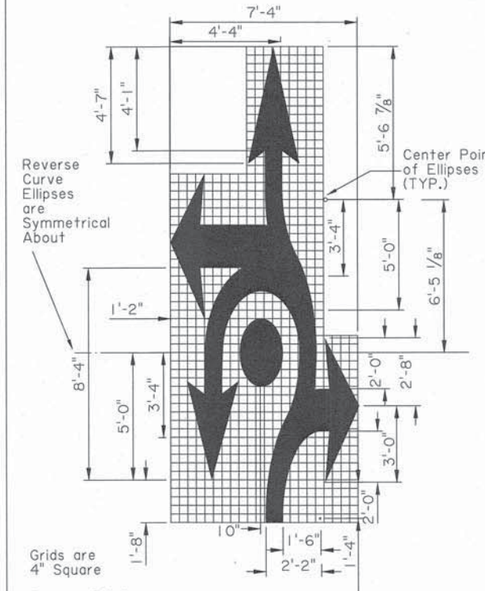


(C) LANE REDUCTION ARROW



*For left lane reduction, use mirror image.

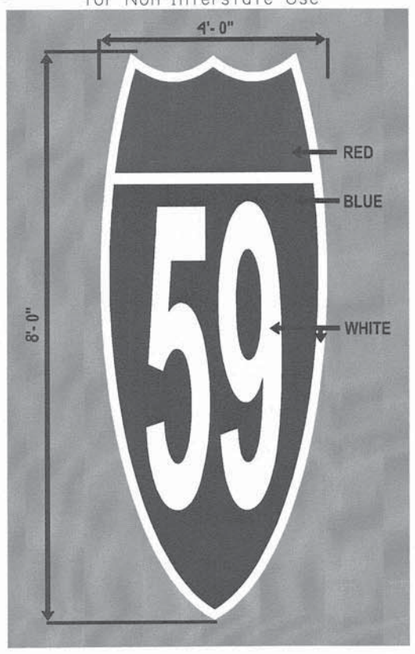
(D) DIRECTIONAL ARROWS FOR ROUNDABOUTS (FISHHOOK)



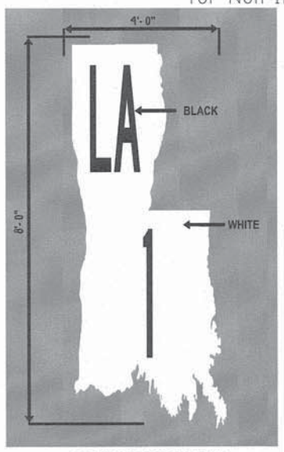
Assume Points Not Dimensioned to be Coincident with Grid Lines

Only Fishhook Combinations That Have Pay Items May Be Used.

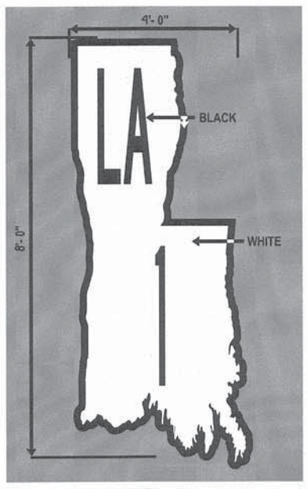
(E) INTERSTATE SHIELD for Non-Interstate Use



(F) STATE HIGHWAY SHIELDS for Non-Interstate Use

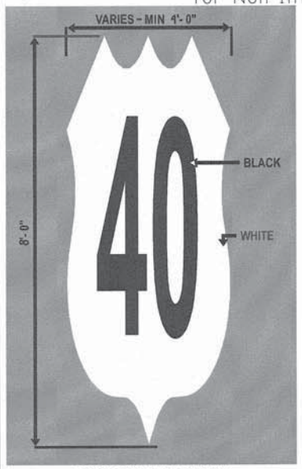


FOR USE ON DARK PAVEMENT.

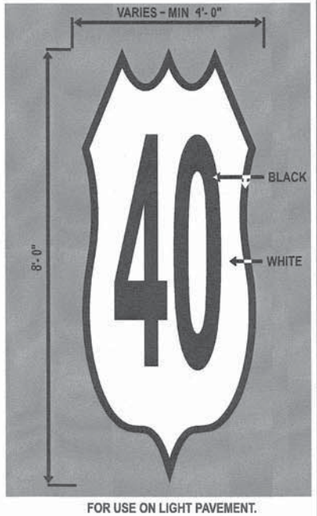


FOR USE ON LIGHT PAVEMENT.

(G) STATE HIGHWAY SHIELDS for Non-Interstate Use

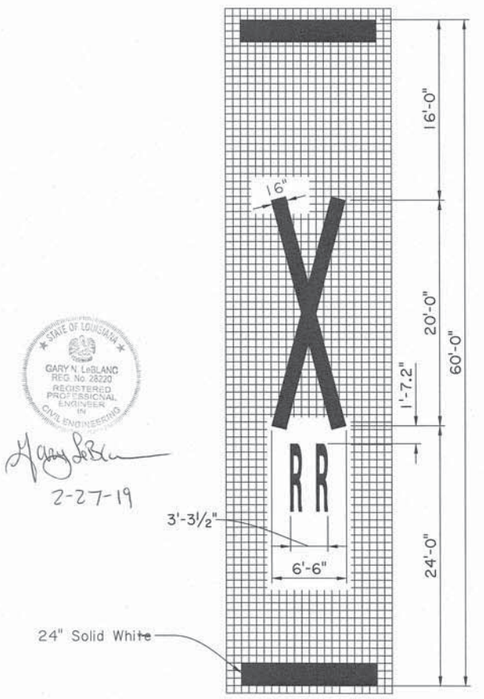


FOR USE ON DARK PAVEMENT.



FOR USE ON LIGHT PAVEMENT.

(H) RAILROAD CROSSING PAVEMENT MARKINGS



STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 28220
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Gary LeBlanc
2-27-19

SHEET NUMBER	219
PARISH	
CONTROL SECTION	
STATE PROJECT	
DESIGNED	G. LEBLANC
CHECKED	J. COLVIN
DETAILED	K. WILLIAMS
CHECKED	G. LEBLANC
DATE SHEET	

DATE 2/28/19

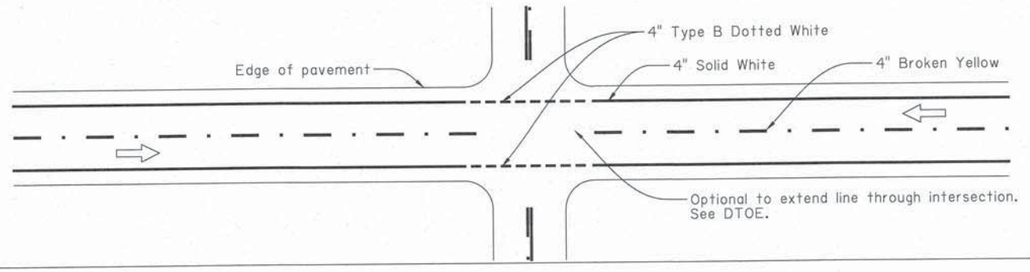
APPROVED BY CHIEF ENGINEER:

PM-02
Pavement Word and Symbol Markings for Non-Interstate Use

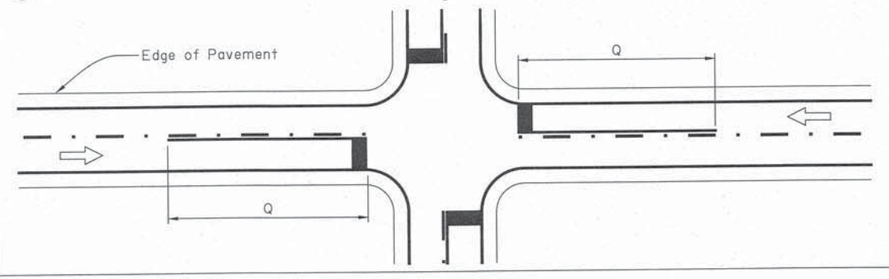
PAVEMENT MARKING DETAILS

DOTD TRAFFIC ENGINEERING

(A) UNSIGNALIZED INTERSECTION ON TWO LANE ROADWAY

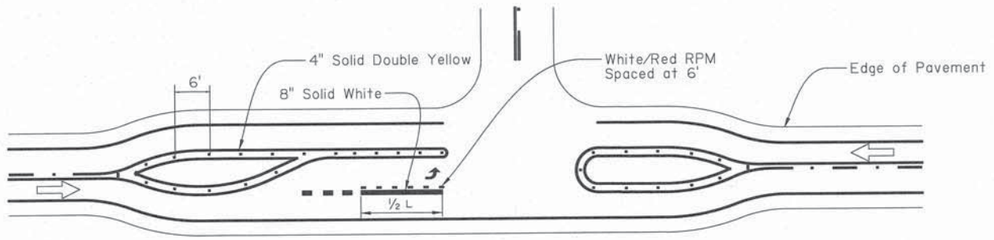


(B) SIGNALIZED INTERSECTION ON TWO LANE ROADWAY

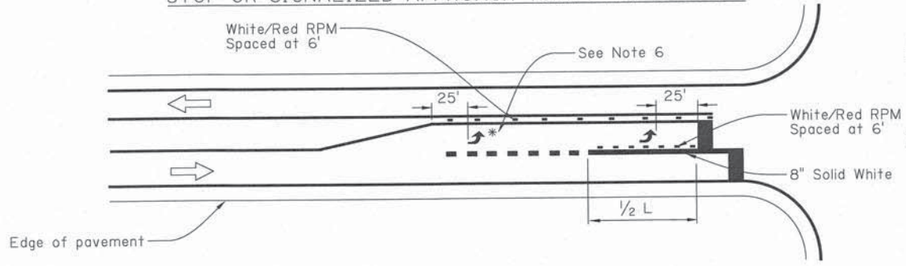


Speed Limit (mph)	Length Q (ft)
<40	100
40	125
45	175
50	250
55	325

(C) UNSIGNALIZED APPROACH LEFT TURN LANE ON TWO LANE ROADWAY



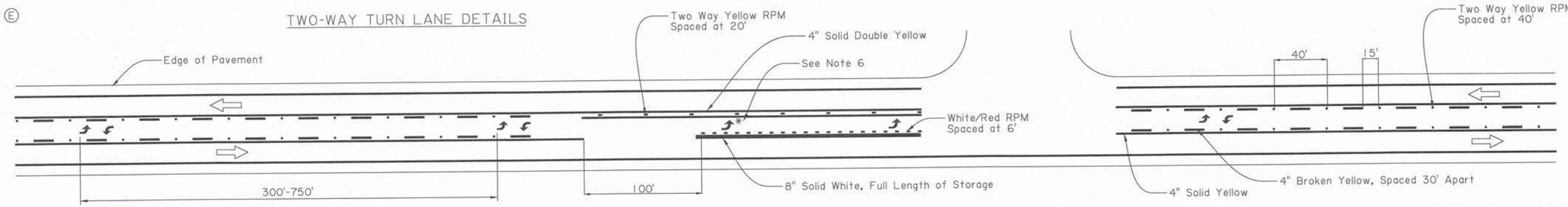
(D) STOP OR SIGNALIZED APPROACH TURN LANE DETAILS



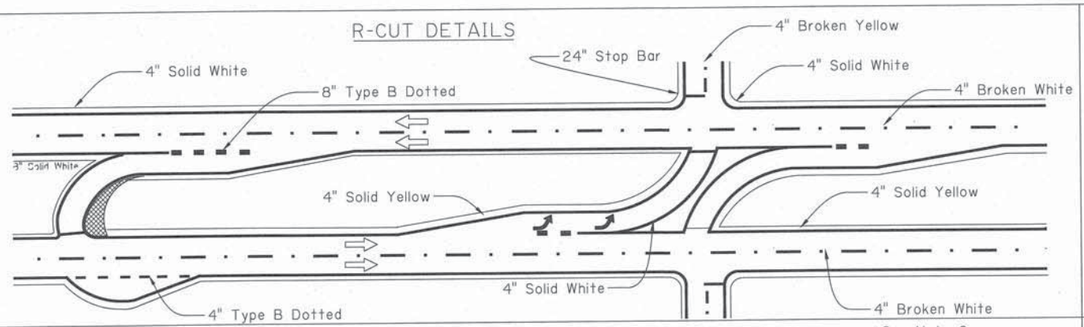
STATE OF LOUISIANA
GARY N. LeBLANC
REG. NO. 28220
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

2-27-19

(E) TWO-WAY TURN LANE DETAILS

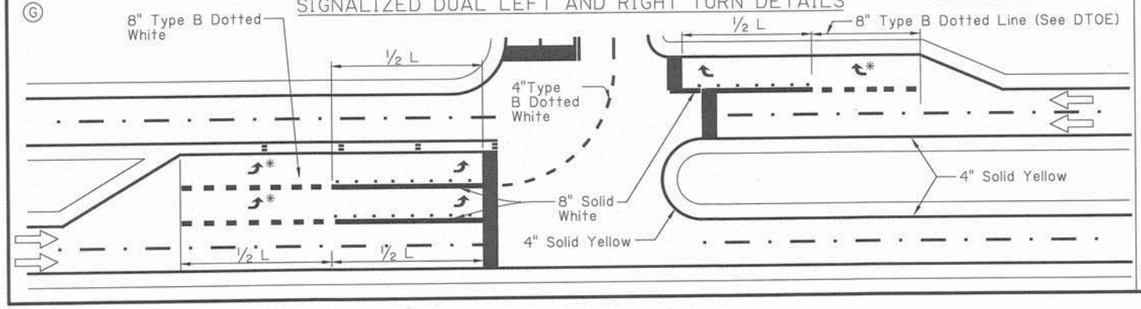


(F) R-CUT DETAILS

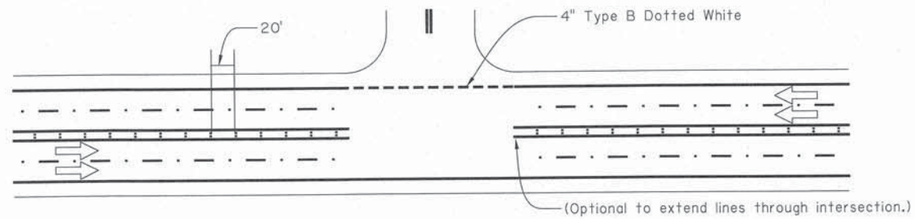


*See Note 6.

(G) SIGNALIZED DUAL LEFT AND RIGHT TURN DETAILS



(H) UNSIGNALIZED INTERSECTION ON A FOUR LANE UNDIVIDED ROADWAY



GENERAL NOTES:

1. If the minor street has edge lines, the edge lines on the major street shall wrap to meet the edge lines on the minor street.
2. Stop bars shall be 24". Stop bars shall not be placed at a distance greater than 30 feet or less than 4 feet from the nearest edge line. Stop bars at right turn lanes should be placed to provide adequate sight distance for right turning traffic.
3. The location of stop bars at left turn lanes should be determined by the turning radius needed by the side street vehicles.
4. See PM-01 for centerline and lane line details.
5. The ONLY word marking shall be used when a through lane terminates as a turn lane.
6. The asterisk (*) indicates that 2nd arrow is optional. If more than two arrows are used, minimum spacing should be 150'.
7. Edge lines should not be broken for driveways.
8. ⇨ indicates the direction of travel (not a pavement marker).
9. L equals the full length of turn lane.
10. Use of dotted lines require DTOE approval.

SHEET NUMBER 220

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED / CHECKED	DETAILED / CHECKED	DATE / SHEET
G. LEBLANC / J. COLVIN	K. WILLIAMS / G. LEBLANC	

DATE 2/28/19

APPROVED BY CHIEF ENGINEER:

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

PM-05

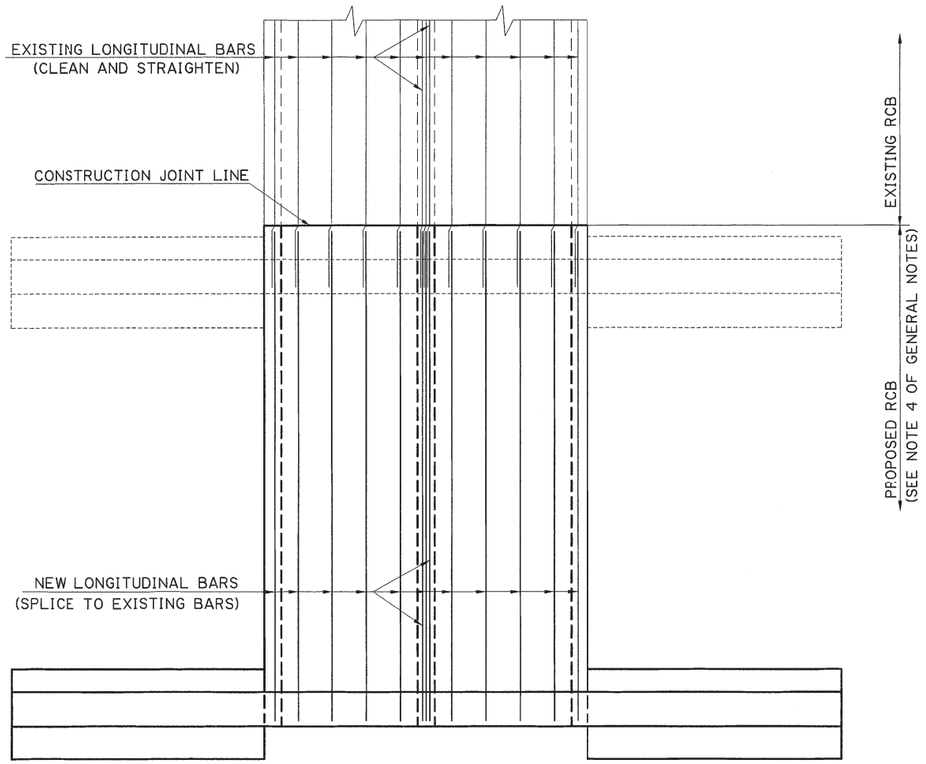
Typical Intersection Striping Layouts

PAVEMENT MARKING DETAILS

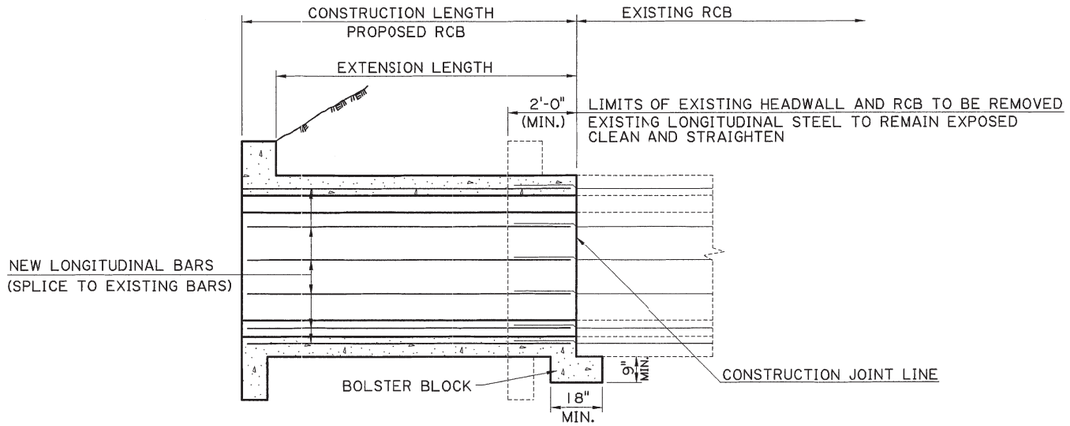
DOTD

TRAFFIC ENGINEERING

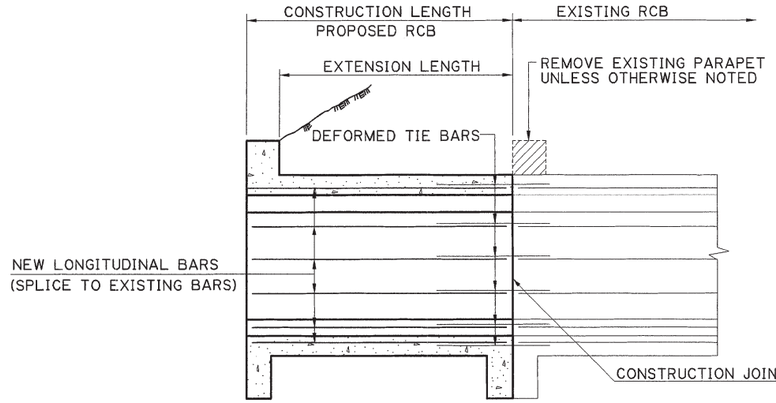
7/26/2018 14:21



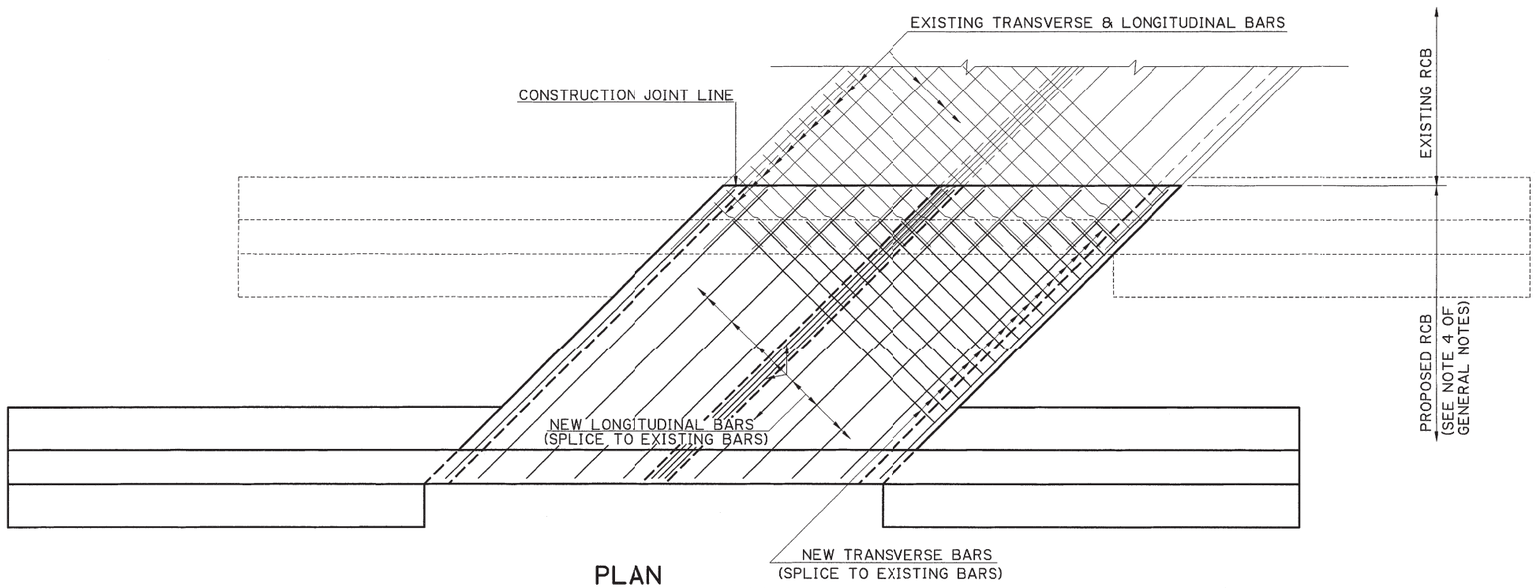
PLAN
EXISTING HEADWALL REMOVED
90° CROSSING



SECTION THRU BARREL
EXISTING HEADWALL REMOVED
90° AND SKEWED CROSSING



SECTION THRU BARREL
EXISTING HEADWALL REMAINS
90° AND SKEWED CROSSING



PLAN
EXISTING HEADWALL REMOVED
SKEWED CROSSING

GENERAL NOTES:

1) ALL CONCRETE TO BE CLASS "A".
2) REINFORCING STEEL TO BE GRADE 60.
3) PROJECT SPECIFICATIONS FOR REINFORCED CONCRETE BOX CULVERT SHALL APPLY.
4) ALL EXTENSIONS WILL BE CONSTRUCTED ACCORDING TO THE STANDARD PLANS OR SPECIAL DETAILS REFERRED TO ON THE SUMMARY OF DRAINAGE STRUCTURES SHEET.
5) WHERE HEADWALL AND EXISTING RCB TO BE REMOVED, PROPOSED LONGITUDINAL STEEL SHALL OVERLAP EXISTING LONGITUDINAL STEEL BY 2'-0" SPLICE. ALL EXISTING LONGITUDINAL STEEL IN SLABS AND WALLS TO BE STRAIGHTENED, CLEANED AND USED AS SPLICE BARS.
6) WHERE EXISTING HEADWALL REMAINS, DEFORMED TIE BARS ARE REQUIRED. DEFORMED TIE BARS SHALL BE #5, 3'-0" IN LENGTH (UNLESS EXTENSION LENGTH REQUIRES SHORTER BARS). HOLES WILL BE DRILLED IN THE EXISTING STRUCTURE TO ALIGN WITH CORRESPONDING LONGITUDINAL BARS IN THE NEW STRUCTURE. THE DEFORMED TIE BARS SHALL BE PLACED IN THE HOLES AND THE HOLES SHALL BE FILLED WITH AN APPROVED MATERIAL FROM QPL52, PRIOR TO POURING CONCRETE FOR THE EXTENSION. THE HOLE DIAMETER SHALL BE IN ACCORDANCE WITH THE EPOXY MANUFACTURER'S RECOMMENDATION.
7) WHERE EXISTING HEADWALL REMAINS, ALL SMOOTH END SURFACES OF EXISTING STRUCTURE SHALL BE ROUGHENED BY CHIPPING PRIOR TO POURING EXTENSION.
8) GROUND PREPARATION SHALL BE IN ACCORDANCE TO STANDARD PLAN BM-01.

SHEET NUMBER 221

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED KJB | DETAILED KJB | DATE 4-8-09
CHECKED JDK | CHECKED JDK | SHEET 1 OF 1

REVISION DESCRIPTION | DATE | APPROVED BY CHIEF ENGINEER

DATE: 4-8-09

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

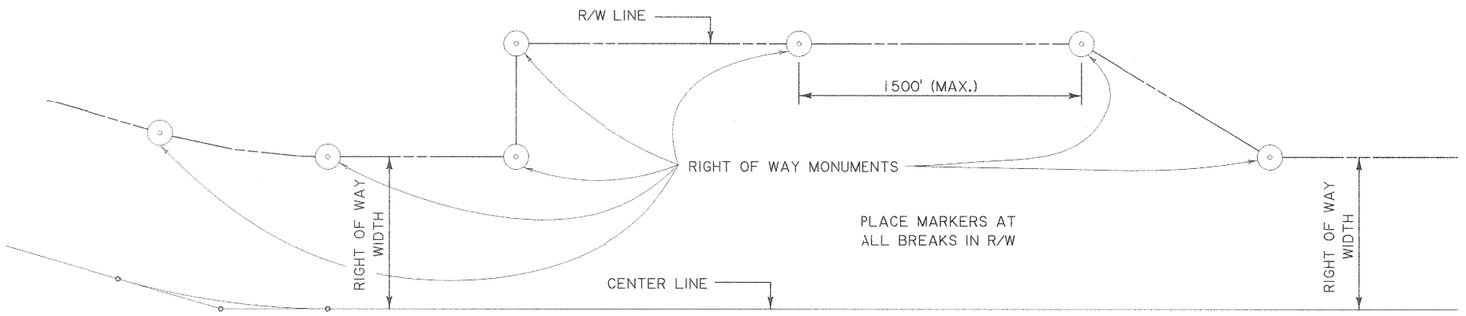
RCB EXTENSIONS
STANDARD METHOD OF EXTENDING REINFORCED CONCRETE BOX CULVERTS 90° AND SKEWED CROSSINGS

STANDARD PLAN: RCB-EXTENSION

DOTD

HYDRAULICS SECTION

IP_PWP:dms09544\RCB-EXTENSION.dgn



STANDARD RIGHT OF WAY MONUMENT PLAN
MONUMENTS TO BE PLACED AT RIGHT OF WAY INTERSECTIONS

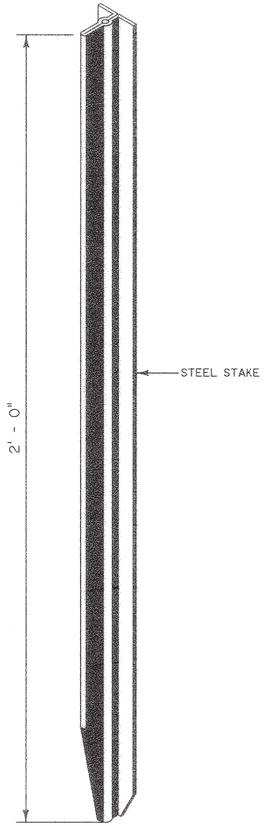
NOTES:

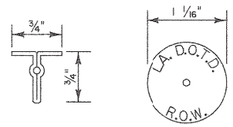
MONUMENTS ARE TO BE PLACED AT EVERY POINT WHERE BREAKS IN THE RIGHT OF WAY OCCUR: AT P.C.'S AND P.T.'S OF CURVES AND AT TOPS OF HILLS AND AT SUCH OTHER INTERMEDIATE FOINTS AS ARE NECESSARY TO PROPERLY INDICATE THE RIGHT OF WAY. MONUMENTS SHOULD NOT BE MORE THAN ONE THOUSAND FEET (1000') APART ON CURVES, NOR MORE THAN FIFTEEN HUNDRED FEET (1500') APART ON TANGENTS.

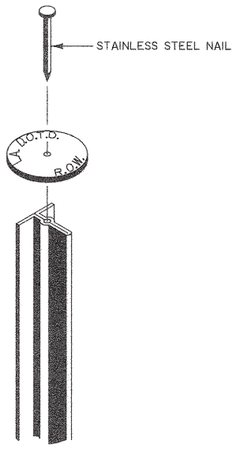
MONUMENTS ARE INDICATED ON PLANS BY THE FOLLOWING SYMBOL. - - - - - - - - - - - - - ☒

MONUMENTS SHALL BE ¾" X ¾" X 24" AS INDICATED ON PLANS WITH CAP 1¼" IN DIAMETER FASTENED BY A STAINLESS STEEL NAIL. THE STEEL STAKE SHALL BE TREATED WITH A RUST AND CORROSION RESISTANT COATING FOR LONG LIFE.

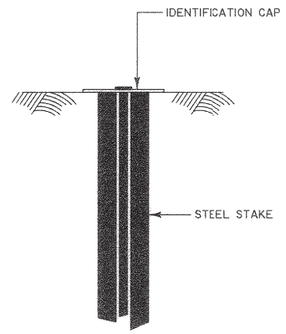
RIGHT OF WAY MONUMENTS SHALL BE SET BY, OR UNDER THE RESPONSIBLE CHARGE OF A LOUISIANA REGISTERED PROFESSIONAL LAND SURVEYOR IN CONFORMANCE WITH CHAPTER 29, TITLE 46 PART LXI, OF THE RULES OF THE LOUISIANA PROFESSIONAL ENGINEERING AND LAND SURVEYING BOARD.







CAP/STAKE ASSEMBLY



SET BOTTOM OF IDENTIFICATION CAP FLUSH
WITH THE EXISTING GROUND

STATE OF LOUISIANA
ERIC R. LANIER
REG. No. 04684
REGISTERED
PROFESSIONAL
LAND SURVEYOR

SHEET NUMBER 222

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED | CHECKED | DETAILED | CHECKED | DATE | SHEET

E.R.L. | T.W.P. | T.W.P. | T.W.P. | APPROVED | BY

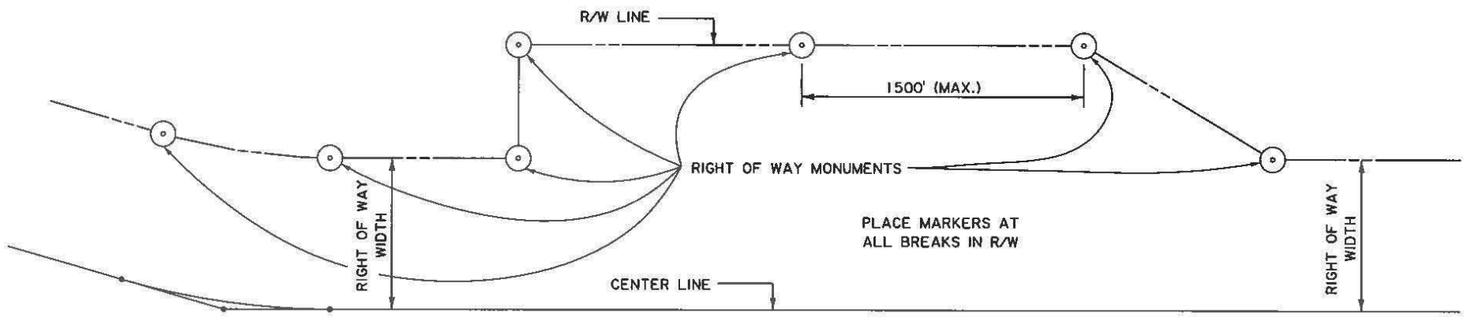
NO.	DATE	REVISION DESCRIPTION
4	5/26/09	REVISED MONUMENT NOTE
3	6/25/03	REV. GENERAL NOTES TO CONFORM TO L.A.P.E.L.S.
2	3/17/98	REVISED STANDARD PLAN NO. TO RM-01
1	7/9/97	CREATED STANDARD PLAN

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

RIGHT OF WAY MONUMENTS
STANDARD PLAN RM-01

DATE 6.3.09 APPROVED CHIEF ENGINEER

LOCATION AND SURVEY



STANDARD RIGHT OF WAY MONUMENT PLAN

MONUMENTS TO BE PLACED AT RIGHT OF WAY INTERSECTIONS

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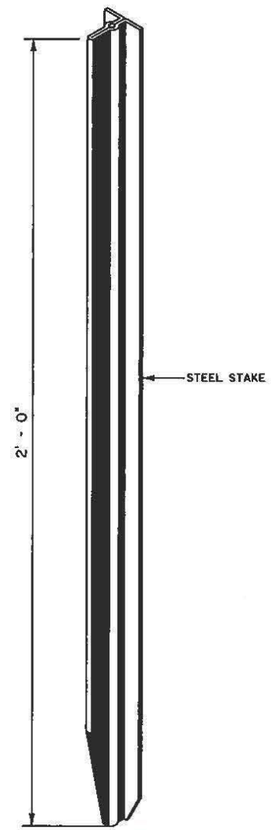
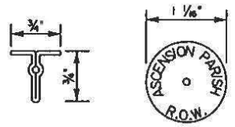
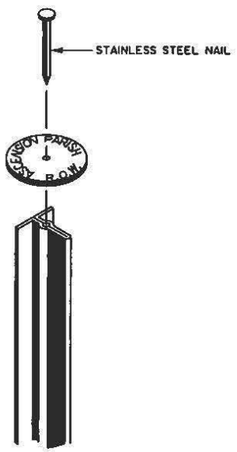
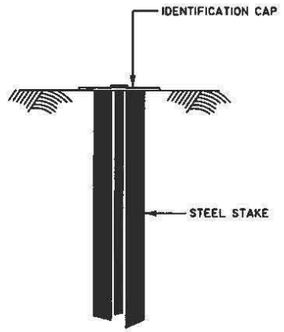






CAP/STAKE ASSEMBLY



SET BOTTOM OF IDENTIFICATION CAP FLUSH
WITH THE EXISTING GROUND

SHEET NUMBER 223

PARISH: ASCENSION
CONTROL SECTION: -
STATE PROJECT: -
DESIGNED: CRH
CHECKED: KBP
DETAILED: BMG
CHECKED: KBP
SERIES NUMBER:

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PARISH OF ASCENSION LOUISIANA

RIGHT OF WAY MONUMENTS
STANDARD PLAN RM-02

DATE 3/13/14 APPROVED: PARISH ENGINEER

MOVE ASCENSION

GENERAL PROVISIONS

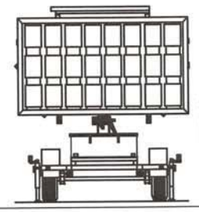
- All temporary traffic control (TTC) devices used shall be in accordance with the Louisiana Standard Specifications for Roads and Bridges, the MUTCD, and shall meet the NCHRP Report 350 or MASH requirements for Test Level 3 devices where applicable.
- Materials used for TTC shall be in accordance with the Louisiana Standard Specifications for Roads and Bridges and, when applicable, the LADOTD AML.
- Placement of TTC devices shall not commence without the approval of the Engineer and until work is about to begin, unless they are covered.
- No lane closures, lane shifts, diversions or detours shall occur without the approval of the Engineer.
- Responsibility is hereby placed upon the contractor for the installation, maintenance and operation of all TTC devices called for in these plans or required by the Engineer for the protection of the traveling public as well as all LADOTD and construction personnel.
- The contractor shall also be responsible for the maintenance of all permanent signs, pavement markings, and traffic signals left in place as essential to the safe movement and guidance of traffic within the project limits unless noted in the plans.
- The DTOE shall serve as a technical advisor to the Engineer for all traffic control matters.
- The Chief Construction Engineer or his appointed designee shall approve all signs and situations not addressed in the plans based on the recommendations of the Project Engineer and the DTOE. All changes shall be noted in all project traffic control diaries.
- The Chief Construction Engineer or his appointed designee shall approve all design speeds of diversions or shifts, if it differs from design plans, based on the recommendations of the Project Engineer and the DTOE.
- All temporary traffic control plans shall comply with the Transportation Management Plan.
- Any additional signs shown in the MUTCD and required by the Engineer shall be installed under Item 713-01-00100.
- Neither work activity nor storage of equipment, vehicles, TMAs, or materials shall occur within the buffer space.
- When a work area has been established on one side of the roadway only, there shall be no conflicting operations or parking on the opposite shoulder within 500 feet of the work area.
- A lighting plan shall be submitted to the Engineer 30 days prior to night work for approval. (See section 105.20 of the Louisiana Standard Specifications for Roads and Bridges.)
- Parking of vehicles or unattended equipment or storage of materials, within the clear zone shall not be permitted unless protected by guardrail or barriers. If the clear zone is not defined on the plan sheets, the Engineer shall verify.
- Immediately upon removal of existing guardrail, the contractor shall install and maintain an NCHRP Report 350 or MASH approved device to protect the blunt end of the bridge or column until new guardrail is installed. After removal of the existing guardrail, new guardrail should be installed within seven (7) days. On non-NHS routes with shoulders less than 8 feet wide: If an NCHRP 350 Report Test Level 3 or MASH device is required but the field conditions of the roadway cannot support a Test Level 3 device, then a Test Level 2 device can be substituted in its place upon approval by the Engineer. If utilized, a TMA is allowed for a maximum of 72 hours.
- All costs associated with crash devices are to be included in Item 713-01-00100.
- Sight distance should be considered when placing traffic control devices.
- On all mainline Interstates, a minimum of 1.5 feet of paved shoulder on the left and right side shall be maintained at all times.
- On Interstates, a minimum of 11 foot lanes shall be maintained. On all other roadways, a 10 foot minimum travel lane should be maintained where practical.
- TTC Standards are not drawn to scale.
- The contractor shall develop an internal traffic control plan approved by the Engineer prior to each phase.
- Truck restrictions such as (but not limited to) restricting lanes, oversize loads or times of travel, may be required for narrow lanes or other field conditions.

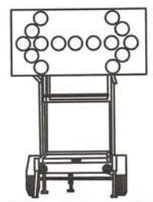
PAVEMENT MARKINGS (see AML)

- All pavement markings within the limits of the project or adjacent to the project limits that are in conflict with the project signing or the required traffic movements shall be removed from the pavement by blast cleaning or grinding. (Existing striping shall not be painted over with black paint or covered with tape.)
- If special pavement markings are needed, they shall be reflectorized, removable and accompanied by the proper signage.
- Temporary Raised Pavement Markers may be added to supplement temporary striping in areas of transition, in tapers, in diversions and in other areas of need as shown in the plans or as directed by the Engineer.
- Materials and placement of temporary pavement markings shall conform to Section 713 of the Louisiana Standard Specifications for Roads and Bridges. If no pay item exists for temporary markings, they shall be installed under item 713-01-00100.
- Temporary markings installed in the permanent configuration shall comply with LADOTD pavement marking standard plans, MUTCD and/or the permanent striping plans.

PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

- PCMS shall be used on all Interstate Highways. PCMS shall be used on all other roadways (where space is available) with an ADT greater than 20,000.
- When used in advance of a lane closure or a lane shift, the PCMS should be placed on the right hand side of the road a minimum distance of 2 miles in advance of the taper for interstates and to be determined by the Engineer on other highways.
- For interstates and multi-lane highways, if vehicles are queuing beyond the 2 mile PCMS, an additional PCMS should be placed on the right hand side of the road approximately 5 miles in advance of the taper or at the end of the queue, whichever is greater.
- PCMS messages shall be approved by the DTOE. Messages shall be no more than 3 lines and 2 screens.
- Messages shall display only traffic operational, regulatory, warning, and guidance information. PCMS messages shall not display advertising or safety messages. Messages should only convey information concerning the problem/situation, location, and recommended driver action.
- PCMS should be placed as far from the traveled lane as possible. They shall be shielded by guardrail or barriers. If this is not possible they shall be delineated with a min. 3 drum taper spaced at 20ft with a 4th drum alongside the PCMS.
- If the PCMS encroaches on the improved shoulder then the contractor shall install a shoulder closure.
- When the PCMS is not displaying a work zone appropriate message pertaining to the ongoing construction project it shall be shielded by guard rail or barriers, or removed from the clear zone.





STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 25220
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SPEED LIMITS

- The Engineer may approve a 10 mph drop in the speed limit for posted speeds of 45 mph or greater and for any construction, maintenance or utility operation that requires one or more of the following:
  - (A) The condition of the traveled way is degraded due to milled surfaces or uneven travel lane lines greater than 1.5 inches.
  - (B) Work is in progress in the immediate vicinity of the travel way requiring lane closures or lane width reductions less than 11 feet.
  - (C) Workers present on the shoulder within 2 feet of the edge of the traveled way without barrier protection.
- The reduced speed zone shall only apply to those portions of the project limits affected. The Engineer may allow SPEED LIMIT WHEN FLASHING signs to supplement reduced speed zones.
- If the speed limit is reduced, speed limit signs shall be placed:
  - (A) beyond major intersections;
  - (B) at one mile intervals in rural areas;
  - (C) at half mile intervals in urban areas.
- At the end of the reduced speed zone, a speed limit sign displaying the original speed limit prior to construction shall be installed.
- For all other speed limit reductions not listed above, the Project Engineer and the DTOE shall recommend the speed reduction to the Chief Construction Engineer or his appointed designee for approval.
- If the speed limit is reduced more than 10 mph, placement of the signs shall be re-evaluated according to the MUTCD.

FLASHING ARROW BOARDS

- All Flashing Arrow Boards shall be 4 feet by 8 feet and Type C.
- Flashing Arrow Boards should be placed on the shoulder. When there is no shoulder or median area, the arrow board shall be placed within the closed lane behind the channelizing devices and as close to the beginning of the taper as practical.
- Flashing arrow boards shall be delineated with retroreflective TTC devices.
- At no time shall the arrow board encroach in the traveled way. When Flashing Arrow Board signs are not being used, they shall be shielded by guard rail or barriers, or removed.
- Arrow boards shall only be used for lane reduction tapers and shall not be used for lane shifts.

ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic
AGCI	Associated General Contractors of America
AML	Approved Materials List
ANSI	American National Standards Institute
ATSSA	American Traffic Safety Services Association
B.O.P.	Beginning of Project
DTOE	District Traffic Operations Engineer
E.O.P.	End of Project
LADOTD	Louisiana Department of Transportation and Development
MASH	AASHTO Manual for Assessing Safety Hardware
MUTCD	Manual on Uniform Traffic Control Devices
NCHRP	National Cooperative Highway Research Program
NHS	National Highway System
PCMS	Portable Changeable Message Sign
TMA	Truck Mounted Attenuator
TMC	Traffic Management Center
TTC	Temporary Traffic Control
TTC Standards	Temporary Traffic Control Standard Plans

SHEET NUMBER 224

PARISH | CONTROL SECTION | STATE PROJECT

DESIGNED G. LEBLANC
CHECKED J. COLVIN
DETAILED C. FAKOURI
CHECKED G. LEBLANC
SERIES NUMBER

NO. | DATE | REVISION OR CHANGE ORDER DESCRIPTION | BY

APPROVED BY CHIEF ENGINEER: DATE: 7/2/18

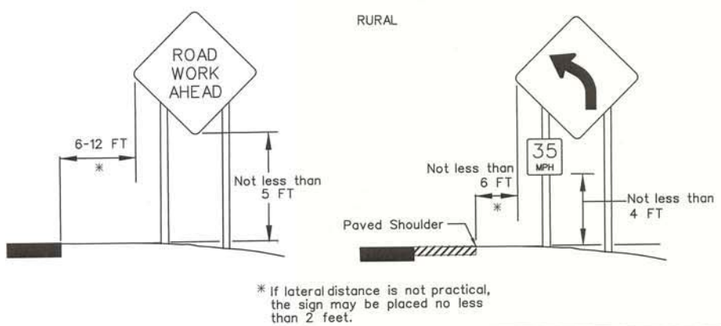
STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET
TTC-00 (A)

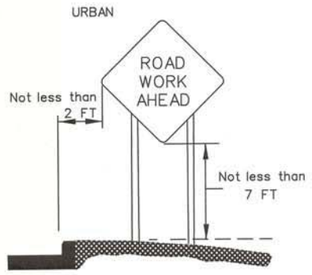
DOTD TRAFFIC ENGINEERING

SIGNS

- All signs used for temporary traffic control shall follow the plans, the LADOTD TTC Standards and the MUTCD.
- Signs shown in the TTC illustrations are typical and may vary with each specific condition.
- One Type B High Intensity light shall be used to supplement the first sign (or pair of signs) that gives warning about a lane closure during nighttime operations (See AML).
- Mesh rollup signs shall not be allowed on any project.
- Contractor shall use caution not to damage existing signs which remain in place. Any LADOTD signs damaged by work operations shall be replaced by the contractor under item 713-01-00100.
- All signs (permanent and temporary) shall be removed or completely covered with a strong, lightweight, opaque material when no longer applicable. (Burlap is not an acceptable material to cover signs).
- At no time shall signs warning against a particular operation be left in place once the operation has been completed or where the condition has been removed.
- Warning signs used for temporary traffic controls shall meet the following guidelines unless otherwise noted in the plans:
  - (A) size shall be 48 inches by 48 inches.
  - (B) see the Louisiana Standard Specifications for Roads and Bridges and the AML for sheeting information.
  - (C) lateral distance of signs shall be a minimum of 6 feet from the edge of shoulder or edge of pavement if no shoulder exists and 2 feet from the back of curb in urban areas (see diagram).
- When portable sign frames are not in use, they shall be moved to an area inaccessible to traffic and not visible to the driver.
- Left side mounted signs will not be required for roadways with a center left turn lane and for undivided roadways.
- Vinyl roll up signs may be used if work zone is in place for 12 hours or less, there are no more than 2 lanes in each direction and if signs meet all size, color, retroreflectivity and NCHRP 350 Report or MASH requirements.
- All signs shall be visible to the drivers (i.e. no obstructions such as on street parking or other traffic control devices shall block the sign).
- On divided highways, signs shall be placed on the right and the left as shown on the TTC standards.
- 1 foot portable sign stands may be used if the work zone is in place for 14 hours or less and there are no more than 2 lanes in each direction.
- Sign posts:
  - -Signs measuring 10 square feet or less shall be mounted on 1 rigid post
  - -Signs over 10 square feet shall be mounted on 2 rigid posts
  - -Signs over 20 square feet shall be mounted on at least 3 rigid posts
- Rigid sign supports shall be driven to a minimum depth of 3 feet. (If splicing is required, see Allowable Lap Splice U-channel Post.)
- For sign height, see the Rural and Urban diagrams:



* If lateral distance is not practical, the sign may be placed no less than 2 feet.

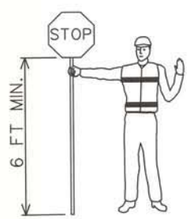


LANE CLOSURES

- All proposed lane, road or shoulder closures shall be reviewed by the DTOE and approved by the Engineer.
- Two lane, two-way highways shall have a maximum work area of two miles; all other roadways shall have a four mile maximum work area.
- A queue analysis shall be performed prior to approval of lane closures on all Interstates according to Section 6A.1 of the Traffic Engineering Manual.
- Closure plans and times shall be turned in to the Engineer for review according to the following:
  - (A) 5 working days minimum if traffic control plan has been approved or is contained in the plans.
  - (B) 10 working days minimum and a traffic control plan must be submitted for lane closures not addressed in the plans.
- Weekly updates to the DTOE, Project Engineer, the LADOTD TMC operator and the regional TMC operator (if applicable) will be required for all ongoing lane closures to update the closure status.
- Daily updates to the DTOE, Project Engineer and TMC operator (if applicable) will be required for all projects where active closures are in place.

FLAGGERS

- All flaggers shall be qualified.
- The contractor shall be responsible for training or assuring that all flaggers are qualified to perform flagging duties.
- A Qualified Flagger is one that has completed courses such as those offered by ATSSA or other courses approved by the LADOTD Work Zone Task Force. The contractor shall be responsible for getting the flagger course approved.
- When utilized, a flagger shall use a minimum 18 inch octagonal shape sign on a minimum 6 foot stop/slow paddle and wear ANSI Class 2 Lime Green vest during day time operations and ANSI Class 3 Lime Green ensemble during night operations.
- In all flagging operations, the flagger must be visible from the flagger advance warning sign.
- Flaggers shall not be used on the Interstate.

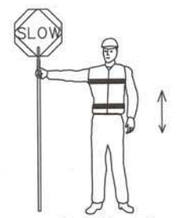


To STOP Traffic



Traffic Proceed

Use of Hand Sign



To Alert & SLOW Traffic

Use of Hand Sign

PEDESTRIAN CONSIDERATIONS

- If the TTC zone affects the movement of pedestrians, adequate pedestrian access and walkways shall be provided either through the TTC zone or a designated alternate route.
- Pedestrians should be provided with a convenient and accessible path that replicates as nearly as practical the most desirable characteristics of the existing sidewalk(s) or footpath(s).
- Advance notification of sidewalk closures shall be provided by the maintaining agency.

REFERENCES

- The contractor shall be responsible for understanding all rules and requirements in the current edition of the following documents:

1) Louisiana Standard Specifications for Roads and Bridges. http://www.dotd.la.gov/highways/specifications/

2) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). http://mutcd.fhwa.dot.gov/

3) LADOTD Approved Materials List (AML) Manual. http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_QPL.aspx

4) LADOTD Traffic Engineering Manual http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Misc%20Documents/Traffic%20Engineering%20Manual.pdf

5) National Cooperative Highway Research Program (NCHRP) Report 350: "Guidelines for Work Zones Traffic Control Devices". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_350-a.pdf

6) NCHRP Report 475: "A Procedure for Assessing and Planning Nighttime Highway Construction and Maintenance". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_475.pdf

7) NCHRP Report 476: "Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_476.pdf

8) NCHRP Report 498: "Illumination Guidelines for Nighttime Highway Work". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_498.pdf

9) American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide.

10) American Traffic Safety Services Association (ATSSA) Quality Guidelines for Work Zone Traffic Control Devices and Features.

11) U.S. Department of Transportation Federal Highway Administration Traffic Control Handbook for Mobile Operations at Night. http://www.dot.state.il.us/blr/1023.pdf

STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 25220
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SHEET NUMBER 225

PARISH | CONTROL SECTION | STATE PROJECT

DESIGNED G. LEBLANC
CHECKED J. COLVIN
DETAILED C. FAKOURI
CHECKED G. LEBLANC
SERIES NUMBER

REVISION OR CHANGE ORDER DESCRIPTION | BY | DATE | NO.

DATE 7/2/18

APPROVED BY CHIEF ENGINEER

STATE OF LOUISIANA

TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET
TTC-00 (B)

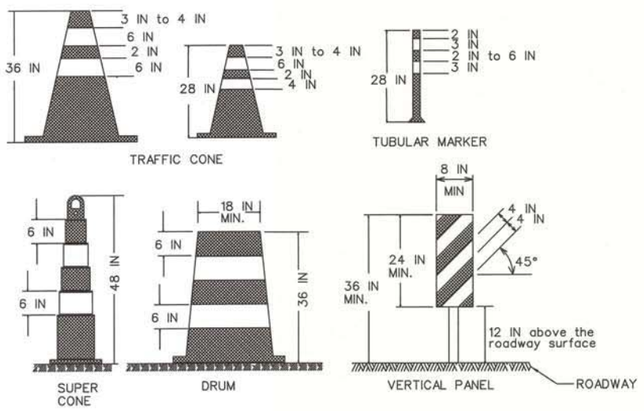
DOTD TRAFFIC ENGINEERING

CHANNELIZING DEVICES

- The following devices may be used as channelizing devices: Tubular Markers, Vertical Panels, Cones, Drums and Super Cones.
- 28 inch traffic cones are not allowed on:
  1) Interstates
  2) Highways with speeds greater than 40 mph.
- During nighttime operations, 28 inch and 36 inch cones are not allowed.
- Retroreflective material pattern used on super cones shall match that used on drums.

