KANE COUNTY
DIVISION of TRANSPORTATION

Carl Schoedel, P.E.
Director of
Transportation
County Engineer

41W011 Burlington Road
St. Charles, IL 60175
Phone: (630) 584-1170
Fax: (630) 584-5265

INVITATION TO BID

ROUTE AND LIMITS: Harter Road Culvert Replacement

SCOPE: The work to be performed under this contract consists of the removal and replacement of the existing culvert structure, pavement removal, full depth HMA pavement shoulders, steel sheet piling retaining wall, excavation/embankment, riprap, guardrail and terminals, pavement marking, signing, maintenance of traffic, and restoration. Plans and proposal forms are available online at http://www.countyofkane.org/Pages/countybids.aspx. Bidding instructions attached.

LOCAL BID OPENING DATE & LOCATION: Sealed bids will be received only at the Kane County Division of Transportation until the public bid opening on Tuesday, March 2, 2021 at 9 A.M. at the Kane County Division of Transportation at 41W011 Burlington Road, St. Charles, IL 60175. The public bid opening may be viewed on-line as follows:

Please join my meeting from your computer, tablet or smartphone.
https://www.gotomeet.me/KDOTTransportation/construction-bid-openings

You can also dial in using your phone
United States: +1 (646) 749-3122
- One Touch: tel:+16467493122,,195612373#

Access Code: 195-612-373

New to GoToMeeting? Get the app now and be ready when your first meeting starts:
https://global.gotomeeting.com/install/982309501

GENERAL REQUIREMENTS: This project is also advertised through the Illinois Department of Transportation, Bureau of Local Roads and Streets' current Contractors Bulletin. Visit IDOT's Notice to Contractors Bulletin for Local Public Agencies for additional project information.

CONTACT INFORMATION: Nils Jordahl
Senior Project Manager
JordahlNils@co.kane.il.us
(630) 845-7871

Bidding Instructions

- Bid packets (including, among other things, plans, special provisions, prequalification requirements, addendums, proposal forms, etc.) shall only be available on-line, at: http://www.countyofkane.org/Pages/countybids.aspx.

- Addendums to the bid packet may be made at any time by the County prior to bid opening. Bidders may be added to our email notification list for future Addendums and a bidders list by emailing KDOT_bidders_list@co.kane.il.us referencing ***(Harter Road Culvert Replacement Sec 19-00509-00-BR)*** in the subject line, but this should not be relied upon solely for Addendum notifications. It is still the Bidder's continuing responsibility to regularly check and verify on-line at: http://www.countyofkane.org/Pages/countybids.aspx
  for any addendums to the bid packet prior to the bid opening.

- Prequalification is required of all bidders. All qualified bidders must meet the requirements specified in the subject bid proposal Special Provisions. Prequalification should be submitted with proposals and placed ***on the outside*** of the sealed proposal packet for convenient verification before proposals are opened and publicly read, but will be accepted up to 24 hours after the bid opening.

- Bid opening will be held online on Tuesday, March 2, 2021 9:00 AM - 10:00 AM (CST). Please join the bid opening from your computer, tablet or smartphone.

  https://www.gotomeet.me/KDOTTransportation/construction-bid-openings

  You can also dial in using your phone.
  United States: +1 (646) 749-3122

  Access Code: 195-612-373

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RETURN WITH BID

Illinois Department of Transportation

Local Public Agency
Formal Contract Proposal

PROPOSAL SUBMITTED BY		
Contractor's Name		
Street		P.O. Box
City	State	Zip Code

STATE OF ILLINOIS

COUNTY OF Kane

Kane County Division of Transportation

(Name of City, Village, Town or Road District)

FOR THE IMPROVEMENT OF

STREET NAME OR ROUTE NO. Harter Road (CH 4)

SECTION NO. 19-00509-00-BR

TYPES OF FUNDS Local (Non-MFT)

☒ SPECIFICATIONS (required) ☒ PLANS (required)

For Municipal Projects

Submitted/Approved/Passed

☐ Mayor ☐ President of Board of Trustees ☐ Municipal Official

Date

Department of Transportation

☐ Released for bid based on limited review

Regional Engineer

Date

For County and Road District Projects

Submitted/Approved

Highway Commissioner

Date

Submitted/Approved

County Engineer/Superintendent of Highways

February 1, 2021

Date

Note: All proposal documents, including Proposal Guaranty Checks or Proposal Bid Bonds, should be stapled together to prevent loss when bids are processed.

RETURN WITH BID

NOTICE TO BIDDERS

County Kane
Local Public Agency Division of Transportation
Section Number 19-00509-00-BR
Route Harter Road (CH 4)

Sealed proposals for the improvement described below will be received at the office of the County Engineer, 410W11 Burlington Road, St. Charles, IL (Address) until 9:00 AM (Time) on March 2, 2021 (Date)

Sealed proposals will be opened and read publicly at the office of Kane County Division of Transportation 410W11 Burlington Road, St. Charles, IL (Address) at 9:00 AM (Time) on March 2, 2021 (Date)

DESCRIPTION OF WORK

Name Harter Road Culvert Over Tributary to Welch Creek Length: 291.90 feet (0.05 miles)
Location Approximately 180 feet northwest of Dauberman Road intersection in Kaneville Township, Kane County, Illinois
Proposed Improvement The work to be performed under this contract consists of the removal and replacement of the existing culvert structure, pavement removal, full depth HMA pavement and shoulders, steel sheet piling retaining wall, excavation/embankment, riprap, guardrail and terminals, pavement marking, signing, maintenance of traffic, and restoration.

1. Plans and proposal forms will be available online only at: http://www.countyofkane.org/Pages/countybids.aspx
   Project Contact: Nils Jordahl at JordahlNils@co.kane.il.us
2. ☒ Prequalification
   If checked, the 2 low bidders must file within 24 hours after the letting an "Affidavit of Availability" (Form BC 57), in duplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work. One original shall be filed with the Awarding Authority and one original with the IDOT District Office.
3. The Awarding Authority reserves the right to waive technicalities and to reject any or all proposals as provided in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals.
4. The following BLR Forms shall be returned by the bidder to the Awarding Authority:
   a. BLR 12200: Local Public Agency Formal Contract Proposal
   b. BLR 12200a Schedule of Prices
   c. BLR 12230: Proposal Bid Bond (if applicable)
   d. BLR 12325: Apprenticeship or Training Program Certification (**do not use for federally funded projects**)
   e. BLR 12326: Affidavit of Illinois Business Office
5. The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided.
6. Submission of a bid shall be conclusive assurance and warranty the bidder has examined the plans and understands all requirements for the performance of work. The bidder will be responsible for all errors in the proposal resulting from failure or neglect to conduct an in depth examination. The Awarding Authority will, in no case be responsible for any costs, expenses, losses or changes in anticipated profits resulting from such failure or neglect of the bidder.
7. The bidder shall take no advantage of any error or omission in the proposal and advertised contract.
8. If a special envelope is supplied by the Awarding Authority, each proposal should be submitted in that envelope furnished by the Awarding Agency and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Notice to Bidders. Proposals received after the time specified will be returned to the bidder unopened.
9. Permission will be given to a bidder to withdraw a proposal if the bidder makes the request in writing or in person before the time for opening proposals.

PROPOSAL

County Kane
Local Public Agency Division of Transportation
Section Number 19-00509-00-BR
Route Harter Road (CH 4)

1. Proposal of _____

for the improvement of the above section by the construction of New 12' x 4' box culvert (SN 045-7001) with full depth HMA pavement and shoulders, steel sheet piling retaining wall, excavation/embankment, riprap, guardrail and terminals, pavement marking, signing, and restoration.

a total distance of 291.90 feet, of which a distance of 47.00 feet, (0.009 miles) are to be improved.

2. The plans for the proposed work are those prepared by Primera Engineers, Ltd.
and approved by the Department of Transportation on _____
3. The specifications referred to herein are those prepared by the Department of Transportation and designated as "Standard Specifications for Road and Bridge Construction" and the "Supplemental Specifications and Recurring Special Provisions" thereto, adopted and in effect on the date of invitation for bids.
4. The undersigned agrees to accept, as part of the contract, the applicable Special Provisions indicated on the "Check Sheet for Recurring Special Provisions" contained in this proposal.
5. The undersigned agrees to complete the work within _____ working days or by 07/31/2021 unless additional time is granted in accordance with the specifications.
6. A proposal guaranty in the proper amount, as specified in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals, will be required. Bid Bonds will be allowed as a proposal guaranty. Accompanying this proposal is either a bid bond if allowed, on Department form BLR 12230 or a proposal guaranty check, complying with the specifications, made payable to:

County Treasurer of Kane

The amount of the check is _____ (_____).

7. In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must be equal to the sum of the proposal guaranties, which would be required for each individual proposal. If the proposal guaranty check is placed in another proposal, it will be found in the proposal for: Section Number 19-00509-00-BR.
8. The successful bidder at the time of execution of the contract will be required to deposit a contract bond for the full amount of the award. When a contract bond is not required, the proposal guaranty check will be held in lieu thereof. If this proposal is accepted and the undersigned fails to execute a contract and contract bond as required, it is hereby agreed that the Bid Bond or check shall be forfeited to the Awarding Authority.
9. Each pay item should have a unit price and a total price. If no total price is shown or if there is a discrepancy between the product of the unit price multiplied by the quantity, the unit price shall govern. If a unit price is omitted, the total price will be divided by the quantity in order to establish a unit price.
10. A bid will be declared unacceptable if neither a unit price nor a total price is shown.
11. The undersigned submits herewith the schedule of prices on BLR 12200a covering the work to be performed under this contract.
12. The undersigned further agrees that if awarded the contract for the sections contained in the combinations on BLR 12200a, the work shall be in accordance with the requirements of each individual proposal for the multiple bid specified in the Schedule for Multiple Bids below.

RETURN WITH BID

Illinois Department of Transportation

SCHEDULE OF PRICES

County Kane
Local Public Agency Division of Transportation
Section 19-00509-00-BR
Route Harter Road (CH 4)

Schedule for Multiple Bids

Combination Letter	Sections Included in Combinations	Total

Schedule for Single Bid

(For complete information covering these items, see plans and specifications)

Bidder's Proposal for making Entire Improvements

Item No.	Items	Unit	Quantity	Unit Price	Total
1	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	10		
2	EARTH EXCAVATION	CU YD	380		
3	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	12		
4	POROUS GRANULAR EMBANKMENT	CU YD	75		
5	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	150		
6	TOPSOIL EXCAVATION AND PLACEMENT	CU YD	86		
7	SEEDING, CLASS 2A	ACRE	0.25		
8	SEEDING, CLASS 4A	ACRE	0.25		
9	SEEDING, CLASS 4B	ACRE	0.25		
10	NITROGEN FERTILIZER NUTRIENT	POUND	23		
11	POTASSIUM FERTILIZER NUTRIENT	POUND	23		
12	EROSION CONTROL BLANKET	SQ YD	634		
13	TEMPORARY EROSION CONTROL SEEDING	POUND	14		
14	TEMPORARY DITCH CHECKS	FOOT	90		
15	AGGREGATE DITCH CHECKS	TON	15		
16	PERIMETER EROSION BARRIER	FOOT	440		
17	STONE RIPRAP, CLASS A5	SQ YD	65		
18	FILTER FABRIC	SQ YD	65		
19	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	39		
20	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	219		
21	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	390		
22	HOT-MIX ASPHALT BASE COURSE, 7 1/2"	SQ YD	136		
23	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	20		
24	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N5	TON	16		
25	PAVEMENT REMOVAL	SQ YD	121		
26	PAVED SHOULDER REMOVAL	SQ YD	101		
27	AGGREGATE SHOULDERS, TYPE A 8"	SQ YD	22		
28	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	372		
29	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1		
30	STRUCTURE EXCAVATION	CU YD	53		
31	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FC	CU YD	75		
32	PERMANENT SHEET PILING	SQ FT	2,731		
33	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2		
34	PRECAST CONCRETE BOX CULVERTS 12' X 4'	FOOT	34		

RETURN WITH BID

Bidder's Proposal for making Entire Improvements

Item No.	Items	Unit	Quantity	Unit Price	Total
35	GRANULAR BACKFILL FOR STRUCTURES	CU YD	48		
36	GEOCOMPOSITE WALL DRAIN	SQ YD	80		
37	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	213		
38	LONG-SPAN GUARDRAIL OVER CULVERT, 18 FT 9 IN SPA	FOOT	88		
39	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3		
40	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGEN	EACH	1		
41	MOBILIZATION	L SUM	1		
42	CHANGEABLE MESSAGE SIGN	CAL DA	56		
43	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	EACH	2		
44	RELOCATE SIGN PANEL ASSEMBLY - TYPE B	EACH	1		
45	TERMINAL MARKER - DIRECT APPLIED	EACH	1		
46	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	1,098		
47	MODIFIED URETHANE PAVEMENT MARKING - LINE 24"	FOOT	12		
48	GUARDRAIL REFLECTORS, TYPE A	EACH	7		
49	DEWATERING STRUCTURE NO. 1	EACH	1		
50	MEMBRANE WATERPROOFING SYSTEM FOR BURIED ST	SQ YD	80		
51	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1		
52	CONSTRUCTION LAYOUT	L SUM	1		
53	DETOUR SIGNING	L SUM	1		
54	STABILIZED DRIVEWAYS 10"	SQ YD	62		
55	KANE COUNTY TELESCOPING SIGN POST	FOOT	30		
56	KANE COUNTY SIGN SUPPORT, SPECIAL	EACH	3		
57	ITEMS ORDERED BY THE ENGINEER	DOLLAR	50,000		
58					
59					
60					
61					
BIDDERS PROPOSAL FOR THE ENTIRE IMPROVEMENT (TOTAL BID)				**$**	

ALL OF THE ABOVE ITEMS, COMPLETE, INPLACE FOR THE TOTAL AMOUNT OF:

DOLLAR $ CENTS

CONTRACTOR CERTIFICATIONS

County Kane
Local Public Agency Division of Transportation
Section Number 19-00509-00-BR
Route Harter Road (CH 4)

The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder.

1. **Debt Delinquency.** The bidder or contractor or subcontractor, respectively, certifies that it is not delinquent in the payment of any tax administered by the Department of Revenue unless the individual or other entity is contesting, in accordance with the procedures established by the appropriate revenue Act, its liability for the tax or the amount of tax. Making a false statement voids the contract and allows the Department to recover all amounts paid to the individual or entity under the contract in a civil action.

2. **Bid-Rigging or Bid Rotating.** The bidder or contractor or subcontractor, respectively, certifies that it is not barred from contracting with the Department by reason of a violation of either 720 ILCS 5/33E-3 or 720 ILCS 5/33E-4.

   A violation of Section 33E-3 would be represented by a conviction of the crime of bid-rigging which, in addition to Class 3 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be barred for 5 years from the date of conviction from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

   A violation of Section 33E-4 would be represented by a conviction of the crime of bid-rotating which, in addition to Class 2 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be permanently barred from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

3. **Bribery.** The bidder or contractor or subcontractor, respectively, certifies that it has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois or any unit of local government, nor has the firm made an admission of guilt of such conduct which is a matter of record, nor has an official, agent, or employee of the firm committed bribery or attempted bribery on behalf of the firm and pursuant to the direction or authorization of a responsible official of the firm.

4. **Interim Suspension or Suspension.** The bidder or contractor or subcontractor, respectively, certifies that it is not currently under a suspension as defined in Subpart I of Title 44 Subtitle A Chapter III Part 6 of the Illinois Administrative Code. Furthermore, if suspended prior to completion of this work, the contract or contracts executed for the completion of this work may be cancelled.

RETURN WITH BID

County Kane
Local Public Agency Division of Transportation
Section Number 19-00509-00-BR
Route Harter Road (CH 4)

SIGNATURES

(If an individual)

Signature of Bidder _____

Business Address _____

(If a partnership)

Firm Name _____

Signed By _____

Business Address _____

Inset Names and Addressed of All Partners _____

(If a corporation)

Corporate Name _____

Signed By _____
President

Business Address _____

Insert Names of Officers
President _____
Secretary _____
Treasurer _____

Attest: _____
Secretary

Illinois Department of Transportation

Local Agency Proposal Bid Bond

Route Harter Road (CH 4)
County Kane
Local Agency Division of Transportation
Section 19-00509-00-BR

RETURN WITH BID

PAPER BID BOND

WE _____ as PRINCIPAL,

and _____ as SURETY,

are held jointly, severally and firmly bound unto the above Local Agency (hereafter referred to as "LA") in the penal sum of 5% of the total bid price, or for the amount specified in the proposal documents in effect on the date of invitation for bids whichever is the lesser sum. We bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly pay to the LA this sum under the conditions of this instrument.

WHEREAS THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that, the said PRINCIPAL is submitting a written proposal to the LA acting through its awarding authority for the construction of the work designated as the above section.

THEREFORE if the proposal is accepted and a contract awarded to the PRINCIPAL by the LA for the above designated section and the PRINCIPAL shall within fifteen (15) days after award enter into a formal contract, furnish surety guaranteeing the faithful performance of the work, and furnish evidence of the required insurance coverage, all as provided in the "Standard Specifications for Road and Bridge Construction" and applicable Supplemental Specifications, then this obligation shall become void; otherwise it shall remain in full force and effect.

IN THE EVENT the LA determines the PRINCIPAL has failed to enter into a formal contract in compliance with any requirements set forth in the preceding paragraph, then the LA acting through its awarding authority shall immediately be entitled to recover the full penal sum set out above, together with all court costs, all attorney fees, and any other expense of recovery.

IN TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this _____ day of _____

Principal

_____ (Company Name) _____ (Company Name)

By: _____ (Signature and Title) By: _____ (Signature and Title)

(If PRINCIPAL is a joint venture of two or more contractors, the company names, and authorized signatures of each contractor must be affixed.)

Surety

_____ (Name of Surety) By: _____ (Signature of Attorney-in-Fact)

STATE OF ILLINOIS,
COUNTY OF _____
I. _____, a Notary Public in and for said county,
do hereby certify that _____
(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed and delivered said instruments as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this _____ day of _____

My commission expires _____ _____ (Notary Public)

ELECTRONIC BID BOND

☐ **Electronic bid bond is allowed (box must be checked by LA if electronic bid bond is allowed)**

The Principal may submit an electronic bid bond, in lieu of completing the above section of the Proposal Bid Bond Form. By providing an electronic bid bond ID code and signing below, the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the LA under the conditions of the bid bond as shown above. (If PRINCIPAL is a joint venture of two or more contractors, an electronic bid bond ID code, company/Bidder name title and date must be affixed for each contractor in the venture.)

Electronic Bid Bond ID Code

_____ (Company/Bidder Name)

_____ (Signature and Title) _____ Date

BLR 12230 (Rev. 7/05

Illinois Department of Transportation

Apprenticeship or Training Program Certification

Return with Bid

Route	Harter Road (CH 4)
County	Kane
Local Agency	Division of Transportation
Section	19-00509-00-BR

All contractors are required to complete the following certification:

☐ For this contract proposal or for all groups in this deliver and install proposal.

☐ For the following deliver and install groups in this material proposal:

Illinois Department of Transportation policy, adopted in accordance with the provisions of the Illinois Highway Code, requires this contract to be awarded to the lowest responsive and responsible bidder. The award decision is subject to approval by the Department. In addition to all other responsibility factors, this contract or deliver and install proposal requires all bidders and all bidders' subcontractors to disclose participation in apprenticeship or training programs that are (1) approved by and registered with the United States Department of Labor's Bureau of Apprenticeship and Training, and (2) applicable to the work of the above indicated proposals or groups. Therefore, all bidders are required to complete the following certification:

I. Except as provided in paragraph IV below, the undersigned bidder certifies that it is a participant, either as an individual or as part of a group program, in an approved apprenticeship or training program applicable to each type of work or craft that the bidder will perform with its own employees.

II. The undersigned bidder further certifies for work to be performed by subcontract that each of its subcontractors submitted for approval either (A) is, at the time of such bid, participating in an approved, applicable apprenticeship or training program; or (B) will, prior to commencement of performance of work pursuant to this contract, establish participation in an approved apprenticeship or training program applicable to the work of the subcontract.

III. The undersigned bidder, by inclusion in the list in the space below, certifies the official name of each program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's employees. Types of work or craft that will be subcontracted shall be included and listed as subcontract work. The list shall also indicate any type of work or craft job category for which there is no applicable apprenticeship or training program available.

IV. Except for any work identified above, any bidder or subcontractor that shall perform all or part of the work of the contract or deliver and install proposal solely by individual owners, partners or members and not by employees to whom the payment of prevailing rates of wages would be required, check the following box, and identify the owner/operator workforce and positions of ownership. ☐

_____

_____

_____

_____

_____

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project is accounted for and listed. The Department at any time before or after award may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its subcontractors. In order to fulfill the participation requirement, it shall not be necessary that any applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract or deliver and install proposal.

Bidder: _____ By: _____
(Signature)

Address: _____ Title: _____

RETURN WITH BID

Illinois Department of Transportation

Affidavit of Illinois Business Office

County Kane
Local Public Agency Division of Transportation
Section Number 19-00509-00-BR
Route Harter Road (CH 4)

State of _____)
) ss.
County of _____)

I, _____ (Name of Affiant) of _____ (City of Affiant) , _____ (State of Affiant ,

being first duly sworn upon oath, states as follows:

1. That I am the _____ (officer or position) of _____ (bidder) .
2. That I have personal knowledge of the facts herein stated.
3. That, if selected under this proposal, _____ (bidder) , will maintain a business office in the State of Illinois which will be located in _____ County, Illinois.
4. That this business office will serve as the primary place of employment for any persons employed in the construction contemplated by this proposal.
5. That this Affidavit is given as a requirement of state law as provided in Section 30-22(8) of the Illinois Procurement Code.

_____
(Signature)

_____
(Print Name of Affiant)

This instrument was acknowledged before me on day of _____ , _____ .

(SEAL)

_____
(Signature of Notary Public)

Illinois Department of Transportation

Affidavit of Availability

For the Letting of

Bureau of Construction
2300 South Dirksen Parkway/Room 322
Springfield, IL 62764

Instructions: Complete this form by either typing or using black ink. "Authorization to Bid" will not be issued unless both sides of this form are completed in detail. Use additional forms as needed to list all work.

Part I. Work Under Contract

List below all work you have under contract as either a prime contractor or a subcontractor. It is required to include all pending low bids not yet awarded or rejected. In a joint venture, list only that portion of the work which is the responsibility of your company. The uncompleted dollar value is to be based upon the most recent engineer's or owners estimate, and must include work subcontracted to others. If no work is contracted, show NONE.

	1	2	3	4	Awards Pending	Accumulated Totals
Contract Number						
Contract With						
Estimated Completion Date						
Total Contract Price						
Uncompleted Dollar Value if Firm is the Prime Contractor						
Uncompleted Dollar Value if Firm is the Subcontractor						
					Total Value of All Work	

Part II. Awards Pending and Uncompleted Work to be done with your own forces.

List below the uncompleted dollar value of work for each contract and awards pending to be completed with your own forces. All work subcontracted to others will be listed on the reverse of this form. In a joint venture, list only that portion of the work to be done by your company. If no work is contracted, show NONE.

Earthwork						
Portland Cement Concrete Paving						
HMA Plant Mix						
HMA Paving						
Clean & Seal Cracks/Joints						
Aggregate Bases, Surfaces						
Highway, R.R., Waterway Struc.						
Drainage						
Electrical						
Cover and Seal Coats						
Concrete Construction						
Landscaping						
Fencing						
Guardrail						
Painting						
Signing						
Cold Milling, Planning, Rotomilling						
Demolition						
Pavement Markings (Paint)						
Other Construction (List)						
Totals						

Disclosure of this information is REQUIRED to accomplish the statutory purpose as outlined in the “Illinois Procurement Code." Failure to comply will result in non-issuance of an "Authorization To Bid." This form has been approved by the State Forms Management Center.

Part III. Work Subcontracted to Others.

For each contract described in Part I, list all the work you have subcontracted to others.

	1	2	3	4	Awards Pending
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Total Uncompleted					

Notary

I, being duly sworn, do hereby declare this affidavit is a true and correct statement relating to ALL uncompleted contracts of the undersigned for Federal, State, County, City and private work, including ALL subcontract work, ALL pending low bids not yet awarded or rejected and ALL estimated completion dates.

Officer or Director

Title

Signature

Date

Company

Address

City

State

Zip Code

Subscribed and sworn to before me

this _____ day of _____ , _____

_____

(Signature of Notary Public)

My commission expires _____

(Notary Seal)

☐ Add pages for additional contracts

Illinois Department of Transportation

Substance Abuse Prevention Program Certification

County	Section Number
Kane	19-00509-00-BR
Route	District
Harter Road (CH 4)	One
Contract Number	Job Number
Project Number	Letting Date

The Substance Abuse Prevention on Public Works Act, Public Act 95-0635, prohibits the use of drugs and alcohol, as defined in the Act, by employees of the Contractor and by employees of all approved Subcontractors while performing work on a public works project. The Contractor/Subcontractor herewith certifies that it has a superseding collective bargaining agreement or makes the public filing of its written substance abuse prevention program for the prevention of substance abuse among its employees who are not covered by a collective bargaining agreement dealing with the subject as mandated by the Act.

A. The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has signed collective bargaining agreements that are in effect for all of its employees, and that deal with the subject matter of Public Act 95-0635.

Contractor/Subcontractor

Name of Authorized Representative (type or print)

Title of Authorized Representative (type or print)

Signature of Authorized Representative	Date

B. The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has in place for all of its employees not covered by a collective bargaining agreement that deals with the subject of the Act, the attached substance abuse prevention program that meets or exceeds the requirements of Public Act 95-0635.

Contractor/Subcontractor

Name of Authorized Representative (type or print)

Title of Authorized Representative (type or print)

Signature of Authorized Representative	Date

INDEX FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2021

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 4-1-16) (Revised 1-1-21)

SUPPLEMENTAL SPECIFICATIONS

Illinois Department of Transportation

Check Sheet for Recurring Special Provisions

Local Public Agency	County	Section Number
Kane County Division of Transportation	Kane	19-00509-00-BR

The Following Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Recurring Special Provisions

Check Sheet #			Page No.
1	☐	Additional State Requirements for Federal-Aid Construction Contracts	97
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Local Public Agency	County	Section Number
Kane County Division of Transportation	Kane	19-00509-00-BR

The Following Local Roads And Streets Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Local Roads And Streets Recurring Special Provisions

BDE SPECIAL PROVISIONS
For the April 23 and June 11, 2021 Lettings

The following special provisions indicated by a "check mark" are applicable to this contract and will be included by the Project Coordination and Implementation Section of the BD&E. An * indicates a new or revised special provision for the letting.

File Name	#		Special Provision Title	Effective	Revised
80099	1	☐	Accessible Pedestrian Signals (APS)	April 1, 2003	April 1, 2020
80274	2	☐	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
80192	3	☐	Automated Flagger Assistance Device	Jan. 1, 2008	
80173	4	☐	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80426	5	☐	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	
80436	6	☐	Blended Finely Divided Minerals	April 1, 2021	
80241	7	☐	Bridge Demolition Debris	July 1, 2009	
5026I	8	☐	Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5048I	9	☐	Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5049I	10	☐	Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
5053I	11	☐	Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80425	12	☐	Cape Seal	Jan. 1, 2020	Jan. 1, 2021
80384	13	☐	Compensable Delay Costs	June 2, 2017	April 1, 2019
80198	14	☐	Completion Date (via calendar days)	April 1, 2008	
80199	15	☐	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293	16	☐	Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311	17	☐	Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80261	18	☑	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80387	19	☐	Contrast Preformed Plastic Pavement Marking	Nov. 1, 2017	
80434	20	☐	Corrugated Plastic Pipe (Culvert and Storm Sewer)	Jan. 1, 2021	
80029	21	☐	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	March 2, 2019
80402	22	☐	Disposal Fees	Nov. 1, 2018	
80378	23	☐	Dowel Bar Inserter	Jan. 1, 2017	Jan. 1, 2018
80421	24	☐	Electric Service Installation	Jan. 1, 2020	
80415	25	☐	Emulsified Asphalts	Aug. 1, 2019	
80423	26	☐	Engineer's Field Office and Laboratory	Jan. 1, 2020	
80229	27	☐	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80417	28	☐	Geotechnical Fabric for Pipe Underdrains and French Drains	Nov. 1, 2019	
80420	29	☐	Geotextile Retaining Walls	Nov. 1, 2019	
80433	30	☐	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	
80304	31	☐	Grooving for Recessed Pavement Markings	Nov. 1, 2012	Nov. 1, 2020
80422	32	☐	High Tension Cable Median Barrier	Jan. 1, 2020	Nov. 1, 2020
80416	33	☐	Hot-Mix Asphalt – Binder and Surface Course	July 2, 2019	Nov. 1, 2019
80398	34	☐	Hot-Mix Asphalt – Longitudinal Joint Sealant	Aug. 1, 2018	Nov. 1, 2019
80406	35	☐	Hot-Mix Asphalt – Mixture Design Verification and Production (Modified for I-FIT)	Jan. 1, 2019	Jan. 2, 2021
80347	36	☐	Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	July 2, 2019
80383	37	☐	Hot-Mix Asphalt – Quality Control for Performance	April 1, 2017	July 2, 2019
80411	38	☐	Luminaires, LED	April 1, 2019	
80393	39	☐	Manholes, Valve Vaults, and Flat Slab Tops	Jan. 1, 2018	March 1, 2019
80045	40	☐	Material Transfer Device	June 15, 1999	Aug. 1, 2014
80418	41	☐	Mechanically Stabilized Earth Retaining Walls	Nov. 1, 2019	Nov. 1, 2020
80424	42	☐	Micro-Surfacing and Slurry Sealing	Jan. 1, 2020	Jan. 1, 2021
80428	43	☑	Mobilization	April 1, 2020	
80412	44	☐	Obstruction Warning Luminaires, LED	Aug. 1, 2019	
80430	45	☐	Portland Cement Concrete – Haul Time	July 1, 2020	
80359	46	☐	Portland Cement Concrete Bridge Deck Curing	April 1, 2015	Nov. 1, 2019

	80431	47	☐	Portland Cement Concrete Pavement Patching	July 1, 2020	
	80432	48	☐	Portland Cement Concrete Pavement Placement	July 1, 2020	
	80300	49	☐	Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	April 1, 2016
	3426I	50	☐	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
	80157	51	☐	Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
	80306	52	☐	Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	Jan. 2, 2021
	80407	53	☐	Removal and Disposal of Regulated Substances	Jan. 1, 2019	Jan. 1, 2020
	80419	54	☑	Silt Fence, Inlet Filters, Ground Stabilization and Riprap Filter Fabric	Nov. 1, 2019	April 1, 2020
	80395	55	☐	Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
	80340	56	☐	Speed Display Trailer	April 2, 2014	Jan. 1, 2017
	80127	57	☐	Steel Cost Adjustment	April 2, 2004	Aug. 1, 2017
	80408	58	☑	Steel Plate Beam Guardrail Manufacturing	Jan. 1, 2019	
	80413	59	☐	Structural Timber	Aug. 1, 2019	
	80397	60	☑	Subcontractor and DBE Payment Reporting	April 2, 2018	
	80391	61	☑	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
*	80437	62	☐	Submission of Payroll Records	April 1, 2021	
*	80435	63	☑	Surface Testing of Pavements – IRI	Jan. 1, 2021	April 1, 2021
	80298	64	☐	Temporary Pavement Marking	April 1, 2012	April 1, 2017
	80409	65	☑	Traffic Control Devices - Cones	Jan. 1, 2019	
	80410	66	☐	Traffic Spotters	Jan. 1, 2019	
	20338	67	☐	Training Special Provisions	Oct. 15, 1975	
	80318	68	☐	Traversable Pipe Grate for Concrete End Sections	Jan. 1, 2013	Jan. 1, 2018
	80429	69	☐	Ultra-Thin Bonded Wearing Course	April 1, 2020	
	80288	70	☑	Warm Mix Asphalt	Jan. 1, 2012	April 1, 2016
	80302	71	☑	Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
	80414	72	☐	Wood Fence Sight Screen	Aug. 1, 2019	April 1, 2020
	80427	73	☑	Work Zone Traffic Control Devices	Mar. 2, 2020	
	80071	74	☐	Working Days	Jan. 1, 2002	

The following special provisions are in the 2021 Supplemental Specifications and Recurring Special Provisions.

File Name	Special Provision Title	New Location(s)	Effective	Revised
80277	Concrete Mix Design – Department Provided	Check Sheet #37	Jan. 1, 2012	April 1, 2016
80405	Elastomeric Bearings	Article 1083.01	Jan. 1, 2019	
80388	Equipment Parking and Storage	Article 701.11	Nov. 1, 2017	
80165	Moisture Cured Urethane Paint System	Article 1008.06	Nov. 1, 2006	Jan. 1, 2010
80349	Pavement Marking Blackout Tape	Articles 701.04, 701.19(f), 701.20(j) and 1095.06	Nov. 1, 2014	April 1, 2016
80371	Pavement Marking Removal	Articles 783.02-783.04, 783.06 and 1101.13	July 1, 2016	
80389	Portland Cement Concrete	Article 1020.04 Table 1 and Note 4	Nov. 1, 2017	
80403	Traffic Barrier Terminal, Type 1 Special	Articles 631.04 and 631.12	Nov. 1, 2018	

The following special provisions have been deleted from use.

File Name	Special Provision Title	Effective	Revised
80317	Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	Aug. 1, 2019

The following special provisions require additional information from the designer. The additional information needs to be submitted as a separate document. The Project Coordination and Implementation section will then include the information in the applicable special provision.

- Bridge Demolition Debris
- Building Removal - Case I
- Building Removal – Case II
- Building Removal - Case III
- Building Removal-Case IV
- Completion Date
- Completion Date Plus Working Days
- DBE Participation
- Material Transfer Device
- Railroad Protective Liability Insurance
- Training Special Provisions
- Working Days

GUIDE BRIDGE SPECIAL PROVISION INDEX/CHECK SHEET

Effective as of the: January 15, 2021 Letting

√	File Name	Title	Effective	Revised
	GBSP12	Drainage System	Jun 10, 1994	Jun 24, 2015
	GBSP13	High-Load Multi-Rotational Bearings	Oct 13, 1988	Oct 23, 2020
	GBSP14	Jack and Remove Existing Bearings	Apr 20, 1994	April 13, 2018
	GBSP15	Three Sided Precast Concrete Structure	Jul 12, 1994	Dec 21, 2016
	GBSP16	Jacking Existing Superstructure	Jan 11, 1993	April 13, 2018
	GBSP18	Modular Expansion Joint	May 19, 1994	Oct 23, 2020
	GBSP21	Cleaning and Painting Contact Surface Areas of Existing Steel Structures	Jun 30, 2003	Oct 23, 2020
	GBSP25	Cleaning and Painting Existing Steel Structures	Oct 2, 2001	Oct 23, 2020
	GBSP26	Containment and Disposal of Lead Paint Cleaning Residues	Oct 2, 2001	Apr 22, 2016
	GBSP28	Deck Slab Repair	May 15, 1995	April 13, 2018
	GBSP29	Bridge Deck Microsilica Concrete Overlay	May 15, 1995	March 1, 2019
	GBSP30	Bridge Deck Latex Concrete Overlay	May 15, 1995	Oct 20, 2017
	GBSP31	Bridge Deck High-Reactivity Metakaolin (HRM) Conc Overlay	Jan 21, 2000	March 1, 2019
	GBSP33	Pedestrian Truss Superstructure	Jan 13, 1998	Oct 23, 2020
	GBSP34	Concrete Wearing Surface	Jun 23, 1994	Oct 4, 2016
	GBSP45	Bridge Deck Thin Polymer Overlay	May 7, 1997	Feb 6, 2013
	GBSP51	Pipe Underdrain for Structures	May 17, 2000	Oct 23, 2020
	GBSP53	Structural Repair of Concrete	Mar 15, 2006	Aug 9, 2019
	GBSP55	Erection of Curved Steel Structures	Jun 1, 2007	
	GBSP56	Setting Piles in Rock	Nov 14, 1996	Oct 23, 2020
	GBSP59	Diamond Grinding and Surface Testing Bridge Sections	Dec 6, 2004	Mar 29, 2017
	GBSP60	Containment and Disposal of Non-Lead Paint Cleaning Residues	Nov 25, 2004	Apr 22, 2016
	GBSP61	Slipform Parapet	Jun 1, 2007	March 1, 2019
	GBSP67	Structural Assessment Reports for Contractor's Means and Methods	Mar 6, 2009	Oct 5, 2015
	GBSP71	Aggregate Column Ground Improvement	Jan 15, 2009	Oct 15, 2011
	GBSP72	Bridge Deck Fly Ash or GGBF Slag Concrete Overlay	Jan 18, 2011	March 1, 2019
	GBSP75	Bond Breaker for Prestressed Concrete Bulb-T Beams	Apr 19, 2012	Oct 23, 2020
	GBSP78	Bridge Deck Construction	Oct 22, 2013	Dec 21, 2016
	GBSP79	Bridge Deck Grooving (Longitudinal)	Dec 29, 2014	Mar 29, 2017
✔	GBSP81	Membrane Waterproofing for Buried Structures	Oct 4, 2016	March 1, 2019
	GBSP82	Metallizing of Structural Steel	Oct 4, 2016	Oct 20, 2017
	GBSP83	Hot Dip Galvanizing For Structural Steel	Oct 4, 2016	Oct 20, 2017
	GBSP85	Micropiles	Apr 19, 1996	Oct 23, 2020
	GBSP86	Drilled Shafts	Oct 5, 2015	Oct 4, 2016
	GBSP87	Lightweight Cellular Concrete Fill	Nov 11, 2001	Apr 1, 2016
	GBSP88	Corrugated Structural Plate Structures	Apr 22, 2016	April 13, 2018
	GBSP89	Preformed Pavement Joint Seal	Oct 4, 2016	Oct 23, 2020
	GBSP90	Three Sided Precast Concrete Structure (Special)	Dec 21, 2016	April 13, 2018
	GBSP91	Crosshole Sonic Logging Testing of Drilled Shafts	Apr 20, 2016	Aug 9, 2019
	GBSP92	Thermal Integrity Profile Testing of Drilled Shafts	Apr 20, 2016	
	GBSP93	Preformed Bridge Joint Seal	Dec 21, 2016	Oct 23, 2020
	GBSP94	Warranty for Cleaning and Painting Steel Structures	Mar 3, 2000	Nov 24, 2004
	GBSP96	Erection of Bridge Girders Over or Adjacent to Railroads	Aug 9, 2019	

LIST ADDITIONAL SPECIAL PROVISIONS BELOW

MISCELLANEOUS STRUCTURAL SPECIFICATIONS
PRECAST CONCRETE BOX CULVERTS

BOX CULVERT END SECTIONS

The following Guide Bridge Special Provisions have been incorporated other specifications:

File Name	Title	Location
GBSP17	Bonded Preformed Joint Seal	GBSP89,93
GBSP35	Silicone Bridge Joint Sealer	GBSP89,93
GBSP77	Weep Hole Drains for Culverts, Abutments, and Retaining Walls	503
GBSP95	Bituminous Coated Aggregate Slope Wall	511 Supp

The following Guide Bridge Special Provisions have been discontinued or have been superseded:

File Name	Title	Disposition:
GBSP4	Polymer Modified Portland Cement Mortar	Contact BBS

Table of Contents

COUNTY OF KANE, ILLINOIS ("County")

SPECIAL PROVISIONS

INCORPORATIONS

The Illinois Department of Transportation's (hereinafter "IDOT") Standard Specifications for Road and Bridge Construction, adopted April 1, 2016 (hereinafter "Standard Specifications") along with the following: (i) the Special Provisions, as provided herein below, (ii) the latest edition of the Illinois Manual on Traffic Control Devices for Streets and Highways in effect as of the date of this invitation for bids,(hereinafter the "MUTCD"), (iii) the Illinois Department of Transportation's Supplement Specifications and Recurring Special Provisions, adopted January 1, 2020 (as indicated on the check sheet included herein), (iv) the latest edition of IDOT's Highway Standards (hereinafter "Highway Standards") are specifically incorporated herein and made a part here of for this proposed improvement; designated as **Section 19-00509-00-BR**.

LOCATION OF PROJECT

The Harter Road Culvert over Tributary #2 to Welch Creek project is located approximately 180 feet northwest of Dauberman Road intersection in Kaneville Township, Kane County, Illinois. The gross length of the improvement is 291.9 feet (0.055 mile).The net length of the improvement is 47 feet (0.009 mile).

DESCRIPTION OF PROJECT

The work consists of the removal of a 7 feet wide and 3 feet 6 inches tall concrete box culvert structure (SN 045-5971) with a replacement utilizing a proposed 12 feet wide and 4 feet tall precast concrete box culvert structure (SN 045-7001). This work includes pavement removal, new full depth HMA pavement and shoulders, steel sheet piling with steel cap, excavation and embankments, guardrail installation, pavement marking, ditch restoration with riprap, erosion control, restoration, and all incidental, appurtenant, and collateral work therefor (collectively the "project") necessary to complete the project as shown on plans and as described herein.

AUTOMATIC CLEARING HOUSE (ACH)

The Contractor shall use the County's Automatic Clearing House (ACH) payment program.

BIDDING PROCESS AND AWARD OF CONTRACT (COUNTY)

The bidding documents for this project are available online at the Kane County Division of Transportation (KDOT) website:

http://www.countyofkane.org/Pages/countybids.aspx

If any addendums are necessary, they will be posted on the KDOT website listed above in this section. **It is the Contractors or subcontractors responsibility to continuously verify if any addendums have been issued by KDOT**.

Construction prequalification will be verified at the bid opening prior to the bid being opened and read. It is the Contractors and/or subcontractors responsibility to ensure all prequalifications which are called out in the contract and other bid documents are met.

The award of this contract will be made to the lowest responsible qualified bidder. The County reserves the right to reject any or all non-conforming, non-responsive, unbalanced, or conditioned bids, and to reject the bid of any bidder if the County believes that it would be in the best interest of the County not to award to that bidder. The

County also has the right to award this contract with the deletion or reduction of any item in its entirety or partially without claim by the Contractor for loss of profit or overhead.

COMPLETION DATE PLUS GUARANTEED WORKING DAYS

After a Notice to Proceed is issued by the County and prior to the start of construction activities, the Contractor is expected to and shall submit all required documentation for review and/or approval. This documentation will include, but is not limited to, shop drawings, catalog cuts and other design related calculation or drawings requiring review and/or approval.

The Notice to Proceed is "estimated" to be issued by May 31, 2021.

Revise Article 108.05 (c) of the Standard Specifications as follows:

> "When a completion date plus guaranteed working days is specified, the Contractor shall complete all contract items and safely open all roadways (including shoulders) to traffic by 11:59 PM on July 31, 2021.
>
> The Contractor will be allowed to complete all clean-up work, punch list items, and landscaping within 30 guaranteed working days after the completion date for opening the roadway to traffic. Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the guaranteed working days allowed for cleanup work and punch list items."

Article 108.09 of the Recurring Specifications or the Special Provision for Failure to Complete the Work on Time shall apply to the completion date and the number of working days.

COOPERATION BY CONTRACTOR

Created: 9/5/2018

The Contractor should take note of Article 105.08 of the "Standard Specifications". Multiple improvements are proposed along routes included in this subject contract and will require the Contractor, on this contract, to work simultaneously with contractors on other adjacent contracts. Adjacent contracts may consist of the following:

- 2021 Kane County HMA Crack Sealing Project, Section #21-00000-04-GM

It is critical that cooperation and scheduling be coordinated with Kane County and the County's Engineer ("Engineer") to ensure all work done is performed in the proper sequential order to ensure a final quality product. Therefore, all items involving improvements below the roadway surface shall be performed before roadway resurfacing is placed. Additionally, all final HMA surface course resurfacing shall be performed before permanent roadway striping, rumble strips and traffic signal modifications are conducted.

No additional compensation will be paid for coordination of work with other contracts.

In the event a contractor from a simultaneous contract cannot be reached, the Contractor shall call the County Chief of Construction at 630-816-9680 or via e-mail at: boeschdavid@co.kane.il.us.

CONTRACTOR DISCLOSURE ACKNOWLEDGEMENT

KANE COUNTY CODE, ARTICLE III, DIVISION 3, SECTION 2-211

1. Prior to award, every Contractor or vendor who is seeking or who has obtained contracts or change orders to contracts or two (2) or more individual contracts with Kane County resulting in an amount greater than Fifteen Thousand Dollars ($15,000) shall disclose to the Kane County Purchasing Department, in writing all cumulative campaign contributions, (which includes multiple candidates) made within the previous twelve

(12) months of awarding of the contract made by that Contractor, union, or vendor to any current officer or countywide elected officer whose office the contract to be awarded will benefit. Disclosure shall be updated annually during the term of a multi-year contract and prior to any change order or renewal requiring Board level approval. For purposes of this disclosure requirement, "Contractor or vendor" shall include owners, officers, managers, insurance brokers, lobbyists, agents, consultants, bond counsel and underwriters counsel, subcontractors, corporations, partnerships, associations, business trusts, estates, trustees, and/or beneficiaries under the control of the contracting person, and political action committees to which the contracting person has made contributions.

2. All Contractors and vendors who have obtained or are seeking contracts with Kane County must disclose the following information which shall be certified and attached to the application or document. Penalties for knowingly violating disclosure requirements will potentially result in immediate cancellation of the contract, and possible disbarment from future County contracts:

A. Name, address, and percentage of ownership interest of each individual or entity having a legal or a beneficial interest of more than five percent (5%) in the applicant. Any entity required by law to file a statement providing substantially the information required by this paragraph with any other government agency may file a duplicate of such statement;

B. Names and contact information of their lobbyists, agents and representatives and all individuals who are or will be having contact with County employees or officials in relation to the contract or bid. This information disclosure must be updated when any changes to the information occurs.