- Tangent Areas:
  - A) Standard Spacing: See Standard Device Spacing and Buffer Space table.
  - B) Daylight Operations: Drums and super cones are spaced at standard spacing. All other devices are at ½ standard spacing.
  - C) Nighttime Operations: Drums and supercones at standard spacing are the only devices allowed.

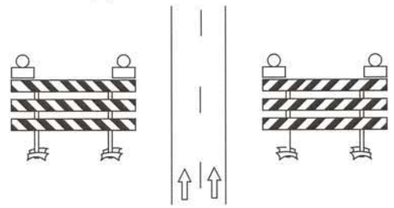
- Taper Areas:
  - A) Standard Spacing: See Standard Device Spacing and Buffer Space table.
  - B) Daylight Operations: Drums are spaced at standard spacing. All other devices are ½ standard spacing.
  - C) Nighttime Operations: Drums (at standard spacing) are the only devices allowed.
- Type C steady burn lights shall be used on all channelizing devices in the taper as well as the first two devices in the tangent at night, (see the AML).
- Typical channelizing device lateral placement (do not include when it is used as a divider for opposing directions of traffic) shall be 2 feet off the lane line in the closed lane or shoulder.
- Devices may be adjusted laterally to accomodate ongoing work in the immediate vicinity but must be returned to the closed lane after the work activity has moved.
- Channelizing devices on the lane line shall be of the same type.
- Channelizing devices in each taper shall be of the same type.



ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

TYPE III BARRICADES

- Only Type III Barricades shall be used.
- All barricades shall use Type 3 High Intensity Sheeting on both sides of the barricade.
- All barricades shall be a minimum of 8 feet in length and must meet NCHRP Report 350 or MASH requirements.
- When used for overnight closures, two Type B High Intensity Lights shall supplement all barricades that are placed in a closed lane or that extend across a highway. Two Type A Low Intensity Lights may be used in urban areas if approved by the Engineer (See AML).
- When signs and lights are to be mounted to a barricade, they must meet NCHRP Report 350 or MASH requirements.
- A truck with a TMA may be substituted for a barricade when workers are present.
- Barricades shall be placed:
  - (A) at the beginning of a closed lane or shoulder and at 1,000 foot intervals where no active work is ongoing and the lane must remain closed. A minimum of 2 barricades shall be placed if the lane or shoulder closure is less than 2,000 feet. (One barricade shall be placed at the beginning of the lane closure after the buffer space and one shall be placed in the middle of the lane closure.)
  - (B) before each or group of unfilled holes or holes filled with temporary material.
  - (C) before uncured concrete.
  - (D) in the closed lane on each side of every intersection and crossover. (Do not block sight distance.)
  - (E) in front of piles of material (dirt, aggregate, broken concrete), culverts and equipment which is near the work zone.



TTC for DROP-OFFS

NON-INTERSTATE

Average Drop-off	Current Posted Speed (Prior to Construction)	
	> 45 MPH	≤ 45 MPH
≤ 3 IN	Low Shoulder Sign (Optional)	Low Shoulder Sign (Optional)
> 3 IN ≤ 6 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device	Shoulder Drop Off Sign
> 6 IN ≤ 10 IN	No Shoulder Sign, Edge Lines & Vertical Panel	No Shoulder Sign & Channelizing Device
> 10 IN	Concrete Barrier (if drop off is < 12 FT from edge of travel lane) & Edge Lines	No Shoulder Sign & Vertical Panel

INTERSTATE

Average Drop-off	
≤ 2 IN	Low Shoulder Sign (Optional)
> 2 IN ≤ 6 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device
> 6 IN	Concrete Barrier (if drop off is < 12 FT from edge of travel lane), Shoulder Drop Off Sign, & Edge Lines

- If a portable concrete barrier will be required then the deflection shall be considered in the design.
- For Interstate ramps, refer to non-Interstate drop offs.

STATE OF LOUISIANA GARY N. LEBLANC REG. No. 25320 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

STANDARD DEVICE SPACING AND BUFFER SPACE

SPEED LIMIT (prior to construction)	MERGING TAPER LENGTH (L) Lane Width (FT)				STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
MPH	9	10	11	12	Along Taper	Along Tangent	FT
25	94	105	115	125	20	40	155
30	135	150	165	180	30	60	200
35	184	205	225	245	35	70	250
40	240	267	294	320	40	80	305
45	405	450	495	540	40	80	360
50	450	500	550	600	40	80	425
55	495	550	605	660	40	80	495
60	540	600	660	720	40	80	570
65	585	650	715	780	40	80	645
70	630	700	770	840	40	80	730
75	675	750	825	900	40	80	820

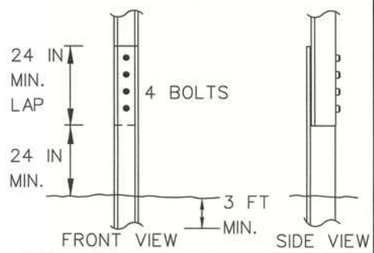
SPEED LIMIT (prior to construction)	SHIFTING TAPER LENGTH (1/2)(L) Lane Shift (FT)						STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
MPH	2	4	6	8	10	12	Along Taper	Along Tangent	FT
25	11	21	32	42	52	63	20	40	155
30	15	30	45	60	75	90	30	60	200
35	21	41	62	82	102	123	35	70	250
40	27	54	80	107	134	160	40	80	305
45	45	90	135	180	225	270	40	80	360
50	50	100	150	200	250	300	40	80	425
55	55	110	165	220	275	330	40	80	495
60	60	120	180	240	300	360	40	80	570
65	65	130	195	260	325	390	40	80	645
70	70	140	210	280	350	420	40	80	730
75	75	150	225	300	375	450	40	80	820

SPEED LIMIT (prior to construction)	SHOULDER TAPER LENGTH (1/3)(L) Shoulder Width (FT)						STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
MPH	2	4	6	8	10	12	Along Taper	Along Tangent	FT
25	7	14	21	28	35	42	20	40	155
30	10	20	30	40	50	60	30	60	200
35	14	28	41	55	68	82	35	70	250
40	18	36	54	72	89	107	40	80	305
45	30	60	90	120	150	180	40	80	360
50	34	67	100	134	167	200	40	80	425
55	37	74	110	147	184	220	40	80	495
60	40	80	120	160	200	240	40	80	570
65	44	87	130	174	217	260	40	80	645
70	47	94	140	187	234	280	40	80	730
75	50	100	150	200	250	300	40	80	820

- All termination and flagger tapers are 100 feet. (MIN. 6 channelizing devices per lane equally spaced 20 feet apart.)
- See TTC Standards for flagger taper.
- See MUTCD for taper formulas.

- ALLOWABLE LAP SPLICE FOR U-CHANNEL POST

U-Channel posts may be spliced where long lengths are required. The upper section shall overlap the lower section by at least 24 inches. The bottom edge of the upper section of the splice shall be a minimum of 24 inches above the ground. The spliced sections shall be secured with at least four 5/16 inch diameter hex bolts spaced equally along the splice.



SHEET NUMBER 226

PARISH | CONTROL SECTION | STATE PROJECT

DESIGNED G. LEBLANC
CHECKED J. COLVIN
DETAILED C. FAKOURI
CHECKED G. LEBLANC
SERIES NUMBER

NO. | DATE | REVISION OR CHANGE ORDER DESCRIPTION | BY

APPROVED BY CHIEF ENGINEER

DATE: 7/1/18

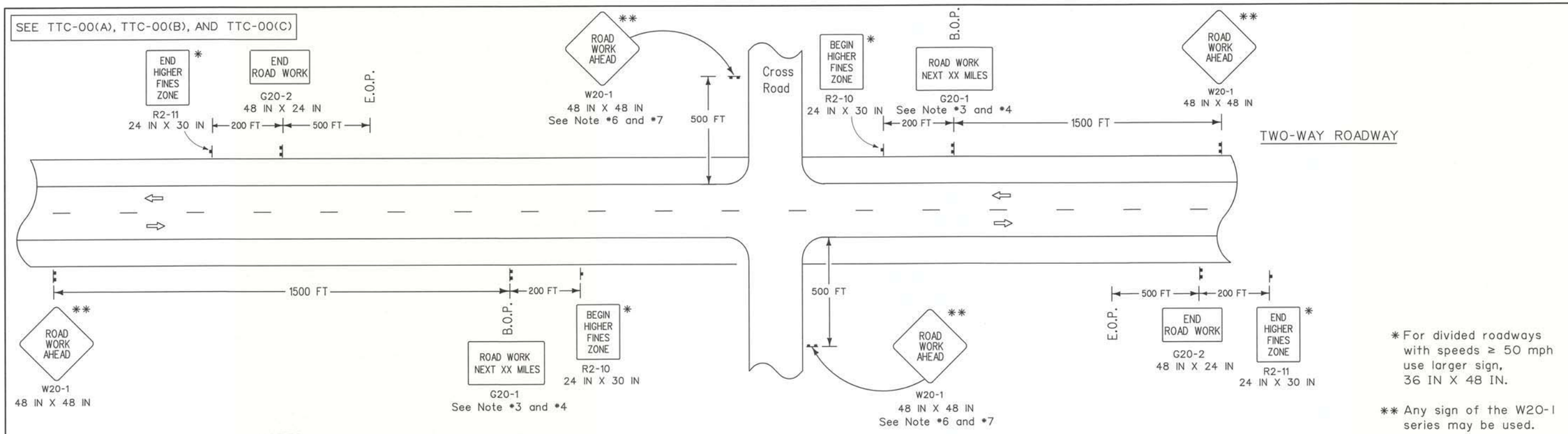
STATE OF LOUISIANA

TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET

TTC-00 (C)

DOTD TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B), AND TTC-00(C)



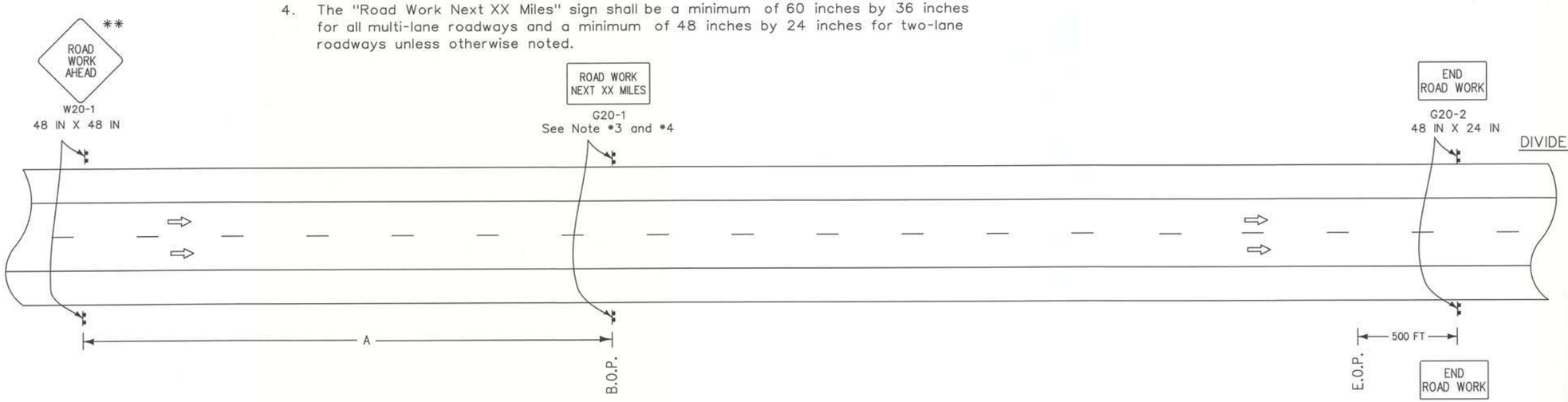
NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and other Temporary Traffic Control Sheets as appropriate.

1. This layout represents the minimum traffic controls required for placement of "Road Work Next XX Miles" and "End Road Work" signs.
2. This layout does not replace other TTC Standard Sheets, but is intended as a supplement to the required signing.
3. The distance on the "Road Work Next XX Miles" sign shall be stated to the nearest whole mile. This sign shall be placed at the Beginning of Project (B.O.P.) limits. This sign may be omitted if work zone is less than 0.5 miles.
4. The "Road Work Next XX Miles" sign shall be a minimum of 60 inches by 36 inches for all multi-lane roadways and a minimum of 48 inches by 24 inches for two-lane roadways unless otherwise noted.
5. The "End Road Work" sign shall be placed 500 feet past the End of Project (E.O.P.) limits.
6. If "Road Work Ahead" sign is used on a cross road to warn of road work on another route, then "End Road Work" sign is not required.
7. When projects are separated by less than 1 mile, they shall be signed as one project; this may require coordination.

LEGEND

- Traffic Sign
- Direction of Travel



SPEED LIMIT (prior to construction)	SPACING 'A'
≤ 40 mph	1500 FT
45 mph	2640 FT
> 45 mph	5280 FT

- Sign spacing to be adjusted for Horizontal and Vertical curves.
- For work outside of the traveled way, see TTC-01 and TTC-02.

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 28220
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

SHEET NUMBER 227

DESIGNED	G. LEBLANC
CHECKED	J. COLVIN
DETAILED	C. FAKOURI
CHECKED	G. LEBLANC

PARISH | CONTROL SECTION | STATE PROJECT | SERIES NUMBER

REVISION OR CHANGE ORDER DESCRIPTION | BY | DATE: 7/2/18

NO. | DATE | APPROVED BY: CHIEF ENGINEER

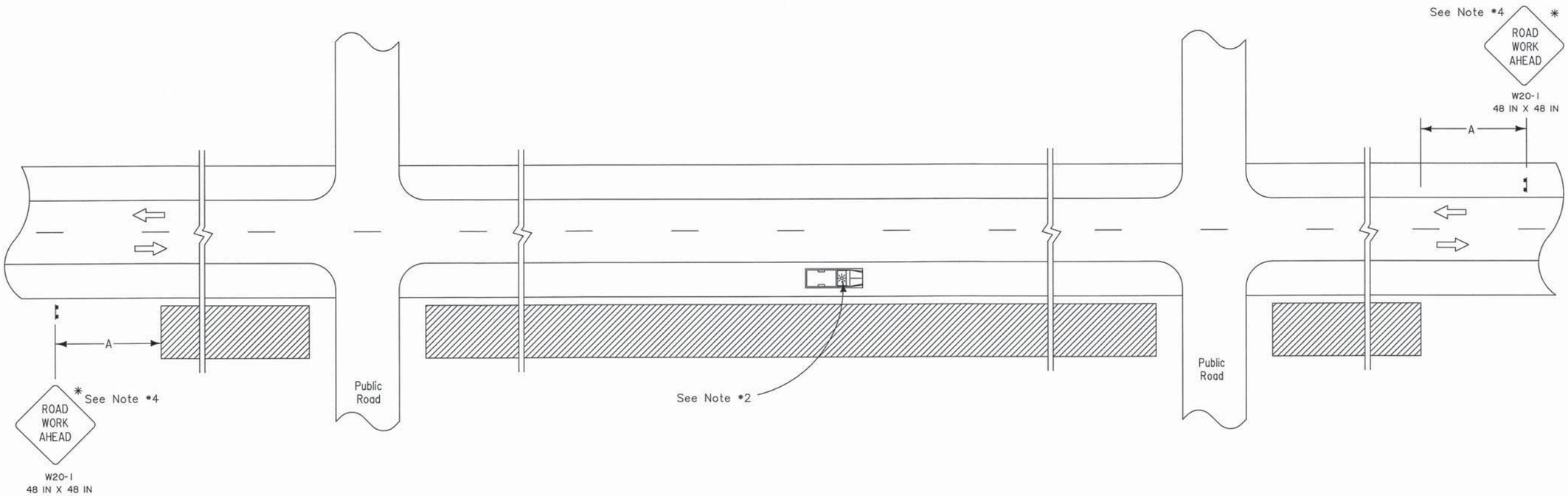
STATE OF LOUISIANA

TEMPORARY TRAFFIC CONTROL
LAYOUT FOR PLACEMENT OF ROAD WORK NEXT XX MILES AND END ROAD WORK SIGNS

TTC-00 (D)

DOTD TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B) AND TTC-00(C)



LEGEND

- Traffic Sign
- Work Area
- Direction of Travel
- Truck with Amber Light

SPEED LIMIT (prior to construction)	SPACING
	'A'
≤ 40 mph	500 FT
45-50 mph	1000 FT
≥ 55 mph	1500 FT

NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B) and TTC-00(C).

1. This layout represents the minimum traffic controls required for workers and equipment operating more than 15 feet from the travel way.
2. If the operation results in equipment or other vehicles being parked closer than 15 feet to the travel way, but not within the roadway, each vehicle shall have an amber light.
3. When a work area has been established on one side of the roadway only, there shall be no parking on the opposite shoulder within 500 feet of the work area.
4. Other signs may be used in place of the "Road Work Ahead" sign, such as W21-8 (Mowing), W21-7 (Utility), or W21-6 (Survey) when applicable.

* Any sign of the W20-1 series may be used.

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 28220
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

SHEET NUMBER 228

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED G. LEBLANC J. COLVIN
DETAILED C. FAKOURI
CHECKED G. LEBLANC
SERIES NUMBER

REVISION OR CHANGE ORDER DESCRIPTION — BY — DATE
DATE: 7/2/18

NO. — DATE — APPROVED BY CHIEF ENGINEER

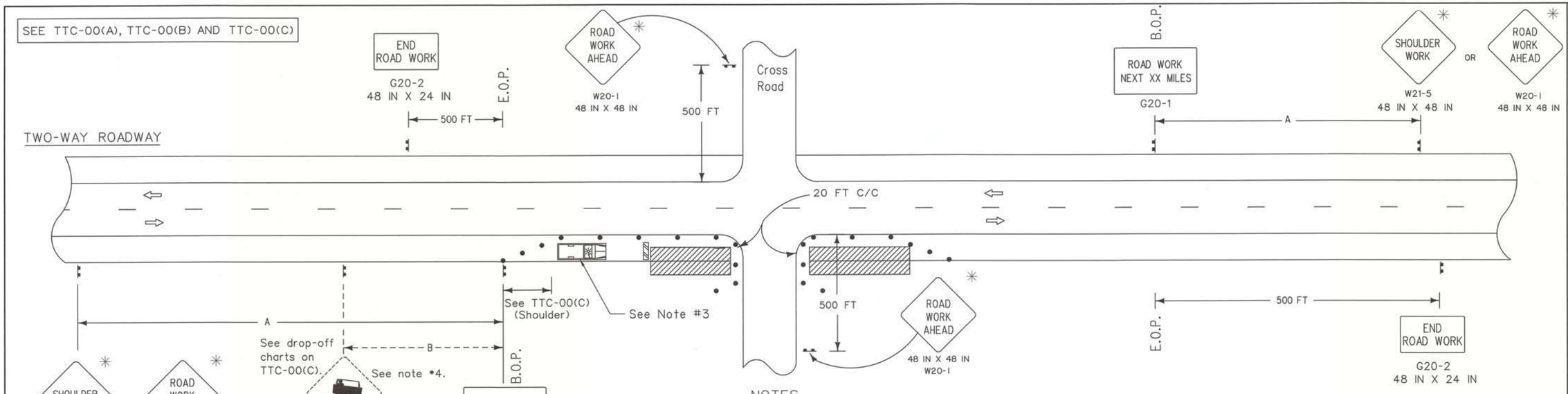
TEMPORARY TRAFFIC CONTROL FOR WORK GREATER THAN 15 FEET FROM THE TRAVELED WAY

TTC-01

DOTD TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B) AND TTC-00(C)

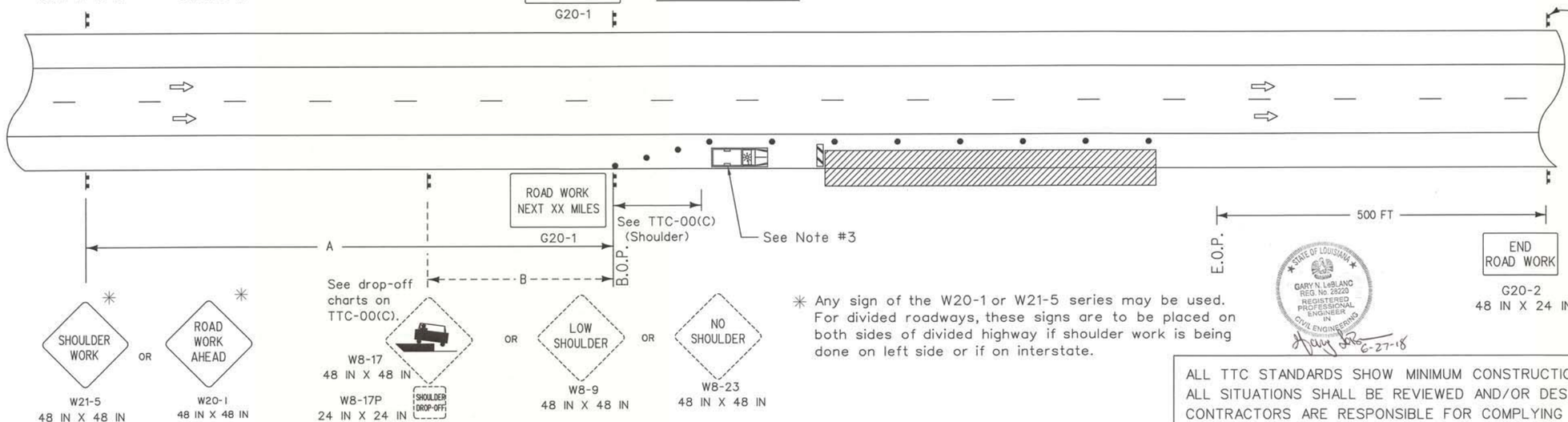
TWO-WAY ROADWAY



SPEED LIMIT (prior to construction)	SPACING	
	'A'	'B'
≤ 40 mph	500 FT	250 FT
45-50 mph	1000 FT	350 FT
≥ 55 mph	1500 FT	500 FT
Expressway/Interstate	2500 FT	1000 FT

- See TTC-00(C) for minimum taper length and maximum device spacing for shoulder closure tapers.
- If horizontal curve radius is less than 300 feet, device spacing shall be 25 feet.

DIVIDED ROADWAY



NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C)

1. This layout represents the minimum traffic controls required for workers and equipment operating less than 15 feet from the traveled way for more than one hour. Less than one hour, see figure TA-4 of the MUTCD.
2. No signs or barricades are required for equipment operating or work in progress greater than 15 feet from the traveled way. (See TTC-01).
3. Work or equipment confined to a spot location (less than 200 feet) shall be marked by channelizing devices spaced at 25 feet or by a vehicle with an amber light visible to traffic. Work extending more than 200 feet of roadway length shall be marked with appropriate devices spaced as noted on TTC-00(C).
4. Applicable drop-off sign options are defined on TTC-00(C).
5. The distance on the "Road Work Next XX Miles" sign shall be stated to the nearest whole mile. This sign shall be placed at the Beginning of Project (B.O.P.) limits. This sign may be omitted if work zone is less than 0.5 miles.
6. A vehicle with a flashing amber light and a truck mounted attenuator shall be used on all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the roll-ahead distance required by the manufacturer plus 100 feet.

✳ Any sign of the W20-1 or W21-5 series may be used. For divided roadways, these signs are to be placed on both sides of divided highway if shoulder work is being done on left side or if on interstate.

LEGEND

- Traffic Sign
- Channelizing Devices
- Type III Barricades
- Work Area
- Direction of Travel
- Truck with Amber Light

STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 28220
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SHEET NUMBER 229

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED G. LEBLANC
CHECKED J. COLVIN
DETAILED C. FAKOURI
CHECKED G. LEBLANC
SERIES NUMBER

NO.	DATE	BY	REVISION OR CHANGE ORDER DESCRIPTION
			DATE: 7/2/18

APPROVED BY CHIEF ENGINEER:

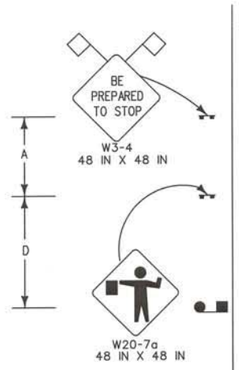
STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

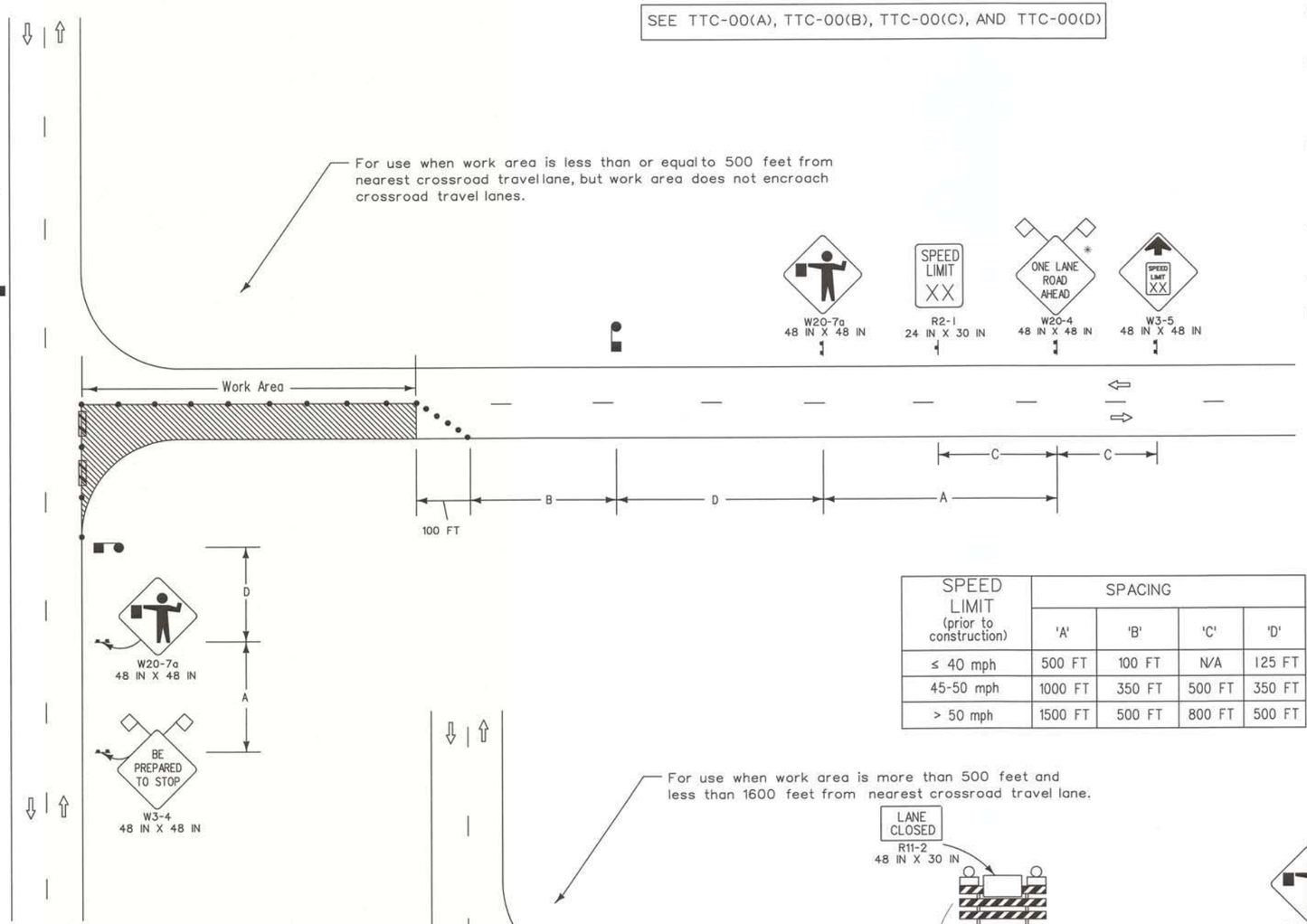
TEMPORARY TRAFFIC CONTROL
LAYOUT FOR WORK LESS THAN 15 FEET FROM THE TRAVELED WAY

TTC-02

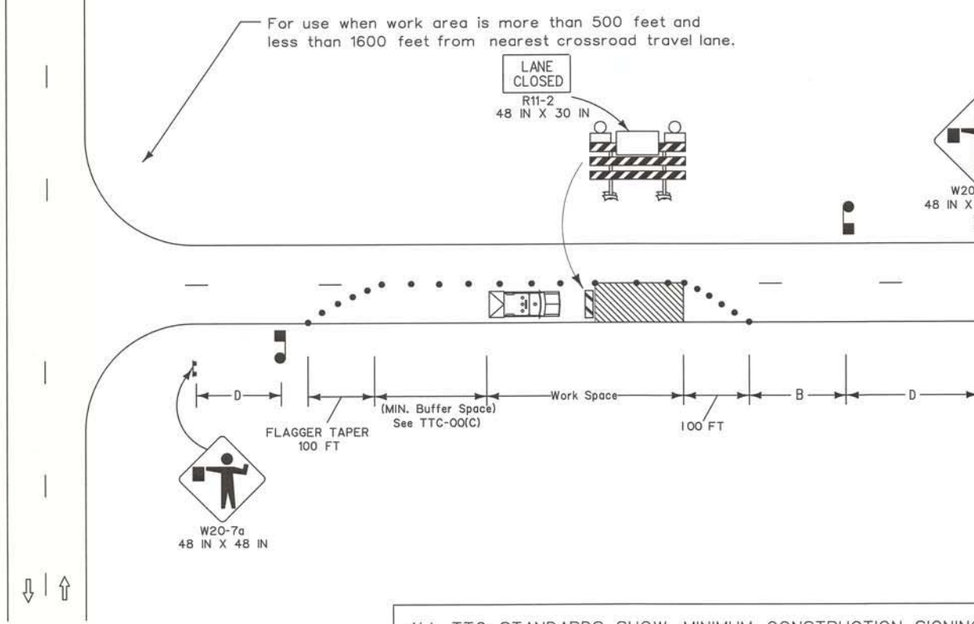
DOTD TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)





SPEED LIMIT (prior to construction)	SPACING			
	'A'	'B'	'C'	'D'
≤ 40 mph	500 FT	100 FT	N/A	125 FT
45-50 mph	1000 FT	350 FT	500 FT	350 FT
> 50 mph	1500 FT	500 FT	800 FT	500 FT



* Any sign of the W20-4 series may be used.

PILOT CAR

- If used, a pilot car shall guide a queue of vehicles through the work zone or diversion.
- It shall be used in restricted visibility operations such as lime or cement stabilization, chip seals, or operations in hilly or curvy terrains, where flaggers cannot see each other (no clear line-of-sight).
- The operation of the pilot vehicle shall be coordinated with flagging operations or other controls at each end of the one-lane section and all major driveways and street intersections.
- The pilot car sign should be mounted 7 feet above roadway in a position visible to oncoming and following traffic.
- The pilot car shall have an amber beacon light.
- The sign mounted on the vehicle shall be two-sided.



LEGEND

- Traffic Sign
- Channelizing Devices
- Type III Barricades
- Work Area
- Flagger
- Type B Light
- Direction of Travel
- Truck with Amber Light and TMA

NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and TTC-00(D).

1. This layout represents the minimum traffic controls required for lane closures on two-lane roads with two-way traffic less than 1600 feet from an intersection. For advance signing see TTC-00(D).
2. Visual or radio contact shall be required between flaggers at all times. The flagger shall be visible from flagger sign.
3. Only law officers shall direct traffic against a traffic signal indication.
4. If work area is greater than 1600 feet see TTC-04.
5. If a pilot car is required then the contractor is not required to have channelizing devices in the tangent section.
6. A vehicle with a flashing amber light and a truck mounted attenuator shall be used on all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the roll-ahead distance required by the manufacturer plus 100 feet.

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

STATE OF LOUISIANA
GARY N. LEBLANC
REG. No. 25320
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

SHEET NUMBER 230

DESIGNED G. LEBLANC	DETAILED C. FAKOURI	CHECKED G. LEBLANC	CHECKED J. COLVIN	PARISH	CONTROL SECTION	STATE PROJECT	SERIES NUMBER

NO.	DATE	BY	REVISION OR CHANGE ORDER DESCRIPTION
			DATE: 7/2/18

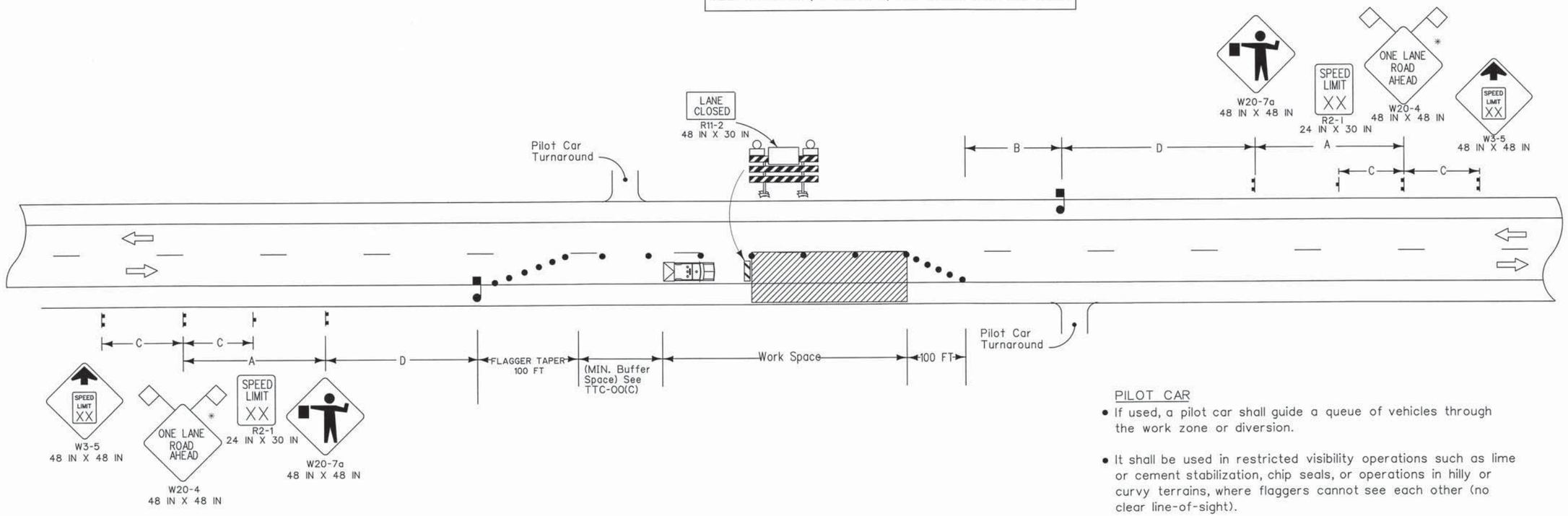
APPROVED BY CHIEF ENGINEER

TEMPORARY TRAFFIC CONTROL
LAYOUT FOR LANE CLOSURES ON TWO LANE ROADS WITH TWO-WAY TRAFFIC NEAR INTERSECTIONS (FLAGGING OPERATIONS)

TTC-03

DOTD TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)



NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C) and TTC-00(D).

1. This layout represents the minimum traffic controls required for lane closures on two-lane roads with two-way traffic greater than 1600 feet from an intersection. For this type of closure either a flagger or a pilot car will be required. For advance signing see TTC-00(D).

2. To prevent vehicles from entering the work area against the flow of traffic, an additional flagger shall be stationed at each intersection, major driveway, railroad crossing, or crossing within the work area.

3. For projects in rural areas the distance between flaggers shall not exceed:
   (A) 2.5 miles for ADT<2,500
   (B) 2.0 miles for 2,500<ADT<5,000
   (C) 1.5 miles for ADT>5,000

4. The flagger station shall be near the beginning of the taper and shall have adequate sight distance to be visible to oncoming traffic. If sight distance cannot be achieved, the distance between flaggers may be extended for a short duration.

5. Visual or radio contact shall be required between flaggers at all times. The flagger shall be visible from the flagger sign.

6. A vehicle with a flashing amber light and a truck mounted attenuator shall be used on all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the roll-ahead distance required by the manufacturer plus 100 feet.

7. If a pilot car is required then the contractor is not required to have channelizing devices in the tangent section.

8. If work zone is less than 1600 feet from an intersection see TTC-03.

SPEED LIMIT (prior to construction)	SPACING			
	'A'	'B'	'C'	'D'
≤ 40 mph	500 FT	100 FT	N/A	125 FT
45-50 mph	1000 FT	350 FT	500 FT	350 FT
≥ 55 mph	1500 FT	500 FT	800 FT	500 FT

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

PILOT CAR

- If used, a pilot car shall guide a queue of vehicles through the work zone or diversion.
- It shall be used in restricted visibility operations such as lime or cement stabilization, chip seals, or operations in hilly or curvy terrains, where flaggers cannot see each other (no clear line-of-sight).
- The operation of the pilot vehicle shall be coordinated with flagging operations or other controls at each end of the one-lane section and all major driveways and street intersections.
- The pilot car sign should be mounted 7 feet above roadway in a position visible to oncoming and following traffic.
- The pilot car shall have an amber beacon light.
- The sign mounted on the vehicle shall be two-sided.

PILOT CAR — G20-4, 36 IN X 18 IN (FRONT OF SIGN)

PILOT CAR FOLLOW ME — G20-4, 36 IN X 18 IN (BACK OF SIGN)

* Any sign of the W20-4 series may be used.

LEGEND

- Traffic Sign
- Flagger
- Channelizing Devices
- Type III Barricades
- Work Area
- Type B Light
- Direction of Travel
- Truck with Amber Light and TMA

STATE OF LOUISIANA — GARY N. LEBLANC, REG. No. 28220, REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING — 6-27-18

SHEET NUMBER 231

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED G. LEBLANC
CHECKED J. COLVIN
DETAILED C. FAKOURI
CHECKED G. LEBLANC
SERIES NUMBER

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

APPROVED BY CHIEF ENGINEER

DATE: 7/18

TEMPORARY TRAFFIC CONTROL
LAYOUT FOR LANE CLOSURES ON TWO LANE ROADS WITH TWO-WAY TRAFFIC (FLAGGING OPERATIONS)

TTC-04

DOTD TRAFFIC ENGINEERING

NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and TTC-00(D).

1. This layout represents the minimum traffic controls required for lane closures and lane shift using temporary barrier rail on divided highways. This includes freeways. For advance signing see TTC-00(D).

2. If a ramp entrance or exit taper falls within the work area, refer to standard road plan TTC-12 for traffic control details.

3. When traffic control is planned to be in place for more than 3 days, conflicting pavement markings shall be removed and temporary markings added. Existing broken line pavement marking shall be removed from the W4-2 sign through the work area.

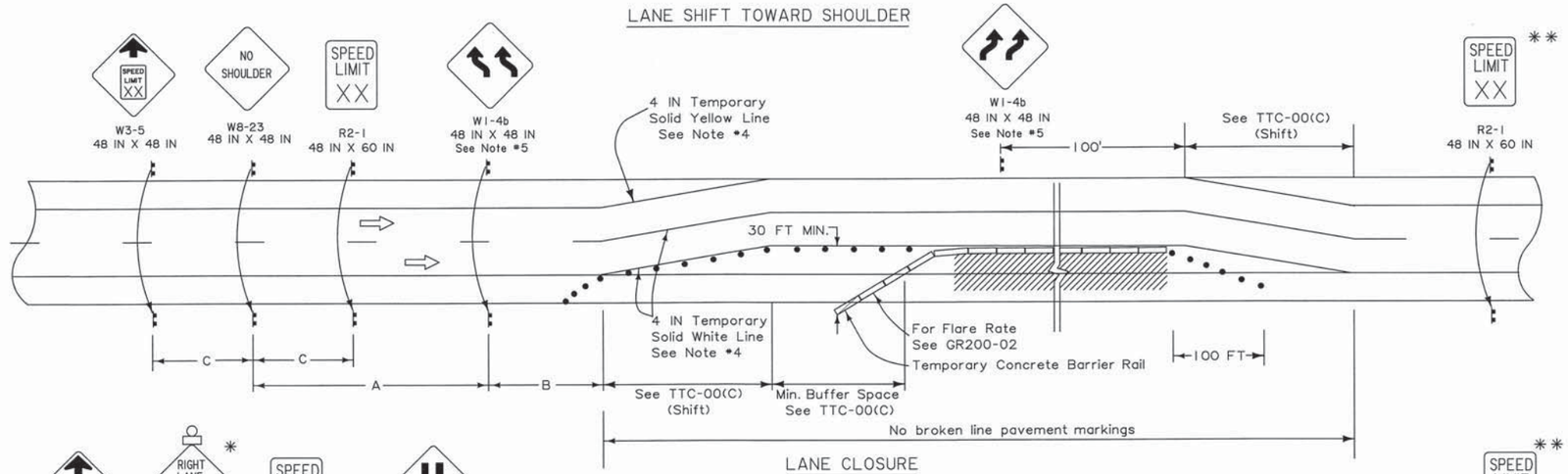
4. For work lasting more than 3 days, a temporary edgeline shall be installed from the start of the merging taper to the far end of the downstream taper.

5. If the lane shift occurs on new pavement or existing shoulder, then W1-4R or W1-4L is required.

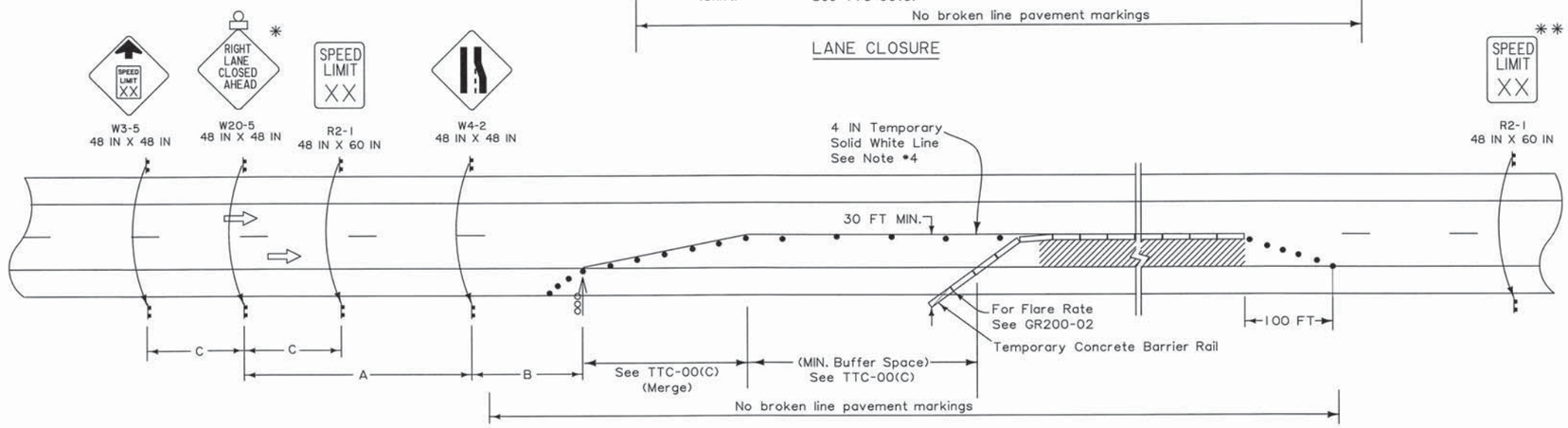
6. If a shoulder which is not at full pavement depth is used as a temporary travel lane, advanced signs should direct trucks to use the existing roadway, not the shoulder.

7. When traffic is diverted onto shoulder, additional shoulder work and/or soil stabilizers may be required. Shoulder and embankment stability should be evaluated beforehand.

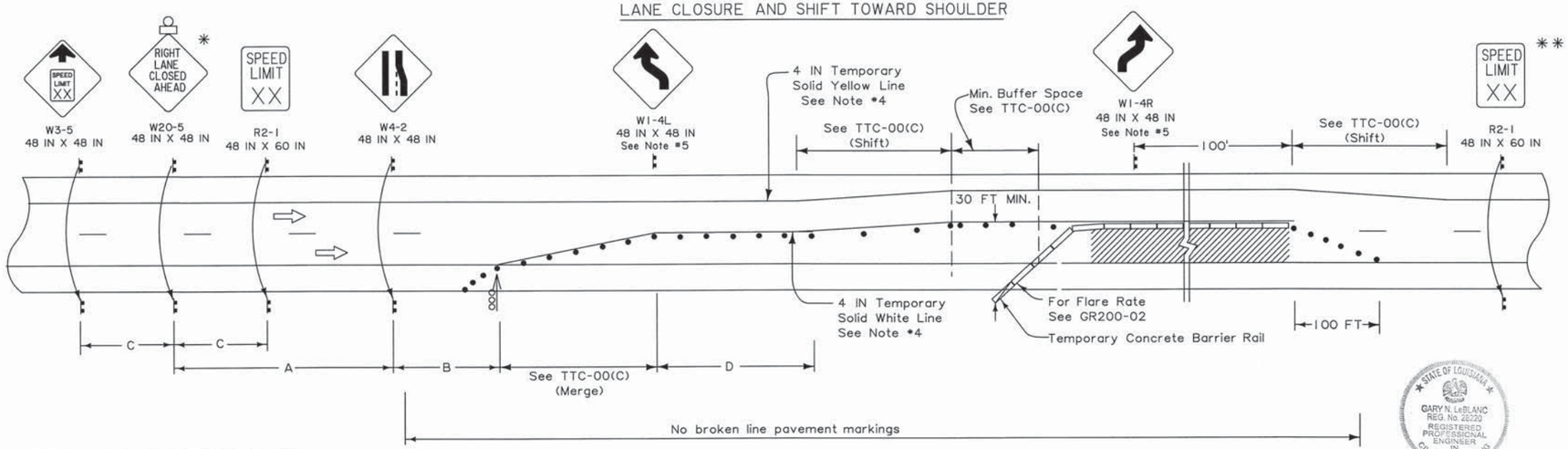
LANE SHIFT TOWARD SHOULDER



LANE CLOSURE



LANE CLOSURE AND SHIFT TOWARD SHOULDER



SPEED LIMIT (prior to construction)	SPACING			
	'A'	'B'	'C'	'D'
45 mph	1000 FT	500 FT	500 FT	300 FT
50 mph	1000 FT	500 FT	500 FT	300 FT
≥ 55 mph	1640 FT	1000 FT	800 FT	450 FT

LEGEND

- Traffic Sign
- Channelizing Devices
- Flashing Arrow Board (Type 'C')
- Work Area
- Type B Light
- Concrete Barrier
- Direction of Travel

* Any sign of the W20-5 series may be used.

** Speed limit is to be returned to legally established speed limit.

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 26220
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

SHEET NUMBER 232

PARISH | CONTROL SECTION | STATE PROJECT

DESIGNED G. LEBLANC
CHECKED J. COLVIN
DETAILED C. FAKOURI
CHECKED G. LEBLANC
SERIES NUMBER

REVISION OR CHANGE ORDER DESCRIPTION | BY | DATE

NO. | DATE | APPROVED BY CHIEF ENGINEER

DATE: 7/2/18

TEMPORARY TRAFFIC CONTROL
FOR LANE CLOSURE USING TEMPORARY BARRIER RAIL ON DIVIDED HIGHWAYS (INCLUDES FREEWAYS)

TTC-11

DOTD TRAFFIC ENGINEERING

SEE TTC-00(A), TTC-00(B), AND TTC-00(C)

NOTES

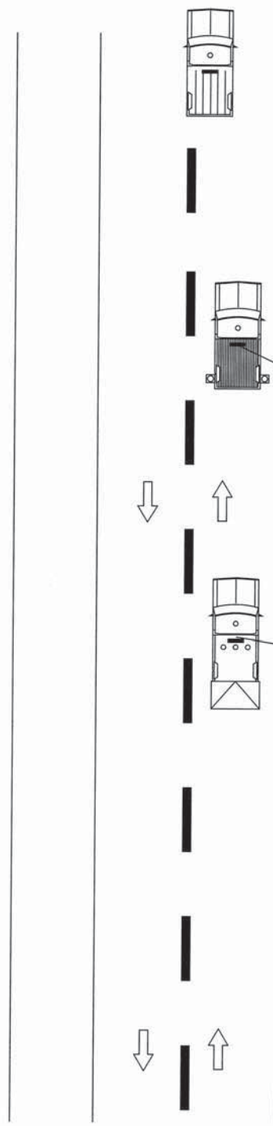
This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), and TTC-00(C).

1. This layout represents the minimum traffic controls required for moving operations on two-lane roads with two-way traffic, such as striping, street sweeping, and placement of raised pavement markers.

2. Distances between vehicles may vary and should be adjusted due to drying time and sight obstructions such as overpasses and hills. Vehicles with attenuators shall move with work operations. Buffer space shall not exceed rollahead distance required by the manufacturer plus 100 feet.

3. If a queue greater than 5 minutes (about 1000 feet) exists, the contractor shall cease operations and pull over to the shoulder until the queue dissipates.

4. Flaggers may be used with this layout, if needed. See TTC-00(B).



(Optional) Lead Vehicle straddling centerline with flashing lights may be used.

Work Vehicle with flashing light mounted on top and on outriggers and with Type C 96" X 48" arrow board in caution mode

CAUTION
WET PAINT
18 IN X 48 IN

Place this sign on back of work vehicle during striping operations.

First Protection Vehicle with flashing lights and Truck Mounted Attenuator.

ROAD WORK AHEAD *
W20-1
48 IN X 48 IN

OR

CAUTION
STRIPING MACHINE AHEAD
KEEP OFF WET PAINTED LINES
36 IN X 48 IN

Place this sign on back of protection vehicle during striping operations.

LEGEND

- Direction of Travel
- Work Vehicle
- Lead Vehicle
- Protection Vehicle

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

* Any sign of the W20-1 series may be used.

STATE OF LOUISIANA
GARY N. LeBLANC
REG. No. 28229
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
6-27-18

SHEET NUMBER 233

DESIGNED / CHECKED	PARISH	CONTROL SECTION	STATE PROJECT
G. LEBLANC / J. COLVIN			
DETAILED / CHECKED	SERIES NUMBER		
C. FAKOURI / G. LEBLANC			

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

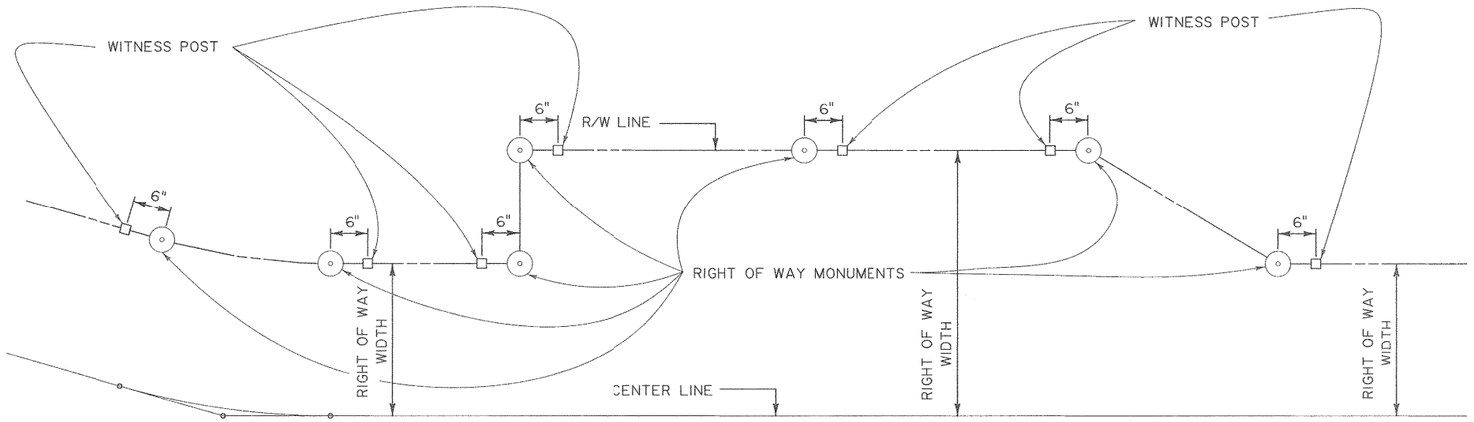
DATE: 7/5/18

APPROVED BY CHIEF ENGINEER:

TEMPORARY TRAFFIC CONTROL
FOR MOVING OPERATIONS ON
TWO-WAY TWO-LANE ROADWAYS

TTC-18

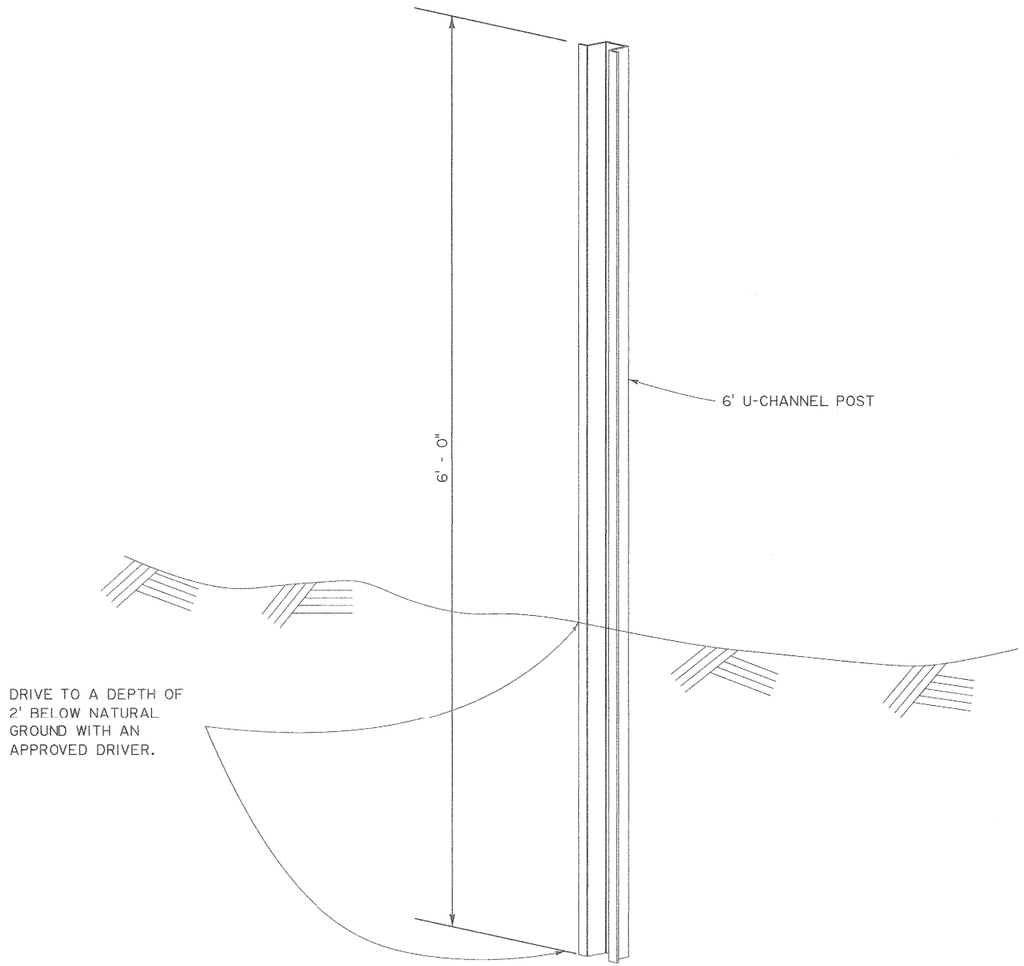
DOTD TRAFFIC ENGINEERING

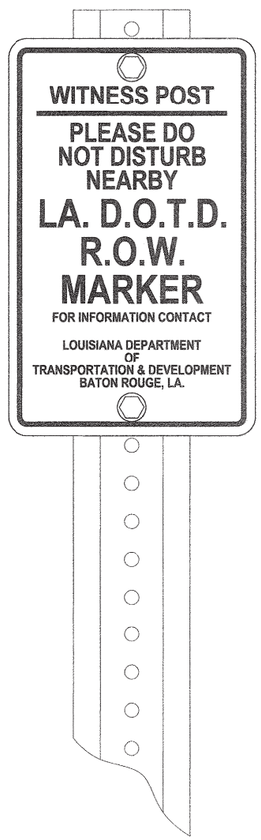


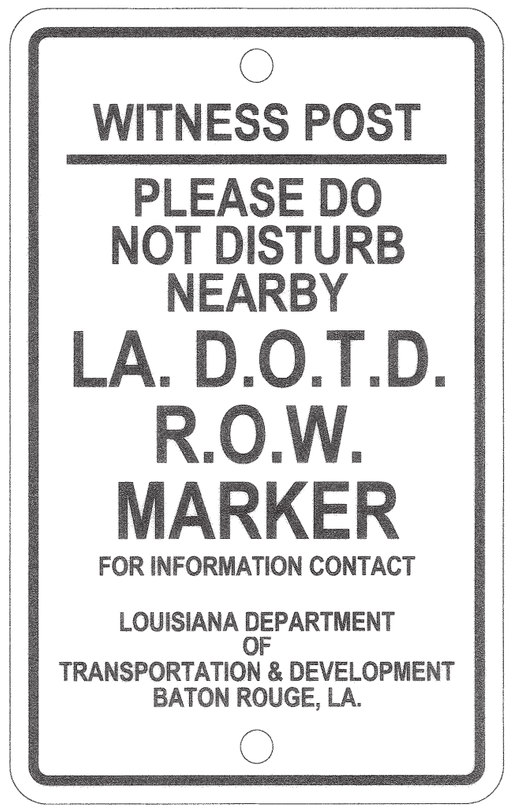
STANDARD RIGHT OF WAY MCNUMENT
WITNESS POST
P_AN SHOWING WHERE POSTS ARE TO BE PLACED

WITNESS POST SHALL CONSIST OF A U-CHANNEL POST AND RIGHT OF WAY MARKER SIGN DESCRIBED FURTHER AS A HEAVY DUTY GALVANIZED U-CHANNEL POST WEIGHING APPROXIMATELY 2 POUNDS PER FOOT, BEING 6 FOOT IN LENGTH, WITH 3/8 INCH BOLT HOLES SPACED I INCH APART ALONG THE LENGTH OF THE POST. THE SIGN SHALL BE MADE OF ALUMINUM WITH A THICKNESS OF 1/16 INCH, MEASURING 6 1/2 INCHES BY 10 1/2 INCHES WITH A DJRABLE DECAL AND HAVING 2 BOLT HOLES, SPACED 9 INCHES APART, TO ACCOMMODATE A 3/8 INCH BOLT. THE POST AND SIGN MUST MEET THE STANDARDS AS SHOWN ON THE PLANS OR AN APPROVED EQUAL. SUBSTITUTIONS MUST BE APPROVED BY THE LOCATION AND SURVEY SECTION ADMINISTRATOR, BATON ROUGE, LOUISIANA.

THE SIGN SHALL BE FASTENED TO THE POST USING EITHER GALVANIZED OR STAINLESS STEEL BOLTS, NUTS AND WASHERS, WITH SAID BOLT BEING 3/8 INCH DIAMETER AND LONG ENOUGH TO PROTRUDE 1/2 INCH OR LONGER BEYOND THE REAR OF THE POST.







SHEET NUMBER	234

PARISH	CONTROL SECTION	STATE PROJECT

DESIGNED	E.R.L.
CHECKED	E.R.L.
DETAILED	E.R.L.
CHECKED	W.H.T.
DATE	T.W.P.
SHEET	R.E.D.
BY	APPROVED

NO.	DATE	REVISION DESCRIPTION
4	10/17/12	REVISED TO SHOW NEW POST AND
3	5/26/09	REVISED WITNESS POST NOTE
2	3/27/08	REVISED TO UPDATE SHEET FORMA
1	7/9/97	CREATED STANDARD PLAN

RIGHT OF WAY MONUMENT WITNESS POSTS

STANDARD PLAN WP-01

DATE: 12-23-13 APPROVED: CHIEF ENGINEER

LOCATION AND SURVEY

IP PWP:dms10583\WP-01.dgn

FINAL PLANS

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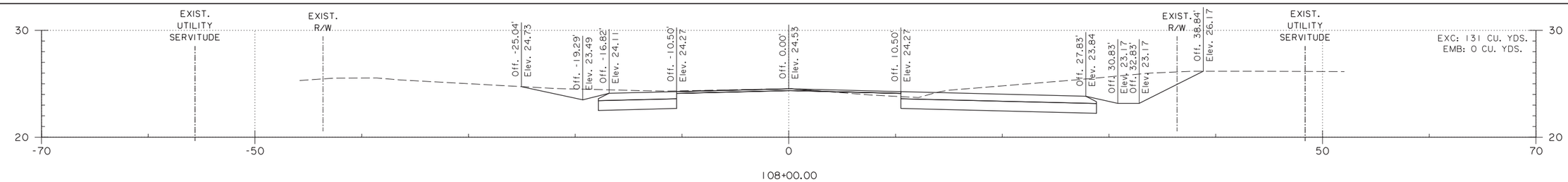

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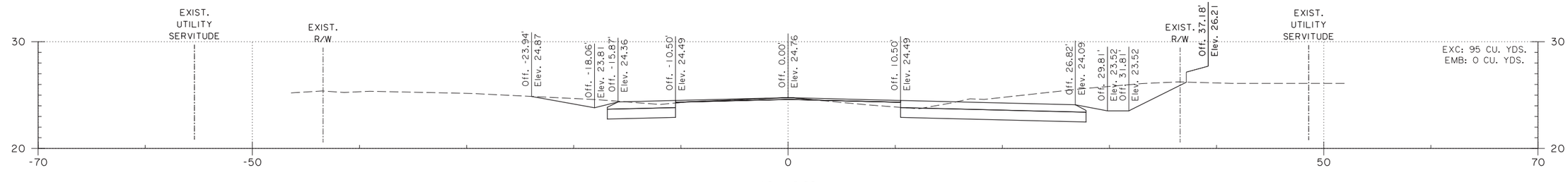

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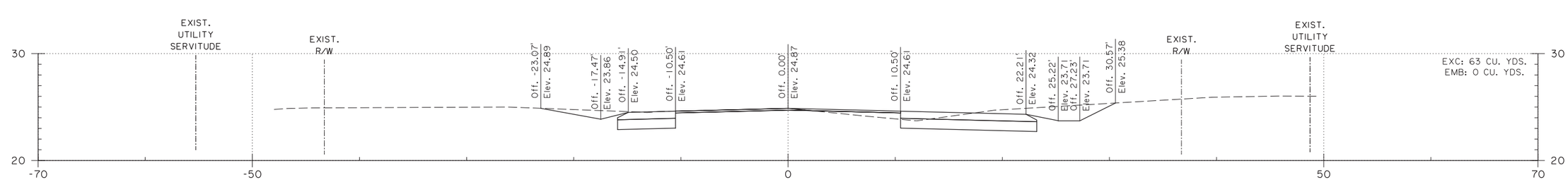

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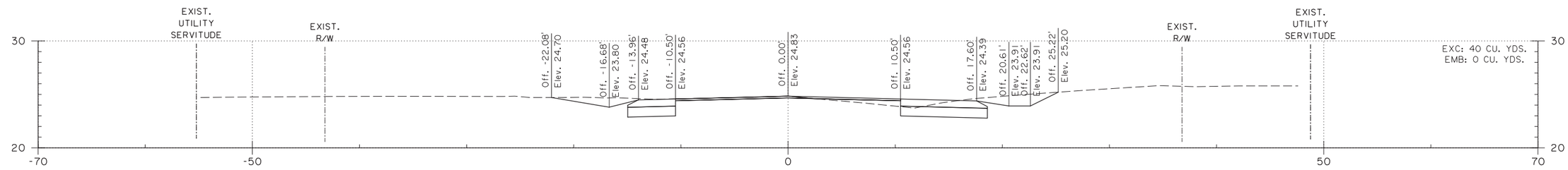

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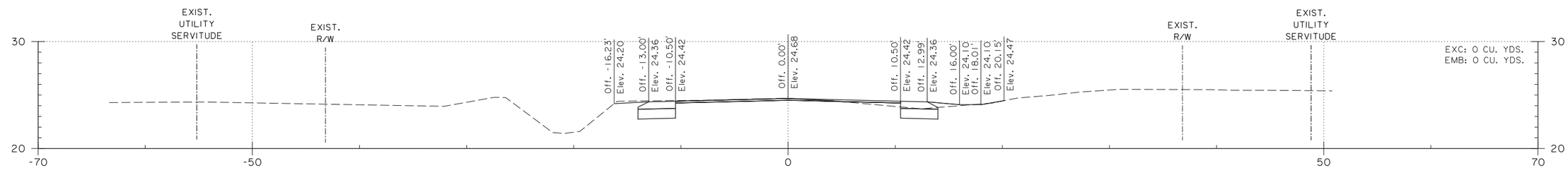

106+00.00

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

SHEET NUMBER	401
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED MXN / CHECKED DSY	
DETAILED SRP / CHECKED MXN	
SERIES NUMBER	1 OF 8

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

PARISH OF ASCENSION LOUISIANA

CROSS SECTIONS
LA 73 HWY
LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION
NEEL-SCHAFFER INC.

Xsec LA 73.dgn

FINAL PLANS

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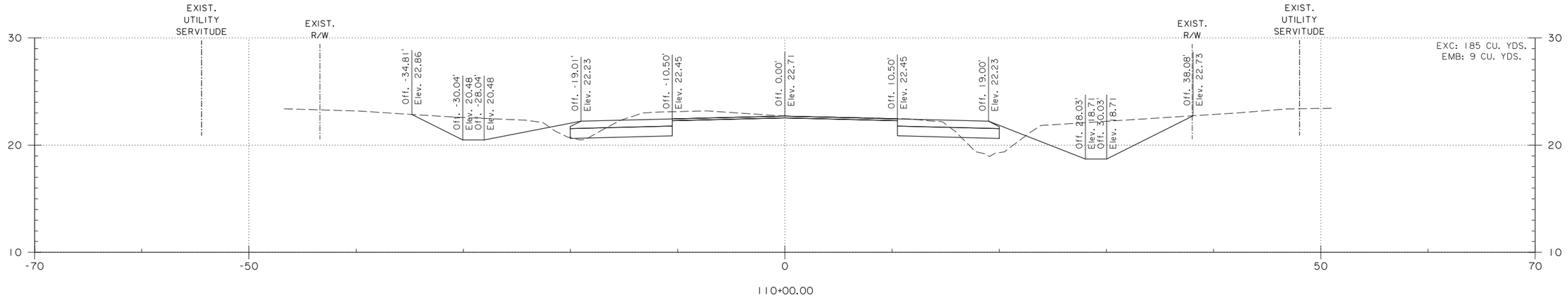

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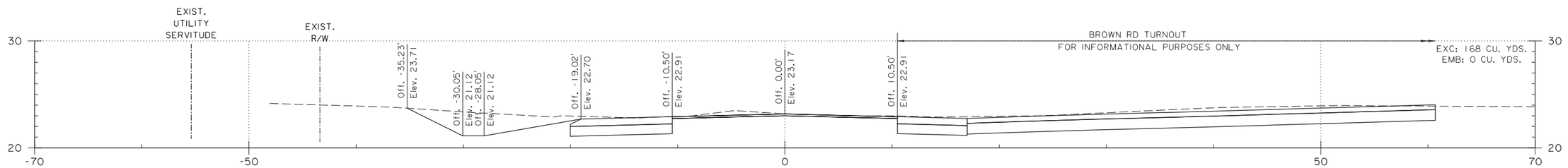

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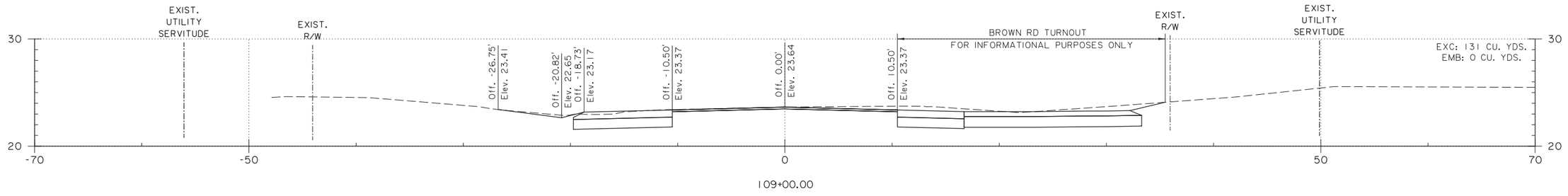

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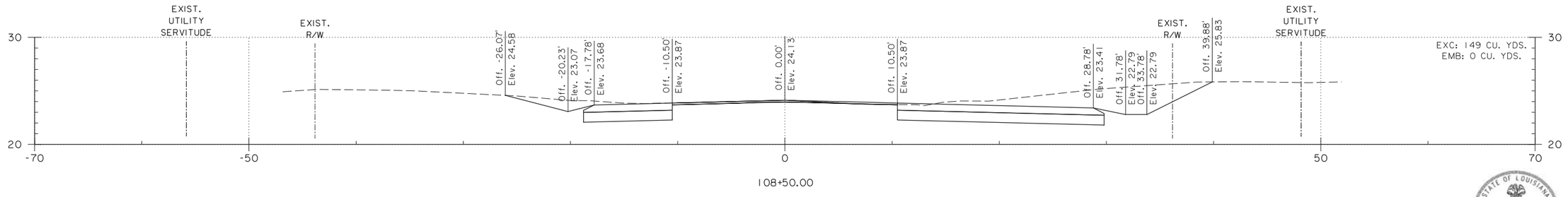


108+50.00

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

SHEET NUMBER	402
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED / CHECKED	MXN / DSY
DETAILED / CHECKED	SRP / MXN
SERIES NUMBER	2 OF 8

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

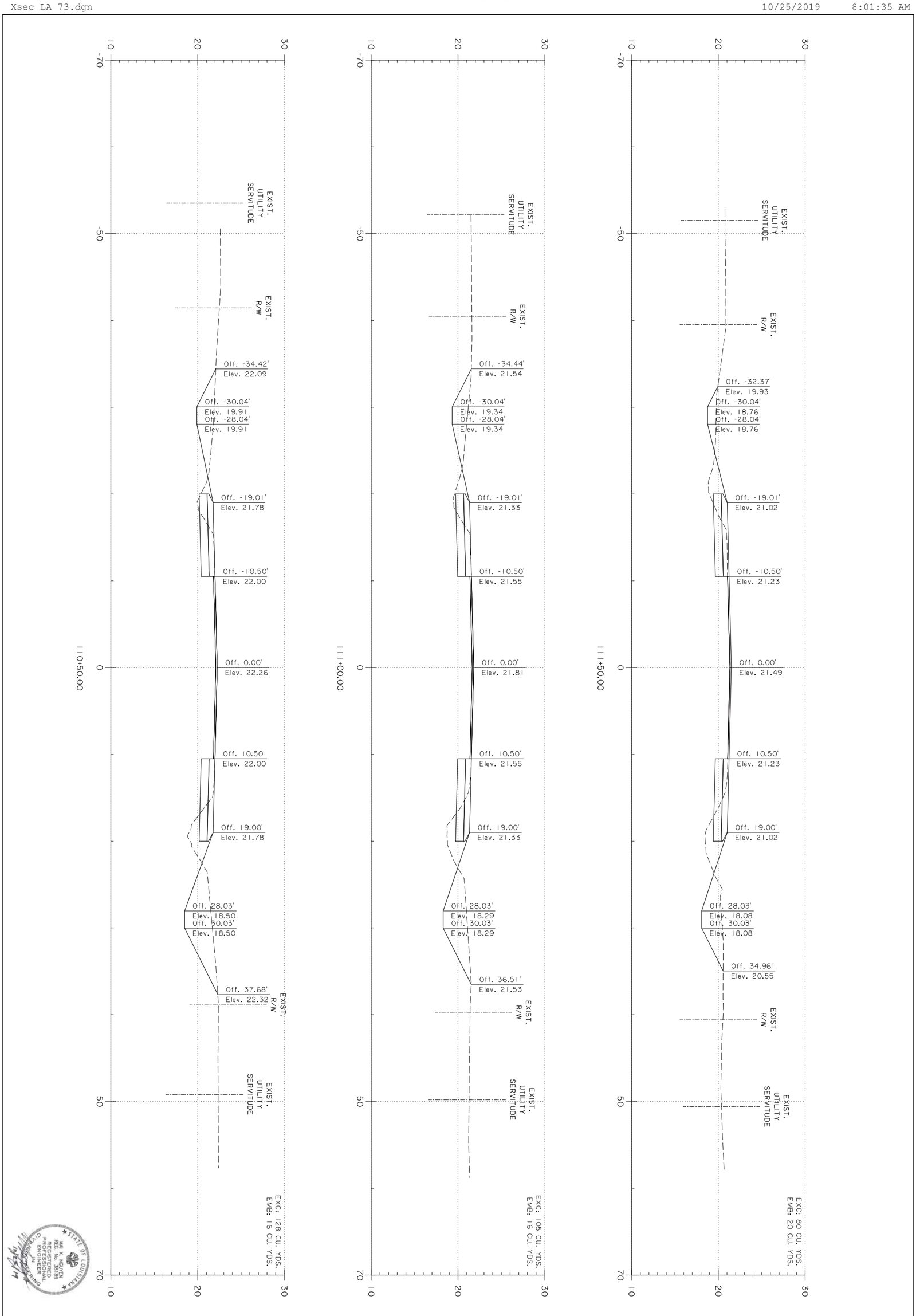
PARISH OF ASCENSION LOUISIANA

CROSS SECTIONS
LA 73 HWY
LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION
NEEL-SCHAFFER INC.

Xsec LA 73.dgn

FINAL PLANS



MOVE ASCENSION NEEL-SCHAFFER INC.	CROSS SECTIONS LA 73 HWY LA 73 TURN LANES @ BROWN ROAD	PARISH OF ASCENSION LOUISIANA	NO. / DATE / REVISION OR CHANGE ORDER DESCRIPTION / BY	DESIGNED MXN CHECKED DSY DETAILED SRP CHECKED MXN SERIES NUMBER 3 OF 8	PARISH ASCENSION CONTROL SECTION 077-03 PARISH PROJECT MA-18-03-A	SHEET NUMBER 403	

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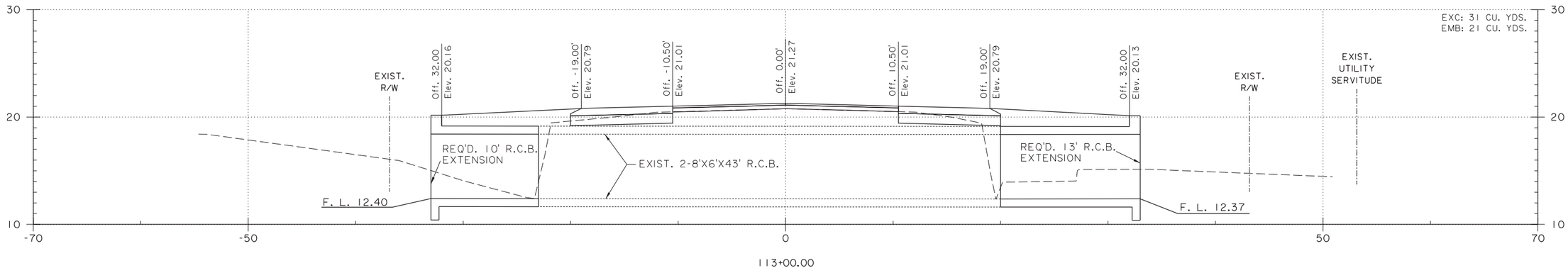
FINAL PLANS



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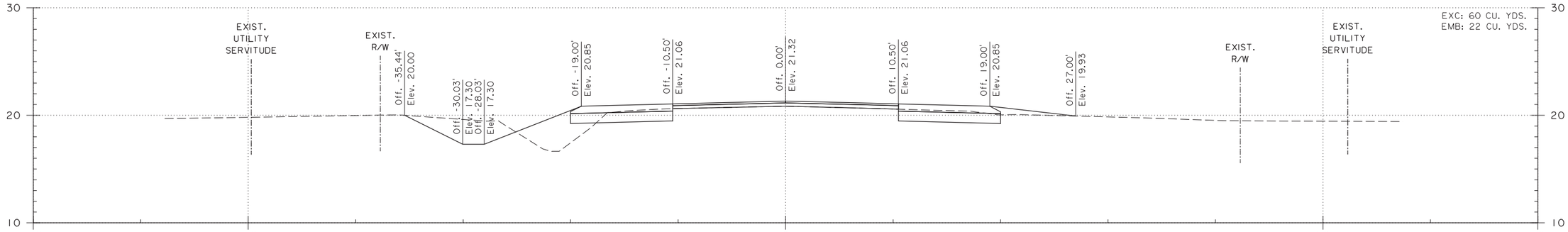

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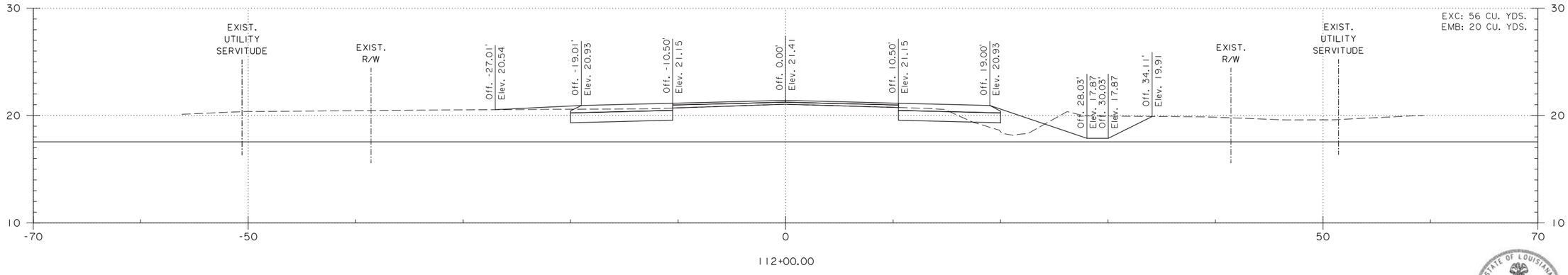

112+00.00

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING
10/25/19

SHEET NUMBER	404
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED MXN / CHECKED DSY	SERIES NUMBER 4 OF 8
DETAILED SRP / CHECKED MXN	

NO.	REVISION OR CHANGE ORDER DESCRIPTION	DATE	BY

PARISH OF ASCENSION LOUISIANA

CROSS SECTIONS

LA 73 HWY

LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION

NEEL-SCHAFFER, INC.

Xsec LA 73.dgn

FINAL PLANS

10/25/2019 8:01:36 AM

114+50.00

114+00.00

113+50.00

MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

SHEET NUMBER	405
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED / CHECKED	MXN / DSY
DETAILED / CHECKED	SRP / MXN
SERIES NUMBER	5 OF 8

NO.	REVISION OR CHANGE ORDER DESCRIPTION	DATE	BY

CROSS SECTIONS

LA 73 HWY

LA 73 TURN LANES @ BROWN ROAD

MOVE ASCENSION

NEEL-SCHAFFER, INC.

Xsec LA 73.dgn

FINAL PLANS

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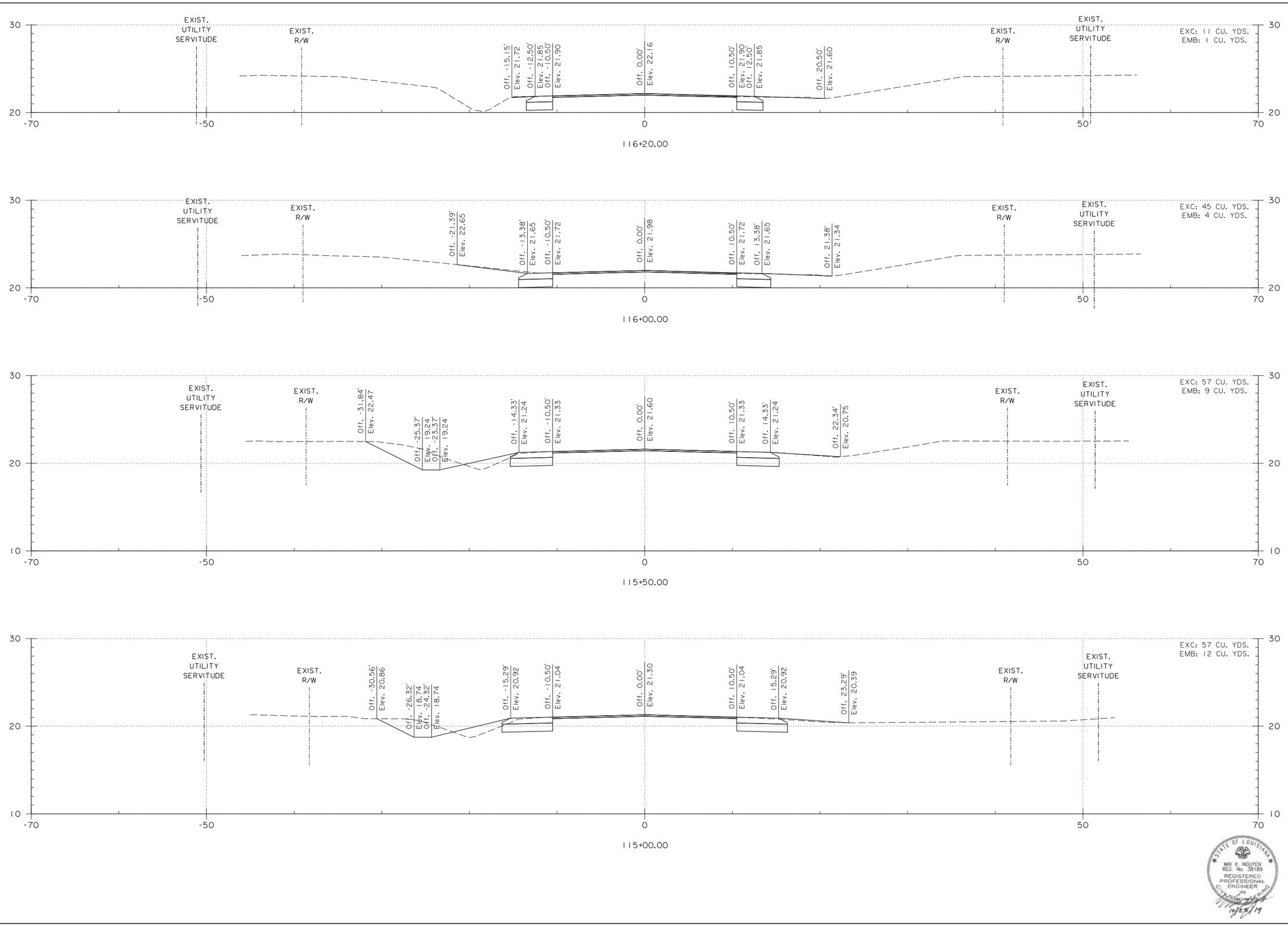

SHEET NUMBER	406
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED MXN / CHECKED DSY	
DETAILED SRP / CHECKED MXN	
SERIES NUMBER	6 OF 8

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

CROSS SECTIONS

LA 73 HWY

LA 73 TURN LANES @ BROWN ROAD

STATE OF LOUISIANA
MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

MOVE ASCENSION

NEEL-SCHAFFER INC.

Xsec LA 73.dgn

FINAL PLANS

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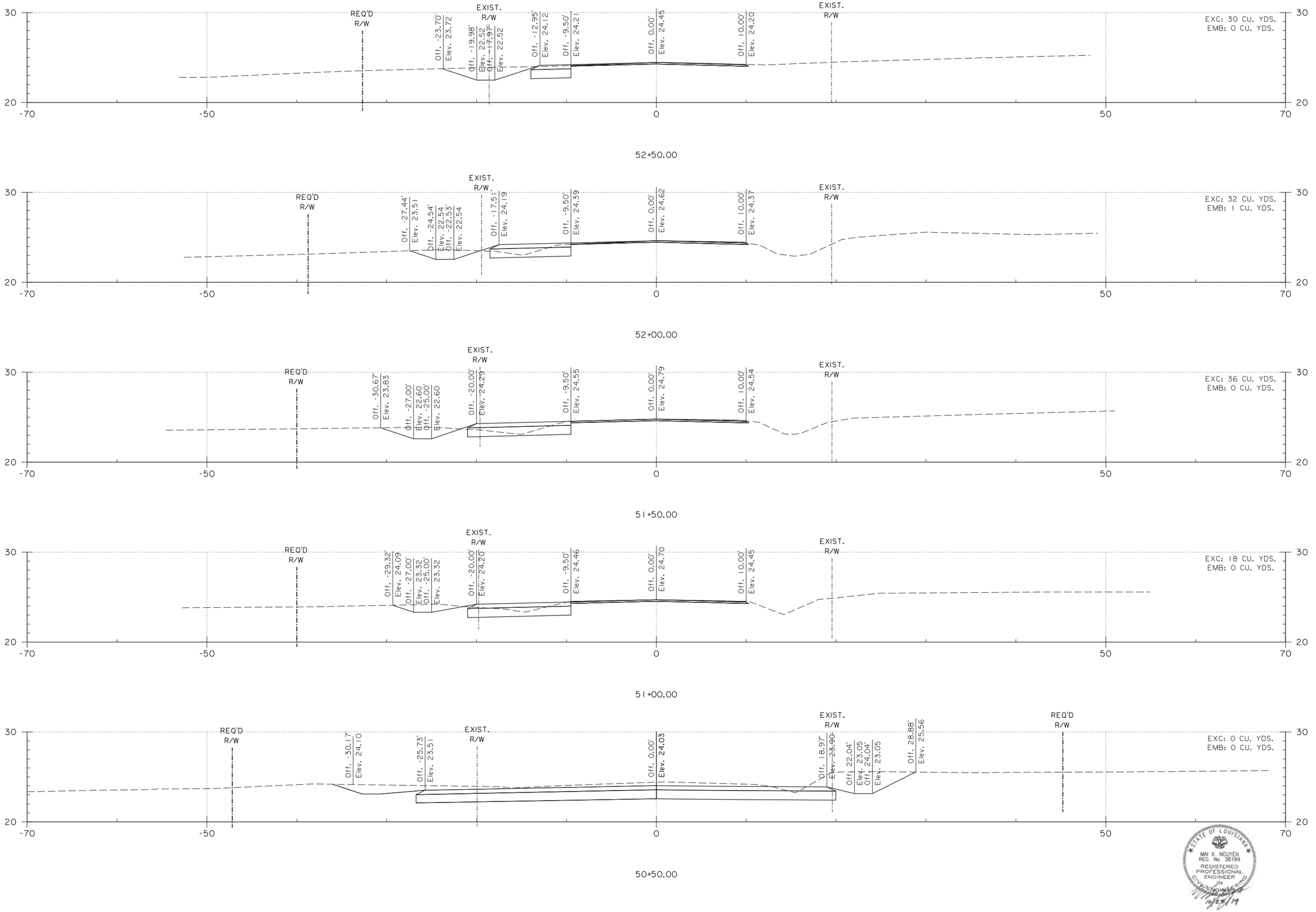


SHEET NUMBER	407
PARISH	ASCENSION
CONTROL SECTION	077-03
PARISH PROJECT	MA-18-03-A
DESIGNED / CHECKED	MXN / DSY
DETAILED / CHECKED	SRP / MXN
SERIES NUMBER	7 OF 8

REVISION OR CHANGE ORDER DESCRIPTION | BY | NO. | DATE

CROSS SECTIONS

BROWN RD.

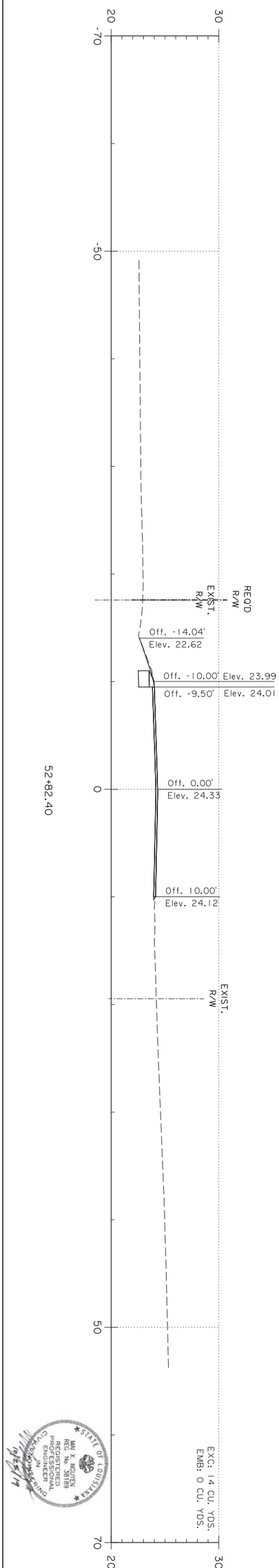
LA 73 TURN LANES @ BROWN ROAD

MAI X. NGUYEN
REG. No. 38189
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/25/19

MOVE ASCENSION

NEEL-SCHAFFER INC.

Xsec Brown Rd.dgn



MOVE ASCENSION NEEL-SCHAFFER INC.	CROSS SECTIONS BROWN RD. LA 73 TURN LANES @ BROWN ROAD	PARISH OF ASCENSION LOUISIANA	NO. / DATE / REVISION OR CHANGE ORDER DESCRIPTION / BY	DESIGNED MXN CHECKED DSY DETAILED SRP CHECKED MXN SERIES NUMBER 8 OF 8	PARISH ASCENSION CONTROL SECTION 077-03 PARISH PROJECT MA-18-03-A	SHEET NUMBER 408

Materials Sampling and Testing Manual

Move Ascension

Date: 7/2019

I-1 2/07

SECTION 201 CLEARING & GRUBBING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BACKFILL SOIL (HOLES)	Usable Soil	Accept.	**SEE SECTION 203 OF THIS MANUAL**	Dist. Lab						

I-2 2/07

SECTION 202 REMOVING OR RELOCATING STRUCTURES AND OBSTRUCTIONS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BACKFILL	Usable Soil	Accept.	**SEE SECTION 203 OF THIS MANUAL**	Dist. Lab						

I-3 2/07

SECTION 203 EXCAVATION & EMBANKMENT

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
EMBANKMENT, CUT & FILL AREAS	Density	Quality Control	Contractor TR 401	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. TR 401	Proj. Engr.	1/1,000 lin ft/ 2-lane rdwy /lift*	-----	-----	-----	1/2 hr.	*DOTD TR 415 or TR 418 will be completed by the Department for each section/lift as needed for optimum moisture content and determining % compaction.
		IA	Dist. Lab TR 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Embankment lift (Uncompacted Thickness) or Subgrade Preparation	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	*	Proj. Engr.	1/1,000 lin ft/ 2-lane rdwy /lift	-----	-----	-----	-----	*Proj. Engr. to check lift thickness during placement & thickness of top layer during preparation.
	Moisture Content @ time of compaction	Quality Control	Contractor TR 403	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. TR 403	Proj. Engr.	1/1,000 lin ft/ 2-lane rdwy /lift	-----	-----	-----	1 hr.	Test taken during or just prior to compaction operation.
	Soil on Cut Slope (for PH and PI)	Accept.	Proj. Engr. S 401	Dist. Lab	1/1,000 lin ft/ slope/soil type	1 full sample sack	-----	-----	5 days	To determine the need for plastic soil blanket or soil modification option.

PAGE NOT USED

SECTION 203 EXCAVATION & EMBANKMENT (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/ shipment/ source	3 lin ft of full width of fabric roll*	CC 1	150 yd^2	10 days	(AML) Visually inspect seams & UV damage. Seams other than 401 or "J" shall be approved by the Materials & Testing Section. See QA Manual. *Sample a minimum of 18 ft2. Avoid sampling at end of roll.
LIME	Agricultural	Accept.	Proj. Engr. S 102 or S 101	Mat. Lab	**SEE SECTION 718 OF THIS MANUAL.**					
	Hydrated or Quick Lime	Accept./ Verif./ Prelim.	**SEE SECTION 304 OF THIS MANUAL.**							
NON-PLASTIC EMBANKMENT	Density	Quality Control	Contractor TR 401	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. TR 401	Proj. Engr.	1/1,000 lin ft/2-lane rdwy/lift	-----	-----	-----	1/2 hr.	-----
		IA	Dist. Lab TR 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Embankment Lift (Uncompacted Thickness)	Quality Control	-----	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr.*	Proj. Engr.	1/1,000 lin ft/ 2 lane rdwy/ lift	-----	-----	-----	-----	*Check lift thickness during placement.
	Moisture Content @ Time of Compaction	Quality Control	Contractor TR 403	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. TR 403	Proj. Engr.	1/1,000 lin ft/ 2 lane rdwy/ lift	1 gal Friction top can	-----	-----	1 hr.	-----
	Blended Calcium Sulfate	Prelim. Source Approval	Dist. Lab S 101	Mat. Lab	1/source/ blend	6 full sample sacks	-----	-----	4 weeks	Source shall be approved by the Materials and Testing Lab prior to use.
		Quality Control	Contractor S 101	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. S 101	Dist. Lab	1/2,000 yd^3	1 full sample sack	-----	500 yd^3	4 days	Shall be from an approved source.
		IA	Dist. Lab S 101	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					

SECTION 203 EXCAVATION & EMBANKMENT (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
NON-PLASTIC EMBANKMENT (Cont'd)	Sand	Quality Control	Contractor S 401	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. *S 401	Dist. Lab	1/2,000 yd^3	1 full sample sack	-----	500 yd^3	4 days	*The Dist. Lab will sample if material is in borrow pit.
		IA	Dist. Lab S 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Stone	Quality Control	Contractor S 101	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. S 101	Dist. Lab	1/2,000 yd^3	1 full sample sack	-----	500 yd^3	4 days	Shall be from AML.
		IA	Dist. Lab S 101	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
PLASTIC SOIL BLANKET	Thickness (Compacted)	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr.	Proj. Engr.	1/1,000 lin ft /slope	-----	-----	-----	-----	Proj. Engr. to check lift thickness after compaction.
	Plastic Soil	Quality Control	Contractor S 401	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.**	Proj. Engr. S 401	Dist. Lab	1/1,000 yd^3*	1 full sample sack	-----	300 yd^3	5 days	*Not required if tested & approved as excavation or borrow pit material. Pit approval allowed if identifiable strata can be isolated. **Shall support a satisfactory stand of grass in accordance with Sections 714 or 717.
SELECTED SOIL refer to 701 repeat this column in 701 check with M. Morvant before finalized	In-Place on Roadway	Quality Control	Contractor S 401	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. S 401	Dist. Lab	1/1,000 lin ft/ 2-lane rdwy or 1/2,000 lin ft / shoulder	1 full sample sack	-----	-----	5 days	-----
	Stockpile	Quality Control	Contractor S 401	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. S 401	Dist. Lab	1/1,000 yd^3	-----	-----	-----	5 days	-----

SECTION 203 EXCAVATION & EMBANKMENT (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
USABLE SOIL	Borrow Pits	Quality Control	Contractor S 401	Contractor	1 boring/acre*	-----	-----	-----	-----	*Results shall be submitted to Dist. Lab with boring request.
		Accept.	Dist. Lab S 401	Dist. Lab	1 boring/ acre for first 2 acres; 1 boring/2 acres there after.	1/2 sample sack*	-----	100 yd^3	6 days	*Min. 10 lb required for test. May be sampled on the roadway if questionable.
	Excavation	Quality Control	Contractor S 401	Contractor	as required*	1 full sample sack	-----	-----	-----	May be accepted by subgrade soil survey upon approval of the Dist. Lab. *Sample full depth of excavation.
		Accept.	Dist. Lab S 401	Dist. Lab	as required*	1 full sample sack	-----	100 yd^3	5 days	
	Stockpile	Quality Control	Contractor S 401	Dist. Lab	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. S 401	Dist. Lab	1/1,000 yd^3	1 full sample sack	-----	100 yd^3	5 days	Will be approved in stockpile before placing on project.
Water		Accept.	Proj. Engr. S 303	Mat. Lab	1/source	1 qt plastic bottle	-----	-----	21 days	Visual inspection by P.E. Sample only if questionable.

SECTION 204 TEMPORARY EROSION CONTROL

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BURLAP		Accept.	Proj. Engr. S 601	Mat. Lab		3 lin ft of full width of fabric roll*	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable. Sample a minimum of 18 ft^2.
FERTILIZER		Accept.	**SEE SECTION 718 OF THIS MANUAL.**	Proj. Engr.						
HAY BALES		Accept	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.
SILT FENCE	Geotextile Fabric (Wire Supported)	Accept.	Proj. Engr. S 601	Mat. Lab		3 lin ft of full width of fabric roll*	-----	-----	10 days	(AML) *Visual inspection by Proj. Engr. Sample only if questionable. Sample a minimum of 18 ft2.
	Geotextile Fabric (Self Supported)	Accept.	Proj. Engr. S 601	Mat. Lab		3 lin ft of full width of fabric roll*	-----	-----	10 days	(AML) *Visual inspection by Proj. Engr. Sample only if questionable. Sample a minimum of 18 ft2.
JUTE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab		-----	-----	-----	10 days	Visual inspection by Proj. Engr. Sample only if questionable.
LIME (Agricultural)		Accept.*	**SEE SECTION 718 OF THIS MANUAL.**	Mat. Lab						*Visual inspection by Proj. Engr. Sample only if questionable.
LIVESTOCK WIRE		Accept.	Proj. Engr. S 601	Mat. Lab		-----	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
TEMPORARY CONSTRUCTION ENTRANCE M. Morvant will check spec	Geotextile Fabric	Accept.	Proj. Engr. S 601	Mat. Lab		3 lin ft of full width of fabric roll*	-----	-----	10 days	(AML)*Visual inspection by Proj. Engr. Sample only if questionable. Sample a minimum of 18 ft2.
	Recycled PCC	Accept.		Proj. Engr.			-----	-----	-----	*Visual inspection by Proj. Engr. Sample only if questionable. Sample size and unit weight determined by Dist. Lab. Must be from approved source.
	Stone	Accept.		Proj. Engr.			-----	-----	-----	(AML) *Visual inspection by Proj. Engr. Sample only if questionable. Sample size and unit weight determined by Dist. Lab. Must be from an approved source.

SECTION 204 TEMPORARY EROSION CONTROL (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
MULCH	Fiber Mulch	Accept.*	**SEE SECTION 716 OF THIS MANUAL.**	Mat. Lab						*AML
	Tacking Agent	Accept.*	**SEE SECTION 716 OF THIS MANUAL.**	Mat. Lab						*AML
	Hay or Straw	Accept.*	**SEE SECTION 716 OF THIS MANUAL.**	Mat. Lab						*Visual inspection by Proj. Engr. Sample only if questionable.
	Wood or Steel	Accept.	Proj. Engr. S 601	Proj. Engr.	*	-----	-----	-----	-----	*Visual inspection by Proj. Engr.
POSTS		Accept.	**SEE SECTION 717 OF THIS MANUAL.**	Proj. Engr.						
SEED	Fiber Mats	Accept.	-----	Mat. Lab	*	-----	-----	-----	21 days	*Visual inspection by Proj. Engr. Sample only if questionable.
SLOPE DRAINS	Pipe	Accept.	-----	Mat. Lab	*	-----	-----	-----	21 days	*Visual inspection by Proj. Engr.

SECTION 301 CLASS I BASE COURSE

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGGREGATE BASES (DEDICATED STOCKPILE)	Blended Calcium Sufate (BCS)	Prelim. Source Approval	Dist. Lab S 101	Mat. Lab	1/source/blend	6 full sample sacks	-----	-----	12 weeks	
		Quality Control	Contractor S 101	Contractor	*	-----	-----	-----	-----	*Must be controlled so that materials placed in stockpile will conform to specifications when tested by the Department.
		Design*	Proj. Engr. S 101	Dist. Lab	1/source	6 full sample sacks	-----	-----	4 days	Material must be source approved. *For moisture-density relationships.
		Accept.	Proj. Engr. S 101	Dist. Lab	1/1000 yd^3	1 full sample sack	-----	-----	4 days	Material must be source approved.
		IA	Dist. Lab S 101 or S 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Recycled PC Concrete	Prelim. Source Approval	Dist. Lab S 101 & S 801	Mat. Lab	1/Stockpile*	12 full sample sacks	-----	-----	5 weeks	*See S 801 for maximum stockpile quantities. Raw material stockpiles shall be approved by Dist. Lab Engr. prior to crushing.
		Quality Control	Contractor S 101 & S 801	Contractor	*	-----	-----	-----	-----	*Must be controlled so that materials placed in stockpile will conform to specifications when tested by the Department.
		Design*	Proj. Engr. S 101	Dist. Lab	1/source	6 full sample sacks	-----	-----	4 days	Material must be source approved. *For moisture-density relationships.
		Accept.	Proj. Engr. S 101	Dist. Lab	1/1000 yd^3	1 full sample sack	-----	-----	4 days	Material must be source approved.
		IA	Dist. Lab S 101 or S 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
AGGREGATE BASES (DEDICATED STOCKPILE) (Cont'd)	Stone	Quality Control	Contractor S 101	Contractor	*	-----	-----	-----	-----	*Must be controlled so that materials placed in stockpile will conform to specifications when tested by the Department.
		Design*	Proj. Engr. S 101	Dist. Lab	1/source	6 full sample sacks	-----	-----	4 days	(AML) *For moisture-density relationships.
		Accept.	Proj. Engr. S 101	Dist. Lab	1/1000yd^3	1 full sample sack	-----	-----	4 days	-----
		IA	Dist. Lab S 101 or S 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
ASPHALTIC CONCRETE BASES	**FOR ALL RELATED MATERIALS, SEE SECTION 502 OF THIS MANUAL. SEE INDEPENDENT ASSURANCE PROGRAMS S 701.**									

SECTION 301 CLASS I BASE COURSE (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALTIC MATERIAL	Curing Membrane	**SEE SECTION 506 OF THIS MANUAL.**								
	Prime Coat	**SEE SECTION 505 OF THIS MANUAL.**								
CEMENT (HYDRAULIC)	Types I, II & IP	Prelim. Source Approval	Mfr. S 102	Mat. Lab	1/month/type	1 gal friction top can or acceptable moisture proof container	-----	-----	-----	(AML) Composited and blended from daily plant samples and submitted for quality control verification.
		Accept.	-----	Proj. Engr.	1/shipment	-----	CC 1 & 7	-----	-----	(AML)
		Verif.	Proj. Engr. S 102	Mat. Lab	1/project/ source	1 gal friction top can	-----	-----	21 days	(AML)
PORTLAND CEMENT CONCRETE		Design/ Quality Control/	**SEE SECTION 706 & 901 OF THIS MANUAL.**							
MIXTURE WITH CEMENT AT CENTRAL MIX PLANT sampling frequency	Percent Cement	Quality Control	Contractor TR 436	Contractor	2/half day*	-----	-----	-----	-----	*In addition to start-up of plant each day and after each shut down.
		Accept.	Proj. Engr. TR 436	Proj. Engr.	1/half day	-----	-----	-----	1 hr	-----
	Gradation	Quality Control	Contractor S 101	Contractor	1/half day*	1 full sample sack	-----	-----	-----	*When gradation is a requirement of specifications.
		Accept.	Proj. Engr. S 101	Proj. Engr.	1/day*	1 full sample sack	-----	-----	4 hr.	*Gradation will be run when questionable or individual components of SCG are mixed in a pugmill.
	Moisture Content	Quality Control	Contractor S 101 S 401	Contractor	1/half day*	-----	-----	-----	-----	*In addition to start-up of plant each day and after each shut down.
	Proportions	Quality Control	Contractor TR 436	Contractor	*	-----	-----	-----	-----	*Shall be monitored continuously.
		Accept.	Contractor TR 436	Proj. Engr.	1/half day	-----	-----	-----	1 hr.	-----
	Pulverization	Quality Control	Contractor S 401	Contractor	1/half day	-----	-----	-----	-----	-----
		Accept.	Proj. Engr. S 401	Proj. Engr.	1/half day	-----	-----	-----	1/2 hr.	-----

SECTION 301 CLASS I BASE COURSE (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BASE MATERIAL ON ROADWAY	Density	Quality Control	Contractor TR 401	Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications will be met.
		Accept.	Proj. Engr. TR 401	Proj. Engr.	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	-----	-----	-----	1/2 hr.	-----
		IA	Dist. Lab TR 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Cross Slope & Grade	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*Shall take measurements sufficient to ensure specifications are met.
		Accept.	Proj. Engr.	Proj. Engr.	1/half day	-----	-----	-----	1/4 hr.	Use an approved 10-ft metal static straightedge or other approved device.
	Moisture Content (For Soil Cement or Cement Stabilized Mixtures)	Quality Control	Contractor TR 403	Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		Accept.	Proj. Engr. S 101 S 401	Proj. Engr.	1/half day	-----	-----	-----	1 hr.	(TR 403)
	Thickness & Width	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*Shall take measurements sufficient to ensure specifications are met.
		Verif.	Proj. Engr. TR 602	Proj. Engr.	1/half day	-----	-----	-----	1/4 hr.	Proj. Engr. shall notify the Dist. Lab when section is complete.
		Accept.	Dist. Lab TR 602	Dist. Lab	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	-----	-----	300 lin ft per location	3 days	*See DOTD TR 602. For small quantity, Proj. Engr. Documents in field book.
SOIL (RAW)	Dedicated Stockpile	Quality Control	Contractor S 401	Contractor	-----	-----	-----	-----	-----	Control uniformity of moisture and soil type while stockpile is being built.
		Design*/ Accept.	Proj. Engr. S 401	Dist. Lab	1/1000 yd^3	6 full sample sacks**	-----	-----	21 days max	*For cement content & moisture-density relationships. **When soils are to be blended, each component must meet specifications before blending. Design and final
		IA	Dist. Lab S 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
WATER		Accept.	Proj. Engr. S 303	Mat. Lab	1/source*	1 qt plastic bottle	-----	-----	21 days	*Drinkable water need not be sampled.