C. Whenever any interest required to be disclosed in paragraph (a) above is held by an agent or agents, or a nominee or nominees, the principals for whom such agents or nominees hold such interest shall also be disclosed. The application of a spouse or any other party, if constructively controlled by another person, or legal entity as set forth above, shall state the name and address and percentage of beneficial interest of such person or entity possessing such constructive control and the relationship under which such control is being or may be exercised. Whenever a stock or beneficial interest is held by a corporation or other legal entity, such shareholder or beneficiary shall also make disclosure as required by paragraph (a) above.

D. A statement under oath that the applicant has withheld no disclosures as to economic interests in the undertaking nor reserved any information, data, or plan as to the intended use or purpose for which it seeks County Board or other county agency action.

3. All disclosures and information shall be current as of the date upon which the application is presented and shall be maintained current until such time as Kane County shall take action on the application. Furthermore, this information shall be maintained in a database by the Purchasing Department, and made available for public viewing.

4. Notwithstanding any of the above provisions, the County Purchasing Department with respect to contracts awarded may require any such additional information from any applicant which is reasonably intended to achieve full disclosure relevant to the application for action by the County Board or any other County agency.

5. Any failure to comply with the provisions of this section shall render any ordinance, ordinance amendment, County Board approval or other County action in behalf of the applicant failing to comply voidable at the option of the County Board or other County agency involved upon the recommendation of the County Board Chairman or the majority of the County Board.

6. Contractor Disclosure information shall be sent to the Kane County Purchasing Department and the Kane County Division of Transportation at the following address, or via email, prior to Transportation Committee of the Kane County Board:

Kane County Government Center
Purchasing Department, Bldg. A
719 S. Batavia Ave. Geneva, IL 60134
purchasing@countyofkane.org

Kane County Division of Transportation
41W011 Burlington Road
St. Charles, IL 60175
kdotcomments@co.kane.il.us

CONTRACTOR WORKING HOURS

Construction Operations shall be confined to the hours of 7am to 4pm, or as directed by the Engineer. The work week shall be defined as Monday through Friday. Any work on Saturdays and Sundays shall be first approved by the Engineer. This time regulation shall apply to all work on the roadway. This time regulation shall not apply to emergency operations.

CONTRACTOR'S DAILY NOTIFICATION

The Contractor shall notify the Engineer and /or his representative prior to the beginning of each day's work as to the location and type of work that is scheduled to be performed that day. The Contractor's notification shall be at least 24 hours prior to the day of actual work.

CONTRACTOR STAGING AREA

The Contractor should be aware that the majority of the project is located in a floodplain. As such the Contractor shall keep all materials and equipment within the County's right-of-way only and shall limited stockpiling of material to the extent possible. All stockpiles shall be protected with appropriate erosion control measures outlined in the erosion control plans, SWPPP and Army Corps of Engineers and any other agency permits. The Contractor will be responsible to visit the site to familiarize itself with these site conditions. The Contractor will be required to coordinate with the Engineer its plan for handling of materials to be stored on site and its worker and equipment parking.

DEFINITION OF TERMS

This special provision amends the provisions of Section 101 of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2016, and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

101.16 Engineer. Revise the third paragraph to read:

"The term Engineer shall apply to the awarding authority".

101.19 Inspector. Add the following paragraph after the first paragraph:

"The term Inspector shall apply to the person or persons assigned by the Engineer to make detailed observations of any or all portions of the work or material."

101.34 Resident Engineer/Resident Technician. Replace this paragraph with the following:

"The term Resident Engineer/Resident Technician shall apply to Kane County's Authorized Representative. The term Resident Engineer shall not mean Engineer."

Add the following paragraph:

"101.56 Design Consultant. The Design Consultant provided design services to Kane County. The Consultant for this project is Primera Engineers, LTD. The term Consultant shall not mean the Engineer."

DELETION AND REDUCTION OF PLAN QUANTITIES (COUNTY)

The County reserves the right to delete and/or reduce the awarded (plan) quantity of any item in its entirety or partially without claim by the Contractor for loss of profit or overhead. No additional routes will be added in addition to those listed in the schedule of quantities.

EMPLOYMENT OF ILLINOIS WORKERS ON PUBLIC WORKS ACT

Created on: 7/21/2020

By submitting a bid, bidder expressly agrees to comply with all applicable State Laws and shall take all steps necessary to be and remain in compliance therewith including but not limited to 30 ILCS 570/0.01 *et seq*. which provides in part: It is the law of the State of Illinois as declared in "AN ACT" regulating the workforce on all public works projects to be comprised of a minimum of 90% Illinois residence, effective beginning July 1st, 2020.

These requirements shall be incidental to the contract and no additional compensation shall be awarded.

FIELD MEASUREMENTS

The Contractor is advised that it shall be its full responsibility to verify all dimensions, conditions, materials, and details before ordering materials. The Contractor shall verify the dimensions shown on the plans with those actually existing on the proposed structure to determine if any discrepancies exist. Any discrepancies discovered by the Contractor shall be immediately reported to the Engineer in writing for revisions to plans, quantities and/or details as required.

No additional compensation will be allowed to the Contractor for complying with these verification requirements. Any revisions to dimensions or details resulting from the required field verifications or for any delays due to required revisions shall be approved by the Engineer.

INDEMNIFICATION

In the first paragraph of Article 107.26 of the Standard Specifications, the words “the Department, its officers, employees and agents” shall be replaced with “Kane County of Kane, its officers, employees and agents.”

INVESTIGATION OF CONDITIONS

Bidders are required to submit their proposals upon the express condition that they have visited and are familiar with the site of the proposed work and are fully acquainted with work to be performed under this contract. The bidders are expected to make their estimates of the facilities needed and the difficulties attending the execution of the proposed contract, including local conditions, availability of labor, weather, and other contingencies among other things. In no event will the County assume any responsibility whatsoever for any interpretation, deduction or conclusion drawn by the bidder from the inspection of the site. Failure to acquaint oneselves with all available information concerning these conditions will not relieve the successful bidder from responsibility for estimating difficulties and costs of successfully performing and completing the work.

LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

107.27 Insurance. Delete paragraph (b)(3). Add the following after paragraph (d):

> “Regardless of whether or not a Commercial General Liability Policy, or Owners’ and Contractors’ Protective (OCP) policy is furnished, insurance certificates for commercial, general, automobile, umbrella, and builders’ risk shall specifically indicate by name the additional insured’s, which are to include the County of Kane, as well as other persons or entities so identified. Certificates shall be Acord 25-S or equivalent.

Additional Insured Endorsement/OCP Policy/Project Management Protective Liability Policy

1. CONTRACTOR shall purchase and maintain a Commercial General Liability insurance policy , as required in Article 107.27 of the Standard Specifications, specifically naming as additional insured the County of Kane, using Additional Insurance Endorsement Form CG 20 26 07 04, CG 81 11 05 06, CG 20 10 07 04, or equivalent form. General liability policies shall also be endorsed with Form CG 20 37 07 04 to include the "products-completed operations hazard.
2. As an alternative to providing Form CG 20 26 07 04, CG 81 11 05 06, or CG 20 10 07 04, CONTRACTOR may furnish to the County of Kane an OCP policy with the County of Kane as the named insured. The OCP policy shall provide for bodily injury and property loss or damage plus the amount specified for the umbrella coverage. The OCP policy shall provide coverage arising out of:
    i. Operations performed by Contractor at the project location.
    ii. Acts or omissions in connection with the general supervision, inspection and/or coordination of such operations.

    If an OCP policy is provided, Contractor shall provide originals of the Final to all insured and additional insured parties.

    Endorsements, OCP policy, or General Liability policy shall not exclude supervisory or inspection services.

    Contractor shall also provide an Additional Insured Endorsement for the automobile policy. The endorsement form shall be CA 2048, or equal."

LOCATION COMPLETION

Once work has commenced, the Contractor shall diligently pursue completion of the work, per the Contractor Working Hours special provision and weather permitting, until all work included in the contract has been completed; unless written approval to the contrary has been granted by the Engineer. **In the event the contractor fails to maintain a continuous operation, a deficiency deduction of $500 per calendar day will be applied to monies due to the Contractor.**

All HMA and aggregate shoulder construction shall be completed within two (2) working days following completion of paving operations at a single location as listed on the schedule of quantities.

All roadway pavement marking shall be completed within five (5) working days following completion of shoulder construction.

All proposed guardrail sections shall be completely installed within three (3) working days immediately following the shoulder construction.

MATERIAL TESTING – QUALITY CONTROL

The Quality Assurance (QA) plant and field testing of concrete, hot-mix asphalt, soils, or other materials as determined by the Engineer will be performed by a testing firm designated by the County at the County's expense. The Engineer shall be notified 48 hours in advance of the work to allow scheduling of the tester. Quality Control (QC) plant and field testing of aggregates, concrete and hot-mix asphalt materials will be the responsibility of the Contractor. The Quality Control (QC) testing firm shall have a representative present throughout the duration of all work requiring testing. The Contractor will provide copies of the material testing plant and field reports to both the Engineer and the County. Testing frequency and requirements shall be as required in IDOT's Manual of Test Procedures for Materials (MTPM) latest edition. This item will not be measured separately for payment but shall be included in the various items of work requiring testing.

MATERIAL TESTING DAILY NOTIFICATION (COUNTY)

The County has retained the services of a testing agency to sample and test asphalt and concrete mix designs for County projects. Contact information for the testing agency will be provided by the Engineer.

In order to ensure that samples will be drawn, Contractors or their Subcontractors must alert the testing agency as well as the Engineer or his representative assigned to the project on days when material will be placed on these jobs. This is similar to the IDOT Materials testing procedure. Calls must be placed at least one day prior to any material placement before 12:00 pm, noon**. In the event that paving has been scheduled and weather is unfavorable the Contractor will be responsible to alert a representative of the testing agency as soon as the decision not to place material is made.** It is understood that these decisions shall be made in the early hours of the day. The purpose of this procedure is to make sure that testing is timely conducted and to stop scheduled testing on days when work is canceled.

At the preconstruction meeting, roles, responsibilities, and 24 hour contact information will be established and exchanged between the Engineer and the Contractor.

In the event that the testing representative or Engineer cannot be reached, the Contractor will call the County Chief of Construction at 630-816-9680 or via e-mail at: boeschdavid@co.kane.il.us

PREQUALIFICATION OF BIDDERS

PREQUALIFICATION OF BIDDERS in accordance with Section 102.01 of the Standard Specifications will be required of all bidders on this proposal. The Prime Contractor will be required to meet at least one of the following prequalification codes and must also meet the prequalification code(s) for any other disciplines of work they will complete:

9A - Structures (Highways)

12 - Drainage

All subcontractors will be required to meet the prequalification code(s) for the discipline of work they will be responsible for completing.

PREVAILING WAGE RATES

By submitting a bid, bidder expressly agrees to comply with all applicable State and Federal Prevailing Rate of Wage Laws, and all steps necessary to be in compliance therewith.

Prevailing Wage Rates: It is the policy of the State of Illinois as declared in "AN ACT regulating wages of laborers, mechanics and other workman employed in any public works by the State, County, City or any political subdivision or by any work under construction for public works" approved June 26, 1941, that a wage of no less that the general prevailing hourly rate as paid for work of a similar character in a locality in which work is performed, shall be paid to all laborers, workmen and mechanics employed by and on behalf of any and all public body engaged in public works, exclusive of maintenance work.

The responsive Bidder must include with their bid a separate sheet showing trades to be employed and wage rates to be paid. Prevailing wage rates are subject to revision monthly and the responsive bidder is responsible for any future adjustment thereof. Copies of the current prevailing wage rates are always available from the Illinois Department of Labor on their website. The Contractor shall pay the current Illinois Department of Labor Prevailing Wage Rates for any and all projects worked on for the County of Kane. The Contractor shall provide the Kane

County Division of Transportation a sheet showing all trades to be employed and wage rates to be paid for each construction or repair project bid on or contracted for.

PROGRESS SCHEDULE

Add the following paragraph to Article 108.02 of the Standard Specifications:

"The Contractor shall maintain throughout the course of the project, and provide to the Engineer at the Engineer's request, a detailed progress schedule of planned construction related tasks and locations that projects a minimum of 6 weeks into the future."

PROSECUTION OF WORK

Add the following paragraph to Article 108.02 of the Standard Specifications:

"The Contractor shall maintain throughout the course of the project, and provide to the Engineer, at the Engineer's request, a detailed progress schedule of planned construction related tasks and locations that projects a minimum of 2 weeks into the future. At the Engineer's request, progress schedules of 4 weeks may be required."

At the Pre-Construction Meeting, the Contractor shall submit a draft progress schedule, ready for review and approval, and a prepared list of subcontractors, which will both be discussed and approved by the Engineer. This project schedule shall show all routes to be worked on and an anticipated estimate of time (in working days) to accomplish each item of work. All work shall be coordinated with the Engineer so that all work is completed prior to proposed striping on other Kane County projects.

The progress schedule may be on IDOT form BC 255 or a detailed Gantt Charts-type schedule.

SPECIAL PROVISION FOR INSURANCE (COUNTY)

The Contractor shall obtain and keep in full force the following insurance coverages:

POLICY:
Contractor's Commercial General Liability

ADDITIONAL NAMED INSURED:
The County of Kane, its officers, employees, and agents

All other provisions of Article 107.27 of the Standard Specifications shall apply.

CLEAN CONSTRUCTION OR DEMOLITION DEBRIS

Earthwork operations for this project shall be completed in accordance with Section 202 of the Standard Specifications and material properly disposed of in accordance with Article 202.03.

This special provision only applies if the Contractor chooses to dispose of material at a permitted CCDD or registered uncontaminated soil fill facility. *The Contractor is advised to consider the cost of disposing of all surplus materials off-site and properly reflect those costs in their bids for earthwork and removal items.* The Contractor must be thoroughly familiar with the provisions of the Environmental Protection Act as it relates to proper disposal of excavated material and construction debris.

Should the Contractor choose to dispose of materials at a permitted CCDD or registered uncontaminated soil fill facility, the Contractor shall be responsible for the lawful removal of all excavated soil, material and other clean construction or demolition debris in compliance with Public Act 96-1416. Disposal of materials at a permitted CCDD or registered uncontaminated soil fill facility will require that Form LPC-663 be submitted to the operator of that location before any materials can be disposed of at that site**.** Each certification covers only material from

the job site specified in the certification. The Contractor shall be responsible for having the required analysis of soil materials completed and the Form 663 adequately completed and signed by a Professional Engineer or Geologist licensed in the State of Illinois.

For this project Primera Engineers, LTD has prepared a formal pH Analysis and has completed Form LPC-662. The pH Analysis and Form LPC-662 are included in these contract documents.

The Contractor is not responsible for the cost of soil remediation and/or disposal as a non-hazardous, non-special waste if material is rejected from a permitted CCDD or registered uncontaminated soil fill facility. In the event material is rejected it will be returned to the site where the extent of additional effort required to dispose of the material will be determined. The extent of additional effort will be coordinated between the Engineer and the Contractor.

NOTE: "Unsuitable Material" as defined in these special provisions for Removal and Disposal of Unsuitable Material should not be confused with "contaminated" or "hazardous" materials.

ARMY CORPS OF ENGINEERS PERMIT

The work to be done under this Contract shall comply with the terms of the Army Corps of Engineers' Regional Permit Program. A copy of the permit has been included in these special provisions.

ITEMS AS ORDERED BY THE ENGINEER

Description: When additional work not indicated on the Contract drawings is requested in writing by the Engineer during construction, the requested additional work shall be measured and paid for as described in Articles 104.02 and 109.04.

Basis of Payment: Payment for all additional work shall be made from the "ITEMS AS ORDERED BY THE ENGINEER" pay item, which shall be in Units of one dollar ($1.00).

MOBILIZATION

Description: All work, materials and equipment will conform to Sections 671 of the Standard Specifications. The work shall consist of preparatory work and operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site.

Basis of Payment: This work will be paid for at the Lump Sum price for "MOBILIZATION" per Article 671.02 of the Standard Specifications. Mobilization will only be paid for once for the entire contract.

STATUS OF UTILITIES TO BE ADJUSTED

Utility companies and/or municipal utility owners (collectively "responsible agencies") with facilities located within the construction limits of this project have provided the following information regarding their facilities and the proposed improvements. The tables below contain a description of specific conflicts to be resolved and/or facilities which will require some action on the part of the Contractor to proceed with work. Each table entry includes an identification of the action necessary and, if applicable, the estimated duration required for the resolution.

UTILITIES TO BE ADJUSTED

Conflicts noted below have been identified by following the suggested staging plan included in the contract. The company has been notified of all conflicts and will be required to obtain the necessary permits to complete their work; in some instances, resolution will be a function of the construction staging. The responsible agency must

relocate, or complete new installations as noted below; this work has been deemed necessary to be complete for the Contractor to then work in the stage under which the item has been listed.

Pre-Stage

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	DURATION OF TIME
N/A	N/A	N/A	N/A	N/A

Stage 1

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	DURATION OF TIME
N/A	N/A	N/A	N/A	N/A

Stage 2

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	DURATION OF TIME
N/A	N/A	N/A	N/A	N/A

No conflicts to be resolved *(or if there are conflicts they are to be listed as noted above)*

Pre-Stage: 0 Days Total Installation

Stage 1: 0 Days Total Installation

Stage 2: 0 Days Total Installation

The following contact information is what was used during the preparation of the plans as provided by the Agency/Company responsible for resolution of the conflict.

Agency/Company Responsible to Resolve Conflict	Name of contact	Phone	E-mail address
N/A	N/A	N/A	N/A

UTILITIES TO BE WATCHED AND PROTECTED

The areas of concern noted below have been identified by following the suggested staging plan included for the contract. The information provided is not a comprehensive list of all remaining utilities, but those which during coordination were identified as ones which might require the Contractor to take into consideration when making the determination of the means and methods that would be required to construct the proposed improvement. In some instances, the contractor will be responsible to notify the responsible agencies in advance of the work so necessary staffing on the responsible agencies part can be secured.

Pre-Stage

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER
101+50 – west along Harter Road	Overhead crossing	Aerial crossing is not anticipated to impact construction operations. Contractor shall watch and protect during entire lifespan of construction contract.	ComEd
Harter Road east of intersection & Dauberman Road south of intersection	Underground main	Underground gas main is not anticipated to impact construction operations. Contractor shall watch and protect during entire lifespan of construction contract.	Nicor
Harter Road	N/A	There are no known Mediacom utilities within the project area or directly adjacent. Contractor shall exercise caution during excavation operations and notify Kane County if the presence of existing utilities are discovered during construction.	MediaCom
Harter Road	N/A	There are no known AT&T utilities within the project area or directly adjacent. Contractor shall exercise caution during excavation operations and notify Kane County if the presence of existing utilities are discovered during construction.	AT&T

Stage 1

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER
N/A	N/A	N/A	N/A

Stage 2

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER
N/A	N/A	N/A	N/A

No facilities requiring extra consideration *(or listed as noted above)*

The following contact information is what was used during the preparation of the plans as provided by the owner of the facility.

Agency/Company Responsible to Resolve Conflict	Name of contact	Phone	E-mail address
Nicor	Bruce Koppang	630.388.3046	gasmaps@aglresources.com
AT&T	Legal Team		G11629@ATT.com
ComEd	Tina Losianowycz (USIC LLC)	630.396.8225	IllinoisDamage@usicllc.com
MediaCom	Chris Minard	815.597.5103	CMINARD@mediacomcc.com

The above represents the best information available to the County and is included for the convenience of the bidder. The days required for conflict resolution should be considered in the bid as this information has also been factored into the timeline identified for the project when setting the completion date. The applicable portions of the Standard Specifications for Road and Bridge Construction shall apply.

Estimated duration of time provided above for the first conflicts identified will begin on the date of the executed contract regardless of the status of the utility relocations. The responsible agencies will be working toward resolving subsequent conflicts in conjunction with Contractor activities in the number of days noted.

The estimated relocation duration must be part of the progress schedule submitted by the Contractor. A utility kickoff meeting will be scheduled between the County , the Contractor, and the responsible agencies when necessary. The Contractor is responsible for contacting J.U.L.I.E. prior to all excavation work.

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

Description: This item shall be completed in accordance with the applicable portions of Section 202 of the Standard Specifications and as specified herein. This work will include excavation and removing of undercut materials as directed by the Engineer.

Unstable materials not suitable for embankments or unsuitable materials consisting of debris, concrete, stone, trees, shrubbery, or mulch, building materials, contaminated dirt, or other non-organic material will not be permitted within the project limits and shall be disposed of off County right-of-way per the Standard Specifications.

Unstable or Unsuitable materials that have a soil classification that is acceptable for use in the type of embankment specified, but are considered unstable only because the insitu-moisture content of the soil is either too high or too low, will not be considered as unstable or unsuitable material. If these soils are needed for use in the formation of the proposed embankments, the soil will be worked or conditioned by disking, tilling, or adding a soil additive to bring the material to optimum moisture content. Moisture content and compaction requirements for embankments will be as specified in Section 205.05 of the Standard Specifications.

In cut sections, the final subgrade shall be prepared as specified in Section 301. In areas where undercuts have been called out on the plans, the final subgrade will be prepared as specified in Section 301 and the subgrade will then be proof rolled. Final determination of the undercut area will be based on the proof roll after the subgrade has been prepared.

It is the intention of this specification to pay for the handling earthwork material only once, except as directed herein and/or approved for additional payment in advance by the Engineer. In the event the Contractor elects to excavate and stockpile any excavated materials for re-handling at a later date, the Contractor shall do at its own expense.

Method of Measurement: Removal and Disposal of Unsuitable Material will be measured for payment by measuring the area and depth of material removed.

Basis of Payment: The removal and disposal of unsuitable materials as described herein shall be paid for at the contract unit price per Cubic Yard for "REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL", which shall be full compensation for, but not limited to, excavating, disposal off-site and all labor, equipment and materials required for performing the work as herein specified.

DEWATERING STRUCTURE

Description: This work shall consist of furnishing all labor, tools, equipment, and materials to install, maintain, and operate all necessary dewatering systems to divert, remove water from the channel reach or designed to control sediment discharge in dewatering applications where water is being pumped for the construction of the box culvert, permanent sheet pile wall, stone rip rap channel lining and other work associated with culvert structure and channel bank stabilization to ensure that work can be completed in dry or in manageable conditions as approved by the Engineer.

For the purposes of this item, diversion structure will mean a "diversion system" for isolation of the in-stream work area using a diversion system constructed of non-erodible materials such as steel sheets, aqua barriers, rip rap and geotextile liner or other material approved by the Engineer. Earthen cofferdams will not be permitted.

This item will also include constructing a dewatering filtering system consisting of filtration or sediment bags for collecting sediment from pumping operations within the coffered area and sump pits. Construction waters will include, but not be limited to, all waters generated from the removal of the bridge pier, channel grading, riprap placement, proposed drainage systems and aggregate base construction.

Prior to performing any in-stream work associated with the project, the Contractor shall identify the proposed dewatering and/or diversion/isolation method to be used and obtain approval from Kane DuPage Soil and Water Conservation District (KDSWCD) and Engineer prior to starting work. In-stream work shall take place only during low flow conditions unless otherwise allowed by the Kane DuPage Soil and Water Conservation District and Engineer. Concentrated flow shall be isolated from the work area. Dewatering shall comply with all requirements contained in the Storm Water Pollution Prevention Plan (SWPPP) contained in the plans.

The Contractor is ultimately responsible for the choice of the materials, product(s), and equipment; for the subsequent removal of the diversion structure(s) and dewatering systems and their safety and for conformity with local codes, regulations, and these Specifications, as well as "means and methods" for the Site Dewatering and Diversion Work to be performed. The Contractor's "means and methods" are subject to the review of the County and Kane-DuPage Soil and Water Conservation District. All products and "means and methods" selected shall be adequate for the intended use/application within the construction limits represented on the plans. The Kane-DuPage Soil and Water Conservation District's and Engineer's review does not relieve the Contractor from compliance with the requirements of the Drawings, Standard Specifications, and the requirements of this special provision.

Submittal: The Contractor shall submit for review to the Engineer for coordination with KDSWCD a description of the diversion system, dewatering techniques, and equipment to be used, together with detailed drawings showing

items such as, but not limited, to the location of the diversion structures by stage, type of pumps, pump size, lengths and sizes of discharge piping and points(s) of discharge including erosion control procedures. The approved site dewatering and diversion plan(s) shall become part of the SWPPP prior to implementation. Changes to the site dewatering and/or diversion plan(s) will need to be approved by the Engineer and the KDSWCD . The Agency review of dewatering techniques and equipment shall in no way be construed as creating any obligation on the part of County for same.

Dewatering and Filter Bag Material: The material for the filtration bag shall meet the requirements of the material specification in Table 2, below for Class I with a minimum tensile strength of 180 lbs. The filtration bag shall be sized per manufacturer recommendations and based on the size of the pump. The pump shall be sized to be used with the filtration bag.

TABLE 2. REQUIREMENTS FOR NONWOVEN GEOTEXTILES

Property	Test method	Class I	Class II	Class III	Class IV 3/
Tensile strength (lb.) 1/	ASTM D 4632 grab test	180 minimum	120 minimum	90 minimum	115 minimum
Elongation at failure (%) 1/	ASTM D 4632	≥50	≥50	≥50	≥50
Puncture (pounds)	ASTM D 4833	80 minimum	60 minimum	40 minimum	40 minimum
Ultraviolet light (% residual tensile strength)	ASTM D 4355 150-hr exposure	70 minimum	70 minimum	70 minimum	70 minimum
Apparent opening size (AOS)	ASTM D 4751	As specified max. #40 2/	As specified max. #40 2/	As specified max. #40 2/	As specified max. #40 2/
Permittivity sec–1	ASTM D 4491	0.70 minimum	0.70 minimum	0.70 minimum	0.10 minimum

1/ Minimum average roll value (weakest principal direction).

2/ U.S. standard sieve size.

3/ Heat-bonded or resin-bonded geotextile may be used for classes III and IV. They are particularly well suited to class IV. Needle-punched geotextiles are required for all other classes**.**

Operation and Maintenance: The frequency of inspections shall depend on the dewatering method, amount of discharge, potential damage, and quality of the receiving bodies of water. The frequency of inspections and specific tasks shall be identified.

1. The filtration bag must be placed on level ground with secondary containment provided to prevent sediment from accumulating on the bare ground and to protect the surrounding area in case the bag bursts or is no longer effective.
2. The Contractor shall provide certification or documentation that the bag meets the specification for materials and is suitable for the pump that it will be used with.
3. Inspections shall be conducted to ensure proper operation and compliance with any permits or water quality standards.
4. Accumulated sediment shall be removed from the flow area and temporary diversions shall be repaired, as required.
5. Outlet areas shall be checked and repairs shall be made in a timely manner, as needed.

6. Pump outlets shall be inspected for erosion and sumps shall be inspected for accumulated sediment. Sediment shall be removed as required.
7. Dewatering bags shall be removed and replaced when half full of sediment or when the pump discharge has reduced to an impractical rate.
8. If the receiving area is showing any signs of cloudy water, erosion, or sediment accumulation, discharges shall be stopped immediately once safety and property damage concerns have been addressed.
9. Sediment shall be disposed in accordance with all applicable laws and regulations.

The Contractor shall select the pumps he/she desires to use and the rate at which the pumps discharge, but adequate protection at the pump discharge shall be provided by the Contractor and will be subject to review by the Engineer and KDSWCD . The Contractor shall ensure that downstream water quality and further erosion will not be impaired.

Water pumped or drained from the work required for this Contract shall be disposed of in a safe and suitable manner without damage to adjacent property, roadways or to other work under construction. Water shall not be discharged onto roadways or be discharged into sanitary sewers. Water containing settleable solids shall not be discharged without treatment to meet the requirements of the USACE 404 Permit and the KDSWCD requirements. Any and all damages caused by dewatering and/or diversion operations will be promptly repaired by the Contractor. Conditions and deficiency deductions as specified in Article 105.03(a) of the Standard Specifications shall apply. The Contractor is responsible for providing any and all labor, materials, and equipment for the dewatering and/or diversion of waters in order to meet the scheduled completion of the project.

Removal of Diversion and Dewatering Facilities: The dewatering systems and filtering system shall be removed after it has served its purpose and as directed by the Engineer. The dewatering areas shall be graded, stabilized, and permanently restored with appropriate erosion control practices and as shown on the plans. The dewatering sites after removal shall not create any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.

Method of Measurement: The dewatering methods and/or system(s) will be measured for the culvert regardless of the type and quantity of materials required to construct a dewatering system regardless of the number of times the dewatering system may need to be relocated for staging and regardless of conditions encountered.

Basis of Payment: This work will be paid for at the contract unit price per Each for “DEWATERING STRUCTURE NO. 1”, which work shall include cofferdams, barrier wall, filter fabric, piping, pumping, foundation preparation, framing and supports, dewatering filtering system consisting of filtration or sediment bags, installation, maintenance, removal of systems and all labor, material, and equipment required to perform the work described herein and as specified on the plans.

TEMPORARY EROSION CONTROL SEEDNG

Description: This work will include providing temporary erosion control seeding as required by the Soil Erosion and Sediment Control Plan included in the plans and as directed by the Engineer. The work shall be in accordance with the applicable portions of Section 280 of the Standard Specifications except as modified herein.

Materials: the following materials will be applicable to this project:

Spring Oats	March - June	100 lbs./acre
Annual Rye	July - September	150 lbs./acre
Winter Wheat	October – November	150 lbs./acre

Basis of Payment: This work will be paid for at the Contract unit price per Pound for "TEMPORARY EROSION CONTROL SEEDING", regardless of the seed type. When light disking of hard or caked soil is required it shall be included in the cost of the Temporary Erosion Control Seeding.

SAW CUTTING

Description: This item refers to all locations where a saw cut is required for the removal of pavements, curb, gutter, medians, driveways, sidewalk, butt joints, patches or any other structures which are one piece with no construction joints. These saw cuts shall be made at the limits of construction or other areas as required to perform the proposed improvements shown on the plans. The saw cut shall be the full depth of the pavement or structure being removed and shall be accomplished with a "pavement saw". Wheel type trenchers will not be allowed for any final saw cut at the limits of construction.

Basis of Payment: All saw cuts related to removals, regardless of location, will not be measured separately for payment but shall be INCLUDED in the unit contract cost of the related removal item.

BITUMINOUS MATERIALS (TACK COAT) AND AGGREGATE (TACK COAT)

This work shall be done in accordance with Section 406 of the Standard Specifications insofar as applicable and the following provisions.

The Contractor will be required to provide the Bill of Lading and Weight Tickets to the Engineer detailing the percentage of asphalt residue, any added water, and weight of the trucks before and after placement. Therefore, the Contractor will provide two tickets, the initial weight ticket, and the weigh-back ticket, for each truck being used.

Application of tack coat and aggregate for tack coat to the roadway shall only be permitted on weekdays. The application of tack coat and aggregate to the roadway shall be conducted on the same day mainline paving is to be performed. The application of tack coat and aggregate to the roadway shall be performed with sufficient time for the tack coat to completely cure by 3:00 p.m.

HOT MIX ASPHALT SURFACE COURSE

Mainline paving shall be a continuous operation on all roads. The Contractor shall not at any time pull off of mainline paving to pave side streets or driveways. Side streets and driveways shall be done either after the mainline paving is completed or concurrently with a second crew.

Surface tests, per Section 406.11 of the Standard Specifications, will be required on all roads resurfaced as part of this contract. The Contractor will have the option to bump test immediately behind the finish roller or upon completion of entire length of the road being resurfaced. Deductions due to the variations in the surface mixture between 3/16 in and ¾ in will be calculated per section 406.11 at the discretion of the Engineer.

Within areas of uneven or rough riding pavement, the Contractor may be directed by the Engineer to remove and replace these sections at the Contractors cost.

STABILIZED DRIVEWAY 10"

General: A stabilized construction entrances is not anticipated for this project. However, if it is determined that Contractor operations require a stabilized entrance, the installation shall follow the outlined procedure.

Description: This work shall consist of constructing hot-mix asphalt field entrance pavement on a prepared aggregate base course in accordance with the applicable portions of Section 406 of the Standard Specifications at the locations shown on the plans.

Materials. The materials for this project shall be:

Field Entrance

Mix	Design Thickness
Hot Mix Asphalt Binder Course, IL-19.0, N50	8”
Hot Mix Asphalt Surface Course, Mix “D”, N50	2”
Bituminous Materials – Prime and Tack Coat	

Method of Measurement: Stabilized driveways will be measured in place and the area computed in square yards. Aggregate subbase and aggregate and bituminous material prime coats will not be measured for payment but shall be considered included in payment for Stabilized Driveways of the thickness specified.

Basis of Payment. The hot-mix asphalt field entrance pavement will be paid for at the contract unit price per Square Yard for STABILIZED DRIVEWAYS, 10”, which shall include all labor, equipment and material necessary for the completion of the work.

Aggregate base course material for base preparation of the hot-mix asphalt driveway shall be measured separately for payment as AGGREGATE SUBGRADE IMPROVEMENT, 12".

MISCELLANEOUS STRUCTURAL SPECIFICATIONS

Description: This work shall consist of the construction of the culvert structure at Sta. 103+01 in accordance with the applicable portions of Standard Specifications and as detailed on the plans.

The following items are considered major work items related to the culvert structures and shall conform to the referenced Section of the Standard Specifications.

Item Description	Standard Specification
Structure Excavation	502
Removal and Disposal of Unsuitable Material for Structures	502
Name Plates	515
Granular Backfill for Structures	586

Basis of Payment: For each item listed above, the measurement and payment for all work necessary to complete each item will be made at the contract unit price described in the Standard Specifications under the Articles titled “Method of Measurement” and “Basis of Payment”.

PERMANENT STEEL SHEET PILING

Description. This work shall consist of furnishing and installing the permanent sheet piling and steel cap to the limits and tolerances shown on the plans according to Section 522 of the Standard Specifications.

Material. The sheet piling shall be made of steel and shall be new material. Unless otherwise specified the sheeting shall have a minimum yield strength of 50 ksi (345 MPa) according to ASTM A 572 and must meet the required minimum section modulus as shown on the plans. The sheeting shall be identifiable and free of bends and other structural defects. The Contractor shall furnish a copy of the published sheet pile section properties to the Engineer for verification purposes. The Engineer’s approval will be required prior to driving any sheeting. All driven sheeting not approved by the Engineer shall be removed at the Contractor’s expense. The bent plate steel cap shall be furnished according to the specifications of AASHTO M270 Grade 50W.

The Contractor shall be responsible to satisfy all details including minimum clearances, cover, interlocking, welding, and field cutting. Any modifications of the plans to accommodate the Contractor shall be paid for by the Contractor and subject to the approval of the Engineer.

Construction. The Contractor shall verify locations of all underground utilities before driving any sheet piling. Any disturbance or damage to existing structures, utilities, or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the County . The Contractor shall be responsible for determining the appropriate equipment necessary to drive the sheeting to the tip elevation(s) specified on the plans or according to the Contractor's approved design. The sheet piling shall be driven, as a minimum, to the tip elevation(s) specified, prior to commencing any related construction. If unable to reach the minimum tip elevation, the adequacy of the sheet piling design will require re-evaluation by the Engineer prior to allowing construction adjacent to the sheet piling in question.

Obstructions. Obstructions shall be defined as any object (such as but not limited to, boulders, logs, old foundations, etc.) that cannot be driven through with normal driving procedures, but requires special equipment to remove the obstruction. When obstructions are encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up or remove the obstruction. The Contractor shall assure that his construction operations to remove the obstruction will not impact the adjacent roadway or the tributary to Welch Creek.

Submittals. The Contractor shall submit shop drawings for the sheet pile wall. Submittals shall include all shop drawings and required design computations. The submittals shall address all details, dimensions, quantities, general notes, and cross sections necessary to construct the sheet pile wall. The submittal shall be submitted to the Engineer for review and approval no later than 45 days prior to construction. When design computations are required, both the computations and the shop drawings shall be prepared and sealed by an Illinois Licensed Structural Engineer. All designs shall be according to the AASHTO design code specified on the plans, except as modified herein. Shop drawings shall be prepared according to Article 1042.03(b).

Method of Measurement. This work will be measured in place in square feet based on the width and length of sheet required to drive the sheet to the finished elevation, as shown on the plans. Permanent sheet piling that is cut off or driven beyond those dimensions shown on the plans will not be measured for payment. Unless otherwise approved of by the Engineer, obstruction mitigation shall be paid for according to Article 109.04(b) of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per Square Foot for PERMANENT STEEL SHEET PILING at the location shown on the plans. This work shall also include all costs for the labor and material for the installation of the steel sheet pile cap.

PRECAST CONCRETE BOX CULVERTS

Description. This work shall consist of the design, fabrication, and installation of the precast concrete box culvert sections. All work shall be completed in accordance with Section 540 of the Standard Specifications and as specified herein.

All precast concrete structures shall be produced according to the latest Illinois Department of Transportation (IDOT) Policy Memorandum Quality Control/ Quality Assurance Program for Precast Products.

Design. The design of the precast concrete structure shall be in accordance with the Contract Plans and latest edition of the AASHTO LRFD Bridge Design Specifications (HL-93 Loading). In addition, the design shall be verified to ensure that the operating rating factors are greater than or equal to 1.00 for **ALL** Illinois Posting Vehicles and

Routine Permit Vehicles in accordance with Section 4.4 of the IDOT Structural Services Manual, as well as for the Type EV2 and EV3 Emergency Vehicles (see FHWA policy dated November 3, 2016 at https://www.fhwa.dot.gov/bridge/loadrating/161103.cfm for loads and configurations).

Allowances should be made for any variance in materials or thicknesses of fill over the box. Variances from the plans shall be approved by the Engineer.

Construction Requirements. The construction shall match the size and dimensions of the structure and wingwalls depicted in the plans.

This item shall include the joint ties as shown in the plans to secure the connection between box sections. These shall be located mid-height of each exterior side wall. The precast sections shall include mechanical connections as per the plan details (or approved equal). There shall be two mechanical connections per joint. All plates, shapes, and hardware shall be galvanized or stainless steel. These shall be located mid-height of each exterior side wall.

Each culvert section shall include a 3 in. diameter drain opening in each wall as shown in the plans located 2 feet above the flow line according to Article 503.11 of the Standard Specifications.

Submittals. The Contractor shall submit shop drawings for precast sections, and complete design and construction documents, according to Article 1042.03(b) and Article 105.04 of the Standard Specifications for review and approval prior to starting construction. The submittals shall include all calculations, shop drawings, working drawings, etc. necessary to successfully construct the structure. In addition, an initial Structure Load Rating Summary (SLRS – see Form BBS 2795), and analysis file(s) shall be submitted (AASHTOWare Bridge Rating {BrR} software preferred if available). All documents shall be prepared and sealed by an Illinois Licensed Structural Engineer for approval by the Engineer. The calculations, analysis model, SLRS, and drawings shall be submitted a minimum of 45 days prior to construction.

The Contractor shall submit shop drawings, load rating submittals, and other documents indicated above to the Engineer for review and approval.

Fabrication shall not proceed until approval of the shop drawings and design by the Engineer.

Method of Measurement. The precast culvert sections will be measured in feet. The overall length shall be measured from end-to-end of the box sections along the centerline of the structure, and shall omit the pay limits for the box culvert end sections (as applicable). Class SI concrete for grout placed between adjacent spans or mechanical connections between precast units will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per Foot for 'PRECAST CONCRETE BOX CULVERTS" (of the size and type specified in the contract plans) and shall include all work specified herein. The cost of other items described herein shall be included in this cost and will not be paid for separately.

BOX CULVERT END SECTIONS

Description. This work shall consist of the design, fabrication, and installation of the concrete box culvert end sections. All work shall be completed in accordance with Section 540 of the Standard Specifications and as specified herein.

All precast concrete structures shall be produced according to the latest Illinois Department of Transportation (IDOT) Policy Memorandum Quality Control/ Quality Assurance Program for Precast Products.

Design. The design of the precast concrete structure shall be in accordance with the Contract Plans and latest edition of the AASHTO LRFD Bridge Design Specifications (HL-93 Loading). In addition, the design shall be verified to ensure that the operating rating factors are greater than or equal to 1.00 for **ALL** Illinois Posting Vehicles and Routine Permit Vehicles in accordance with Section 4.4 of the IDOT Structural Services Manual, as well as for the Type EV2 and EV3 Emergency Vehicles (see FHWA policy dated November 3, 2016 at https://www.fhwa.dot.gov/bridge/loadrating/161103.cfm for loads and configurations).

The Contractor may elect to construct the end sections in the field using cast-in-place construction, however, strict adherence to the completion date as specified in the Contract Documents must still be followed. Additional time or compensation will not be given for constructing the end sections using cast-in-place construction.

Submittals. The Contractor shall submit shop drawings for precast sections, and complete design and construction documents, according to Article 1042.03(b) and Article 105.04 of the Standard Specifications for review and approval prior to starting construction. The submittals shall include all calculations, shop drawings, working drawings, etc. necessary to successfully construct the structure. Design, Construction Requirements and Submittals for the box culvert end sections shall adhere to the requirements set forth in the special provisions for "BOX CULVERT END SECTIONS" and "PRECAST CONCRETE BOX CULVERTS". All documents shall be prepared and sealed by an Illinois Licensed Structural Engineer for approval by the Engineer. The calculations, drawings, and other applicable items shall be submitted a minimum of 45 days prior to construction.

Method of Measurement. The box culvert end sections will be measured as EACH. Class SI concrete for grout placed between adjacent spans or mechanical connections between precast units will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per Each for "BOX CULVERT END SECTIONS CULVERT NO. 1" and shall include all work specified herein. The cost of other items described herein shall be included in this cost and will not be paid for separately.

TRAFFIC CONTROL AND PROTECTION (SPECIAL)

Description. Specific traffic control plan details and Special Provisions have been prepared for this contract. This work shall include all labor, materials, transportation, handling, and incidental work necessary to furnish, install, maintain, and remove all traffic control devices required as indicated in the plans and as approved by the Engineer.

Traffic is to be directed over a detour route for this project. The Contractor shall furnish, erect, maintain and remove all applicable traffic control devices along the detour route according to the details shown in the plans. If traffic control is required for work after the detour has been removed, the traffic control will be approved by the Engineer.

Special attention is called to Article 107.09 and Division 700 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Supplemental Specifications and Recurring Special Provisions, and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the Engineer at least **72 hours** before beginning work.

The Contractor shall be required to use the latest version of the Highway Standards listed below as traffic conditions and working conditions warrant.

Highway Standards:

Standard 701901

Special Provisions:

Detour Signing
Maintenance of Roadways / Traffic Control Deficiency

Details: The Contractor shall provide two changeable message signs at least seven days prior to starting construction through project completion, for all locations listed within the contract. The signs shall be located and programmed as directed by the Engineer. The changeable message signs will be paid for at the contract unit price per CAL DAY for "CHANGEABLE MESSAGE SIGN".

All Construction signs used shall meet the MUTCD, IDOT Highway Traffic Control Standards and Standard Specifications for Roadway and Bridge Construction Specifications for size, distances, and placement. If any time the signs are in place but not applicable, they shall either be removed, knocked face down to the ground, turned form the view of motorists, or covered as directed by the Engineer.

These signs shall have minimum dimensions of 48 inches by 48 inches and have a black legend and border on an orange reflectorized background. The legend shall read:

"ROAD CONSTRUCTION AHEAD"

Local Roads and Streets Standards:

BLR 17-4
BLR 21-9
BLR 22-7

IDOT District One Standards:

TC 10

Local Roads and Streets Recurring Special Provisions:

LRS3
LRS4

At the preconstruction meeting, the Contractor shall furnish the name and 24-hour contact information of the individual in its direct employ who is to be responsible for the installation and maintenance of the traffic control for this project. If the actual installation and maintenance are to be accomplished by a subcontractor, consent shall be requested of the Engineer at the time of the preconstruction meeting in accordance with Article 108.01 of the Standard Specifications. This shall not relieve the Contractor of the requirement to have a responsible individual in its direct employ supervise this work. The Engineer will provide the Contractor the name of its representative who will be responsible for the administration of the Traffic Control Detour Plan.

Method of Measurement. All traffic control indicated on the Traffic Control Detour Plan details and specified in the Special Provisions will be measured for payment on a lump sum basis.

Basis of Payment. All traffic control and protection will be paid for at the contract LUMP SUM price for "TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR", which price shall include all signing, setup, and maintenance of the detour for the duration of the contract, removal of the detour, and all other traffic control signing, barricades, cones barrels, flaggers, arrow boards required for work completed outside the detour, all labor, equipment, and material necessary for the completion of the work.

DETOUR SIGNING

Description: This work shall consist of installing and maintaining the required detour signs in accordance with the Detour Plan and Pedestrian Detour Plan in the plans.

Construction Requirements: Work shall be done according to Sections 701, 720, and 1106 of the Standard Specifications where applicable and as directed by the Engineer or herein specified.

The Contractor shall be responsible for the proper location, installation, condition, and maintenance of all traffic control devices. All signs and barricades utilized for the proposed detour(s) shall be new or in like new condition.

This item includes all signs, barricades, changeable message signs, pavement markings, traffic cones, warning lights, drums, flaggers, and other traffic control devices required for the type of operation being performed. This item also includes any and all traffic control work and traffic control standards that may be required for this contract. This pay item may also include any additional detour signing as required by the Engineer.

The Contractor shall ensure that access to private entrances is never eliminated. The Contractor shall complete any and all coordination necessary to maintain local traffic in a manner that will not hinder the delivery of mail by the U.S. Postal Service within the work zone. The cost of any necessary provisions will not be paid for separately, but shall be considered as included in the contract unit price for DETOUR SIGNING.

The Contractor shall at all times conduct the work in such a manner as to ensure the least obstruction to vehicular and pedestrian traffic. The convenience and safety of the general public and of the residents along the site shall be provided for in an adequate and satisfactory manner.

Basis of Payment: This item shall be paid for at the contract unit price per LUMP SUM for "DETOUR SIGNING", which price shall include all labor, material, and equipment necessary to complete the traffic control work as directed by the Engineer or as described herein.