SECTION 302 CLASS II BASE COURSE

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
NOTE: WHEN A CLASS II BASE COURSE IS PRODUCED BY CENTRAL PLANT MIXING, USE THE SAMPLING SCHEDULES IN SECTION 301 OF THIS MANUAL.										
AGGREGATE BASES	Blended Calcium Sufate (BCS)	Prelim. Source Approval	Dist. Lab S 101	Mat. Lab	1/source/blend	6 full sample sacks	-----	-----	12 weeks	
		Quality Control	Contractor S 101	Contractor	*	-----	-----	-----	-----	*Must be controlled so that materials placed in stockpile will conform to specifications when tested by the Department.
		Design*	Proj. Engr. S 101	Dist. Lab	1/source	6 full sample sacks	-----	-----	4 days	Material must be source approved. *For moisture-density relationships.
		Accept.	Proj. Engr. S 101	Dist. Lab	1/1000 yd^3	1 full sample sack	-----	-----	4 days	Material must be source approved.
		IA	Dist. Lab S 101 or S 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Recycled PC Concrete	Prelim. Source Approval	Dist. Lab S 801	Mat. Lab	1/stockpile*	6 full sample sacks	-----	-----	5 weeks	*See S 801 for maximum stockpile quantities. Raw material stockpiles shall be approved by Dist. Lab Engineer prior to crushing.
		Quality Control	Contractor S 101	Contractor	*	-----	-----	-----	-----	*Must test sufficient to ensure materials being delivered meet specification requirements.
		Design*	Proj. Engr. S 101	Dist. Lab	1/source	6 full sample sacks	-----	-----	4 days	Material must be source approved. *For moisture-density relationships.
		Accept.	Dist. Lab S 101	Dist. Lab	1/1000 yd^3	1 full sample sack	-----	100 yd^3	4 days	Material must be source approved.
	Stone	Quality Control	Contractor S 101	Contractor	*	-----	-----	-----	-----	*Must test sufficient to ensure materials being delivered meet specification requirements.
		Design*	Proj. Engr. S 101	Dist. Lab	1/source	6 full sample sacks	-----	-----	4 days	(AML) *For moisture-density relationships.
		Accept.	Dist. Lab S 101	Dist. Lab	1/1000 yd^3	1 full sample sack	-----	100 yd^3	4 days	(AML) Materials must be source approved.
		IA	Dist. Lab S 101	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
ASPHALTIC CONCRETE BASES	**FOR ALL MATERIALS, SEE 502 OF THIS MANUAL. SEE INDEPENDENT ASSURANCE PROGRAM S 701.**									

SECTION 302 CLASS II BASE COURSE (cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALTIC MATERIALS	Curing Membrane	**SEE SECTION 506 0F THIS MANUAL.**								
	Prime Coat	**SEE SECTION 505 0F THIS MANUAL.**								
CEMENT (Hydraulic)	Types I, II & IP	Prelim. Source Approval	Mfr. AASHTO T 127	Mat. Lab	1/month/type	1 gal friction top can or acceptable moisture proof container	-----	-----	-----	(AML) Composited and blended from daily plant samples and submitted for quality control verification.
		Accept.	-----	Proj. Engr.	1/shipment	-----	CD 1 & 7	-----	-----	(AML)
		Verif.	Proj. Engr. S 101	Mat. Lab	1/project/ source	1 gal friction top can	-----	-----	21 days	(AML)
CONCRETE, PORTLAND CEMENT, BASE		Design/ Quality Control/ Accept.	**SEE SECTION 901 OF THIS MANUAL.**							

SECTION 302 CLASS II BASE COURSE (cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BASE MATERIAL ON ROADWAY	Cement Spread Rate (For soil cement or cement treated bases only)	Quality Control	Contractor TR 436	Contractor	each transport*	-----	-----	-----	-----	*The contractor shall determine the length of spread prior to mixing. Use an approved sampling device.
		Accept.	Proj. Engr. TR 436	Proj. Engr.	1/day*	-----	-----	-----	1/2 hr.	*The Proj. Engr. will verify the length of spread prior to mixing. At the discretion of the Proj. Engr. Additional testing shall be performed when cement content changes. Use an approved sampling device.
	Cross Slope & Grade	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr.	Proj. Engr.	1/half day	-----	-----	-----	1/4 hr.	Use an approved 10 ft metal static straightedge or other approved device.
	Density	Quality Control	Contractor TR 401	Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		Accept.	Proj. Engr. TR 401	Proj. Engr.	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	-----	-----	-----	1/2 hr.	-----
		IA	Dist. Lab TR 401	Dist. Lab	**SEE INDEPENDENT**					
	Moisture Content (For Soil Cement or treated Sand-Clay-Gravel only)	Quality Control	Contractor S 101 or S 401	Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		Accept.	Proj. Engr. S 101 or S 401	Proj. Engr.	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	1 gal friction top can*	-----	-----	1 hr.	*May be obtained by M.C. % determined during application of TR 415 B, if available on in-place moisture at the time of compaction (TR 403).
	Pulverization (For soil-cement only)	Quality Control	Contractor S 401	Contractor	*	-----	-----	-----	-----	*Soil cement shall be tested sufficiently to ensure specifications are met.
		Accept.	Proj. Engr. S 401	Proj. Engr.	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	1 gal friction top can	-----	-----	1/2 hr.	DOTD TR 431
	Thickness & Width	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*Shall be measured sufficiently to ensure specifications are met.
		Verif.	Proj. Engr. TR 602	Proj. Engr.	1/half day	-----	-----	-----	1/4 hr.	Proj. Engr. To notify Dist. Lab when section is completed.
		Accept.	Dist. Lab TR 602	Dist. Lab	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	-----	-----	300 lin ft per location	3 days	See DOTD TR 602. For small quantity, Proj. Engr. documents in field book.

SECTION 302 CLASS II BASE COURSE (cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
GEOTEXTILE SEPARATOR FABRIC	Class D	Accept.	**SEE SECTION 203 OF THIS MANUAL.**	Mat. Lab						Only required when aggregate base course placed on un-treated or lime-treated soils.
SOILS (RAW) ON ROADWAY FOR SOIL CEMENT	Density (93%)	Quality Control	Contractor TR 401	Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met. Minimum density is required on roadway prior to spreading cement. Check M.C. % before mixing with cement (TR 403).
		Accept.	Proj. Engr. TR 401	Proj. Engr.	1/half day	-----	-----	-----	1/2 hr.	-----
	Soils/Soil-Aggregate	Design*	Proj. Engr. S 101 or S 401	Dist. Lab	1/1000 lin ft/2-lane rdwy or 1/ 2000 lin ft/shoulder	6 full sample sacks of blend	-----	-----	21 days	*For cement content and moisture-density relationships. Design will be conducted on blend.
		Accept.	Proj. Engr. S 101 or S 401	Dist. Lab	1/1000 lin ft/2-lane rdwy or 1/ 2000 lin ft/shoulder	1 full sample sack of blend & 1 sample sack of each component	-----	200 lin ft	5 days	Blending of soils prior to mixing with cement will not be allowed for adjustment of LL or PI.
		IA	Dist. Lab S 101 or S 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
SOILS (RAW) IN STOCKPILE FOR SOIL CEMENT	Soils/Soil-Aggregate	Quality Control	Contractor S 101 or S 401	Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications will be met when placed on roadway. Check M.C. % before spreading cement.
		Design*	Proj. Engr. S 101 or S 401	Dist. Lab	1/1000 yd^3	6 full sample sacks of blend & 1 full sample sack of each component	-----	-----	21 days	*For cement content and moisture-density relationships. Design will be conducted on blend. For contractor design material sample must be accompanied by independent lab result in accordance with specification.
		Accept.	Proj. Engr. S 101 or S 401	Dist. Lab	1/1000yd^3	1 full sample sack of blend & 1 full sample sack of each component	-----	100 yd^3	5 days	Blending of soils prior to mixing with cement will not be allowed for adjustment of LL or PI.
		IA	Dist. Lab S 101 or S 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
Water		Accept.	Proj. Engr. S 303	Mat. Lab	1/source*	1 qt plastic bottle	-----	-----	21 days	*Drinkable water need not be sampled.

SECTION 303 IN-PLACE CEMENT STABILIZED BASE COURSE & IN-PLACE CEMENT TREATED BASE COURSE

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 502 AND 901 OF THIS MANUAL, AS APPLICABLE.										
MATERIAL FOR BASE PRIOR TO SPREADING CEMENT (Existing or Furnished Soils/Soil-Aggregate)	Contractor Furnished Soil	Quality Control	Contractor S 101 or S 401	Contractor	-----	-----	-----	-----	-----	Must test sufficient to ensure material will meet specification requirements before placing on roadway. Check M.C.% on all materials before spreading cement.
		Accept.	Proj. Engr. S 101 or S 401	Dist. Lab	1/1000 yd^3	1 full sample sack	-----	-----	4 days	Contractor furnished material will be approved before incorporation into existing material. Furnished material not meeting the requirement of specification Subsection 302.02(a) will not be incorporated in the base.
	Density (93%)	Quality Control	Contractor TR 401	Contractor	*	-----	-----	-----	-----	*Shall be tested frequently enough to ensure specifications are met. Minimum density is required on roadway prior to mixture with cement. All blending of soils materials will be accomplished before testing.
		Accept.	Proj. Engr. TR 401	Proj. Engr.	1/half day	-----	-----	-----	1/2 hr.	-----
	In-Place Material on Roadway	Design*/ Accept.	Contractor S101 or S401	Dist. Lab	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	6 full sample sacks	-----	-----	14 days	*For cement content and moisture-density relationships (if needed). Design will be conducted on the final blend.
	Pulverization	Quality Control	Contractor TR 401	Contractor	*	-----	-----	-----	-----	*Shall be tested frequently enough to ensure specifications are met.
		Accept.	Proj. Engr. TR 431	Proj. Engr.	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	Shall be obtained after blending of any contractor furnished material. Pulverization shall be approved prior to spreading cement.

SECTION 303 IN-PLACE CEMENT STABILIZED BASE COURSE & IN-PLACE CEMENT TREATED BASE COURSE (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 501,501 AND 901 OF THIS MANUAL, AS APPLICABLE.										
MIXTURE WITH CEMENT ON ROADWAY	Cement Spread Rate	Quality Control	Contractor* TR 436	303.07 Contractor	each transport	**	-----	-----	-----	*The contractor shall determine the length of spread prior to mixing. **Use an approved sampling device.
		Accept.	Proj. Engr.* TR 436	Proj. Engr.	1/day	**	-----	-----	1/2 hr.	*The Proj. Engr. will verify the length of spread prior to mixing. **Use an approved sampling device.
	Cross Slope & Grade	Quality Control	Contractor	303.07 Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met. Use an approved 10 ft metal static straightedge.
		Verif.	Proj. Engr.	Proj. Engr.	*	-----	-----	-----		Use an approved 10 ft. metal static straightedge or other approved device.
	Density	Quality Control	Contractor TR 401	303.07 Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		Accept.	Proj. Engr. TR 401	Proj. Engr.	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	-----
		IA	Dist. Lab TR 401	303.11 Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Moisture Content	Quality Control	Contractor S 101 or S 401	303.05 303.07 Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met. (DOTD TR 403)
		Accept.	Proj. Engr. S 101 or S 401	Proj. Engr.	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	1 gal friction top can*	-----	-----	1 hr.	*May be obtained by M.C.% determined during application of TR 415 B, if available on in-place moisture at the time of compaction (TR 403).
	Thickness & Width	Quality Control	Contractor	303.07 Contractor	*	-----	-----	-----	-----	*Shall be measured sufficiently to ensure specifications are met.
		Verif.	Proj. Engr. TR 602	Proj. Engr.	1/half day	-----	-----	-----	1/4 day	Proj. Engr. shall notify Dist. Lab when section is complete.
		Accept.	Dist. Lab TR 602	Dist. Lab	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	300 lin ft per location	3 days	*See DOTD TR 602. For small quantity, Proj. Engr. documents in field book.

SECTION 304 LIME TREATMENT

MATERIAL	PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 502 AND 901 OF THIS MANUAL, AS APPLICABLE.									
CURING MEMBRANE	Type B (only)	-----	-----	Mat. Lab/ Proj. Engr.	**SEE SECTION 506 OF THIS MANUAL.**				
LIME (Hydrated and Quicklime)		Prelim. Source Approval	Mfr. S 102	Mat. Lab	1/quarter	-----	-----	-----	-----	-----
		Accept.	-----	Mat. Lab	1/shipment	-----	CD 1 & 7	-----	-----	(AML)
		Verif.	Proj. Engr. S 102	Mat. Lab	1/project/ source	1 gal friction top can	-----	-----	21 days	(AML) *Not required if sampled under another item.
MIXTURE ON ROADWAY	Density- (Type B & C)	Quality Control	Contractor TR 401	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. TR 401	Proj. Engr.	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	-----
		IA (Type B only)	Dist. Lab TR 401	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Density- (Type D)	Accept.	Proj. Engr.	Proj. Engr.	-----	-----	-----	-----	-----	Compact to the satisfaction of the Engineer.
	Density- (Type E)	Accept.	Proj. Engr.	Proj. Engr.	**SEE SECTION 203 OF THIS MANUAL.**					
	Lime Spread Rate	Quality Control	Contractor* TR 436	Contractor	Each transport	**	-----	-----	1/2 hr.	*The contractor shall determine the length of spread. **Use an approved sampling device
		Accept.	Proj. Engr.* TR 436	Proj. Engr.	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	**	-----	-----	1/2 hr.	*The Proj. Engr. shall verify the length of spread. **Use an approved sampling device.

SECTION 304 LIME TREATMENT (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
MIXTURE ON ROADWAY (Cont'd)	Pulverization (Type B & C)	Quality Control	Contractor S 101	Contractor	*	-----	-----	-----	-----	*Shall Check sufficient to ensure specifications are met.
		Accept.	Proj. Engr. S 101	Proj. Engr.	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	1 gal friction top can	-----	-----	1/2 hr.	-----
	Pulverization (Type D & E)	Accept.	Proj. Engr		-----	*	-----	-----	-----	*Satisfaction of Engineer.
	Thickness & Width (Type B)	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*Shall Check sufficient to ensure specifications are met.
		Verif.	Proj. Engr. TR 602	Proj. Engr.	1/half day	-----	-----	-----	1/4 hr.	Proj. Engr. to notify Dist. Lab when section is complete.
		Accept.	Dist. Lab TR 602	Dist. Lab	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	300 lin ft per location	3 days	See DOTD TR 602. For small quantity, Proj. Engr. Documents in field book.
	Thickness & Width (Type C & D)	Accept.	Proj. Engr. TR 602*	Proj. Engr.	*	-----	-----	-----	-----	*Satisfaction of the Project Engr. Documents in field book.
	Thickness & Width (Type E)	Accept.		Proj. Engr.	**FOR LIFT THICKNESS REQUIREMENTS SEE SECTION 203 OF THIS MANUAL**					
SOIL OR SOIL-AGGREGATE	% Lime*	Design	Proj. Engr. S 101 or S 401	Dist. Lab	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/ shoulder	6 full sample sacks	-----	-----	10 days	*Not required when percent lime is specified in plans or project specifications.
Water		Accept.	Proj. Engr. S 303	Mat Lab	1/source*	1 qt plastic bottle	-----	-----	21 days	*Drinkable water need not be sampled.

SECTION 305 SUBGRADE LAYER

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
NOTE: WHEN A SUBGRADE LAYER IS PRODUCED BY CENTRAL PLANT MIXING, USE THE SAMPLING SCHEDULES IN SECTION 301 OF THIS MANUAL. FOR PLACEMENT AND CONSTRUCTION REFER TO APPLICABLE SECTIONS OF THIS MANUAL.										
AGGREGATES	Stone, Recycled PC Concrete	**SEE SECTION 302 OF THIS MANUAL**		Dist. Lab						
	Asphaltic Concrete	Prelim. Source Approval	Dist. Lab S 101	Mat Lab	1/source/blend	6 full sample sacks	-----	-----	4 weeks	Source shall be approved by Materials Lab prior to use.
	Blended Calcium Sulfate	Quality Control	Contractor S 101	Contractor	*	-----	-----	-----	-----	*Must test sufficient to ensure materials being delivered meet specification requirements.
		Design*	Proj. Engr. S 101	Dist. Lab	1/source	6 full sample sacks	-----	-----	4 days	*For moisture-density relationships.
		Accept.*	Proj. Engr. S 101		1/1000 yd^3	1 full sample sack	-----	100 yd^3	4 days	*Shall not be placed within 10 ft of metal pipe. Shall be from an approved source.
CEMENT	**SEE SECTION 302 OF THIS MANUAL.**									
ASPHALTIC MATERIALS	Curing Membrane	**SEE SECTION 506 OF THIS MANUAL.**								
	Prime Coat	**SEE SECTION 505 OF THIS MANUAL.**								
GEOTEXTILE FABRIC	**SEE SECTION 203 OF THIS MANUAL**									
LIME (Hydrated or Quicklime)	**SEE SECTION 304 OF THIS MANUAL.**									
MIXTURE WITH LIME AND/OR CEMENT ON ROADWAY	Pulverization*	Accept.	Proj. Engr. S 401	Proj. Engr.	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/shoulder	-----	-----	-----	1/2 hr.	*For soil after mixing with cement and/or lime.
SOIL		Design*	Proj. Engr. S 401	Dist. Lab.	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/shoulder	6 full sample sacks	-----	-----	10 days	*For Moisture Density relationships.
		Accept.*	Proj. Engr. TR 602	Dist. Lab	1/1000 lin ft/2-lane rdwy or 1/2000 lin ft/shoulder	1 full sample sack	-----	-----	4 days	*When soils are to be blended, each component must meet specifications before blending. Design and final acceptance will be conducted on the blend.

SECTION 305 SUBGRADE LAYER (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
SUBGRADE LAYER	Density (Stone Recycled	**SEE SECTIONS 302 AND 308 OF THIS MANUAL**								
	Density (Blended Calcium Sulfate)	Quality Control	Contractor S 401	Contractor	*	-----	-----	-----	-----	*Shall check sufficiently to ensure specifications requirements.
		Accept.	Proj. Engr. S 401	Dist. Lab	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	Shall not be placed within 10 ft of metal pipe. Shall be from an approved source.
	Thickness & Width	Verif.	Proj. Engr. TR 602	**See Section 302, 303 or 304 of this Manual as applicable. District Lab not required to perform DOTD TR 602 Measurements.**						
WATER		Accept.	Proj. Engr. S 303	Mat. Lab	1/source	1 qt plastic bottle	-----	-----	21 days	Drinkable water need not be sampled.

SECTION 306 SCARIFYING & COMPACTING ROADBED

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
EXISTING MATERIAL	Density	Accept.	Proj. Engr. TR 401, TR 415 or TR 418	Proj. Engr	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	-----
ASPHALTIC MATERIAL	Prime Coat	**SEE SECTION 506 TO THIS MANUAL.**								

SECTION 307 PERMEABLE BASES

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGGREGATE	Stone	Accept.	Proj. Engr. S 101	Dist. Lab	1/1000yd3	1 full sample sack	-----	-----	4 days	(AML)
ASPHALTIC MATERIALS	Asphalt Cement	Prelim. Source Approval, Accept., Verif.	**SEE SECTION 502 OF THIS MANUAL**							(AML)
ANTI-STRIP		Prelim. Source Approval, Accept. Verif.	**SEE SECTION 502 OF THIS MANUAL**							(AML)
ADMIXTURE		Prelim. Source Approval, Accept., Verif.	**SEE SECTION 901 OF THIS MANUAL**							(AML)
CEMENT (HYDRAULIC)		Prelim. Source Approval, Accept., Verif.	**SEE SECTION 901 OF THIS MANUAL**							(AML)
CURING COMPOUND		Prelim. Source Approval, Accept.	**SEE SECTION 601 OF THIS MANUAL**							(AML)
PERMEABLE ASPHALT BASE (PLANT)	JMF	Design*	-----	Contractor	1/mix/plant	-----	-----	-----	-----	*Contractor shall submit to the Dist. Lab Engr. The proposed job mix formula with supporting design data. Approval is required prior to starting work.
		Verif.*	Proj. Engr. S101, S201, S601	Dist. Lab	1/JMF	-----	-----	-----	-----	*Dist. Lab verifies % retained coating in accordance with TR 317.
	Anti-Strip Additive %	Accept.	Proj. Engr. S 605	Proj. Engr.	1/2500 tons	*	-----	-----	-----	*% AS from meter.
	Asphalt Cement	Accept.	Proj. Engr. S 605	Proj. Engr.	1/2500 tons	*	-----	-----	-----	*% AC from meter.
	Loose Mixture (Gradation, % AC, & % Crushed)	Quality Control	Contractor S 203 & S 605	Contractor	1/1000 tons	suitable sampling bucket	-----	-----	-----	-----
		Verif.	Proj. Engr. S 203	Dist. Lab	1/5000 tons	1 gal friction top can	-----	-----	3 days	-----

SECTION 307 PERMEABLE BASES

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
PERMEABLE CONCRETE BASE (PLANT)	Mix Design	Design/ Accept.	*	Contractor/ Dist. Lab	1/mix/plant	-----	-----	-----	3 days	*Contractor shall submit to the Dist. Lab Engr. the proposed job mix formula with supporting data. Approval is required prior to starting work.
		Verif.	*	Proj. Engr.	1/truck	-----	-----	-----	-----	*Obtain "batch tickets" to verify quantities from mix design.
PERMEABLE BASES	Cross Slope & Grade	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*Under thickness shall not exceed 1/2" (12 mm).
		Accept.	Proj. Engr.*	Proj. Engr.	1/day	-----	-----	-----	-----	*Use 10 ft metal static straight edge or approved device.
	Thickness & Width	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*Shall measure sufficiently to ensure specifications are met.
		Accept.	Contractor/ Proj. Engr. TR602	Proj. Engr.	1/2000 lin ft	-----	-----	-----	-----	Under thickness shall not exceed 1/2" (12 mm).
	Temperature	Accept.*	Proj. Engr. S 605	Proj. Engr.	1/5000 tons	-----	-----	-----	-----	*Required for Asphaltic Concrete only.
WATER		Accept.	Proj. Engr. S 303		1/source*	1 qt plastic bottle	-----	-----	21 days	*Drinkable water need not be sampled.

I-25 2/07

MATERIAL	PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
NOTE: WHEN A SUBGRADE LAYER IS PRODUCED BY CENTRAL PLANT MIXING, USE THE SAMPLING SCHEDULES IN SECTION 301 OF THIS MANUAL. FOR PLACEMENT AND CONSTRUCTION REFER TO APPLICABLE SECTIONS OF THIS MANUAL.									

I-21 2/07

SECTION 309 IN-PLACE CEMENT TREATED SUBGRADE

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
WATER		Accept.	Proj. Engr. S 303	Mat. Lab	1/source	1 qt plastic bottle	-----	-----	21 days	Drinkable water need not be sampled.

I-22 2/07

SECTION 401 AGGREGATE SURFACE COURSE

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGGREGATES	Sand- Clay-Gravel, (Limetreated) Stone, Recycled Portland Cement Concrete, Reclaimed Asphaltic Pavement, Crushed Slag	Accept.	Proj. Engr. S 101	Dist. Lab	1/1000 yd^3 dedicated stockpile*	1 full sample sack	-----	200 yd^3	5 days (5 weeks for Recycled PCC)	(AML for stone) (RPCC shall be from an approved source) *For sampling on roadway, minimum frequency shall be 1 per 1,000 lin ft per two lanes of roadway or 1 per 2,000 lin ft per shoulder.
		IA	Dist. Lab S 101	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
AGGREGATES ON ROADWAY	Thickness & Width	Accept.	Dist. Lab TR 602*	Dist. Lab	-----	-----	-----	300 lin ft	3 days	*For net section only.
LIME (Hydrated and Quicklime)		Prelim Source Approval	Mfr.	Mat. Lab	1/quarter	1 gal friction top can or acceptable moisture proof container	-----	-----	-----	(AML)
		Accept.	-----	Proj. Engr.	1/ shipment	-----	CD 1 & 7	-----	-----	(AML)
		Verif.	Proj. Engr. S 102	Mat. Lab	1/project/ source*	1 gal friction top can	-----	-----	21 days	(AML) *Not required if sampled under another item.
SUBGRADE SOIL (New or Reconstructed	Usable Soil*	Accept.	Proj. Engr. S 401	Dist. Lab	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft shoulder	1 full sample sack	-----	100 yd^3	5 days	*See Specification Section 203.06. For existing shoulder or roadway, no sample is required.
	Density*	Accept.	Proj. Engr. S 401	Proj. Engr	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft shoulder	-----	-----	-----	1/2 hr.	*For existing shoulders or roadway, compaction will be to the satisfaction of the Proj. Engr.
WATER		Accept.	Proj. Engr. S 303	Mat. Lab	1/source*	1 qt plastic bottle	-----	-----	21 days	*Potable water need not be sampled.

SECTION 402 TRAFFIC MAINTENANCE AGGREGATE

I-29 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGGREGATES		Accept.	-----	Proj. Engr.	*	-----	-----	-----	-----	*Visual inspection by Proj. Engr.

I-30 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS

Section 501 Thin Asphalt Concrete

Material`		Purpose	Sampled by / Method	TESTED BY	MIN. FREQ.	Min Qty / Container	Cert. / Distr.	SMALL QUANTITY	Typical handling time	Remarks
Asphalt Concrete (In-Place)	Longitudinal Surface Tolerance	Quality Control	Contractor TR 644	Contractor	1/job					Contractor to measure prior to laydown. Applies to travel lanes, shoulder, parking, airport runway and taxiway.
		Accept.	Contractor observed by Proj. Engr. TR 644	Contractor observed by Proj. Engr.	1/job	----	----		2 days	Applies to travel lanes. Applies to shoulder, parking, airport runway and taxiway.
	Loose Mixture*	Accept.	Proj. Engr.	Proj. Engr.		----	----		----	*At paver hopper or on roadway
	Thickness & Width	Verif.	Dist. Lab *	Dist. Lab	1/lot	----	----		3 days	See E.D.S.M. V.2.2.2
	Yield	Quality Control	Contractor *	Contractor		----	----		----	*Quantity of mixture placed divided by area covered.
Asphaltic	Tack Coat	Prelim. source approval	Refinery			1 Gal plastic bottle	CA		5 Days	(AML) Non Self Certified
Asphalt Concrete Material	Tack Coat Emulsions	Prelim. Source Approval	Refinery S201	Mat. Lab	1/Project	1 gal plastic bottle	CA 7		5 days	(AML) Non Self Certified Musthave tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
		Prelim. Source Approval	Refinery S201	Refinery	1/Project	1 gal plastic bottle	CA 7		2 hours during working hours	(AML) Self Certified *Supplier shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 QT sample for veirifcation testing.
		Verif. *	Dist. Lab	Dist. Lab/Mat. Lab if failing or non-verif. material	1/Project	2 – 1gal plastic bottles**	CD 1 & 8		5 Days or 10 days if failing or non-verif. Material	* Send 1 gal to Mat. Lab for failing or non Verifying Materials. **Two one-gallon plastic bottles.
	Tack Coat Rate of Application	Accept.	Proj. Engr.	Proj. Engr.	1/Project	------	----		-----	*Undiluted emulsiion gallons, based on meter readings on distributor or spray paver by proj. Engr., divided by sq. yd covered Or using measuring stick per 1000'
	Asphalt Cement	Prelim. Source Approval	Refinery S201	Mat. Lab		1 qt. friction top can	CA 7		5 days	(AML) Non Self Certified. Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified. DOTD results use for approval.
		Prelim. Source Approval	Refinery S201	Refinery		1 qt. friction top can	CA 7		2 hrs during working hours	(AML) Self Certified *Supplier shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification t4esting. Supplier results used for approval.
		Accept.	Dist. Lab	Dist. Lab	1/Transport/ project	1 qt. friction top can	CD 8 & 9		5 days	(AML) One (1) CD to accompany each transport
		Verif.	Dist. Lab	Dist. Lab		1 qt. friction top can	----		5 days	(AML) Test original binder DSR including phase angle. If sample does not meet criteria, the plant will be investigated and Dist. Lab will notify the Proj. Engr., the HMA producer and the Mat. Lab. Rotational viscosity to be tested 1/working tank/week for information. A record of results will be kept on file.
		Verif.	Dist. Lab	Mat. Lab		1 qt. friction	----		10 days	72 hr. sample

		Verif.	Dist. Lab S 201	Mat. Lab		1 qt. friction top can	----		10 days	(AML) Send directly to Materials Lab for comparison to refinery sample.

Section 501 Thin Asphalt Concrete

Material`		Purpose	Sampled by / Method	TESTED BY	MIN. FREQ.	Min Qty / Container	Cert. / Distr.	SMALL QUANTITY	Typical handling time	Remarks
FOR PROJECTS OR SEPARATE LOCATIONS WITHIN A PROJECT, REQUIRING LESS THAN 250 TONS, THE JMF, MATERIALS, AND PLANT AND PAVING OPERATIONS SHALL BE SATISFACTORY TO THE ENGINEER.										
Additives	Anti Stripping	Prel. Source Approval	Dist. Lab S 612	Mat. Lab		1 pt friction top can	----		10 days	(AML)
		Accept.	Proj. Engr S 601	Mat. Lab			CD 1&7		10 Days	(AML) *Sample when not accompanied by CD or questionable.
	Fibers (Mineral or Cellulose)	Accept	Proj. Engr. S 601			1 qt friction	CC		10 Days	*Pre-approved by DOTD.
		Accept.	Proj. Engr. S 102			----	CD 1&7		10 Days	(AML) *Not required if sampled under another item. *Sample only if questionable
	Fiber	Accept.	Dist. Lab. S 102	Dist Lab	1/shipment*	-----	CA 7 &10	-----	-----	Shipment must be accompanied with a CA Sample only if questionable.
	Hydrated Lime	Prelim. Source Approval	Mfr. S 102			-----	-----	-----	-----	-----
		Accpt	-----			-----	-----	-----	-----	-----
		Verif.	Proj. Engr. S 102			1 gal friction	-----	-----	21 days	(AML) *Not required if sampled under another item.
	Silicon Additive	Accept.	Proj. Engr. S 102			1 pt friction	CA		10 Days	(AML) *Sample only if questionable
Aggregates	Aggregates (Moisture Content)*	Quality Control	Contractor S 101	Contractor	1/day/aggr.	1 gal suitable container	----		----	*For plant control.
	All Aggregates	Design	Dist Lab S 101	Dist. Lab		1 full sample	----		5 days	(AML) Bulk Specific Gravity Gsb
	Coarse Aggregate (+No. 4)	Design	Dist Lab S 101	Dist. Lab		1 full sample sack			5 days	(AML – LA Abrasion) CAA, Flat and Elongated, Insoluble Residue, & Micro Duval (By LTRC)
	Fine Aggregate (-No. 4)	Design	Dist Lab S 101	Dist. Lab		1 full sample sack	---		5 days	Sand Equivalent, FAA
	Natural Sand	Design	Dist Lab S 101	Dist. Lab		1 full sample	---		5 days	Sand equivalent testing.
	Flat & Elongate, Micro Deval	Verifi	Dist. Lab S 612	Mat. Lab	1/project	1 full sack			10 days	
	Reclaimed Asphaltic Pavement	Design	Dist Lab S 101	Dist. Lab		3 full sample sacks	---		---	%AC, % crushed and gradation, Effective Specific Gravity G_{se}
	Micro Deval	Accept.	Dist Lab S 101	Mat. Lab	1/project	1 full sack				With CA. Sample when questionable
Asphalt Mix Release Agent		Accept*	----	Proj. Engr.		----	----		----	(AML) *Visual inspection for performance by Proj. Engr.

Asphalt Concrete (Plant)	Anti Strip Additive, %	Accept.	Dist Lab S 605	Proj. Engr.		*	----		----	*% AS from meter
	Asphalt Cement, %	Accept.	Dist Lab S 605	Proj. Engr.		*	-----		-----	*% AC from meter
	Gyratory Specimens	Quality Control	Contractor S 203	Contractor	1/lot	----	----		----	For % voids on fine and dense mixes only.
		Verif.	Dist Lab S 203	Dist. Lab/LTRC		Suitable sampling	-----		-----	For LWT testing. Samples forwarded to Dist. Lab for transmittal to LTRC.
		Accept.	Dist Lab S203	Mat. Lab		1 full Sack				With CA. Sample when questionable

Section 501 Thin Asphalt Concrete

Material`		Purpose	Sampled by / Method	TESTED BY	MIN. FREQ.	Min Qty / Container	Cert. / Distr.	SMALL QUANTITY	Typical handling time	Remarks
Asphalt Concrete (Plant) (cont'd)	Job Mix Formula (JMF)	Design	-----	Contractor	1/mix type	-----	-----		7 Days	Submit to the Dist. Lab Engr. the proposed job mix formula with supporting design data. Approval is required prior to starting work.
		Verif.		District Lab	1/mix type	-----	-----		7 Days	*Boil test and aggregate properties by Dist. Lab and LTRC prior to approval of proposed JMF.
		Valid.	Contractor/ Dist. Lab/ Proj. Engr. S 203/S 605	Contractor/ Dist. Lab/ Proj. Engr.	*	-----	-----		-----	*For validation, take 2 samples for first 500 tons of mix, 1 sample for remainder of lot. or max of 2000 tons for G_{mm}, voids, percent AC & gradation.
		Verif.	Contractor/ Dist. Lab S 203	LTRC/Ind. Lab	1/lot	-----	-----		10 Days	*Two samples per each of three validation sublots. Dist. Lab to submit random four (4) of six (6) gyratory compactor samples to LTRC for LWT testing in accordance with AASHTO T 324.
	Loose Mixture (Asphalt Coating) TR317 Boil Test	Quality Control	Contractor S 203	Contractor	1/lot	1 gal friction	-----		1 day	
		Accept.	Dist. Lab. S 203	Proj. Engr.	1/lot	1 gal friction top can	-----		½ day	
	Loose Mixture (Gradation, %AC and % Crushed)	Quality Control	Contractor S 203	Contractor	1/lot	Suitable sampling container	----		----	
		Accept.*	Dist Lab S 203/S 605	Dist. Lab	3/lot	Suitable sampling container				
		Verif.	Dist. Lab. S 203	Dist. Lab		suitably wrapped	----		----	
		IA	Dist. Lab. S 203	Dist. Lab						
	Loose Mixture (Moisture Content)	Quality Control	Contractor S 203	Contractor		1 gal friction top can	----		----	
	Loose Mixture* (Temp.)	Quality Control	Contractor S 605	Contractor	1/sublot	----	----		----	*Temperature of mixture at discharge chute.
		Verif.	Dist Lab S 605	Dist Lab	1/sublot	----	----		----	*Temperature of mixture in truck at plant.
	Loose Mixture (Theo. Max. Spec. Grav.) Gmm	Quality Control	Contractor S 203	Contractor	1/lot	suitable sampling container	----		----	
		Accept.	Dist Lab S 203/S 605	Dist. Lab	1/sublot	suitable sampling container				
		Verif.	Dist Lab S 203	Dist. Lab		suitably wrapped	----		----	
		IA	Dist Lab S 203	Dist. Lab						

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR PROJECTS, OR SEPARATE LOCATIONS WITHIN A PROJECT, REQUIRING LESS THAN 250 TONS, THE JMF, MATERIALS, AND PLANT AND PAVING OPERATIONS SHALL BE SATISFACTORY TO ENGINEER. SEE SUBSECTION 502.14 FOR FURTHER DETAILS.										
ADDITIVES	Anti-Stripping	Prelim Source Approval	Dist. Lab S 612	Mat. Lab	1/batch or storage tank	1 pt friction top can	-----	-----	10 days	(AML)
		Accept.	Dist Lab S 601	Mat. Lab	1/shipment/ plant*	1 pt friction	CD 7 &10	-----	10 days	(AML) Shipment must be accompanied with a CD Sample only if questionable.
	Hydrated Lime	Prelim. Source Approval	Mfr. S 102	Mat. Lab	1/quarter	-----	-----	-----	-----	-----
		Accept.	Dist. Lab. S 102	Mat. Lab	1/shipment*	-----	CD 7 &10	-----	10 days	(AML) Shipment must be accompanied with a CD Sample only if questionable.
		Verif.	Proj. Engr. S 102	Mat. Lab	1/project/ source	1 gal friction	-----	-----	21 days	(AML) *Not required if sampled under another item.
	Waste Tire Crumb Rubber	Prelim. Source Approval	Mfr. S 102	Mat. Lab	1/source/ plant	1 gal friction top can	CA 7 &9	-----	10 days	For rubber to be blended at the plant. Material to be tested for gradation at Materials Lab prior to approval.
		Accept.	Dist. Lab. S 102	Dist Lab	1/shipment*	-----	CA 7 &10	-----	-----	Shipment must be accompanied with a CA Sample only if questionable.
	Latex Additive	Prelim. Source Approval	Mfr. S 612	Mat. Lab	1/source/ plant	1 gal friction top can	CA 7 &10	-----	10 days	For latex to be blended at the plant. Material to be tested at Materials Lab prior to approval.
		Accept.	Dist. Lab. S 601	Dist Lab	1/shipment*	-----	CA 7 &10	-----	-----	Shipment must be accompanied with a CA Sample only if questionable.
	Fiber	Accept.	Dist. Lab. S 102	Dist Lab	1/shipment*	-----	CA 7 &10	-----	-----	Shipment must be accompanied with a CA Sample only if questionable.
	Warm Mix Additives	Prelim. Source Approval	Dist. Lab S 612	Mat. Lab	1/batch or storage tank	1 pt friction top can	-----	-----	10 days	(Approved List)
		Accept.	Dist Lab S 601	Mat. Lab	1/shipment/ plant*	1 pt friction	CA 7 &10	-----	10 days	(Approved List) Shipment must be accompanied with a CA Sample only if questionable.
AGGREGATES	Combined Aggregates (Moisture Content)	Quality Control	Contractor S 101	Contractor	1/day/plant	1 gal suitable container	-----	-----	-----	-----
	All Aggregates	Quality Control	Contractor S 102	Contractor	1/50,000 tons of Mixture/ source /size	3 full sample sacks	-----	-----	-----	(Approved List 2) 1/6 months minimum All consensus properties
	All Aggregates	Design	Dist. Lab S 101	Dist. Lab	1/50,000 tons of Mixture/ source /size	3 full sample sacks	-----	-----	28 days	(Approved List 2) 1/6 months minimum All consensus properties
	Reclaimed Asphaltic Pavement (RAP)	Quality Control	Contractor S 101	Contractor	1/stockpile	-----	-----	-----	-----	% AC, % crushed and gradation, Effective Specific Gravity G_{se}.
	Reclaimed Asphaltic Pavement (RAP)	Design	Dist. Lab S 101	Dist. Lab	1/stockpile	3 full sample sacks	-----	-----	28 days	% AC, % crushed and gradation, Effective Specific Gravity G_{se}.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALT MIX RELEASE AGENT		Accept.*	-----	Proj. Engr.	-----	-----	-----	-----	-----	(AML) *Visual inspection for performance by Proj. Engr.
ASPHALT CONCRETE (PLANT)	Anti-Strip Additive, %	Quality Control	Contractor S 605	Mat. Lab	1/2500 tons	*	-----	-----	-----	*% AS from meter.
	Asphalt Cement, %	Quality Control	Contractor S 605	Contractor	1/2500 tons	*	-----	-----	-----	*% AC from meter.
	Gyratory Specimens Moisture Sensitivity LWT	Design	Contractor S 203	Contractor	1/JMF	4 briquettes	-----	-----	-----	Results submitted with JMF.
		Valid.	Dist. Lab S 203	Dist. Lab./ Contractor	1/JMF	4 briquettes	-----	-----	3 days	Sample and test during validation.
		Quality Control	Contractor S 203	Contractor	1set/20,000 tons	4 briquettes	-----	-----	-----	
		IA	Dist. Lab S 203	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Gyratory Specimens (Volumetric)	Quality Control	Contractor S 203	Contractor	1/1000 tons	-----	-----	-----	-----	
		Valid.	Dist. Lab S 203	Dist. Lab./ Contractor	1/JMF	6 briquettes	-----	-----	2 days	5 at N_{des}, 1 at N_{max}
		IA	Contractor S 203	Contractor	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Job Mix Formula (JMF)	Quality Control	-----	Contractor	1/mix type	-----	-----	-----	-----	Contractor shall design and submit to the Dist. Lab Engr. the proposed job mix formula with supporting design data in accordance with the HMAC QA manual.
		Accept.	Dist. Lab	Dist Lab	1/mix type	-----	-----	-----	7 days	Approval is required prior to starting work.
	Loose Mixture (Theoretical Maximum Specific Gravity) G_{mm}	Quality Control	Contractor S 203	Contractor	1/1000 tons	suitable sampling bucket	-----	-----	-----	
		Valid.	Dist. Lab S 203	Dist. Lab./ Contractor	1/JMF	5/JMF	-----	-----	-----	The average G_{mm} is used for pay determination of roadway cores.
		IA	Contractor S 203	Contractor	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Loose Mixture (Asphalt Coating)	Design/ Quality Control	Contractor S 203	Contractor	*	1 gal friction top can	-----	-----	-----	*Sample only if coating is questionable.
	Loose Mixture (Gradation, % AC and % Crushed)	Quality Control	Contractor S 203 & S 605	Contractor	1/1000 tons	suitable sampling bucket	-----	-----	-----	Used for PWL calculations
		Valid.	Dist. Lab S 203	Dist. Lab./ Contractor	1/JMF	5/JMF	-----	-----	-----	Used for PWL calculations on directed sieves.
	Loose Mixture (Moisture Content)	Design/ Quality Control	Contractor S 203	Contractor	1/1000 tons	-----	-----	-----	-----	-----
	Loose Mixture* (Temperature)	Quality Control	Contractor S 605	Contractor	2/sublot	-----	-----	-----	-----	*Temperature of mixture at discharge chute.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALTIC CONCRETE (In-Place)	Loose Mixture*	Accept.	Proj. Engr. S 605	Proj. Engr.	2/sublot	-----	-----	-----	-----	*At paver hopper or on roadway.
	Roadway Density (Mainline Roadway Mixes)	**Method 1**								
		Accept.	Contractor/ Proj. Engr. S 203 & S 605	Dist. Lab	1/2500 ft./lane	6 in. diameter core	-----	-----	2 days *	* Reported 2 days after the verification/quality control core is reported.
		Verif. / Quality Control	Contractor/ Proj. Engr. S 203 & S 606	Contractor	1/7500 ft./lane	6 in. diameter core	-----	-----	-----	Contractor samples at Proj. Engr.'s direction.
		Verif.*	Contractor/ Proj. Engr. S 203 & S 607	Independant Lab	1/7500 ft./lane	6 in. diameter core	-----	-----	-----	*Tested for dispute resolution. Contractor samples at Proj. Engr.'s direction.
		Verif.	Contractor/ Proj. Engr.	Dist. Lab	1/37,500 ft./lane or **3/37,500 ft./lane	6 in. diameter core	-----	-----	-----	One acceptance core selected at random for the purpose of G_{mm} JMF verification. **For samples outside of tolerance, 2 additonal cores are taken and their results averaged for comparison to JMF.
		Quality Control	Contractor S 605	Contractor	1/2500 ft./lane/paving edge	Non-destructive density reading	-----	-----	-----	3 readings per acceptance core taken at coresponding paving edge and extracted core location.
		IA	Dist. Lab S 203	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701**					
		Method 2								
		Accept.	Contractor/ Proj. Engr. S 203 & S 606	Contractor	1/2500 ft./lane	6 in. diameter core	-----	-----	-----	Method 2 allowed only with approval of the Dist. Lab
		Verif.	Contractor/ Proj. Engr. S 203 & S 606	Dist. Lab	1/7500 ft./lane	6 in. diameter core	-----	-----	2 days	Reported 2 days after the contractor acceptance cores are reported.
		Verif.*	Contractor/ Proj. Engr. S 203 & S 607	Dist. Lab	1/7500 ft./lane	6 in. diameter core	-----	-----	-----	*Tested for dispute resolution. Contractor samples at Proj. Engr.'s direction.Testing site to be determined.
		Verif.	Contractor/ Proj. Engr.	Dist. Lab	1/37,500 ft./lane or **3/37,500 ft./lane	6 in. diameter core	-----	-----	-----	One acceptance core selected at random for the purpose of G_{mm} JMF verification. **For samples outside of tolerance, 2 additonal cores are taken and their results averaged for comparison to JMF.
		Quality Control	Contractor S 605	Contractor	1/2500 ft./lane/paving edge	Non-destructive density reading	-----	-----	-----	3 readings per acceptance core taken at coresponding paving edge and extracted core location.
		IA	Dist. Lab S 203	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701**					
	Roadway Density (Minor Mixes)	Tested in accordance with mainline roadway mixes								

SECTION 502 SUPERPAVE ASPHALTIC CONCRETE MIXTURES (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALT CONCRETE (In-Place) (Cont'd)	Transverse Surface Tolerance, Cross Slope and Grade	Quality Control	Contractor S 605	Contractor	2/day*	-----	-----	-----	-----	*As needed to control project within spec. requirements.
		Accept.	Proj. Engr. S 605	Proj. Engr.	1/day*	-----	-----	-----	1 day	*Test at selected locations for conformance to specs.
	Thickness & Width	Accept.	Dist. Lab TR 602	502.12 Dist. Lab	*	-----	-----	300 lin ft per location	3 days	Applies to mixtures specified for payment on a cubic yard or square yard basis.
ASPHALT MATERIAL	Asphalt Cement	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/supplier tank	1 qt friction top can	CA 7	-----	5 days	(AML) Non Self Certified. Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified. DOTD results use for approval.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank or as directed by the Mat. Lab	1 qt friction top can	CA 7	-----	2 hrs during working hours	(AML) Self Certified. Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified, and supply CA to Mat. Lab along with 1 qt sample for verification testing, or as directed by the Mat. Lab. Supplier results used for approval.
		Verif.	Dist. Lab S 201	Dist. Lab	1/plant working tank/grade visit	2 - 1 qt friction top cans	-----	-----	5 days	(AML) Test original binder DSR, including phase angle, and Rotational Viscosity. If sample does not meet criteria, the plant will be investigated and the Dist. Lab will notify the Proj. Engr., the HMA producer and the Mat. Lab.
		Verif.	Dist. Lab S 201	Mat. Lab	1 transport and working tank/ grade/ visit	1 qt friction top can (each)	-----	-----	10 days	(AML) Send directly to Materials Lab for comparison to refinery sample.
	Curing Membrane	**SEE SECTION 506 OF THIS MANUAL**								
	Prime Coat	**SEE SECTION 505 OF THIS MANUAL**								
	Tack Coat	**SEE SECTION 504 OF THIS MANUAL.**								
ASPHALT MATERIAL (Surface Tolerance)	Longitudinal Surface Tolerance	Quality Control	Contractor TR 644	Contractor	each wheelpath *	-----	-----	-----	-----	* Tested within 7 calendar days of placement. Applies to mainline courses.
		Accept.	Contractor, Observed by Proj. Engr. TR 644	Contractor observed by Proj. Engr.	each lane for length of project	-----	-----	-----	2 days	Applies to mainline courses.
		Accept.	Contractor, Observed by Proj. Engr. TR 644	Contractor observed by Proj. Engr.	1/project	-----	-----	-----	1 days	Applies to minor mixes for shoulders, bike paths, detour roads, and parking lots.
ASPHALT TACK COAT	Emulsified Asphalt	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/storage tank	1 gal plastic bottle	CA 7	-----	5 days	(AML) Non Self Certified Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank whenever asphalt is added to tank or modified*	1 gal plastic bottle	CA 7	-----	2 hrs during working hours	(AML) Self Certified *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
		Accept.	-----	Mat. Lab	1/shipment*	1 gal plastic bottle	CD 1 & 7	No CD required if less than 250	-----	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.

	Rate of Application	Accept.	Proj. Engr.	Proj. Engr.	1/day	-----	-----	-----	-----	-----

SECTION 504

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 504 OF THIS MANUAL. THERE ARE NO PAY ITEMS UNDER SECTION 504.										
ASPHALT TACK COAT	Emulsified Asphalt	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/storage tank	1 gal plastic bottle	CA 7	-----	5 days	(AML) Non Self Certified Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank whenever asphalt is added to tank or modified*	1 gal plastic bottle	CA 7	-----	2 hrs during working hours	(AML) Self Certified *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
		Accept.	-----	Mat. Lab	1/shipment*	1 gal plastic bottle	CD 1 & 7	No CD required if less than 250	-----	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.
	Rate of Application	Accept.	Proj. Engr.	Proj. Engr.	1/day	-----	-----	-----	-----	-----

SECTION 505 ASPHALTIC PRIME COAT

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 505 OF THIS MANUAL. THERE ARE NO PAY ITEMS UNDER SECTION 505.										
ASPHALT PRIME COAT	Cutback	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/storage tank	1 qt screw top can	CA 7	-----	5 days	(AML) Non Self Certified Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank whenever asphalt is added to tank or modified*	1 qt screw top can	CA 7	-----	2 hrs. during working hours	(AML) Self Certified *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
		Accept.	-----	Proj. Engr.	1/shipment*	1 qt screw top can	CD 1 & 7	500 gal	-----	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.
	Emulsified Asphalt	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/storage tank	1 gal plastic bottle	CA 7	-----	5 days	(AML) Non Self Certified Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank whenever asphalt is added to tank or modified*	1 gal plastic bottle	CA 7	-----	2 hrs. during working hours	(AML) Self Certified *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
		Accept.	-----		1/shipment*	1 gal plastic bottle	CD 1 & 7	500 gal	-----	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.

	Rate of Application	Accept.	Proj. Engr.	Proj. Engr.	1/day	-----	-----	-----	-----	-----

SECTION 506 ASPHALTIC CURING MEMBRANE

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 506 OF THIS MANUAL. THERE ARE NO PAY ITEMS UNDER SECTION 506.										
ASPHALT CURING MEMBRANE	Emulsified Asphalt	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/storage tank	1 gal plastic bottle	CA 7	-----	5 days	(AML) Non Self Certified Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank whenever asphalt is added to tank or modified*	1 gal plastic bottle	CA 7	-----	2 hrs. during working hours	(AML) Self Certified *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
		Accept.	-----	Proj. Engr.	1/shipment*	1 gal plastic bottle	CD 1 & 7	250 gal	-----	(AML) *Visual inspection by Proj. Engr.. Sample only if questionable.
	Emulsified Petroleum Resin	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/storage tank	1gal plastic bottle	CA 7	-----	5days	(AML) Non Self Certified Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank whenever asphalt is added to tank or modified*	1 gal plastic bottle	CA 7	-----	2 hrs. during working hours	(AML) Self Certified *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
		Accept.	-----	Mat. Lab	1/shipment*	1 gal plastic bottle	CD 1 & 7	250 gal	-----	(AML) *Visual inspection by Proj. Engr.. Sample only if questionable.
	Rate of Application	Accept.	Proj. Engr.	Proj. Engr.	1 day	-----	-----	-----	-----	-----
	Water	Accept.	Proj. Engr. S 301	Proj. Engr.	1/source	1 qt plastic bottle	-----	250 gal	11 days	Drinkable water need not be sampled.

SECTION 507 ASPHALTIC SURFACE TREATMENT

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGGREGATES	Rate of Application	Quality Control	Contractor	Contractor	Prior to first pass of aggregate spreader*	-----	-----	-----	-----	*Must check sufficient to ensure materials being applied meet specification requirements.
		Accept.	Proj. Engr.	Proj. Engr.	First pass of aggregate spreader*	-----	-----	-----	1 day	*Must check sufficient to ensure materials being applied meet specification requirements.
	Size 1,2,3 (for cold application)	Accept.	Proj. Engr. S 101	Dist. Lab	1/1000yd^3/ size	1 full sample sack	CA 1	2,000 yd^2	5 days	(AML)
	Size 1,2,3 (for hot application)	Quality Control	Contractor S 101	Contractor	Sufficient to ensure quality	1 full sample sack	CA 1	2,000 yd^2	-----	(AML) Certification from supplier for asphalt coating & gradation.

SECTION 507 ASPHALTIC SURFACE TREATMENT

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALT MATERIAL	Emulsified Asphalt	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/storage tank	1 gal plastic bottle	CA 7	-----	5 days	(AML) Non Self Certified Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank whenever asphalt is added to a tank or modified*	2-1 gal plastic bottles	CA 7	-----	2 hrs. during working hours	(AML) Self Certified *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
		Accept.*	Proj. Engr. S 201	Dist. Lab/Mat. Lab if failing or non-verif. material	1/transport or storage tank	2 gal plastic bottle**	CD 1 & 8	-----	5 days or 10 days if failing or non-verif. material	(AML) *Send 1 gal to Mat. Lab for failing or nonverifying material. **Two one-gallon plastic bottles.
		Accept.	*	Mat. Lab	1/type/ project**	1 gal plastic bottle	-----	2,000 yd^2	10 days	(AML) For complete analysis. *Shall be selected at random by the Dist. Lab from the acceptance samples submitted by the Proj. Engr. **Not required if sampled under another item.
	Rate of Application	Accept.	Proj. Engr. 507.06(a)	Proj. Engr.	1/each pass of distributor	-----	-----	-----	1 day	-----
	Asphalt Cement	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/supplier tank	1 qt friction top can	CA 7	-----	5 days	(AML) Non Self Certified. Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified. DOTD results use for approval.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank whenever asphalt is added to a tank or modified*	1 qt friction top can	CA 7	-----	2 hrs. during working hours	(AML) Self Certified *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
		Accept.*	Proj. Engr. S 201	Dist. Lab/ Mat. Lab if failing or non-verif. material	1/transport or storage tank	2-1qt friction top can	CD 1 & 8	-----	5 days or 10 days if failing or non-verif. material	(AML) *Send 1qt. to Mat. Lab for failing or nonverifying material.
		Accept.	*	Mat. Lab	1/type/ project**	1 qt friction top can	-----	2,000 yd^2	10 days	(AML) For complete analysis. *Shall be selected at random by the Dist. Lab from the acceptance samples submitted by the Proj. Engr. **Not required if sampled under another item.
	Rate of Application	Accept.	Proj. Engr. 507.06(a)	Proj. Engr.	1/each pass of distributor	-----	-----	-----	1 day	-----

SECTION 508 STONE MATRIX ASPHALT

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ADDITIVES	Anti-Stripping	Prelim. Source Approval	Dist. Lab S 612	Mat. Lab	1/batch or storage tank	1 pt friction top can	-----	-----	10 days	(AML)
		Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment/ plant*	1 pt friction	CD 1 & 7	250 tons per location	10 days	(AML) *Sample when not accompanied by CD or questionable.
	Mineral Filler	Accept.	Proj. Engr. S 102	Dist. Lab	1/500 tons*	1 gal friction top can	-----	-----	-----	(AML) *Sampling not required for Portland cement or hydrated lime when accompanied by CD.
	Fibers (Mineral or	Accept.	Proj. Engr. S 601		1/shipment*	1 qt friction	CC	-----	10 days	*Pre-approved by DOTD
AGGREGATES	Combined Aggregates (Moisture Content)	Quality Control	Contractor S 101	Contractor	1/day/plant	1 gal suitable container	-----	-----	-----	
	All Aggregates	Verif.	Proj. Engr. S101		1/source/ plant/size	1 full sample	-----	-----	5 days	(AML) Bulk Specific Gravity Gsb.
	Coarse Aggregates (+ No. 4)	Verif.	Proj. Engr. S 101		1/source/ plant/size	1 full sample sack	-----	-----	5 days	Flat & Elongated.
	Fine Aggregate (- No. 4)	Accept./ Design	Proj. Engr. S 601	Dist. Lab	1/source/ plant	1 full sample sack	-----	-----	5 days	Fine Aggregate Angularity.
ASPHALT MIX RELEASE AGENT		Accept.*	-----	Proj. Engr.	-----	-----	-----	-----	-----	(AML) *Visual inspection for performance by Proj Engr.
ASPHALT CONCRETE (PLANT)	Anti-Strip Additive, %	Accept.	Proj. Engr. S 605	Proj. Engr.	1/sublot	*	-----	-----	-----	*Range given on JMF, % AS from meter. See QA Manual.
	Asphalt Cement, %	Quality Control	Contractor S 605	Proj. Engr.	1/sublot	*	-----	-----	-----	*% AC from meter or scales. See QA Manual.
	Gyratory Specimens (Moisture Sensitivity) (TSR) (Lottman)	Design	Contractor S 203	Contractor	1 set/JMF	6 briquettes / set	-----	-----	-----	Results submitted with JMF.
		Valid.	S203	Contractor	1 set/JMF	6 briquettes	-----	-----	-----	Sampled on first production day after validation witnessed by Department.
	Gyratory Specimens Volumetric	Quality Control	Contractor S203	Contractor	2/sublot	-----	-----	-----	-----	Aged or unaged$_{max}$.
		Accept.	Proj. Engr. S 203 & S 605	Proj. Engr.	1/sublot	suitable sampling bucket	-----	-----	1 day	Aged N_{design}.
		Verif.	Proj. Engr.	Dist. Lab	1/lot	suitably wrapped	-----	-----	5 days	Shall be an acceptance sample representing each lot of plant operation.
		IA	Dist. Lab S 203	Dist. Lab	-----	-----	-----	-----	7 days	See Independent Assurance Program S 701.

SECTION 508 STONE MATRIX ASPHALT (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALT CONCRETE (Plant) (Cont'd)	Job Mix Formula (JMF)	Design	-----	Contractor	1/mix type/plant				10 days	Contractor shall submit to the Proj. Engr. the proposed job mix formula with supporting design data. Approval by the Dist. Lab Engr. is required prior to starting work.
		Vaild.	Contractor & Proj. Engr.	Contractor Proj. Engr.	1/JMF	-----	-----	-----	-----	Five (5) samples on 1st days production or max. 2,000 tons for validation.
	Loose Mixture (Maximum Theoretical Specific Gravity) G_{mm}	Quality Control	Contractor S 203	Contractor	2/sublot	suitable sampling bucket	-----	-----	1 day	Aged or Unaged. May use 1 QA in lieu of 1 QC.
		Accept.	Proj. Engr. S 203	Proj. Engr.	1/sublot	suitable sampling bucket	-----	-----	1 day	-----
	Loose Mixture (Asphalt Coating)	Design/ Quality Control	Contractor S 203	Contractor	1/JMF*	1 gal friction top can	-----	-----	-----	*Sample only if coating is questionable.
		Accept.	Proj. Engr. S 203	Proj. Engr.	1/JMF*	1 gal friction top can	-----	-----	1 day	*Sample only if coating is questionable.
	Loose Mixture (Asphalt Draindown)	Design	Contractor	Contractor	1/JMF	1 gal friction	-----	-----	-----	-----
		Accept.	Proj. Engr. S 203	Proj. Engr.	1/lot	1 gal friction top can	-----	-----	-----	-----
	Loose Mixture (Gradation)	Quality Control	Contractor S 203 & S 605	Contractor	1/sublot	suitable sampling bucket	-----	-----	-----	-----
		Accept.	Proj. Engr. S 203 & S 605	Proj. Engr.	1/sublot	-----	-----	-----	1 day	-----
		IA	Dist. Lab S 203	Dist. Lab	-----	-----	-----	-----	7 days	See Independent Assurance Program S 701. Whenever possible, sample at same time acceptance sampling is done.
	Loose Mixture*	Quality Control	Contractor S 605	Contractor	2/sublot	-----	-----	-----	-----	*Temperature of mixture at discharge chute.
		Accept.	Proj. Engr. S 605	Proj. Engr.	1/sublot*	-----	-----	-----	1 day	*Temperature of mixture in truck at plant.
	Density	Accept.	Proj. Engr. S 203 & S 605	Proj. Engr.	3/sublot	4 or 6 in. diameter core	-----	-----	1 day	-----
		Verif.	Proj. Engr. S 203 & S 605	Dist. Lab	1/sublot	4 or 6 in. diameter core	-----	-----	5 days	-----
		IA	Dist. Lab S 203	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					

SECTION 508 STONE MATRIX ASPHALT (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALT CONCRETE (Roadway, In-Place)	Longitudinal Surface Tolerance	Quality Control	Contractor TR 644	Contractor	each wheelpath segment	-----	-----	-----	-----	Applies to travel lane wearing and binder. Applies to shoulder, parking, airport runway and taxiway wearing.
		Accept.	Contractor observed by Proj. Engr.	Contractor observed by Proj. Engr.	each sublot	-----	-----	-----	2 days	Applies to travel lane, wearing and center two lanes for airport.
	Loose Mixture* (Temperature)	Accept.	Proj. Engr.	Proj. Engr.	2/sublot	-----	-----	-----	1 day	*Temperature of mixture at entry of MTV.
	Transverse Surface Tolerance, Cross Slope and Grade	Quality Control	Contractor S 605	Contractor	2/day*	-----	-----	-----	-----	* As needed to control project within specification requirements.
		Accept.	Proj. Engr. S 605	Proj. Engr.	1/day*	-----	-----	-----	1 day	*Test at selected locations for conformance to specifications.
	Thickness & Width	Accept.	Dist. Lab TR 602	Dist. Lab	*	-----	-----	300 lin ft per location	3 days	*Applies to mixture for payment on a cubic yd or sq yd basis.
ASPHALT MATERIAL	Asphalt Cement (PG 76-22M)	Prelim. Source Approval	Refinery S 201	Mat. Lab	1/supplier tank	1 qt friction top can	CA 7	-----	5 days	(AML) Non Self Certified Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified. DOTD results used for approval.
		Prelim. Source Approval	Refinery S 201	Refinery	1/supplier tank	1 qt friction top can	CA 7	-----	2 hrs during working hours	(AML) Self Certified Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added to
		Accept.	-----	Proj. Engr.	-----	-----	CD 8 & 9	-----	5 days	(AML) One CD to accompany each transport.
		Verif.	Proj. Engr. S 201	Dist. Lab	1/plant working tank/day of	1 qt friction top can	-----	-----	5 days	(AML) Test original binder DSR, including Phase Angle. If sample does not meet criteria, the plant will investigated and the
		Verif.	Proj. Engr. S 201	Mat. Lab	1 working tank	1 qt friction top can	-----	-----	10 days	Sample after 72 hour shut down period.
		Verif.	Proj. Engr.	Mat. Lab	1 transport/ project /grade	1 qt friction top can	-----	-----	10 days	(AML) Send directly to Materials Lab for comparison to refinery sample.
	Tack Coat	**SEE SECTION 504 OF THIS MANUAL.**								

SECTION 509 COLD PLANING ASPHALTIC PAVEMENT

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
COLD PLANED SURFACE	Longitudinal Surface Tolerance* (for single lift overlays only)	Quality Control	Contractor TR 644	Contractor	each wheelpath segment	-----	-----	2,000 yd^2	-----	*When a single lift is to be placed over the cold planed surface it must meet the requirements of binder course in Section 502 of this Manual. See table 502-8b.
	Transverse Surface Tolerance, Cross Slope and Grade*	Quality Control	Contractor	Contractor	2/day*	-----	-----	-----	-----	*As needed to meet requirements of binder. See table 502-4
TEMPORARY PAVEMENT MARKING	**SEE SECTION 713 OF THIS MANUAL.**									

SECTION 510 ASPHALT CONCRETE PAVEMENT PATCHING, WIDENING AND JOINT REPAIR

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALT CONCRETE				**For details on Additives, Aggregates, Asphalt Cements, Asphaltic Concrete, Asphaltic Tack Coat, Asphalt Mix Release Agent and Mineral Filler, See Section 502 of this Manual.**				-----	-----	-----
	Density	Accept.	Proj. Engr. S 203	Proj. Engr.	3/sublot	4 or 6 in. diameter core		-----	1 day	Top 4 inches of finished section.

SECTION 601 PORTLAND CEMENT CONCRETE PAVEMENT

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON CONCRETE MIX DESIGNS, TESTS AND MATERIALS, SEE SECTION 901 OF THIS MANUAL.										
ADHESIVE-LUBRICANT	For Preformed Elastomeric Compression Joint Seal	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment	1 qt friction top can	-----	2,000 yd^2 PCCP	10 days	(AML) Mix well before sampling. Seal can tightly.
BOLSTER BLOCKS	Concrete	**SEE SECTION 901 OF THIS MANUAL. (CLASS A STRUCTURAL OR PAVEMENT TYPE)**								
CONCRETE-CURED	Cores - Thickness & Compressive Strength	Accept.	Contractor/ Dist. Lab. TR 225	Mat. Lab/ Dist. Lab.	5/lot	5 cores*	-----	less than 2,000yd^2 make cylinders an record depth measurement	dependent upon completion of lot & curing min. 3 days	*Contractor shall notify the Dist. Lab Engr. at least five (5) days prior to the start of coring operations. See "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details. For pavement plan thickness 10.0 inches (250 mm) or less, 4" diameter (nominal) cores may be used.
	Surface Tolerance	Quality Control	Contractor TR 644	Contractor	As needed at the contractor's discretion	entire lot	-----	-----	-----	Contractor must furnish an approved inertial profilograph and approved 10 ft metal static straightedge. To be tested as soon as concrete has hardened.
		Accept.	Contractor/Project Engr. TR 644	Dist. Lab	1/Lane/Project	entire lot	-----	-----	2 days	Travel lane and associated pavement will be tested after quality control testing and corrective work completed by contractor.
	Tine Texturing	Accept.	Proj. Engr. TR 229	Proj. Engr.	2/lot*	-----	-----	-----	1 day	*See DOTD TR 229.
CONCRETE-PLASTIC	Compressive Strength	Accept.*	Proj. Engr. S 301 TR 226	Dist. Lab	3 cyl/pour/ 100yd^3 max.	6 in. x 12 in. cylinder mold	-----	-----	30 days	*For small quantity pavements and projects with less than 2000 yd^2.
		*	Proj. Engr. S 301 TR 226	Dist. Lab	1 set of 3 cyl/location/ day	6 in. x 12 in. cylinder mold	-----	-----	1 day	*Used to determine early opening date for traffic or construction equipment.
	Thickness	Quality Control	Contractor	Contractor	*	-----	-----	-----	-----	*For small quantity pavements and projects with less than 2000 yd^2.
		Accept.	Proj. Engr.	Proj. Engr.	*	-----	-----	-----	1 day	*For small quantity pavements and projects with less than 2000 yd^2.
CURING MATERIALS	Moist Cure Materials	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	36 in. x 36 in.	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
CURING MATERIALS (Cond't)	Liquid Membrane Forming Compound	Prelim. Source Approval	Mfr. S 601	Mat. Lab	1/6 months	1 qt friction top can	-----	-----	21 days	(AML)
		Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	1 qt friction top can	CC 1	-----	10 days	(AML) *Visual inspection by Project Engr. Sample only if questionable.

SECTION 601 PORTLAND CEMENT CONCRETE PAVEMENT (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
EPOXY RESIN SYSTEMS	Type I, Grade C	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment	1 qt each component friction top	CC 1	50 lin ft of joint	11 days	(AML) Visual inspection by Proj. Engr. Sample only if questionable.
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2 of fabric	10 days	(AML) *Sample a minimum of 18 ft2.
JOINT FILLERS (Cond't)	Preformed Polyurethane Foam	Accept.	Proj. Engr. S 601	Mat. Lab	1/5000 lin ft/ type	36 in. length	-----	2,000 yd^2 PCCP	10 days	-----
	Wood	Accept.	Proj. Engr. S 601	Mat. Lab	1/5000 lin ft	36 in. length	-----	2,000 yd^2 PCCP	10 days	-----
JOINT FORMER/ SEALER	Preformed Joint Former/ Sealer	Accept.	Proj. Engr. S 601	Mat. Lab	1/5000 lin ft	6 ft length	-----	2,000 yd^2 PCCP	11 days	-----
JOINT SEALANT (Extruded)	Silicone Polymer (single or two-component rapid cure)	Prelim. Source Approval	Dist. Lab S 611	Mat. Lab	1/batch or shipment	1 gal friction top can	CA 7	-----	30 days	(AML)
		Accept.	Proj. Engr. S 611	Mat. Lab	1/shipment*	1 gal friction top can	CD 1 & 7	2,000 yd^2 PCCP	30 days	(AML) *Sample only if questionable.
		Accept.*	Proj. Engr. S 611	Mat. Lab	1/batch or shipment	1 gal friction top can	CA 7	2,000 yd^2 PCCP	30 days	(AML) *When material is not accompanied by a CD.
JOINT SEALANT (Hot Poured)	Rubberized Asphaltic Type	Prelim. Source Approval	Dist. Lab S 611	Mat. Lab	1/batch or shipment	one container	CA 7	-----	11 days	(AML)
		Accept.	Proj. Engr. S 611	Mat. Lab	1/shipment*	one container	CD 1 & 7	2,000 yd^2 PCCP	11 days	
		Accept.*	Proj. Engr. S 611	Mat. Lab	1/batch or shipment	one container	CA 7	2,000 yd^2 PCCP	11 days	(AML) *When material is not accompanied by a CD.
JOINT SEALANT (Backing Material)	Rods	Accept.	-----	Mat. Lab	-----	-----	-----	-----	-----	(AML) For use with polyurethane silicone polymer joint seals. Visual inspection by Proj. Engr.
	Rods (Heat Resistant)	Accept.	-----	Mat. Lab	-----	-----	-----	-----	-----	(AML) For use with Hot poured joint sealants. Visual inspection by Proj. Engr.
JOINT SEALANTS (Primer)		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	(AML) For use with polyurethane and silicone polymers joint sealants. Visual inspection by Proj. Engr.
JOINT SEAL (Preformed)	Elastomeric Compression	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment	8 ft length	CA 7	2,000 yd^2 PCCP	14 days	(AML) Proj. Engr. forwards CA with sample to Mat. Lab.
LIME	Hydrated	Accept.	-----	Mat. Lab	1/shipment	-----	CD 1	-----	-----	(AML) Visual inspection by Proj. Engr.

SECTION 601 PORTLAND CEMENT CONCRETE PAVEMENT (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
LUBRICANT-ADHESIVE		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	(AML) For use with preformed polyurethane foam joint seal. Visual inspection by Proj. Engr.
NON-SHRINK PATCHING SYSTEM	Non-Shrink Grout	Accept.	Proj. Engr. S 601	Mat. Lab	1/source	1 sack	-----	20 sacks	16 days	(AML) Sample shall be submitted in an unbroken moisture proof sack.
REINFORCEMENT	Adhesive Anchor System	Accept.	Proj. Engr. S 501	Mat. Lab	1/type	-----	-----	2,000 yd^2 PCCP	12 days	(AML)
	Dowel Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/shipment	2 bars *	-----	2,000 yd^2 PCCP	9 days	*For mechanical placement, only one dowel bar required. Basket assemblies checked for dimensional conformance by Proj. Engr.
	Mechanical Butt Splicing Devices	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/ shipment	-----	-----	2,000 yd^2 PCCP	9 days	(AML)
	Tie Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/grade/ 150,000lb/ source*	2 bars	CA 1	2,000 yd^2 PCCP	9 days	*If listed on AML, material with a CA (Distr. 1) need not be sampled. Sample if questionable.
TAR PAPER		Accept.	Proj. Engr. S 601	Mat. Lab	1/source*	2 ft x 2 ft	-----	-----	9 days	For Bolster Blocks. *Visual inspection by Proj. Engr. Sample only if questionable.

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SECTION 602 PORTLAND CEMENT CONCRETE PAVEMENT REHABILITATION

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON CONCRETE MIX DESIGNS, TESTS AND MATERIALS, FLY ASH. SEE SECTION 901 OF THIS MANUAL. EACH REHABILITATION ITEM WILL SPECIFY THE SPECIFIC TYPE OF MATERIALS TO BE USED.										
CONCRETE-CURED	Surface Tolerance (Grinding)	Quality Control	Contractor TR 644	Contractor	Each lane/each wheel path	-----	-----	-----	-----	Contractor must furnish an approved 25 ft profilograph or approved alternate. Tested prior to as well as after grinding.
		Accept.	Contractor/ Dist. Lab TR 641	Dist. Lab	Each lane/each wheel path	-----	-----	-----	2 days	Travel lane will be evaluated after corrective work completed by contractor.
		Accept.	Proj. Engr.	Proj. Engr.	*	-----	-----	-----	1 day	*For Cross Slope & Trans. Joints, PE shall test as needed. Contractor must furnish approved metal static straightedges.
	Surface Finish (Patching)	Quality Control	Contractor	Contractor	each patched area	-----	-----	-----	-----	Contractor must furnish an approved 10 ft metal static straightedge. To be tested as soon as concrete has hardened.
		Accept.	Proj. Engr.	Proj. Engr.	each patched area	-----	-----	-----	1day	Tested with approved 10 ft metal static straightedge.

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SECTION 602 PORTLAND CEMENT CONCRETE PAVEMENT REHABILITATION (Cont.'d)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
	Tine Texturing (Patching)	Accept.	Proj. Engr. TR 229	Proj. Engr.	each patched area*	-----	-----	-----	1 day	*Match texture of adjoining pavement.
		Quality Control	Contractor TR 229	Contractor	*	-----	-----	-----	-----	*Sufficient number of random checks to ensure the required texture depth is achieved.
CONCRETE-PLASTIC	Compressive Strength	Accept.	Proj.Engr. S 301/ TR226	Dist. Lab	6 cyl/lot	6 in. x 12 in. cylinder mold	-----	-----	30 days	-----
			Proj. Engr. S 301/ TR226	Dist. Lab	3 cyl/lot	6 in. x 12 in. cylinder mold	-----	-----	1 day	*Used to determine early opening date for traffic or construction equipment.
CURING MATERIALS	Moist Cure Materials	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	36 in. x 36 in.	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable. For cold weather protection.
CURING MATERIALS (Cont.'d)	Liquid Membrane Forming Compound	Prelim. Source Approval	Mfr. S 601	Mat. Lab	1/6 months	1 qt friction top can	-----	-----	21 days	(AML)
		Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	1 qt friction top can	CC 1	-----	10 days	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.
EPOXY RESIN SYSTEMS	Type I Grade as specified	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment	1 qt each component friction top can	CC 1	-----	11 days	(AML) Visual Inspection by Proj. Engr. Sample only if questionable.
		Verif.	Proj. Engr. S 601		1/lot or shipment	1 qt each component friction top can	-----	1 gallon	11 days	(AML)
JOINT SEALANT (Extruded)	Silicone Sealant (Single Component)	Prelim Source Approval	Dist. Lab S 611	Mat. Lab	1/batch or shipment	1 gal friction top can	CA 7	-----	30 days	(AML)
		Accept.	Proj. Engr. S 611	Mat. Lab	1/shipment*	1 gal friction top can	CD 1 & 7	2000 yd^2 PCCP	30 days	(AML) *Sample only if questionable.
		Accept.*	Proj. Engr. S 611	Mat. Lab	1/batch or shipment	1 gal friction top can	CA 7	2000 yd^2 PCCP	30 days	(AML) *When material is not accompanied by a CD.

SECTION 602 PORTLAND CEMENT CONCRETE PAVEMENT REHABILITATION (Cont.'d)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
JOINT SEALANT (Hot Poured)	Rubberized Asphaltic Type	Prelim. Source Approval	Dist. Lab S 611	Mat. Lab	1/batch or shipment	one container	CA 7	-----	11 days	(AML)
		Accept.	Proj. Engr. S 611	Mat. Lab	1/shipment*	one container	CD 1 & 7	2000 yd^2 PCCP	11 days	(AML) *Sample only if questionable.
		Accept.*	Proj. Engr. S 611	Mat. Lab	1/batch or shipment	one container	CA 7	2000 yd^2 PCCP	11 days	(AML) *When material is not accompanied by a CD.
JOINT SEALANT (Backing Material)	Rods	Accept.	-----	Mat. Lab	-----	-----	-----	-----	-----	For use with polyurethane polymer (AML) and silicone polymer (AML) joint seals. Visual inspection by Proj. Engr.
	Rods (Heat Resistant)	Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	(AML) For use with hot poured joint sealants. Visual inspection by Proj. Engr.
JOINT SEALANTS (Primer)		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	(AML) For use with silicone polymers joint sealants. Visual inspection by Proj. Engr.
LOW-SHRINK PATCHING MATERIAL	Rapid Set	Accept.	Proj. Engr. S 601	Mat. Lab	1/source	1 bag	CC 1	-----	-----	(AML) For Dowel Bar retrofit 602.15(b).
	Compressive Strength	Accept.	Proj. Engr.	Dist. Lab	1 per 1st day production	6 cubes	-----	-----	-----	Tested at 3 and 25 hours. 1st set must be taken during 1st day production
	Compressive Strength	Design	Proj Engr.	Dist. Lab	1/source	6 cubes	-----	-----	-----	For preapproval of design. Tested at 3 and 24 hours.
	Compressive Strength	Verif.	Proj Engr.	Dist. Lab	1 /4 hours of production	6 cubes	-----	-----	-----	Tested at 3 and 24 hours.
POWDERED AMMONIUM LIGNIN SULPHONAT		Accept.	Proj. Engr.	Proj. Engr.	1/lot or batch	-----	CC 1	-----	-----	For undersealing and slabjacking.
REINFORCEMENT	Adhesive Anchor Systems	Accept.	Proj. Engr. S 501	Mat. Lab	1/type	-----	-----	-----	12 days	(AML)
	Dowel Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/shipment	2 bars*	-----	-----	9 days	*For mechanical placement, only one dowel bar required. Basket assemblies checked for dimensional conformance by Proj. Engr.
	Tie Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/grade/ 150,000 lb/ source*	2 bars	CA 1	-----	9 days	*If listed on AML, material with a CA (Distr. 1) need not be sampled. Sample if questionable.
	Steel Fibers	Accept.	-----	Mat. Lab*	1/shipment	1 qt can	CC* 1	-----	10 days	*Visual inspected by Proj. Engr. Sample if questionable.
SLURRY	Time of Efflux	Accept.	Proj. Engr. TR 633	Proj. Engr.	1/half day	3 gal suitable container	-----	-----	-----	For undersealing and slabjacking.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON CONCRETE TEST, MIX DESIGNS AND MATERIALS (ADMIXTURES, AGGREGATES, CEMENT AND WATER) SEE SECTION 901 OF THIS MANUAL. (CLASS M)										
BACKFILL	Density	Accept.	-----	Proj. Engr.	1/location	**SEE SECTION 701 OF THIS MANUAL.**				
	Flowable Fill	**SEE SECTION 710 OF THIS MANUAL.**								
	Granular Material	Accept.	**SEE SECTION 701 OF THIS MANUAL.**	Dist. Lab						
	Selected Soil	Accept.	**SEE SECTION 701 OF THIS MANUAL.**	Dist. Lab						
BRICK	Sewer	Accept.	Proj. Engr. S 601	Mat. Lab	1/25,000/ type*	5 bricks	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
COVERS, FRAMES & GRATES		Accept.	**When questioned by Proj. Engr.; one tension test bar, ASTM A 48, specimen B, (threaded), representing lot of material from which item is cast to be submitted to Const. Fab. Insp. See section 807 of this manual.**	Mat. Lab			CA 1	-----	10 days	Visual inspection by Proj. Engr. Proj. Engr. to receive form 4148 and CA for physical and chemical properties, from the contractor.
JOINT FILLER		Accept.	-----	Mat. Lab	-----	36 in.	-----	-----	10 days	Visual inspection by Proj. Engr. Sample only if questionable.
MORTAR	Cement, Sand & Water	Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. Sample only if questionable.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
METAL WORK COATINGS	Metal Work Paint	Accept.	Proj. Engr. S 601	Mat. Lab	1/batch	1 qt friction top can	-----	-----	10 days	Visual inspection by Proj. Engr.
	Asphaltic Varnish	Accept.	Proj. Engr. S 601	Mat. Lab	1/batch*	1 qt friction top can	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
PRECAST REINFORCED CONCRETE UNITS		Prelim. Source Approval	MFR S 301 S 601	MFR	1/300 joints/size or 4 cy/300 joints/size or 3 consecutive days production/ size*	1 joint or 4 cyl. 6 in. x 12 in. cylinder mold	-----	-----	-----	(AML) Three-edge-baring test or compressive strength test. Includes concrete pipe arch. *Shall not exceed 300 joints. The use of 6 in. x 12 in. compressive strength cylinders for Source Approval or verification shall be at the discretion of the Const. Fab. Insp. Unit. Each joint shall be stamped when approved.
		Verif.	Const. Fab. Insp. S 601	Const. Fab. Insp.	1/180 day/ production/ plant	1 joint or 4 cyl. 6 in. x 12 in. cylinder mold	-----	-----	-----	
		Accept.	**Inspected approved and stamped by MFR. prior to use.**	Proj. Engr.			CD 1	-----	-----	(AML) Visual inspection by Proj. Engr. CC to include lot number for Gasket Materials.
REINFORCEMENT	Bars	Accept.	Proj. Engr. or Const. Fab. Insp. S 501	Mat. Lab	1/size/grade/ 150,000 lb/ source*	48 in. length	CA 1	-----	10 days	*If listed on AML, materials with a CA (Distr. 1) need not be sampled. Sample for Verification if questionable.
	Chairs	Accept.	Proj. Engr. S 501	Mat. Lab	1/type*	1 chair	-----	-----	9 days	*Visual inspection by Proj. Engr. Sample only if questionable. Chairs with plastic coated tips need not be sampled.
	Wire Fabric	Accept.	Proj. Engr.* S 501	Mat. Lab	1/shipment	48 in. x 48 in.	-----	-----	11 days	*Sampled by Const. Fab. Insp. for precast items.
SACKS		Accept.	Proj. Engr. S 501	Mat. Lab	1/type/ source*	1 sack	-----	-----	9 days	*Visual inspection by Proj. Engr. Sample only if questionable.
STONE		Accept.	**Visual inspection and/or gradation check (at source, Proj. Site, or both, at Engineer's option).***	Proj. Engr.			-----	-----	-----	(AML) *Materials Lab available for assistance prior to use.

SECTION 701 CULVERTS & STORM DRAINS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BACKFILL	Density	Quality Control	Contractor TR 401	Contractor	As needed*	-----	-----	-----	-----	*To ensure density requirements are met for each lift of backfill. DOTD to do TR 415 or TR 418.
	Density, when required by specifications	Accept.	Proj. Engr. S 401	Proj. Engr.	1/200 LF Pipe/Location/ Side of Pipe/3' of Backfill*	-----	-----	-----	-----	*Test first lift at 1/3 the pipe height, and at least 1 test for each additional 3' of backfill thickness.
	Density (Non-paved Side Drains)	Accept.	Proj. Engr. S 401	Proj. Engr.	*	-----	-----	-----	-----	*Visual inspection & compaction to the density of the surrounding soil with the exception of plastic pipe.
	Granular Material*	Accept.	Proj. Engr. S 401	Dist. Lab	1/1,000 yd^3	1 full sample sack	-----	-----	4 days	*pH and resistivity required for metal pipe. Plastic pipe requires granular material, or Type A backfill material.
	Flowable Fill	**SEE SECTION 710 OF THIS MANUAL.**		Mix Design						
	Moisture Content	Quality Control	Contractor TR 403	Contractor	As needed*	-----	-----	-----	-----	*To ensure moisture requirements are met at time of compaction. DOTD to do TR 415 or TR 418.
	Moisture Content	Accept.	Proj. Engr. S 403	Proj. Engr.	1/location*	-----	-----	-----	-----	*Test taken during or just prior to compaction.
	Plastic Soil Blanket	Accept.	Proj. Engr. S 401	Dist. Lab	1/1,000 yd^3*	1 full sample sack	-----	300 yd^3	10 days	*Not required if tested & approved as required excavation or borrow pit material.
	Selected Soil*	Accept.	Proj. Engr. S 401	Dist. Lab	1/1,000 yd^3	1 full sample sack	-----	-----	10 days	*pH and resistivity required for metal pipe. Plastic pipe requires granular material, or type A backfill material.
BEDDING MATERIAL		Accept.	**SEE SECTION 726 OF THIS**	Dist. Lab						
CONCRETE PIPE AND PIPE ARCH	Non-Reinforced (Concrete Sewer Pipe)	Prelim Source Approval	Const. Fab. Insp. S 601	Mfr. & Const. Fab. Insp.	1/160 joints/size	1 joint	-----	-----	-----	Three-edge bearing test. Each joint shall be stamped when approved.
		Accept.	**Inspected and stamped by Const. Fab. Insp. prior to**	Proj. Engr.			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr. CD to include lot number for gasket materials.
	Reinforced	Prelim Source Approval	MFR. S 301 S 601	Mfr.	1/300 joints/size or 4 cyl/300 joints/size or 3 consecutive days production/ size*	1 joint or 4 cyl 6 in. x 12 in. cylinder mold	CD 1	-----	-----	(AML) Three-edge-bearing test or compressive strength test. The placement of elliptical reinforcement must be approved by the Const. Fab. Insp. Unit. Includes concrete pipe arch. *Shall not exceed 30 joints. The use of 6 in. X 12 in. compressive strength cylinders for Source Approval or Verification shall be at the discretion of the Const. Fab. Ins. Unit. Each joint shall be stamped when approved.
		Accept.	**Inspected and stamped by Const. Fab. Insp. prior to**	Proj. Engr.			CD 1	-----	-----	(AML) Visual insp. by Proj. Engr. CD to include lot number for Gasket Materials.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CONCRETE PIPE AND PIPE ARCH (Cont'd)	Absorption Test	Verif.	Const. Fab. Insp. S 601	Const. Fab. Insp.	*	-----	-----	-----	-----	*This test will be conducted at the discretion of the Const. Fab. Insp. Unit in cases where the pipe exhibits visual porosity.
	Admixtures	Verif.	Const. Fab. Insp. S 601	Mat. Lab	*	1 pt friction top can	-----	-----	14 days	(AML) *Visual inspection by Const. Fab. Insp. Unit. Sample only if questionable.
	Cement for Concrete Pipe	Verif.*	Const. Fab. Insp. S 102	Mat. Lab	**	1 gal friction top can**	CD 6 & 7	-----	16 days	(AML) *See Section 901 of this manual. **Visual inspection by Const. Fab. Insp. Unit. Sample only if questionable.
	Coarse & Fine Aggregate for Concrete Pipe	Verif.	Const. Fab. Insp. S 101	Mat. Lab	*	1 full sample sack	-----	-----	-----	(AML) *Visual inspection by Const. Fab. Insp. Unit. sample only if questionable.
	Hydrostatic Test	**This test shall be used as a basis for source approval of new joint designs and repairs and for evaluation of new products such as gasket materials, etc.**		Const. Fab. Insp.			-----	-----	-----	-----
	Mix Design	Design/ Accept.	Mfr. ASTM C 76	Const. Fab. Insp.	1/plant/ source	-----	-----	-----	-----	-----
	Permeability Test	Verif.	Const. Fab. Insp.	Const. Fab. Insp.	*	1 joint	-----	-----	-----	One pipe per lot of sizes up to and including 48 in. in diameter. *This test will be conducted at the discretion of Const. Fab. Insp. Unit in cases where the pipe exhibits visual porosity.
	Water	Accept.	Const. Fab Insp.	Mat. Lab	1/source	1 qt plastic bottle	-----	-----	11 days	Drinkable water need not be sampled.
Reinforcing Steel for Concrete Pipe		Verif.	Const. Fab. Insp.	Mat. Lab	1/12 months/ source	36 in. x 36 in.	-----	-----	10 days	Sample shall include an area which will have the welded splice at approximately the midpoint.
		Accept	Const. Fab. Insp.	Mat. Lab	1/shipment*	36 in. x 36 in.	-----	-----	10 days	*Visual Inspection by Construction Fab. Inspection unit. Sample only if questionable.
CONDUIT PLUG & COLLARS	Concrete (Class R)	Accept.	**SEE SECTION 901 OF THIS MANUAL.**	Dist. Lab						
GASKET MATERIAL (For Pipe)	Flexible Plastic Gasket	Accept.	Proj. Engr.	Mat. Lab	*	3 ft length	CC** 1	-----	11 days	(AML) *Visual inspection by the Proj. Engr. Sample only if questionable. **Gasket lot no. listed on pipe CC. Primer used according to gasket manufacturer's recommendation; sample not
	Rubber Gaskets	Accept.	Proj. Engr.	Mat. Lab	*	1 gasket	CC** 1	-----	17 days	(AML) *Visual inspection by the Proj. Engr. Sample only if questionable. **Gasket lot no. listed on pipe CC. Lubricant used according to gasket manufacturer's recommendation; sample not required.

SECTION 701 CULVERTS & STORM DRAINS (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	11 days	(AML) *Sample a minimum 18 ft2. For pipe wrap visual inspection by Proj. Engr. Sample only if questionable.
METAL PIPE		Prelim. Source Approval	MFR	Mat. Lab	1/size/gage/ 200 lin ft	1 -3 in. triangle	CA 6	-----	-----	Connecting bands for metal pipe shall be inspected, approved and the pipe lab no. painted on the band and in the pipe by MFR.
		Verif.	Const. Fab. Insp.	Mat. Lab	1/180 day production per plant	-----	CA 6	-----	-----	-----
	Bituminous Coated Corrugated Steel Pipe & Pipe Arch	Accept.	**Inspected, approved and marked by MFR. prior to use.**	Mat. Lab Proj. Engr.			CD 1 & 6	-----	10 days	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket materials and hardware.
	Corrugated. Aluminum Pipe & Pipe Arch	Accept.	**Inspected, approved and marked by MFR. prior to use.**	Mat. Lab Proj. Engr.			CD 1 & 6	-----	11 days	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket materials and hardware.
	Structural Plate For Pipe & Pipe Arch	Accept.	**Inspected, approved and marked by MFR prior to use.**	Mat. Lab Proj. Engr.			CD 1 & 6	-----	11 days	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket materials and hardware.
	Bituminous Material for Metal Pipe	Prelim. Source Approval	MFR S 601	Mat. Lab	*	1 qt friction top can	CC 6	-----	-----	*Visual inspection. Sample only if questionable.
	Galvanizing Repair Compound	Accept.	Const. Fab Insp. S 601	Mat. Lab	1/type*	1 can	-----	-----	-----	(AML) *Visual inspection. Sample only if questionable.
	Hardware	Prelim. Source Approval	Const. Fab. Insp. S 601	Mat. Lab	1/source/ shipment	1 of each item*	CA 6	-----	-----	Visual inspection. Sample only if questionable. Includes steel rod, lugs, bolts and nuts. *One of each type of hardware used is to be submitted.
	Hydrostatic Test	**This test shall be used as a basis for source approval of new joint designs and repairs and for evaluation of new products such as Gasket Materials, etc.**		Const. Fab. Insp.			-----	-----	-----	-----
	Steel Coils for Metal Pipe	Accept.	Const. Fab. Insp.	Const. Fab. Insp.	-----	-----	CA 6	-----	-----	Const. Fab. Insp. reviews CA.
MORTAR	Cement, Sand & Water	Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. Sample only if questionable.

SECTION 701 CULVERTS & STORM DRAINS (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
PLASTIC CULVERT PIPE		Prelim. Source Approval	MFR	MFR.	1/size/lot	-----	CA 6	-----	-----	(AML)
		Accept.	-----	Proj. Engr.	-----	-----	CC 1	-----	-----	(AML) Visual inspection by Proj. Engr. CC includes split coupling bands, straps and gasket material.
	Hydrostatic Test	**The test shall be used as a basis for source approval of new joint designs and repairs and for evaluation of new products such as Gasket Materials, etc.**		Const. Fab. Insp.			-----	-----	-----	-----
	Mandrel Test	Accept.	Contractor	Contractor	1/line of pipe	-----	-----	-----	-----	For 36 in. diameter or less. Proj. Engr. to observe and approve. For pipe larger than 36 inches in diameter deflection shall be determine by a method approved by the
PLASTIC YARD DRAIN PIPE & JOINTS		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/size/ shipment*	6 ft length	CA 4 & 7	-----	10 days	(AML) *For corrugated Polyethylene 4 pieces 5 ft. length.
FITTINGS FOR PLASTIC YARD DRAIN PIPE &		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/size/ shipment*	1 item	CC 4 & 7	-----	10 days	* Visual Inspection by Proj. Engr. Sample only if questionable.
CULVERT SAFETY ENDS	Pipe Runners & Hardware	Accept.	-----	Proj. Engr.	-----	-----	CA 1	-----	-----	Visual inspection by Proj. Engr.
	Epoxy Resin Systems	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment*	1 qt each component friction top can	CC 1	1 gal	11 days	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.
		Verif.	Proj. Engr. S 601		1/lot or shipment	1 qt each component friction top can	-----	1 gal	11 days	(AML)
	Adhesive Anchor Systems	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment*	1 qt each component friction top can	-----	1 gal	11 days	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.
DRY-BATCHED SACKED CONCRETE	Compressive Strength	Accept.	Proj. Engr. S 601 TR 226 TR 230	Dist. Lab	1 set/1,000 sacks 3 cyl/set	1 sack 6 in. x 12 in. cylinder mold*	CC** 1	-----	-----	(AML) *Cylinders made from contents of sack mixed with water to produce a slump of 2 to 5 inches. **CC should show mix proportions.
GASKET MATERIALS	Flexible Plastic Gasket	Accept.	Proj. Engr.	Mat. Lab	*	3 ft length	CC** 1	-----	-----	(AML) *Visual inspection by Proj. Engr. Sample only if questionable. **Gasket Lot no. listed on precast unit CC.
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	10 days	(AML) *Sample a minimum of 18ft2.

SECTION 703 UNDERDRAIN SYSTEMS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR ASPHALTIC CONCRETE BASE COURSE & SURFACING SEE SECTIONS 502 AND 510 OF THIS MANUAL.										
BACKFILL	Aggregate (Size 3)	Accept.	Proj. Engr. S 101	Dist. Lab	1/1,000 yd^3	1 full sample sack	-----	-----	4 days	-----
	Granular Material	Accept.	Proj. Engr. S 101	Dist. Lab	1/1,000 yd^3	1 full sample sack	-----	-----	4 days	-----
GEOCOMPOSITE WALL DRAINS		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/lot*	4 ft^2	CA 7	-----	11 days	(AML) *Sample fittings 1 per type per shipment.
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 614	Mat. Lab	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	10 days	(AML) *Sample a minimum if 18 ft2.
HARDWARE CLOTH	Rodent Screen	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	1 screen	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
METAL PIPE	Perforated Bituminous Coated Corrug. Steel	Accept.	**See Section 701 of this manual for Const. Fab. Insp. sampling.**	Proj. Engr.			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket material and hardware.
	Perforated Corrugated Aluminum	Accept.	**See Section 701 of this manual for Const. Fab. Insp. sampling.**	Proj. Engr.			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket material and hardware.
PLASTIC PIPE		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/size/ shipment	6 ft. length*	CA 4 & 7	less than 1,000 ft	10 days	*For corrugated Polyethylene 4 pieces 5 ft. length.
PLASTIC PIPE FITTINGS		Accept.	Proj. Engr. S 601	Mat. Lab	3/type/size/ shipment	-----	CC 4 & 7	less than 1,000 ft	10 days	Visual inspection by Proj Engr. Sample only if questionable.
PORTLAND CEMENT CONCRETE	Headwalls (Class M)	Accept.	**SEE SECTION 901 OF THIS MANUAL.**	Proj. Engr.				10 yd^3	-----	-----
PRECAST CONCRETE HEADWALLS		Accept.	**Inspected, stamped and approved by MFR prior to use. See Section 805 of this Manual.**	Proj. Engr.			CD 1 & 6	-----	-----	Visual inspection by Proj Engr. If questionable, contact Const. Fab. Insp. Unit prior to use.

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SECTION 703 UNDERDRAIN SYSTEMS (Cond't)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
REINFORCING STEEL	Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/source*	48 in. length	CA 1	-----	10 days	*If listed on AML material with CA (Distr. 1) need not be sampled. Sample for verification if questionable.
Wire Fabric		Accept.	Proj. Engr. S 501	Mat. Lab	1/shipment*	48 in. X 48 in.	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.

SECTION 704 GUARD RAIL

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CONCRETE (Class M)	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**								Sample only if questionable.
GALVANIZING REPAIR COMPOUND		Accept.	Proj. Engr. S 601	Mat. Lab	1/type*	1 can	-----	-----	-----	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.
HARDWARE	Accessories, Bolts, End Anchor Rods, Fittings, Nuts and Washers	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/type/ shipment*	1 of each item	CC 1	-----	12 days	*Visual inspection sample only if not listed on CC or if questionable.
METAL BEAM RAIL		Accept.	-----	Mat. Lab	-----	-----	CC 3	-----	-----	(AML) Visual inspection by Proj. Engr. Rail shall be stamped with the name or brand of manufacturer, ID symbol or code for heat, no. and coating of lot, AASHTO spec. no., and class and type.
POSTS AND SPACER BLOCKS	Steel	Accept.	-----	Proj. Engr.	-----	-----	CC 1 & 6	-----	-----	Visual inspection by Proj. Engr.
	Timber	Accept.	-----	Proj. Engr.	-----	-----	CC 1 & 6	-----	-----	Visual inspection by Proj. Engr.
REINFORCEMENT	Wire Fabric	Accept.	Proj. Engr. S 501	Mat. Lab	1/shipment*	48 in x 48 in.	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.
WIRE ROPE & FITTINGS		Accept.	-----	Mat. Lab	-----	-----	CC* 3	-----	-----	*Wire rope only. Proj. Engr. visually inspects fittings.
WELDING	**SEE SECTION 815 OF THIS MANUAL.**									

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SECTION 705 FENCES

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CHAIN LINK FENCE, GATES AND APPURTENANCES	Fabric (Wire)	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/lot or shipment	36 in. length	-----	1,000 lin ft of fence	11 days	-----
	Fittings and Misc. Hardware	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/type/size*	1 of each item**	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable. **One piece of each type of fitting or hardware used is to be submitted.
	Gate Frames, Posts, Rails	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/type/lot or shipment	1 post or 7 ft section	-----	1,000 lin ft of fence	11 days	-----
	Hog Rings, Tension Wire, Wire Fabric	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/type/lot or shipment	48 in. length or 3 pieces*	-----	1,000 lin ft of fence	11 days	*Wire ties, wire fabric ties and hog rings require only 3 precut pieces for samples.
CONCRETE (Class R)	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**						10 yd^3	-----	-----
FIELD & LINE TYPE FENCE	Barbed Wire	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/lot or shipment*	30 ft length	CC or MFR Label	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Gates	Accept.	-----	Standard Plans Proj. Engr.	-----	-----	CC 1	-----	-----	Visual inspection and dimensional check by Proj. Engr.
	Gate Hardware	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/type*	1 of each item	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Metal Fasteners	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/type/ shipment*	12 fasteners	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Staples & Nails	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/size/ shipment*	12 staples	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Steel Braces	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/type/lot or shipment*	1 brace	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Steel Gate Posts	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/type/lot or shipment*	1 post	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Steel Gate Stops	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/type/lot or shipment*	1 stop	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Steel Posts with Anchor Plates	Accept.	Proj. Engr. S 501	Standard Plans Mat. Lab	1/type/llot or shipment*	1 post with plate	CC or MFR Label 1	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Timber Posts	Accept.	-----	Proj. Engr.	-----	-----	CC 1	-----	-----	Visual inspection by Proj. Engr.
	Woven Wire	Accept.	Proj. Engr. S 501	Mat. Lab	1/lot or shipment*	36 in. length	CC or MFR Label 1	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.

SECTION 705 FENCES (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FIELD & LINE TYPE FENCE (Cont'd)	Timber Gate Posts, Timber Gate Stops, Timber Stop Posts	Accept.	-----	Proj. Engr.	-----	-----	CC 1	-----	-----	Visual inspection by Proj. Engr.
GALVANIZING REPAIR COMPOUND		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	(AML) Visual inspection by Proj. Engr. See Subsection 1008.05 of the Standard Specifications.
GROUND ROD ASSEMBLY	Ground Rod, Wire & Clamp	Accept.	Proj. Engr. S 501	Mat. Lab	1/item*	1 of each item Wire 18 in. length	-----	-----	9 days	*Visual inspection by Proj. Engr. (Note: Coated steel hardware is not permitted.) Sample only if questionable.

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SECTION 706 CONCRETE WALKS, DRIVES AND INCIDENTAL PAVING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CONCRETE (Class M)	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**								Air entrainment is required for slip forming.
CURING MATERIALS		Accept.	**SEE SECTION 601 OF THIS MANUAL.**	Mat. Lab						
JOINT FILLER	Preformed Bituminous Type	Accept.	-----	Mat. Lab	-----	36 in. length	-----	-----	10 days	Visual inspection by Proj. Engr. Sample if questionable
REINFORCING STEEL		Accept.	**SEE SECTION 601 OF THIS MANUAL.**	Mat. Lab						
DETECTABLE WARNING SURFACE FOR HANDICAP RAMPS (Truncated Domes)		Accept.	-----	Mat. Lab	-----	-----	CC 3	-----	-----	Visual Inspection by Proj. Engr. Sample if questionable

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SECTION 707 CURBS AND GUTTERS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ASPHALTIC CURB				**For details on Additives, Aggregates, Asphalt Cement, Asphaltic Concrete, Asphaltic Tack Coat, Asphalt Mix Release Agent and Mineral Filler, See Section 502 of this Manual.**				-----	-----	No requirement for density and surface tolerance.
BACKFILL	Usable Soil	Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.
CONCRETE (Class M)	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**								Air entrainment is required for slip forming.
CURING MATERIALS		Accept.	**SEE SECTION 601 OF THIS MANUAL.**	Mat. Lab						
FORM RELEASE AGENT		Accept.	Proj. Engr. S 601	Mat. Lab	1/lot	1 qt plastic bottle	-----	-----	9 days	(AML) Visual inspection by Proj. Engr. Sample only if questionable.
JOINT MATERIALS (Sealants, Filler, & Seals)		Accept.	Proj. Engr. S 601	Mat. Lab	1/5,000 lin ft*	35 in. length or 1 gal	-----	-----	17 days	*Visual inspection by Proj. Engr. Sample only if questionable.
REINFORCEMENT	Tie Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/ source*	1 bar	-----	-----	10 days	(AML) *Visual inspection Proj. Engr. Sample only if questionable.

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SECTION 708 RIGHT-OF-WAY MONUMENTS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
RIGHT-OF-WAY MONUMENTS	Monuments, Steel Stakes & Witness Posts	Accept.	**Type as shown on plans or approved by the Location & Survey**	Mat. Lab/ Const. Fab. Insp.			-----	-----	-----	Approval letter from Location & Survey Section Administrator required for substitutions. Visual inspection by Proj. Engr.

SECTION 709 STEEL CATTLE GUARDS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BACKFILL	Density	Accept.	Proj. Engr.	Proj. Engr.	1/location	-----	-----	-----	-----	Six (6) inch layer to density of surrounding soil in the roadway see section 203.07.
CONCRETE (Class M)	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**								
HARDWARE	Bolts, Nuts and Washers	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/type/ shipment*	1 of each item**	-----	-----	12 days	*Visual inspection by Proj. Engr. Sample only if questionable. **One piece of each size and type of hardware used is be submitted.
PAINT PROTECTIVE COATINGS		Accept.	**SEE SECTION 811 OF THIS MANUAL.**							
REINFORCING STEEL	Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/ source*	48 in. length	-----	-----	10 days	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.
STEEL CATTLE GUARD	Rails & Pipe Wings	Accept.	**Inspected by Const. Fab. Insp. Prior to use. See Section 807 of this Manual**	Std. Pl. KG-01 Const. Fab. Insp.			-----	-----	-----	Proj. Engr. to receive inspection report form Const. Fab. Insp.
TREATED TIMBER		Accept.	-----	Mat. Lab/ Const. Fab. Insp.	-----	-----	CC 1 & 6	-----	-----	Visual inspection at project site by Proj. Engr.