MAINTENANCE OF ROADWAYS / TRAFFIC CONTROL DEFICIENCY

Beginning on the date that work begins on the project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the project. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

The Contractor shall commence work on all maintenance of roadways items within 2 hours of discovering such items or within 2 hours of notification by the Engineer and shall complete such items in an expediant and timely manner. Failure to do so can result in a ***deficiency of $2000 per calendar day***.

If items of maintenance work have not been provided for in the contract or otherwise specified for payment, such items, including the associated traffic control and protection required by the Engineer will be paid for in accordance with Article 109.04 of the Standard Specifications.

KANE COUNTY TELESCOPING STEEL SIGN POST

Description: This item shall include supplying and installing a telescoping steel sign post as shown on the plans.

Materials: The post shall be a square tube formed of 12 gauge steel according to the standard specification for cold rolled carbon steel sheets commercial quality ASTM A 1008 (A 1008M). The post shall be formed to size and, if necessary, shall be welded in such a manner that weld or flash shall not interfere with telescoping. Holes 7/16 ± 1/64 in. (11 ± 0.4 mm) will be spaced on 1 in. (25 mm) centers on at least two opposite sides. The holes shall align to accept a 3/8 in. (10 mm) bolt through the post at any location. The post shall have a smooth galvanized finish applied either before or after forming. For all other regulations refer to Section 1093 of the latest version of Illinois Standard Specifications for Bridge and Road Construction.

Stainless steel bolts and washers used for fastening extruded aluminum sign panels to supports, shall be according to ASTM A 276, Type 304. Stainless steels nuts shall be according to ASTM A 240 (A 240M), Type 304.

Basis of Payment: The telescoping steel sign post system will be paid per FOOT for "KANE COUNTY TELESCOPING STEEL SIGN POST", which shall be full compensation for all labor, equipment and materials required for performing the work as herein specified.

KANE COUNTY SIGN SUPPORT, SPECIAL

Description: This item shall include supplying and installing a soil base sign post support and anchoring system as shown on the plans.

Materials: The soil base sign post support and anchor system shall be a Traffic & Parking Control Co., Inc. (Tapco) V-Loc model #200-VS3 for 2" x 2" square post in soft soils. Tapco V-Loc model #200-VS1 for 2" x 2" square post shall be used with HMA shoulders. The anchor base shall be a minimum of 30" in length for both V-Loc models and shall be equipped with a V-Loc Wedge model #11502000 to lock sign post in place. No substitutes will be allowed.

The base is a "V" shaped socket, which shall be constructed from 1/4" [6 mm] x 1/4" [6 mm] steel angle and the 7/64" [2.7mm] steel plate. The angle, which is 30" [752mm] long, serves as the leg of the ground anchor. The steel plate shall be bent into a warped "V" shape, and is welded flush with the top of the angle to form a socket-to-soil bearing plate. One 3/4" [20mm] diameter x 7" [180mm] long hot rolled round bar shall extend diagonally from the corner of the "V" shaped plate to the angle. In addition to serving as a brace for the socket system, the bar also helps prevent soil from accumulating in the socket during driving. The steel plate is ASTM A-569 steel, and the angle and rod are A-36 steel.

The "V" shaped anchor is used with Round, Square, and U-Channel posts; however, a special adapter is used with the anchor when using a U-Channel post. This galvanized steel tube, following ASTM A-500B, has four holes punched in it to facilitate breakage upon impact. The adapter is attached to the U-Channel using two 7/16" [11mm] bolts. The adapter is inserted into the socket until the weakening holes are level with the top of the socket. A triangular wedge, following ASTM A-500B, shall be used to secure the adapter inside the socket. For a 4-1/2" [115mm] diameter signal pole, a special plate and socket are used to allow the poles to be used with the V-Loc system.

Basis of Payment: The soil base sign post support and anchoring system will be paid per EACH for "KANE COUNTY SIGN SUPPORT, SPECIAL", which shall be full compensation for all labor, equipment and materials required for performing the work as herein specified.

Telescoping Sign Post

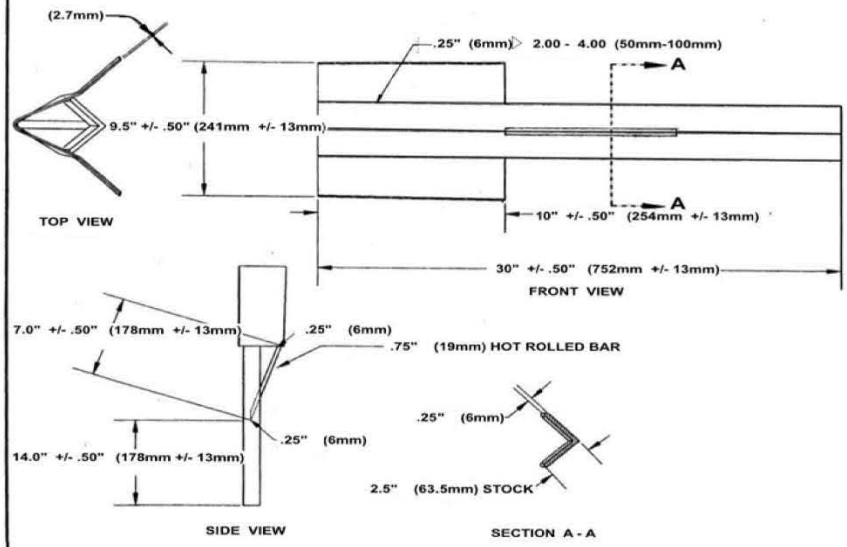
The post shall be a square tube formed of 12 gauge steel according to the standard specification for cold rolled carbon steel sheets commercial quality ASTM A 1008 (A 1008M). The post shall be formed to size and, if necessary, shall be welded in such a manner that weld or flash shall not interfere with telescoping. Holes 7/16 ± 1/64 in. (11 ± 0.4 mm) will be spaced on 1 in. (25 mm) centers on at least two opposite sides. The holes shall align to accept a 3/8 in. (10 mm) bolt through the post at any location. The post shall have a smooth galvanized finish applied either before or after forming. For all other regulations refer to Section 1093 of the latest version of Illinois Standard Specifications for Bridge and Road Construction.

Sign Bases

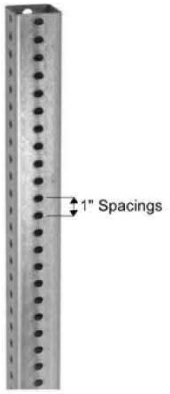
30" bases for breakaway telescoping sign supports shall be model V-Loc, #200-VS3, for use in soft soil and shall be manufactured by TAPCO (Traffic & Parking Control Co., Inc.)

Sign Base Wedge

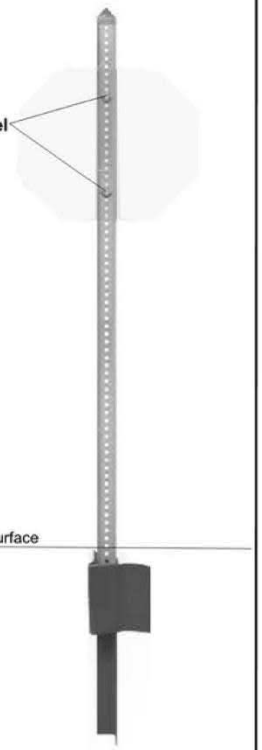
Galvanized Steel Wedge SWI for V-Loc® post bases



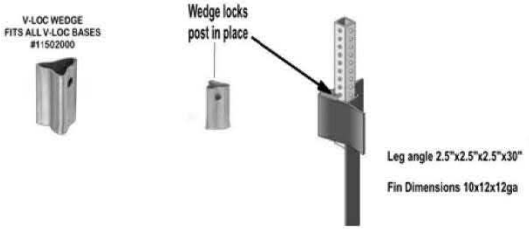
12 Gauge Telescoping Galvanized Square Post, 2"W x 2"D x min. 10'



Stainless steel bolts and washers used for fastening extruded aluminum sign panels to supports, shall be according to ASTM A 276, Type 304. Stainless steel nuts shall be according to ASTM A 240 (A 240M), Type 304.



Tapco #200-VS3 Traffic Post Breakaway Soil Anchor, for use with 2"x 2" Square Telescoping Post



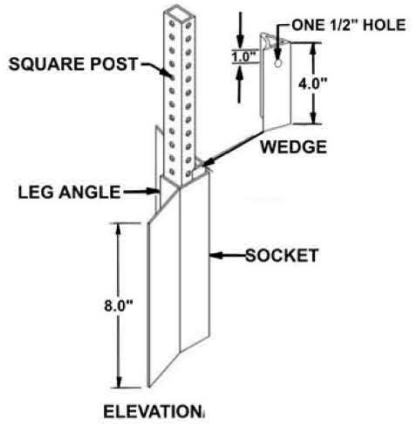
Kane County Division of Transportation
Specifications Telescoping Sign Post & Soil Bases

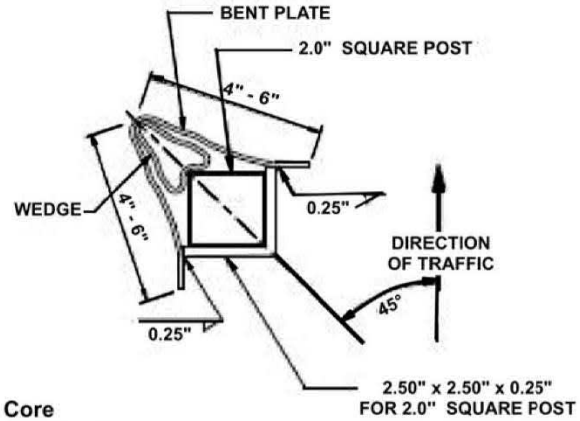
Date	Revisions
07/17	Sign Post Base Hardware

Specifications Telescoping Sign Post & Soil Bases

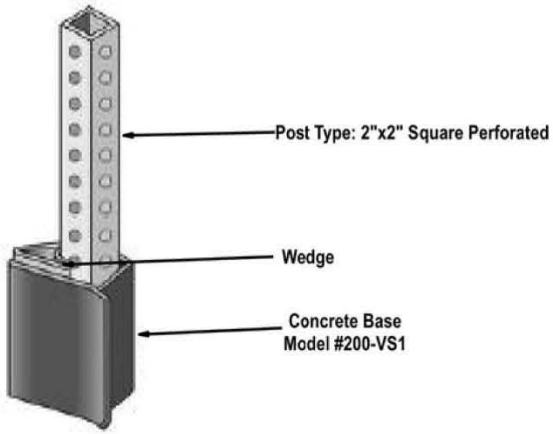
Sign Bases for Concrete & Asphalt Installation

Sign Bases for Concrete & Asphalt Installation, reusable breakaway anchors allow you to replace posts in a matter of a few minutes. The V-LocÂ® anchor socket can be installed into concrete, asphalt or dirt safely by one person, by either hand or power driver. Once the anchor is installed, simply insert the post, and drive in the patented wedge, which will lock the post into place without the need for any additional hardware. The V-LocÂ® requires no concrete in the soil. 200-VS1 Model, for 2" x 2" square posts going into Concrete, includes the wedge, post and anchor.

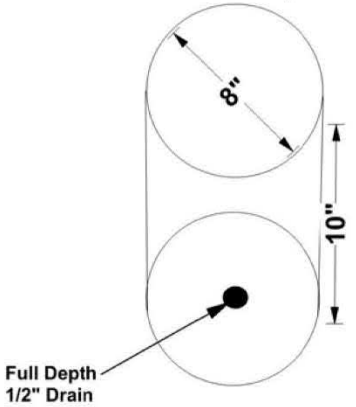




Concrete Base Assembly



Core Diameter/ Depth



Kane County Division of Transportation
Specifications Concrete & Asphalt Bases

Date	Revisions
07/17	Sign Bases Concrete & Asphalt

Specifications Concrete & Asphalt Bases

AGGREGATE SUBGRADE IMPROVEMENT (D-1)

Effective: February 22, 2012
Revised: April 1, 2016

Add the following Section to the Standard Specifications:

SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

303.01 Description. This work shall consist of constructing an aggregate subgrade improvement.

303.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.07
(b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3)	1031

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradation CS 01 but shall not exceed 40 percent by weight of the total product. The top size of the Coarse RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradation CS 01 is used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders. The final product shall not contain more than 40 percent by weight of RAP.

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".

303.03 Equipment. The vibratory machine shall be according to Article 1101.01, or as approved by the Engineer. The calibration for the mechanical feeders shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered.

303.04 Soil Preparation. The stability of the soil shall be according to the Department's Subgrade Stability Manual for the aggregate thickness specified.

303.05 Placing Aggregate. The maximum nominal lift thickness of aggregate gradation CS 01 shall be 24 in. (600 mm).

303.06 Capping Aggregate. The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

303.07 Compaction. All aggregate lifts shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

303.08 Finishing and Maintenance of Aggregate Subgrade Improvement. The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

303.09 Method of Measurement. This work will be measured for payment according to Article 311.08.

303.10 Basis of Payment. This work will be paid for at the contract unit price per CUBIC YARD (cubic meter) for "AGGREGATE SUBGRADE IMPROVEMENT" or at the contract unit price per square yard (square meter) for "AGGREGATE SUBGRADE IMPROVEMENT", of the thickness specified.

Add the following to Section 1004 of the Standard Specifications:

"**1004.07 Coarse Aggregate for Aggregate Subgrade Improvement.** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. The top 12 inches of the aggregate subgrade improvement shall be 3 inches of capping material and 9 inches of crushed gravel, crushed stone, or crushed concrete. In applications where greater than 36 inches of subgrade material is required, rounded gravel, meeting the CS01 gradation, may be used beginning at a depth of 12 inches below the bottom of pavement.

(b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials. Non-mechanically blended RAP may be allowed up to a maximum of 5.0 percent.

(c) Gradation.

(1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01.

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS (Metric) Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

(2) The 3 in. (75 mm) capping aggregate shall be gradation CA 6 or CA 10.

COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)

Effective: November 1, 2011
Revised: November 1, 2013

This work shall be according to Section 1004.05 of the Standard Specifications except for the following:

Reclaimed Asphalt Pavement (RAP) maybe blended with gravel, crushed gravel, crushed stone crushed concrete, crushed slag, chats, crushed sand stone or wet bottom boiler slag. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, Reclaimed Asphalt Pavement (RAP) for Aggregate Applications. The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.

The coarse aggregate listed above shall meet CA 6 and CA 10 gradations prior to being blended with the processed and uniformly graded RAP. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

FRICTION AGGREGATE (D-1)

Effective: January 1, 2011
Revised: November 1, 2019

Revise Article 1004.03(a) of the Standard Specifications to read:

"**1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA).** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate for HMA shall be according to the following table.

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	Allowed Alone or in Combination [5/]: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA Low ESAL	Stabilized Subbase or Shoulders	Allowed Alone or in Combination [5/]: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag[1/] Crushed Concrete
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	Allowed Alone or in Combination [5/ 6/]: Crushed Gravel Carbonate Crushed Stone[2/] Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete[3/]
HMA High ESAL Low ESAL	C Surface and Binder IL-9.5 or IL-9.5L SMA Ndesign 50 Surface	Allowed Alone or in Combination [5/]: Crushed Gravel Carbonate Crushed Stone[2/] Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag[4/] Crushed Concrete[3/]

<table>
<tr><th>Use</th><th>Mixture</th><th colspan="2">Aggregates Allowed</th></tr>
<tr><td rowspan="5">HMA
High ESAL</td><td rowspan="5">D Surface and Binder IL-9.5

SMA
Ndesign 50
Surface</td><td colspan="2"><u>Allowed Alone or in Combination</u> [5/]:

Crushed Gravel
Carbonate Crushed Stone (other than Limestone)[2/]
Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF)
Crushed Steel Slag[4/]
Crushed Concrete[3/]</td></tr>
<tr><td colspan="2"><u>Other Combinations Allowed:</u></td></tr>
<tr><td>Up to...</td><td>With...</td></tr>
<tr><td>25% Limestone</td><td>Dolomite</td></tr>
<tr><td>50% Limestone</td><td>Any Mixture D aggregate other than Dolomite</td></tr>
<tr><td>75% Limestone</td><td>Crushed Slag (ACBF) or Crushed Sandstone</td></tr>
<tr><td rowspan="5">HMA
High ESAL</td><td rowspan="5">E Surface
IL-9.5

SMA
Ndesign 80
Surface</td><td colspan="2"><u>Allowed Alone or in Combination</u> [5/ 6/]:

Crystalline Crushed Stone
Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag

No Limestone.</td></tr>
<tr><td colspan="2"><u>Other Combinations Allowed:</u></td></tr>
<tr><td>Up to...</td><td>With...</td></tr>
<tr><td>50% Dolomite[2/]</td><td>Any Mixture E aggregate</td></tr>
<tr><td>75% Dolomite[2/]</td><td>Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone</td></tr>
</table>

Use	Mixture	Aggregates Allowed	
		75% Crushed Gravel[2/] or Crushed Concrete[3/]	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag
HMA High ESAL	F Surface IL-9.5 SMA Ndesign 80 Surface	Allowed Alone or in Combination [5/ 6/]: Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		Other Combinations Allowed:	
		Up to...	*With..*
		50% Crushed Gravel[2/], Crushed Concrete[3/], or Dolomite[2/]	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

1/ Crushed steel slag allowed in shoulder surface only.
2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
3/ Crushed concrete will not be permitted in SMA mixes.
4/ Crushed steel slag shall not be used as leveling binder.
5/ When combinations of aggregates are used, the blend percent measurements shall be by volume."
6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80."

GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)

Effective: June 26, 2006
Revised: April 1, 2016

Add the following to the end of article 1032.05 of the Standard Specifications:

"(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

Test	Asphalt Grade GTR 70-28	Asphalt Grade GTR 64-28
Flash Point (C.O.C.), AASHTO T 48, °F (°C), min.	450 (232)	450 (232)
Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max.	30 (3)	30 (3)
Softening Point, AASHTO T 53, °F (°C), min.	135 (57)	130 (54)
Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min.	65	65

Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois modified AASHTO T 27, *a* 50 g sample of the GTR shall conform to the following gradation requirements:

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 µm)	95 ± 5
No. 50 (300 µm)	> 20

Add the following to the end of Note 1. of article 1030.03 of the Standard Specifications:

"A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent."

Revise 1030.02(c) of the Standard Specifications to read:

"(c) RAP Materials (Note 5) ……..1031"

Add the following note to 1030.02 of the Standard Specifications:

Note 5. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

HOT-MIX ASPHALT BINDER AND SURFACE COURSE (D-1)

Effective: November 1, 2019
Revised: November 1, 2020

Description. This work shall consist of constructing a hot-mix asphalt (HMA) binder and/or surface course on a prepared base. Work shall be according to Sections 406 and 1030 of the Standard Specifications, except as modified herein.

Materials. Revise Article 1004.03(c) to read:

" (c) Gradation. The coarse aggregate gradations shall be as listed in the following table.

Use	Size/Application	Gradation No.
Class A-1, A-2, & A-3	3/8 in. (10 mm) Seal	CA 16 or CA 20
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & A-3	Cover Coat	CA 14
HMA High ESAL	IL-19.0; Stabilized Subbase IL-19.0	CA 11 [1/]
	SMA 12.5 [2/]	CA 13[4/], CA 14, or CA 16
	SMA 9.5 [2/]	CA 13[3/4/] or CA 16[3/]
	IL-9.5	CA 16, CM 13[4/]
	IL-9.5FG	CA 16
HMA Low ESAL	IL-19.0L	CA 11 [1/]
	IL-9.5L	CA 16

1/ CA 16 or CA 13 may be blended with the CA 11.

2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.

3/ The specified coarse aggregate gradations may be blended.

4/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve."

Revise Article 1004.03(e) of the Supplemental Specifications to read:

"(e) Absorption. For SMA the coarse aggregate shall also have water absorption ≤ 2.0 percent."

HMA Nomenclature. Revise the "High ESAL" portion of the table in Article 1030.01 to read:

"High ESAL	Binder Courses	IL-19.0, IL-9.5, IL-9.5FG, IL-4.75, SMA 12.5, Stabilized Subbase IL-19.0
	Surface Courses	IL-9.5, IL-9.5FG, SMA 12.5, SMA 9.5"

Revise Article 1030.02 of the Standard Specifications and Supplemental Specifications to read:

"**1030.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.03
(b) Fine Aggregate	1003.03
(c) RAP Material	1031
(d) Mineral Filler	1011
(e) Hydrated Lime	1012.01
(f) Slaked Quicklime (Note 1)	
(g) Performance Graded Asphalt Binder (Note 2)	1032
(h) Fibers (Note 3)	
(i) Warm Mix Asphalt (WMA) Technologies (Note 4)	

Note 1. Slaked quicklime shall be according to ASTM C 5.

Note 2. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be a SBS PG 76-22 for IL-4.75, except where modified herein. The elastic recovery shall be a minimum of 80.

Note 3. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 4. Warm mix additives or foaming processes shall be selected from the Department's Qualified Producer List, "Technologies for the Production of Warm Mix Asphalt (WMA)"."

Mixture Design. Revise Article 1030.04(a)(1) of the Standard Specifications and the Supplemental Specifications to read:

High ESAL, MIXTURE COMPOSITION (% PASSING) [1/]										
Sieve Size	IL-19.0 mm		SMA 12.5		SMA 9.5		IL-9.5mm		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max
1 1/2 in (37.5 mm)										
1 in. (25 mm)		100								
3/4 in. (19 mm)	90	100		100						
1/2 in. (12.5 mm)	75	89	80	100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	90	100
#8 (2.36 mm)	20	42	16	24 [4/]	16	32 [4/]	34 [5/]	52 [2/]	70	90
#16 (1.18 mm)	15	30					10	32	50	65
#30 (600 μm)			12	16	12	18				
#50 (300 μm)	6	15					4	15	15	30
#100 (150 μm)	4	9					3	10	10	18
#200 (75 μm)	3	6	7.0	9.0 [3/]	7.5	9.5 [3/]	4	6	7	9 [3/]
#635 (20 μm)			≤ 3.0		≤ 3.0					
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.

3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.

4/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.

5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

Revise Article 1030.04(b)(1) of the Standard Specifications to read:

"(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0 percent, for IL-4.75 it shall be 3.5 percent and for Stabilized Subbase it shall be 3.0 percent at the design number of gyrations. The voids in the mineral aggregate (VMA) and voids filled with asphalt binder (VFA) of the HMA design shall be based on the nominal maximum size of the aggregate in the mix and shall conform to the following requirements.

VOLUMETRIC REQUIREMENTS High ESAL				
	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
Ndesign	IL-19.0; Stabilized Subbase IL- 19.0	IL-9.5	IL-4.75 1/	
50	13.5	15.0	18.5	65 – 78 2/
70				65 - 75
90				

1/ Maximum draindown for IL-4.75 shall be 0.3 percent.

2/ VFA for IL-4.75 shall be 72-85 percent."

Revise the table in Article 1030.04(b)(3) to read:

"VOLUMETRIC REQUIREMENTS, SMA 12.5 1/ and SMA 9.5 1/			
Ndesign	Design Air Voids Target %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
80 4/	3.5	17.0 2/	75 - 83
		16.0 3/	

1/ Maximum draindown shall be 0.3 percent. The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30 °F.

2/ Applies when specific gravity of coarse aggregate is ≥ 2.760.

3/ Applies when specific gravity of coarse aggregate is < 2.760.

4/ Blending of different types of aggregate will not be permitted.
For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone, or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

Add to the end of Article 1030.05 (d) (2) a. of the Standard Specifications:

"During production, the Contractor shall test SMA mixtures for draindown according to AASHTO T305 at a frequency of 1 per day of production."

Revise the last paragraph of Article 1102.01 (a) (5) of the Standard Specifications to read:

"IL-4.75 and Stone Matrix Asphalt (SMA) mixtures which contain aggregate having absorptions greater than or equal to 2.0 percent, or which contain steal slag sand, shall have minimum surge bin storage plus haul time of 1.5 hours."

Quality Control/Quality Assurance (QC/QA). Revise the third paragraph of Article 1030.05(d)(3) to read:

" If the Contractor and Engineer agree the nuclear density test method is not appropriate for the mixture, cores shall be taken at random locations determined according to the QC/QA document Determination of Random Density Test Site Locations. Core densities shall be determined using the Illinois Modified AASHTO T 166 or T 275 procedure."

Add the following paragraphs to the end of Article 1030.05(d)(3):

" Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement). Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.

b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location.

When a longitudinal joint sealant (LJS) is applied, longitudinal joint density testing will not be required on the joint(s) sealed."

Revise the second table in Article 1030.05(d)(4) and its notes to read:

"DENSITY CONTROL LIMITS			
Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density, minimum
IL-4.75	Ndesign = 50	93.0 – 97.4 % 1/	91.0%
IL-9.5FG	Ndesign = 50 - 90	93.0 – 97.4 %	91.0%
IL-9.5	Ndesign = 90	92.0 – 96.0 %	90.0%
IL-9.5, IL-9.5L,	Ndesign < 90	92.5 – 97.4 %	90.0%
IL-19.0	Ndesign = 90	93.0 – 96.0 %	90.0%
IL-19.0, IL-19.0L	Ndesign < 90	93.0 2/ – 97.4 %	90.0%
SMA	Ndesign = 80	93.5 – 97.4 %	91.0%

1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge.

2/ 92.0 % when placed as first lift on an unimproved subgrade."

Equipment. Add the following to Article 1101.01 of the Standard Specifications:

" (h)Oscillatory Roller. The oscillatory roller shall be self-propelled and provide a smooth operation when starting, stopping, or reversing directions. The oscillatory roller shall be able to operate in a mode that will provide tangential impact force with or without vertical impact force by using at least one drum. The oscillatory roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup. The drum(s) amplitude and frequency of the tangential and vertical impact force shall be approximately the same in each direction and meet the following requirements:

(1) The minimum diameter of the drum(s) shall be 42 in. (1070 mm);

(2) The minimum length of the drum(s) shall be 57 in. (1480 mm);

(3) The minimum unit static force on the drum(s) shall be 125 lb./in. (22 N/m); and

(4) The minimum force on the oscillatory drum shall be 18,000 lb. (80 kN)."

Construction Requirements.

Add the following to Article 406.03 of the Standard Specifications:

"(j) Oscillatory Roller ..... 1101.01"

Revise the third paragraph of Article 406.05(a) to read:

" All depressions of 1 in. (25 mm) or more in the surface of the existing pavement shall be filled with binder. At locations where heavy disintegration and deep spalling exists, the area shall be cleaned of all loose and unsound material, tacked, and filled with binder (hand method)."

Revise Article 406.05(c) to read.

" (c) Binder (Hand Method). Binder placed other than with a finishing machine will be designated as binder (hand method) and shall be compacted with a roller to the satisfaction of the Engineer. Hand tamping will be permitted when approved by the Engineer."

Revise the special conditions for mixture IL-4.75 in Article 406.06(b)(2)e. to read:

" e. The mixture shall be overlaid within 5 days of being placed."

Revise Article 406.06(d) to read:

" (d) Lift Thickness. The minimum compacted lift thickness for HMA binder and surface courses shall be as follows.

MINIMUM COMPACTED LIFT THICKNESS	
Mixture Composition	Thickness, in. (mm)
IL-4.75	3/4 (19) - over HMA surfaces 1/ 1 (25) - over PCC surfaces 1/
IL-9.5FG	1 1/4 (32)
IL-9.5, IL-9.5L	1 1/2 (38)
SMA 9.5	1 3/4 (45)
SMA 12.5	2 (51)
IL-19.0, IL-19.0L	2 1/4 (57)

1/ The maximum compacted lift thickness for mixture IL-4.75 shall be 1 1/4 in. (32 mm)."

Revise Table 1 and Note 3/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

"TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA				
	Breakdown Roller (one of the following)	Intermediate Roller	Final Roller (one or more of the following)	Density Requirement
Binder and Surface 1/	V_D, P 3/, T_B, 3W, O_T, O_B	P 3/, O_T, O_B	V_S, T_B, T_F, O_T	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
IL-4.75 and SMA 4/ 5/	T_B, 3W, O_T	- -	T_F, 3W, O_T	
Bridge Decks 2/	T_B	- -	T_F	As specified in Articles 582.05 and 582.06.

3/ A vibratory roller (V_D) or oscillatory roller (O_T or O_B) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder.

5/ The Contractor shall provide two steel-wheeled tandem (T_B) or three-wheel (3W) rollers for breakdown, except one of the (T_B) or (3W) rollers shall be 84 inches (2.14 m) wide and a weight of 315 pound per linear inch (PLI) (5.63 kg/mm). 3W, T_B and T_F rollers shall be a minimum of 280 lb./in. (50 N/mm). The 3W and T_B rollers shall be operated at a uniform speed not to exceed 3 mph (5 km/h), with the drive roll for T_B rollers nearest the paver and maintain an effective rolling distance of not more than 150 ft (45 m) behind the paver."

Add the following to "EQUIPMENT DEFINITION" in Article 406.07(a) contained in the Errata of the Supplemental Specifications:

" O_T - Oscillatory roller, tangential impact mode. Maximum speed is 3.0 mph (4.8 km/h) or 264 ft/min (80 m/min).

O_B - Oscillatory roller, tangential and vertical impact mode, operated at a speed to produce not less than 10 vertical impacts/ft (30 impacts/m)."

Delete last sentence of the second paragraph of Article 1102.01(a) (4) b. 2.

Add to the end of Article 1102.01 (a) (4) b. 2.:

"As an option, collected dust (baghouse) may be used in lieu of manufactured mineral filler according to the following:

(a.) Sufficient collected dust (baghouse) is available for production of the SMA mix for the entire project.

(b.) A mix design was prepared based on collected dust (baghouse).

Production Testing. Revise first paragraph of Article 1030.06(a) of the Standard Specifications to read:

"(a) High ESAL Mixtures. A test strip of 300 ton (275 metric tons), except for SMA mixtures it will be 400 ton (363 metric ton), will be required for each mixture on each contract at the beginning of HMA production for each construction year according to the Manual of Test Procedures for Materials "Hot Mix Asphalt Test Strip Procedures". At the request of the Producer, the Engineer may waive the test strip if previous construction during the current construction year has demonstrated the constructability of the mix using Department test results."

Method of Measurement:

Add the following after the fourth paragraph of Article 406.13 (b):

"The plan quantities of SMA mixtures shall be adjusted using the actual approved binder and surface Mix Design's G_{mb}."

Basis of Payment. Replace the second through the fifth paragraphs of Article 406.14 with the following:

" HMA binder and surface courses will be paid for at the contract unit price per TON (metric ton) for "MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS; HOT-MIX ASPHALT BINDER COURSE (HAND METHOD)", of the Ndesign specified; "HOT-MIX ASPHALT BINDER COURSE", of the mixture composition and Ndesign specified;

"HOT-MIX ASPHALT SURFACE COURSE", of the mixture composition, friction aggregate, and Ndesign specified; "POLYMERIZED HOT-MIX ASPHALT BINDER COURSE (HAND METHOD)", of the Ndesign specified; "POLYMERIZED HOT-MIX ASPHALT BINDER COURSE", of the mixture composition and Ndesign specified; "POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE", of the mixture composition, friction aggregate, and Ndesign specified; "POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT", of the mixture composition and Ndesign specified; "POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT", of the mixture composition, friction aggregate, and Ndesign specified."

MAINTENANCE OF ROADWAYS (D-1)

Effective: September 30, 1985
Revised: November 1, 1996

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the Standard Specifications.

PUBLIC CONVENIENCE AND SAFETY (DIST 1)

Effective: May 1, 2012
Revised: July 15, 2012

Add the following to the end of the fourth paragraph of Article 107.09:

> "If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply."

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

> "The Length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday After"

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

> "On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical."

RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1)

Effective: November 1, 2012
Revise: November 1, 2019

Revise Section 1031 of the Standard Specifications to read:

"**SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

1031.01 Description. Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

(a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.

(b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Central Bureau of Materials approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve. RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.

(1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.

(2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

1031.02 Stockpiles. RAP and RAS stockpiles shall be according to the following.

(a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc.…).

(1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mixture composition of the mix design.

(2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, HMA (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 in. (75 mm) single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.

(3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP

may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or HMA (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP or FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, plant cleanout etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

(b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.

However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of Type 1 RAS with Type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

1031.03 Testing. FRAP and RAS testing shall be according to the following.

(a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

(2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.

(3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or

by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Before extraction, each field sample of FRAP, shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources". The Contractor shall also sample as incoming material at the HMA plant.

(1) During Stockpiling. Washed extraction and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.

(2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

The Contractor shall obtain and make available all test results from start of the initial stockpile sampled and tested at the shingle processing facility in accordance with the facility's QC Plan.

Before extraction, each field sample shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

1031.04 Evaluation of Tests. Evaluation of test results shall be according to the following.

(a) Evaluation of FRAP Test Results. All test results shall be compiled to include asphalt binder content, gradation and, when applicable (for slag), G_{mm}. A five test average of results from the original pile will be used in the mix designs. Individual extraction test results run thereafter, shall be compared to the average used for the mix design, and will be accepted if within the tolerances listed below.

Parameter	FRAP
No. 4 (4.75 mm)	± 6 %
No. 8 (2.36 mm)	± 5 %
No. 30 (600 µm)	± 5 %
No. 200 (75 µm)	± 2.0 %
Asphalt Binder	± 0.3 %
G_{mm}	± 0.03 [1/]

1/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Reclaimed Asphalt Pavement Aggregate Bulk Specific Gravity".

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

The Contractor shall maintain a representative moving average of five tests to be used for Hot-Mix Asphalt production.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the ITP, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)" or Illinois Modified AASHTO T-164-11, Test Method A.

(b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.5 %
Asphalt Binder Content	± 2.0 %

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the RAS shall not be used in Hot- Mix Asphalt unless the RAS representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

(c) Quality Assurance by the Engineer. The Engineer may witness the sampling and splitting conduct assurance tests on split samples taken by the Contractor for quality control testing a minimum of once a month.

The overall testing frequency will be performed over the entire range of Contractor samples for asphalt binder content and gradation. The Engineer may select any or all split samples for assurance testing. The test results will be made available to the Contractor as soon as they become available.

The Engineer will notify the Contractor of observed deficiencies.

Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits.

Test Parameter	Acceptable Limits of Precision	
% Passing:[1/]	FRAP	RAS
1/2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	4.0%
No. 200	2.2%	4.0%
Asphalt Binder Content	0.3%	3.0%
G_{mm}	0.030	

1/ Based on washed extraction.

In the event comparisons are outside the above acceptable limits of precision, the Engineer will immediately investigate.

(d) Acceptance by the Engineer. Acceptable of the material will be based on the validation of the Contractor's quality control by the assurance process.

1031.05 Quality Designation of Aggregate in RAP and FRAP.

(a) RAP. The aggregate quality of the RAP for homogeneous, conglomerate, and conglomerate "D" quality stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

(1) RAP from Class I, HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.

(2) RAP from HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.

(3) RAP from Class I, HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.

(4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

(b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate

portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of "B" quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

1031.06 Use of FRAP and/or RAS in HMA. The use of FRAP and/or RAS shall be the Contractor's option when constructing HMA in all contracts.

(a) FRAP. The use of FRAP in HMA shall be as follows.

(1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.

(2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.

(3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.

(4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.

(5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.

(b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.

(c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.

When FRAP is used alone or FRAP is used in conjunction with RAS, the percent of virgin asphalt binder replacement (ABR) shall not exceed the amounts listed below for a given N Design.

Maximum Asphalt Binder Replacement (ABR) for FRAP with RAS Combination

HMA Mixtures 1/ 2/ 4/	Maximum % ABR		
Ndesign	Binder 5/	Surface 5/	Polymer Modified 3/
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
SMA			30
IL-4.75			40

1/ For Low ESAL HMA shoulder and stabilized subbase, the percent asphalt binder replacement shall not exceed 50 % of the total asphalt binder in the mixture.

2/ When the binder replacement exceeds 15 % for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 % binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 %, the required virgin asphalt binder grade shall be PG64-28.

3/ When the ABR for SMA or IL-4.75 is 15 % or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.

4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10 %.

5/ When the mix has Illinois Flexibility Index Test (I-FIT) requirements, the maximum percent asphalt binder replacement designated on the table may be increased by 5%.

1031.07 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing FRAP and/or RAS material meeting the detailed requirements specified herein.

(a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.

(b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design.

The RAP, FRAP and RAS stone specific gravities (G_{sb}) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity (G_{sb}) of Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

1031.08 HMA Production. HMA production utilizing FRAP and/or RAS shall be as follows:

A scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAS and FRAP feed system to remove or reduce oversized and agglomerated material.

If during mix production, corrective actions fail to maintain FRAP, RAS or QC/QA test results within control tolerances or the requirements listed herein, the Contractor shall cease production of the mixture containing FRAP or RAS and conduct an investigation that may require a new mix design.

(a) FRAP. The coarse aggregate in all FRAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

(b) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.

(c) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

a. Date, month, year, and time to the nearest minute for each print.

b. HMA mix number assigned by the Department.

c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.

g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)

i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.

j. Accumulated mixture tonnage.

k. Dust Removed (accumulated to the nearest 0.1 ton (0.1 metric ton))

(2) Batch Plants.

a. Date, month, year, and time to the nearest minute for each print.

b. HMA mix number assigned by the Department.

c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).

d. Mineral filler weight to the nearest pound (kilogram).

e. RAS and FRAP weight to the nearest pound (kilogram).

f. Virgin asphalt binder weight to the nearest pound (kilogram).

g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B.

The use of RAP in aggregate surface course and aggregate shoulders shall be as follows:

(a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".

(b) Gradation. The RAP material shall meet the gradation requirements for CA 6 according to Article 1004.01(c), except the requirements for the minus No. 200 (75 μm) sieve shall not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation."

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION FOR INSURANCE

Effective: February 1, 2007
Revised: August 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

The Contractor shall name the following entities as additional insured under the Contractor's general liability insurance policy in accordance with Article 107.27:

Kane County

Village of Kaneville

Kaneville Township

The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route	Marked Route	Section Number
CH 4	Harter Road	19-00509-00-BR
Project Number	**County**	**Contract Number**
N/A	Kane County	N/A

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issued by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature	Date

Print Name	Title	Agency
Carl Schoedel, P.E.	County Engineer	Kane Co. Division of Transportation

Note: Guidance on preparing each section of BDE 2342 can be found in Chapter 41 of the IDOT Bureau of Design and Environment (BDE) Manual. Chapter 41 and this form also reference the IDOT Drainage Manual which should be readily available.

I. Site Description:

A. Provide a description of the project location; include latitude and longitude, section, town, and range:

The proposed Harter Road over Tributary #2 to Welch Creek Culvert Replacement project area is located west of the Village of Kaneville, Kane County, Illinois. The project is located northwest of the intersection of Harter Road at Dauberman Road in section 22, Township T39N, and Range 6E. The project length is 0.05 miles from station 101+18 to 104+10 along Harter Road. (Latitude: 41.8401805° N, Longitude: 88.5283138° W)

B. Provide a description of the construction activity which is the subject of this plan. Include the number of construction stages, drainage improvements, in-stream work, installation, maintenance, removal of erosion measures, and permanent stabilization:

The work to be performed under this contract consists of the removal and replacement of the existing culvert structure, pavement removal, full depth HMA pavement and shoulders, steel sheet piling retaining wall, excavation/embankment, riprap, guardrail and terminals, pavement marking, signing, and restoration.

C. Provide the estimated duration of this project:

3 months

D. The total area of the construction site is estimated to be 0.53 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 0.27 acres.

E. The following are weighted averages of the runoff coefficient for this project before and after construction activities are completed; see Section 4-102 of the IDOT Drainage Manual:

C = 0.77 before, C = 0.82 after

F. List all soils found within project boundaries; include map unit name, slope information, and erosivity:

Kaneville silt loam, 2 to 5 percent slopes (667B)
Dresden silt loam, 2 to 4 percent slopes (325B)
Drummer silty clay loam, 0 to 2 percent slopes (152A) - Hydric

G. If wetlands were delineated for this project, provide an extent of wetland acreage at the site; see Phase I report:

There is one wetland running through the project area, present on the north and south sides of Harter Road. A total of 0.11 acres of wetland was identified within the project area.

H. Provide a description of potentially erosive areas associated with this project:

During construction activities, the areas with the greatest potential for erosion are the ditches along Harter Road and the embankment slopes behind guardrails and the sheet pile wall. These locations will need to be protected with heavy duty erosion control blanket. Culvert end sections will need to be protected against erosion with riprap placed on filter fabric. Temporary ditch checks (aggregate and rolled excelsior) will be placed in the ditches to prevent siltation, erosion and scouring of the ditches and temporary erosion control seeding will be provided to prevent erosion of the banks. After construction, stone riprap and filter fabric will be placed at the culvert wingwalls and along the banks of the tributary to dissipate the flow and prevent erosion. The ditches will be vegetated and covered with temporary erosion control blanket.

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g., steepness of slopes, length of slopes, etc.):

The ground will be disturbed for the majority of the project due to the removal of current stabilization (vegetation and asphalt) to remove and replace the culvert and widen the road shoulders. During the replacement of the culvert the channel will be shaped, then the riprap protection will be placed. Filter bag systems will be utilized to control sediment release to the tributary for all dewatering processes required to replace the culvert structure or channel stabilization. Cofferdams, consisting of sheet piling or temporary concrete barriers, will be in place to prevent erosion of the bare banks and water quality impacts of the active construction. During the grading and shaping of the ditches, the bare soil will be protected by temporary ditch checks, temporary seed, and temporary erosion control blanket prior to final stabilization. The embankments will be protected from erosion by vegetation and erosion control blankets.

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) , and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:

Kane County

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located:

Kane County will have reporting jurisdiction for this project.

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. In addition, include receiving waters that are listed as Biologically Significant Streams by the Illinois Department of Natural Resources (IDNR). The location of the receiving waters can be found on the erosion and sediment control plans:

Tributary #2 to Welch Creek flows southeast from the project area into Welch Creek. Welch Creek originates from the northeast, flows in a generally. southwest direction, and continues until its juncture with Big Rock Creek approximately 6.8 miles to the south.

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes (i.e., 1:3 or steeper), highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc. Include any commitments or requirements to protect adjacent wetlands.

For any storm water discharges from construction activities within 50-feet of Waters of the U.S. (except for activities for water-dependent structures authorized by a Section 404 permit, describe: a) How a 50-foot undisturbed natural buffer will be provided between the construction activity and the Waters of the U.S. or b) How additional erosion and sediment controls will be provided within that area.

The contractor will be prohibited from entering areas outside of the project area and these areas will be protected by perimeter erosion barrier (silt fence). In-stream work in the tributary will require cofferdams or barriers to prevent site work from flowing water and reduce the potential for erosion and water quality impacts.

O. Per the Phase I document, the following sensitive environmental resources are associated with this project and may have the potential to be impacted by the proposed development. Further guidance on these resources is available in Section 41-4 of the BDE Manual.

Wetlands, Floodplain

☐ 303(d) Listed receiving waters for suspended solids, turbidity, or siltation.
The name(s) of the listed water body, and identification of all pollutants causing impairment:

N/A

Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

N/A

Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

N/A

Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

N/A

☐ Applicable Federal, Tribal, State, or Local Programs

N/A

☒ Floodplain

The FEMA Flood Insurance map identifies floodplain elevations of 785 within the project area. The installation of permanent sheet piling will eliminate any potential for floodplain fill within the project area.

☐ Historic Preservation

N/A

☐ Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation

TMDL (fill out this section if checked above)

The name(s) of the listed water body:

N/A

Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

N/A

If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation:

N/A

☐ Threatened and Endangered Species/Illinois Natural Areas (INAI)/Nature Preserves

N/A

☐ Other

N/A

☒ Wetland

There are 0.11 total acres of wetland within the project area. The culvert replacement results in 0.0152 acre temporary impacts and 0.00149 permanent impacts.

P. The following pollutants of concern will be associated with this construction project:

- ☒ Antifreeze / Coolants
- ☒ Concrete
- ☒ Concrete Curing Compounds
- ☒ Concrete Truck Waste
- ☒ Fertilizers / Pesticides
- ☐ Paints
- ☒ Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)
- ☒ Soil Sediment
- ☒ Solid Waste Debris
- ☐ Solvents
- ☒ Waste water from cleaning construction equipments
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in Section I.C above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. **Erosion and Sediment Controls:** At a minimum, controls must be coordinated, installed and maintained to:

1. Minimize the amount of soil exposed during construction activity;
2. Minimize the disturbance of steep slopes;
3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible;
4. Minimize soil compaction and, unless infeasible, preserve topsoil.

B. **Stabilization Practices:** Provided below is a description of interim and permanent stabilization practices, including site- specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II.B.1 and II.B.2, stabilization measures shall be initiated **immediately** where construction activities have temporarily or permanently ceased, but in no case more than **one (1) day** after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- ☒ Erosion Control Blanket / Mulching
- ☐ Geotextiles
- ☒ Permanent Seeding
- ☒ Preservation of Mature Seeding
- ☐ Protection of Trees
- ☐ Temporary Turf (Seeding, Class 7)
- ☐ Temporary Mulching
- ☐ Vegetated Buffer Strips
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

☒ Sodding ☒ Temporary Erosion Control Seeding ☐ Other (Specify) ☐ Other (Specify) _____

Describe how the stabilization practices listed above will be utilized during construction:

Mature vegetation will be preserved where possible.Temporary erosion control seeding will be utilized if the project requires a prolonged, but temporary pause in work greater than 14 days.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

Permanent seeding and erosion control blanket will be placed once all proposed grading and improvements have been completed.

C. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

☐	Aggregate Ditch	☐	Stabilized Construction Exits
☐	Concrete Revetment Mats	☐	Stabilized Trench Flow
☐	Dust Suppression	☐	Slope Mattress
☒	Dewatering Filtering	☐	Slope Walls
☐	Gabions	☒	Temporary Ditch Check
☒	In-Stream or Wetland Work	☐	Temporary Pipe Slope Drain
☐	Level Spreaders	☐	Temporary Sediment Basin
☐	Paved Ditch	☐	Temporary Stream Crossing
☐	Permanent Check Dams	☐	Turf Reinforcement Mats
☒	Perimeter Erosion Barrier	☒	Other (Specify) Aggregate ditch checks
☐	Permanent Sediment Basin	☒	Other (Specify) Filter fabric
☐	Retaining Walls	☐	Other (Specify)
☒	Riprap	☐	Other (Specify)
☐	Rock Outlet Protection	☐	Other (Specify)
☐	Sediment Trap	☐	Other (Specify)
☐	Storm Drain Inlet Protection	☐	Other (Specify)

Describe how the structural practices listed above will be utilized during construction:

Perimeter Erosion Barrier will be installed along the perimeter of the project area to prevent sediment from leaving the site and temporary ditch checks will be utilized to prevent erosion and scouring of the existing ditches.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Riprap and filter fabric will be placed at the culvert opening and wingwalls, and along the banks of the tributary to dissipate the flow to prevent erosion and scouring.

D. **Treatment Chemicals**

Will polymer flocculants or treatment chemicals be utilized on this project: ☐ Yes ☒ No

If *yes* above, identify where and how polymer flocculants or treatment chemicals will be utilized on this project.

N/A

E. **Permanent (i.e., Post-Construction) Storm Water Management Controls:** Provided below is a description of measures that will be installed during the construction process to control volume and pollutants in storm water discharges that will occur after construction operations have been completed.The installation of these devices may be subject to Section 404 of the Clean Water Act.

1. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

   The practices selected for implementation were determined based on the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT BDE Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

2. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of permanent storm water management controls:

The roadside ditches will be vegetated to promote infiltration and filtration of stormwater runoff. The banks of the tributary and surrounding the culvert wingwalls will have riprap with underlying filter fabric for erosion control and velocity dissipation.

F. **Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the IEPA's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.
Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

In accordance with the current Kane County Stormwater Management Ordinance, Kane-DuPage Soil and Water Conservation District, and the US Army Corps of Engineers.

G. **Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342A.

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:
   - Approximate duration of the project, including each stage of the project
   - Rainy season, dry season, and winter shutdown dates
   - Temporary stabilization measures to be employed by contract phases
   - Mobilization time-frame
   - Mass clearing and grubbing/roadside clearing dates
   - Deployment of Erosion Control Practices
   - Deployment of Sediment Control Practices (including stabilized cons
   - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
   - Paving, saw-cutting, and any other pavement related operations
   - Major planned stockpiling operation
   - Time frame for other significant long-term operations or activities that may plan non-storm water discharges as dewatering, grinding, etc
   - Permanent stabilization activities for each area of the project

2. During the pre-construction meeting, the Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
   - Temporary Ditch Checks - Identify what type and the source of Temporary Ditch Checks that will be installed as part of the project. The installation details will then be included with the SWPPP.
   - Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
   - Material Delivery, Storage and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
   - Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
   - Waste Disposal - Discuss methods of waste disposal that will be used for this project.
   - Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)
   - Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
   - Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
   - Vehicle and Equipment Fueling - Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
   - Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
   - Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
   - Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
   - Additional measures indicated in the plan.

III. Maintenance:

When requested by the Contractor, the Resident Engineer will provide general maintenance guides (e.g., IDOT Erosion and Sediment Control Field Guide) to the Contractor for the practices associated with this project. Describe how all items will be checked for structural integrity, sediment accumulation and functionality. Any damage or undermining shall be repaired immediately. Provide specifics on how repairs will be made. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be the Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

Vegetative soil erosion measures - the vegetative growth of temporary and permanent seeding, vegetative filters, etc., shall be maintained periodically and supplied adequate watering and fertilizer. The vegetative cover shall be removed and reseeded as necessary.

Water treatment systems (ie: soil flocculant systems, filter bags, inlet filters, etc.) will be cleaned and items replaced as recommended by the designer of the system. Sediment accumulation will be removed at a minimum when the height is equal to 50% of the volume of the treatment.

Perimeter erosion barrier, temporary ditch checks, and rolled excelsior logs will be examined regularly and repaired as necessary. Sediment shall be removed when it reaches a height equal to 50% of the height of the barrier.

Stabilized access road and stabilized construction exits (if required) shall have sediment build up removed as necessary.

IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site including Borrow, Waste, and Use Areas, which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report, BC 2259. Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm or by the end of the following business or work day that is 0.5 inch or greater or equivalent snowfall.

Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Non-Compliance" (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:
Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. Failure to Comply:

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.

Illinois Department of Transportation

Contractor Certification Statement

Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.G of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractor/subcontractor completing this form.

Route	Marked Route	Section Number
CH 4	Harter Road	19-00509-00-BR

Project Number	County	Contract Number
N/A	Kane County	N/A

This certification statement is a part of SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR 10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Additionally, I have read and understand all of the information and requirements stated in SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

☒ Contractor
☐ Sub-Contractor

Signature	Date

Print Name	Title

Name of Firm	Phone

Street Address	City	State	Zip Code

Items which this Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Division of Water Pollution Control
Notice of Intent (NOI) for General Permit
to Discharge Storm Water Associated with Construction Site Activities

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at the above address.

For Office Use Only

Permit No. ILR10 _____

OWNER INFORMATION

Company/Owner Name: Kane County Division of Transportation

Mailing Address: 41W011 Burlington Road Phone: 630-584-1170

City: St. Charles State: IL Zip: 60175 Fax: 630-584-5265

Contact Person: Carl Schoedel, P.E. E-mail: schoedelcarl@co.kane.il.us

Owner Type (select one) County

MS4 Community: ☑ Yes ☐ No

CONTRACTOR INFORMATION

Contractor Name:

Mailing Address: Phone:

City: State: Zip: Fax:

CONSTRUCTION SITE INFORMATION

Select One: ◉ New ○ Change of information for: ILR10 _____

Project Name: Harter Road over Tributary #2 to Welch Creek 19-00509-00-BR County: Kane

Street Address: Harter Road City: Kaneville IL Zip: 60119

Latitude: 41 (Deg) 50 (Min) 24.65 (Sec) Longitude: 88 (Deg) 31 (Min) 41.93 (Sec) 22 Section T39N Township **6E** Range

Approximate Construction Start Date Jun 1, 2021 Approximate Construction End Date Aug 31, 2020

Total size of construction site in acres: 0.53

If less than 1 acre, is the site part of a larger common plan of development?

○ Yes ☑ No

Fee Schedule for Construction Sites:
Less than 5 acres - $250
5 or more acres - $750

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Has the SWPPP been submitted to the Agency? ☑ Yes ☐ No

(Submit SWPPP electronically to: epa.constilr10swppp@illinois.gov)

Location of SWPPP for viewing: Address: On-Site City:

SWPPP contact information:

Inspector qualifications:

Contact Name:

Phone: Fax: E-mail:

Project inspector, if different from above

Inspector qualifications:

Inspector's Name:

Phone: Fax: E-mail:

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42) and may also prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

TYPE OF CONSTRUCTION (select one)

Construction Type Reconstruction

SIC Code: _____

Type a detailed description of the project:

The work to be performed under this contract consists of the removal and replacement of the existing culvert structure, pavement removal, full depth HMA pavement and shoulders, steel sheet piling retaining wall, excavation/embankment, riprap, guardrail and terminals, pavement marking, signing, and restoration.

HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE

Has the project been submitted to the following state agencies to satisfy applicable requirements for compliance with Illinois law on:

Historic Preservation Agency	○ Yes	◉ No	https://www2.illinois.gov/dnrhistoric/Preserve/Pages/Resource-Protection.aspx
Endangered Species	○ Yes	◉ No	http://dnr.illinois.gov/ecopublic/

RECEIVING WATER INFORMATION

Does your storm water discharge directly to: ☑ Waters of the State or ☐ Storm Sewer

Owner of storm sewer system: Kane County Division of Transportation

Name of closest receiving water body to which you discharge: Tributary #2 to Welch Creek

Mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section
Post Office Box 19276
Springfield, Illinois 62794-9276
or call (217) 782-0610
FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the development and implementation of a storm water pollution prevention plan and a monitoring program plan, will be complied with.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

_____ _____

Owner Signature: Date:

_____ _____

Printed Name: Title:

INSTRUCTIONS FOR COMPLETION OF CONSTRUCTION ACTIVITY NOTICE OF INTENT (NOI) FORM

Submit original, electronic or facsimile copies. Facsimile and/or electronic copies should be followed-up with submission of an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the upper right hand corner of the first page.

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Permit Section
Post Office Box 19276
Springfield, Illinois 62794-9276
or call (217) 782-0610

FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

Reports must be typed or printed legibly and signed.

Any facility that is not presently covered by the General NPDES Permit for Storm Water Discharges From Construction Site Activities is considered a new facility.

If this is a change in your facility information, renewal, etc., please fill in your permit number on the appropriate line, changes of information or permit renewal notifications do not require a fee.

NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.

Use the formats given in the following examples for correct form completion.

	Example	Format
Section	12	1 or 2 numerical digits
Township	12N	1 or 2 numerical digits followed by "N" or "S"
Range	12W	1 or 2 numerical digits followed by "E" or "W"

For the Name of Closest Receiving Waters, do not use terms such as ditch or channel. For unnamed tributaries, use terms which include at least a named main tributary such as “Unnamed Tributary to Sugar Creek to Sangamon River.”

Submission of initial fee and an electronic submission of Storm Water Pollution Prevention Plan (SWPPP) for Initial Permit prior to the Notice of Intent being considered complete for coverage by the ILR10 General Permits. Please make checks payable to: Illinois EPA at the above address.

Construction sites with less than 5 acres of land disturbance - fee is $250.

Construction sites with 5 or more acres of land disturbance - fee is $750.

SWPPP should be submitted electronically to: epa.constilr10swppp@illinois.gov. When submitting electronically, use Project Name and City as indicated on NOI form.

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Source Site Certification by Owner or Operator for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-662

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by source site owners and operators to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(A), that soil (i) was removed from a site that is not potentially impacted property and is presumed to be uncontaminated soil and (ii) is within a pH range of 6.25 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: Proposed Harter Road Culvert Replacement Office Phone Number, if available: _____

Physical Site Location (Street, Road): Harter Road and Dauberman Road. See attached Summary Letter.

City: Kaneville State: IL Zip Code: 60119 County: Kane

Township: Kaneville

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 41.84035 (Decimal Degrees) Longitude: - 88.52852 (-Decimal Degrees)

Identify how the lat/long data were determined:

○ GPS ⊘ Map Interpolation ○ Photo Interpolation ○ Survey ○ Other

IEPA Site Number(s), if assigned: BOL: _____ BOW: _____ BOA: _____

Approximate Start Date (mm/dd/yyyy): _____ Approximate End Date (mm/dd/yyyy): _____

Estimated Volume of debris (cu. Yd.): _____

II. Owner/Operator Information for Source Site

Site Owner		Site Operator	
Name:	Kane County Division of Transportation	Name:	Primera Engineers, Ltd.
Street Address:	41W011 Burlington Road	Street Address:	650 Warrenville Road, Suite 200
PO Box:		PO Box:	
City:	Saint Charles State: IL	City:	Lisle State: IL
Zip Code:	60175 Phone:	Zip Code:	60532 Phone:
Contact:	Carl Schoedel, PE	Contact:	Dawn Cosentino, PE, CFM
Email, if available:		Email, if available:	dcosesntino@primeraeng.com

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Project Name: Proposed Harter Road Culvert Replacement Latitude: 41.84035 Longitude: -88.52852

Source Site Certification

III. Descriptions of Current and Past Uses of Source Site

Describe the current and past uses of the site and nearby properties.* Attach additional information as needed. The description must take into account, at a minimum, the following for the source site and for nearby property: (1) use of the properties for commercial or industrial purposes; (2) the use, storage or disposal of chemical or petroleum products in individual containers greater than 5 gallons or collectively more than 50 gallons; (3) the current or past presence of any storage tanks (above ground or underground); (4) any waste storage, treatment or disposal at the properties; (5) any reported releases or any environmental cleanup or removal of contaminants; (6) any environmental liens or governmental notification of environmental violations; (7) any contamination in a well that exceeds the Board's groundwater quality standards; (8) the use, storage, or disposal of transformers or capacitors manufactured before 1979; and (9) any fill dirt brought to the properties from an unknown source or site.

Number of pages attached: 34
Refer to attached Summary Letter.

*The description must be sufficient to demonstrate that the source site is not potentially impacted property, thereby allowing the source site owner or operator to provide this certification.

IV. Soil pH Testing Results

Describe the results of soil pH testing showing that the soil pH is within the range of 6.25 to 9.0 and attach any supporting documentation.

Number of pages attached: 1
Five [5] samples were collected and tested for pH. Results were within the range of 6.25 to 9.0 . Please refer to pH Results in Appendix A.2

V. Source Site Owner, Operator or Authorized Representative's Certification Statement and Signature

In accordance with the Illinois Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I Michelle A. Lipinski, P.E. Rubino Engineering, Inc. (owner, operator or authorized representataive of source site) certify that this site is not a potentially impacted property and the soil is presumed to be uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. I further certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. Additionally, I certify that I am either the site owner or operator or a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

○ Owner
○ Operator
☑ Owner's Duly Authorized Representative
○ Operator's Duly Authorized Representative

Michelle A. Lipinski, P.E. Rubino Engineering, Inc.
Printed Name

1/30/2020
Date

Michelle A. Lipinski
Signature

rubino ENGINEERING INC.

ENVIRONMENTAL SUMMARY REPORT

January 30, 2020

To: Dawn Cosentino, PE, CFM
Primera Engineers, Ltd.
650 Warrenville Road, Suite 200
Lisle, IL 60532

Re: **CCDD Testing Summary Report**
Proposed Harter Road Culvert Replacement
Harter Road and Dauberman Road
Kane County, Illinois

Rubino Report No. G19.109

Via email: dcosesntino@primeraeng.com

Dear Ms. Cosentino,

Rubino Engineering, Inc. (Rubino) is pleased to submit the following report to provide a summary of the CCDD testing for the above referenced project.

This report contains the following:

- *Summary of Environmental Database Review*
- *Summary of field and laboratory tests performed*
- *Summary of laboratory test results*
- *Illinois Environmental Protection Agencies LPC 662 Certificate*

ENVIROMENTAL DATABASE REVIEW

The project site is located along Harter Road in Kane County, Illinois. A map of the project location can be found in **Appendix A.1**. Prior to a site investigation, an Environmental Database Review (EDR) was conducted and the report is included as **Appendix A.3**. After reviewing the EDR report, Rubino. did not find any records of potentially impacted properties in close proximity to the project site that posed an environmental risk.

Based on the fact there were no records of potentially impacted properties in close proximity to the project site that posed an environmental risk, it was determined the project site is not a “potentially impacted property” and therefore only pH sampling of the project site was necessary.

Certification Limits

The LPC 662 Certification Limits include the following locations in Kane County, Illinois.

- **Harter Road** including right of way, from approximately 500 feet north of Dauberman Road to 350 feet south of Dauberman Road
- **Dauberman Road** including right of way, from approximately 200 feet north of Harter Road to 200 feet south of Harter Road

SOIL SAMPLING

On October 28, 2019, Rubino mobilized to conduct a site investigation of material originally generated from the project site. The sampling locations can be found in **Appendix A.1**. Five (5) soil samples were collected to an approximate depth of 15 feet below existing grade. The five (5) samples were submitted for pH testing at Rubino.

RESULTS

Lab analysis found that the soil samples were within the allowable pH range of 6.25 to 9.0.

The pH lab analysis results and complete reports can be found in **Appendix A.2**.

Based on the results of the laboratory testing performed, an **IEPA LPC #662 (CCDD) Certificate was issued** for the entire site.

CLOSING

Rubino appreciates the opportunity to provide geotechnical services for this project and we look forward to continued participation during the design and in future construction phases of this project.

If you have questions pertaining to this summary report, or if Rubino may be of further service, please contact our office at (847) 931-1555.

Respectfully submitted,

RUBINO ENGINEERING, INC.

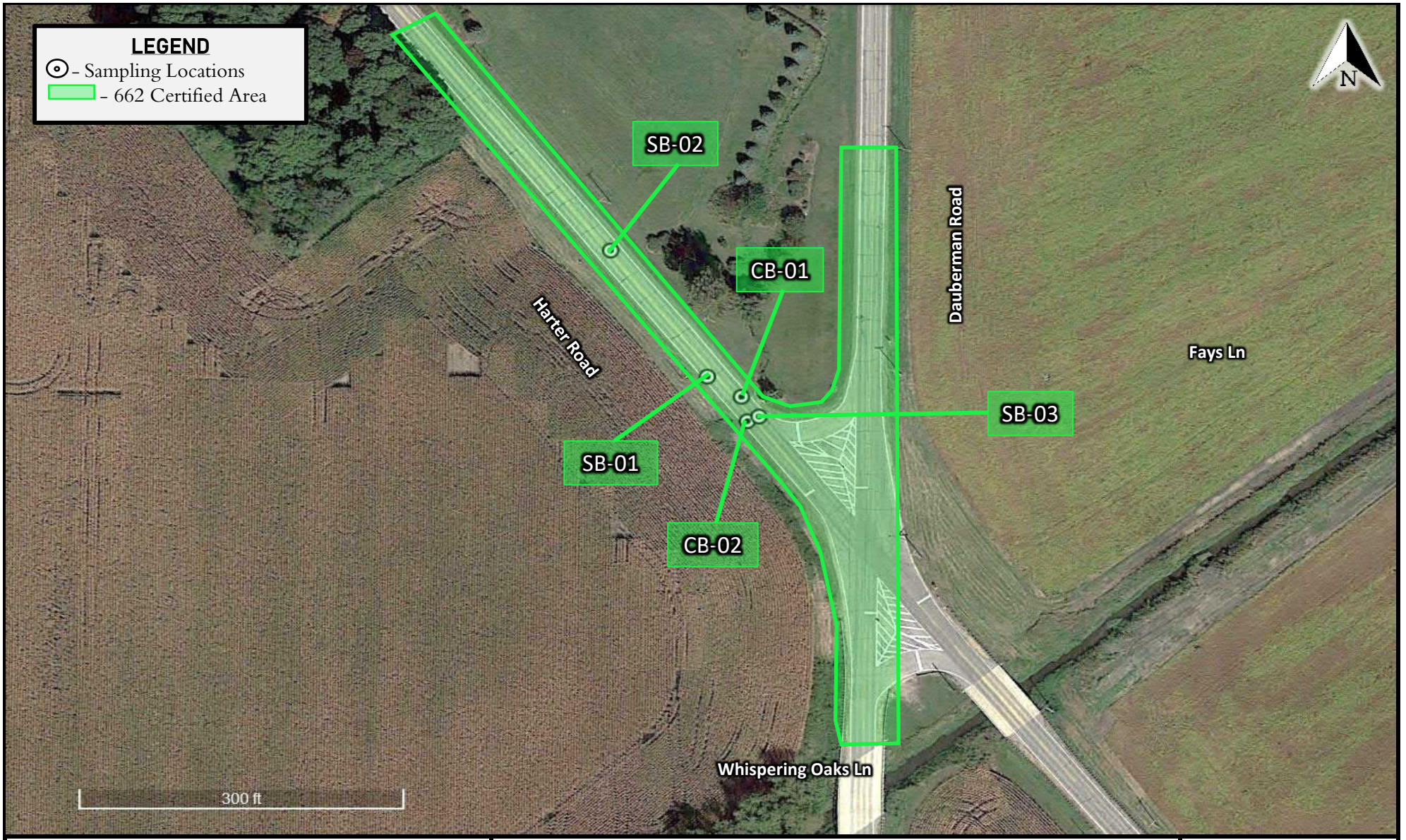
Michelle A. Lipinski, PE
President

michelle.lipinski@rubinoeng.com

MAL/file/ Enclosures

Appendix Contents

APPENDIX A.1 – SITE MAPS



rubino ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:	**Proposed Harter Road Culvert Replacement**
Project Location:	Harter Road and Dauberman Road Kane County, Illinois 60119
Client:	**Primera Engineers, Ltd.**
Rubino Project # :	G19.109

CCDD Testing Plan

APPENDIX A.2 – pH RESULTS

rubino ENGINEERING INC.

ASTM D4972-01
Standard Test Method for pH of Soils

Date: 11-Nov-19

Project Number:	G19.109	**Performed by:**	Myrna Fleege
Project Name:	Harter Road Culvert Replacement	**Title:**	Lab Technician
		Signature:	My Fleege
City, State:	Kane County, Illinois	**Client:**	Primera Engineers, Ltd.
Method Used:	ASTM D4972-01 Method A Calcium Chloride Solution (0.01M)	**Client Address:**	650 Warrenville Road, Suite 200 Lisle, IL 60532
pH Meter Mfgr:	Ohaus Corporation	**Prior Calibration:**	5/10/19 @ 1:00pm
Model #	ST Series PH Analysis Pen	**Calibration:**	8/08/19 @ 12:08pm

Location	Depth (ft)	Sample Type	Mass of Soil (g)	pH in Calcium Chloride Solution	pH in Distilled Water
SB-01	1 - 15'	Grab	10	7.4	8.1
SB-02	1 - 15'	Grab	10	7.6	8.1
SB-03	1 - 15'	Grab	10	7.5	8.2
CB-01	1 - 15'	Grab	10	7.6	8.4
CB-02	1 - 15'	Grab	10	7.6	8.4

APPENDIX A.3– ERIS DATABASE REPORT

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*Harter Road and Dauberman RoadW* *Harter Road and Dauberman Road* *Kaneville Township IL 60119*
Project No:	
Report Type:	*Screen Report Plus*
Order No:	*20200130198*
Requested by:	*Bluff City Materials, Inc*
Date Completed:	*January 30, 2020*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

Executive Summary

Property Information:

Project Property:		*Harter Road and Dauberman RoadW* *Harter Road and Dauberman Road Kaneville Township IL 60119*
Project No:		
Coordinates:		
	Latitude:	*41.8398159*
	Longitude:	*-88.5279176*
	UTM Northing:	*4,633,119.85*
	UTM Easting:	*373,142.96*
	UTM Zone:	*16T*
Elevation:		*782 FT*

Order Information:

Order No:	*20200130198*
Date Requested:	*January 30, 2020*
Requested by:	*Bluff City Materials, Inc*
Report Type:	*Screen Report Plus*

Historicals/Products:

ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*

Executive Summary: Report Summary

Database	Searched	Project Property	Within 0.250mi	Total
Standard Environmental Records				
Federal				
NPL	Y	0	0	0
PROPOSED NPL	Y	0	0	0
DELETED NPL	Y	0	0	0
SEMS	Y	0	0	0
SEMS ARCHIVE	Y	0	0	0
ODI	Y	0	0	0
IODI	Y	0	0	0
CERCLIS	Y	0	0	0
CERCLIS NFRAP	Y	0	0	0
CERCLIS LIENS	Y	0	0	0
RCRA CORRACTS	Y	0	0	0
RCRA TSD	Y	0	0	0
RCRA LQG	Y	0	0	0
RCRA SQG	Y	0	0	0
RCRA CESQG	Y	0	0	0
RCRA NON GEN	Y	0	0	0
FED ENG	Y	0	0	0
FED INST	Y	0	0	0
ERNS 1982 TO 1986	Y	0	0	0
ERNS 1987 TO 1989	Y	0	0	0
ERNS	Y	0	0	0
FED BROWNFIELDS	Y	0	0	0
FEMA UST	Y	0	0	0
REFN	Y	0	0	0
BULK TERMINAL	Y	0	0	0
SEMS LIEN	Y	0	0	0

Database	Searched	Project Property	Within 0.250mi	Total
SUPERFUND ROD	Y	0	0	0
State				
SSU	Y	0	0	0
DELISTED SSU	Y	0	0	0
SWF/LF	Y	0	0	0
SWF/LF SPECIAL	Y	0	0	0
NIPC	Y	0	0	0
CCDD	Y	0	0	0
LUST	Y	0	0	0
LUST DOCUMENT	Y	0	0	0
DELISTED LUST	Y	0	0	0
LUST TRUST	Y	0	0	0
UST	Y	0	0	0
AST	Y	0	0	0
DELISTED TANK	Y	0	0	0
ENG	Y	0	0	0
INST	Y	0	0	0
SRP	Y	0	0	0
BROWNFIELDS	Y	0	0	0
BROWN MBRGP	Y	0	0	0
Tribal				
INDIAN LUST	Y	0	0	0
INDIAN UST	Y	0	0	0
DELISTED ILST	Y	0	0	0
DELISTED IUST	Y	0	0	0
County	***No County databases were selected to be included in the search.***			

Additional Environmental Records

Federal

PFAS NPL	Y	0	0	0
FINDS/FRS	Y	0	0	0
TRIS	Y	0	0	0
PFAS TRI	Y	0	0	0
PFAS WATER CONTAM	Y	0	0	0
HMIRS	Y	0	0	0
NCDL	Y	0	0	0
TSCA	Y	0	0	0
HIST TSCA	Y	0	0	0

Database	Searched	Project Property	Within 0.250mi	Total
FTTS ADMIN	Y	0	0	0
FTTS INSP	Y	0	0	0
PRP	Y	0	0	0
SCRD DRYCLEANER	Y	0	0	0
ICIS	Y	0	0	0
FED DRYCLEANERS	Y	0	0	0
DELISTED FED DRY	Y	0	0	0
FUDS	Y	0	0	0
MLTS	Y	0	0	0
HIST MLTS	Y	0	0	0
MINES	Y	0	0	0
ALT FUELS	Y	0	0	0
SSTS	Y	0	0	0
PCB	Y	0	0	0
State				
SPILLS	Y	0	0	0
SPILLS2	Y	0	0	0
PFAS	Y	0	0	0
DRYCLEANERS	Y	0	0	0
DELISTED DRYCLEANERS	Y	0	0	0
CDL	Y	0	0	0
TIER 2	Y	0	0	0
AIR PERMITS	Y	0	0	0
Tribal	***No Tribal additional environmental record sources available for this State.***			
County	***No County additional environmental record sources available for this State.***			
Total:		0	0	0

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

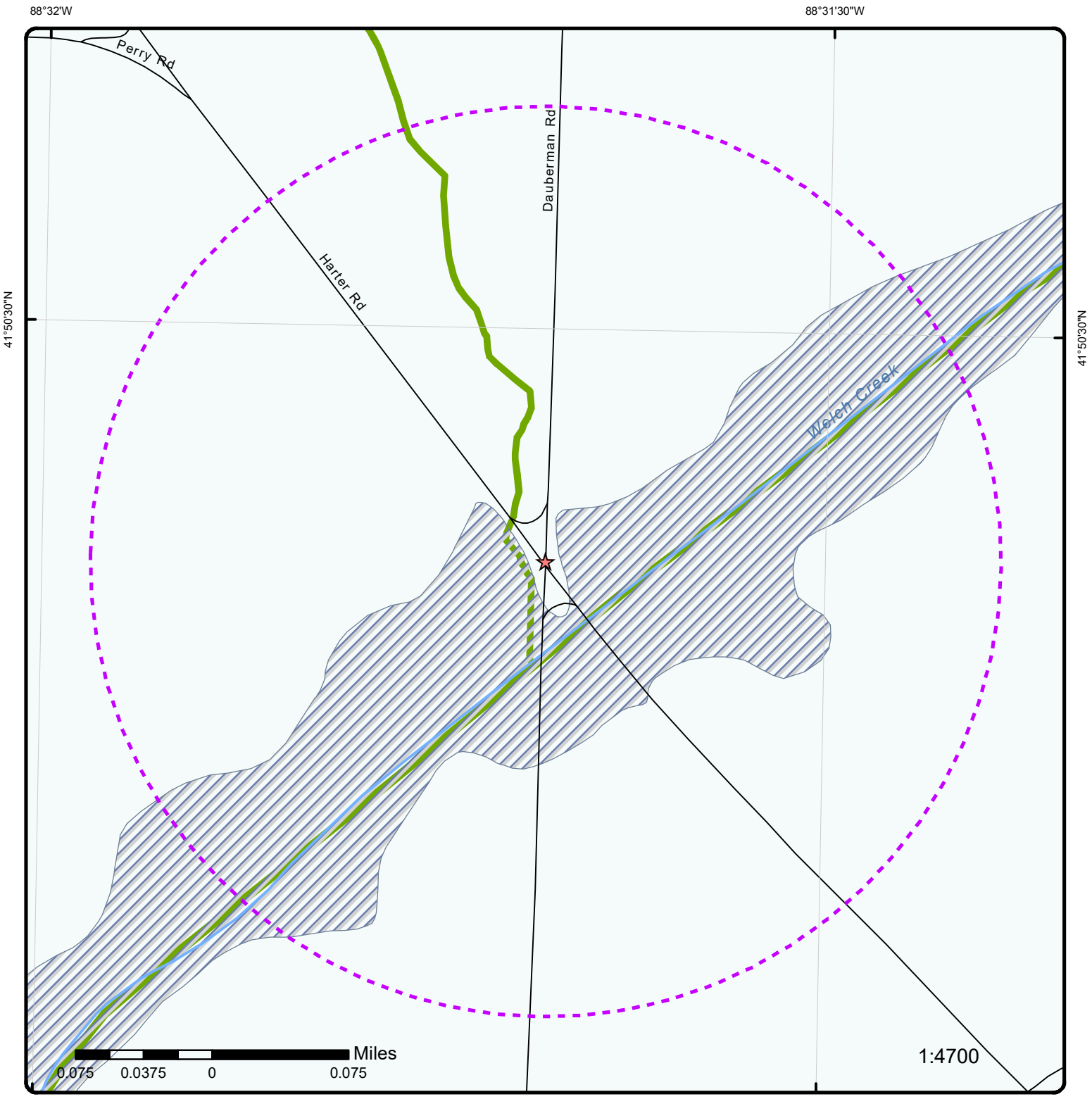
Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the surrounding properties.

Executive Summary: Summary by Data Source

No records found in the selected databases for the project property or surrounding properties.



Map : 0.25 Mile Radius

Order Number: 20200130198

Address: Harter Road and Dauberman Road, Kaneville Township, IL

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

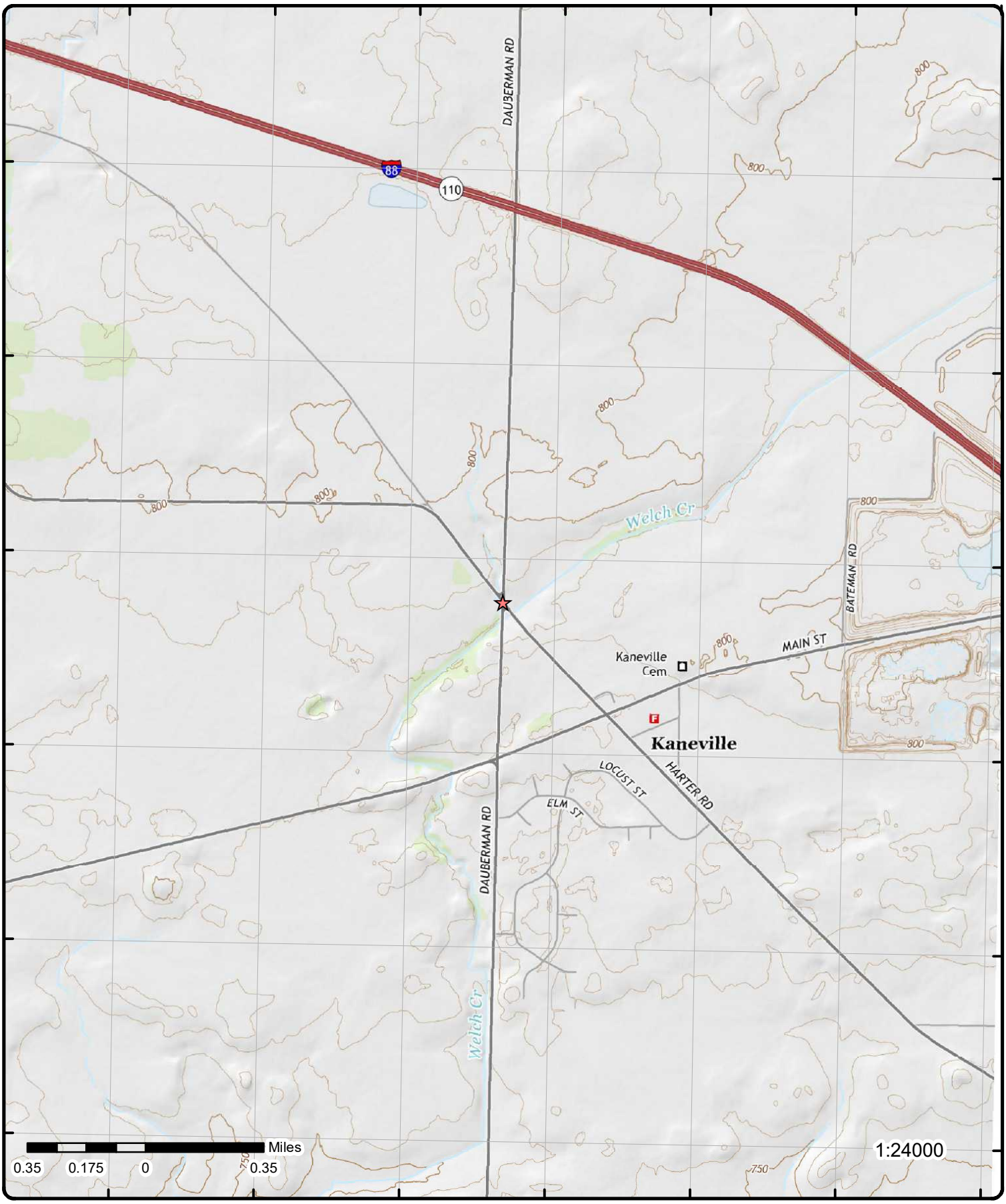
Aerial **Year: 2018**

Order Number: 20200130198

Address: Harter Road and Dauberman Road, Kaneville Township, IL

Source: ESRI World Imagery

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES



Topographic Map

Year: 2015

Address: Harter Road and Dauberman Road, IL

Quadrangle(s): Big Rock,IL

Source: USGS Topographic Map

Order Number: 20200130198

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

No records found in the selected databases for the project property or surrounding properties.

Unplottable Summary

Total: 2 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
ERNS		CORNER OF HARTER AND LORANGE RD	KANEVILLE IL	60119	806763416
SWF/LF	KTF RECYCLING	HARTER RD NEAR LASHER	KANEVILLE IL	60144	822198291

Unplottable Report

Site:

CORNER OF HARTER AND LORANGE RD KANEVILLE IL 60119

ERNS

NRC Report No:	267566	***Latitude Degrees:***	
Type of Incident:	FIXED	***Latitude Minutes:***	
Incident Cause:	EQUIPMENT FAILURE	***Latitude Seconds:***	
Incident Date:	10/30/1994 8:00:00 AM	***Longitude Degrees:***	
Incident Location:		***Longitude Minutes:***	
Incident Dtg:	DISCOVERED	***Longitude Seconds:***	
Distance from City:		***Lat Quad:***	
Distance Units:		***Long Quad:***	
Direction from City:		***Location Section:***	
Location County:	KANE	***Location Township:***	
Potential Flag:		***Location Range:***	
Year:	Year 1994 Reports		
Description of Incident:	UNDERGROUND STORAGE TANKS ARE LEAKING FUEL		

Material Spill Information

Chris Code:	ODS	***Unit of Measure:***	UNKNOWN AMOUNT
CAS No:		***If Reached Water:***	YES
UN No:		***Amount in Water:***	0
Name of Material:	OIL: DIESEL	***Unit Reach Water:***	UNKNOWN AMOUNT
Amount of Material:	0		

Calls Information

Date Time Received:	10/30/1994 12:41:58 PM	***Responsible City:***	AURORA
Date Time Complete:	10/30/1994 12:50:50 PM	***Responsible State:***	IL
Call Type:	INC	***Responsible Zip:***	60566
Resp Company:	BLACKBERRY RESOURCES	***Source:***	UNAVAILABLE
Resp Org Type:	PRIVATE ENTERPRISE		

Incident Information

Tank ID:		***Building ID:***	
Tank Regulated:	U	***Location Area ID:***	
Tank Regulated By:		***Location Block ID:***	
Capacity of Tank:		***OCSG No:***	
Capacity Tank Units:		***OCSP No:***	
Description of Tank:		***State Lease No:***	
Actual Amount:		***Pier Dock No:***	
Actual Amount Units:		***Berth Slip No:***	
Tank Above Ground:	ABOVE	***Brake Failure:***	N
NPDES:		***Airbag Deployed:***	
NPDES Compliance:	U	***Transport Contain:***	U
Init Contin Rel No:		***Location Subdiv:***	
Contin Rel Permit:		***Platform Rig Name:***	
Contin Release Type:		***Platform Letter:***	
Aircraft ID:		***Allision:***	N
Aircraft Runway No:		***Type of Structure:***	
Aircraft Spot No:		***Structure Name:***	
Aircraft Type:	UNKNOWN	***Structure Oper:***	Y
Aircraft Model:		***Transit Bus Flag:***	
Aircraft Fuel Cap:		***Date Time Norm Serv:***	
Aircraft Fuel Cap U:		***Serv Disrupt Time:***	
Aircraft Fuel on Brd:		***Serv Disrupt Units:***	
Aircraft Fuel OB U:		***CR Begin Date:***	

Aircraft Hanger:		***CR End Date:***	
Road Mile Marker:		***CR Change Date:***	
Power Gen Facility:	U	***FBI Contact:***	
Generating Capacity:		***FBI Contact Dt Tm:***	
Type of Fixed Obj:	UNKNOWN	***Passenger Handling:***	
Type of Fuel:		***Passenger Route:***	XXX
DOT Crossing No:		***Passenger Delay:***	XXX
DOT Regulated:	U	***Sub Part C Test Req:***	XXX
Pipeline Type:	UNKNOWN	***Conductor Test:***	
Pipeline Abv Ground:	ABOVE	***Engineer Test:***	
Pipeline Covered:	U	***Trainman Test:***	
Exposed Underwater:	U	***Yard Foreman Test:***	
Railroad Hotline:	No	***RCL Operator Test:***	
Railroad Milepost:	UNKNOWN	***Brakeman Test:***	
Grade Crossing:	N	***Train Dispat Test:***	
Crossing Device Ty:		***Signalman Test:***	
Ty Vehicle Involved:	UNKNOWN	***Oth Employee Test:***	
Device Operational:	Y	***Unknown Test:***	

Incident Details Information

Release Secured:		***State Agen Report No:***	
Release Rate:		***State Agen on Scene:***	
Release Rate Unit:		***State Agen Notified:***	
Release Rate Rate:		***Fed Agency Notified:***	
Est Duration of Rel:		***Oth Agency Notified:***	
Desc Remedial Act:	NONE	***Body of Water:***	
Fire Involved:	N	***Tributary of:***	
Fire Extinguished:		***Near River Mile Make:***	
Any Evacuations:	N	***Near River Mile Mark:***	
No Evacuated:		***Offshore:***	
Who Evacuated:		***Weather Conditions:***	
Radius of Evacu:		***Air Temperature:***	
Any Injuries:	U	***Wind Direction:***	
No. Injured:		***Wind Speed:***	
No. Hospitalized:		***Wind Speed Unit:***	
No. Fatalities:		***Water Supp Contam:***	
Any Fatalities:	U	***Water Temperature:***	
Any Damages:	N	***Wave Condition:***	
Damage Amount:		***Current Speed:***	
Air Corridor Closed:		***Current Direction:***	
Air Corridor Desc:		***Current Speed Unit:***	
Air Closure Time:		***EMPL Fatality:***	
Waterway Closed:		***Pass Fatality:***	
Waterway Desc:		***Community Impact:***	
Waterway Close Time:		***Passengers Transfer:***	UNK
Road Closed:		***Passenger Injuries:***	
Road Desc:		***Employee Injuries:***	
Road Closure Time:		***Occupant Fatality:***	
Road Closure Units:		***Sheen Size:***	
Closure Direction:		***Sheen Size Units:***	
Major Artery:		***Sheen Size Length:***	
Track Closed:		***Sheen Size Length U:***	
Track Desc:		***Sheen Size Width:***	
Track Closure Time:		***Sheen Size Width U:***	
Track Closure Units:		***Sheen Color:***	
Track Close Dir:		***Dir of Sheen Travel:***	
Media Interest:		***Sheen Odor Desc:***	
Medium Desc:	LAND	***Duration Unit:***	
Addl Medium Info:	SOIL	***Additional Info:***	

Site: ***KTF RECYCLING***
HARTER RD NEAR LASHER KANEVILLE IL 60144

SWF/LF

FK Site ID:	0898100001
Str Lat DD:	NULL
Str Lon DD:	NULL
Str Loc Contact:	NULL

Str Loc Phone: NULL
Str Use PA 1: NULL

--Details--
Name: KTF RECYCLING
Status: I
Status Desc: INACTIVE
Str Lon DD: NULL
Str Loc PO Box: NULL
Str Loc Contact: NULL
Str Loc Phone: NULL
Str Use PA 1: NULL

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Nov 25, 2019

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Nov 25, 2019

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Nov 25, 2019

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Nov 25, 2019

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Nov 25, 2019

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Nov 18, 2019

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Nov 18, 2019

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Nov 18, 2019

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Nov 18, 2019

RCRA Conditionally Exempt and Very Small Quantity Generators List: RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt and Very Small Quantity Generators (VSQG and CESQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG and CESQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Nov 18, 2019

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Nov 18, 2019

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jun 11, 2019

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Jun 11, 2019

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Nov 25, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 3, 2019

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Oct 8, 2019

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Nov 25, 2019

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Oct 25, 2019

State

State Response Action Program Database: SSU

The State Response Action Program database identifies the status of all sites under the responsibility of the Illinois EPA's State Sites Unit. The State Response Action Program database made available by Illinois Environmental Protection Agency. This database is state equivalent CERCLIS.

Government Publication Date: Aug 20, 2019

Delisted State Response Action Program: DELISTED SSU

List of sites removed from the State Response Action Program database identifies the status of all sites under the responsibility of the Illinois EPA's State Sites Unit.

Government Publication Date: Aug 20, 2019

Solid Waste Landfills Subject to State Surcharge Database: SWF/LF

The Bureau of Land maintains a list of solid waste facilities and landfills throughout the state. This list made available by Illinois Environmental Protection Agency's Bureau of land.

Government Publication Date: Mar 2, 2018

Special Waste Site List: SWF/LF SPECIAL

The following landfills are those that as of January 1, 1990, accept non-hazardous special waste pursuant to the Illinois Environmental Protection Agency Non-Hazardous Special Waste Definition. List A includes landfills that may receive any non-hazardous waste. Non-Regional Pollutant Control Facilities are so noted. List B includes landfills designed to receive specific non-hazardous wastes. List B landfills are designated as a Regional Pollutant Control Facility by RPCF, or Non-regional Pollutant Control Facility by Non-RPCF.

Government Publication Date: Jan 1, 1990

Northeastern Illinois Planning Commission Historical Inventory of Solid Waste Disposal Sites in Northeastern Illinois: NIPC

Historical inventory of solid waste disposal sites in northeastern Illinois prepared by the Northeastern Illinois Planning Commission (NIPC).

Government Publication Date: Dec 1987

Clean Construction or Demolition Debris: CCDD

This is a list of CCDD Fill Operations with Approved Permits. Beginning July 1, 2008, no person can use CCDD as fill material in a current or former quarry, mine, or other excavation unless they have obtained a permit from the Illinois EPA.

Government Publication Date: Apr 30, 2018

Leaking Underground Storage Tanks (LUST): LUST

The Leaking Underground Storage Tank Incident Tracking (LIT) database identifies the status of all Illinois LUST incidents reported to the Illinois Emergency Management Agency (IEMA) and to the Illinois Environmental Protection Agency.

Government Publication Date: Dec 2, 2019

Leaking UST Document: LUST DOCUMENT

A list of sites from the Illinois Environmental Protection Agency (IEPA) Document Explorer at which one or more of the documents is in the Leaking Underground Storage Tank (LUST) category. The IEPA Document Explorer provides online access to numerous Illinois EPA public records which are maintained in a digital format.

Government Publication Date: Oct 30, 2019

Delisted Leaking Underground Storage Tank Sites: DELISTED LUST

List of sites removed from the Leaking Underground Storage Tank Incident Tracking (LIT) database made available by the Illinois Environmental Protection Agency.

Government Publication Date: Oct 30, 2019

Underground Storage Tank Fund Payment Priority List: LUST TRUST

In case sufficient funds are not available in the Underground Storage Tank Fund, requests for payment are entered on the Payment Priority List by "queue date" order. As required by the Environmental Protection Act, the queue date is the date that a complete request for partial or final payment was received by the Agency. The queue date is "officially" confirmed at the end of the payment review process when a Final Decision Letter is sent to the site owner. The Underground Storage Tank Fund Priority list made available by Illinois Environmental Protection Agency.

Government Publication Date: Nov 01, 2016

Underground Storage Tank Database (UST): UST

This database maintained by Division of Petroleum & Chemical Safety, contains information derived from tank registration information supplied to the Office of the Illinois State Fire Marshal (OSFM) from outside sources.

Government Publication Date: Dec 10, 2019

Aboveground Storage Tanks (AST): AST

A list of aboveground storage tanks inspected by the Office of State Fire Marshal (OSFM).

Government Publication Date: Sep 30, 2019

Delisted Storage Tanks: DELISTED TANK

This database contains a list of closed storage tank sites that were removed from the illinois Department of Enivornmental Quality.

Government Publication Date: Dec 10, 2019

Sites with Engineering Controls: ENG

Sites in the Illinois Environmental Protection Agency (IEPA)'s Site Remedition Program (SRP) database with engineering controls in place.

Government Publication Date: Dec 2, 2019

Institutional Controls: INST

Sites in the Illinois Environmental Protection Agency (IEPA)'s Site Remedition Program (SRP) database with institutional controls in place.