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SECTION 710 FLOWABLE FILL

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
PORTLAND CEMENT		Prelim. Source Approval	**SEE SECTION 901 OF THIS MANUAL.**	Mat. Lab						
FLOWABLE FILL	Mix Design	Design	*	Contractor/ Dist. Lab	1/mix design	-----	-----	-----	3 days	*Lab Engineer to approve before work begins. Trial batch required.
FLY ASH		Prelim. Source Approval	**SEE SECTION 901 OF THIS MANUAL.**	Mat. Lab						
MIX DESIGN		Design	Contractor/ Supplier		1/mix design	-----	-----	-----	28 days	Approved trial batch mix design-contractor to submit to Engr. For approval.
SAND		Prelim. Source Approval	**SEE SECTION 901 OF THIS MANUAL.**	Mat. Lab						
WATER		Prelim. Source Approval	Proj. Engr. S 303		1/source*	1 qt plastic bottle	-----	-----	11 days	*Drinkable water need not be sampled.

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SECTION 711 RIPRAP

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	10 days	(AML) *Sample a minimum of 18 ft2.
RECYCLED CONCRETE		Accept.	**Visual inspection and/or gradation check (at source, project site, or both, at Engineer's option.)**	Proj. Engr.			-----	-----	-----	Gradation and unit weight provided suppliers. Must be from an approved source.
STONE		Accept.		Proj. Engr.			-----	-----	-----	(AML)

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SECTION 712 REVETMENTS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BACKFILL	Usable Soil	Accept.	Proj. Engr. S 401	Proj. Engr.	1/1,000 yd^3	1 full sample sack	-----	-----	10 days	-----
CONCRETE (Class R)	Mix Designs, Materials & Test	**SEE SECTION 901 0F THIS MANUAL.**								
CURING MATERIALS		Accept.	-----	Mat. Lab	-----	-----	-----	less than 300 yd^2	-----	See Section 601 of this manual.
DRY-BATCHED PREPACKAGED SACKED CONCRETE	Compressive Strength	Accept.	Contractor Proj. Engr. S 601 TR 226 TR 230	Dist. Lab	1 set of 3 cy/set/1,000 sacks*	1 sack 6 in. x 12 in. cylinder mold	CC 1	-----	-----	(AML) *Cylinders made from contents of sack mixed by contractor. Water to produce a slum of 2 to 5 inches. CC should show mix proportions.
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	10 days	(AML) *Sample a minimum of 18 ft2.
REFER TO SPECIFICATIONS FOR DETAILS ON NCHRP 350 REQUIREMENTS FOR PORTABLE WORK ZONE DEVICES										
JOINT FILLER		Accept.	Proj. Engr. S 601	Mat. Lab	1/5,000 lin ft/ type*	36 in. length	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.
RECYCLED CONCRETE & STONE		**SEE SECTION 713 OF THIS MANUAL.**								
SACKS		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/ source*	1 sack	-----	-----	9 days	*Visual inspection by Proj. Engr. Sample only if questionable.
USABLE SOIL		**SEE SECTION 203 OF THIS MANUAL.**								

SECTION 713 TEMPORARYTRAFFIC CONTROL

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ADVANCE WARNING ARROW PANEL		Accept.	-----	Proj. Engr.	-----	-----	CC 1	-----	-----	Visual inspection by Proj. Engr.
BARRICADE WARNING LIGHTS		Accept.	Proj. Engr. S 601	Mat. Lab	1/type*	1 unit	CC** 1	-----	-----	(AML) *Visual inspection by Proj. Engr. Sample only if questionable. **See Specification Subsection 1018.12(c) for certification
DRUMS, CONES, TUBULAR MARKERS, AND FLEXIBLE DELINEATORS		Accept.	-----	Std. Pl. TC Series Mat. Lab	-----	-----	CC 1	-----	-----	(AML for plastic drums) Visual inspection by Proj. Engr. Sample only if questionable.
	Sheeting	Accept.	Proj. Engr. S 601	Mat. Lab	-----	-----	CC 1	-----	-----	(AML) Visual inspection by Proj.. Engr. Sample only if questionable.
GLASS BEADS FOR THERMOPLASTIC PAVEMENT MARKINGS AND TRAFFIC PAINT	Drop-on Application	Prelim. Source Approval	Dist. Lab	Mat. Lab	1/lot	1-50 lb bag	-----	-----	10 days	-----
		Accept.	Dist. Lab	Mat. Lab	1/lot	1-50 lb bag	CD* 1 & 7	-----	10 days	*CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable.
PORTABLE FLASHER SUPPORTS		Accept.	-----	Std. Pl. TC Series Proj. Engr.	-----	-----	CC 1	-----	-----	Visual inspection by Proj. Engr.
RAISED PAVEMENT MARKERS & ADHESIVES		Accept.	**SEE SECTION 731 OF THIS MANUAL.**	Mat. Lab						
TEMPORARY PAVEMENT MARKING TAPE	Temporary Striping Tape (Type I & II)	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	6 ft length	CC 1	-----	10 days	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.
TEMPORARY SIGNS, VERTICAL PANELS & BARRICADES	Barricades, Vertical Panels & Signs	Verif.	**When questioned by Proj. Engr., visual inspection by Const. Fab. Insp.**	MUTCD, Project Plans Const. Fab. Insp.			CA/CC 1	-----	-----	Visual inspection by Proj. Engr. Const. Fab. Insp. to receive CA/CC when requested. *Required documentation is detailed in 713.07

SECTION 713 TEMPORARY TRAFFIC CONTROL (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
TEMPORARY SIGNS, VERTICAL PANELS & BARRICADES (con't)	Reflective Sheeting, Paste, Paint, Overlay Fill	Verif.	**When questioned by Proj. Engr, sample from original lot of reflective sheeting, paste, paint and/or overlay film to be obtained by Const. Fab. Insp. for testing. Random sampling by Const. Fab. Insp. for Quality Assurance. See Section 729 of this Manual.**	Mat. Lab			CA/CC 1	-----	-----	(AML) Visual inspection by Proj. Engr.
	Substrate	Verif.	**When questioned by Proj. Engr., sample from original substrate lot by the Const. Fab. Insp. for testing. Random sampling by Const. Fab. Insp. for Quality Assurance.**	Mat. Lab			CA/CC** 1	-----	-----	Visual inspection by Proj. Engr. *Required documentation is detailed in 713.07. **CA for aluminum, CC for wood, no certification for plastics.
THERMOPLASTIC PAVEMENT MARKINGS		Accept.	**SEE SECTION 732 OF THIS MANUAL.**	Mat. Lab						
TRAFFIC PAINT		Accept.	**SEE SECTION 737 OF THIS MANUAL.**	Mat. Lab						

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SECTION 713 TEMPORARY TRAFFIC CONTROL (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING	REMARKS
BARRIERS	Precast Concrete	**SEE SECTION 733 OF THIS MANUAL.**		Const. Fab. Insp.						
	Water Filled	Accept.	-----	Std. Pl. TC Series Proj. Engr.	-----	-----	CC** 1	-----	-----	Visual inspection by Proj. Engr. *Required documentation is detailed in 713.07. **CA for aluminum, CC for wood, no certification for plastics.

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SECTION 714 SODDING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGRICULTURAL LIME		Accept.	**SEE SECTION 718 OF THIS MANUAL.**	Mat. Lab						
FERTILIZER		Accept.	**SEE SECTION 718 OF THIS MANUAL.**	Proj. Engr.						
SOD		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	*Visual inspection by Proj. Engr. or Roadside Development personnel.
WATER		Accept.	Proj. Engr. S 303	Mat. Lab	1/source*	1 qt plastic bottle	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.

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SECTION 715 TOPSOIL

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGRICULTURAL LIME		Accept.	**SEE SECTION 718 OF THIS MANUAL.**	Mat. Lab						
TOPSOIL		Accept.	Contractor*		1/1,000 yd3	1 full sample sack	CA 3	200 yd3	-----	*Contractor to provide report from established soil testing entity.

SECTION 716 VEGETATIVE & FIBER MULCH

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
TACKING AGENTS	Emulsified Asphalt	Prelim Source Approval	**SEE SECTION 506 OF THIS MANUAL.**	Mat. Lab						
		Accept.	-----	Proj. Engr.	1/shipment	-----	CD* 1 & 7	No CD required if less than 500 gal	4 days	(AML) Visual inspection by Proj. Engr. *Sample when not accompanied by CD or questionable.
	Tacking Agent	Accept.	-----	Proj. Engr.	-----	-----	CA* 1 & 7	-----	-----	Visual inspection. *Must be an approved product for AML items.
VEGETATIVE MULCH		Accept.	-----		-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. or Roadside Development personnel.
FIBER MULCH		Accept.	-----		-----	-----	-----	-----	-----	(AML) Visual inspection by Proj. Engr. or Roadside Development

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SECTION 717 SEEDING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGRICULTURAL LIME		Accept.	**SEE SECTION 718 OF THIS MANUAL.**	Mat. Lab						
FERTILIZER		Accept.	**SEE SECTION 718 OF THIS MANUAL.**	Mat. Lab						
SEED		Accept.	-----	Proj. Engr.	-----	-----	-----	50 lb	-----	Analysis tag plus test report for LA Department of Agriculture. Seed test reports from other states are acceptable provided specification requirements are met. Consult Roadside Development personnel for seed
TOPSOIL		Accept.	Contractor		1/1,000 yd3	1 full sample sack	CA 3	200 yd3	-----	Contractor to provide report from established soil testing entity.
WATER		Accept.	Proj. Engr. S 303	Mat. Lab	1/source*	1 qt plastic bottle	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.

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SECTION 718 FERTILIZER AND AGRICULTURAL LIME

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGRICULTURAL LIME		Accept.	-----	Mat. Lab	-----	-----	CA 1	10 tons	-----	Visual inspection. Sample only if questionable.
FERTILIZER		Accept.	-----	Proj. Engr.	-----	-----	CA* 1	-----	-----	For bag shipments, visual inspection of bag markings by Proj. Engr. *For bulk shipments, Proj. Engr. to receive CA.

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SECTION 719 LANDSCAPING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGRICULTURAL LIME		Accept.	**SEE SECTION 718 OF THIS MANUAL.**	Mat. Lab						
BACKFILL SOIL	Mortar Sand, Pine Bark, Water Management Gel, Manure, Mycorrhizal Inoculant & Topsoil	Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. of all ingredients prior to mixing.
FERTILIZER		Accept.	**SEE SECTION 718 OF THIS MANUAL.**	Proj. Engr.						
MULCHING	Other Materials	Accept.	Proj. Engr. S 601	Dist. Lab	1/source*	3 full sample sacks	-----	-----	-----	*Visual inspection by Porj. Engr. Sample only if questionable.
	Pine Bark	Accept.	Proj. Engr. S 601	Dist. Lab	1/source*	3 full sample sacks	-----	-----	-----	*Visual inspection by Porj. Engr. Sample only if questionable.
PLANTS	Containered	-----	**Documented visual determination of specification compliance by DOTD Landscape Architect at nursery source. All plants shall be legibly tagged. Acceptance is based on inspection at the end of one full growing season.**	Landscape Architect						
	Native Stock	-----		Landscape Architect						
SOIL	Planting Area	Accept.	Contractor*		1/planting area	1 full sample sack	CA 3	-----	-----	*Contractor to provide report from established soil testing entity.
TOPSOIL		Accept.	Contractor*		1000 yd 3	1 full sample sack	CA 3	200 yd2	-----	*Contractor to provide report from established soil testing entity.
WATER		Accept.	Proj. Engr. S 303	Mat. Lab	1/source*	1 qt plastic bottle	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.

SECTION 720 EROSION CONTROL SYSTEMS

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MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
EROSION CONTROL SYSTEMS	Rolled Products	Prelim. Source Approval	Dist. Lab. S 613	Mat. Lab	1/200 rolls/ Mfr.'s Lot	3 yd^2*	-----	-----	10 days	(AML) *When sampling moisture sensitive material use moisture proof bag.
		Accept.	Proj. Engr. S 613	Mat. Lab	1/200 rolls/ Mfr.'s Lot	3 yd^2*	CD** 1 & 7	-----	10 days	(AML) *When sampling moisture sensitive material use moisture proof bag. **Sample when not accompanied by a CD or questionable.
	Bagged Products	Prelim. Source Approval	Dist. Lab. S 613	Mat. Lab	1/200 bags/ Mfr.'s Lot	1 bag	-----	-----	10 days	(AML)
		Accept.	Proj. Engr. S 613	Mat. Lab	1/200 bags/ Mfr.'s Lot	1 bag	CD* 1 & 7	-----	10 days	(AML) *Sample when not accompanied by a CD or questionable.
	Hardware	Accept.	Dist. Lab S 601	Mat. Lab	1/item/type/ size	1 item	-----	-----	10 days	(AML) Visual inspection by Proj. Engr. Sample only if questionable.
	Additives	Accept.	Proj. Engr. S 601	Mat. Lab	1 quart/mfr's lot	1 item or 1 quart	CD* 1 & 7	-----	10 days	(AML) *Sample when not accompanied by a CD or questionable.

SECTION 721 MOWING, TRIMMING & DEBRIS COLLECTION

I-88 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
HERBICIDES		Accept.	Dist. Roadside Development Coordinator	Mat. Lab	-----	-----	-----	-----	-----	Approval of the District's Roadside Development Coordinator for use, type & rate of application.

SECTION 723 GRANULAR MATERIAL

I-89 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
GRANULAR MATERIAL		Design/ Accept.	Proj. Engr. S 101	Dist. Lab	1/1,000 yd^3	1 full sample sack	-----	50 yd^3	4 days	-----
		IA	Dist. Lab S 101	Dist. Lab	**SEE INDEPENDENT ASSURANCE**					
MATERIAL ON ROADWAY	Density	Accept.	Proj. Engr. TR 401	Proj. Engr.	1/1,000 lin ft/ 2-lane rdwy or 1/2,000 lin ft/	-----	-----	-----	1/2 hr.	-----
	Thickness & Width	Accept.	Dist. Lab TR 602	Dist. Lab	1/1,000 lin ft/ 2-lane rdwy or 1/2,000 lin ft/	-----	-----	300 lin ft per location	3 days	*See DOTD TR 602. For small quantity, Proj. Engr. documents in field book.

SECTION 725 TEMPORARY DETOUR ROADS AND BRIDGES

I-90 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
For details on Temporary Signs, Barricades and Pavement Markings, see Section 713 of this Manual. For details on Gard Rail, see Section 704 of this Manual. For details on Median Roadway Barriers, see Section 733 of this Manual. For details on Seed, see Section 717 of this Manual. For details on Fertilizer, see section 718 of this Manual. For details on Embankments, see section 203 of this Manual.										
BASE COURSE (Roadway)				**SEE PART III OF THIS MANUAL.**						
PILES & TIMBER		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.
SURFACE COURSE (Roadway)		**SEE PARTS IV, V OR VI OF THIS MANUAL.**								
TEMPORARY CULVERT PIPE		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.

SECTION 726 BEDDING MATERIAL

I-91 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGGREGATES	Bedding Material	Accept.	Proj. Engr. S 101	Dist. Lab	1/1,000 yd^3 stockpile*	1 full sample sack	-----	50 yd^3	4 days	(AML for stone, expanded clay, gravel and slag) *Each ingredient may be sampled and approved prior to mixing. Recycled PCC must be from an approved source.
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/source/ shipment	3 lin ft/roll width of fabric*	-----	150 yd^2	10 days	(AML) *Sample a minimum of 18 ft2.
PLASTIC SOIL BLANKET		Accept.	Proj. Engr. S 401	Dist. Lab	1/1,000 yd^3*	1 full sample sack/sample	-----	300 yd^3	10 days	*Not required if tested and approved as required excavation or borrow material.

SECTION 728 JACKED OR BORED PIPE

I-92 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
GROUT		Accept.	**SEE SECTION 901 OF THIS MANUAL.**	Proj. Engr.						
PIPE & JOINTS		Accept.	**SEE SECTION 701 OF THIS MANUAL.**	Mat. Lab						

SECTION 729 TRAFFIC SIGNS AND DEVICES

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BACKFILL (Soil)		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.
CONCRETE	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**								
DELINEATORS		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/ shipment	2 pieces	CC 1	-----	10 days	*Required documentation is detailed in 713.07.
GALVANIZING REPAIR COMPOUND	Ferrous Metal	**SEE SECTION 811 OF THIS MANUAL.**		Proj. Engr.						(AML)
GROUND ROD ASSEMBLY	Ground Rod, Wire & Clamp	Accept.	Proj. Engr. S 501	Traffic Sign Plan Details Mat. Lab	1/item	1 of each item wire-10 in. length	-----	-----	9 days	Visual inspection by Proj. Engr. Sample only if questionable. Coated steel hardware is not permitted.
DEAD END ROAD INSTALLATION	Hardware (Guard Rail)	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/type/ shipment	1 of each item**	CC* 3	-----	10 days	*Sample not required if listed on CC for metal beam rail. **One piece of each size and type of hardware used is to be submitted.
	Guard Rail	Accept.	-----	Mat. Lab	-----	-----	CC 3	-----	-----	Fabricator must file Brand Registration and guarantee with Mat. Lab. Visual inspection by Proj. Engr.
	Steel Posts & Spacer Blocks	Accept.	-----	Mat. Lab	-----	-----	CC 3	-----	-----	Visual inspection by Proj. Engr.
	Timber	Accept.	-----	Mat. Lab/ Const. Fab. Insp.	-----	-----	CC 1 & 6	-----	-----	Visual inspection by Proj. Engr.
	Wood Posts & Spacer Blocks	Accept.	-----	Mat. Lab/ Const. Fab. Insp.	-----	-----	CC 1	-----	-----	Visual inspection by Proj Engr.
HARDWARE	Bolts, Nuts & Washers	Accept.	-----	Const. Fab. Insp.	-----	-----	CC 4	-----	-----	Smaller than 3/8 in.
		Accept.	Const. Fab. Insp.	Mat. Lab	1/size/source	2 of each item*	CC 6	-----	11 days	Larger than 3/8 in. *Two bolts, two nuts and two washers are to be submitted.
	Mounting Bracket, Strap, Seal	Accept.	-----	Const. Fab. Insp.	-----	-----	CC 4	-----	-----	Visual inspection by Proj Engr. Sample only if questionable.
	Rivets	Accept.	-----	Const. Fab. Insp.	-----	-----	CC 4	-----	-----	-----
PILING	Timber	Accept.	**Inspected and stamped by Const. Fab.**	Mat. Lab			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr.
POSTS (Sign, Marker & Delineator)	Flexible	Accept.	Proj. Engr. S 501	Mat. Lab	1/shipment* (not to exceed 500)	1 post	CC 1	-----	10 days	(AML for delineator posts) *Visual inspection by Proj. Engr. Sample only if questionable.

SECTION 729 TRAFFIC SIGNS AND DEVICES (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
POSTS (Sign, Marker & Delineator)	Steel, U-Channel & Square Post for small signs	Accept.	Proj. Engr. S 501	Mat. Lab	One/ shipment* (not to exceed 500 tons)	1 post	CC 1	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Aluminum, Steel, other than U-Channel & Square posts	Accept.	**SEE STRUCTURAL STEEL & ALUMINUM IN SECTION 807 OF THIS MANUAL.**							
OBJECT MARKERS		Accept.	-----	Mat. Lab	-----	-----	CC 1	-----	-----	Visual inspection by Proj. Engr. Sample only if questionable.
REINFORCEMENT	Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/source*	48 in. length	CA 1	-----	10 days	*If listed on AML, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
	Stirrups	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/source*	2 stirrups	CA 1	-----	10 days	*If listed on AML, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
SIGN MOUNTING		Accept.	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 807 of this manual.**	Const. Fab. Insp.			CA 4	-----	-----	Proj. Engr. receives report form Const. Fab. Insp.
TRAFFIC SIGNS & MILEPOST MARKERS	All Permanent Signs	Accept.	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 807 of this manual.**	Proj. Engr.			CC 1	-----	10 days	Visual inspection of all incidental Permanent Signs and Markers by Proj. Engr.
	Sign & Marker Sheeting, Paste, Paint and Overlay	Accept.	Const. Fab. Insp. S 501	Mat. Lab	1/lot/type/ color	5 ft^2	CA 6	-----	10 days	(AML) For reflective sheeting. When questioned by Const. Fab., sample form original lot of reflective sheeting, paste, paint and/or overlay film to be obtained for testing.
		Verif.	Const. Fab. Insp. S 501	Mat. Lab	1/color/180 days	5 ft^2	-----	-----	10 days	AML for reflective sheeting.
	Aluminum Panels & Structural Shapes	Accept.	Const. Fab Insp. S 501	Mat. Lab	1/thickness	1 ft x 2 ft or 2 ft. for Structural Shape	CA 6	-----	10 days	When questioned by Const. Fab., sample from original lot of aluminum panel and or Structural Shape shall be obtained for testing.
		Verif.	-----	Mat. Lab	1/year/source	1 ft x 2 ft or 2 ft. for Structural Shape	-----	-----	-----	-----
WELDING	**SEE SECTION 815 OF THIS MANUAL.**									

SECTION 730 ELECTRICAL SYSTEMS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING	REMARKS
ALL ELECTRICAL COMPONENTS & MATERIALS NOT SPECIFICALLY MENTIONED IN THIS SECTION SHALL BE HANDLED IN ACCORDANCE WITH THE REQUIREMENTS FOR ELECTRICAL EQUIPMENT BELOW.										
ANCHOR BOLTS, NUTS AND		Accept.	Proj. Engr. S 501	Mat. Lab	1/size/type	1 of each item*	CA 7	-----	11 days	*One of each size and type of bolt, nut and washer is to be submitted.
BACKFILL	Soil or Granular	**SEE SECTION 701 OF THIS MANUAL.**		Dist. Lab						
CONCRETE	Mix Designs, Materials &	**SEE SECTION 901 OF THIS MANUAL.**								
CONDUIT		Accept.	**BRIDGE DESIGN APPROVES AND DISTRIBUTES TO PROJ. ENGR.**	Bridge Design						
ELECTRICAL CONDUCTORS		Accept.	-----	Proj. Engr.	-----	-----	CA 1	-----		Visual Inspection by Proj. Engr.
ELECTRICAL EQUIPMENT	Brochures, Certified Dimension Sheets & Description Data	Accept.	**BRIDGE DESIGN APPROVES AND DISTRIBUTES TO PROJ. ENGR.**	Bridge Design						
GROUND ROD ASSEMBLY	Ground Rod, Wire & Clamp	Accept.	Proj. Engr. S 501	Mat. Lab	1/item	1 of each item Wire - 18 in. length	-----	-----	9 days	Visual inspection by Proj. Engr. Sample only if questionable. Coated steel hardware is not permitted.
GUARANTY	Contractor's Guaranty	Accept.	**PROJ. ENGR. AND BRIDGE DESIGN APPROVES AND FILES.**	Proj. Engr.						
	Manufacturer's Standard Warranty	Accept.	**PROJ. ENGR. AND BRIDGE DESIGN APPROVES AND FILES**	Proj. Engr.						
HIGH MAST POLES		Accept.	**Inspected and stamped by Const. Fab. Insp. Prior to use. See section 807 of this Manual.**	Const. Fab. Insp.			CA 6	-----	-----	Inspection report from Const. Fab. Insp. shall be sent to the Proj. Engr.

SECTION 730 ELECTRICAL SYSTEMS (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
LIGHT POLES	Brochures, Certified Dimension Sheets &	Accept.	**Bridge Design Approves and distributes to Proj. Engr.**	Bridge Design				-----	-----	-----
REINFORCING STEEL	Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/ source*	48 in. length	CA 1	-----	11 days	*If listed on AML, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
SYSTEM TESTS		Accept.	-----	Contractor	-----	-----	-----	-----	-----	Proj. Engr. to observe tests and receive report of test results
TIMBER		Accept.	**Inspected stamped by Const. Fab. Insp. Prior to use. See section 812 of this Manual.**	Mat. Lab/ Const. Fab. Insp.			CD 1 & 6	-----	11 days	Visual inspection by Proj. Engr.

SECTION 731 RAISED PAVEMENT MARKERS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ADHESIVE (For Pavement Markers)	Bituminous	Prelim. Source Approval	Dist. Lab S 606	Mat. Lab	1/lot	0.5 gal friction top can	-----	-----	21 days	(AML)
		Accept.	Proj. Engr. S 606	Mat. Lab	*	0.5 gal friction top can	CD 1 & 7	-----	11 days	(AML) *When not accompanied by CD. See S 606 for details.
	Epoxy	Prelim. Source Approval	Dist. Lab S 606	Mat. Lab	1/lot/ component	0.5 gal friction top can	-----	-----	21 days	(AML)
		Accept.	Proj. Engr. S 606	Mat. Lab	*	0.5 gal friction top can	CD 1 & 7	-----	11 days	(AML) *When not accompanied by CD. See S 606 for details.
RAISED PAVEMENT MARKERS		Prelim. Source Approval	Dist. Lab S 607	Mat. Lab	1/10,000/ type/source	20 markers	-----	-----	10 days	(AML)
		Accept.	Proj. Engr. S 607	Mat. Lab	*	20 markers	CD 1 & 7	-----	10 days	(AML) *When not accompanied by CD. See S 607 for details.

SECTION 732 PLASTIC PAVEMENT MARKINGS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
SURFACE PRIMER		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. to ensure that manufacturer recommendations are being followed.
GLASS BEADS		Prelim. Source Approval	Dist. Lab	Mat. Lab	1/lot	1 - 50 lb bag	-----	-----	10 days	-----
		Accept.	Proj. Engr. S 608	Mat. Lab	1/lot	1 - 50 lb bag 1 gal can	CD*&CA CD (Physical) CA (Chemical) 1 & 7	-----	10 days	*CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable. Use Sampling Method S 608 when glass beads are shipped in 50 lb bags. Use AASHTO TP 97-11 Section 4 when glass beads are shipped in bulk containers.
PREFORMED PLASTIC MARKING TAPE		Prelim. Source Approval	Dist. Lab	Mat. Lab	1/lot	2-6 ft lengths*	-----	-----	10 days	(AML) *Coiled and placed in gallon can.
		Accept.	Proj. Engr. S 609	Mat. Lab	1/lot	2 - 6 ft lengths*	CD** 1 & 7	-----	10 days	(AML) *Coiled and placed in a gallon can. **CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable.
THERMOPLASTIC MARKING (Hot Applied)		Prelim. Source Approval	Dist. Lab S 610	Mat. Lab	1/lot	1 gal can (app. 9 -12 lbs.)	-----	-----	10 days	(AML)
		Accept.	Proj. Engr. S 610	Mat. Lab	1/lot	1 gal can (app. 9 -12 lbs.)	CD* 1 & 7	-----	10 days	(AML) *CD issued when presampled by District Lab. and preapproved. Sample only if questionable.

SECTION 733 CONCRETE ROADWAY BARRIERS

I-100 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BARRIER (Precast)		Accept.	**Inspected and stamped by Const. Fab. Insp. prior to use.**	Proj. Engr.			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr.
FOR BARRIERS FABRICATION INSPECTION BY PROJECT ENGINEER, SEE BELOW										
CONCRETE	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**								Air entrainment is required for slip forming.
CURING MATERIALS		**SEE SECTION 805 OF THIS MANUAL.**		Mat. Lab						
JOINT MATERIALS		Accept.	**SEE SECTION 805 OF THIS MANUAL.**	Mat. Lab					17 days	-----
REINFORCING STEEL	Deformed Steel Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/ source*	48 in. length	CA 1	-----	10 days	*If listed on AML, materials with a CA (Dist. 1) need not be sampled. Sample for verification if questionable.
SPECIAL SURFACE FINISH	Masonry Finish	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment	1 qt friction top can	CC 1	-----	11 days	(AML) Sample if not accompanied by CC or if questionable.

SECTION 734 RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT

I-101 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BACKFILL MATERIAL	Base Course Aggregate	Accept.	Proj. Engr.		1/1,000 yd^3	1 full sample sack	-----	50 yd^3	4 days	-----
TEST PIT		Accept.	Proj. Engr.	Proj. Engr.	-----	-----	-----	-----	-----	For purpose of approving equipment and pattern. Document in Field Book.

SECTION 735 MAILBOXES AND MAILBOX SUPPORTS

I-102 2/07

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
MAILBOXES AND MAILBOX SUPPORTS	**VISUAL INSPECTION BY PROJECT ENGINEER.**									

SECTION 736 TRAFFIC SIGNALS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ANCHOR BOLTS (Pedestal)		Accept.	Proj. Engr. S 50l	Mat. Lab	1/type/lot or shipment	1 bolt	-----	-----	11 days	-----
BACKFILL	Usable Soil	**SEE SECTION 701 OF THIS MANUAL.**								
CONCRETE	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**								
ELECTRICAL CONDUCTORS		Accept.	-----	Proj. Engr.	-----	-----	CA 1	-----	-----	Visual inspection by Proj. Engr.
ELECTRICAL JUNCTION BOX		Accept.	-----	Mat. Lab	-----	-----	CC 1*	-----	10 days	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
GROUND RODS		Accept.	Proj. Engr. S 50l	Mat. Lab	1/item*	1 of each item Wire - 18 in. length	-----	-----	9 days	*Visual inspection by Proj. Engr. Sample only if questionable. Coated steel hardware is not permitted.
GUY COMPONENTS (Hardware)		Accept.	Proj. Engr. S 50l	Mat. Lab	1/type/lot or shipment	1 of each item*	-----	-----	12 days	*One piece of each type of hardware used is to be submitted.
MANHOLE FRAMES AND COVERS		**SEE SECTION 807 (CASTINGS) OF THIS MANUAL.**		Const. Fab. Insp.						
METAL POLES FOR TRAFFIC SIGNAL SYSTEMS		Accept.	-----	Traffic Services and Operations Engineer	-----	-----	CA 1 & 6*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
PRECAST REINFORCED CONCRETE JUNCTION BOXES & MANHOLES		Accept.	-----	Mat. Lab	-----	-----	CC 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
REINFORCING STEEL	Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/ source*	48 in. length	CA 1	-----	10 days	*If listed on the AML materials with a CA (Dist. 1) need not be sampled. Sample for verification if questionable.
RIGID METAL ELECTRICAL CONDUIT	Brochures, Drawings, Equipment Submittals	Accept.	-----	Traffic Services and Operations Engr.	-----	-----	CA 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
STEEL STANDARDS & MAST ARMS		-----	-----	Traffic Services and Operations	-----	-----	CC 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
SUPPORT CABLE		Accept.	-----	Mat. Lab	-----	-----	CC 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
TIMBER POLES		Accept.	**Inspected and stamped by Const. Fab. Insp. prior to**	Mat. Lab			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr.

SECTION 736 TRAFFIC SIGNALS (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
TRAFFIC SIGNAL CABLE, SIGNAL HEADS, DETECTORS, SIGNAL HARDWARE AND EQUIPMENT	Brochures, Drawings, Equipment Submittals	-----	-----	Traffic Services and Operations Engr.	-----	-----	CC 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.

SECTION 737 PAINTED TRAFFIC STRIPING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
GLASS BEADS		Prelim. Source Approval	Dist. Lab	Mat. Lab	1/lot	1 - 50 lb bag	-----	-----	10 days	-----
		Accept.	Proj. Engr. S 608	737.02 1015.13 Mat. Lab	1/lot	1 - 50 lb bag 1 gal can	CD*&CA CD (Physical) CA (Chemical) 1 & 7	-----	10 days	*CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable. Use Sampling Method S 608 when glass beads are shipped in 50 lb bags. Use AASHTO TP 97-11 Section 4 when glass beads are shipped in bulk containers.
TRAFFIC PAINT	Water-based	Prelim. Source Approval	Dist. Lab S 608	Mat. Lab	1/lot	1 pt friction top can	-----	-----	11 days	(AML)
		Accept.	Proj. Engr. S 608	Mat. Lab	1/lot	1 pt friction top can	CD* 1 & 7	-----	11 days	(AML) *CD issued when presampled by the Dist. Lab and preapproved. Sample only if questionable.

SECTION 738 MULCH SODDING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGRICULTURAL LIME		Accept.	**SEE SECTION 718 OF THIS MANUAL.**	Mat. Lab						
FERTILIZER		**SEE SECTION 718 OF THIS MANUAL.**								
MULCH SOD		Accept.	-----	Roadside Development Personnel	-----	-----	-----	-----	-----	*Visual inspection by Roadside Development personnel prior to mulching.
WATER		Accept.	Proj. Engr. S 303	Mat. Lab	1/source*	1 qt plastic bottle	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.
TOPSOIL		**SEE SECTION 715 OF THIS MANUAL**								

SECTION 739 HYDRO-SEEDING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGRICULTURAL LIME		**SEE SECTION 718 OF THIS MANUAL.**		Mat. Lab						
FERTILIZER		**SEE SECTION 718 OF THIS MANUAL.**		Mat. Lab						
MULCHING	Other Materials	Accept.	Proj. Engr. S 601	Mat. Lab	1/source*	3 full sample sacks	-----	-----	-----	*Visual inspection by Proj. Engr. Sample only if questionable.
	Wood Fiber	Accept.	Proj. Engr. S 601	Mat. Lab	1/source*	3 full sample sacks	-----	-----	-----	*Visual inspection by Proj. Engr. Sample only if questionable.
SEED		**SEE SECTION 717 OF THIS MANUAL.**		Proj. Engr.						
WATER		Accept.	Proj. Engr. S 303	Mat. Lab	1/source*	1 qt plastic bottle	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.
WATER MANAGEMENT GEL, POLYACRYLAMIDE TACKIFIER, AND		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. of all ingredients prior to mixing.

SECTION 802 STRUCTURAL EXCAVATION AND BACKFILL

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BACKFILL	Reinforced Box Culverts	Accept.	**SEE SECTION 701 OF THIS**	Proj. Engr.						
	Structures other than Reinforced Box Culverts	Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Material shall be of acceptable quality and uniformly compacted by approved methods to the satisfaction of the Proj. Engr.
CONCRETE	Compressive Strength	*	Proj. Engr. S 301 TR 226	Dist. Lab	3 cyl/ location	cylinder mold	-----	-----	10 days	*Used to determine earliest date for placement of backfill next to structures.

SECTION 803 SHEET PILES

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
HARDWARE		Accept.	Proj. Engr. S 501	Mat. Lab	1/size/type/ shipment	2 of each item*	-----	-----	10 days	*Two (2) pieces of each size and type of hardware used are to be submitted.
PAINT AND PROTECTIVE COATINGS	Coal Tar Epoxy	**SEE SECTION 811 OF THIS MANUAL.**								
PERMANENT SHEET PILES	Aluminum or Steel	Accept.	-----	Const. Fab. Insp.	-----	-----	CD OR CC* 2	-----	-----	*CC if inspected by DOTD
	Aluminum or Steel	Accept.	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 805 of this manual.**	Const. Fab. Insp.			CD 1	-----	-----	Visual inspection by Proj. Engr.
	Timber Treated & Untreated	Accept.	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 812 of this manual.**	Const. Fab. Insp.			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr.
TREATMENT OF PILE HEADS		**SEE SECTION 812 OF THIS MANUAL.**								
WELDING		**SEE SECTION 815 OF THIS MANUAL.**								

SECTION 804 DRIVEN PILES

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BACKFILL	Granular Type Material	Accept.	Proj. Engr. S 101	Dist. Lab	1/1,000 yd^3	1 full sample sack	-----	-----	-----	Visual inspection by Proj. Engr. Sample only if questionable
CONCRETE PILES (Cast-in- Place)	Concrete (Mix Designs, Materials & Tests)	**SEE SECTION 901 OF THIS MANUAL.**								
	Reinforcing Steel	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/grade/ 150,000 lb/ source	48 in. length	CA 1	-----	10 days	(AML) *If listed on AML, material with a CA (Distr. 1) need not be sampled. Sample if questionable.
	Steel Pipe Pile	Accept.	-----	Proj. Engr.	-----	-----	CA 4	-----	-----	Visual inspection by Proj. Engr.
	Steel Shell	Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.
CONCRETE PILES (Precast)	Pile	Accept.	**Inspected and stamped by Const. Fab. Insp. Unit prior to use. See Section 805 of this Manual.**	Const. Fab. Insp.			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr. For specific details see EDSM III.2.5.7.
HYDRAULIC JACKS		Accept.	**Calibrated by an approved, independent calibration service and a certified lab report furnished to the Mat. Lab for approval and distribution to the Proj. Engr.**	Mat. Lab			CA 5	-----	12 days	The system must be calibrated at the beginning of each project and as required.
PAINT AND PROTECTIV E COATINGS	Coal Tar Epoxy	**SEE SECTION 811 OF THIS MANUAL.**								

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
STEEL PILES, STEEL PIPE PILES		Accept.	-----	Const. Fab. Insp.	-----	-----	CA 4	-----	-----	Visual inspection by Proj. Engr.
TIMBER PILES	Treated and Untreated	Accept.	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 812 of this manual.**	Const. Fab. Insp.			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr.
TREATMENT OF TIMBER PILE HEADS	Canvas	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	18 in. x 18 in.	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Coal Tar Pitch, Creosote Oil, Asphalt & Copper Naphthanate	Accept.	Proj. Engr. S 201	Mat. Lab	1/shipment*	1 qt friction top can	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Fabric Covering	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	18 in. x 18 in.	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Galvanized Metal Covering	Accept.	Proj. Engr. S 501	Mat. Lab	1/shipment*	6 in. x 6 in.	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Galvanized Nails, Staples & Wire	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/type/ shipment*	12 of each item** wire - 24 in. length	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable. **Twelve nails and twelve staples are to be submitted.
WELDING	**SEE SECTION 815 OF THIS MANUAL.**									

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON CONCRETE TESTS, MIX DESIGNS AND MATERIALS (ADMIXTURES, AGGREGATES, CEMENT AND WATER) SEE SECTION 901 0F THIS MANUAL.										
BACKFILL		Accept.	**SEE SECTION 802 OF THIS**	Proj. Engr.						
BEARING PADS	Elastomeric	Accept.	Const. Fab. Insp.* S 601	Mat. Lab	1/100 pads/type** /lot	1 pad	CA 5	-----	14 days	(AML) *Proj. Engr. sample at destination only if not sampled at site of source supplier. **Plain or Laminated.
	Masonry	Accept.	Proj. Engr. S 601	Mat. Lab	1/type	1 pad	CA 5	-----	10 days	-----
BOX CULVERT UNITS (Precast)	Gasket Material	Accept.	**SEE SECTION 701 OF THIS**	Mat. Lab			CC 1	-----	-----	(AML) Gasket test report lab no. listed on precast unit CC.
	Precast Concrete Unit	Prelim. Source Approval	**Inspected and stamped by MFR prior to use.**	MFR			CD 1	-----	-----	(AML) *Shall not exceed 300 joints. Each joint shall be stamped when approved.
			MFR S 301 S 601		1/300 joints/size or 3 consecutive days production/ size*	4 cyl/set 6 in. x 12 in. cylinder mold	-----	-----	-----	
		Verif	Const. Fab. Insp. S 601	Const. Fab. Insp. MFR	1/180 day production/ plant	4 cyl/set 6 in. x 12 in. cylinder mold	-----	-----	-----	
		Accept.	**Inspected and stamped by MFR prior to use.**	Proj. Engr.			CD 1	-----	-----	(AML) Visual Inspection by Proj. Engr. CD to include lot number for Gasket Materials.
BRIDGE MEMBERS	Concrete Precast	Accept.	**Inspected and stamped by CONST. FAB. INSP. prior to use.**	Const. Fab. Insp.			CD 1	-----		Visual inspection by Proj. Engr. For specific details see EDSM III.2.5.7.
CONCRETE ANCHOR SYSTEMS	Anchor Bolts	Accept.	Proj. Engr. S 601	Plans Mat. Lab	1/size/ shipment	2 bolts*	-----	-----	11 days	*Two bolts of each size used are to be submitted.
	Cartridge Systems	Accept.	Proj. Engr. S 601	Mat. Lab	1/size/type/ lot or shipment**	2 of each item*	-----	-----	14 days	(AML) Includes bolts & nuts intended to be used with the system. *Two pieces of each size and type of item used are to be submitted. **Visual inspection by Proj. Engr. Sample only if questionable.

SECTION 805 STRUCTURAL CONCRETE (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CONCRETE ANCHOR SYSTEMS (Cont'd)	Grout Systems (Resin or Cementitious)	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment	1 qt friction top can	-----	-----	14 days	(AML) Includes bolts & nuts intended to be used with the system. Visual inspection by Proj. Engr. Sample only if questionable.
	Mechanical Systems	Accept.	Proj. Engr. S 601	Mat. Lab	1/size/type/ lot or shipment**	2 of each item*	-----	-----	10 days	(AML) *Two of each size and type of item used are to be submitted. **Visual inspection by Proj. Engr. Sample only if questionable.
CONCRETE (In-Place)	Compressive Strength	*	Proj. Engr. S 301 TR226	Dist. Lab	3 cyl/ structural member	cylinder mold			10 days	*To determine strength for form removal or exposure to construction traffic.
	Deck Surface Finish	Quality Control	Contractor*	Contractor	each deck	-----	-----	-----	-----	Plastic Concrete *Surface must be checked on bridge decks using an approved 10 ft metal static straightedge supplied by the
		Verif.	Proj. Engr.	Proj. Engr.	each deck	-----	-----	-----	-----	Proj. Engr. to observe contractor check bridge deck surface.
	Tine Texturing	Quality Control	Contractor TR 229	Contractor	*	-----	-----	-----	-----	Plastic Concrete *Sufficient number of random checks to assure the required texture depth is achieved.
		Accept.	Proj. Engr. TR 229	Proj. Engr.	2/lot	-----	-----	-----	-----	Performed on hardened concrete.
CURING MATERIALS	Burlap Cloth	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	36 in. x 36 in.	-----	-----	10 days	*Visual inspection by the Proj. Engr. Sample only if questionable.
	Burlap & White Polyethylene	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	36 in. x 36 in.	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Liquid Membrane-Forming	Prelim. Source Approval	Mfr. S 601	Mat. Lab	1/6 months	1 qt friction top can	-----	-----	21 days	(AML)
		Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	1 qt friction top can	CC 1	-----	10 days	(AML) *Visual inspection by Proj. Engr. Sample only if
	Waterproof Paper	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	36 in. x 36 in.	-----	-----	10 days	*Visual inspection by the Proj. Engr. Sample only if questionable.
	White Polyethylene Sheeting	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	36 in. x 36 in.	-----	-----	10 days	*Visual inspection by the Proj. Engr. Sample only if questionable.
EPOXY RESIN SYSTEMS	Epoxy	Accept.	-----	Mat. Lab	1/lot or shipment	-----	CC 1	1 gal	-----	(AML)
		Verif.	Proj. Engr. S 601		1/lot or shipment	1 qt each component friction top	CC 1	1 gal	11 days	(AML) Copy of CC shall be submitted with sample.
FORM RELEASE AGENTS		Accept.	-----		-----	-----	-----	-----	-----	(AML) Visual inspection by the Proj. Engr. Sample only if questionable.
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	10 days	(AML) *Sample a minimum of 18ft2. Visual inspection, sample only if questionable.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
JOINT MATERIALS	Adhesive-Lubricant	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment	1 qt friction top can	-----	-----	10 days	(AML) For use with preformed elastomeric compression joint seal. Mix well before sampling. Seal can tightly.
	Polyurethane Polymer	Prelim. Source Approval	Dist. Lab S 611	Mat. Lab	1/batch or shipment	one unit of each component*	CA 7	-----	14 days	(AML) *One unit of each component selected at random and submitted as sample.
		Accept.	Proj. Engr. S 611	Mat. Lab	1/shipment*	-----	CD 1 & 7	-----	14 days	(AML) *When material is accompanied by a CD, sample only if questionable.
		Accept.*	Proj. Engr. S 611	Mat. Lab	1/batch or shipment	**	CA 7	2,000 yd^2	14 days	(AML) *When material is not accompanied by a CD. **One unit of each component selected at random and submitted as sample.
	Reinforced Elastomeric Joint Seal	Accept.	-----	Mat. Lab	-----	-----	CC & CA	-----	-----	Elastomer - CA; Steel - CC. Visual inspection by Proj. Engr.
	Steel Joint	Accept.	**Inspected and stamped by Const. Fab. Insp. Unit prior to use. See Section 807 of this Manual.**	Const. Fab. Insp.			CA 6	-----	-----	Proj. Engr. to receive inspection report from Const. Fab. Insp.
	Strip Seal Joint	Accept.	**See Section 807 of this**	MFR			CA 6	-----	-----	Visual inspection by Proj. Engr. Contact CONST. FAB. INSP. If questionable.
NON-SHRINK GROUT		Accept.	Proj. Engr. S 601	Plans Mat. Lab	1/shipment/ lot	1 full sack, 15 lb min.*	-----	-----	16 days	(AML) *Sample shall be submitted in an unbroken moisture proof
PRECAST CONCRETE (Non-Prestressed other than Bridge Members)	Precast Unit	Accept.	**Inspected and stamped by Const. Fab. Insp. Unit prior to use.**	Proj. Engr.			CD 1 & 6	-----	-----	CD must include Lot No. for gasket material if applicable.
	Admixtures	Accept.	Const. Fab. Insp. S 601	Mat. Lab	1/type/mfr. batch	1 pt friction top can	CC 6	-----	10 days	(AML) Visual inspection by Construction Fabrication Inspection.
	Aggregate (Coarse & Fine)	Accept.	Const. Fab. Insp. S 101	Dist. Lab	*	1 full sample sack	-----	-----	4 days	(AML) *Visual inspection by Const. Fab. Insp. Sample only if questionable.
	Cement	**SEE SECTION 901 OF THIS MANUAL.**					CC 1 & 6	-----	11 days	-----
	Compressive Strength	Prelim. Source Approval	Const. Fab. Insp. or MFR S 301	Mfr.	1/pour*	Three cylinder molds	-----	-----	30 days	*A pour is an identifiable pour not to exceed 50 yd^3.

SECTION 805 STRUCTURAL CONCRETE (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
PRECAST CONCRETE (Non-Prestressed Other than Bridge Members) (Cont'd)		Accept.	Const. Fab. Insp or Proj. Engr	Dist. Lab	1/pour*	Three cylinder molds	-----	-----	30 days	*A pour is an identifiable pour not to exceed 50 yd^3.
	Gasket Material	**SEE SECTION 701 OF THIS MANUAL.**					CD 1 & 6	-----	-----	-----
	Mix Design	Design	-----	Const. Fab. Insp.	1/class/ material source/plant	-----	-----	-----	-----	Contractor shall submit to Const. Fab. Insp. the standard mix design form indicating the intended source of all materials and mix design. Approval by Const. Fab. Unit. Engineer required prior to work.
	Reinforcing Steel Bars	Accept.	Const. Fab. Insp. S 501	Mat. Lab	1/size/ grade/ 150,000 lb/ source	48 in. length	CA 6	-----	10 days	(AML) Sample if questionable.
	Welded Wire Fabric	Accept.	Const. Fab. Insp. S 501	Const. Fab. Insp.	1/shipment	48 in. x 48 in.	CA 6	-----	11 days	Sample only if questionable.
PRECAST CONCRETE (Prestressed & Non-Prestressed Bridge Members	Precast Unit	Accept.	**Inspected and stamped by**	Const. Fab. Insp.			CD 1 & 6	-----	-----	CD must include lot no. for elastormeric bearing pads if applicable.
	Admixtures	Accept.	Const. Fab. Insp. S 601	Mat. Lab	1/type/mfr. batch	1 pt friction top can	-----	-----	10 days	(AML)
	Aggregate (Coarse & Fine)	Quality Control	Mfr. S 101	Mfr.	1/lot*	1 full sample sack	-----	-----	-----	(AML) Gradation and Moisture. *Lot to be identifiable pour up to 200 yd3 of concrete.
		Accept.	Const. Fab. Insp. S 101	Dist. Lab or Const. Fab. Insp.	2/month*	1 full sample sack	-----	-----	3 days	(AML) *Const. Fab. Insp. to witness manufacturer's QC testing.
	Cement	**SEE SECTION 901 OF THIS MANUAL.**					CC 6 & 7	-----	-----	-----
	Compressive Strength & Surface Resistivity	Accept.	Const. Fab. Insp. S 301 TR 266 & TR 233	Const. Fab. Insp.	7 cyl/pour*	Cylinder mold	-----	-----	30 days	*Cylinder cured under same conditions as members. Two cylinders are tested for 28 day strength. For precast box culverts, cylinders shall be in accordance with ASTM C789.
	Elastomeric Bearing Pads	Accept.	Const. Fab. Insp. S 601	Mat. Lab	1/100 pads/type/lot	1 pad	CA 5	-----	14 days	(AML)
	Epoxy Resin Systems	Accept.	Const. Fab. Insp. S 601	Mat. Lab	1/lot or shipment	1 qt/ component friction top can	-----	-----	10 days	(AML)
	Mix Design	Design	-----	Const. Fab. Insp.	1/class/ material source/plant	-----	-----	-----	-----	Contractor shall submit to Const. Fab. Insp. the standard mix design for indicating the intended source of all materials and the mix design. Approval by Const. Fab. Insp. required prior to work.
	Steel Bars & Spiral Reinforcement	Accept.	Const. Fab. Insp. S 501	Mat. Lab	1/size/grade/ 150,000 lb/ source	48 in. length	CA 6	-----	10 days	(AML) Sample if questionable.

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
PRECAST CONCRETE (Prestressed & Non-Prestressed Bridge	Strands for Prestressing	Accept.	Const. Fab. Insp. S 501	Mat. Lab	1/size/ grade/ source/proj.* per heat no.	3 strands 5 ft length	-----	-----	11 days	*Not to exceed 200 tons. Manufacturer's Load/Elongation curve to accompany sample.
	Welded Wire Fabric	Accept.	Const. Fab. Insp. S 501	Mat. Lab	1/shipment	48 in. x 48 in.	CA 6	-----	11 days	Visual inspection by Const. Fab. Sample if questionable.
PRECAST PRESTRESSED FORMS	Bearing Strips and Adhesive	Accept.	-----		-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.
	Concrete Deck Forms (Stay In Place Panels)	Accept.	**Inspected and stamped by Const. Fab. Insp. Prior to use. See precast concrete (Prestressed & Non-Prestressed Bridge Members) in this section.**	Const. Fab. Insp.			CD 1	-----	-----	Visual inspection by Proj. Engr. For specific details see EDSM III.2.5.7.
REINFORCEM	Bars	**SEE SECTION 806 OF THIS MANUAL.**								
SPECIAL SURFACE FINISH	Concrete	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment*****	1 qt. component friction top can	CC 1	-----	10 days	(AML) *Visual inspection by Proj. Engr. Sample if questionable.
WATER STOPS	Copper	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment*****	24 in. length	CA 3	-----	-----	*Visual inspection by Proj. Engr. Sample if questionable.
	Polyvinyl Chloride	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	36 in. length	CC 3	-----	-----	*****Visual inspection by Proj. Engr. Sample if questionable.
	Rubber	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment*	36 in. length	CA 3	-----	-----	*Visual inspection by Proj. Engr. Sample if questionable.

SECTION 806 REINFORCEMENT

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
REINFORCEMENT	Bars (Epoxy Coated)	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/grade/ 150,000 lb /source	2 bars approx. 48 in. in length	CC 3	-----	10 days	(AML) Cert. of Compliance provided by the applicator.
	Bars & Spirals	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/grade/ 150,000 lb /source*	48 in. length	CA 1	-----	10 days	(AML) *Material with a CA need not be sampled for acceptance. Sample if questionable.
		Verif.	Proj. Engr. S 501	Mat. Lab	1/project	48 in. length	CA 1	-----	10 days	Sample most prevalent size & grade.
	Chairs or Metal Bar Supports	Accept.	Proj. Engr. S 501	Mat. Lab	1/type*	1 chair	-----	-----	-----	*Visual inspection by the Proj. Engr. Sample only if questionable.
	Patching Material (Epoxy Coated	Accept.	Proj. Engr. S 601	Mat. Lab	1/source	1 qt friction top can	CC 3	-----	10 days	(AML)
	Stirrups, Tie Bars	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/ 150,000 lb*	2 of each item	CA 1	-----	10 days	(AML) *If listed on AML, material with a CA need not be sampled. Sample if questionable.
SPLICING	Mechanical Butt Splice	Contractor Qualificati on	Proj. Engr . S 501	Mat. Lab	1/size*	2 splices/each size	-----	-----	10 days	(AML) *Separate samples per horizontal and vertical positions. Test prior to use.
		Accept.	Proj. Engr. S 501	Mat. Lab	1/size/25 splices*	1 splice 3 ft length	-----	-----	10 days	
	Welded Butt Splice	**SEE SECTION 815 OF THIS MANUAL.**								

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SECTION 807 STRUCTURAL METALS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BEARING & EXPANSION	Bronze	Accept.	-----	Proj. Engr.	-----	-----	CA 6	-----	-----	Visual inspection by Proj. Engr. Contact Const. Fab. If questionable.
	Copper-Alloy (Rolled)	Accept.	-----	Proj. Engr.	-----	-----	CA 6	-----	-----	Visual inspection by Proj. Engr. Contact Const. Fab. If questionable.
	PTFE Bearing Assembly	Accept.	-----	Proj. Engr.	-----	-----	CA 6	-----	-----	Visual inspection by Proj. Engr. Contact Const. Fab. If questionable.

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SECTION 807 STRUCTURAL METALS (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BEARING PAD	Elastomeric	Accept.	Const. Fab. Insp.* S 601	Mat. Lab	1/100 pads/type** /lot	1 pad	CA 5	-----	14 days	(AML) *Proj. Engr. samples at destination only if not sampled at site of source or supplier. **Plain or Laminated.
	Masonry	Accept.	Proj. Engr. S 601	Mat. Lab	1/type/size	1 pad	CA 5	-----	10 days	-----
CASTINGS	Metal for Castings	Accept.	Const. Fab. Insp. S 601	Const. Fab. Insp.	1/heat	1 test bar*	CA 6	-----	-----	*Const. Fab. Insp. may submit samples to Mat. Lab for testing if questionable.
	Unit	Accept.	-----	Const. Fab. Insp.	-----	-----	CA 6	-----	-----	Proj. Engr. to receive form 4148 (Certificate of Cast Iron Covers, Grates, etc.) from Contractor.
CONCRETE ANCHOR STUDS		Accept.	Proj. Engr. S 501	Const. Fab. Insp.	1/diameter/ shipment	2 of each item*	CA 4	-----	-----	Sample if not accompany by report from construction fab.
FASTENERS (Field Installation)	Bolts, Nuts & Washers	Accept.	Proj. Engr. S 501	Mat. Lab	1/diameter/ shipment	2 of each item*	CC 1	-----	10 days	*Two bolts, two nuts and two washers are to be submitted. Copy of CC to accompany sample and ID.
	High Strength Bolts, Nuts & Washers and Tension Indicators	Accept.	Proj. Engr. S 501	Mat. Lab	1/type/size/ heat	2 of each item*	CA 1	-----	10 days	* Copy of CA to accompany sample and ID. Similar size, type and heat of nut and washer need not be submitted.
	Steel Lockpins and Collars	Accept.	Proj. Engr. S 501	Mat. Lab	1/lot or shipment	1 pin and collar	CC 1	-----	10 days	Copy of CC to accompany sample ID.
FASTENERS (Shop Installation)	Bolts, Nuts & Washers	Accept.	Const. Fab. Insp. S 501	Mat. Lab	1/diameter/ shipment	3 of each item*	CC 6	-----	10 days	Proj. Engr . to receive inspection report from Const. Fab. Insp. * Three bolts, 3 nuts and 3 washers are to be submitted. Copy of CC to accompany sample ID.
	High Strength Bolts, Nuts & Washers and Direct Tension Indicators	Accept.	Const. Fab. Insp. S 501	Mat. Lab	1/type/ diameter/ heat	3 of each item*	CA 6	-----	10 days	Proj. Engr . to receive inspection report from Const. Fab. Insp. * Three bolts, 3 nuts,3 washers, 3 DTI are to be submitted. Copy of CA to accompany sample of ID.
	Steel Lockpins and Collars	Accept.	Const. Fab. Insp. S 501	Mat. Lab	1/lot	1 pin and collar	CA 6	-----	10 days	
GROUT (Non-Shrink)		Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment	1 full sack, 15 lb min.	-----	-----	16 days	(AML) Sample shall be submitted in a unbroken, moisture proof sack.
PAINT AND PROTECTIVE COATINGS		**SEE SECTION 811 OF THIS MANUAL.**		Mat. Lab						
SHEAR CONNECTORS		Accept.	-----	Const. Fab. Insp.	-----	-----	CA 4	-----	-----	Shop and field inspection requirements per Specification Subsection 807.42.

SECTION 807 STRUCTURAL METALS (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
STEEL FORGINGS & SHAFTING		Accept.	**Inspected and stamped by the Const. Fab. Insp. Unit prior to use.**	Const. Fab. Insp.			-----	-----	-----	Proj. Engr. to receive inspection report from Const. Fab. Insp.
	Steel for Forging & Shafts	Prelim. Source Approval	-----	Const. Fab. Insp.	-----	-----	CA 6	-----	-----	-----
STRUCTURAL STEEL & ALUMINUM		Accept.	**Inspected and stamped by the Const. Fab. Insp. Unit prior to use.**	Const. Fab. Insp.			-----	-----	-----	Proj. Engr. to receive inspection report from Const. Fab. Insp.
	Metal for Fabrication	Prelim. Source Approval	Const. Fab. Insp. S 501	Const. Fab. Insp.	1/heat/grade*	Plates- 6 in. x 24 in. Shapes, bars, pipe and tubing - 24 in. length	CA 6	-----	-----	Test report to Const. Fab. Insp. only. *Sample only if questionable.
WELDING		**SEE SECTION 815 OF THIS MANUAL.**								
WRENCH	Calibrated Wrench	Accept.	-----	Proj. Engr.	*	3 assemblies/ size	-----	-----	-----	Contractor's calibration procedure to be witnessed by Proj. Engr. *See Specification Subsection 807.21(h)-(k) for frequency of calibration.
	Job Inspection Torque Wrench	Accept.	-----	Proj. Engr.	*	5 assemblies/ size	-----	-----	-----	*See Specification Subsection 807.22(h)(2) for frequency of calibration.

SECTION 808 STEEL GRID FLOORING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CONCRETE (Structural)	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**								
PAINT AND PROTECTIVE COATINGS		**SEE SECTION 811 OF THIS MANUAL.**		Mat. Lab						
STRUCTURAL STEEL	Flooring	Accept	**Inspected and stamped by the Const.**	Const. Fab. Insp.			CA 6	-----	-----	Proj. Engr. to receive inspection report from Const. Fab. Insp.
WELDING		**SEE SECTION 815 OF THIS MANUAL.**								

SECTION 809 MOVABLE BRIDGES

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CONCRETE (Structural)	Mix Designs, Materials & Tests	**SEE SECTION 901 OF THIS MANUAL.**								Proj. Engr. to witness test for unit weight as per Specification Subsection 809.38 for counterweights. Bridge Design must approve calculations for determining unit weight.
ELECTRICAL EQUIPMENT	Brochures, Certified Dimension Sheets & Descriptive Data		**Bridge design approves and distributes to Proj. Engr. for all**	Bridge Design			-----	-----	-----	No component shall be incorporated into the work without approval from Bridge Design.
HARDWARE	Bolts, Fasteners, Fittings, Nuts, Washers & Misc. Hardware	Accept.	Proj. Engr.* S 501	Mat. Lab	1/size/type/ shipment	2 of each item**	-----	-----	10 days	*When sampled by Const. Fab. Insp. and listed on report to Proj. Engr., project samples are not required. **Two pieces of each size and type of hardware used are to be submitted.
MECHANICAL EQUIPMENT	Brochures, Certified Dimension Sheets & Descriptive	Accept.	**Bridge Design approves and distributes to Proj. Engr.**	Bridge Design				-----		Proj. Engr. inspects materials and components to ensure conformance.
	Parts List (Gears & Bearing in Gear Box)	Accept.		Bridge Design				-----	-----	-----

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
OPERATING HOUSE (All Furnishings)	Brochures	Accept.	**Bridge Design approves and distributes to Proj.**	Bridge Design				-----	-----	-----
PAINT AND PROTECTIVE COATINGS		**SEE SECTION 811 OF THIS MANUAL.**								
POWER PLANT		**SEE SECTION 730 OF THIS MANUAL.**								
STRUCTURAL METALS		**SEE SECTION 807 OF THIS MANUAL.**								
TRAFFIC BARRIERS	Drawings & Brochures	Accept.	**Bridge Design approves and distributes to Proj.**	Bridge Design				-----	-----	Structural Fabrication Inspect in accordance with Sections 729 & 807 of this manual.
WELDING		**SEE SECTION 815 OF THIS MANUAL.**								
WIRE ROPE & ATTACHMENTS	Counterweight Rope Assemblies	Accept.	**Inspected and stamped by Const. Fab. Insp. Unit prior to use.**	Const. Fab. Insp.			-----	-----	-----	Proj. Engr. to receive inspection report on counterweight ropes and sockets from Const. Fab. Insp.
	Counterweight Ropes	Prelim. Source Approval	Mfr. S 501	Mfr. & Const. Fab. Insp.	1/reel	2 ropes*	CA 6	-----	-----	*Two ropes per reel are to be submitted. Each rope length shall not be less than 25 times the rope diameter nor more than 12 ft.
	Sockets for Counterweight Ropes	Prelim. Source Approval	Mfr. S 501	Mfr. & Const. Fab. Insp.	1/lot	4 sockets*	CA 6	-----	-----	*Four sockets for each lot are to be submitted. Tested with the counterweight rope sample.
	Wire Rope	Accept.	Proj. Engr. S 501	Mat. Lab	1/type or class/ shipment	6 ft length	----- **CA 6**	-----	11 days	Does not include counterweight ropes. Visual inspection by PE contact construction Fab. If questionable

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON CONCRETE AND ASSOCIATED MATERIALS, SEE SECTIONS 805 AND 901 OF THIS MANUAL AND SECTION 1012 OF THE STANDARD SPECIFICATIONS.										
HARDWARE	Galvanized Steel	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/type/ shipment	2 of each item*	-----	-----	10 days	*Two pieces of each size and type of hardware used are to be submitted.
METAL CASTINGS, FITTINGS, POSTS & RAILINGS	Steel	-----	**Inspected and stamped by the Const. Fab. Unit prior to use. See Section 807 of this manual.**	Const. Fab. Insp.			CA 6	-----	-----	Proj. Engr. to receive inspection report from Const. Fab. Insp.
	Pipe (Galvanized)	Accept.	**Inspected and stamped by the Const. Fab. Unit prior to use. See Section 807 of this manual.**	Const. Fab. Insp.			CA 6	-----	-----	Proj. Engr. to receive inspection report from Const. Fab. Insp.
PAINT AND PROTECTIV E COATINGS		**SEE SECTION 811 OF THIS MANUAL.**								
WELDING		**SEE SECTION 815 OF THIS MANUAL.**								
SPECIAL SURFACE FINISH	Concrete	Accept.	Proj. Engr. S 601	Mat. Lab	1 lot or shipment*	1 each friction top can	CC 1	-----	10 days	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.

SECTION 811 PAINTING AND PROTECTIVE COATINGS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 811. THERE ARE NO PAY ITEMS UNDER SECTION 811.										
PAINT AND PROTECTIVE COATINGS	Paint for Field Painting	Prelim. Source Approval	Const. Fab Insp. S 604	Mat. Lab	1/batch	1 pt each component*	-----	-----	14 days	(AML) *Multiple component paints must be submitted in separate containers with the mixing proportions indicated on the sample identification and cans.
		Accept.	Proj. Engr. S 604		1/batch	1 pt each component friction top can	CD* 1	10 Gal. Total Quantity/coat	14 days	*Sample when not accompanied by CD. Multiple component paints must be submitted in separate containers with the mixing proportions indicated on the sample identification and cans. Sampling technique is sensitive, contact Dist. Lab prior to sampling.
	Galvanizing Repair Compound	Accept.	Proj. Engr. S 601	Mat. Lab	1/type*	1 bar, can or rod	-----	-----	-----	(AML) *Visual inspection by Proj. Engr. Sample only if questionable.
	Paint for Shop Painting	Prelim. Source Approval	Const. Fab Insp. S 604	Mat. Lab	1/batch	1 pt each component	-----	-----	14 days	(AML) Multiple component paints must be submitted in separate containers with the mixing proportions indicated on the sample identification and cans.
		Accept.	Const. Fab Insp. S 604		1/batch	1 pt each component friction top can	CD*/CC** 6	-----	14 days	(AML) *Sample when not accompanied by CD. Multiple component paints must be submitted in separate containers with the mixing proportions indicated on the sample identification and cans. Contractor to notify Bridge Design Engineer and Consultant Engineer of the paint system to be used prior to submitting shop drawings. **For inorganic zinc primers, stating Class B slip coefficient is met.

SECTION 812 TREATED TIMBER

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CONNECTORS		Accept.	Proj. Engr. S 501	Mat. Lab	1/type/ shipment*	1 of each item**	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable. **One of each type of connector used is to be submitted.
CASTINGS		Accept.	Proj. Engr. S 501	Mat. Lab	1/type/ shipment	1 of each item*	-----	-----	10 days	*One of each type of casting used is to be submitted.
HARDWARE & STRUCTURA		Accept.	Proj. Engr. S 501	Mat. Lab	1/type/ shipment	1 of each item*	CA 3	-----	10 days	*One piece of each type and size of item used is to be submitted.
PAINT AND PROTECTIVE COATINGS		**SEE SECTION 811 OF**								

SECTION 812 TREATED TIMBER (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
ROOFING PITCH		Accept.	-----	Proj. Engr.	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.
TIMBER & LUMBER (Treated)		Accept.	**Inspected and stamped (Hammered) by Const. Fab. Insp. Unit prior to use.**	Const. Fab. Ins./ Mat. Lab			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr.
	CCA & Petachlorophenol Treated, Creosote & Creosote solution Treated	Prelim. Source Approval	Const. Fab. Insp. AWPA	Const. Fab. Insp./MFG	1/charge	20 borings plastic bottle	CC 6	-----	14 days	(One) 1 sample consist of 20 borings.
	Preservatives	Accept.	Const. Fab. Insp. S 601	Mat. Lab	1/tank*	1 qt friction top can	CA 6	**-----**	14 days	*Visual inspection by Const. Fab. Insp. Sample only if questionable.
Timber & Lumber (Treated)	Untreated Timber	Prelim. Source Approval	Const. Fab. Insp. S 601	Const. Fab. Insp.	-----	-----	-----	-----	-----	Visual inspection by Const. Fab. Insp. for soundness, dimensions and infestation.
TREATMENT OF PILE HEADS	Canvas	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	18 in x 18 in.	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Coal Tar Pitch, Creosote Oil, Asphalt & Copper	Accept.	Proj. Engr. S 201	Mat. Lab	1/shipment*	1 qt friction top can	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Fabric Covering	Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	18 in. x 18 in.	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Galvanized Metal Covering	Accept.	Proj. Engr. S 501	Mat. Lab	1/shipment*	6 in. x 6 in.	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Galvanized Nails, Staples & Wire	Accept.	Proj. Engr. S 501	Mat. Lab	1/size/type/ shipment*	12 of each item** Wire - 24 in. length	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable. **Twelve nails and 12 staples are to be submitted.

SECTION 813 CONCRETE APPROACH SLABS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON CONCRETE TESTS, MIX DESIGNS AND MATERIALS (ADMIXTURES, AGGREGATES, CEMENT AND WATER) SEE SECTION 901 OF THIS MANUAL.										
AGGREGATE	Bedding Material	Accept.	Proj. Engr. S 101	Dist. Lab	1/1,000 yd^3	1 full sample sack	-----	-----	4 days	-----
BEARING PILI	Timber	Accept.	**Inspected and stamped by the const. fab. Insp. Unit prior to use. See section 812 of this manual.**				CD 1 & 6	-----	-----	Visual inspection by Proj. Engr.
CONCRETE (In-Place)	Compressive Strength	*	Proj. Engr. S 301	Dist. Lab	1/pour	Three cylinder mold	-----	-----	-----	*To determine strength for form removal or exposure to construction traffic.
CURING MATERIALS		**SEE SECTION 601 OF THIS MANUAL.**		Mat. Lab						
GEOCOMPOSITE DRAINAGE	Wall Drain	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment	$4ft^2$	CA 5	-----	10 days	(AML)
GEOTEXTILE FABRIC		Accept.	Proj. Engr. S 601	Mat. Lab	1/type	3 lin ft/roll width of fabric*	CC 1	150 yd^2	10 days	(AML) *Sample a minimum of 18 ft2.
HARDWARE CLOTH		Accept.	Proj. Engr. S 601	Mat. Lab	1/shipment*	18 in x 18 in.	**-----**	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
JOINT MATERIAL	Preformed Closed Cell Polyethylene	Accept.	Proj. Engr. S 601	Mat. Lab	1/5,000 lin ft/ Width	36 in. length	**-----**	**-----**		(AML)
JOINT SEAL (Preformed)	Elastomeric Compression	Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment	8 ft length*	CA** 1	-----	14 days	(AML) *When width is over 2 in., 4 ft length is sufficient. **Proj. Engr. forwards CA with sample to Mat. Lab.
ADHESIVE LUBRICANT-	For Preformed Closed Cell polyethylene Joint Filler	Accept.	-----		-----	-----	-----	-----	10 days	(AML) Visual inspection by Proj. Engr.
	For Preformed Elastomeric Compression Joint Seal	Accept.	Proj. Engr. S 601	Mat. Lab	1 Project/lot	1qt friction top can	-----	-----	10 days	(AML) Mix well before sampling. Seal can tightly.
POLYETHYLENE FILM		Accept.	Proj. Engr. S 601	Mat. Lab	1/lot or shipment*	36 in. length	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
REINFORCING STEEL		Accept.	Proj. Engr. S 501	Mat. Lab*	1/size/ source*	48 in. length	CA 1	-----	10 days	(AML) *material with a CA need not be sampled for acceptance. Sample if questionable.
UNDERDRAIN PIPE		**SEE SECTION 703 OF THIS MANUAL.**								

SECTION 814 DRILLED SHAFT FOUNDATIONS

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CONCRETE (Structural)	Mix Designs, Materials & Test	**SEE SECTION 901 OF THIS MANUAL.**								
GRANULAR MATERIAL	Pea Gravel or Granular Material	Accept.	-----		-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.
REINFORCEMENT		Accept.	Proj. Engr. S 501	Mat. Lab	1/size/ source*	48 in. length	CA 1	-----	10 days	(AML) *material with a CA need not be sampled for acceptance. Sample if questionable.
SLURRY		Quality Control	Contractor API 13B	Contractor	as needed	-----	-----	-----	-----	-----
		Accept.	Proj. Engr.*	Proj. Engr.	-----	-----	-----	-----	-----	*Contractor tests to be observed by the Proj. Engr. & documented.

SECTION 815 WELDING

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 815. THERE ARE NO PAY ITEMS UNDER SECTION 815.										
WELDING QUALIFICATION AND TESTING	Field	Accept.	**Welders and procedure qualified by licensed, bonded testing laboratory. Procedure and welder qualification are received and reviewed by construction fabrication.**	Proj. Engr.			-----	-----	-----	-----
	Shop	Accept.		80 Const. Fab. Ins.			-----	-----	-----	

SECTION 901 PORTLAND CEMENT CONCRETE

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 901 OF THIS MANUAL. THERE ARE NO PAY ITEMS UNDER SECTION 901.										
ADMIXTURES		Accept.	Proj. Engr. S 601	Mat. Lab	1/type/ project	1 pt friction top can	CC 1	-----	-----	(AML) Visual inspection. Sample only if questionable.
		Verif.	Proj. Engr. S 601	Mat. Lab	1/type/ project	1 pt friction top can	-----	300 yd^3	9 days	(AML)
AGGREGATES (Pavement)	Fine & Coarse	Quality Control	Contractor S 101	Contractor	1/day/plant for moisture 2/day/plant for gradation	1 full sample sack	-----	-----	-----	(AML) Gradation results are plotted on control charts which are required for documentation. See "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and structures" for details.
		Accept.	Proj. Engr. S 101	Dist. Lab	1/pavement lot*	1 full sample sack	-----	50 yd^3	3 days	(AML) Check gradation and foreign matter. *For paving concrete produced from non-dedicated stockpiles.
		Verif.	Proj. Engr. S 101	Dist. Lab	1/1,000 yd^3/ dedicated stockpile	1 full sample sack	-----	-----	3 days	(AML) Sample as stockpile is being built.
	Blended Aggregate Type B & D	Quality Control	Contractor S 101	Contractor	1/stockpile/ day	1 full sample sack	-----	50 yd^3	3 days	(AML) Gradations for each component used to calculate blended gradation based on mix proportions. Report combined gradation of adjacent sieves as required by specifications.
		Verif.	Proj. Engr. S 101	Dist. Lab	1/aggregate size/lot (max of 1/agg. size/day)	1 full sample sack	-----	50 yd^3	3 days	(AML) Verification testing performed by Dist Lab in accordance with **901.6.4**
AGGREGATES (Structural and Minor Structural)	Fine & Coarse	Quality Control	Contractor S 101	Contractor	1/lot	1 full sample sack	-----	-----	-----	(AML) Gradation and moisture content to be run. Lot to be identifiable pour up to 200 yd3 max of concrete. Gradation results shall be plotted on control charts which are required for documentation. See "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.
		Accept.	Proj. Engr. S 101	Dist. Lab	1/every 5 day of production or 400 **yd^3** of aggregate*	1 full sample sack	-----	50 yd^3	3 days	(AML) Check gradation and foreign matter. *For structural concrete produced from non-dedicated stockpiles.
		verif.	Proj. Engr. S 101	Dist. Lab	1/1,000 yd^3/ dedicated stockpile	1 full sample sack	-----	50 yd^3	3 days	(AML) Sample as stockpile is being built.
		IA	Dist. Lab S 101	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					

SECTION 901 PORTLAND CEMENT CONCRETE (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CEMENT (Hydraulic)	**Types I, II, IL, IP & IS (Structural) Types I, II, III (HES), IL, IP & IS (Pavement) Types I, II, III, IL, IP & IS (Precast & Prestress)**	Prelim Source Approval	Mfr. **AASHTO** T 127	Mat. Lab	1/month	Five - 1 gal friction top cans or acceptable moisture proof container	-----	-----	5 weeks	(AML) Composited and blended from daily plant samples.
		Accept.	-----	Proj. Engr.	1/shipment	-----	CC 1 & 7	50 yd^3	17 days	(AML)
		Verif.	Proj. Engr. S 102	Mat. Lab	1/600 tons/source*	1 gal friction top can	CC** 1 & 7	300 yd^3	17 days	(AML) *Maximum of one sample per day per source unless questionable. **Copy of CC shall be submitted with sample.
CONCRETE (Minor Structure)	Compressive Strength	Accept.	Proj. Engr. S 301 TR 226	Dist. Lab	3cyl/50yd^3	6 in. x 12 in. cylinder mold	-----	50 yd^3	30 days	-----
	Mix Design	Design/ Accept.	*	Contractor/ Dist. Lab	1/mix class or type/material source/plant	-----	-----	-----	3 days	(AML - Admixtures, AML- Aggregates, AML - Cement, AML Fly Ash and AML Microsilica (Silica Fumes)) *The contractor shall submit to the Dist. Lab Engr. the standard Mix Design form indicating the intended source of all materials and the mix design. Acceptance by the Dist. Lab Engineer is required prior to starting work.
	Slump and Air	Accept.	Proj. Engr. S 301	Proj. Engr.	1/50 yd^3	0.5 ft^3	-----	50 yd^3	1 day	When required in Table 1 or individual section.
CONCRETE (Pavement)	Entrained Air	Quality Control	Contractor S 301	Contractor	2/half day	0.25 ft^3	-----	-----	-----	Air test results shall be plotted on control charts which are required for documentation.
		Accept.	Proj. Engr. S 301	Proj. Engr.	1/half day	0.25 ft^3	-----	-----	1 day	-----
	Mix Design	Design/ Accept.	*	Contractor/Dist. Lab	1/mix type/material source/plant	-----	-----	-----	3 days	*Contractor shall submit to the Dist. Lab Engr. the standard Mix Design form indicating material sources, proportions, and composite gradation calculations. Acceptance by the Dist. Lab Engr. is required prior to starting work.
	Mix Temperature	Quality Control	Contractor S 301	Contractor	*	-----	-----	-----	-----	*When temperature control is needed, testing must be sufficient to prevent exceeding appropriate limits.
	Slump	Quality Control	Contractor S 301	Contractor	2/half day	0.5 ft^3	-----	-----	-----	Slump test results shall be plotted on control charts which are required for documentation.
		Accept.	Proj. Engr. S 301	Proj. Engr.	1/half day	0.5 ft^3	-----	-----	1 day	-----
	Unit Weight	Quality Control	Contractor S 301	Contractor	*	1.5ft^3 0.5 or 1 ft^3 yield bucket	-----	-----	-----	*Unit weight will be run as necessary.

SECTION 901 PORTLAND CEMENT CONCRETE (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CONCRETE (Structural)	Entrained Air	Quality Control	Contractor S 301	Contractor	2/lot	0.25 ft^3	-----	-----	-----	Air test results shall be plotted on control charts which are required for documentation.
		Accept.	Proj. Engr. S 301	Proj. Engr.	1/lot	0.25 ft^3	-----	-----	1 day	When pump placement is used, see "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.
		IA	Dist. Lab S 301	Dist. Lab	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Compressive Strength & Surface Resistivity	Accept.	Proj. Engr. S 301 TR 226 & TR 233	Dist. Lab	3 cyl/batch 2 batches/lot	cylinder molds	-----	-----	30 days	A lot is an identifiable pour not to exceed 200 yd^3. For specific details see Specification Subsection **805.10**.
		IA	Dist. Lab S 301	Dist. Lab	**SEE INDEPENDENCE ASSURANCE PROGRAM S 701.**					
	Mix Design	Design/ Accept.	*	Contractor/ Dist. Lab	1/mix class/material source/plant	-----	-----	-----	3 days	*Contractor shall submit to the Dist. Lab Engr. the standard Mix Design form indicating the intended source of all materials and the mix design. Acceptance by the Dist. Lab Engineer is required prior to starting work.
	Mix Temperature	Quality Control	Contractor S 301	Contractor	*	-----	-----	-----	-----	*When temperature control is required, testing must be sufficient to prevent exceeding appropriate limits.
	Slump	Quality Control	Contractor S 301	Contractor	2/lot	0.5 ft^3	-----	-----	-----	Slump test results shall be plotted on control charts which are required for documentation.
		Accept.	Proj. Engr. S 301	~~Table 901-3~~ Proj. Engr.	1/lot	0.5 ft^3	-----	-----	1 day	When pump placement **is** used, see "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.
		IA	Dist. Lab S 301	~~Table 901-3~~ Dist. Lab	**SEE INDEPENDENCE ASSURANCE PROGRAM S 701.**					
	Unit Weight	Quality Control	Contractor S 301	Contractor	*	1.5 ft^3 0.5 or 1 ft^3 yield bucket	-----	-----	-----	*Unit weight will be run as necessary.

SECTION 901 PORTLAND CEMENT CONCRETE (Cont'd)

MATERIAL		PURP.	SAMPLED BY / METHOD	TESTED BY	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FLY ASH	Cement Replacement	Prelim. Source Approval	Mfr. S 102	Mat. Lab	1/month	Five - 1 gal friction top cans or acceptable moisture proof containers	-----	-----	10 weeks	(AML)
		Accept.	-----	Proj. Engr.	1/shipment	-----	CC 1 & 7	50 yd^3	-----	(AML)
		Verif.	Proj. Engr. S 102	Mat. Lab	1/200 tons/source	1 gal friction top can	CC* 1 & 7	50 yd^3	17 days	(AML) *Copy of CC shall be submitted with sample
GROUND GRANULATED BLAST-FURNACE SLAG	Cement Replacement	Prelim. Source Approval	Mfr. S 102	Mat. Lab	1/month	Five - 1 gal friction top cans	CC 1 & 7	-----	17 days	(AML)
		Accept.	-----	Proj. Engr.	1/shipment	-----	CC 1 & 7	50 yd^3	-----	(AML)
		Verif.	Proj. Engr. S 102	Mat. Lab	1/200 tons/source	1 gal friction top can	CC* 1 & 7	300 yd^3	17 days	(AML) *Copy of CC shall be submitted with sample.
WATER		Accept.	Proj. Engr. S 301	Mat. Lab	1/source	1 qt plastic bottle	-----	50 yd^3	11 days	Potable water need not be sampled.

GEOTECHNICAL ENGINEERING STUDY
LA 73 INTERSECTION IMPROVEMENTS AT OAKLAND DRIVE AND BROWN ROAD
PROJECT NO. MA-17-07
ASCENSION PARISH, LOUISANA

Prepared for
NEEL-SCHAFFER, INC.
BATON ROUGE, LOUISIANA

JUNE 27, 2018
Fugro Project No. 04.55174064



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June 27, 2018

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Sr. Project Manager

GEOTECHNICAL STUDY
LA 73 INTERSECTION IMPROVEMENTS AT
OAKLAND DRIVE AND BROWN ROAD
PROJECT NO. MA-17-07
ASCENSION PARISH, LOUISIANA

Fugro USA Land, Inc. (Fugro) is pleased to submit this report of our geotechnical study for the above-referenced project. Mr. Nick Ferlito, Vice President with Neel-Schaffer, Inc. authorized our services on February 20, 2018 by signing the Subconsultant Agreement for Professional Services. This study was performed in general accordance with our Proposal No. 04.55174064 dated November 3, 2017.

We appreciate the opportunity to be of service to Neel-Schaffer, Inc. and look forward to working together in the future. Please feel free to call us if you have any questions or comments concerning this report or when we may be of further assistance.

STATE OF LOUISIANA
STEVEN L. GUNTER
License No. 30561
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/27/18

Sincerely,
FUGRO USA LAND, INC.

Steven L. Gunter, P.E.
Senior Project Manager

Reviewed By: Eric R. Marx. P.E.
Vice President

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1. INTRODUCTION

1.1 Project Description

Neel-Schaffer, Inc. (NSI) is providing design engineering services for this project and has retained Fugro to provide geotechnical engineering services to support the design. This project consists of the widening of the existing Old Jefferson Highway (LA 73) near the intersections with Oakland Drive and Brown Road.

Near the intersection of LA 73 and Oakland Drive, up to 1,710 ft of LA 73 will be widened to accommodate turn lanes. Up to about 650 ft along Oakland Drive, east of LA 73, will also be widened. See **Plate A-1** in **Appendix A** for an aerial view of the limits of the proposed project in the vicinity of Oakland Drive. The embankment on the south side of the bridge located about 500 ft north of Oakland Drive will need to be widened as part of the design. No modifications to the existing bridge are anticipated.

Near the intersection of LA 73 and Brown Road, up to about 2,100 ft of LA 73 will be widened to accommodate turn lanes. Up to 650 ft along Brown Road, east of LA 73, will also be widened. See **Plate A-3** in **Appendix A** for an aerial view of the limits of the proposed project in the vicinity of Brown Road. A culvert beneath LA 73, located about 360 ft north of Brown Road, will be extended to accommodate the widening.

Note that no scope of services was requested of Fugro in the portion of LA 73 between these two project segments.

NSI emailed the traffic data to be used by Fugro on May 25, 2018 for pavement design purposes. This email is reproduced on **Plate A-5** in **Appendix A**. In addition, **Plates A-2** and **A-4** in **Appendix A** provide preliminary concept layouts of the proposed widening at Brown Road and Oakland Drive extracted from NSI traffic studies performed for this project. Finally, the cross sections showing the proposed widening of the southern approach slab embankment of the LA 73 bridge crossing Bayou Manchac is reproduced on **Plate A-6** in **Appendix A**.

1.2 Scope of Services

The purposes of our geotechnical study were to: 1) explore and evaluate subsurface soil conditions at the site, 2) develop geotechnical soil boring logs, and 3) provide geotechnical design and construction recommendations for the proposed roadway widenings for the proposed project. The key tasks associated with the agreed-upon scope of work included the following:

- Auger nine (9) pavement borings, each to a depth of 8-ft below the existing pavement grade at approximate 1,000-ft spacings along the proposed routes.

- Drill one (1) geotechnical soil boring to a depth of 50-ft below the existing pavement grade at the south end of the Bayou Manchac Bridge.
- Collect geotechnical soil samples at 2-ft intervals to a depth of 16-ft and at 5-ft intervals thereafter to completion depth for the deep boring.
- Sample the base material found in the pavement borings and test for the presence of lime or cement treatment.
- Perform field and laboratory tests on select soil samples to: 1) assess engineering soil properties, and 2) generate subgrade soil survey sheets with AASHTO classifications.
- Analyze field and laboratory data to develop appropriate geotechnical engineering recommendations for the roadway widening project.
- Provide settlement and slope stability evaluations at the Bayou Manchac Bridge embankment widening.
- Prepare a report summarizing our findings and geotechnical recommendations.

Environmental assessments, compliance with state and federal regulatory requirements, and/or environmental analyses including those associated with mold, fungi, and other biologic agents were beyond the scope of this study. A geologic fault study was also beyond the scope of this study.

1.3 Applicability of Report

The explorations and analyses for this study, as well as the conclusions and recommendations contained in this report, were selected or developed based on our understanding of the project as described previously and in later sections of this report. If there are differences in project location or design features as we understand them, or if the locations or design features change, we should be authorized to review the changes and, if necessary, modify our conclusions and recommendations. The observations, conclusions, and recommendations presented in this report may not apply to locations not explored by our borings or areas outside the project boundaries.

We have prepared this report exclusively for Neel-Schaffer, Inc. and Ascension Parish to guide the geotechnical aspects of the design of the roadway widenings along LA 73, Oakland Drive and Brown Road. We have conducted this study using the standard level of care and diligence normally practiced by recognized engineering firms now performing similar services under similar circumstances. We intend for this report, including all illustrations, to be used in its entirety. This report should be made available for information only and not as a warranty of subsurface conditions.

1.4 Variations in Subsurface Conditions

Our interpretations of soil and depth-to-water conditions, as described in this report, are based on data obtained from our subsurface exploration, laboratory testing, and our experience. With the exception of the deep boring at the Bayou Manchac Bridge, pavement borings were taken as requested in the existing roadway, and not in the area of the proposed widening, currently consisting of unpaved roadway shoulders and roadside ditches. Although we have allowed for minor variations in the subsurface conditions, our recommendations may not be appropriate for subsurface conditions other than those reported herein. It is possible that some undisclosed variations in pavement thicknesses, base material type and thicknesses, soil or groundwater conditions might occur outside the boring locations. We recommend careful observations during construction to verify our interpretations. Should variations from our interpretations be found, we recommend that we be notified and authorized to evaluate what, if any, revisions should be made to our recommendations.

2. FIELD EXPLORATION

We have included discussions of drilling methods and boring locations, sampling methods, depth-to-water observations, and borehole completion in the sections below.

2.1 Drilling Methods and Boring Locations

Fugro drilled a total of nine (9) geotechnical soil borings; eight (8) shallow pavement borings to a depth of about 8-ft, and one (1) 50-ft deep boring at the Bayou Manchac Bridge south approach. Note that Boring OB-2 was waived by the Parish on April 30, 2018 at Fugro's request due to the thick concrete base disclosed in the adjacent borings in the vicinity of Oakland Drive. The soil borings for this study were drilled on April 25th through April 27th, 2018 with a truck-mounted drilling rig using a combination of dry-auger and wet-rotary drilling techniques. In general, shallow borings were performed by dry-augering at approximate 300 to 500-ft intervals along the proposed route. The locations of the borings are presented on the *Plan of Borings and Site/Vicinity Map* on **Plate 1**. The boring logs for this study are presented on **Plates 2** through **10**, with a key identifying the terms and symbols used on **Plates 11a** and **11b**. The as-drilled locations of the borings were selected by Fugro, and located in the field using a hand-held GPS system. The coordinates of these borings are included on the boring logs.

2.2 Soil Sampling Methods

Soil samples were generally taken every two feet within the shallow pavement borings (8-ft borings). Within the bridge boring (OB-1), samples were generally taken at about 2-ft intervals to a depth of 16-ft and at about 5-ft intervals thereafter to completion depth of 50-ft. Borings were logged by a field technician in general accordance with the *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)* (ASTM D2488).

Our field procedure for cohesive soil sampling was conducted in general accordance with the *Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes* (ASTM D1587). Undisturbed samples of cohesive soils were generally obtained by hydraulically pushing a 3-inch-diameter, thin-walled tube a distance of about 24 inches.

At each pavement boring location, the asphalt concrete surfacing was dry-augered and measured for pavement thickness, followed by augering of the in-situ base material (i.e. concrete, soil-cement, etc.) which was then measured for thickness. Phenolphthalein was used to determine whether the in-situ base material was treated or non-treated with lime and/or Portland cement during the initial base placement. Phenolphthalein turns from clear to red/purple between a pH of 8.3 and 10. Beneath the base material, samples were obtained as noted above, and the tubes were sealed in the field and brought to Fugro's geotechnical laboratory. The samples were then

extruded in the lab and visually classified by one of our geotechnical personnel. Estimates of the undrained shear strength of the recovered samples were obtained by using a hand penetrometer.

2.3 Short-Term Depth-to-Water Observations

The borings were initially drilled using “dry” auger drilling techniques in an effort to identify the depth-to-water in the open borehole. When water was noticed in the boreholes, drilling was temporarily halted for approximately 15 minutes. Drilling then continued to the boring completion depth using wet-rotary methods. Depth-to-water observations are discussed further in **Section 4.3**, and are noted on the boring logs.

2.4 Borehole Completion

The shallow pavement borings for this study were backfilled upon completion with native soil cuttings, followed by sand and cold-patch asphalt. The deeper bridge boring was backfilled with cement-bentonite grout. We grouted the borehole from the bottom up. When grout returned to the surface, we topped off the boreholes by pouring grout from the surface.

3. LABORATORY TESTING

The laboratory testing program for this study was directed primarily toward evaluating the classification properties and undrained shear strength characteristics of the foundation soils, as well as classifying the roadway subgrade soils in accordance with the *Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes (ASTM D3282-15)*.

Our laboratory tests for the borings were performed in general accordance with the appropriate standards as shown in **Table 3-1**.

Table 3-1: Summary of Tests Performed and Methods

Test Type	Testing Designation
Moisture Content	ASTM D2216
Atterberg Limits	ASTM D4318
Dry Unit Weight	ASTM D7263
Percent Finer than a No. 200 Sieve	ASTM D1140
Unconfined Compression	ASTM D2166
Unconsolidated Undrained Triaxial Compression	ASTM D2850

3.1 Classification Tests

The classification tests included tests for natural moisture contents, grain-size analyses, and liquid and plastic limits (collectively termed Atterberg Limits). These tests aid in classifying the soils and are used to correlate the results of other tests performed on samples taken from different borings and/or different depths. The results of the classification tests are presented on the boring logs on **Plates 2** through **10** and on the subgrade soil survey sheets in **Appendix B**.

3.2 Undrained Shear Strength Tests

We measured the undrained shear strength of select undisturbed-samples of cohesive soils by performing unconfined compression and unconsolidated undrained triaxial compression tests on the cohesive samples. Natural moisture contents and dry unit weights were determined as routine portions of the compression tests. The results of the laboratory shear strength tests, along with the field estimates of shear strengths, are presented on the boring logs on **Plates 2** through **10**.

4. GENERAL SITE CONDITIONS

The interpreted site and subsurface conditions, based upon our field exploration, laboratory testing, and our experience, are discussed in this section. This section also includes a discussion on the depth-to-water conditions encountered at the site during our field exploration.

4.1 Site Description

The project site is located in Ascension Parish, Louisiana, along Old Jefferson Hwy (LA 73) near the intersections with Oakland Drive and Brown Road. LA 73 is a 2-lane highway with 11-ft wide lanes, no shoulders and open ditches. The asphaltic concrete surfacing is in generally good condition. Both Oakland Drive and Brown Road are 2-lane roadways with 10-ft wide lanes, no shoulders and shallow swale ditches within the project limits. The extents of Brown Road that are included in this project are in good condition with no apparent signs of base failure or fatigue. However, there are signs of based failure within the project limits on Oakland Drive as shown in the picture below.

The *Plan of Borings and Site/Vicinity Map*, provided on **Plate 1**, shows the approximate locations of the borings performed for this project with respect to existing site features. Fugro did not survey the as-drilled boring locations.

Existing Oakland Drive shown facing LA 73 (Looking West)



4.2 General Subsurface Conditions

Table 4-1 below provides a summary of surfacing and base course information based on the nine (9) soil borings drilled for this project. All of the borings disclosed cohesive clay soils beneath the base course.

Table 4-1 Existing Roadway Pavement Section Summary

Boring Number / Road	Pavement Thickness / Surface	Pavement Thickness / Base Course
OB-1 / LA 73	3-in. Asphalt	10.5-in Soil Cement
OB-3 / LA 73	5-in Asphalt	7-in Concrete
OB-4 / LA 73	11-in Asphalt	---
OB-5 / Oakland Drive	1.5-in Asphalt	7-in Non-treated Clay
BB-1 / LA 73	7-in Asphalt	8-in Concrete
BB-2 / LA 73	3-in Asphalt	10-in Concrete
BB-3 / LA 73	3-in Asphalt	8-in Concrete
BB-4 / LA 73	3-in Asphalt	7-in Concrete
BB-5 / Brown Road	5-in Asphalt	7-in Soil Cement

Additional information relating to the subsurface conditions encountered at the site is presented on the boring logs on **Plates 2** through **10**. A key identifying the terms and symbols used on the boring logs is presented on **Plates 11a** and **11b**.

4.3 Groundwater Conditions

No groundwater was encountered within any of the eight (8) shallow pavement borings. Roadside ditches were typically dry except in isolated locations. Groundwater was encountered in Boring OB-1 at about 23-ft below grade and rose to a depth of about 18.1-ft after about 15-minutes. It should be noted that short-term water levels recorded in open boreholes should not be considered to represent long-term conditions. It is likely that the water levels in the open boreholes may not have had enough time to completely stabilize. More accurate determinations of groundwater levels are usually made from long-term standpipe piezometer readings.

5. SUBGRADE SOIL SURVEYS

A total of nine (9) soil borings were performed along the existing LA 73, Brown Road and Oakland Drive for this project. Laboratory testing, including moisture content, Atterberg limits, sieve analysis, and hydrometer testing was performed. Subgrade Soil Survey sheets with AASHTO soil classifications are presented in **Appendix B**.

6. PAVEMENT RECOMMENDATIONS

6.1 Provided Information

This project consists of the widening of the existing Jefferson Highway (LA 73) in order to accommodate turn lanes onto Oakland Drive and Brown Road.

Ms. Dishili Young, P.E. of NSI provided a summary of the findings of a traffic study performed by NSI for this project as shown on **Plate A-5** of **Appendix A**, to be utilized to develop the pavement recommendations for this project. This summary is reproduced as follows:

Table 6-1 Average Daily Traffic (ADT) Statistics in Vehicles per Day (vpd)

LA 73 at Oakland Drive	LA 73 at Brown Road
ADT LA 73 – 12,600 vpd	ADT LA 73 – 11,400 vpd
ADT Oakland – 2,200 vpd	ADT Brown – 1,944 vpd

Table 6-2 Travel Lane: % Heavy Vehicles, Growth Rate

	% HV	GR		% HV	GR
Oakland WB	2%	2%	Brown WB	10%	2%
LA 73 NB	2%	2%	LA 73 NB	6%	2%
LA 73 SB	7%	2%	LA 73 SB	12%	2%

6.2 Calculated Traffic Values and Required Structural Numbers

LA 73: Based on the information provided in **Table 6-1** above, we have calculated design traffic 18-kip Equivalent Single Axle Loads (ESALs) based on 12,600 vehicles per day (vpd) with a 2% growth factor over 20 years along LA 73. Considering 12% trucks, with 90% being single unit trucks, and 10% being combination tractor trailer trucks, we calculated 8.7 million ESALs for design purposes. The required structural number for design is 5.5. We recommend that the minimum pavement section be used, as specified in **Table 6-3** below.

Oakland Drive: 2,200 vpd with a 2% growth factor over 20 years was utilized for Oakland Drive. Considering 2% trucks, with 90% being single unit trucks, and 10% being combination tractor trailer trucks, we calculated 271,000 ESALs for design purposes. For this level of ESALs, we recommend a minimum pavement section be used, as specified in **Table 6-3** below. **Based on the existing condition of Oakland Drive, as documented in the picture in Section 4.1 above, we recommend a complete re-build of this roadway section through the limits of the project.**

Brown Road: 1,944 vpd with a 2% growth factor over 20 years was utilized for Oakland Drive. Considering 10% trucks, with 90% being single unit trucks, and 10% being combination tractor

trailer trucks, we calculated 1.1 million ESALs for design purposes. For this level of ESALs, we recommend a minimum pavement section be used, as specified in **Table 6-3** below.

6.3 Pavement Sections

Fugro understands that this project includes widening of the existing pavement section in order to provide a left turn lane from LA 73 onto Oakland Drive and Brown Road, and to provide a left turn lane from Oakland Drive and Brown Road onto LA 73. It is not known at the time of this report whether the widening will be to one side of the existing road or on both sides. Basic widening alone would include a sealed longitudinal construction joint extending the entire length of the widening. Fugro recommends that in lieu of a sealed joint, that a Tensar GlasGrid (or approved equal) system be used with a 2-inch minimum full-width mill and overlay to bridge the joint between the existing and proposed asphaltic concrete section on LA 73 and Brown Road. As noted in **Section 6.2** above, we recommend a complete re-build of the pavement section on Oakland Drive through the limits of the project.

Fugro utilized data as noted in **Section 6.1**, above. We have utilized the software program WinPAS 12, Version 1.0.4 in to provide two alternatives with varying base-course sections for each of the three pavement sections for comparison purposes. These sections are presented in **Table 6.3**, below.

Specific design parameters considered in the rigid pavement analyses are as follows:

CBR	3
Subgrade Resilient Modulus	4,100 psi
Reliability	85%
Standard Deviation	0.45
Initial Serviceability	4.2
Terminal Serviceability	2.25

Table 6-3: Recommended Minimum Pavement Sections

Applicable Roadway and Pavement Type	Material	Thickness	Reference or Specification
LA 73 Asphalt Concrete over Soil Cement Section	Hot-Mix Asphaltic Concrete over	8 inches	LaDOTD Section 502 and Section 1002
	Soil Cement (7-day f'c >300 psi) over	11 inches	LaDOTD Section 303 – Section 303.01.1
	Compacted Subgrade	12 inches	Section 6.4 Subgrade Preparation
LA 73 Asphalt Concrete over Crushed Stone over Soil Cement Section	Hot-Mix Asphaltic Concrete over	8 inches	LaDOTD Section 502 and Section 1002
	Crushed Stone Base over	4 inches	LaDOTD Section 1003 – Item 1003.03.1
	Soil Cement (7-day f'c >300 psi) over	7 inches	LaDOTD Section 303 – Section 303.01.1
	Compacted Subgrade	12 inches	Section 6.4 Subgrade Preparation
Oakland Drive Asphalt Concrete over Soil Cement Section	Hot-Mix Asphaltic Concrete over	4 inches	LaDOTD Section 502 and Section 1002
	Soil Cement (7-day f'c >300 psi) over	12 inches	LaDOTD Section 303 – Section 303.01.1
	Compacted Subgrade	12 inches	Section 6.4 Subgrade Preparation
Oakland Drive Asphalt Concrete over Soil Cement Section	Hot-Mix Asphaltic Concrete over	4 inches	LaDOTD Section 502 and Section 1002
	Crushed Stone Base over	4 inches	LaDOTD Section 1003 – Item 1003.03.1
	Soil Cement (7-day f'c >300 psi) over	8 inches	LaDOTD Section 303 – Section 303.01.1
	Compacted Subgrade	12 inches	Section 6.4 Subgrade Preparation

Applicable Roadway, Pavement Type and Recommended Use	Material	Thickness	Reference or Specification
Brown Road Asphalt Concrete over Soil Cement Section	Hot-Mix Asphaltic Concrete over	5.5 inches	LaDOTD Section 502 and Section 1002
	Soil Cement (7-day f'c >300 psi) over	12 inches	LaDOTD Section 303 – Section 303.01.1
	Compacted Subgrade	12 inches	Section 6.4 Subgrade Preparation
Brown Road Asphalt Concrete over Crushed Stone over Soil Cement Section	Hot-Mix Asphaltic Concrete over	5.5 inches	LaDOTD Section 502 and Section 1002
	Crushed Stone Base over	4 inches	LaDOTD Section 1003 – Item 1003.03.1
	Soil Cement (7-day f'c >300 psi) over	8 inches	LaDOTD Section 303 – Section 303.01.1
	Compacted Subgrade	12 inches	Section 6.4 Subgrade Preparation

Hot Mix Asphaltic Concrete (HMAC) should be placed in accordance with LaDOTD Standard Specifications for Roads and Bridges (LADOTDSSRB), 2016 edition, Section 502 and Section 1002. The asphaltic concrete should be compacted to between 91% and 95% of the theoretical density as determined by ASTM D2726-13 in accordance with LADOTDSSRB Section 502.

The soil-cement base should be in accordance with LADOTDSSRB Section 303.01.1. A cement series test as performed by LA DOTD TR 432, Method B or C should be performed on the base materials in order to determine the percentage of cement, reported by volume, in order to attain a 300-psi compressive strength. We recommend that 8% by volume be used for bidding purposes, and actual testing be performed on the materials provided by the contractor to be used to build this base layer.

The crushed stone base should be in accordance with LADOTDSSRB Section 1003.03.1. Crushed stone should be compacted to 95% of the maximum dry density as determined by ASTM D698 (Standard Proctor).

A separation fabric conforming to LADOTDSSRB Table 1019-1 Geotextile Fabrics, Class D is recommended at the interface of the compacted subgrade and crushed stone base for the flexible pavement.

6.4 Subgrade Preparation

The performance of a pavement ultimately depends on the subgrade. For this particular application, and due to the roadway extending through the existing roadway shoulder and ditch sections, proper subgrade preparation will be even more imperative to a successful widening project. Subgrade preparation for pavements should include clearing and stripping of all significant surface vegetation, topsoil, organic material, debris, limestone (gravel), and other deleterious materials below the footprint and extending at least 3-ft beyond the edges of the proposed roadway. The stripping depth outside of the existing roadway is assumed to be 12-inches and should be confirmed during the site grading activities.

After removing deleterious materials and stripping, the exposed subgrade should be proofrolled with a load of 25 tons in a 12 to 14 cubic yard tandem dump truck with 10 wheels or other heavy (25-ton), rubber-tired vehicle making at least 4 complete passes, with alternating passes being perpendicular to each other. It is important to note that maintaining a relatively constant moisture content within the in-situ soils both pre- and post-construction is equally important to the successful performance of pavements. Moisture conditioning may be required if the exposed subgrade is dry of optimum moisture as defined by the soil's field compaction curve (LA DOTD TR 415, Method B). Moisture conditioning should be used to bring the moisture content to between optimum and 3% wet of optimum.

Areas of the subgrade that are observed to be soft, wet, weak, or contain deleterious materials should be over-excavated to expose competent soils. Areas of the subgrade in which pumping or significant deflections (greater than 1-inch) are observed should also be over-excavated to expose competent material and then should be backfilled with properly prepared and compacted soil (LADOTDSSRB Section 203.06.1). We recommend that the Geotechnical Engineer of record or their qualified representative be present on-site to observe subgrade preparation for pavements. After the site has been stripped and proofrolled, with excavation and backfilling as necessary, grade in pavement areas may be raised as needed.

6.5 Drainage

The importance of drainage to the proper operation and function of any pavement cannot be overemphasized. The pavement and subgrade surface should be raised above adjacent grade and properly sloped into drainage inlets or lateral ditches. Water should not be allowed to pond on or adjacent to the pavement whereby the subgrade may become saturated. If the pavement sublayers do become saturated, the bearing capacity will be greatly reduced and the useful life of the pavement will be decreased. Periodic inspections and repair of cracks in pavement sections should be performed as part of routine facility maintenance.

7. EMBANKMENT STABILITY AND SETTLEMENT EVALUATIONS – LA 73 AT BAYOU MANCHAC BRIDGE

Fugro understands that the embankment at the south end of the LA 73 bridge crossing Bayou Manchac, about 200-ft north of the LA 73 intersection with Oakland Drive, will be widened and the slope improved as part of this project. Fugro was provided with two cross sections for these evaluations, as shown on **Plate A-6** in **Appendix A**. The cross section at Station 115+25.00 provides for about 3-ft of fill to be placed with the embankment widening on the north side of the roadway, and about 2-ft of fill to be placed on the south side of the roadway. In addition, the existing side slopes appear to be on the order of 1V:2.2H to 1V:2.5H.

7.1 Settlement Evaluation

The existing bridge embankment has been in place for at least 35 years based on Google Earth imagery, and as such, the consolidation of the subsurface soils has likely diminished to insignificant values. Based on Fugro's local experience and the placement of no more than 2 to 3-ft of additional fill required for this project, Fugro estimates that the settlement of this fill will be less than 1-inch.

7.2 Embankment Stability Evaluation

As noted above, the existing embankment slopes appear to be on the order of 1V:2.2H to 1V:2.5H. No localized sloughing or failures have been observed of this embankment. Fugro understands that the side slopes will be laid to a flatter 1V:3H during construction of this project. As such, we estimate that the proposed side slope will be stable for the intended use. We recommend that the embankment fill be placed as noted in **Section 7.3** below.