Government Publication Date: Dec 2, 2019

Illinois Site Remediation Program Database: SRP

The Site Remediation Program (SRP) database identifies the status of all voluntary remediation projects administered through the Pre-Notice Site Cleanup Program (1989 to 1995) and the Site Remediation Program (1996 to the present). This Site Remediation program database made available by Illinois Environmental Protection Agency.

Government Publication Date: Dec 2, 2019

Brownfields Redevelopment Assessment Database: BROWNFIELDS

The Office of Site Evaluations Redevelopment Assessment database identifies the status of properties within the State in which the Illinois EPA's Office of Site Evaluation has conducted a Municipal Brownfields Redevelopment Grant (MBRG) project.

Government Publication Date: Sep 12, 2019

Municipal Brownfields Redevelopment Grant Program (MBRGP) project sites administered through OBA: BROWN MBRGP

The Office of Brownfields Assistance (OBA) database identifies the status of all Municipal Brownfields Redevelopment Grant Program (MBRGP) project sites administered through OBA. Office of Brownfields Assistance Database search made available by Illinois Environmental Protection Agency's Bureau of Land Data-Center.

Government Publication Date: Mar 31, 2013

Tribal

Leaking Underground Storage Tanks on Indian Lands: INDIAN LUST

List of Leaking Underground Storage Tanks (LUSTs) on Tribal/Indian Lands in EPA Region 5, which includes Michigan, Minnesota and Wisconsin. There no LUST records in Illinois at this time.

Government Publication Date: Oct 16, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

Underground Storage Tanks (USTs) on Tribal/Indian Lands in EPA Region 5. There are no UST records in Illinois at this time.

Government Publication Date: Oct 16, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: May 2, 2019

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: May 2, 2019

County

No County databases were selected to be included in the search.

Additional Environmental Record Sources

Federal

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Nov 15, 2019

Facility Registry Service/Facility Index: FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Nov 6, 2019

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U. S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Dec 31, 2017

Perfluorinated Alkyl Substances (PFAS) Water Contamination: PFAS WATER CONTAM

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.

Government Publication Date: Dec 20, 2019

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Sep 26, 2019

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Oct 25, 2019

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Nov 18, 2016

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Nov 6, 2019

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Jan 8, 2020

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: May 31, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Oct 9, 2019

State

Spills and Incidents: SPILLS

A list of reports taken by Illinois Emergency Management Agency (IEMA) of Hazardous Material spills in Illinois.

Government Publication Date: Dec 11, 2019

Emergency Response Releases & Spills Database: SPILLS2

The Office of Emergency Response (OER) maintains the Emergency Response Releases & Spills Database.
The Emergency Operations Unit, within OER, coordinates Illinois EPA's response to environmental emergencies involving oil or hazardous materials and ensures that any environmental contamination is cleaned up. EOU works with other response agencies including the Illinois Emergency Management Agency (IEMA), which is the initial contact for responses to an emergency or disaster in Illinois.

Government Publication Date: Dec 11, 2019

Per- and Polyfluoroalkyl Substances (PFAS): PFAS

A list of reports taken by the Illinois Emergency Management Agency (IEMA) of incidents involving hazardous materials, where the hazardous material involved in the incident is in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Dec 11, 2019

Dry Cleaning Facilities: DRYCLEANERS

A list of licensed drycleaners facilities provided by Drycleaner Environmental Response Trust Fund of Illinois.

Government Publication Date: Nov 12, 2019

Delisted Drycleaners: DELISTED DRYCLEANERS

List of sites removed from the drycleaners database made available by the Drycleaner Environmental Response Trust Fund of Illinois.

Government Publication Date: Nov 12, 2019

Clandestine Drug Labs: CDL

List of clandestine drug lab locations made available by the Illinois Department of Public Health. The Department maintains a list of properties from reports it receives from the Illinois State Police through the Illinois Emergency Management Agency.

Government Publication Date: Aug 21, 2019

Tier 2 Report: TIER 2

List of facilities who submit Tier II forms to the Illinois Emergency Management Agency (IEMA).

Government Publication Date: Sep 16, 2019

Air Permits: AIR PERMITS

A list of sites from the Illinois Environmental Protection Agency (IEPA) Document Explorer at which one or more of the documents is in the Air Permits (construction and operating) category. The IEPA Document Explorer provides online access to numerous Illinois EPA public records which are maintained in a digital format.

Government Publication Date: Oct 30, 2019

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental record sources available for this State.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

JB Pritzker, Governor
Colleen Callahan, Director

Office of Water Resources • 2050 West Stearns Road • Bartlett, Illinois 60103

August 5, 2020

Subject: **Application No. N20200136**
Applicant: Kane County Division of Transportation
Project: Harter Road Culvert Replacement
Watercourse: Unnamed Tributary to Welch Creek
Community: Kane County

Carl Schoedel
Kane County Division of Transportation
41W011 Burlington Road
St. Charles, Illinois 60175

Dear Mr. Schoedel:

This concerns your July 15, 2020, application for an Illinois Department of Natural Resources, Office of Water Resources (IDNR/OWR) permit for the above-referenced project. The application was submitted on your behalf by Sven Flodstrom of Primera Engineers, Ltd. The project site is located in the Southeast Quarter of Section 22, Township 39 North, Range 6 East of the Third Principal Meridian in Kane County.

We understand the project involves the replacement of the Harter Road Culvert over the Unnamed Tributary to Welch Creek in unincorporated Kane near the Village of Kaneville. We have determined that the drainage area of the Unnamed Tributary to Welch Creek at the project site is less than one square mile. Therefore, an IDNR/OWR permit is not required for the subject project.

This determination does not exempt the project from meeting the requirements of any other local, state or federal agency, including the community's floodplain ordinance. Information on our regulatory programs can be found on our web site at http://www.dnr.illinois.gov/WaterResources/Pages/. If you have any questions, please contact Kevin Hoobler of my staff at 847-608-3116.

Sincerely,

William T Boyd

William T. Boyd, P.E.
Acting Chief, Northeastern Illinois Regulatory Programs Section

WTB/KH:
cc: Kane County Environmental and Water Resources Division
Sven Flodstrom, Primera Engineers, Ltd

Kane-DuPage Soil & Water Conservation District

October 15, 2020

Chad Dillavou, P.E.
Primera Engineers, LTD
650 Warrenville Rd, Suite 200
Lisle, IL 60532

KDSWCD project number: 20e032
USACE Number: LRC-2020-590
KDSWCD Approval Date: 10/15/2020
Date of Revised Plans: 9/17/2020

Dear Mr. Dillavou:

KDSWCD received your soil erosion and sedimentation control plan submittal has received your application for Soil Erosion and Sediment Plan review for the Harter Rd Culvert Replacement project in Kaneville, IL. **KDSWCD approval is contingent upon:**

1. The means, methods, and locations for any dewatering and/or in-stream work should be coordinated with and approved by KDSWCD.

2. If the plans require revision based on the concurrent review by USACE and these revisions result in significant changes to the plans, revised plans must be submitted to KDSWCD for re-review.

This letter and a copy of the updated plans located at the construction office on site will serve to certify the erosion and sediment control plans meet technical standards. As a reminder, KDSWCD will visit the site several times during the course of construction to assess compliance with the specifications. We will be glad to address specific issues that may arise during the course of construction.

Sincerely,

Patrick J. McPartlan
Digitally signed by Patrick J. McPartlan
Date: 2020.10.15 10:02:50 -05'00'

Patrick McPartlan, CPESC
Resource Conservationist

CC:

Kimberly Kubiak, USACE
Sven Floodstrom, Primera Engineers

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
231 SOUTH LASALLE STREET
CHICAGO, ILLINOIS 60604-1437

REPLY TO
ATTENTION OF:

December 17, 2020

Operations Division
Regulatory Branch
LRC-2020-00590

SUBJECT: Culvert Replacement; Harter Road over UNT to Welch Creek; Kane Co. IL, , Kane County, Illinois (Latitude 41.84019, Longitude -88.52833)

Carl Schoedel
Kane County Division of Transportation
41W011 Burlington Road
St. Charles, Illinois 60175

Dear Mr. Schoedel:

The U.S. Army Corps of Engineers, Chicago District, has reviewed your submitted project information and determined that your application was fully complete when it was submitted in accordance with the requirements contained in the Regional Permit Program (RPP). However, we were unable to respond to your request within the allotted period of time of 60 calendar days following receipt of a complete application as referenced in the Regional Permit Program (RPP) subpart G. Accordingly, you are extended the right to proceed with your project in accordance with the terms and conditions of Regional Permit 3 and 7 and the General Conditions as stated therein. The activity may be performed without further authorization from this office provided the activity is conducted in compliance with the terms and conditions of the RPP.

Caution must be taken to prevent construction materials and activities from impacting waters of the United States beyond the scope of your application. If you anticipate changing the design or location of the activity, you should contact this office to determine the need for further authorization. This letter does not obviate the need to obtain all other required Federal, state, or local approvals before starting work. If you have any questions, please contact the undersigned by telephone at (312) 846-5539, or email at Diedra.L.Willis@usace.army.mil

Sincerely,

MCLAURIN.DIEDRA.L.1230340362 Digitally signed by MCLAURIN.DIEDRA.L.1230340362 Date: 2020.12.17 17:14:20 -06'00'

Diedra L. McLaurin
Team Leader, West Section
Regulatory Branch

Copy Furnished:
Primera Engineers, Ltd. (Sven Flodstrom)

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010
Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term "equipment" refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment's respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 [1/]	600-749	2002
	750 and up	2006
June 1, 2011 [2/]	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 [2/]	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (http://www.epa.gov/cleandiesel/verification/verif-list.htm), or verified by the California Air Resources Board (CARB) (http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm); or

b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

Diesel Retrofit Deficiency Deduction

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be $1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261

WARM MIX ASPHALT (BDE)

Effective: January 1, 2012
Revised: April 1, 2016

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

"**1102.01 Hot-Mix Asphalt Plant.** The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

Add the following to Article 1102.01(a) of the Standard Specifications.

"(11) Equipment for Warm Mix Technologies.

a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of ± 2 percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.

b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes."

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

"(e) Warm Mix Technologies.

(1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.

(2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification."

Construction Requirements.

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

"The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C). WMA shall be delivered at a minimum temperature of 215 °F (102 °C)."

Basis of Payment.

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

80288

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012
Revised: April 2, 2015

The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

The report shall be submitted to the Engineer on Department form "SBE 723" within ten business days following the reporting period. The reporting period shall be Monday through Sunday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

80302

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: November 2, 2017
Revised: April 1, 2019

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

"This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor's work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than $10,000	25%
$10,000 to less than $20,000	20%
$20,000 to less than $40,000	18%
$40,000 to less than $60,000	16%
$60,000 to less than $80,000	14%
$80,000 to less than $100,000	12%
$100,000 to less than $250,000	10%
$250,000 to less than $500,000	9%
$500,000 to $750,000	8%
Over $750,000	7%"

80391

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

"**109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.** The Contractor shall report all payments made to the following parties:

(a) first tier subcontractors;

(b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;

(c) material suppliers or trucking firms that are part of the Contractor's submitted DBE utilization plan.

The report shall be made through the Department's on-line subcontractor payment reporting system within 21 days of making the payment."

80397

STEEL PLATE BEAM GUARDRAIL MANUFACTURING (BDE)

Effective: January 1, 2019

Revise the first three paragraphs of Article 1006.25 of the Standard Specifications to read:

"**1006.25 Steel Plate Beam Guardrail.** Steel plate beam guardrail, including bolts, nuts, and washers, shall be according to AASHTO M 180. The guardrail shall be Class A, with a Type II galvanized coating.

Steel plates for mounting guardrail on existing culverts shall be according to AASHTO M 270 Grade 36 (M 270M Grade 250) and zinc coated according to AASHTO M 111.

The Department will accept guardrail based on the "Brand Registration and Guarantee" requirements of AASHTO M 180 and the manufacturer shall be listed as compliant through the NTPEP Program. The Department will maintain a qualified product list."

80408

TRAFFIC CONTROL DEVICES - CONES (BDE)

Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

"(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts."

Revise Article 1106.02(b) of the Standard Specifications to read:

"(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer's specifications such that they are not moved by wind or passing traffic."

80409

SILT FENCE, INLET FILTERS, GROUND STABILIZATION AND RIPRAP FILTER FABRIC (BDE)

Effective: November 1, 2019
Revised: April 1, 2020

Revise Article 280.02(m) and add Article 280.02(n) so the Standard Specifications read:

"(m) Above Grade Inlet Filter (Fitted)..... 1081.15(j)
(n) Above Grade Inlet Filter (Non-Fitted).....1081.15(k)"

Revise the last sentence of the first paragraph in Article 280.04(c) of the Standard Specifications to read:

"The protection shall be constructed with hay or straw bales, silt filter fence, above grade inlet filters (fitted and non-fitted), or inlet filters.

Revise the first sentence of the second paragraph in Article 280.04(c) of the Standard Specifications to read:

"When above grade inlet filters (fitted and non-fitted) are specified, they shall be of sufficient size to completely span and enclose the inlet structure."

Revise Article 1080.02 of the Standard Specifications to read:

"**1080.02 Geotextile Fabric.** The fabric for silt filter fence shall consist of woven fabric meeting the requirements of AASHTO M 288 for unsupported silt fence.

The fabric for ground stabilization shall consist of woven yarns or nonwoven filaments of polyolefins or polyesters. Woven fabrics shall be Class 2 and nonwoven fabrics shall be Class 1 according to AASHTO M 288.

The physical properties for silt fence and ground stabilization fabrics shall be according to the following.

PHYSICAL PROPERTIES			
	Silt Fence Woven [1/]	Ground Stabilization Woven [2/]	Ground Stabilization Nonwoven [2/]
Grab Strength, lb (N) [3/] ASTM D 4632	123 (550) MD 101 (450) XD	247 (1100) min. [4/]	202 (900) min. [4/]
Elongation/Grab Strain, % ASTM D 4632 [4/]	49 max.	49 max.	50 min.
Trapezoidal Tear Strength, lb (N) ASTM D 4533 [4/]	--	90 (400) min.	79 (350) min.

Puncture Strength, lb (N) ASTM D 6241 [4/]	--	494 (2200) min.	433 (1925) min.
Apparent Opening Size, Sieve No. (mm) ASTM D 4751 [5/]	30 (0.60) max.	40 (0.43) max.	40 (0.43) max.
Permittivity, sec^{-1} ASTM D 4491	0.05 min.		
Ultraviolet Stability, % retained strength after 500 hours of exposure ASTM D 4355	70 min.	50 min.	50 min.

1/ NTPEP results or manufacturer's certification to meet test requirements.

2/ NTPEP results to meet test requirements. Manufacturer shall have public release status and current reports on laboratory results in Test Data of NTPEP's DataMine.

3/ MD = Machine direction. XD = Cross-machine direction.

4/ Values represent the minimum average roll value (MARV) in the weaker principle direction, MD or XD.

5/ Values represent the maximum average roll value."

Revise Article 1080.03 of the Standard Specifications to read:

"**1080.03 Filter Fabric.** The filter fabric shall consist of woven yarns or nonwoven filaments of polyolefins or polyesters. Woven fabrics shall be Class 3 for riprap gradations RR 4 and RR 5, and Class 2 for RR 6 and RR 7 according to AASHTO M 288. Woven slit film geotextiles (i.e. geotextiles made from yarns of a flat, tape-like character) shall not be permitted. Nonwoven fabrics shall be Class 2 for riprap gradations RR 4 and RR 5, and Class 1 for RR 6 and RR 7 according to AASHTO M 288. After forming, the fabric shall be processed so that the yarns or filaments retain their relative positions with respect to each other. The fabric shall be new and undamaged.

The filter fabric shall be manufactured in widths of not less than 6 ft (2 m). Sheets of fabric may be sewn together with thread of a material meeting the chemical requirements given for the yarns or filaments to form fabric widths as required. The sheets of filter fabric shall be sewn together at the point of manufacture or another approved location.

The filter fabric shall be according to the following.

PHYSICAL PROPERTIES [1/]				
	Gradation Nos. RR 4 & RR 5		Gradation Nos. RR 6 & RR 7	
	Woven	Nonwoven	Woven	Nonwoven
Grab Strength, lb (N) ASTM D 4632 [2/]	180 (800) min.	157 (700) min.	247 (1100) min.	202 (900) min.
Elongation/Grab Strain, % ASTM D 4632 [2/]	49 max.	50 min.	49 max.	50 min.
Trapezoidal Tear Strength, lb (N) ASTM D 4533 [2/]	67 (300) min.	56 (250) min.	90 (400) min.	79 (350) min.
Puncture Strength, lb (N) ASTM D 6241 [2/]	370 (1650) min.	309 (1375) min.	494 (2200) min.	433 (1925) min.
Ultraviolet Stability, % retained strength after 500 hours of exposure - ASTM D 4355	50 min.			

1/ NTPEP results to meet test requirements. Manufacturer shall have public release status and current reports on laboratory results in Test Data of NTPEP's DataMine.

2/ Values represent the minimum average roll value (MARV) in the weaker principle direction [machine direction (MD) or cross-machine direction (XD)].

As determined by the Engineer, the filter fabric shall meet the requirements noted in the following after an onsite investigation of the soil to be protected.

Soil by Weight (Mass) Passing the No. 200 sieve (75 µm), %	Apparent Opening Size, Sieve No. (mm) - ASTM D 4751 [1/]	Permittivity, sec^{-1} ASTM D 4491
49 max.	60 (0.25) max.	0.2 min.
50 min.	70 (0.22) max.	0.1 min.

1/ Values represent the maximum average roll value."

Revise Article 1081.15(h)(3)a of the Standard Specifications to read:

"a. Inner Filter Fabric Bag. The inner filter fabric bag shall be constructed of woven yarns or nonwoven filaments made of polyolefins or polyesters with a minimum silt and debris capacity of 2.0 cu ft (0.06 cu m). Woven fabric shall be Class 3 and nonwoven fabric shall be Class 2 according to AASHTO M 288. The fabric bag shall be according to the following.

PHYSICAL PROPERTIES		
	Woven	Nonwoven
Grab Strength, lb (N) ASTM D 4632 1/	180 (800) min.	157 (700) min.
Elongation/Grab Strain, % ASTM D 4632 1/	49 max.	50 min.
Trapezoidal Tear Strength, lb (N) ASTM D 4533 1/	67 (300) min.	56 (250) min.
Puncture Strength, lb (N) ASTM D 6241 1/	370 (1650) min.	309 (1375) min.
Apparent Opening Size, Sieve No. (mm) ASTM D 4751 2/	60 (0.25) max.	
Permittivity, sec^{-1} ASTM D 4491	2.0 min.	
Ultraviolet Stability, % retained strength after 500 hours of exposure – ASTM D 4355	70 min.	

1/ Values represent the minimum average roll value (MARV) in the weaker principle direction [machine direction (MD) or cross-machine direction (XD)].

2/ Values represent the maximum average roll value."

Revise Article 1081.15(i)(1) of the Standard Specifications to read:

"(i) Urethane Foam/Geotextile. Urethane foam/geotextile shall be triangular shaped having a minimum height of 10 in. (250 mm) in the center with equal sides and a minimum 20 in. (500 mm) base. The triangular shaped inner material shall be a low density urethane foam. The outer geotextile fabric cover shall consist of woven yarns or nonwoven filaments made of polyolefins or polyesters placed around the inner material and shall extend beyond both sides of the triangle a minimum of 18 in. (450 mm). Woven filter fabric shall be Class 3 and nonwoven filter fabric shall be Class 2 according to AASHTO M 288.

(1) The geotextile shall meet the following properties.

PHYSICAL PROPERTIES		
	Woven	Nonwoven
Grab Strength, lb (N) ASTM D 4632 1/	180 (800) min.	157 (700) min.
Elongation/Grab Strain, % ASTM D 4632 1/	49 max.	50 min.
Trapezoidal Tear Strength, lb (N) ASTM D 4533 1/	67 (300) min.	56 (250) min.
Puncture Strength, lb (N) ASTM D 6241 1/	370 (1650) min.	309 (1375) min.

Apparent Opening Size, Sieve No. (mm) ASTM D 4751 2/	30 (0.60) max.
Permittivity, sec^{-1} ASTM D 4491	2.0 min.
Ultraviolet Stability, % retained strength after 500 hours of exposure – ASTM D 4355	70 min.

1/ Values represent the minimum average roll value (MARV) in the weaker principle direction [machine direction (MD) or cross-machine direction (XD)].

2/ Values represent the maximum average roll value."

Add the following to Article 1081.15(i) of the Standard Specifications.

"(3) Certification. The manufacturer shall furnish a certificate with each shipment of urethane foam/geotextile assemblies stating the amount of product furnished and that the material complies with these requirements."

Revise the title and first sentence of Article 1081.15(j) of the Standards Specifications to read:

"(j) Above Grade Inlet Filters (Fitted). Above grade inlet filters (fitted) shall consist of a rigid polyethylene frame covered with a fitted geotextile filter fabric."

Revise Article 1081.15(j)(2) of the Standard Specifications to read:

(2) Fitted Geotextile Filter Fabric. The fitted geotextile filter fabric shall consist of woven yarns or nonwoven filaments made of polyolefins or polyesters. Woven filter fabric shall be Class 3 and nonwoven filter fabric shall be Class 2 according to AASHTO M 288. The filter shall be fabricated to provide a direct fit to the frame. The top of the filter shall integrate a coarse screen with a minimum apparent opening size of 1/2 in. (13 mm) to allow large volumes of water to pass through in the event of heavy flows. The filter shall have integrated anti-buoyancy pockets capable of holding a minimum of 3.0 cu ft (0.08 cu m) of stabilization material. Each filter shall have a label with the following information sewn to or otherwise permanently adhered to the outside: manufacturer's name, product name, and lot, model, or serial number. The fitted geotextile filter fabric shall be according to the table in Article 1081.15(h)(3)a above."

Add Article 1081.15(k) to the Standard Specifications to read:

"(k) Above Grade Inlet Filters (Non-Fitted). Above grade inlet filters (non-fitted) shall consist of a geotextile fabric surrounding a metal frame. The frame shall consist of either a) a circular cage formed of welded wire mesh, or b) a collapsible aluminum frame, as described below.

(1) Frame Construction.

a) Welded Wire Mesh Frame. The frame shall consist of 6 in. x 6 in. (150 mm x 150 mm) welded wire mesh formed of #10 gauge (3.42 mm) steel conforming to ASTM A 185. The mesh shall be 30 in. (750 mm) tall and formed into a 42 in. (1.05 m) minimum diameter cylinder.

b) Collapsible Aluminum Frame. The collapsible aluminum frame shall consist of grade 6036 aluminum. The frame shall have anchor lugs that attach it to the inlet grate, which shall resist movement from water and debris. The collapsible joints of the frame shall have a locking device to secure the vertical members in place, which shall prevent the frame from collapsing while under load from water and debris.

(2) Geotextile Fabric. The geotextile fabric shall consist of woven yarns or nonwoven filaments made of polyolefins or polyesters. The woven filter fabric shall be a Class 3 and the nonwoven filter fabric shall be a Class 2 according to AASHTO M 288. The geotextile fabric shall be according to the table in Article 1081.15(h)(3)a above.

(3) Geotechnical Fabric Attachment to the Frame.

a) Welded Wire Mesh Frame. The woven or nonwoven geotextile fabric shall be wrapped 3 in. (75 mm) over the top member of a 6 in. x 6 in. (150 mm x 150 mm) welded wire mesh frame and secured with fastening rings constructed of wire conforming to ASTM A 641, A 809, A 370, and A 938 at 6 in. (150 mm) on center. The fastening rings shall penetrate both layers of geotextile and securely close around the steel mesh. The geotextile shall be secured to the sides of the welded wire mesh with fastening rings at a spacing of 1 per sq ft (11 per sq m) and securely close around a steel member.

b) Collapsible Aluminum Frame. The woven or nonwoven fabric shall be secured to the aluminum frame along the top and bottom of the frame perimeter with strips of aluminum secured to the perimeter member, such that the anchoring system provides a uniformly distributed stress throughout the geotechnical fabric.

(4) Certification. The manufacturer shall furnish a certificate with each shipment of above grade inlet filter assemblies stating the amount of product furnished and that the material complies with these requirements."

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

"(q) Temporary Sign Supports .....1106.02"

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

"For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer's specifications."

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

"**701.15 Traffic Control Devices.** For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer's self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device."

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

"**1106.02 Devices.** Work zone traffic control devices and combinations of devices shall meet crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 1 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades, temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 2 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact

attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH-16 compliant is available, an NCHRP 350 or MASH-2009 compliant device may be used, even if manufactured after December 31, 2019."

Revise Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

"(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department's qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

(l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department's qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis."

80427

MOBILIZATION (BDE)

Effective: April 1, 2020

Replace Articles 671.02(a), (b), and (c) of the Standard Specifications with the following:

"(a) Upon execution of the contract, 90 percent of the pay item will be paid.

(b) When 90 percent of the adjusted contract value is earned, the remaining ten percent of the pay item will be paid along with any amount bid in excess of six percent of the original contract amount."

80428

SURFACE TESTING OF PAVEMENTS – IRI (BDE)

Effective: January 1, 2021
Revised: April 1, 2021

Description. This work shall consist of testing the ride quality of the finished surface of pavements, according to Illinois Test Procedure 701, "Ride Quality Testing Using the International Roughness Index (IRI)". Work shall be according to Sections 406, 407, or 420 of the Standard Specifications, except as modified herein.

Hot-Mix Asphalt (HMA) Overlays

Revise Article 406.03(h) of the Standard Specifications to read:

"(h) Pavement Surface Grinding Equipment.....1101.04"

Revise Article 406.11 of the Standard Specifications to read:

"**406.11 Surface Tests.** Prior to pavement improvements, the Engineer will measure the smoothness of the existing high-speed mainline pavement. The Contractor shall measure the smoothness of the finished high-speed mainline, low-speed mainline, and miscellaneous pavements within three days of paving. Testing shall be performed in the presence of the Engineer and according to Illinois Test Procedure 701. The pavement will be identified as high-speed mainline, low-speed mainline, or miscellaneous as follows.

(a) Test Sections

(1) High-Speed Mainline Pavement. High-speed mainline pavement shall consist of pavements, ramps, and loops with a posted speed limit greater than 45 mph. These sections shall be tested with an inertial profiling system (IPS).

(2) Low-Speed Mainline Pavement. Low-speed mainline pavement shall consist of pavements, ramps, and loops with a posted speed limit of 45 mph or less. These sections shall be tested with an IPS and analyzed using the rolling straightedge simulation in ProVAL.

(3) Miscellaneous Pavement. Miscellaneous pavement includes segments that either cannot readily be tested by an inertial profiler or conditions beyond the control of the contractor preclude the achievement of smoothness levels typically achievable with mainline pavement construction. This may include the following examples or as determined by the Engineer.

(a) Pavement on horizontal curves with a centerline radius of curvature of less than or equal to 1,000 ft (300 m) and the pavement within the superelevation transition of such curves;

(b) Pavement on vertical curves having a length less than or equal to 200 ft (60 m) in combination with an algebraic change in tangent grade greater than or equal to 3 percent as may occur on urban ramps or other constricted-space facilities;

(c) The first and last 50 ft (15 m) of a pavement section where the Contractor is not responsible for the adjoining surface;

(d) Intersections and the 25 ft (7.6 m) before and after an intersection or end of radius return;

(e) Variable width pavements;

(f) Side street returns, to the end of radius return;

(g) Crossovers;

(h) Connector pavement from the mainline pavement expansion joint to the bridge approach slab;

(i) Bridge approach slab;

(j) Pavement that must be constructed in multiple short segments, typically defined as 600 ft (180 m) or less;

(k) Pavement within 25 ft (7.6 m) of manholes, utility structures, or other appurtenances;

(l) Turn lanes.

Miscellaneous pavement shall be tested using a 16 ft (5 m) straightedge.

(4) International Roughness Index (IRI). An index computed from a longitudinal profile measurement using a quarter-car simulation at a simulation speed of 50 mph (80 km/h).

(5) Mean Roughness Index (MRI). The average of the IRI values for the right and left wheel tracks.

(6) Areas of Localized Roughness (ALR). Isolated areas of roughness, which can cause significant increase in the calculated MRI for a given sublot.

(7) Lot. A lot will be defined as a continuous strip of pavement 1 mile (1,600 m) long and one lane wide. When the length of a continuous strip of pavement is less than 1 mile (1,600 m), that pavement will be included in an adjacent lot. Structures will be omitted when measuring pavement length, but will not be considered as a discontinuity and

the numbering of sublots will not restart. The limits of the structure shall include the entire length between the outside ends of both connector pavements.

(8) Sublot. Lots will be divided into 0.1 mile (160 m) sublots. A partial sublot greater than or equal to 264 ft (80 m) resulting from an interruption in the pavement will be subject to the same evaluation as a whole sublot. Partial sublots less than 264 ft (80 m) shall be included with the previous sublot for evaluation purposes.

(b) Corrective Work. Corrective work shall be completed according to the following.

(1) High-Speed Mainline Pavement. For high-speed mainline pavement, any 25 ft (7.6 m) interval with an ALR in excess of 150 in./mile (2,400 mm/km) will be identified by the Engineer and shall be corrected by the Contractor. Any sublot having a MRI greater than 100.0 in./mile (1,580 mm/km), including ALR, shall be corrected to reduce the MRI to the full pay threshold, or replaced at the Contractor's option.

(2) Low-Speed Mainline and Miscellaneous Pavements. Bumps in low-speed mainline pavement or miscellaneous pavement which exceed the 5/16 in. (8 mm) tolerance on a simulated 16 ft (5 m) straightedge will be identified by the Engineer and shall be corrected by the Contractor.

Corrective work shall be completed with pavement surface grinding equipment or by removing and replacing the pavement. Corrective work shall be applied to the full lane width. When completed, the corrected area shall have uniform texture and appearance, with the beginning and ending of the corrected area normal to the centerline of the paved surface.

Upon completion of the corrective work, the surface of the sublot(s) shall be retested. The Contractor shall furnish the data and reports to the Engineer within 2 working days after corrections are made. If the MRI and/or ALR still do not meet the requirements, additional corrective work shall be performed. For sublot(s) that are replaced, assessments will be based on the MRI determined after replacement.

Corrective work shall be at no additional cost to the Department.

(c) Smoothness Assessments. Assessments will be paid to or deducted from the Contractor for each sublot of mainline pavement per the Smoothness Assessment Schedule. Assessments will be based on the MRI of each sublot prior to performing any corrective work unless the Contractor has chosen to remove and replace the sublot. For sublots that are replaced, assessments will be based on the MRI determined after replacement.

(1) High-Speed Mainline Pavement. The upper MRI thresholds for high-speed mainline pavement are dependent on the MRI of the existing pavement before construction (MRI_0) and shall be determined as follows.

Upper MRI Thresholds [1/]	MRI Thresholds (High-Speed, HMA Overlay)

	$MRI_0 \leq 125.0$ in./mile (≤ 1,975 mm/km)	$MRI_0 > 125.0$ in./mile [1/] (> 1,975 mm/km)
Incentive (MRI_I)	45.0 in./mile (710 mm/km)	$0.2 \times MRI_0 + 20$
Full Pay (MRI_F)	75.0 in./mile (1,190 mm/km)	$0.2 \times MRI_0 + 50$
Disincentive (MRI_D)	100.0 in./mile (1,975 mm/km)	$0.2 \times MRI_0 + 75$

1/ MRI_0, MRI_I, MRI_F, and MRI_D shall be in in./mile for calculation.

Smoothness assessments for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, HMA Overlay)	
Mainline Pavement MRI Range	Assessment Per Sublot [1/]
$MRI \leq MRI_I$	$+ (MRI_I - MRI) \times \$33.00$ [2/]
$MRI_I < MRI \leq MRI_F$	+ \$0.00
$MRI_F < MRI \leq MRI_D$	$- (MRI - MRI_F) \times \$20.00$
$MRI > MRI_D$	– \$500.00

1/ MRI, MRI_I, MRI_F, and MRI_D shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$500.00.

Smoothness assessments will not be paid or deducted until all other contract requirements for the pavement are satisfied. Pavement that is corrected or replaced for reasons other than smoothness, shall be retested as stated herein."

Hot-Mix Asphalt (HMA) Pavement (Full-Depth)

Revise the first paragraph of Article 407.03 of the Standard Specifications to read:

"**407.03 Equipment.** Equipment shall be according to Article 406.03."

Revise Article 407.09 of the Standard Specifications to read:

"**407.09 Surface Tests.** The finished surface of the pavement shall be tested for smoothness according to Article 406.11, except as follows:

The testing of the existing pavement prior to improvements shall not apply and the smoothness assessment for high-speed mainline pavement shall be determined according to the following table.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, Full-Depth HMA)

Mainline Pavement MRI, in./mile (mm/km)	Assessment Per Sublot [1/]
≤ 45.0 (710)	+ (45 – MRI) × $80.00 [2/]
> 45.0 (710) to 75.0 (1,190)	+ $0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × $30.00
> 100.0 (1,580)	– $750.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed $1,200.00."

Portland Cement Concrete Pavement

Delete Article 420.03(i) of the Standard Specifications.

Revise Article 420.03(j) of the Standard Specifications to read:

"(i) Coring Machine (Note 1)"

Revise Article 420.10 of the Standard Specifications to read:

"**420.10 Surface Tests.** The finished surface of the pavement shall be tested for smoothness according to Article 406.11, except as follows.

The testing of the existing pavement prior to improvements shall not apply. The Contractor shall measure the smoothness of the finished surface of the pavement after the pavement has attained a flexural strength of 250 psi (3,800 kPa) or a compressive strength of 1,600 psi (20,700 kPa).

Membrane curing damaged during testing shall be repaired as directed by the Engineer at no additional cost to the Department.

(a) Corrective Work. No further texturing for skid resistance will be required for areas corrected by grinding. Protective coat shall be reapplied to ground areas according to Article 420.18 at no additional cost to the Department.

Pavement corrected by removal and replacement, shall be corrected in full panel sizes.

(b) Smoothness Assessments. Smoothness assessment for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, PCC)	
Mainline Pavement MRI, in./mile (mm/km) [3/]	Assessment Per Sublot [1/]
≤ 45.0 (710)	+ (45 – MRI) × $120.00 [2/]

> 45.0 (710) to 75.0 (1,190)	+ $0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × $45.00
> 100.0 (1,580)	– $1,125.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed $1,800.00.

3/ If pavement is constructed with traffic in the lane next to it, then an additional 10 in./mile will be added to the upper thresholds."

Testing Equipment

Delete Article 1101.10 of the Standard Specifications.

80435

MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES
Effective: October 4, 2016
Revised: March 1, 2019

Description. This work shall consist of furnishing and placing a membrane waterproofing system on the top slab and sidewalls, or portions thereof, for buried structures as detailed on the contract plans.

All membrane waterproofing systems shall be supplied by qualified producers. The Department will maintain a list of qualified producers.

Materials. The materials used in the waterproofing system shall consist of the following.

(a) Cold-applied, self-adhering rubberized asphalt/polyethylene membrane sheet with the following properties:

Physical Properties	
Thickness ASTM D 1777 or D 3767	60 mils (1.500 mm) min.
Width	36 inches (914 mm) min.
Tensile Strength, Film ASTM D 882	5000 lb./in^2 (34.5 MPa) min.
Pliability [180° bend over 1" inch (25 mm) mandrel @ -20 °F (-29 °C)] ASTM D 146 (Modified) or D1970	No Effect
Puncture Resistance-Membrane ASTM E 154	40 lb. (178 N) min.
Permeability (Perms) ASTM E 96, Method B	0.1 max.
Water Absorption (% by Weight) ASTM D 570	0.2 max.
Peel Strength ASTM D 903	9 lb./in (1576 N/m) min.

(b) Ancillary Materials: Adhesives, Conditioners, Primers, Mastic, Two-Part Liquid Membranes, and Sealing Tapes as required by the manufacturer of the membrane and film for use with the respective membrane waterproofing system.

Construction. The areas requiring waterproofing shall be prepared and the waterproofing shall be installed in accordance with the manufacturer's instructions. The Contractor shall not install any part of a membrane waterproofing system in wet conditions, or if the ambient or concrete surface temperature is below 40° (4° C), unless allowed by the Engineer.

Surfaces to be waterproofed shall be smooth and free from projections which might damage the membrane sheet. Projections or depressions on the surface that may cause damage to the membrane shall be removed or filled as directed by the Engineer. The surface shall be power washed and cleaned of dust, dirt, grease, and loose particles, and shall be dry before the waterproofing is applied.

The Contractor shall uniformly apply primer to the entire area to be waterproofed, at the rate stated in the manufacturer's instructions, by brush, or roller. The Contractor shall brush out primer that tends to puddle in low spots to allow complete drying. The primer shall be cured according to the manufacturer's instructions. Primed areas shall not stand uncovered overnight. If membrane sheets are not placed over primer within the time recommended by the manufacturer, the Contractor shall recoat the surfaces at no additional cost to the Department.

The installation of the membrane sheet to primed surfaces shall be such that all joints are shingled to shed water by commencing from the lowest elevation of the buried structure's top slab and progress towards the highest elevation. The membrane sheets shall be overlapped as required by the manufacturer. The Contractor shall seal with mastic any laps that were not thoroughly sealed. The membrane shall be smooth and free of wrinkles and there shall be no depressions in horizontal surfaces of the finished waterproofing. After placement, exposed edges of membrane sheets shall be sealed with a troweled bead of a manufacturer's recommended mastic, or two-part liquid membrane, or with sealing tape.

Sealing bands at joints between precast segments shall be installed prior to the waterproofing system being applied. Where the waterproofing system and sealing band overlap, the installation shall be planned such that water will not be trapped or directed underneath the membrane or sealing band.

Care shall be taken to protect and to prevent damage to the waterproofing system prior to and during backfilling operations. The waterproofing system shall be removed as required for the installation of slab mounted guardrails and other appurtenances. After the installation is complete, the system shall be repaired and sealed against water intrusion according to the manufacturer's instructions and to the satisfaction of the Engineer.

Replace the last paragraph of Article 540.06 Precast Concrete Box Culverts and replace with:

> Handling holes shall be filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation nor project above the outside surface to the extent that may cause damage to the membrane. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar compatible with the membrane.

Method of Measurement. The waterproofing system will be measured in place, in square yards (square meters) of the concrete surface to be waterproofed.

Basis of Payment. This will work will be paid for at the contract unit price, per square yard (square meter) for MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES.

rubino
ENGINEERING INC.

REPORT TRANSMITTAL

January 30, 2020

To: Chad Dillavou PE (IA, IL, IN), PTOE
Primera Engineers, Ltd
650 Warrenville Road, Suite 200
Lisle, IL 60532

Re: **Structural Geotechnical Report**
Proposed Harter Road Culvert Replacement
Harter Road and Dauberman Road
Kane County, Illinois

Rubino Report No. G19.109

Via email: cdillavou@primeraeng.com

Dear Mr. Dillavou,

Rubino Engineering, Inc. (Rubino) is pleased to submit our Structural Geotechnical Report for the proposed Harter Road Culvert Replacement in Kane County, Illinois.

Report Description

Enclosed is the Structural Geotechnical Report including results of field and laboratory testing, as well as recommendations for foundation design and general site development.

Authorization and Correspondence History

- Rubino Proposal No. Q19.261g dated June 19, 2019; Authorization to proceed by Subconsultant Agreement, Primera Project No. 2019435, dated September 4, 2019.

Closing

Rubino appreciates the opportunity to provide geotechnical services for this project and we look forward to continued participation during the design and in future construction phases of this project.

If you have questions pertaining to this report, or if Rubino may be of further service, please contact our office at (847) 931-1555.

Respectfully submitted,
RUBINO ENGINEERING, INC.

Michelle A. Lipinski, PE
President

michelle.lipinski@rubinoeng.com

MAL/file/ Enclosures

Structural Geotechnical Report (SGR)

PROPOSED HARTER ROAD CULVERT REPLACEMENT

HARTER ROAD AND DAUBERMAN ROAD

KANE COUNTY, ILLINOIS

RUBINO PROJECT NO. G19.109

Drilling
Laboratory Testing
Geotechnical Analysis

PREPARED BY:

rubino ENGINEERING INC.

Michelle A. Lipinski, PE
President
IL No. 062-061241, Exp. 11/30/21

PREPARED FOR:

PRIMERA ENGINEERS, LTD

650 WARRENVILLE ROAD, SUITE 200

LISLE, ILLINOIS

JANUARY 30, 2020

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PROJECT DESCRIPTION AND SCOPE

Rubino Engineering, Inc. (Rubino) that Kane County is planning to replace an existing culvert with a RC box culvert at Harter Road and Dauberman Road in Kane County, Illinois. Improvements are also planned for the approach pavement to the culvert.

Design Criteria received: unknown; however, this proposal is based on the following:

- Type of Culvert: RC Box Culvert
- Existing structure estimates per Chad Dillavou of Primera Engineers, Ltd (email November 13, 2019)
  - The existing water level is 782.94
  - The existing invert depth is estimated to be 782.80
  - The existing slab bottom depth is estimated to be 782.13 (8")
  - The existing bottom of stone is estimated to be 781.13 (12")
- Design structure estimates per Chad Dillavou of Primera Engineers, Ltd (email November 13, 2019)
  - Bottom of stone: 779.00 assuming 2-foot buffer from bottom of slab (781.00)

Information and Documents received:

- Drawing – "Ex & Proposed Culvert Alignment" (see below)
- Drawing – "Topo survey limits"
- Email giving existing structure elevation details (off of which anticipated design elevations are based in this report) from Chad Dillavou on November 12, 2019.
- Email with boring ground elevations from Chad Dillavou on November 14, 2019.

Project Correspondence:

- RFP Email from Dawn Cosentino of Primera Engineers, Ltd on June 4, 2019.

The geotechnical recommendations presented in this report are based on the available project information and the subsurface materials described in this report. If any of the information on which this report is based is incorrect, please inform Rubino in writing so that we may amend the recommendations presented in this report (if appropriate, and if desired by the client). Rubino will not be responsible for the implementation of our recommendations if we are not notified of changes in the project.

Purpose / Scope of Services

The purpose of this study was to explore the subsurface conditions at the site in order to prepare geotechnical recommendations for foundation design and general site development for the proposed construction. Rubino's scope of services included the following drilling program:

Table 1: Drilling Scope

NUMBER OF BORINGS	DEPTH (FEET BEG*)	LOCATION
2	15	CB-01 and CB-02
3	15	SB-01 through SB-03

*BEG = below existing grade

Representative soil samples obtained during the field exploration program were transported to the laboratory for additional classification and laboratory testing.

This report briefly outlines the following:

- *Summary of client-provided project information and report basis*
- *Overview of encountered subsurface conditions*
- *Overview of field and laboratory tests performed including results*
- *Geotechnical recommendations pertaining to:*
  - *Subgrade preparation and subgrade stability recommendations for roadway approach*
  - *Wing Wall foundations, including suitable foundation type(s), allowable bearing pressure(s), and estimated settlement*
  - *Seismic design site classification parameters*
- *Subgrade preparation and subgrade stability recommendations for roadway approach*
- *Construction considerations, including temporary excavation and construction control of water*

DRILLING, FIELD, AND LABORATORY TEST PROCEDURES

Primera selected the number of borings and the boring depths. Rubino located the borings in the field by measuring distances from known fixed site features. The borings were advanced utilizing 3 ¼ inch inside-diameter, hollow stem auger drilling methods and soil samples were routinely obtained during the drilling process.

Selected soil samples were tested in the laboratory to determine material properties for this report. Drilling, sampling, and laboratory tests were accomplished in general accordance with ASTM procedures. The following items are further described in the Appendix of this report.

- *Field Penetration Tests and Split-Barrel Sampling of Soils (AASHTO T 206)*
- *Field Water Level Measurements*
- *Laboratory Determination of Unconfined Compressive Strength (AASHTO T 208)*
- *Laboratory Determination of Water (Moisture) Content of Soil by Mass (AASHTO T 265-15)*
- *Laboratory Organic Content by Loss on Ignition (AASHTO T 267-86)*
- *Laboratory Determination of Atterberg Limits (AASHTO T 89)*

The laboratory testing program was conducted in general accordance with applicable ASTM specifications. The results of these tests are to be found on the accompanying boring logs located in the Appendix.

SUMMARY OF GEOTECHNICAL CONSIDERATIONS

The main geotechnical design and construction considerations at this site are:

- **Subgrade soils** generally consisted of undocumented fill followed by brown to gray, very soft to very stiff silty clay soils. See *Subsurface Conditions* and *Undocumented Fill Discussion* sections for more detailed information.

- Based on the SPT N values, Qp values and moisture contents, **aggregate subgrade improvement recommendations** have been made for the project area along Harter Road. See the *District One Aggregate Subgrade Improvement* section for more detailed information.

- **Free groundwater was observed** within the borings during drilling. **Dewatering will be necessary** during construction of the culvert. See *Groundwater Conditions* and *Dewatering Recommendations* section for more information.

- **Wingwalls can bear on suitable subgrade soils or be designed as horizontally cantilevered wingwalls.** See *Foundation Recommendations* section for more information.

- **There is a soft layer of soil unsuitable for bearing encountered in SB-01 (boring other than the culvert borings that is located close to the culvert area). See *Foundation Recommendations* section for more information.**

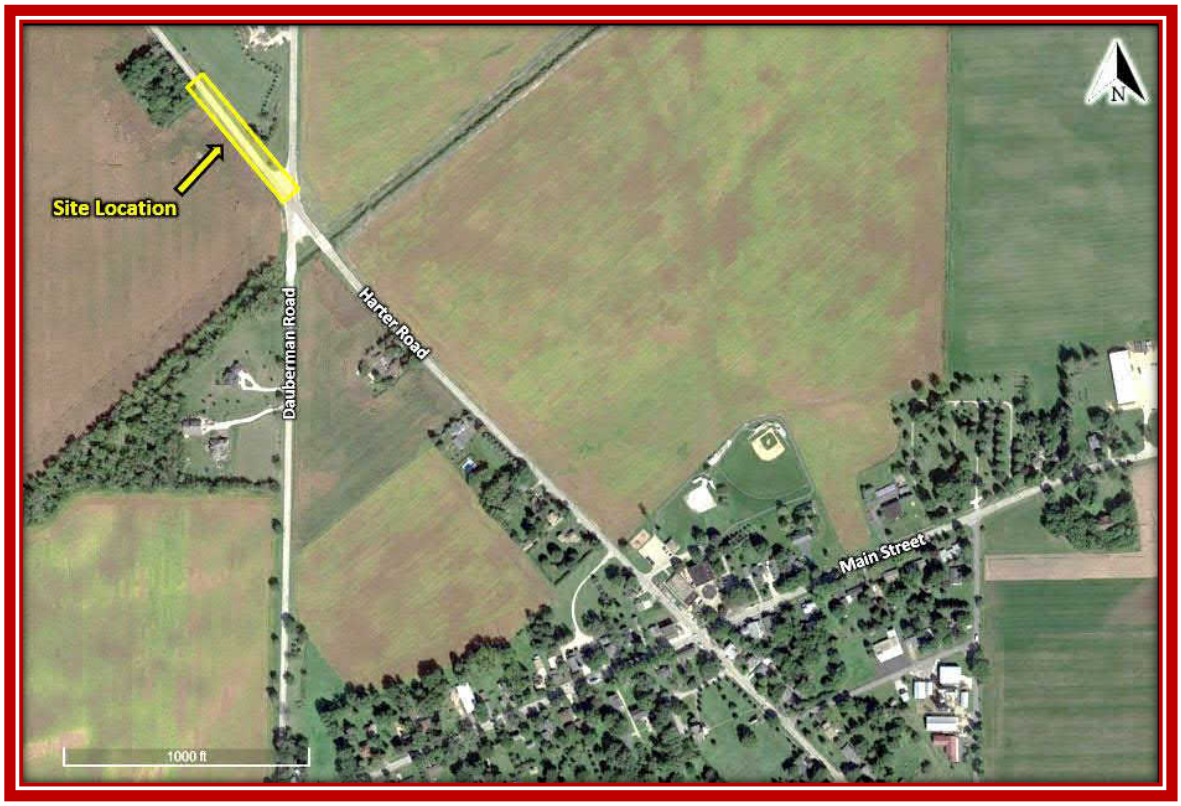
- Positive **drainage** of the subgrade soils combined with interceptor drains and positive surface drainage will help the life expectancy of the new pavement section. See the ***Roadway Drainage*** section for more detailed information.

The geotechnical-related recommendations in this report are presented based on the subsurface conditions encountered and Rubino's understanding of the project. Should changes in the project criteria occur, a review must be made by Rubino to determine if modifications to our recommendations will be necessary.

SITE AND SUBSURFACE CONDITIONS

Site Location and Description

The existing culvert to be replaced is located in Kaneville Township, Illinois on Harter Road, just west of the Harter Road and Dauberman Road intersection. The surrounding land is primarily undeveloped farmland. The existing culvert is oriented nearly perpendicular to Harter Road. The design culvert looks to be oriented north-south, more parallel with Dauberman Road.



The midpoint of the project site has an approximate latitude and longitude of 41.840542° and -88.528714°, respectively.

Surface Conditions

The borings were taken within existing pavement of Harter Road and the surface conditions are as follows:

Table 2: Existing Pavement Section Summary

BORING #	TOTAL OBSERVED PAVEMENT THICKNESS	TOTAL OBSERVED BASE STONE THICKNESS
CB-01	9 INCHES OF ASPHALT	8 INCHES OF SUBBASE STONE
CB-02	9 INCHES OF ASPHALT	SUBBASE STONE NOT OBSERVED
SB-01	9 ¼ INCHES ASPHALT	3 ¾ INCHES OF SUBBASE STONE
SB-02	11 ½ INCHES ASPHALT	7 ½ INCHES OF SUBBASE STONE
SB-03	8 ¼ INCHES OF ASPHALT	5 ¾ INCHES OF SUBBASE STONE

Please note that the above referenced thicknesses are considered approximate and based on visual observations and hand measurements. Pavement and sub-base type and thickness may vary between core locations.

Subsurface Conditions

Beneath the existing surficial pavement, subbase stone, or undocumented fill soils, subsurface conditions generally consisted of brown, black, and/or gray silty clay.

- The **undocumented fill** soil was granular in nature
- The native **cohesive** soils were generally very soft to very stiff in consistency

Table 3: Subsurface Conditions Summary

ELEVATION RANGE (FEET)	SOIL DESCRIPTION	SPT N-VALUES (BLOWS PER FOOT)	MOISTURE CONTENT (%)	ESTIMATED SHEAR STRENGTH
CB-01, CB-02 (Culvert Borings)				
788.4 – 785.6 (CB-02)	FILL; brown and gray gravel with sand and fines	25	6	----
787.5 – 774.0	Medium stiff to stiff, black to brown and gray silty CLAY, trace sand and gravel	4 – 12	11 – 30	c = 600 – 1,800 psf
783.1 – 778.1 (CB-02)	Soft, brown silty CLAY, trace sand and gravel	2 – 3	14 – 18	c = 300 – 450 psf

ELEVATION RANGE (FEET)	SOIL DESCRIPTION	SPT N-VALUES (BLOWS PER FOOT)	MOISTURE CONTENT (%)	ESTIMATED SHEAR STRENGTH
SB-01, SB-02 & SB-03 (Approach Borings)				
789.2 – 773.9	Medium stiff to stiff, black to brown and gray silty CLAY, trace sand and gravel	4 – 11	10 – 25	c = 600 – 1,650 psf
785.4 – 777.9 (SB-01, SB-03)	Very soft to soft, gray, brown and / or black silty CLAY, trace sand and gravel	1 – 3	14 – 23	c = 150 – 450 psf

The native soils were visually classified as silty clay (CL) according to the Unified Soil Classification System (USCS). The above table is a general summary of subsurface conditions. Please refer to the boring logs for more detailed information.

Estimated shear strength of clay soils is based on empirical correlations using N-values, moisture content, and unconfined compressive strength.

Groundwater Conditions

Groundwater was encountered in the borings during drilling operations. The following table summarizes groundwater observations from the field.

Table 4: Groundwater Observation Summary

BORING NUMBER	GROUNDWATER LEVEL DURING DRILLING (FEET)	GROUNDWATER LEVEL UPON AUGER REMOVAL (FEET)
CB-01	780.5	Hole collapse at 779.5
CB-02	780.6	Hole collapse at 780.1
SB-01	780.8	Hole collapse at 782.8
SB-02	787.2	Hole collapse at 781.7
SB-03	782.9	Hole collapse at 779.9

It should be noted that fluctuations in the groundwater level should be anticipated throughout the year depending on variations in climatological conditions and other factors not apparent at the time the borings were performed. Additionally, discontinuous zones of perched water may exist within the soils. The possibility of groundwater level fluctuation should be considered when developing the design and construction plans for the project. When bidding this project, the contractor should anticipate that groundwater will be present.

EVALUATION AND RECOMMENDATIONS

The geotechnical-related recommendations in this report are presented based on the subsurface conditions encountered and Rubino's understanding of the project. Should changes in the project criteria occur, a review must be made by Rubino to determine if modifications to our recommendations will be necessary.

Undocumented Fill Discussion

Undocumented fill was observed in boring CB-02 to an elevation of approximately 785.6 feet and possible fill was observed in SB-01 to an elevation of approximately 785.8 feet. There is a possibility that undocumented fill soils could be encountered at other locations on the site.

Undocumented fill is defined as fill that has been placed without being documented as to its placed density and moisture content.

Deleterious materials could include, but are not limited to, bricks, asphalt, concrete, metal, wood, or other building debris.

Undocumented fill materials should be carefully evaluated by proof-rolling and subgrade stability testing (as recommended herein) at the time of construction to document the in-place consistency of these materials.

Deleterious materials were not observed within the undocumented fill materials during the drilling operations. Although deleterious materials were not encountered in the undocumented fill materials, this does not eliminate the possibility that deleterious materials could be present within undocumented fill materials at other locations along the project.

Pavement Subgrade Preparation

Rubino recommends that unsuitable soils or deleterious materials be removed from the construction area, as applicable. Unsuitable soils or deleterious materials can be described as, but are not limited to:

- Organic soil / topsoil / plants / trees / shrubs / grass
- Frozen soil
- Existing asphalt or concrete pavement sections
- Concrete curb & gutter

Prior to paving, the prepared subgrade should be proofrolled using a loaded tandem axle dump truck or similar type of pneumatic tired equipment with a minimum gross weight of 9 tons per single axle. Localized soft areas identified should be repaired prior to paving. Moisture content of the subgrade be maintained between -2% and +3% of the optimum at the time of paving. It may require rework when the subgrade is either desiccated or wet.

Areas of low support or soft spots should be tested with either a Static Cone Penetrometer (SCP) or Dynamic Cone Penetrometer (DCP). The results of the DCP or SCP tests should be evaluated according to the IDOT Subgrade Stability Manual (2005), to determine the necessary depth of corrective action.

Please note that fine grained subgrade soils are sensitive to moisture and can be easily disturbed by precipitation, groundwater, or construction equipment. Therefore, extra care should be used to avoid disturbing these soils during construction activities.

Fill Materials

If the proposed grade is to be raised and fill materials are required, the fill materials for embankment construction must conform to the requirement of Section 205 of the, "Standard Specifications for Road and Bridge Construction," adopted by the Illinois Department of Transportation, April 1st, 2016.

The most current versions of the "Supplemental Specifications and Recurring Special Provisions" and "Project Procedures Guide" should be referenced for testing frequencies.

Table 6-1
Requirements of Borrow Soils for the Top 600 mm (24 in.) Subgrade.

REQUIRED TEST	AASHTO METHOD	PERMISSIBLE LIMIT
SDD (at OMC)	T 99 (Method C)	1,450 kg/m^3 (90 pcf) min. *
Organic Content	T 194	10 % max.
Percent Silt and Fine Sand	T 88	65 % max. **
PI	T 90	12 % min. **
LL	T 89	50 % max.
Shear Strength (c) at 95 % SDD	T 208 or T 234	50 kPa (1,000 psf) min.***
SO_3****	ASTM C 618	5 % max.

* As per Standard Specifications.
** Frost susceptibility criteria.
*** For engineered embankments which are 4.5 m (15 ft) in height or greater.
**** Only for CCB.

For budget purposes, IDOT typically recommends a shrinkage factor of 15 percent be used to determine earthwork quantities.

Subbase Stone Recommendations

The granular base course should be built at least 2 feet wider than the pavement on each side to support the tracks of the slipform paver. This extra width is structurally beneficial for wheel loads applied at pavement edge.

It is recommended all new pavement is supported on 12 inches of improved subgrade, meeting the requirements of the District One, Aggregate Subgrade Improvement Special Provision (April 1, 2016). An IDOT CA-6 aggregate base (IDOT Specifications Handbook, Sec. 1004.1) can be used under the asphalt or concrete pavements. The material should be placed and compacted as discussed in the Fill Materials section of this report.

Rubino recommends a drainage system be designed to keep water out of the base material since CA-6 contains fines which could become unstable when saturated. The subbase should be graded to drain water fast to mitigate loss of fines through cracks and pavement. See the *Roadway Drainage* section for more information.

District One Aggregate Subgrade Improvement

Rubino recommends supporting new pavement on 12 inches of improved subgrade, meeting the requirements to the District One, Aggregate Subgrade Improvement Special Provision (April 1, 2016).

There will be a need for two separate Aggregate Subgrade improvement line items in the Schedule of Quantities (SOQ) included in the design plans:

1) **Aggregate Subgrade Improvement 12" (SQ YD)** – This will be used for the 12-inch aggregate subgrade improvement below new pavement section and widening pavement sections.

2) **Aggregate Subgrade Improvement (CU YD)** – This will be used in locations where there are undercuts (below the 12-inch improved subgrade layer) where poor soils were removed.

Both line items reference back to the District One Aggregate Subgrade Improvement Special Provision.

The recommendations located in this report are based on the data obtained at each soil boring location. Soil subgrade stability may vary in the field between the borings and could be affected by the weather at the time of construction.

- Undercuts are defined as Aggregate Subgrade Improvement (CU YD) and are additional to the IDOT District One recommended Aggregate Subgrade Improvement 12".
- Subgrade with an **IBV value of 2 or less** in the upper 3 feet of the boring is a candidate for remediation / undercut.

Based on the above criteria, the following boring locations have been reviewed for potential subgrade stabilization:

Table 5: Undercut Recommendations

LOCATION	IBV VALUE	AGGREGATE SUBGRADE IMPROVEMENT	GEOTECHNICAL CONSIDERATIONS
SB-01	9	n/a	Possible Fill: Brown and gray silty clay with gravel
SB-02	4	n/a	Gray to brown silty clay, trace sand and gravel
SB-03	3	n/a	Black silty clay with low shear strength
CB-01	1	12 inches	Black silty clay with Moisture Content of 27% - 30% and Qu values estimated to be 0.8 to 1.5 tsf
CB-02	9	n/a	Presence of Granular Fill Materials overlying black silty clay with low shear strength

- Rubino recommends that a plan quantify in cubic yards of at least 25% of the subgrade area be included as an undercut provision in the contract as Aggregate Subgrade Improvement (CY).
- Rubino also recommends including a plan quantity of Geotechnical Fabric for Ground Stabilization (SQ YD) equal to at least 25% of the planned pavement area. We recommend placing geotextile fabric at the base of undercut areas where low strength subgrade soils are encountered.

Unstable soil should be treated in accordance with Article 301.04 of the standard specifications and undercut guidelines in the IDOT Subgrade Stability Manual 2005.

Roadway Drainage

Proper surface grading should be incorporated into design and construction of subgrade and pavement to remove water accumulations and prevent ponding of water.

To provide drainage for the proposed pavement for the newly constructed ramp and in areas where the roadway will be completely reconstructed, it is recommended to install longitudinal and transverse pipe underdrains below the pavement.

- Transverse drains should be installed at a spacing of 300 feet. Longitudinal underdrains should be installed in areas where existing pavement is planned to be widened.
- The drains should also be installed in low areas and at the base of any undercuts.
- The underdrains should tie into the storm water drainage system and should be installed per Article 601 in the IDOT Standard Specifications for Road and Bridge Construction (Adopted January 1, 2016) and consist of Type 2 underdrains.

Dewatering Recommendations

Dewatering will be necessary during excavation of soils due to the presence of groundwater at or near bearing elevation. Cofferdams or trench boxes may be required to create a work area where soils are saturated. Please reference the anticipated groundwater levels on the attached boring logs and in the *Groundwater Conditions* section of this report.

Culvert / Wingwall Foundation Recommendations

The currently proposed culvert type includes a reinforced concrete box culvert with cantilever-type wing walls. For pre-cast box culverts bearing on shallow foundations Rubino recommends the following:

- A bedding layer of stone placed below the proposed culvert is recommended to provide a working platform due to the presence of soft soils at the proposed bearing elevations in some locations.
- Non-woven geotextile should be placed on fine-grained subgrade soil prior to placing bedding.
- Groundwater should be managed.
- Soft, saturated, low strength soils should be tested, documented, and bridged with additional bedding soils, as necessary
- Excavation should be in accordance with OSHA standards

Design / Construction – Frost Protection

Concrete footings will be subjected to freezing temperatures; therefore, the concrete should be protected from freezing. Frost depth for footings is 3 ½ feet below surface grade.

Design – Settlement Estimate

The proposed culvert replacement is anticipated to have similar embankment loadings. Therefore, the net change in effective stresses within potential settlement zones are expected to be minor or negligible in some areas, and a settlement analysis was not performed. If the net change in load is anticipated, contact Rubino immediately for further evaluation.

Due to unloading and re-loading during the construction process and due to the variable nature of the materials encountered within the soil borings, Rubino recommends the installation of a bedding layer with geotextile to bridge across the length of the culvert.

Table 6: Box Culvert Recommendations

HARTER ROAD CULVERT		
DESCRIPTION	**CB-01 & CB-02**	
Approximate boring surface elevation:	789.0 – 789.1	
Anticipated Bearing Elevations	781.0 (bottom of slab)	781.0 (bottom of stone)
Anticipated Bearing Soil Classification (bottom of culvert) and Field Qu (tsf)	Soft to medium stiff, Silty Clay (Qu 0.3 – 0.5 tsf)	
Wing Wall Support	Cantilever	
Recommended Minimum Bedding Material/working platform above native soil for wing walls and culvert:	2 – 3 feet*	
***Additional Considerations:** There is a soft layer of silty clay located within SB-01 located at anticipated culvert bearing elevation (780.00) that is considered **unsuitable** for bearing. • groundwater anticipated • Qp = 0 tsf • Low N-value	***Corresponding recommendation:** If these **unsuitable** soil conditions are encountered, Rubino recommends additional undercut and replacement with additional stone. Consideration could also be given to dewatering and pouring a mud mat (CLSM) after the undercut to improve working conditions.	

The recommended 2-foot layer of IDOT-approved bedding stone (working platform) will assist in distributing loads and reduce the potential for differential settlement, however, the soils should be carefully evaluated for strength and stability at the time of construction.

Undercut depths should be replaced with compacted crush stone. A woven geotextile fabric should be placed between any open-graded stone to prevent the migration of fines into the stone which will cause further settlement.

- Geogrid and filter fabric are recommended below the bedding layer

The following table from the IDOT Geotechnical Manual (2015) provides guidelines for working platforms at culverts and undercuts at foundations.

DCP Rate (in./blow)	IBV	Q_u (tsf)	Working Platform Thickness Guideline
< 4.6	< 1	< 0.3	Contact District Geotechnical Engineer
4.6 to 3.3	1 to 1.5	0.3 to 0.5	2 ft.
3.3 to 2.6	1.5 to 2	0.5 to 0.7	1 ft.
2.6 to 2.0	2 to 3	0.7 to 1.0	0.0 to 0.5 ft.
> 2.0	> 3	> 1.0	0.0 ft.*
* Note: Bedding is required beneath pre-cast culverts even if the recommended undercut is zero according to Article 540.06 of the *Standard Specifications*.			

Lateral Earth Pressures

Walls with unbalanced backfill levels on opposite sides, such as culvert walls and wing walls, should be designed for earth pressures at least equal to those indicated in the following table. Earth pressures will be influenced by the structural design of the walls, conditions of wall restraint, methods of construction and/or compaction and the strength of the materials being restrained. Recommended parameters for use in below grade walls are as follows:

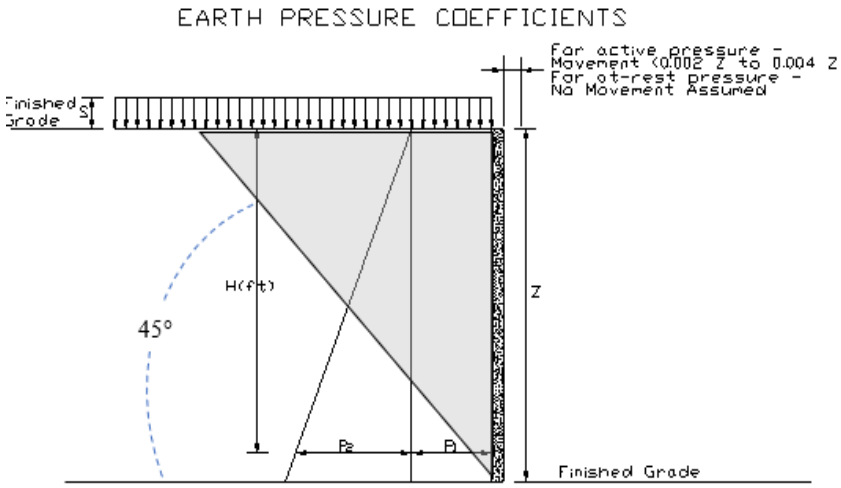
Table 7: Lateral Earth Pressures

EARTH PRESSURE CONDITIONS	COEFFICIENT FOR BACKFILL TYPE IN SHADED AREA	EQUIVALENT FLUID PRESSURE (PCF)	SURCHARGE PRESSURE P1 (psf)	EARTH PRESSURE P2 (psf)
Active (K_a)	Granular – 0.35	44	(0.35)S	(44)H
	Clay – 0.36	45	(0.36)S	(45)H
At-Rest (K_o)	Granular – 0.51	64	(0.51)S	(64)H
	Clay – 0.53	67	(0.53)S	(67)H
Passive (K_p)	Granular – 2.9	363	-	-
	Clay – 2.8	350	-	-

Lateral earth pressure is developed from the soils present within a wedge formed by the vertical below-grade wall and an imaginary line extending up and away from the bottom of the wall at an approximate 45° angle.

The following equations were used to calculate the earth pressure coefficients “k”.

At-Rest:	$k_o = 1 - \sin\phi$	If the walls are rigidly attached to the structure and not free to rotate or deflect at the top such as shallow tunnels
Active:	$k_a = \tan^2(45 - \frac{\phi}{2})$	Walls that are permitted to rotate and deflect at the top
Passive:	$k_p = \tan^2(45 + \frac{\phi}{2})$	Passive pressure should be determined using a factor of safety of 2.0



Conditions applicable to the above coefficients include:

- For active earth pressure, wall must rotate about base, with top lateral movements 0.002Z to 0.004Z, where Z is the wall height
- For passive earth pressure, wall must move horizontally to mobilize resistance
- Uniform surcharge, where S is surcharge pressure
- In-situ soil backfill weight a maximum of 130 pcf for lean clay and 125 pcf for granular soils
- Horizontal backfill, compacted to at least 95% of standard Proctor maximum dry density
- Loading from heavy compaction equipment not included
- No groundwater acting on wall
- No safety factor included
- Ignore passive pressure frost depth zone
- The minimum factor of safety for overturning and sliding analysis is 1.5

Backfill placed against structures should consist of granular soils or low plasticity cohesive soils. For granular values to be valid, the granular backfill must extend out from base of the wall at an angle of at least 45 and 60 degrees from vertical for the active and passive cases, respectively.

To calculate the resistance to sliding, a value of 0.33 should be used as the allowable coefficient of friction between the footing and the underlying silty clay soils.

Equivalent Fluid Pressure

The values presented above were calculated based on providing positive foundation drainage to prevent the buildup of hydrostatic pressure. Please refer to the following bullet points as they pertain to equivalent fluid pressure.

- An “equivalent fluid” pressure can be obtained from the above chart by multiplying the appropriate K-factor times the total unit weight of the stone fill. This applies to unsaturated conditions only.

- If a saturated “equivalent fluid” pressure is needed, the effective unit weight (total unit weight minus unit weight of water) should be multiplied times the appropriate K-factor and the unit weight of water added to that resultant.

- Rubino does not recommend that earth retaining walls be designed with a hydrostatic load. Instead, drainage should be provided to relieve the pressure.

In specific design cases where water is allowed to build up on the below-grade wall structure, the hydrostatic load correlating to the maximum height of the water build up should be added to the design load.

Seismic Considerations

The seismic site class was determined using the IDOT Spreadsheet "*Seismic Site Class Determination*" dated December 10, 2010. Based on the soils encountered and depth to bedrock, the project area is in Seismic Site Class E. The results of the "*Seismic Site Class Determination"* are shown in the Appendix I.

The USGS Unified Hazard Tool was used to calculate the PGA, S_s, and S_1 values for bedrock motion. Those values were then used to determine the Adjusted Maximum Considered Earthquake (MCE) Spectral Response Acceleration Parameters (S_{MS} and S_{M1}) in accordance with AASHTO *LRFD Bridge Design Specifications* (AASHTO, 2017). The MCE Spectral Response Acceleration Parameters were then adjusted to determine the Design Spectral Acceleration Parameters at short period (S_{DS}) and 1-second period (S_{D1}). The Design Spectral Acceleration Parameters and Seismic Performance Zone Value (SPZ), in accordance with AASHTO *LRFD Bridge Design Specifications* (AASHTO, 2017) are shown in the table below.

Table 8: Seismic Design Parameters

SEISMIC PARAMETER	VALUE
Design Spectral Acceleration Coefficient at 0.2 sec. (S_{DS})	0.215
Design Spectral Acceleration Coefficient at 1.0 sec (S_{D1})	0.133
Seismic Performance Zone (SPZ)	1
Soil Site Class	D

Recommendations for Additional Testing

Once the structural loads, site plan, and grading plans are finalized, please notify Rubino so that we can review our recommendations for the direct use of the structure and development of the site.

During construction, Rubino recommends that one of our representatives be onsite for typical **observations and documentation** of exposed subgrade for trench excavation, support of foundations and pavements, including proofrolling and penetrometer testing.

Bearing soils should be tested with either a Static Cone Penetrometer (SCP) or Dynamic Cone Penetrometer (DCP). The results of the DCP or SCP tests should be evaluated according to IDOT's Subgrade Stability Manual, to determine the necessary depth of corrective action.

CLOSING

The recommendations submitted are based on the available subsurface information obtained by Rubino Engineering, Inc. and design details furnished by Primera Engineers, Ltd for the proposed project. If there are any revisions to the plans for this project or if deviations from the subsurface conditions noted in this report are encountered during construction, Rubino should be notified immediately to determine if changes in the foundation recommendations are required. If Rubino is not retained to perform these functions, we will not be responsible for the impact of those conditions on the project.

The scope of services did not include an environmental assessment to determine the presence or absence of wetlands, or hazardous or toxic materials in the soil, bedrock, surface water, groundwater or air on, below, or around this site. Any statements in this report and/or on the boring logs regarding odors, colors, and/or unusual or suspicious items or conditions are strictly for informational purposes.

After the plans and specifications are more complete, the geotechnical engineer should be retained and provided the opportunity to review the final design plans and specifications to check that our engineering recommendations have been properly incorporated into the design documents. At this time, it may be necessary to submit supplementary recommendations. This report has been prepared for the exclusive use of Primera Engineers, Ltd and their consultants for the specific application to the proposed Harter Road Culvert Replacement in Kane County, Illinois.

Appendix A – Drilling, Field, and Laboratory Test Procedures

AASHTO T 206 Penetration Tests and Split-Barrel Sampling of Soils

During the sampling procedure, Standard Penetration Tests (SPT's) were performed at regular intervals to obtain the standard penetration (N-value) of the soil. The results of the standard penetration test are used to estimate the relative strength and compressibility of the soil profile components through empirical correlations to the soils' relative density and consistency. The split-barrel sampler obtains a soil sample for classification purposes and laboratory testing, as appropriate for the type of soil obtained.

Water Level Measurements

Water level observations were attempted during and upon completion of the drilling operation using a 100-foot tape measure. The depths of observed water levels in the boreholes are noted on the boring logs presented in the appendix of this report. In the borings where water is unable to be observed during the field activities, in relatively impervious soils, the accurate determination of the groundwater elevation may not be possible even after several days of observation. Seasonal variations, temperature and recent rainfall conditions may influence the levels of the groundwater table and volumes of water will depend on the permeability of the soils.

Ground Surface Elevations

The depths indicated on the attached boring logs are relative to the existing ground surface for each individual boring at the time of the exploration. Copies of the boring logs are located in the Appendix of this report.

AASHTO T 208 Unconfined Compressive Strength

Unconfined compression tests are used to obtain approximate compressive strength of cohesive soils by recording the maximum load attained per unit area of a soil sample at failure or at 15% axial strain, whichever occurs first. A compression device may be a platform weighing scale equipped with a device with sufficient capacity and control to provide a specific rate of loading.

AASHTO T 265-15 Water (Moisture) Content of Soil by Mass (Laboratory)

The water content is an important index property used in expressing the phase relationship of solids, water, and air in a given volume of material and can be used to correlate soil behavior with its index properties. In fine grained cohesive soils, the behavior of a given soil type often depends on its natural water content. The water content of a cohesive soil along with its liquid and plastic limits as determined by Atterberg Limit testing are used to express the soil's relative consistency or liquidity index.

AASHTO T267-86 Standard Test Method for Organic Soils using Loss on Ignition (Laboratory)

These test methods cover the measurement of moisture content, ash content, and organic matter in peats and other organic soils, such as organic clays, silts, and mucks. Ash content of a peat or organic soil sample is determined by igniting the oven-dried sample from the moisture content determination in a muffle furnace at 440°C (Method C) or 750°C (Method D). The substance remaining after ignition is the ash. The ash content is expressed as a percentage of the mass of the oven-dried sample. 2.4 Organic matter is determined by subtracting percent ash content from 100.

ASTM D4318 Atterberg Limits (Laboratory)

Atterberg limit testing defines the liquid limit (LL) and plastic limit (PL) states of a given soil. These limits are used to determine the moisture content limits where the soil characteristics changes from behaving more like a fluid on the liquid limit end to where the soil behaves more like individual soil particles on the plastic limit end. The liquid limit is often used to determine if a soil is a low or high plasticity soil. The plasticity index (PI) is difference between the liquid limit and the plastic limit. The plasticity index is used in conjunction with the liquid limit to determine if the material will behave like a silt or clay.

Appendix B – Report Limitations

Subsurface Conditions:

The subsurface description is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The boring logs included in the appendix should be reviewed for specific information at individual boring locations. These records include soil descriptions, stratifications, penetration resistances, locations of the samples and laboratory test data as well as water level information. The stratifications shown on the boring logs represent the conditions only at the actual boring locations. Variations may occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition between layers may be gradual. The samples, which were not altered by laboratory testing, will be retained for up to 60 days from the date of this report and then will be discarded.

Geotechnical Risk:

The concept of risk is an important aspect of the geotechnical evaluation. The primary reason for this is that the analytical methods used to develop geotechnical recommendations do not comprise an exact science. The analytical tools that geotechnical engineers use are generally empirical and must be used in conjunction with engineering judgment and experience. Therefore, the solutions and recommendations presented in the geotechnical evaluation should not be considered risk-free, and more importantly, are not a guarantee that the interaction between the soils and the proposed structure will perform as planned. The engineering recommendations, presented in the preceding section, constitute Rubino's professional estimate of the necessary measures for the proposed structure to perform according to the proposed design based on the information generated and reference during this evaluation, and Rubino's experience in working with these conditions.

Warranty:

The geotechnical engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.

Federal Excavation Regulations:

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, part 1926, Subpart P". This document was issued to better ensure the safety of workmen entering trenches or excavations. This federal regulation mandates that all excavations, whether they be utility trenches, basement excavation or footing excavations, be constructed in accordance with the new OSHA guidelines. It is our understanding that these regulations are being strictly enforced and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person," as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. Rubino is providing this information solely as a service to our client. Rubino is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

Appendix C – Soil Classification General Notes

DRILLING & SAMPLING SYMBOLS:

SS:	Split Spoon - 1 3/8" I.D., 2" O.D., unless otherwise noted	PS:	Piston Sample
ST:	Thin-Walled Tube - 3" O.D., Unless otherwise noted	WS:	Wash Sample
PM:	Pressuremeter	HA:	Hand Auger
RB:	Rock Bit	HS:	Hollow Stem Auger
DB:	Diamond Bit - 4", N, B	BS:	Bulk Sample

Standard "N" Penetration: Blows per foot of a 140-pound hammer falling 30 inches on a 2-inch O.D. split spoon sampler (SS), except where noted.

WATER LEVEL MEASUREMENT SYMBOLS:
Water levels indicated on the boring logs are the levels measured in the borings at the times indicated. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of ground water levels is not possible with only short-term observations.

DESCRIPTIVE SOIL CLASSIFICATION:
Soil Classification is based on the Unified Soil Classification System as defined in ASTM D-2487 and D-2488. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; they are described as: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are described as: clays, if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse grained soils are defined on the basis of their relative in-place density and fine-grained soils on the basis of their consistency. Example: Lean clay with sand, trace gravel, stiff (CL); silty sand, trace gravel, medium dense (SM).

CONSISTENCY OF FINE-GRAINED SOILS:

Unconfined Compressive Strength, Qu (tsf)			N-Blows/ft.			Consistency
	<	0.25	< 2			Very Soft
0.25	-	0.5	2	-	4	Soft
0.5	-	1	4	-	8	Medium Stiff
1	-	2	8	-	15	Stiff
2	-	4	15	-	30	Very Stiff
4	-	8	30	-	50	Hard
>	-	8	> 50			Very Hard

RELATIVE DENSITY OF COARSE-GRAINED SOILS

N-Blows/ft.			Relative Density
0	-	3	Very Loose
4	-	9	Loose
10	-	29	Medium Dense
30	-	49	Dense
50	-	80	Very Dense
		80+	Extremely Dense

RELATIVE PROPORTIONS OF SAND & GRAVEL

Descriptive Term	% of Dry Weight		
Trace		<	15
With	15	-	29
Modifier		>	30

RELATIVE PROPORTIONS OF FINES

Descriptive Term	% of Dry Weight		
Trace		<	5
With	5	-	12
Modifier		>	12

*Descriptive Terms apply to components also present in sample

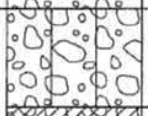
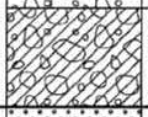
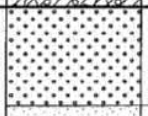
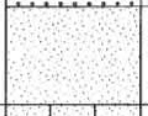
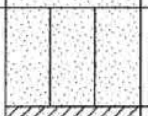
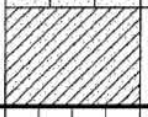
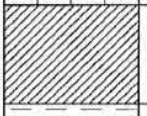
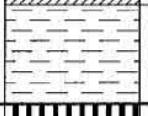
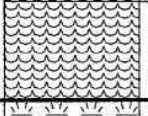
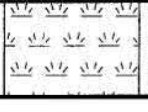
GRAIN SIZE TERMINOLOGY

Major Component	Size Range
Boulders	Over 12 in. (300mm)
Cobbles	12 in. To 3 in. (300mm to 75mm)
Gravel	3 in. To #4 sieve (75mm to 4.75mm)
Sand	#4 to #200 sieve (4.75mm to 0.75mm)

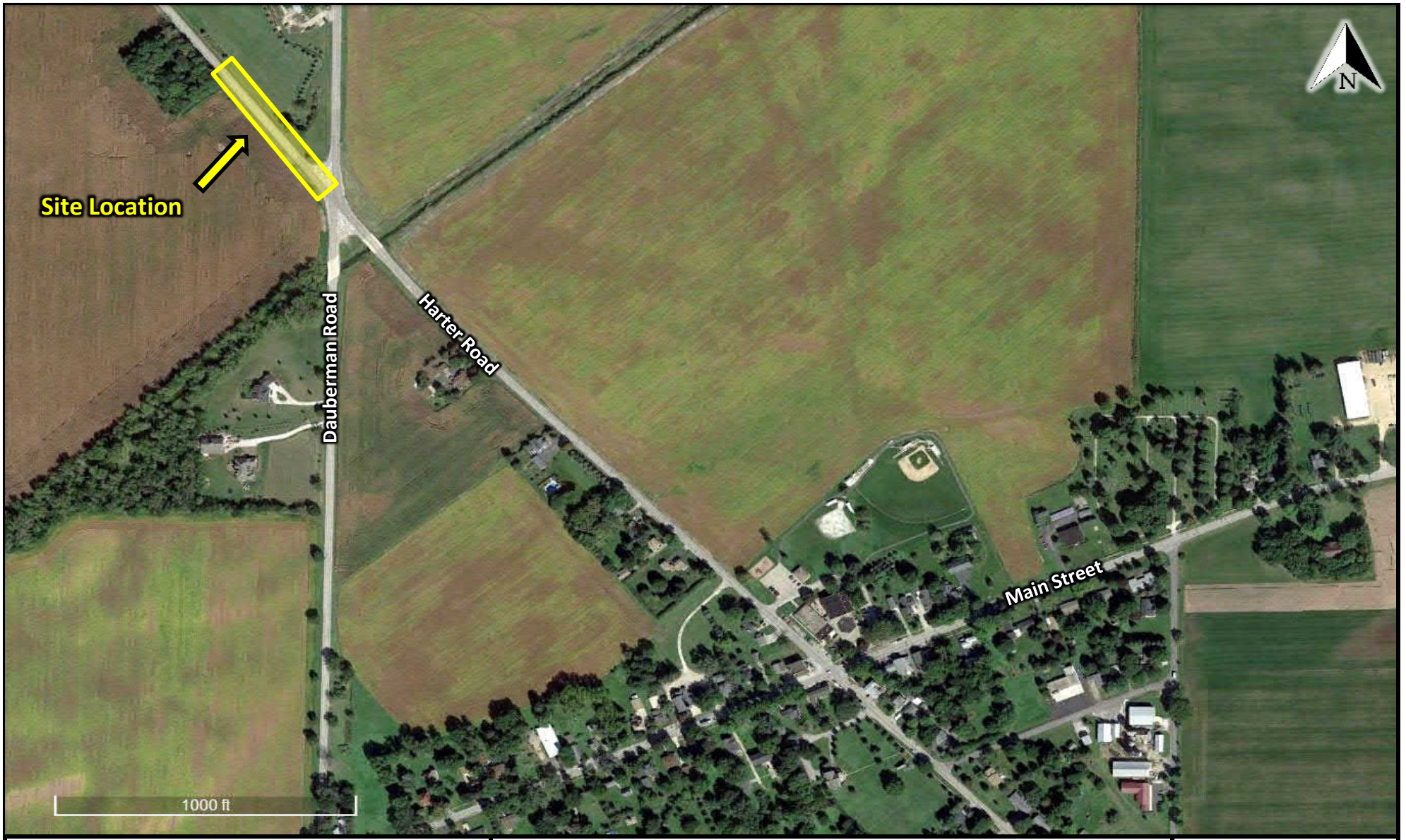
Appendix D – Soil Classification Chart

SOIL CLASSIFICATION CHART

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

MAJOR DIVISIONS			SYMBOLS: GRAPH	SYMBOLS: LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SANDS		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES		SM	SILTY SANDS, SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

Appendix E – Site Vicinity Map & Boring Location Plan

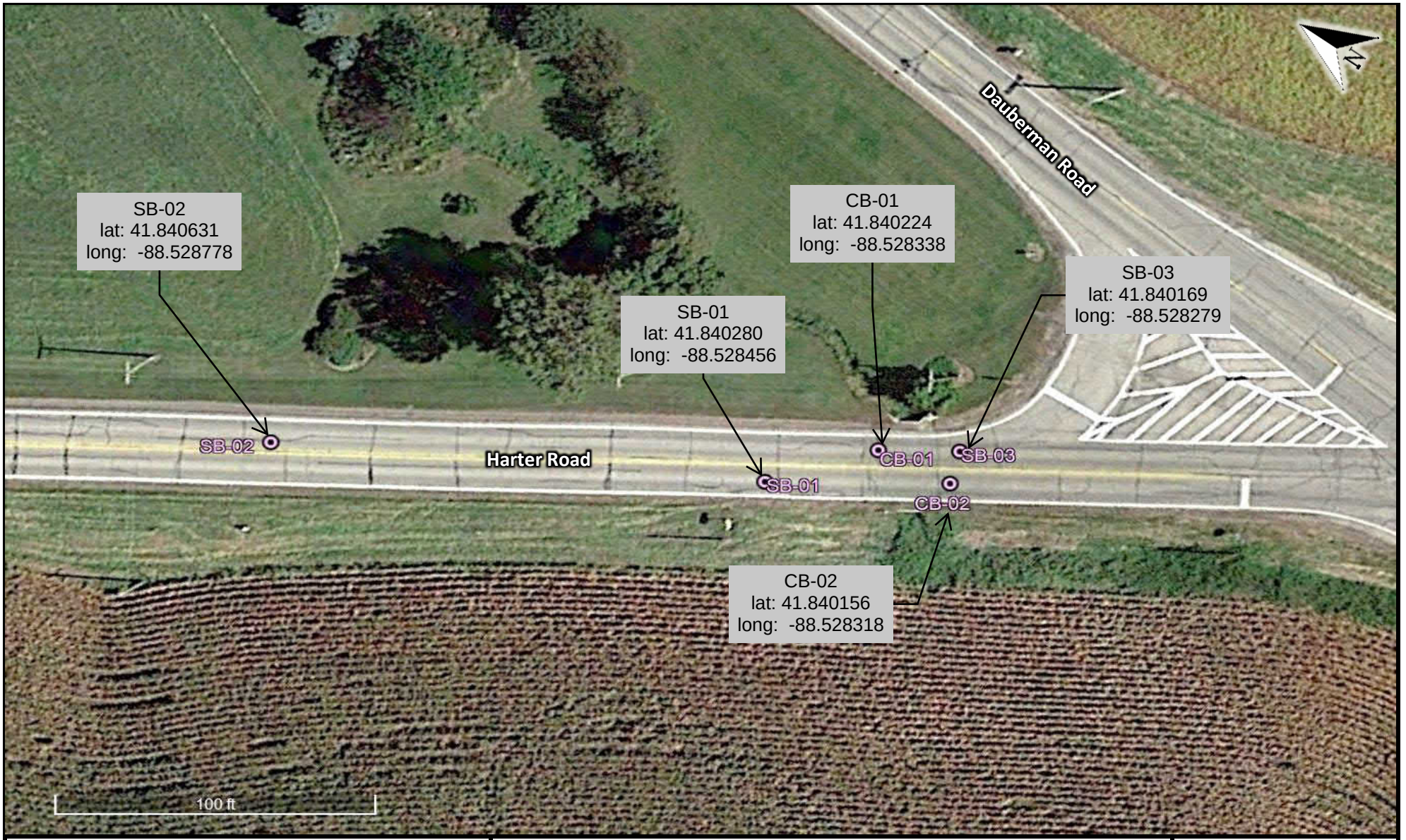


rubino ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:	**Harter Road Culvert Replacement**
Project Location:	Harter Road Kaneville, Illinois
Client:	**Primera Engineers, Ltd.**
Rubino Project # :	G19.109

Site Vicinity Map



rubino ENGINEERING INC.

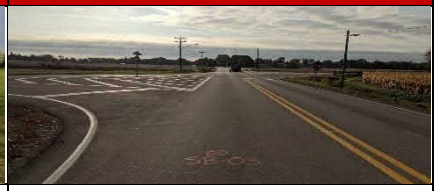
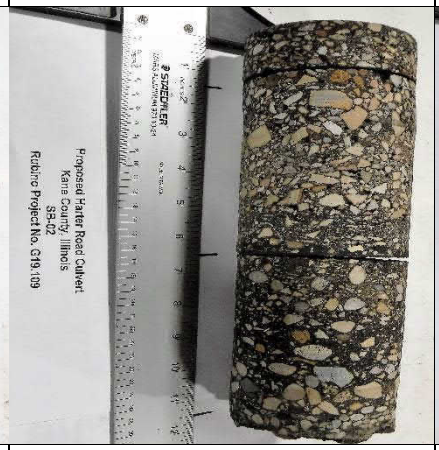
425 Shepard Drive
Elgin, Illinois 60123

Project Name:	**Harter Road Culvert Replacement**
Project Location:	Harter Road Kaneville, Illinois
Client:	**Primera Engineers, Ltd.**
Rubino Project # :	G19.109

Boring Location Plan

Appendix F – Pavement Core Summary Table

Cores were taken in the pavement of Harter Road in Kane County, Illinois. The table below summarizes the thicknesses observed in the field and laboratory.

Core – SB-01 (Harter Road)	Core – SB-02 (Harter Road)	Core – SB-03 (Harter Road)
		
Picture Taken Facing South	Picture Taken Facing North	Picture Taken Facing South
		
Total Thickness = 9 ¼ inches	**Total Thickness = 11 ½ inches**	**Total Thickness = 8 ¼ inches**
HMA Surface$_1$ = 1 ¼ in.	**HMA Surface$_1$ = 1 ¼ in.**	**HMA Surface$_1$ = 1 ¼ in.**
HMA Binder$_1$ = 4 ¼ in.	**Surface$_1$ to Binder$_1$ Weathering & Deterioration**	**HMA Binder$_1$ = 5 ¼ in.**
HMA Binder$_2$ = 3 ¾ in.	**HMA Binder$_1$ = 4 in.**	**HMA Binder$_2$ = 2 ¼ in.**
Subbase Stone = 3 ¾ inches	**Leveling Binder$_2$ = 1 ¼ in.**	**Subbase Stone = 5 ¾ inches**
	Leveling Binder to Binder$_3$ Weathering & Deterioration	
	HMA Binder$_3$ = 3 in.	
	HMA Binder$_4$ = 2 in.	
	Subbase Stone = 7 ½ inches	

The referenced thicknesses are considered approximate. Commentary provided by Rubino is based on our observation in the laboratory; **Crack** = vertical through cross section; **Weathering** = rounded edges & degradation of asphalt and **Deterioration** = horizontal crack. Pavement and subbase type and thickness may vary between core locations. Any comments on the condition of the material are considered our opinion and should be verified by the design engineer.

Appendix G – Boring Logs

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING CB-01

Rubino Job No.:	G19.109
Project:	Harter Road Culvert Replacement
Location:	Harter Road
City, State:	Kaneville, Illinois
Client:	Primera Engineers, Ltd.
Drilling Method:	3 ¼ Hollow Stem Auger
Sampling Method:	Shelby Tube/Split Spoon
Hammer Type:	Automatic
Boring Location:	NB lane of Harter Road
	6½ feet east from center line

WATER LEVELS***

While Drilling	8.5 ft
Hole Collapse	9.5 ft
Delay	N/A

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			**Surface Elev.:** 789.0 ft				
				Approximately 9 inches of ASPHALT				
				Approximately 8 inches of SUBBASE STONE				
		1	9	Medium stiff, black silty CLAY, trace sand and gravel		4 2 2 N=4	30	Qp=1.5 tsf 7% Organic Content
785		2	18		CL	2 2 3 N=5	27	Qp=0.8 tsf 5% Organic Content
	5							
		3	13	Medium stiff, brown and gray mottled silty CLAY, trace sand and gravel	CL	0 2 3 N=5	17	Qp=1.0 tsf
780		4	15	Medium stiff, brown silty CLAY, trace sand and gravel	CL	0 2 2 N=4	15	Qp=0.3 tsf
	10						15	
		5	18			2 1 3 N=4	12	Qp=0.3 tsf
				Stiff, gray silty CLAY, trace sand and gravel	CL			
775		6	15			4 4 6 N=10	11	Qp=3.0 tsf
	15			End of boring at approximately 15 feet below existing grade.				