7.3 Embankment Construction Considerations

Fugro recommends that the existing embankment slopes be stripped of existing grass, topsoil and of any deleterious materials disclosed during stripping operations as described in the project specifications. Once this is complete, the benched placement of fill soils is recommended. The benches should be a minimum of eight (8) feet wide laterally, and should be cut into the slope every four (4) feet of vertical rise. The placement of fill should begin at the base of the slope along the benches to allow for horizontal fill placement and compaction activities. Fill soils required to meet grades after stripping and benching activities are complete should meet Section 203.06.1 of the Louisiana Department of Transportation and Development Standard Specifications for Roads and Bridges, 2016 Edition. Other applicable portions of Section 203, Excavation and Embankment, shall be adhered to.

8. GEOTECHNICAL DESIGN REVIEW AND CONSTRUCTION MONITORING

Following the final design, we should be given the opportunity to review the drawings and specifications to verify that our design recommendations were adhered to and interpreted as we have intended. We strongly recommend that the Geotechnical Engineer-of-Record, or their qualified representative, be present on-site during site preparation, earthwork, and construction to observe and monitor construction activities. Construction monitoring performed by qualified personnel independent of the Contractor is recommended because the performance of foundations and other structures constructed during this project will be directly related to the Contractor's adherence to the recommendations presented in this report and to the specifications prepared by the Designer. Additionally, the geotechnical aspects of construction contain inherent uncertainties that can result in unanticipated soil and/or groundwater conditions being encountered during construction. Qualified geotechnical personnel observing construction on-site can monitor construction activities and may aid in recognizing unanticipated subsurface conditions and reconciling these conditions with design recommendations.

Construction monitoring should be performed during:

- Site Preparation and Site Excavation: The site preparation activities, including site excavations, should be monitored and the suitability of the exposed subgrade should be observed.
- Placement of Fill: Activities regarding the placement of fill should be monitored to verify that the material being used as fill complies with the recommendations in this report and with the project specifications. This includes performing compaction tests, classification tests, and field density tests.
- Roadway Construction: The roadway construction activities should be monitored to verify the suitability of the exposed subgrade soils and the placement of base and roadway materials.

Due to our familiarity with the project in general and the geotechnical recommendations in particular, we recommend that we be retained during the site preparation, earthwork, and foundation excavation and construction phases to provide material testing and construction surveillance to: (1) observe compliance with the design concepts, specifications, and recommendations; (2) observe subsurface conditions during construction; and (3) perform quality control tests.

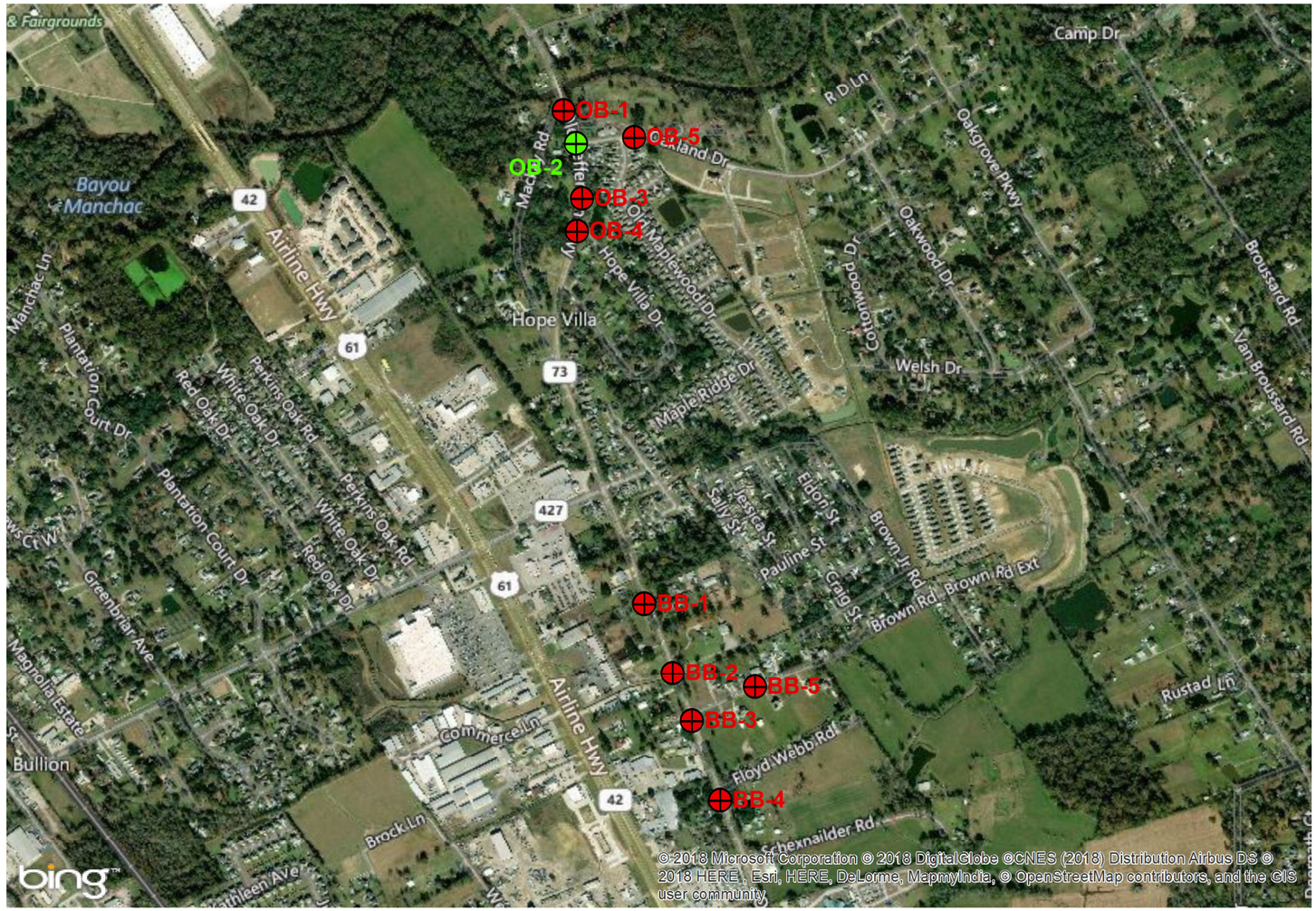
9.0 REFERENCES

AASHTO (1993), “Guide for Design of Pavement Structures”, American Association of State Highway and Transportation Officials, Volume 1.

Computer Program WinPAS (2012), Version 1.0.4, Pavement Analysis, developed by the American Concrete Pavement Association, 2012.

Louisiana DOTD Standard Specifications for Roads and Bridges, 2016 Edition.

ILLUSTRATIONS



N



SITE MAP



VICINITY MAP

LEGEND

SOIL BORING LOCATION

0 240 480 960 1,440 1,920 2,400
Feet

LA 73 INTERSECTION IMPROVMENTS AT OAKLAND DRIVE AND BROWN ROAD
ASCENSION PARISH, LOUISIANA

PLAN OF BORINGS AND SITE/VICINITY MAP

SIZE			REV.
B	PROJECT NO. 04.55174064		0
SCALE: AS SHOWN	DRAWN BY: dms	CHKD BY: SG	DATE: 6/1/2018	Plate No. 1

R:\17 GEOTECH\04.55174064_LA73Intersections_Neel-Shaffer\04_Drafting\GIS\Outputs\Working\mxd\04.55174064.mxd. 6/1/2018. d.meyer-sayer

LOCATION: See Plate 1

COORDINATES: N 30° 19' 53.6"
W 90° 58' 51"

SURFACE EL.: Not Available

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
	ASPHALT, 7-inches, with 8-inches CONCRETE	0.6						
1	**LEAN CLAY (CL)**, firm, light brown - with ferrous nodules from 1.25' to 6'	1.3		94	16	37	18	19
2								
3								
4								
5				91	17	29	14	15
6	- stiff at 6'							
7								
8		8.0						
9								

SHEAR STRENGTH

□ Penetrometer ▼ Unconfined
◇ Torvane ● Triaxial
△ Hand Vane ▲ Miniature Vane

KIPS PER SQ FT

0.5 1.0 1.5 2.0 2.5

NOTES:

1. Terms and symbols defined on Plates 11a and 11b.

COMPLETION DATE: April 26, 2018
TOTAL DEPTH: 8.0'
CAVED DEPTH: Not Applicable
DRY AUGER: 0' to 8'
WET ROTARY: Not Applicable
BACKFILL: Sand/Asphalt Patch
LOGGER: W. Veitch
DRILL RIG:
HAMMER TYPE: Manual

FUGRO

LA 73 Intersection Improvements at Oakland Drive and Brown Road

LOG OF BORING NO. BB-1

Ascension Parish, Louisiana

Project No. 04.55174064

PLATE 2

FCBR_LOG (FINAL) 2016 04.55174064.GPJ FUGRO DATA TEMPLATE 042610.GDT 06/04/18

LOCATION: See Plate 1

COORDINATES: N 30° 19' 47.6"
W 90° 58' 48.2"

SURFACE EL.: Not Available

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)	SHEAR STRENGTH (KIPS PER SQ FT)
	ASPHALT, 3-inches, with 10-inches CONCRETE	0.3							
1	**LEAN CLAY (CL)**, hard, yellowish red and light gray, with ferrous nodules and gravel layer - with a 4-inch silt layer at 1'	1.0		94	20				4.5 □
2	- with silty sand layers and gravel at 2' to 3'			95	21				□
3									
4	- firm dark brown and light gray at 3.7' - gray at 4'			95	19	40	16	24	□
5									
6	- stiff, light gray, with ferrous nodules at 6'								□
7									
8		8.0							
9									

Penetrometer □ Unconfined ▼
Torvane ◇ Triaxial ●
Hand Vane △ Miniature Vane ▲

KIPS PER SQ FT: 0.5 1.0 1.5 2.0 2.5

NOTES:
1. Terms and symbols defined on Plates 11a and 11b.

COMPLETION DATE: April 25, 2018
TOTAL DEPTH: 8.0'
CAVED DEPTH: Not Applicable
DRY AUGER: 0' to 8'
WET ROTARY: Not Applicable
BACKFILL: Sand/Asphalt Patch
LOGGER: W. Veitch
DRILL RIG:
HAMMER TYPE: Manual

FUGRO

LA 73 Intersection Improvements at Oakland Drive and Brown Road

LOG OF BORING NO. BB-2

Ascension Parish, Louisiana

Project No. 04.55174064

PLATE 3

FCBR_LOG (FINAL) 2016 04.55174064.GPJ FUGRO DATA TEMPLATE 042610.GDT 06/04/18

LOCATION: See Plate 1

COORDINATES: N 30° 19' 43.5"
W 90° 58' 46.3"

SURFACE EL.: Not Available

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
0	ASPHALT, 3-inches, with 8-inches CONCRETE	0.3						
1	**FILL**: **LEAN CLAY (CL)**, very stiff, gray, with trace sand and gravel	1.0		97	19	41	21	20
2	**LEAN CLAY (CL)**, firm, tan, with ferrous nodules	1.7		95	18	31	18	13
4	- stiff below 4'							
8		8.0						

SHEAR STRENGTH

□ Penetrometer ▼ Unconfined
◇ Torvane ● Triaxial
△ Hand Vane ▲ Miniature Vane

KIPS PER SQ FT

0.5 1.0 1.5 2.0 2.5

NOTES:

1. Terms and symbols defined on Plates 11a and 11b.

COMPLETION DATE: April 25, 2018
TOTAL DEPTH: 8.0'
CAVED DEPTH: Not Applicable
DRY AUGER: 0' to 8'
WET ROTARY: Not Applicable
BACKFILL: Sand/Asphalt Patch
LOGGER: W. Veitch
DRILL RIG:
HAMMER TYPE: Manual

FUGRO

LA 73 Intersection Improvements at Oakland Drive and Brown Road

LOG OF BORING NO. BB-3

Ascension Parish, Louisiana

Project No. 04.55174064

PLATE 4

FCBR_LOG (FINAL) 2016 04.55174064.GPJ FUGRO DATA TEMPLATE 042610.GDT 06/04/18

LOCATION: See Plate 1

COORDINATES: N 30° 19' 36.6"
W 90° 58' 43.5"

SURFACE EL.: Not Available

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
	ASPHALT, 3-inches, with 7-inches CONCRETE	0.3						
1	**LEAN CLAY (CL)**, very stiff to stiff, light gray and tan, with ferrous nodules - with gravel at 1'	1.0						
2	- tan and gray from 2' to 6'			99	19	48	18	30
3								
4								
5								
6	- tan at 6'			98	16	43	17	26
7								
8		8.0						
9								

SHEAR STRENGTH

□ Penetrometer ▼ Unconfined
◇ Torvane ● Triaxial
△ Hand Vane ▲ Miniature Vane

KIPS PER SQ FT

0.5 1.0 1.5 2.0 2.5

NOTES:

1. Terms and symbols defined on Plates 11a and 11b.

COMPLETION DATE: April 25, 2018
TOTAL DEPTH: 8.0'
CAVED DEPTH: Not Applicable
DRY AUGER: 0' to 8'
WET ROTARY: Not Applicable
BACKFILL: Sand/Asphalt Patch
LOGGER: W. Veitch
DRILL RIG:
HAMMER TYPE: Manual

FUGRO

LA 73 Intersection Improvements at Oakland Drive and Brown Road

LOG OF BORING NO. BB-4

Ascension Parish, Louisiana

Project No. 04.55174064

PLATE 5

FCBR_LOG (FINAL) 2016 04.55174064.GPJ FUGRO DATA TEMPLATE 042610.GDT 06/04/18

LOCATION: See Plate 1

COORDINATES: N 30° 19' 46.4"
W 90° 58' 40"

SURFACE EL.: Not Available

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)	SHEAR STRENGTH (KIPS PER SQ FT)
	ASPHALT, 5-inches, with 7-inches soil cement	0.4							
1	**FAT CLAY (CH)**, very stiff, red, with ferrous nodules	1.0		99	16	53	23	30	3.8
2	- tan at 2'								
3									
4	**LEAN CLAY (CL)**, very stiff, tan	4.0		95	17	37	20	17	4.0
5									
6									
7									
8		8.0							
9									

Penetrometer ▼ Unconfined
Torvane ● Triaxial
Hand Vane ▲ Miniature Vane

KIPS PER SQ FT: 0.5 1.0 1.5 2.0 2.5

NOTES:

1. Terms and symbols defined on Plates 11a and 11b.

COMPLETION DATE: April 25, 2018
TOTAL DEPTH: 8.0'
CAVED DEPTH: Not Applicable
DRY AUGER: 0' to 8'
WET ROTARY: Not Applicable
BACKFILL: Sand/Asphalt Patch
LOGGER: W. Veitch
DRILL RIG:
HAMMER TYPE: Manual

FUGRO

LA 73 Intersection Improvements at Oakland Drive and Brown Road

LOG OF BORING NO. BB-5

Ascension Parish, Louisiana

Project No. 04.55174064

PLATE 6

FCBR_LOG (FINAL) 2016 04.55174064.GPJ FUGRO DATA TEMPLATE 042610.GDT 06/04/18

LOCATION: See Plate 1

COORDINATES: N 30° 20' 36.3"
W 90° 58' 58.9"

SURFACE EL.: Not Available

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
	ASPHALT, 3-inches, with 10.5-inches soil cement	0.3						
	LEAN CLAY (CL), stiff, greenish gray and tan	1.0						
	- with silt pockets and layers from 1' to 4'		95		26	34	17	17
	- dark gray and brown at 2'							
	- dark gray and greenish gray, with silty sand pockets from 4' to 6.6'		94	93	27			
	- brown below 7' with roots and wood traces at 7'		99		27			
10	- with silt pockets at 8'					41	28	13
	FAT CLAY (CH), stiff, gray, brown, and red, with slickensides	13.0	99	99	26			
	- very stiff, gray and brown at 18'					78	25	53
20								
	LEAN CLAY (CL), very stiff, greenish gray and brown, with silt pockets	23.0	102		25			
	- tan and gray at 28'		100	99	26			
30	- hard (lost shelby tube) at 33'							
	FAT CLAY (CH), stiff to very stiff, gray, with ferrous staining	38.0	96		28			
40								
	N=4 **SILTY SAND (SM)**, tan	48.0		44	33			
50		49.5						

SHEAR STRENGTH

□ Penetrometer ▼ Unconfined
◇ Torvane ● Triaxial
△ Hand Vane ▲ Miniature Vane

KIPS PER SQ FT

0.5 1.0 1.5 2.0 2.5

3.0 □

3.3 □

NOTES:

1. ▽: Water First Noticed. ▼: Depth To Water after 15 minutes.
2. Terms and symbols defined on Plates 11a and 11b.

COMPLETION DATE: April 27, 2018
TOTAL DEPTH: 49.5'
CAVED DEPTH: Not Applicable
DRY AUGER: 0' to 25'
WET ROTARY: 25' to 49.5'
BACKFILL: Cement-Bentonite Grout
LOGGER: W. Veitch
DRILL RIG:
HAMMER TYPE: Manual

FUGRO

LA 73 Intersection Improvements at Oakland Drive and Brown Road

LOG OF BORING NO. OB-1

Ascension Parish, Louisiana

Project No. 04.55174064

PLATE 7

FCBR_LOG (FINAL) 2016 04.55174064.GPJ FUGRO DATA TEMPLATE 042610.GDT 06/04/18

LOCATION: See Plate 1

COORDINATES: N 30° 20' 28.7"
W 90° 58' 57.1"

SURFACE EL.: Not Available

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)	SHEAR STRENGTH (KIPS PER SQ FT)
	ASPHALT, 5-inches, with 7-inches CONCRETE	0.4							
1	**LEAN CLAY (CL)**, very stiff, gray	1.0			24	34	18	16	3.5 □
2	- with a 2-inch gravel layer at 1.8' **LEAN CLAY (CL)**, very stiff, tan and red, with silty sand pockets	2.0			27				3.5 □
4	**LEAN CLAY (CL)**, stiff, tan and red	4.0		96	21	39	24	15	□
6	- with ferrous nodules at 6'				26				□
8		8.0							

NOTES:

1. Terms and symbols defined on Plates 11a and 11b.

COMPLETION DATE: April 26, 2018
TOTAL DEPTH: 8.0'
CAVED DEPTH: Not Applicable
DRY AUGER: 0' to 8'
WET ROTARY: Not Applicable
BACKFILL: Sand/Asphalt Patch
LOGGER: W. Veitch
DRILL RIG:
HAMMER TYPE: Manual

FUGRO

LA 73 Intersection Improvements at Oakland Drive and Brown Road

LOG OF BORING NO. OB-3

Ascension Parish, Louisiana

Project No. 04.55174064

PLATE 8

FCBR_LOG (FINAL) 2016 04.55174064.GPJ FUGRO DATA TEMPLATE 042610.GDT 06/04/18

LOCATION: See Plate 1

COORDINATES: N 30° 20' 25.9"
W 90° 58' 57.6"

SURFACE EL.: Not Available

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
	ASPHALT, 11-inches							
1	**LEAN CLAY (CL)**, stiff, gray - with concretions at 1'	1.0		96	19	30	20	10
2	- reddish brown and gray, with ferrous staining below 2'				28			
4				98	19	42	21	21
6					24			
8		8.0						

SHEAR STRENGTH

□ Penetrometer ▼ Unconfined
◇ Torvane ● Triaxial
△ Hand Vane ▲ Miniature Vane

KIPS PER SQ FT

0.5 1.0 1.5 2.0 2.5

NOTES:

1. Terms and symbols defined on Plates 11a and 11b.

COMPLETION DATE: April 26, 2018
TOTAL DEPTH: 8.0'
CAVED DEPTH: Not Applicable
DRY AUGER: 0' to 8'
WET ROTARY: Not Applicable
BACKFILL: Sand/Asphalt Patch
LOGGER: W. Veitch
DRILL RIG:
HAMMER TYPE: Manual

FUGRO

LA 73 Intersection Improvements at Oakland Drive and Brown Road

LOG OF BORING NO. OB-4

Ascension Parish, Louisiana

Project No. 04.55174064

PLATE 9

FCBR_LOG (FINAL) 2016 04.55174064.GPJ FUGRO DATA TEMPLATE 042610.GDT 06/04/18

LOCATION: See Plate 1

COORDINATES: N 30° 20' 34"
W 90° 58' 51.9"

SURFACE EL.: Not Available

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
	ASPHALT, 1.5-inches, with 7-inches clay base (non-treated)	0.1						
1	**LEAN CLAY (CL)**, stiff, dark brown	1.0			22	29	20	9
	- reddish brown and tan, with ferrous nodules from 1.5' to 4'			99	20			
	- reddish brown and gray below 4' - with root traces at 4'			98	22	40	21	19
8		8.0						

SHEAR STRENGTH

□ Penetrometer ▼ Unconfined
◇ Torvane ● Triaxial
△ Hand Vane ▲ Miniature Vane

KIPS PER SQ FT

0.5 1.0 1.5 2.0 2.5

NOTES:

1. Terms and symbols defined on Plates 11a and 11b.

COMPLETION DATE: April 25, 2018
TOTAL DEPTH: 8.0'
CAVED DEPTH: Not Applicable
DRY AUGER: 0' to 8'
WET ROTARY: Not Applicable
BACKFILL: Sand/Asphalt Patch
LOGGER: W. Veitch
DRILL RIG:
HAMMER TYPE: Manual

FUGRO

LA 73 Intersection Improvements at Oakland Drive and Brown Road

LOG OF BORING NO. OB-5

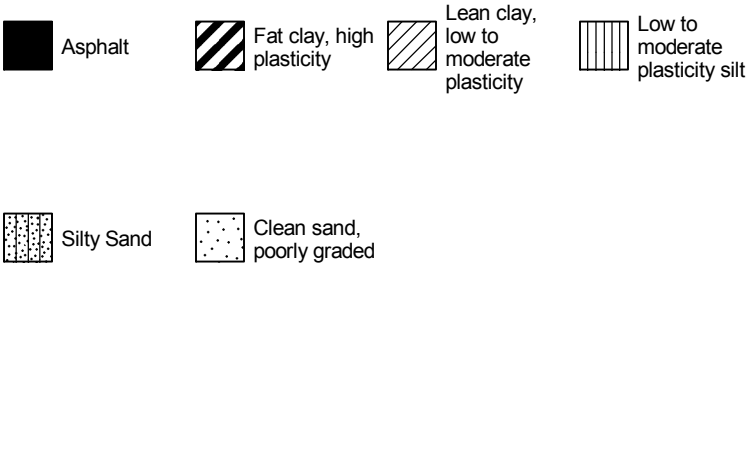
Ascension Parish, Louisiana

Project No. 04.55174064

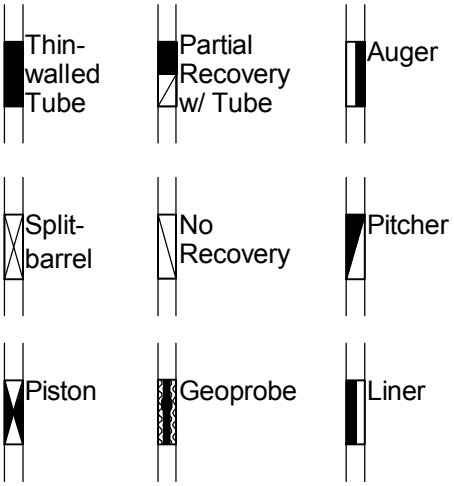
PLATE 10

FCBR_LOG (FINAL) 2016 04.55174064.GPJ FUGRO DATA TEMPLATE 042610.GDT 06/04/18

SOIL TYPES

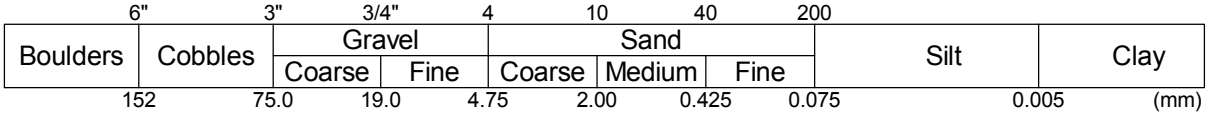


SAMPLER TYPES

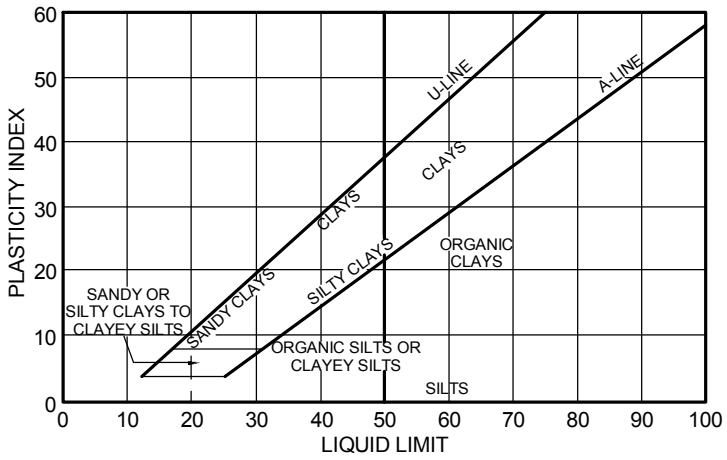


SOIL GRAIN SIZE

U.S. Standard Sieve



PLASTICITY CHART



SOIL STRUCTURE

Slickensided	Having planes of weakness that appear slick and glossy.
Fissured	Containing shrinkage or relief cracks, often filled with fine sand or silt; usually more or less vertical.
Pocket	Inclusion of material of different texture that is smaller than the diameter of the sample.
Parting	Inclusion less than 1/8 inch thick extending through the sample.
Seam	Inclusion 1/8 inch to 3 inches thick extending through the sample.
Layer	Inclusion greater than 3 inches thick extending through the sample.
Laminated	Soil sample composed of alternating partings or seams of different soil type.
Interlayered	Soil sample composed of alternating layers of different soil type.
Intermixed	Soil sample composed of pockets of different soil type and layered or laminated structure is not evident.
Calcareous	Having appreciable quantities of carbonate.
Carbonate	Having more than 50% carbonate content.

FUGRO

TERMS AND SYMBOLS USED ON BORING LOGS

SOIL CLASSIFICATION (1 of 2)

Project No. 04.55174064

PLATE 11a

STANDARD PENETRATION TEST (SPT)

A 2-in.-OD, 1-3/8-ID split spoon sampler is driven 1.5 ft into undisturbed soil with a 140-pound hammer free falling 30 in. After the sampler is seated 6 in. into undisturbed soil, the number of blows required to drive the sampler the last 12 in. is the Standard Penetration Resistance or "N" value, which is recorded as blows per foot as described below.

SPLIT-BARREL SAMPLER DRIVING RECORD

Blows Per Foot	Description
25	25 blows drove sampler 12 inches, after initial 6 inches of seating.
50/7"	50 blows drove sampler 7 inches, after initial 6 inches of seating.
Ref/3"	50 blows drove sampler 3 inches during initial 6-inch seating interval.

NOTE: To avoid damage to sampling tools, driving is limited to 50 blows during or after seating interval.

DENSITY OF GRANULAR SOILS

Descriptive Term	*Relative Density, %	**Blows Per Foot (SPT)
Very Loose	< 15	0 to 4
Loose	15 to 35	5 to 10
Medium Dense	35 to 65	11 to 30
Dense	65 to 85	31 to 50
Very Dense	> 85	> 50

*Estimated from sampler driving record.

**Requires correction for depth, groundwater level, and grain size.

STRENGTH OF COHESIVE SOILS

Term	Undrained Shear Strength, ksf	Blows Per Foot (SPT) (approximate)
Very Soft	< 0.25	0 to 2
Soft	0.25 to 0.50	2 to 4
Firm	0.50 to 1.00	4 to 8
Stiff	1.00 to 2.00	8 to 16
Very Stiff	2.00 to 4.00	16 to 32
Hard	> 4.00	> 32

SHEAR STRENGTH TEST METHOD

U = Unconfined Q = Unconsolidated - Undrained Triaxial

P = Pocket Penetrometer T = Torvane V = Miniature Vane F = Hand Vane

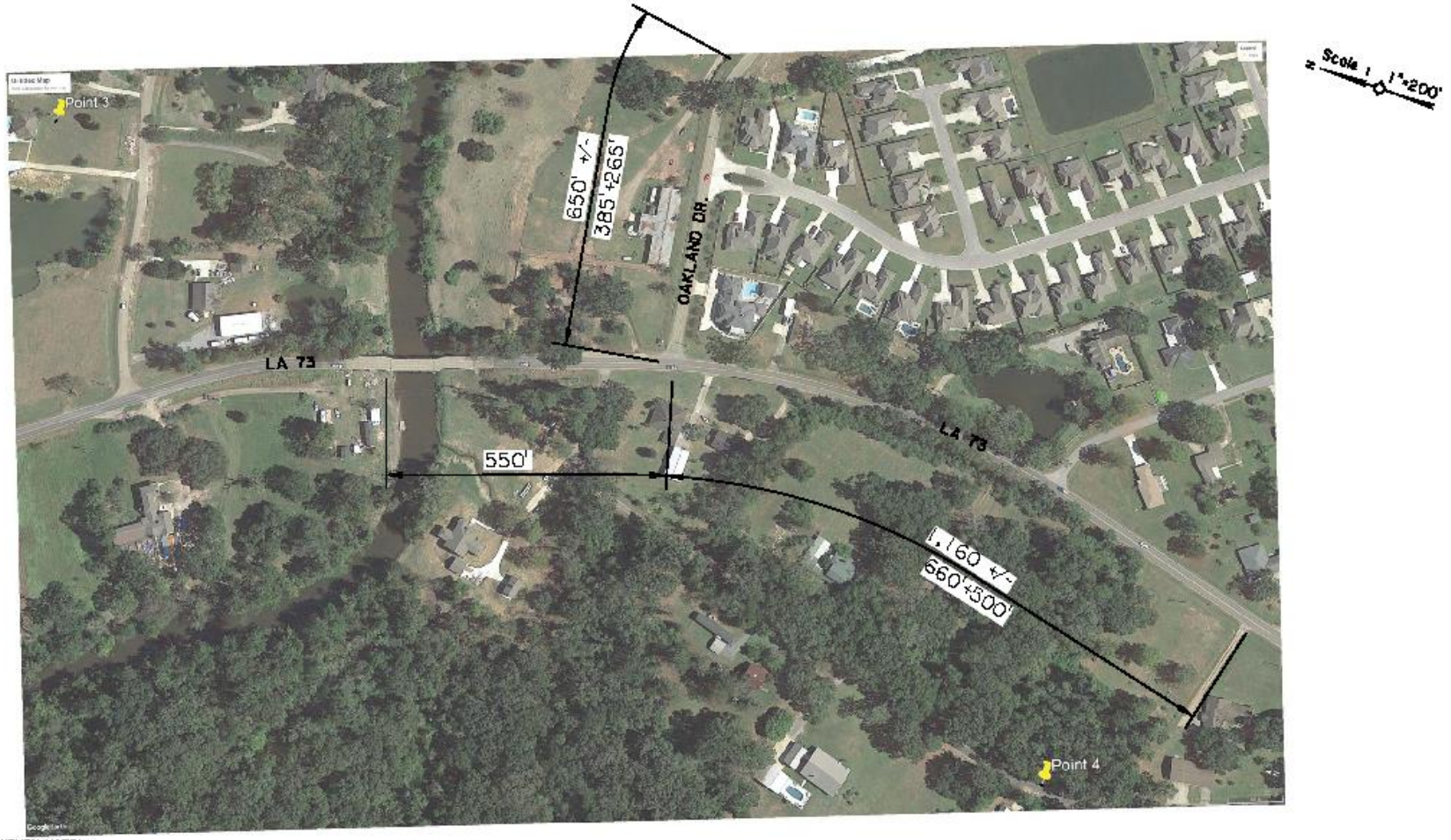
HAND PENETROMETER CORRECTION

Our experience has shown that the hand penetrometer generally overestimates the in-situ undrained shear strength of over consolidated Pleistocene Gulf Coast clays. These strengths are partially controlled by the presence of macroscopic soil defects such as slickensides, which generally do not influence smaller scale tests like the hand penetrometer. Based on our experience, we have adjusted these field estimates of the undrained shear strength of natural, overconsolidated Pleistocene Gulf Coast soils by multiplying the measured penetrometer reading by a factor of 0.6. These adjusted strength estimates are recorded in the "Shear Strength" column on the boring logs. Except as described in the text, we have not adjusted estimates of the undrained shear strength for projects located outside of the Pleistocene Gulf Coast formations.

Information on each boring log is a compilation of subsurface conditions and soil or rock classifications obtained from the field as well as from laboratory testing of samples. Strata have been interpreted by commonly accepted procedures. The stratum lines on the logs may be transitional and approximate in nature. Water level measurements refer only to those observed at the time and places indicated, and can vary with time, geologic condition, or construction activity.

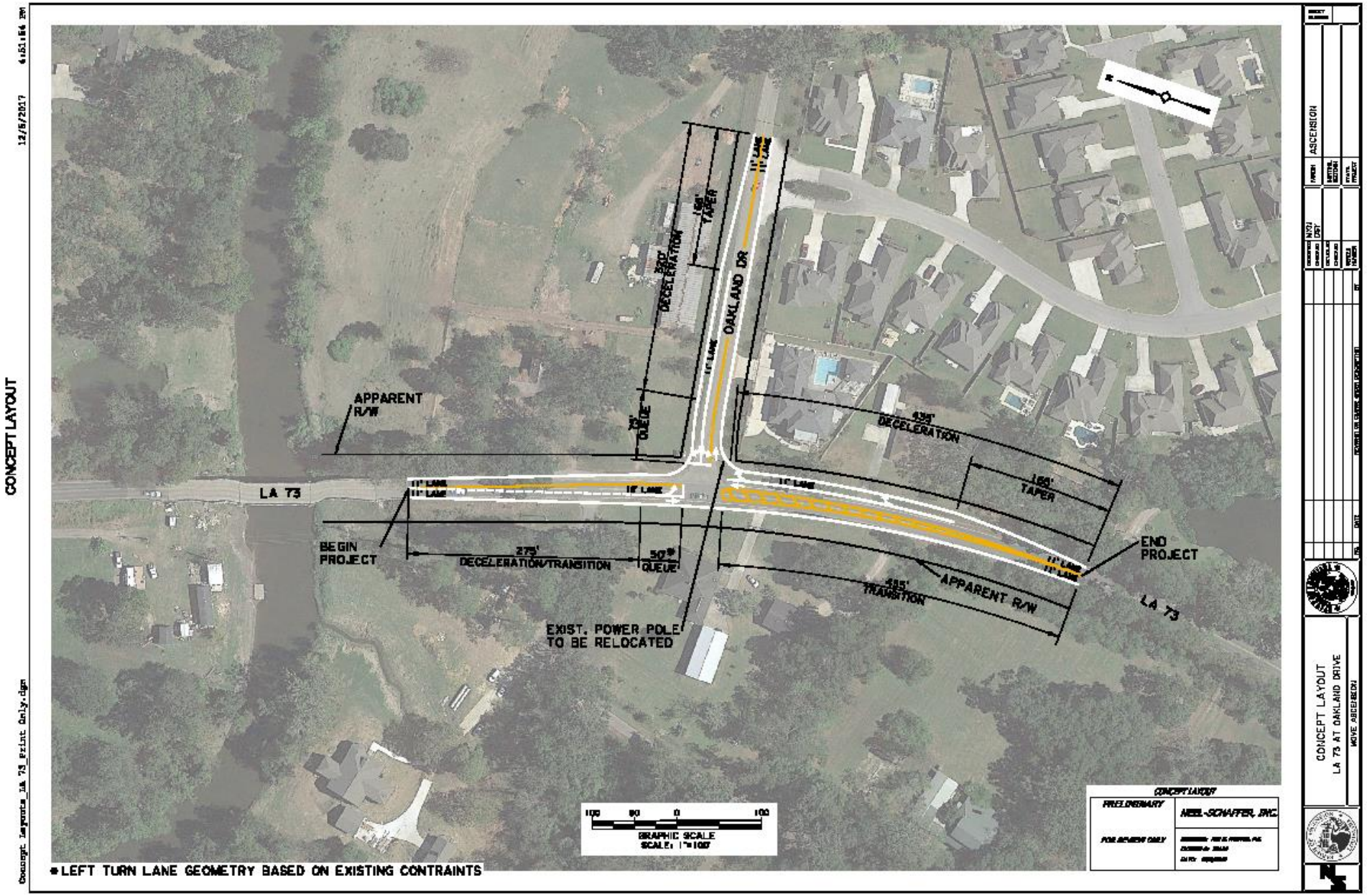
APPENDIX A

DATA PROVIDED BY CLIENT



SURVEY NOTES:

1. SURVEY LENGTHS ARE BASED ON PROJECT TURN LANE LENGTHS AND TRANSITIONS.
2. TOPOGRAPHIC SURVEY FROM APPARENT ROW TO APPARENT ROW +50' BOTH LT. & RT. SURVEYOR TO GET PROPERTY ACCESS PERMISSION, IF NECESSARY. SURVEYOR TO LOCATE EXISTING PROPERTY CORNERS ALONG LA 73 AND OAKLAND DR.
3. SURVEYOR TO REQUEST UTILITY LOCATIONS THROUGH LOUISIANA ONE CALL. IF UTILITIES DO NOT MARK, SURVEYOR TO MEET WITH UTILITY COMPANIES TO OBTAIN UTILITY INFORMATION.
4. SURVEYOR TO PICK UP EXISTING CENTERLINE, EDGE OF PAVEMENT, AND SHOULDER ALONG WITH TOPOGRAPHIC FEATURES BOTH LEFT AND RIGHT SUCH AS DITCHES, EXISTING DRAINAGE STRUCTURE, SEWER TAIL LINES AND ANY OTHER TOPOGRAPHIC FEATURE PRESENT NECESSARY FOR DESIGN ALONG SURVEY LIMITS.


CONCEPT LAYOUT
OAKLAND DR
LA 73
APPARENT R/W
BEGIN PROJECT
END PROJECT
275' DECELERATION/TRANSITION
50' QUEUE
75' QUEUE
300' DECELERATION
150' TAPER
435' DECELERATION
150' TAPER
435' TRANSITION
EXIST. POWER POLE TO BE RELOCATED
GRAPHIC SCALE
* LEFT TURN LANE GEOMETRY BASED ON EXISTING CONTRAINTS
CONCEPT LAYOUT
LA 73 AT OAKLAND DRIVE
MOVE ASCENSION



SURVEY NOTES:

1. SURVEY LENGTHS ARE BASED ON PROJECT TURN LANE LENGTHS AND TRANSITIONS.
2. TOPOGRAHIC SURVEY FROM APPARENT ROW TO APPARENT ROW +50' BOTH LT. & RT. SURVEYOR TO GET PROPERTY ACCESS PERMISSION, IF NECESSARY. SURVEYOR TO LOCATE EXISTING PROPERTY CORNERS ALONG LA 73 AND BROWN RD.
3. SURVEYOR TO REQUEST UTILITY LOCATIONS THROUGH LOUISIANA ONE CALL. IF UTILITIES DO NOT MARK, SURVEYOR TO MEET WITH UTILITY COMPANIES TO OBTAIN UTILITY INFORMATION.
4. SURVEYOR TO PICK UP EXISTING CENTERLINE, EDGE OF PAVEMENT, AND SHOULDER ALONG WITH TOPOGRAPHIC FEATUERS BOTH LEFT AND RIGHT SUCH AS DITCHES, EXISTING DRAINAGE STRUCTURE, SEWER TAIL LINES AND ANY OTHER TOPOGRAPHIC FEATURE PRESENT NECESSARY FOR DESIGN ALONG SURVEY LIMITS.

Scale : 1"=200'

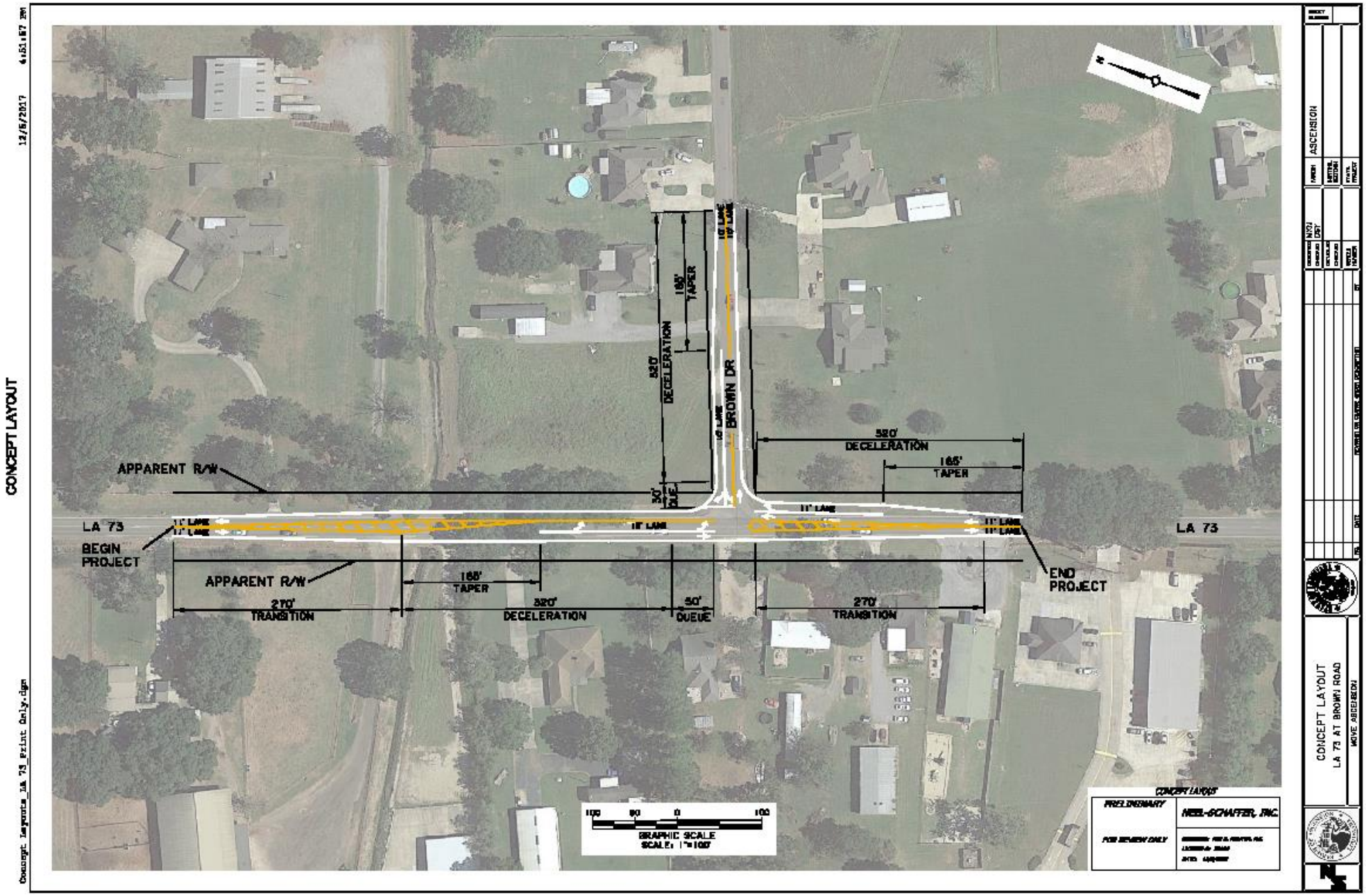

CONCEPT LAYOUT
APPARENT R/W
LA 73
BEGIN PROJECT
APPARENT R/W
270' TRANSITION
165' TAPER
320' DECELERATION
50' QUEUE
BROWN DR
320' DECELERATION
165' TAPER
LA 73
END PROJECT
270' TRANSITION
GRAPHIC SCALE
CONCEPT LAYOUT
PRELIMINARY
FOR REVIEW ONLY
NEEL-SCHAFFER, INC.
CONCEPT LAYOUT
LA 73 AT BROWN ROAD
ASCENSION

PLATE A-4

From: Dishili Young
To: Gunter, Steve
Cc: Marx, Eric; Ellen Howard
Subject: RE: Request for geotechnical services proposal, LA73 intersections, 1
Date: Friday, May 25, 2018 6:51:22 AM

Good morning,

This should be the information you will need:

LA 73 at Oakland
ADT LA 73 – 12,600 vpd
ADT Oakland – 2,200 vpd

LA 73 at Brown
ADT LA 73 – 11,400 vpd
ADT Brown – 1,944 vpd

	% HV	GR
Oakland WB	2%	2%
LA 73 NB	2%	2%
LA 73 SB	7%	2%

	% HV	GR
Brown WB	10%	2%
LA 73 NB	6%	2%
LA 73 SB	12%	2%

If not, here is the sharefile link to the entire reports:

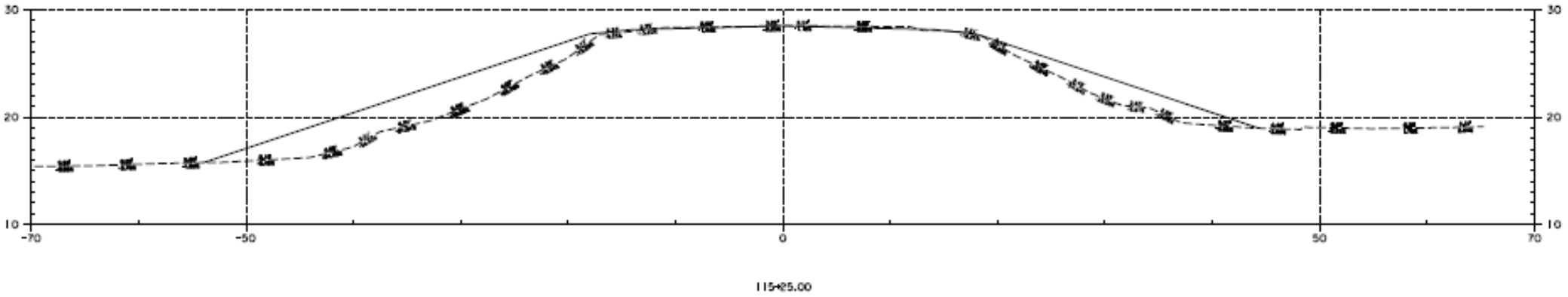
https://neel-schaffer.sharefile.com/f/fo0f8097-0790-489a-9311-68bd73ea3760

Let me know if there are any issues with the sharefile link.

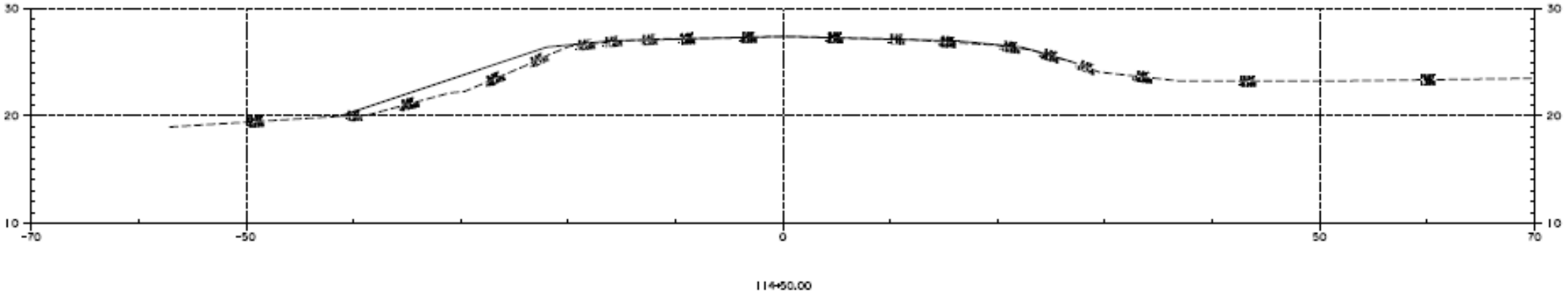
Dishili Young, P.E.
Sr. Project Manager

Neel-Schaffer, Inc.
10000 Perkins Rowe
Suite G360
Baton Rouge, LA 70810
Phone: 225-614-2816
Cell: 225-892-2633
Website: www.neel-schaffer.com

Confidentiality Note:



115+25.00



114+50.00

APPENDIX B

SUBGRADE SOIL SURVEY SHEETS

LA 73, Oakland Drive, Brown Road Pavement Borings

Boring	Latitude: 30° 20' 28.7"N		Longitude: 90° 58' 57.1"W						
OB-1	Depth (Feet)	Moisture Content (D 2216)	Atterberg Limits (D 4318)			Hydrometer Test (DOTD TR 407 M/407-99)			AASHTO Classification
		ω %	LL	PL	PI	% Sand	% Silt	% Clay	
	1.1-8	27.0	34	17	17	6.6	68.2	25.1	A-6

Boring	Latitude: 30° 20' 28.7"N		Longitude: 90° 58' 57.1"W						
OB-3	Depth (Feet)	Moisture Content (D 2216)	Atterberg Limits (D 4318)			Hydrometer Test (DOTD TR 407 M/407-99)			AASHTO Classification
		ω %	LL	PL	PI	% Sand	% Silt	% Clay	
	1-8	23.5	39	24	15	4.2	68.1	27.7	A-6

Boring	Latitude: 30° 20' 25.9"N		Longitude: 90° 58' 57.6"W						
OB-4	Depth (Feet)	Moisture Content (D 2216)	Atterberg Limits (D 4318)			Hydrometer Test (DOTD TR 407 M/407-99)			AASHTO Classification
		ω %	LL	PL	PI	% Sand	% Silt	% Clay	
	1-4	19.0	30	20	10	3.7	73	23.3	A-4
	4-8	19.0	42	21	21	2.1	65.9	32.1	A-7-6

Boring	Latitude: 30° 20' 34"N		Longitude: 90° 58' 51.9"W						
OB-5	Depth (Feet)	Moisture Content (D 2216)	Atterberg Limits (D 4318)			Hydrometer Test (DOTD TR 407 M/407-99)			AASHTO Classification
		ω %	LL	PL	PI	% Sand	% Silt	% Clay	
	1-4	21.0	29	20	9	1.2	66.6	32.2	A-4
	4-8	22.0	40	21	19	2.1	70.3	27.7	A-6

Boring	Latitude: 30° 19' 53.6"N		Longitude: 90° 58' 51"W						
BB-1	Depth (Feet)	Moisture Content (D 2216)	Atterberg Limits (D 4318)			Hydrometer Test (DOTD TR 407 M/407-99)			AASHTO Classification
		ω %	LL	PL	PI	% Sand	% Silt	% Clay	
	1-4	16.0	37	18	19	5.9	58.8	35.3	A-6
	4-8	17.0	29	14	15	8.9	63.6	27.5	A-6

LA 73, Oakland Drive, Brown Road Pavement Borings

Boring	Latitude: 30° 19' 47.6"N		Longitude: 90° 58' 48.2"W						
BB-2	Depth (Feet)	Moisture Content (D 2216)	Atterberg Limits (D 4318)			Hydrometer Test (DOTD TR 407 M/407-99)			AASHTO Classification
		ω %	LL	PL	PI	% Sand	% Silt	% Clay	
	1-8	19.0	40	16	24	5	48	47	A-6

Boring	Latitude: 30° 19' 43.5"N		Longitude: 90° 58' 46.3"W						
BB-3	Depth (Feet)	Moisture Content (D 2216)	Atterberg Limits (D 4318)			Hydrometer Test (DOTD TR 407 M/407-99)			AASHTO Classification
		ω %	LL	PL	PI	% Sand	% Silt	% Clay	
	1-1.7 (FILL)	19.0	41	21	20				FILL
	1.7-8	18.0	31	18	13	5	70.9	24.1	A-6

Boring	Latitude: 30° 19' 36.6"N		Longitude: 90° 58' 43.5"W						
BB-4	Depth (Feet)	Moisture Content (D 2216)	Atterberg Limits (D 4318)			Hydrometer Test (DOTD TR 407 M/407-99)			AASHTO Classification
		ω %	LL	PL	PI	% Sand	% Silt	% Clay	
	1-8	17.5	48	18	13	0.7	57.9	41.4	A-7-6

Boring	Latitude: 30° 19' 46.4"N		Longitude: 90° 58' 40"W						
BB-5	Depth (Feet)	Moisture Content (D 2216)	Atterberg Limits (D 4318)			Hydrometer Test (DOTD TR 407 M/407-99)			AASHTO Classification
		ω %	LL	PL	PI	% Sand	% Silt	% Clay	
	1-4	16.0	53	23	30	0.9	57.7	41.4	A-7-6
	4-8	17.0	37	20	17	4.9	71.9	23.2	A-6