STANDARD PENETRATION TEST DATA
Moisture, PL, LL: 0 — 25 — 50
STRENGTH, tsf — Qu, Qp: 0 — 2.0 — 4.0

Completion Depth:	15.0 ft
Date Boring Started:	10/28/19
Date Boring Completed:	10/28/19
Logged By:	J.W.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
- Auger Cutting
- Split-Spoon
- Rock Core
- Pressuremeter
- Shelby Tube
- Grab Sample
- No Recovery

Latitude: 41.840224
Longitude: -88.528338
Drill Rig: Geoprobe 7822DT
Remarks:

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING CB-02

Rubino Job No.:	G19.109
Project:	Harter Road Culvert Replacement
Location:	Harter Road
City, State:	Kaneville, Illinois
Client:	Primera Engineers, Ltd.
Drilling Method:	3 ¼ Hollow Stem Auger
Sampling Method:	Shelby Tube/Split Spoon
Hammer Type:	Automatic
Boring Location:	SB lane of Harter Road
	6 feet west from center line

WATER LEVELS***

While Drilling	8.5 ft
Upon Completion	9 ft
Delay	N/A

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0					**Surface Elev.:** 789.1 ft Approximately 9 inches of ASPHALT				
				1	15	FILL: brown and gray gravel with sand and fines		8 12 13 N=25	6	
785				2	0	Medium stiff, black silty CLAY, trace sand and gravel	CL	2 2 2 N=4	22	
	5									
				3	2	Soft to medium stiff, brown silty CLAY, trace sand and gravel		0 1 1 N=2	17 18	Q_u = 0.5 tsf
780				4	17			0 1 2 N=3	14	Qp=0.5 tsf
	10						CL			
				5	18			2 2 3 N=5	12	Qp=0.5 tsf
775				6	15	Stiff, gray silty CLAY, trace sand and gravel	CL	5 5 7 N=12	13 12	Qp=1.5 tsf
	15					End of boring at approximately 15 feet below existing grade.				

STANDARD PENETRATION TEST DATA
Moisture, PL, LL (0, 25, 50)
STRENGTH, tsf: Qu, Qp (0, 2.0, 4.0)

Completion Depth:	15.0 ft
Date Boring Started:	10/28/19
Date Boring Completed:	10/28/19
Logged By:	J.W.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.840156
Longitude: -88.528318
Drill Rig: Geoprobe 7822DT
Remarks:

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING SB-01

Rubino Job No.:	G19.109
Project:	Harter Road Culvert Replacement
Location:	Harter Road
City, State:	Kaneville, Illinois
Client:	Primera Engineers, Ltd.
Drilling Method:	3 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	SB lane of Harter Road 6½ feet west from center line

WATER LEVELS***

While Drilling	8.5 ft
Hole Collapse	6.5 ft
Delay	N/A

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0					**Surface Elev.:** 789.3 ft Approximately 9¼ inches of ASPHALT				
						Approximately 3¾ inches of SUBBASE STONE				
				1	13	Very stiff, brown and gray silty CLAY with gravel *Possible Fill*	CL	22 18 11 N=29	5	
785	5			2	15	Medium stiff, black and gray silty CLAY, trace sand and gravel	CL	2 2 2 N=4	24	Qp=1.0 tsf 4% Organic Content
				3	16	Very soft to soft, gray silty CLAY, trace sand and gravel	CL	0 0 1 N=1	22	Qp=0.3 tsf 2% Organic Content
780	10			4	8			1 1 1 N=2	18	Qp=0.0 tsf
				5	18	Medium stiff to stiff, brown silty CLAY, trace sand and gravel	CL	2 2 3 N=5	12	Qp=1.5 tsf
775	15			6	18			3 4 6 N=10	12	Qp=2.5 tsf
						End of boring at approximately 15 feet below existing grade.				

STANDARD PENETRATION TEST DATA

Moisture, PL, LL: 0 — 25 — 50

STRENGTH, tsf (Qu, Qp): 0 — 2.0 — 4.0

Completion Depth:	15.0 ft
Date Boring Started:	10/28/19
Date Boring Completed:	10/28/19
Logged By:	J.W.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
- Auger Cutting
- Split-Spoon
- Rock Core
- Pressuremeter
- Shelby Tube
- Grab Sample
- No Recovery

Latitude: 41.840280
Longitude: -88.528456
Drill Rig: Geoprobe 7822DT
Remarks:

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING SB-02

Rubino Job No.:	G19.109	Drilling Method:	3 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	Harter Road Culvert Replacement	Sampling Method:	Split Spoon	While Drilling	3.5 ft
Location:	Harter Road	Hammer Type:	Automatic	Hole Collapse	9 ft
City, State:	Kaneville, Illinois	Boring Location:	NB lane of Harter Road	Delay	N/A
Client:	Primera Engineers, Ltd.		7 feet east from center line		

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			**Surface Elev.:** 790.7 ft				
				Approximately 11½ inches of ASPHALT				
790				Approximately 7½ inches of SUBBASE STONE				
		1	16	Stiff, gray silty CLAY, trace sand and gravel	CL	7 4 4 N=8	18	Qp=2.0 tsf 3% Organic Content
				Medium stiff, brown silty CLAY, trace sand and gravel				
		2	14			1 2 2 N=4	14	Qp=0.5 tsf
	5							
785		3	18		CL	3 2 3 N=5	13	Qp=1.0 tsf
		4	18			2 3 4 N=7	12	Qp=1.5 tsf
	10							
780							12	
		5	18	Medium stiff, gray silty CLAY, trace sand and gravel		3 4 3 N=7	11	Qp=0.5 tsf
		6	16		CL	3 3 4 N=7	10	Qp=1.0 tsf
	15			End of boring at approximately 15 feet below existing grade.				

STANDARD PENETRATION TEST DATA
Moisture, PL, LL: 0 — 25 — 50
STRENGTH, tsf (Qu, Qp): 0 — 2.0 — 4.0

Completion Depth:	15.0 ft	Sample Types:	Pressuremeter, Auger Cutting, Shelby Tube, Split-Spoon, Grab Sample, Rock Core, No Recovery
Date Boring Started:	10/28/19		
Date Boring Completed:	10/28/19		
Logged By:	J.W.		
Drilling Contractor:	Rubino Engineering, Inc.		

Latitude: 41.840631
Longitude: -88.528778
Drill Rig: Geoprobe 7822DT
Remarks:

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING SB-03

Rubino Job No.: G19.109
Project: Harter Road Culvert Replacement
Location: Harter Road
City, State: Kaneville, Illinois
Client: Primera Engineers, Ltd.

Drilling Method: 3 ¼ Hollow Stem Auger
Sampling Method: Split Spoon
Hammer Type: Automatic
Boring Location: NB lane of Harter Road
6½ feet east from center line

WATER LEVELS***
While Drilling 6 ft
Hole Collapse 9 ft
Delay N/A

Station: N/A
Offset: N/A

Surface Elev.: 788.9 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 8¼ inches of ASPHALT				
				Approximately 5¾ inches of SUBBASE STONE				
		1	13	Soft to medium stiff, black silty CLAY, trace sand and gravel	CL	3 3 3 N=6	25	Qp=1.8 tsf 6% Organic Content
785		2	14			1 2 1 N=3	23	Qp=1.3 tsf 4% Organic Content
	5			Very soft, brown silty CLAY, trace sand and gravel				
		3	18		CL	1 0 1 N=1	14	Qp=0.0 tsf
780		4	18	Medium stiff, brown silty CLAY, trace sand and gravel	CL	1 1 3 N=4	14	Qp=0.5 tsf
	10	5	18			2 3 3 N=6	12	Qp=1.0 tsf
				Stiff, gray silty CLAY, trace sand and gravel	CL		10	
775		6	18			2 4 7 N=11	13	Qp=1.5 tsf
	15			End of boring at approximately 15 feet below existing grade.				

STANDARD PENETRATION TEST DATA
Moisture, PL, LL: 0 – 25 – 50
STRENGTH, tsf: Qu, Qp: 0 – 2.0 – 4.0

Completion Depth: 15.0 ft
Date Boring Started: 10/28/19
Date Boring Completed: 10/28/19
Logged By: J.W.
Drilling Contractor: Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.840169
Longitude: -88.528279
Drill Rig: Geoprobe 7822DT
Remarks:

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Appendix H – Laboratory Results

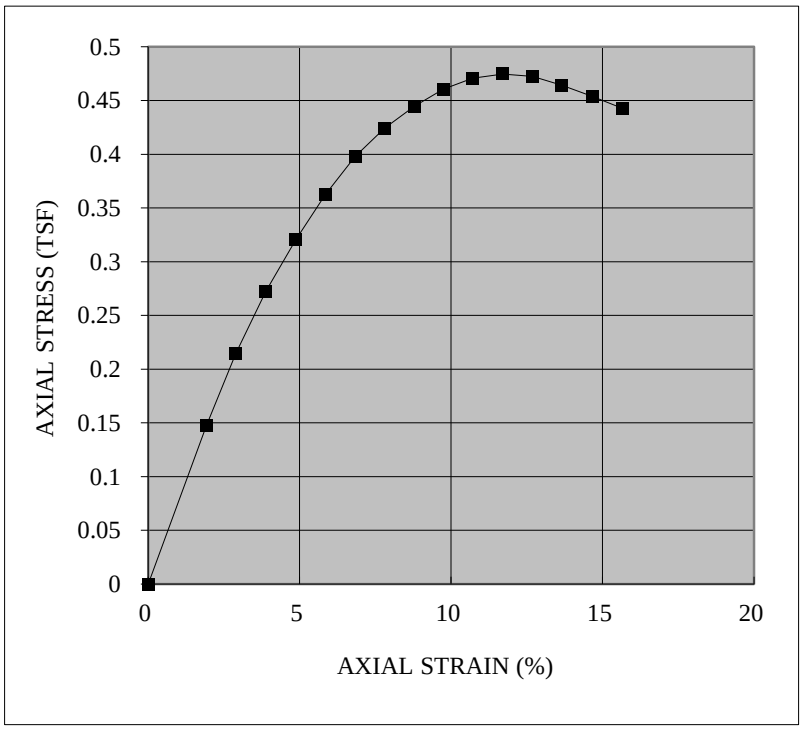
UNCONFINED COMPRESSION TEST

Rubino Project No.: G19.109
Project: Harter Road Culvert Replacement
Client: Primera Engineers, Ltd.
Date Tested: November 13, 2019
Soil Description: Brown and gray silty CLAY
Boring No.: CB-02
Depth (ft): 7

Strain rate (%/min): 2
Specimen type: Intact
Moisture source: Trimmings
Remarks: Shear Failure

Height:	5.53 inches	**Weight (lb):**	2.776
Diameter:	2.84 inches	**Volume (ft^3):**	0.02044
Moisture Content:	18.2%	**Saturation (%):**	99.2
Ht.-Diameter Ratio:	1.95	**Specific Gravity:**	2.78
Unit Weight (pcf):	135.8	**Dry Unit Weight (pcf):**	114.9

READING NUMBER	READING TIME	DEFORM. (in.)	LOAD (lbs)	STRAIN (%)	CORRECTED AREA (in^2)	AXIAL STRESS (tsf)
0	000:00:30	0.05	6.90	0.9	6.38	0.08
1	000:01:00	0.11	13.20	1.9	6.45	0.15
2	000:01:30	0.16	19.40	2.9	6.51	0.21
3	000:02:00	0.22	24.90	3.9	6.58	0.27
4	000:02:30	0.27	29.60	4.9	6.65	0.32
5	000:03:00	0.32	33.80	5.9	6.72	0.36
6	000:03:30	0.38	37.50	6.8	6.79	0.40
7	000:04:00	0.43	40.40	7.8	6.86	0.42
8	000:04:30	0.49	42.80	8.8	6.93	0.44
9	000:05:00	0.54	44.80	9.7	7.00	0.46
10	000:05:30	0.59	46.30	10.7	7.08	0.47
11	000:06:00	0.65	47.20	11.7	7.16	0.47
12	000:06:30	0.70	47.50	12.7	7.24	0.47
13	000:07:00	0.76	47.20	13.7	7.32	0.46
14	000:07:30	0.81	46.70	14.7	7.41	0.45
15	000:08:00	0.87	46.10	15.6	7.50	0.44
Qu =	0.47	tsf		Strain	12.7%	



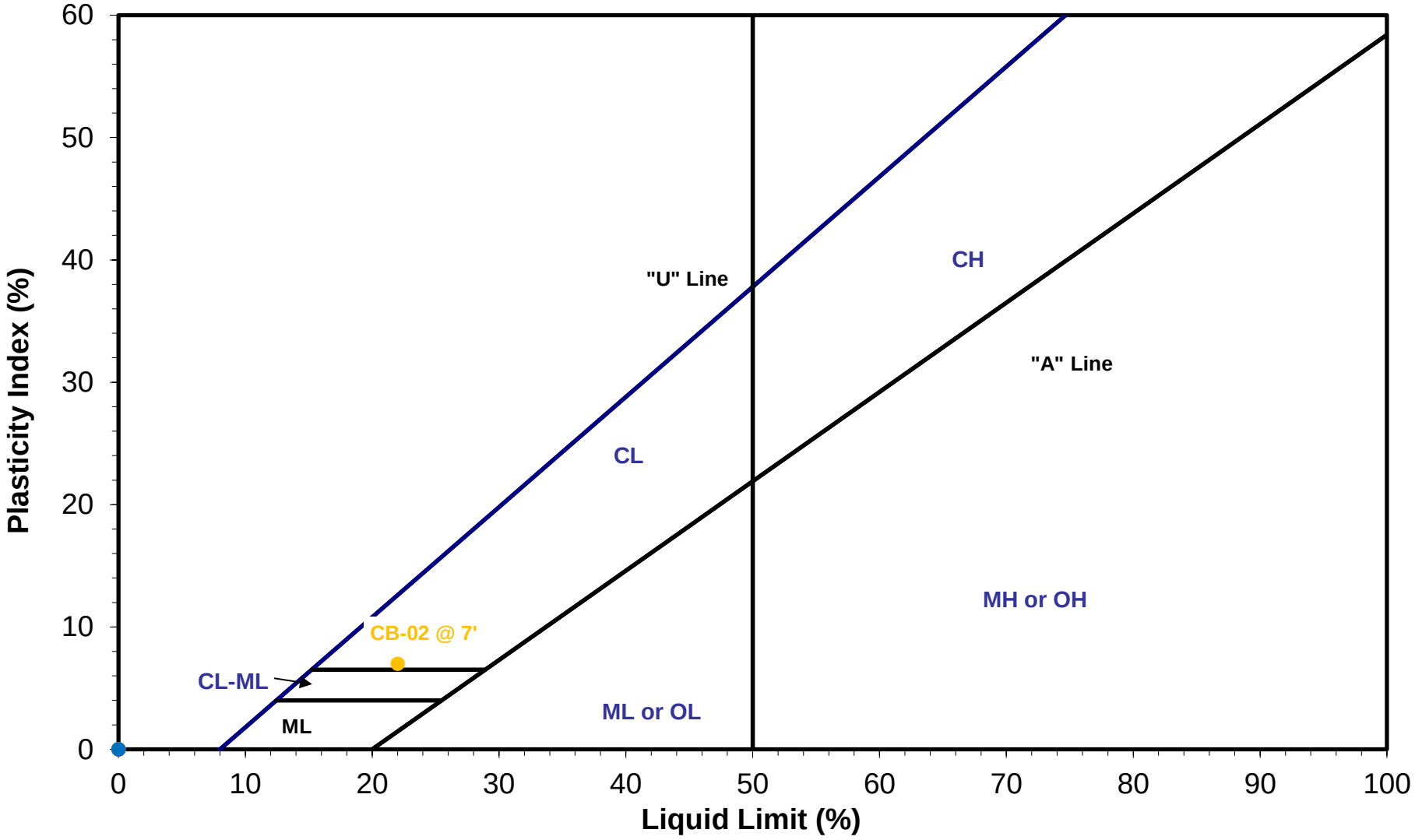
FAILURE SKETCH

FRONT

BACK

rubino ENGINEERING INC.

Report of Atterberg Limits Test (ASTM D4318 / AASHTO T89 / AASHTO T90)



Boring #	CB-02 @ 7'					
LL	22					
PL	15					
PI	7					

Project: Harter Road Culvert Replacement
Location: Kane County, Illinois
Client: Primera Engineers, Ltd.
Project #: G19.109

Appendix I – Seismic Site Class Determination

SEISMIC SITE CLASS DETERMINATION

I.D.O.T. BBS FOUNDATIONS AND GEOTECHNICAL UNIT

Modified on 12/10/10

PROJECT TITLE=====G19.109 Harter Road Culvert Replacement

PROJECT TITLE=====

Substructure 1

Base of Substruct. Elev. (or ground surf for bents): 782.13 ft.
Pile or Shaft Dia.: inches
Boring Number: CB-01
Top of Boring Elev.: 789 ft.
Approximate Fixity Elev.: 782.13 ft.

Individual Site Class Definition:

N (bar): 6 (Blows/ft.) Soil Site Class E
N_{ch} (bar): (Blows/ft.) NA
s_u (bar): 1.01 (ksf) Soil Site Class D <----Controls

Seismic Soil Column Depth (ft)	Bot. Of Sample Elevation	Sample Thick. (ft.)	N	Qu (tsf)	Layer Description Boundary
	785.5	3.50	4	1.50	
	783.0	2.50	5	0.75	B
1.6	780.5	2.50	5	1.00	B
4.1	778.0	2.50	4	0.25	
6.6	775.5	2.50	4	0.25	
8.1	774.0	1.50	10	3.00	B
93.1	689.0	85.00	6	1.00	B

Substructure 2

Base of Substruct. Elev. (or ground surf for bents): 782.13 ft.
Pile or Shaft Dia.: inches
Boring Number: CB-02
Top of Boring Elev.: 789.1 ft.
Approximate Fixity Elev.: 782.13 ft.

Individual Site Class Definition:

N (bar): 7 (Blows/ft.) Soil Site Class E
N_{ch} (bar): (Blows/ft.) NA
s_u (bar): 0.75 (ksf) Soil Site Class E <----Controls

Seismic Soil Column Depth (ft)	Bot. Of Sample Elevation	Sample Thick. (ft.)	N	Qu (tsf)	Layer Description Boundary
	785.6	3.50	25		B
	783.1	2.50	4		B
1.5	780.6	2.50	2	0.50	
4.0	778.1	2.50	3	0.50	
6.5	775.6	2.50	5	0.50	
8.0	774.1	1.50	12	1.50	B
93.0	689.1	85.00	7	0.75	B

Substructure 3

Base of Substruct. Elev. (or ground surf for bents): 782.13 ft.
Pile or Shaft Dia.: inches
Boring Number: SB-01
Top of Boring Elev.: 789.3 ft.
Approximate Fixity Elev.: 782.13 ft.

Individual Site Class Definition:

N (bar): 6 (Blows/ft.) Soil Site Class E
N_{ch} (bar): (Blows/ft.) NA
s_u (bar): 1.09 (ksf) Soil Site Class D <----Controls

Seismic Soil Column Depth (ft)	Bot. Of Sample Elevation	Sample Thick. (ft.)	N	Qu (tsf)	Layer Description Boundary
	785.8	3.50	29		B
	783.3	2.50	4	1.00	B
1.3	780.8	2.50	1	0.25	
3.8	778.3	2.50	2		B
6.3	775.8	2.50	5	1.50	
7.8	774.3	1.50	10	2.50	B
92.8	689.3	85.00	6	1.25	B

Substructure 4

Base of Substruct. Elev. (or ground surf for bents): 782.13 ft.
Pile or Shaft Dia.: inches
Boring Number: SB-02
Top of Boring Elev.: 790.7 ft.
Approximate Fixity Elev.: 782.13 ft.

Individual Site Class Definition:

N (bar): 7 (Blows/ft.) Soil Site Class E
N_{ch} (bar): (Blows/ft.) NA
s_u (bar): 0.96 (ksf) Soil Site Class E <----Controls

Seismic Soil Column Depth (ft)	Bot. Of Sample Elevation	Sample Thick. (ft.)	N	Qu (tsf)	Layer Description Boundary
	787.2	3.50	8	2.00	B
	784.7	2.50	4	0.50	
	782.2	2.50	5	1.00	
2.4	779.7	2.50	7	1.50	
4.9	777.2	2.50	7	0.50	
6.4	775.7	1.50	7	1.00	B
91.4	690.7	85.00	7	1.00	B

Substructure 5

Base of Substruct. Elev. (or ground surf for bents): 782.13 ft.
Pile or Shaft Dia.: inches
Boring Number: SB-03
Top of Boring Elev.: 788.9 ft.
Approximate Fixity Elev.: 782.13 ft.

Individual Site Class Definition:

N (bar): 6 (Blows/ft.) Soil Site Class E
N_{ch} (bar): NA (Blows/ft.) NA
s_u (bar): 0.99 (ksf) Soil Site Class E <----Controls

Seismic Soil Column Depth (ft)	Bot. Of Sample Elevation	Sample Thick. (ft.)	N	Qu (tsf)	Layer Description Boundary
	785.4	3.50	6	1.75	
	782.9	2.50	3	1.30	B
1.7	780.4	2.50	1		B
4.2	777.9	2.50	4	0.50	
6.7	775.4	2.50	6	1.00	B
8.2	773.9	1.50	11	1.50	B
93.2	688.9	85.00	7	1.00	B

Global Site Class Definition: Substructures 1 through 5

N (bar): 6 (Blows/ft.) Soil Site Class E
N_{ch} (bar): (Blows/ft.) NA, H < 0.1*H (Total)
s_u (bar): 0.96 (ksf) Soil Site Class E <----Controls

ABV	ABOVE
A/C	ACCESS CONTROL
AC	ACRE
ADJ	ADJUST
AS	AERIAL SURVEYS
AGG	AGGREGATE
AH	AHEAD
APT	APARTMENT
ASPH	ASPHALT
AUX	AUXILIARY
AGS	AUXILIARY GAS VALVE (SERVICE)
AVE	AVENUE
AX	AXIS OF ROTATION
BK	BACK
B-B	BACK TO BACK
BKPL	BACKPLATE
B	BARN
BARR	BARRICADE
BL	BASELINE
BGN	BEGIN
BM	BENCHMARK
BIND	BINDER
BIT	BITUMINOUS
BTM	BOTTOM
BLVD	BOULEVARD
BRK	BRICK
BBOX	BUFFALO BOX
BLDG	BUILDING
CATV	CABLE
CIP	CAST IRON PIPE
CB	CATCH BASIN
C-C	CENTER TO CENTER
CL	CENTERLINE OR CLEARANCE
CL-E	CENTERLINE TO EDGE
CL-F	CENTERLINE TO FACE
CTS	CENTERS
CERT	CERTIFIED
CHSLD	CHISELED
CS	CITY STREET
CP	CLAY PIPE
CLSD	CLOSED
CLID	CLOSED LID
CT	COAT OR COURT
COMB	COMBINATION
C	COMMERCIAL BUILDING
CE	COMMERCIAL ENTRANCE
CONC	CONCRETE
CONST	CONSTRUCT
CONTD	CONTINUED
CONT	CONTINUOUS
COR	CORNER
CORR	CORRUGATED
CMP	CORRUGATED METAL PIPE
CNTY	COUNTY
CH	COUNTY HIGHWAY
CSE	COURSE
XSECT	CROSS SECTION
m^3	CUBIC METER
mm^3	CUBIC MILLIMETER
CU YD	CUBIC YARD
CULV	CULVERT
C&G	CURB & GUTTER
D	DEGREE OF CURVE
DC	DEPRESSED CURVE
DET	DETECTOR
DIA	DIAMETER
DIST	DISTRICT
DOM	DOMESTIC
DBL	DOUBLE
DSEL	DOWNSTREAM ELEVATION
DSFL	DOWNSTREAM FLOWLINE
DR	DRAINAGE OR DRIVE
DI	DRAINAGE INLET OR DROP INLET
DRV	DRIVEWAY
DCT	DUCT
EA	EACH
EB	EASTBOUND
EOP	EDGE OF PAVEMENT
E-CL	EDGE TO CENTERLINE
E-E	EDGE TO EDGE
ELEC	ELECRICAL
EL	ELEVATION
ENTR	ENTRANCE
EXC	EXCAVATION
EX	EXISTING
EXPWAY	EXPRESSWAY
E	EXTERNAL DISTANCE OF HORIZONTAL CURVE
E	OFFSET DISTANCE TO VERTICAL CURVE
F-F	FACE TO FACE
FA	FEDERAL AID
FAI	FEDERAL AID INTERSTATE
FAP	FEDERAL AID PRIMARY
FAS	FEDERAL AID SECONDARY
FAUS	FEDERAL AID URBAN SECONDARY
FP	FENCE POST
OPT	FIBER OPTIC
FE	FIELD ENTRANCE
FH	FIRE HYDRANT
FL	FLOW LINE
FB	FOOT BRIDGE
FDN	FOUNDATION
FR	FRAME
F&G	FRAME & GRATE
FRWAY	FREEWAY
GAL	GALLON
GALV	GALVANIZED
G	GARAGE
GM	GAS METER
GV	GAS VALVE
GIS	GEOGRAPHICAL INFORMATION SYSTEM
GRAN	GRANULAR
GR	GRATE
GRVL	GRAVEL
GND	GROUND
GUT	GUTTER
GP	GUY POLE
GW	GUY WIRE
HH	HANDHOLE
HATCH	HATCHING
HD	HEAD
HDW	HEADWALL
HDUTY	HEAVY DUTY
ha	HECTARE
HMA	HOT MIX ASPHALT
HWY	HIGHWAY
HORIZ	HORIZONTAL
HSE	HOUSE
IL	ILLINOIS
IMP	IMPROVEMENT
IN DIA	INCH DIAMETER
INL	INLET
INST	INSTALLATION
IDS	INTERSECTION DESIGN STUDY
INV	INVERT
IP	IRON PIPE
IR	IRON ROD
JT	JOINT
kg	KILOGRAM
km	KILOMETER
LS	LANDSCAPING
LN	LANE
LT	LEFT
LIDAR	LIGHT DETECTION AND RANGING
LP	LIGHT POLE
LGT	LIGHTING
LF	LINEAL FEET OR LINEAR FEET
L	LITER OR CURVE LENGTH
LC	LONG CHORD
LNG	LONGITUDINAL
L SUM	LUMP SUM
MACH	MACHINE
MB	MAIL BOX
MH	MANHOLE
MATL	MATERIAL
MED	MEDIAN
m	METER
METH	METHOD
M	MID-ORDINATE
mm	MILLIMETER
mm DIA	MILLIMETER DIAMETER
MIX	MIXTURE
MBH	MOBILE HOME
MOD	MODIFIED
MFT	MOTOR FUEL TAX
N & BC	NAIL & BOTTLE CAP
N & C	NAIL & CAP
N & W	NAIL & WASHER
NC	NORMAL CROWN
NB	NORTHBOUND
NE	NORTHEAST
NW	NORTHWEST
O/S	OFFSET
O&C	OIL AND CHIP
OLID	OPEN LID
PAT	PATTERN
PVD	PAVED
PVMT	PAVEMENT
PM	PAVEMENT MARKING
PED	PEDESTAL
PNT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION OF HORIZONTAL CURVE
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
POT	POINT ON TANGENT
POLYETH	POLYETHYLENE
PCC	PORTLAND CEMENT CONCRETE
PP	POWER POLE OR PRINCIPAL POINT
PRM	PRIME
PE	PRIVATE ENTRANCE
PROF	PROFILE
PGL	PROFILE GRADELINE
PROJ	PROJECT
P.C.	PROPERTY CORNER
PL	PROPERTY LINE
PR	PROPOSED
R	RADIUS or RESIDENTUAL
RR	RAILROAD
RRS	RAILROAD SPIKE
RPS	REFERENCE POINT STAKE
REF	REFLECTIVE
RCCP	REINFORCED CONCRETE CULVERT PIPE
REINF	REINFORCEMENT
REM	REMOVAL
RC	REMOVE CROWN
REP	REPLACEMENT
REST	RESTAURANT
RESURF	RESURFACING
RET	RETAINING
RT	RIGHT
ROW	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
RTE	ROUTE
SAN	SANITARY
SANS	SANITARY SEWER
SEC	SECTION
SEED	SEEDING
SHAP	SHAPING
S	SHED
SH	SHEET
SHLD	SHOULDER
SW	SIDEWALK OR SOUTHWEST
SIG	SIGNAL
SOD	SODDING
SM	SOLID MEDIAN
SB	SOUTHBOUND
SE	SOUTHEAST
SPL	SPECIAL
SD	SPECIAL DITCH
SQ FT	SQUARE FEET
m^2	SQUARE METER
mm^2	SQUARE MILLIMETER
SQ YD	SQUARE YARD
STB	STABILIZED
STD	STANDARD
SBI	STATE BOND ISSUE
SR	STATE ROUTE
STA	STATION
SPBGR	STEEL PLATE BEAM GUARDRAIL
SS	STORM SEWER
STY	STORY
ST	STREET
STR	STRUCTURE
e	SUPERELEVATION RATE
S.E. RUN.	SUPERELEVATION RUNOFF LENGTH
SURF	SURFACE
SMK	SURVEY MARKER
T	TANGENT DISTANCE
T.R.	TANGENT RUNOUT DISTANCE
TEL	TELEPHONE
TB	TELEPHONE BOX
TP	TELEPHONE POLE
TEMP	TEMPORARY
TBM	TEMPORARY BENCH MARK
TD	TILE DRAIN
TBE	TO BE EXTENDED
TBR	TO BE REMOVED
TBS	TO BE SAVED
TWP	TOWNSHIP
TR	TOWNSHIP ROAD
TS	TRAFFIC SIGNAL
TSCB	TRAFFIC SIGNAL CONTROL BOX
TSC	TRAFFIC SYSTEMS CENTER
TRVS	TRANSVERSE
TRVL	TRAVEL
TRN	TURN
TY	TYPE
T-A	TYPE A
TYP	TYPICAL
UNDGND	UNDERGROUND
USGS	U.S. GEOLOGICAL SURVEY
USEL	UPSTREAM ELEVATION
USFL	UPSTREAM FLOWLINE
UTIL	UTILITY
VBOX	VALVE BOX
VV	VALVE VAULT
VLT	VAULT
VEH	VEHICLE
VP	VENT PIPE
VERT	VERTICAL
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
WM	WATER METER
WV	WATER VALVE
WMAIN	WATER MAIN
WB	WESTBOUND
WILDFL	WILDFLOWERS
W	WITH
WO	WITHOUT

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DATE	REVISIONS
1-1-21	Updated fonts, abbrevlations
	and symbols.
1-1-19	Added new symbols.

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 1 of 9)

STANDARD 000001-08

ADJUSTMENT ITEMS

	EX	PR
Structure To Be Adjusted		ADJ
Structure To Be Cleaned		C
Main Structure To Be Filled		FM
Structure To Be Filled		F
Structure To Be Filled Special		FSP
Structure To Be Removed		R
Structure To Be Reconstructed		REC
Structure To Be Reconstructed Special		RSP
Frame and Grate To Be Adjusted		A
Frame and Lid To Be Adjusted		A
Domestic Service Box To Be Adjusted		A
Valve Vault To Be Adjusted		A
Special Adjustment		SP
Item To Be Abandoned		AB
Item To Be Moved		M
Item To Be Relocated		REL
Pavement Removal and Replacement		

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ALIGNMENT ITEMS

	EX	PR
Baseline		
Centerline		
Centerline Break Circle		
Baseline Symbol		
Centerline Symbol		
PI Indicator		
Point Indicator		
Horizontal Curve Data (Half Size)	EX. CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=

BOUNDARIES ITEMS

	EX	PR
Dashed Property Line		
Solid Property/Lot Line		
Section/Grant Line		
Quarter Section Line		
Quarter/Quarter Section Line		
County/Township Line		
State Line		
Chiseled Square Found		
Iron Pipe Found		
Iron Pipe Set		
Survey Marker		
Property Line Symbol		
Same Ownership Symbol (Half Size)		
Northwest Quarter Corner (Half Size)		
Section Corner (Half Size)		
Southeast Quarter Corner (Half Size)		

DRAINAGE ITEMS

	EX	PR
Channel or Stream Line		
Culvert Line		
Grading & Shaping Ditches		
Drainage Boundary Line		
Paved Ditch		
Aggregate Ditch		
Pipe Underdrain		
Storm Sewer		
Flowline		
Ditch Check		
Headwall		
Inlet		
Manhole		
Summit		
Roadway Ditch Flow		
Swale		
Catch Basin		
Culvert End Section		
Water Surface Indicator		
Riprap		

HYDRAULICS ITEMS

	EX	PR
Overflow		
Sheet Flow		
Hydrant Outlet		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

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STANDARD 000001-08

EROSION & SEDIMENT CONTROL ITEMS

	EX	PR
Cleaning & Grading Limits		
Dike		
Erosion Control Fence		
Perimeter Erosion Barrier		
Temporary Fence		
Ditch Check Temporary		
Ditch Check Permanent		
Inlet & Pipe Protection		
Sediment Basin		
Erosion Control Blanket		
Fabric Formed Concrete Revetment Mat		
Turf Reinforcement Mat		
Mulch Temporary		
Mulch Method 1		
Mulch Method 2 Stabilized		
Mulch Method 3 Hydraulic		

CONTOUR ITEMS

	EX	PR
Approx. Index Line		
Approx. Intermediate Line		
Index Contour		
Intermediate Contour		

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NON-HIGHWAY IMPROVEMENT ITEMS

	EX	PR
Noise Attn./Levee		
Field Line		
Fence		
Base of Levee		
Mailbox		
Multiple Mailboxes		
Pay Telephone		
Advertising Sign		
ITS* Camera		
Wind Turbine		
Cellular Tower		

*Intelligent Transportation Systems

LANDSCAPING ITEMS

	EX	PR
Contour Mounding Line		
Fence		
Fence Post		
Shrubs		
Mowline		
Perennial Plants		
Seeding Class 2		
Seeding Class 2A		
Seeding Class 4		
Seeding Class 4 & 5 Combined		

EXISTING LANDSCAPING ITEMS (contd.)

	EX	PR
Seeding Class 5		
Seeding Class 7		
Seedlings Type 1		
Seedlings Type 2		
Sodding		
Mowstake w/Sign		
Tree Trunk Protection		
Evergreen Tree	E	
Shade Tree	E	

LIGHTING

	EX	PR
Duct		
Conduit		
Electrical Aerial Cable	A	A
Electrical Buried Cable	L	L
Controller		
Underpass Luminaire		
Power Pole		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

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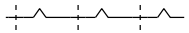
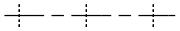
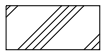
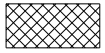
STANDARD 000001-08

LIGHTING (contd.)

	EX	PR
Pull Point		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Unit Comb.		
Electrical Ground		
Traffic Flow Arrow		
High Mast Pole (Half Size)		
Light Unit-1		

PAVEMENT (MISC.)

	EX	PR
Keyed Long. Joint		
Keyed Long. Joint w/Tie Bars		
Sawed Long. Joint w/Tie Bars		
Bituminous Shoulder		
Bituminous Taper		
Stabilized Driveway		
Widening		

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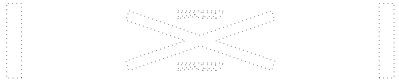
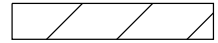
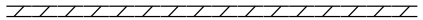
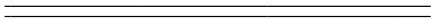
PAVEMENT MARKINGS

	EX	PR
Handicap Symbol		
RR Crossing		
Raised Marker Amber 1 Way		
Raised Marker Amber 2 Way		
Raised Marker Crystal 1 Way		
Two Way Turn Left		
Shoulder Diag. Pattern		
Skip-Dash White		
Skip-Dash Yellow		
Stop Line		
Solid Line		
Double Centerline		
Dotted Lines		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001-08

PAVEMENT MARKINGS (contd.)

	EX	PR
CL 2Ln 2Way RRPM 12.2 m (40') o.c.		
CL 2Ln 2Way RRPM 80' (24.4 m) o.c.		
CL Multilane Div. RRPM 40' (12.2 m) o.c.		
CL Multilane Div. RRPM 80' (24.4 m) o.c.		
CL Multilane Div. Dbl. RRPM 80' (24.4 m) o.c.		
CL Multilane Undiv.		
Two Way Turn Left Line		
Urban Combination Left		
Urban Combination Right		
Urban Left Turn Arrow		
Urban Right Turn Arrow		
Urban Left Turn Only		
Urban Right Turn Only		
Urban Thru Only		
Urban LT & RT Turn Arrow		
Urban Thru Arrow		

RAILROAD ITEMS

	EX	PR
Abandoned Railroad		
Railroad		
Railroad Point		
Control Box		
Crossing Gate		
Flashing Signal		
Railroad Cant. Mast Arm		
Crossbuck		

REMOVAL ITEMS

	EX	PR
Removal Tlc		
Bituminous Removal		
Hatch Pattern		
Tree Removal Single		

RIGHT OF WAY ITEMS

	EX	PR
Future ROW Corner Monument		
ROW Marker		
ROW LIne		
Easement		
Temporary Easement		

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PAVEMENT MARKINGS (contd.)

EX

PR

Urban U-Turn

Urban Combined U-Turn

Rural Combination Left

Rural Combination Right

Rural Left Turn Arrow

Rural Right Turn Arrow

Rural Left Turn Only

Rural Right Turn Only

Rural Thru Only

Rural Thru Arrow

Rural Lt & Rt Turn Arrow

Bike Lane Symbol

Bike Lane Text

Bike Path Shared

Bike Shared Roadway

Lane Drop Symbol

Wrong Way Arrow

ONLY ONLY ONLY

LANE

BIKE

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

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RIGHT OF WAY ITEMS (contd.)

	EX	PR
Access Control Line		AC
Access Control Line & ROW	AC	AC
Access Control Line & ROW with Fence	AC	AC
Excess ROW Line		XS

ROADWAY PLAN ITEMS

	EX	PR
Cable Barrier		
Concrete Barrier		
Edge of Pavement		
Bit Shoulders, Medians and C&G Line		
Aggregate Shoulder		
Sidewalks, Driveways		
Guardrail		
Guardrail Post		
Traffic Sign		
Corrugated Median		
Impact Attenuator		
North Arrow with District Office (Half Size)	N	
Match Line		STA. 45+00
Slope Limit Line		
Typical Cross-Section Line		

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ROADWAY PROFILES

	EX	PR
P.I. Indicator		
Point Indicator		
Earthworks Balance Point		
Begin Point		
Vert. Curve Data	VPI = ELEV= L = E =	VPI = ELEV= L = E =
Ditch Profile Left Side		
Ditch Profile Right Side		
Roadway Profile Line		
Storm Sewer Profile Left Side		
Storm Sewer Profile Right Side		

SIGNING ITEMS

	EX	PR
Cone, Drum or Barricade		
Barricade Type II		
Barricade Type III		
Barricade With Edge Line		
Flashing Light Sign		
Panels I		
Panels II		
Direction of Traffic		
Sign Flag (Half Size)		

SIGNING ITEMS (contd.)

	EX	PR
Reverse Left W1-4L (Half Size)		
Reverse Right W1-4R (Half Size)		
Two Way Traffic Sign W6-3 (Half Size)		
Detour Ahead W20-2(O) (Half Size)		DETOUR AHEAD
Left Lane Closed Ahead W20-5L(O) (Half Size)		LEFT LANE CLOSED AHEAD
Right Lane Closed Ahead W20-5R(O) (Half Size)		RIGHT LANE CLOSED AHEAD
Road Closed Ahead W20-3(O) (Half Size)		ROAD CLOSED AHEAD
Road Construction Ahead W20-1-(O) (Half Size)		ROAD CONSTRUCTION AHEAD
Single Lane Ahead (Half Size)		SINGLE LANE AHEAD
Transition Left W4-2L (Half Size)		
Transition Right W4-2R (Half Size)		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

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STANDARD 000001-08

SIGNING ITEMS (contd.)

	EX	PR
One Way Arrow Lrg. W1-6-(O) (Half Size)		
Two Way Arrow Large W1-7-(O) (Half Size)		
Detour M4-10L-(O) (Half Size)		DETOUR
Detour M4-10R-(O) (Half SIze)		DETOUR
One Way Left R6-1L (Half Size)		ONE WAY
One Way RIght R6-1R (Half Size)		ONE WAY
Left Turn Lane R3-I100L (Half Size)		LEFT TURN LANE
Keep Left R4-7AL (Half Size)		KEEP LEFT
Keep Left R4-7BL (Half Size)		KEEP LEFT
Keep RIght R4-7AR (Half Size)		KEEP RIGHT
Keep RIght R4-7BR (Half Size)		KEEP RIGHT
Stop Here On Red R10-6-AL (Half Size)		STOP HERE ON RED
Stop Here On Red R10-6-AR (Half Size)		STOP HERE ON RED
No Left Turn R3-2 (Half Size)		
No Right Turn R3-1 (Half Size)		
Road Closed R11-2 (Half Size)		ROAD CLOSED
Road Closed Thru Traffic R11-2 (Half Size)		ROAD CLOSED TO THRU TRAFFIC

STRUCTURES ITEMS

	EX	PR
Box Culvert Barrel		
Box Culvert Headwall		
Bridge Pier		
Bridge		
Retaining Wall		
Temporary Sheet Piling		

TRAFFIC SHEET ITEMS

	EX	PR
Cable Number		
Left Turn Green	G	G
Left Turn Yellow	Y	Y
Signal Backplate		
Signal Section 8" (200 mm)		
Signal Section 12" (300 mm)		
Walk/Don't Walk Letters	DW W	DW W
Walk/Don't Walk Symbols		

TRAFFIC SIGNAL ITEMS

	EX	PR
Galv. Steel Conduit		
Underground Cable		
Detector Loop Line		
Detector Loop Large		
Detector Loop Small		
Detector Loop Quadrapole		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001-08

TRAFFIC SIGNAL ITEMS (contd.)

	EX	PR
Detector Raceway		
Aluminum Mast Arm		
Steel Mast Arm		
Veh. Detector Magnetic		
Conduit Splice		
Controller		
Gulfbox Junction		
Wood Pole		
Temp. Signal Head		
Handhole		
Double Handhole		
Heavy Duty Handhole		
Junction Box		
Ped. Pushbutton Detector		
Ped. Signal Head		
Power Pole Service		
Priority Veh. Detector		
Signal Head		
Signal Head w/Backplate		
Signal Post		
Closed Circuit TV		
Video Detector System		

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UNDERGROUND UTILITY ITEMS

	EX	PR	ABANDONED
Cable TV			
Electric Cable			
Fiber Optic			
Gas Pipe			
Oil Pipe			
Sanitary Sewer			
Telephone Cable			
Water Pipe			

UTILITIES ITEMS

	EX	PR
Controller		
Double Handhole		
Fire Hydrant		
GuyWire or Deadman Anchor		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Pole		
Manhole		
Monitoring Well (Gasoline)		
Pipeline Warning Sign		
Power Pole		
Power Pole with Light		
Sanitary Sewer Cleanout		
Splice Box Above Ground		
Telephone Splice Box Above Ground		
Telephone Pole		

UTILITY ITEMS (contd.)

	EX	PR
Traffic Signal		
Traffic Signal Control Box		
Water Meter		
Water Meter Valve Box		
Profile Line		
Aerial Power Line		

VEGETATION ITEMS

	EX	PR
Deciduous Tree		
Bush or Shrub		
Evergreen Tree		
Stump		
Orchard/Nursery Line		
Vegetation Line		
Woods & Bush Line		

WATER FEATURE ITEMS

	EX	PR
Stream or Drainage Ditch		
Waters Edge		
Water Surface Indicator		
Water Point		
Disappearing Ditch		
Marsh		
Marsh/Swamp Boundary		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

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STANDARD 000001-08

DECIMAL OF AN INCH AND OF A FOOT

A	A	B	A	A	B	A	A	B	A	A	B	A	A	B	A	A	B
	0.0052	1/16	1 1/64	0.171875	2 1/16		0.3385	4 1/16		0.5052	6 1/16	43/64	0.671875	8 1/16		0.8385	10 1/16
	0.0104	1/8		0.1771	2 1/8	1 1/32	0.34375	4 1/8		0.5104	6 1/8		0.6771	8 1/8	27/32	0.84375	10 1/8
1/64	0.015625	3/16		0.1823	2 3/16		0.3490	4 3/16	33/64	0.515625	6 3/16		0.6823	8 3/16		0.8490	10 3/16
	0.0208	1/4	3/16	0.1875	2 1/4		0.3542	4 1/4		0.5208	6 1/4	1 1/16	0.6875	8 1/4		0.8542	10 1/4
	0.0260	5/16		0.1927	2 5/16	23/64	0.359375	4 5/16		0.5260	6 5/16		0.6927	8 5/16	55/64	0.859375	10 5/16
1/32	0.03125	3/8		0.1979	2 3/8		0.3646	4 3/8	1 1/32	0.53125	6 3/8		0.6979	8 3/8		0.8646	10 3/8
	0.0365	7/16	1 3/64	0.203125	2 7/16		0.3698	4 7/16		0.5365	6 7/16	45/64	0.703125	8 7/16		0.8698	10 7/16
	0.0417	1/2		0.2083	2 1/2	3/8	0.3750	4 1/2		0.5417	6 1/2		0.7083	8 1/2	7/8	0.8750	10 1/2
3/64	0.046875	9/16		0.2135	2 9/16		0.3802	4 9/16	35/64	0.546875	6 9/16		0.7135	8 9/16		0.8802	10 9/16
	0.0521	5/8	7/32	0.21875	2 5/8		0.3854	4 5/8		0.5521	6 5/8	23/32	0.71875	8 5/8		0.8854	10 5/8
	0.0573	1 1/16		0.2240	2 1 1/16	25/64	0.390625	4 1 1/16		0.5573	6 1 1/16		0.7240	8 1 1/16	57/64	0.890625	10 1 1/16
1/16	0.0625	3/4		0.2292	2 3/4		0.3958	4 3/4	9/16	0.5625	6 3/4		0.7292	8 3/4		0.8958	10 3/4
	0.0677	1 3/16	1 5/64	0.234375	2 1 3/16		0.4010	4 1 3/16		0.5677	6 1 3/16	47/64	0.734375	8 1 3/16		0.9010	10 1 3/16
	0.0729	7/8		0.2396	2 7/8	1 3/32	0.40625	4 7/8		0.5729	6 7/8		0.7396	8 7/8	29/32	0.90625	10 7/8
5/64	0.078125	1 5/16		0.2448	2 1 5/16		0.4115	4 1 5/16	37/64	0.578125	6 1 5/16		0.7448	8 1 5/16		0.9115	10 1 5/16
	0.0833	1	1/4	0.2500	3		0.4167	5		0.5833	7	3/4	0.7500	9		0.9167	11
	0.0885	1 1/16		0.2552	3 1/16	27/64	0.421875	5 1/16		0.5885	7 1/16		0.7552	9 1/16	59/64	0.921875	11 1/16
3/32	0.09375	1 1/8		0.2604	3 1/8		0.4271	5 1/8	19/32	0.59375	7 1/8		0.7604	9 1/8		0.9271	11 1/8
	0.0990	1 3/16	1 7/64	0.265625	3 3/16		0.4323	5 3/16		0.5990	7 3/16	49/64	0.765625	9 3/16		0.9323	11 3/16
	0.1042	1 1/4		0.2708	3 1/4	7/16	0.4375	5 1/4		0.6042	7 1/4		0.7708	9 1/4	15/16	0.9375	11 1/4
7/64	0.109375	1 5/16		0.2760	3 5/16		0.4427	5 5/16	39/64	0.609375	7 5/16		0.7760	9 5/16		0.9427	11 5/16
	0.1146	1 3/8	9/32	0.28125	3 3/8		0.4479	5 3/8		0.6146	7 3/8	25/32	0.78125	9 3/8		0.9479	11 3/8
	0.1198	1 7/16		0.2865	3 7/16	29/64	0.453125	5 7/16		0.6198	7 7/16		0.7865	9 7/16	61/64	0.953125	11 7/16
1/8	0.1250	1 1/2		0.2917	3 1/2		0.4583	5 1/2	5/8	0.6250	7 1/2		0.7917	9 1/2		0.9583	11 1/2
	0.1302	1 9/16	1 9/64	0.296875	3 9/16		0.4635	5 9/16		0.6302	7 9/16	51/64	0.796875	9 9/16		0.9635	11 9/16
	0.1354	1 5/8		0.3021	3 5/8	15/32	0.46875	5 5/8		0.6354	7 5/8		0.8021	9 5/8	31/32	0.96875	11 5/8
9/64	0.140625	1 1 1/16		0.3073	3 1 1/16		0.4740	5 1 1/16	41/64	0.640625	7 1 1/16		0.8073	9 1 1/16		0.9740	11 1 1/16
	0.1458	1 3/4	5/16	0.3125	3 3/4		0.4792	5 3/4		0.6458	7 3/4	1 3/16	0.8125	9 3/4		0.9792	11 3/4
	0.1510	1 1 3/16		0.3177	3 1 3/16	31/64	0.484375	5 1 3/16		0.6510	7 1 3/16		0.8177	9 1 3/16	63/64	0.984375	11 1 3/16
5/32	0.15625	1 7/8		0.3229	3 7/8		0.4896	5 7/8	21/32	0.65625	7 7/8		0.8229	9 7/8		0.9896	11 7/8
	0.1615	1 1 5/16	21/64	0.328125	3 1 5/16		0.4948	5 1 5/16		0.6615	7 1 5/16	53/64	0.828125	9 1 5/16		0.9948	11 1 5/16
	0.1667	2		0.3333	4	1/2	0.5000	6		0.6667	8		0.8333	10	1	1.0000	12

A = Fractions of Inch or Foot

B = Inch Equivalents to Foot Fractions

Illinois Department of Transportation

PASSED January 1, 1997
ENGINEER OF POLICY AND PROCEDURES

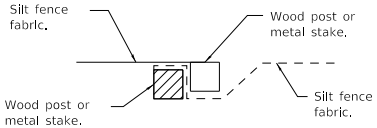
APPROVED January 1, 1997
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-97	New Standard.

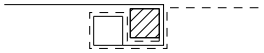
DECIMAL OF AN INCH AND OF A FOOT

STANDARD 001006



Place end-post (stake) of first silt fence adjacent to end-post (stake) of second silt fence with fabric positioned as swown.

STEP 1

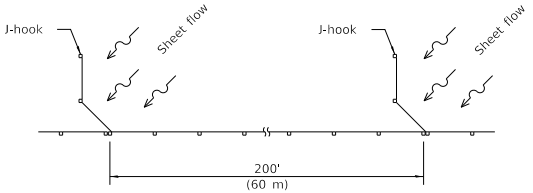


Rotate posts (stakes) together 180° clockwise and drive both posts (stakes) 18 (450) into ground.

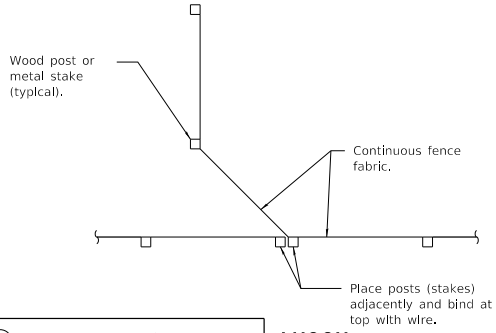
STEP 2

ATTACHING TWO SILT FILTER FENCES

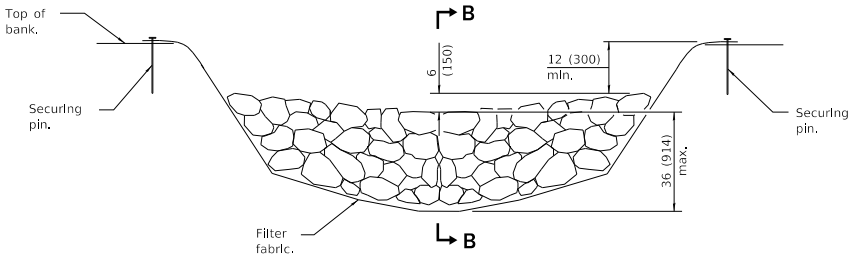
(Not applicable for J-hooks)



SILT FILTER J-HOOK PLACEMENT

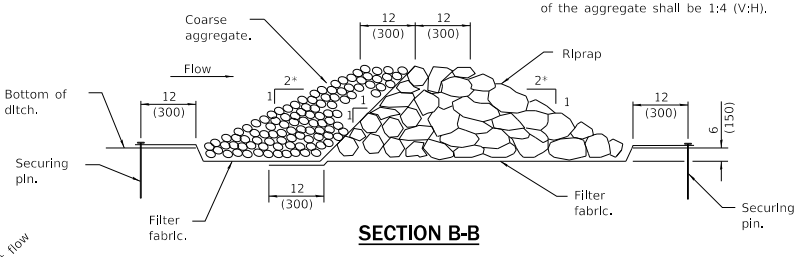


J-HOOK



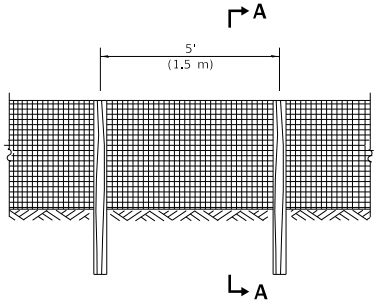
ELEVATION

* When the ditch check is within the clear zone and the road is open to traffic, the traffic approach slope of the aggregate shall be 1:4 (V:H).



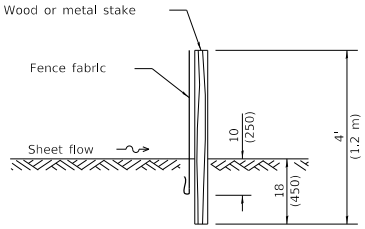
SECTION B-B

AGGREGATE DITCH CHECK

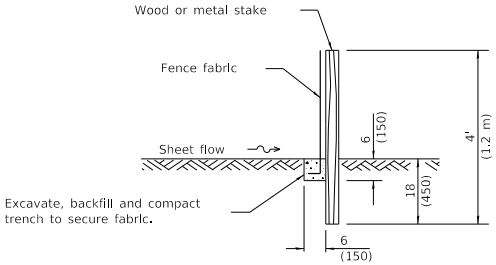


ELEVATION

SILT FILTER FENCE AS A PERIMETER EROSION BARRIER



SLICE METHOD



TRENCH METHOD

SECTION A-A

GENERAL NOTES

The installation details and dimensions shown for perimeter erosion barriers shall also apply for inlet and pipe protection.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2013
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2013
ENGINEER OF DESIGN AND ENVIRONMENT

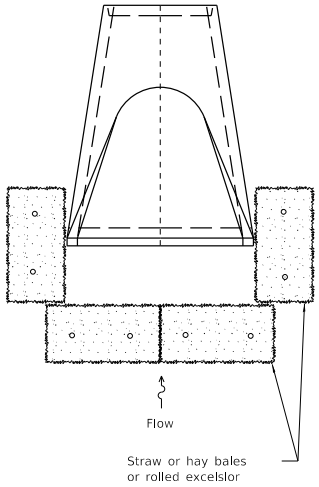
ISSUED 1-1-07

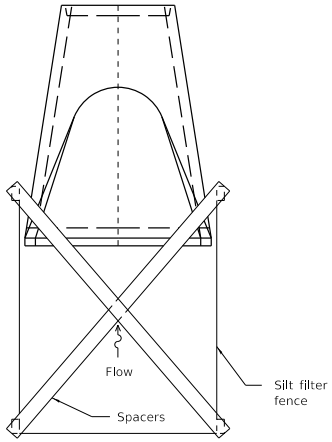
DATE	REVISIONS
1-1-13	Corrected notation for
	flowline ($\mathbb{E}$) on SEDIMENT
	BASIN ELEVATION.
1-1-12	Omitted hay/straw perimeter
	barrier. Added SLICE METHOD
	to SECTION A-A.

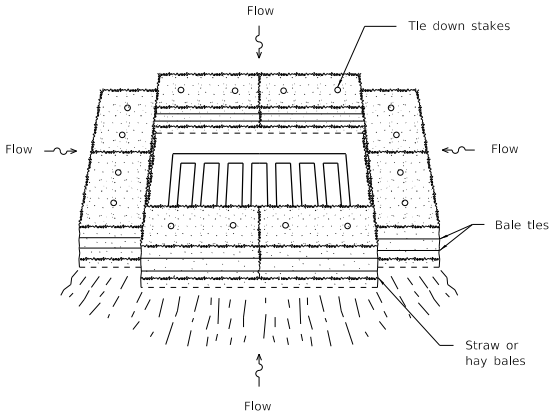
TEMPORARY EROSION CONTROL SYSTEMS

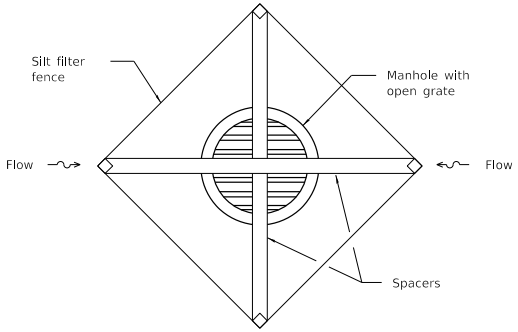
(Sheet 1 of 2)

STANDARD 280001-07

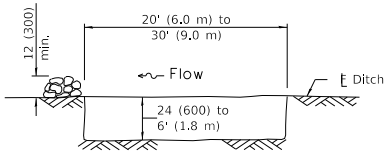






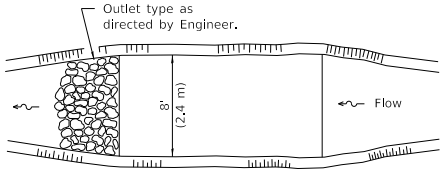


INLET AND PIPE PROTECTION



The performance of the basin will improve if put into a series.

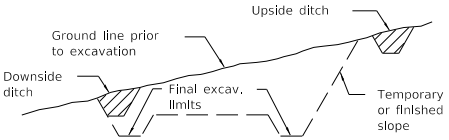
ELEVATION



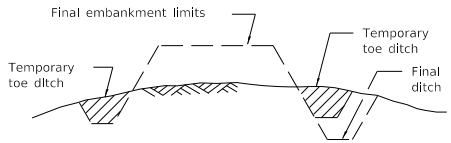
The long dimension should be parallel with the direction of the flow. Accumulated silt shall be removed anytime the basins become 75% filled.

PLAN

SEDIMENT BASIN



TYPICAL CUT CROSS-SECTION



TYPICAL FILL CROSS-SECTION

TEMPORARY DITCHES FOR CUT & FILL SECTIONS

Illinois Department of Transportation

PASSED January 1, 2013
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

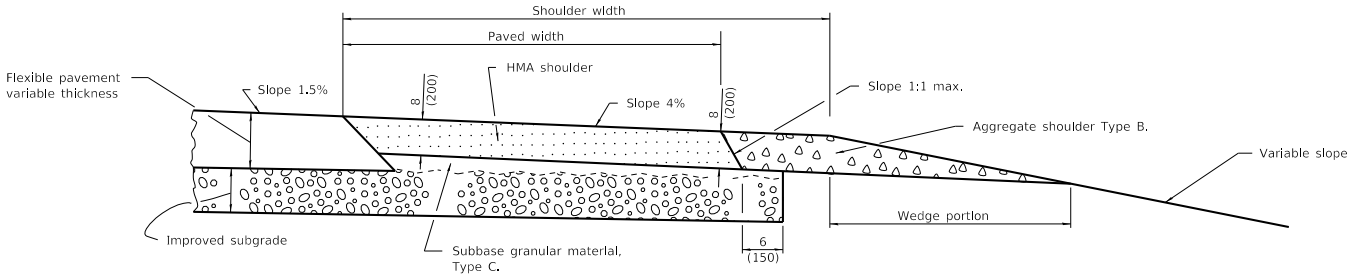
APPROVED January 1, 2013
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-07

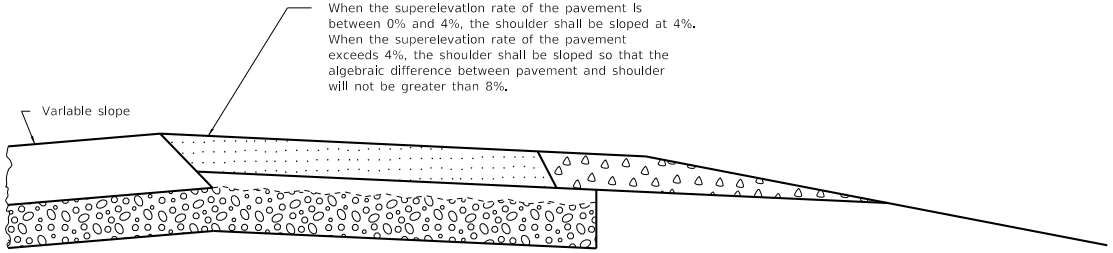
TEMPORARY EROSION CONTROL SYSTEMS

(Sheet 2 of 2)

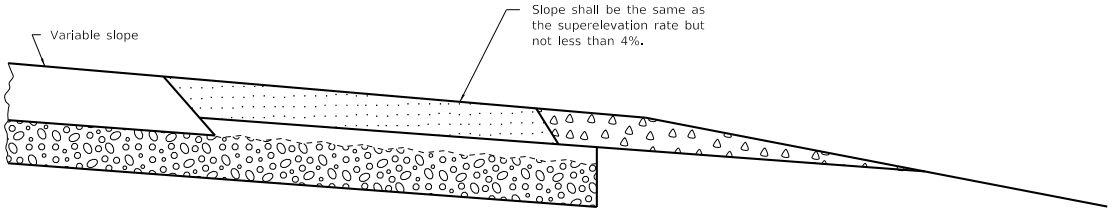
STANDARD 280001-07



SHOULDER FOR TANGENT PAVEMENT



SHOULDER FOR SUPERELEVATED PAVEMENT (OUTSIDE OF CURVE)



SHOULDER FOR SUPERELEVATED PAVEMENT (INSIDE OF CURVE)

GENERAL NOTES

Except as noted or shown the dimensions and notes specified for the shoulder of tangent pavement are typical for the shoulders of superelevated pavement.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2008
ENGINEER OF POLICY AND PROCEDURES

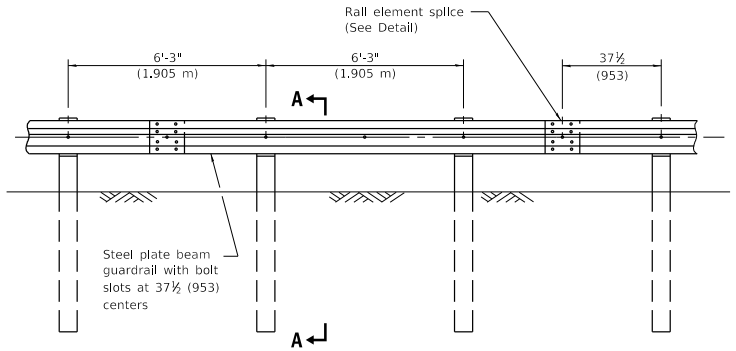
APPROVED January 1, 2008
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-07

DATE	REVISIONS
1-1-08	Switched units to
	English (metric).
1-1-07	Switched to Hot-Mix
	Asphalt (HMA)
	terminology.

HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT

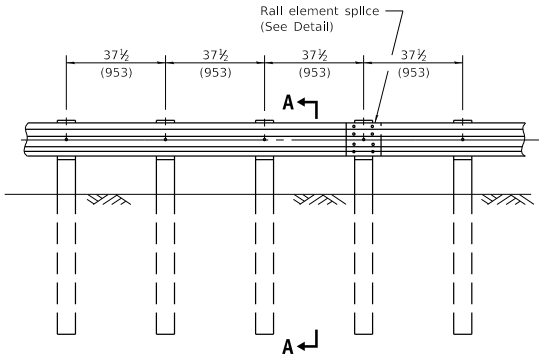
STANDARD 482001-02



ELEVATION

TYPE A

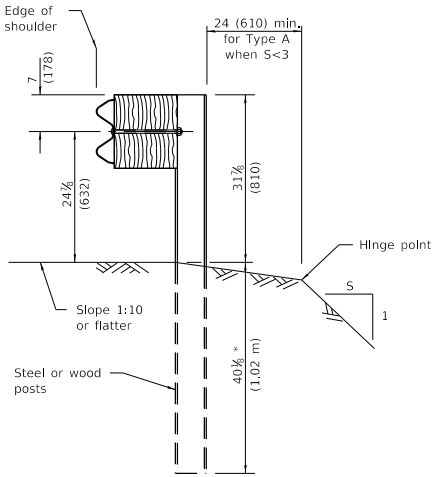
6'-3" (1.905 m) Typical post spacing



ELEVATION

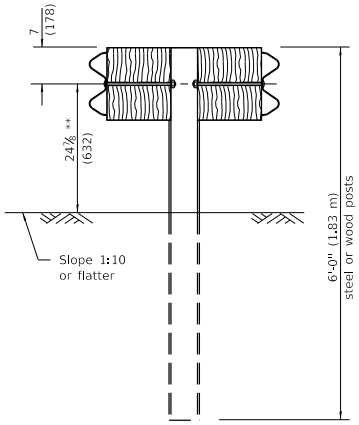
TYPE B

37½ (953) Closed post spacing



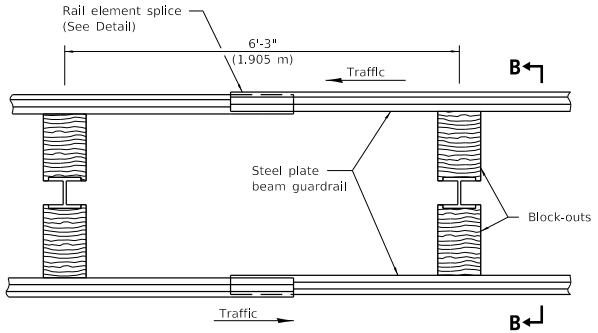
SECTION A-A

* When "S" is less than 3 and the distance from the back of post is less than 24 (610), the post shall be steel and the embedment shall be 76⅛ (1.93 m) and the minimum top of rail height shall be 31 (787).



SECTION B-B

** When connecting Type D guardrail to an impact attenuator, adjust this dimension to match over a distance of 25'-0" (7.62 m) from point of connection if necessary.



PLAN

TYPE D

Double steel plate beam guardrail
6'-3" (1.905 m) typical post spacing

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2018
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018
ENGINEER OF DESIGN AND ENVIRONMENT

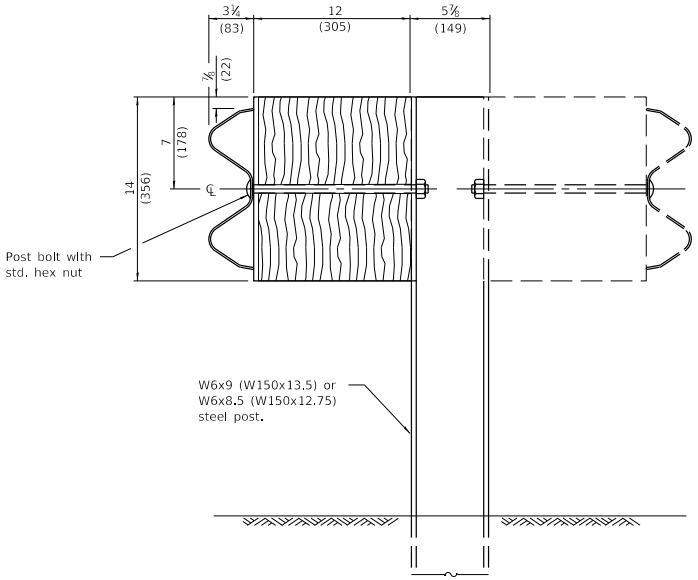
ISSUED 1-1-17

DATE	REVISIONS
1-1-18	Revised steel post to have
	four holes in each flange.
1-1-17	Added detail for leave-out.
	Rev. 'D' to less than 6 (150)
	for guardrail behind curb.

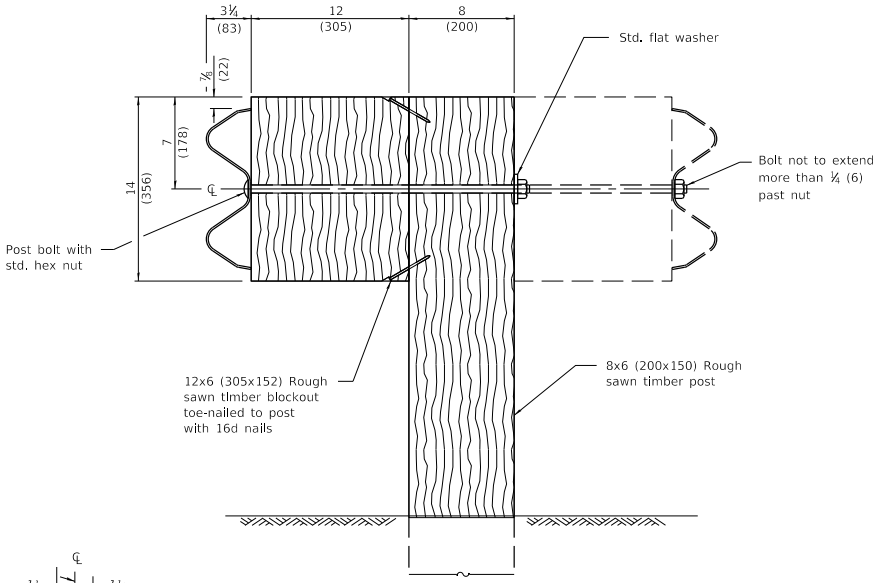
STEEL PLATE BEAM GUARDRAIL

(Sheet 1 of 4)

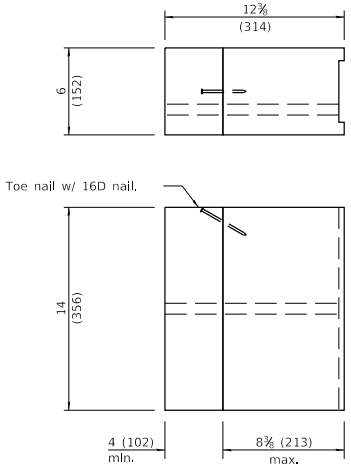
STANDARD 630001-12



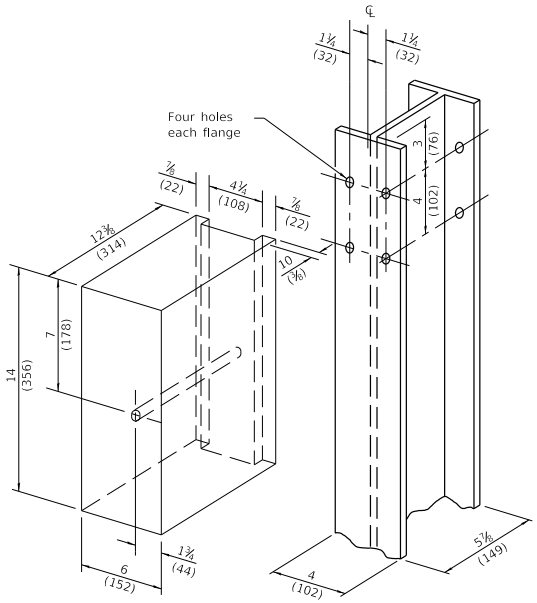
STEEL POST CONSTRUCTION



WOOD POST CONSTRUCTION

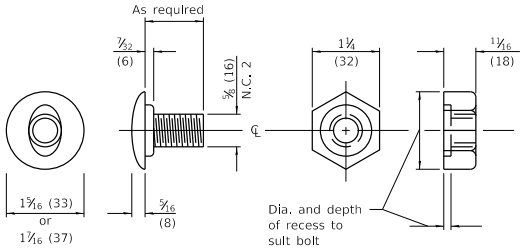


TWO-PIECE WOOD BLOCKOUT OPTION



Note:
All holes ¾ (20) dia.

WOOD BLOCK-OUT AND STEEL POST DETAILS



POST OR SPLICE BOLT & NUT

Illinois Department of Transportation

APPROVED January 1, 2018
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

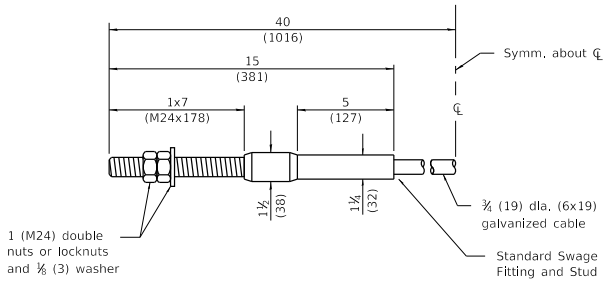
APPROVED January 1, 2018
Maureen M. Bress
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-17

STEEL PLATE BEAM GUARDRAIL

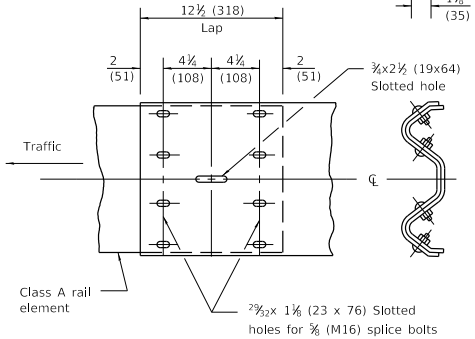
(Sheet 2 of 4)

STANDARD 630001-12

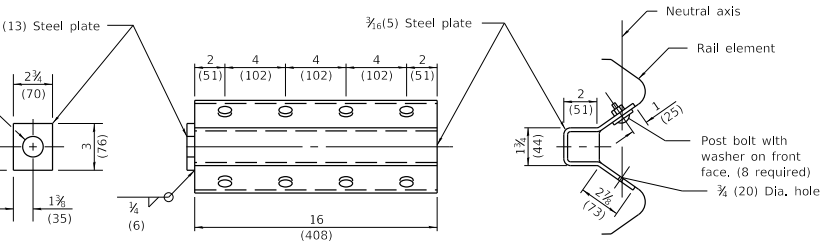


CABLE ASSEMBLY

(42,800 lbs. (190 kN) min. breaking strength)
Tighten to taut tension.

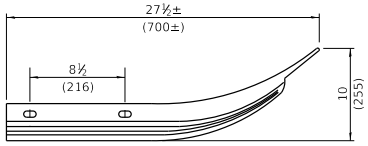


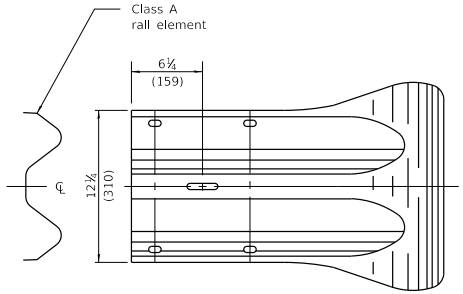
RAIL ELEMENT SPLICE



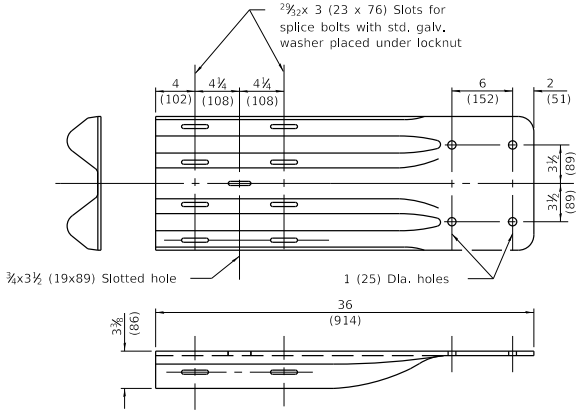
NOTE
Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

ANCHOR PLATE T DETAILS





END SECTION

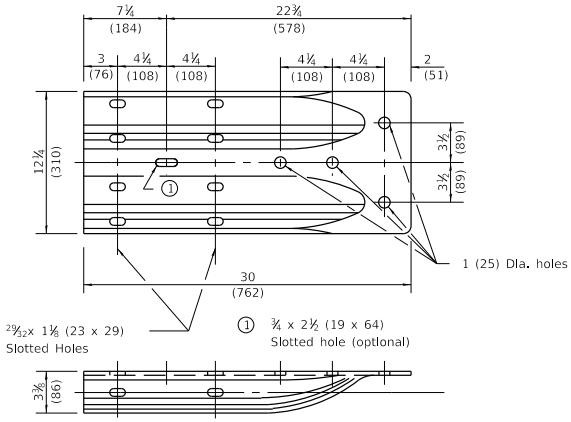


NOTE
When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

The standard end shoe shall be attached to the concrete with pre-drilled or self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.

Externally threaded studs protruding from the surface of the concrete will not be permitted.

END SHOE



ALTERNATE END SHOE

Illinois Department of Transportation

APPROVED January 1, 2018
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

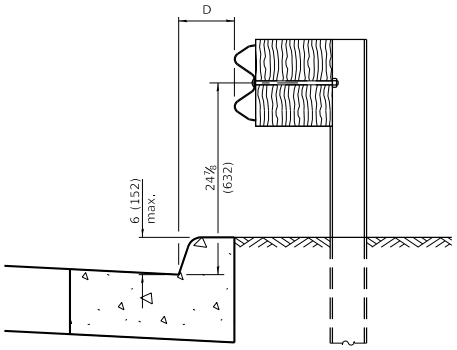
APPROVED January 1, 2018
Maureen M. Bress
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

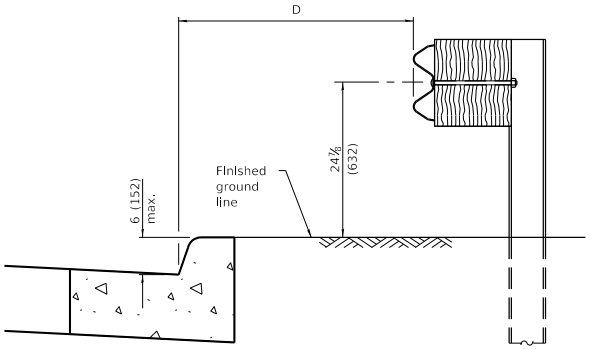
STEEL PLATE BEAM GUARDRAIL

(Sheet 3 of 4)

STANDARD 630001-12



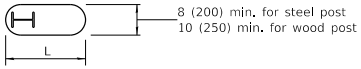
0 ≤ D < 6 (150 m)



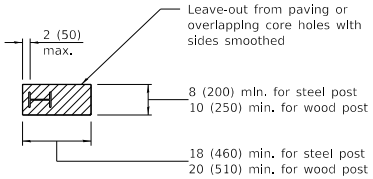
4'-0" (1.2 m) ≤ D ≤ 12'-0" (3.7 m)

GUARDRAIL PLACED BEHIND CURB

Note: 'D' shall not exceed 6 (152) for design speeds greater than 45 mph.

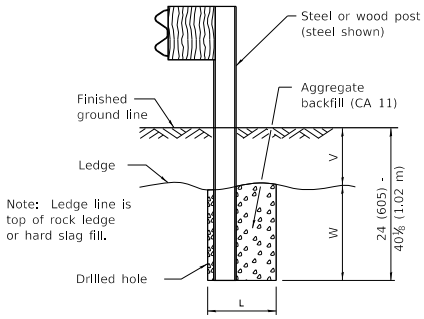


PLAN



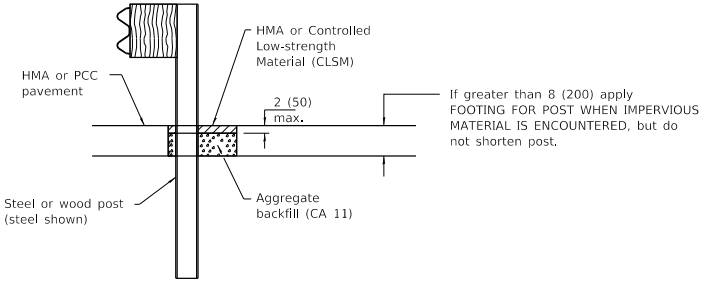
PLAN

V	W	L	
		Steel Post	Wood Post
0 - 6 (0 - 152)	24 (610)	21 (530)	23 (580)
> 6 - 18 (> 152 - 458)	18 (458)	14½ (368)	16½ (419)
> 18 - 31 (> 458 - 787)	12 (305)	8 (203)	10 (250)
> 31 - 40⅜ (> 787 - 1.02 m)	12 - 0 (305 - 0)	8 (203)	10 (250)



ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED



ELEVATION

LEAVE-OUT FOR POST WHEN PAVED MATERIAL IS ENCOUNTERED

Illinois Department of Transportation

APPROVED January 1, 2018
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018
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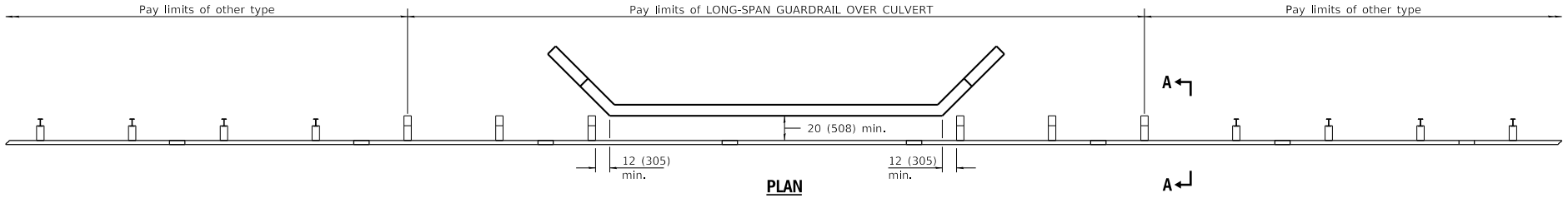
ISSUED 1-1-17

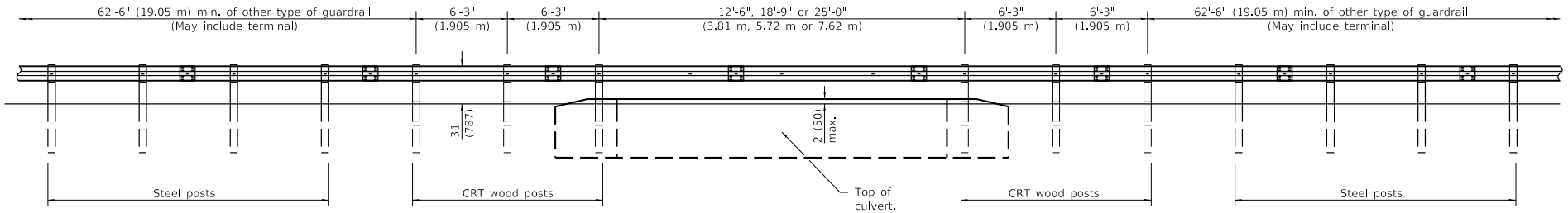
STEEL PLATE BEAM GUARDRAIL

(Sheet 4 of 4)

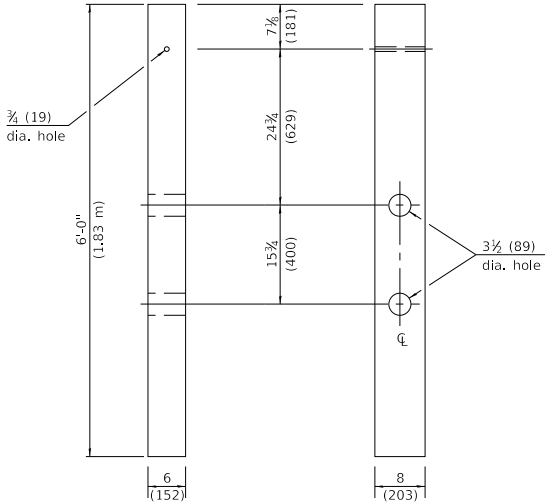
STANDARD 630001-12



PLAN

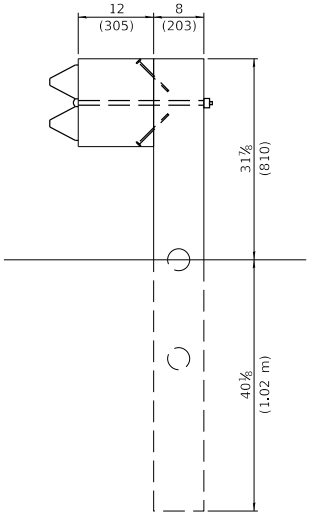


ELEVATION



FRONT **SIDE**

CRT WOOD POST



SECTION A-A

GENERAL NOTES

See Standard 630001 for details of guardrail not shown.

Blockouts shown at steel posts shall be omitted when NON-BLOCKED STEEL PLATE BEAM GUARDRAIL is specified. See Standard 630006 for details not shown.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2017
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

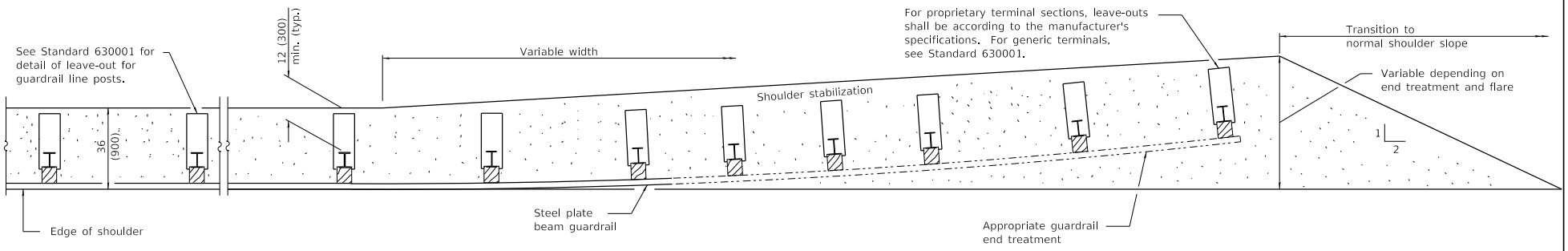
APPROVED January 1, 2017
Maureen M. Beck
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-11

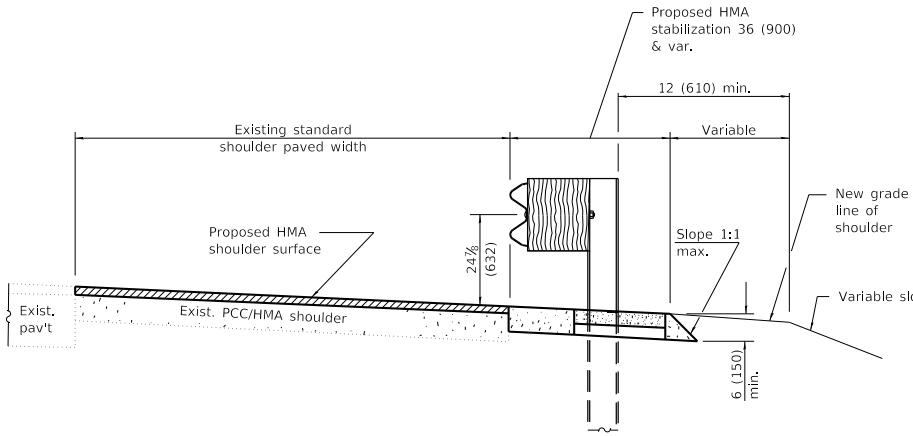
DATE	REVISIONS
1-1-17	Revised general notes for
	non-blocked guardrail option.
	Revised pay limits.
1-1-13	Added min. dim. from guard-
	rail to headwall. Added dim.
	to section A-A.

LONG-SPAN GUARDRAIL OVER CULVERT

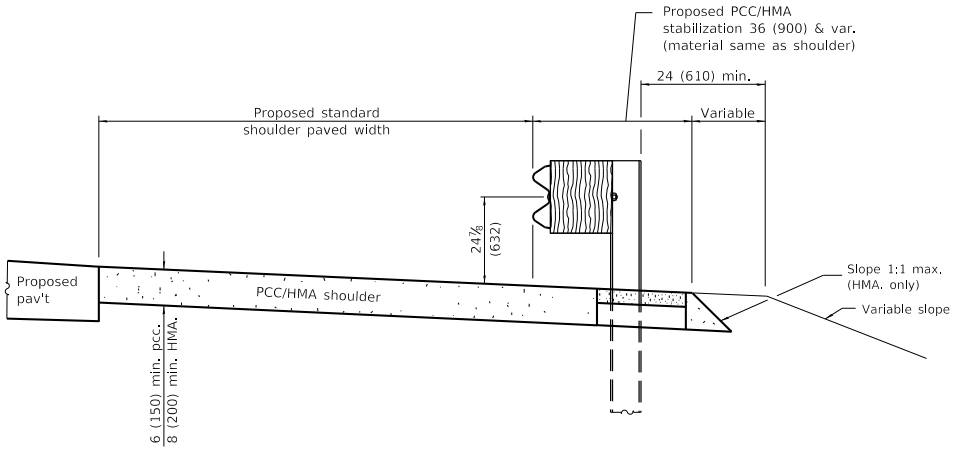
STANDARD 630106-02



PLAN



RESURFACING



NEW CONSTRUCTION

GENERAL NOTES

See Standard 482001, 482006, 483001 and 630001 for details not shown.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2017
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

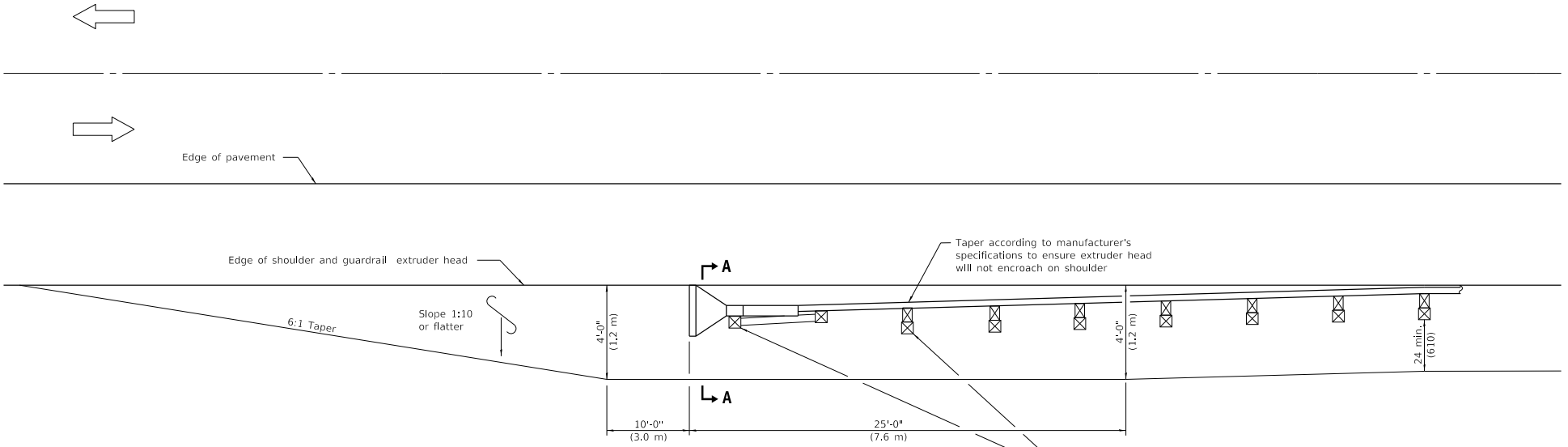
APPROVED January 1, 2017
Maureen M. Beck
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-17

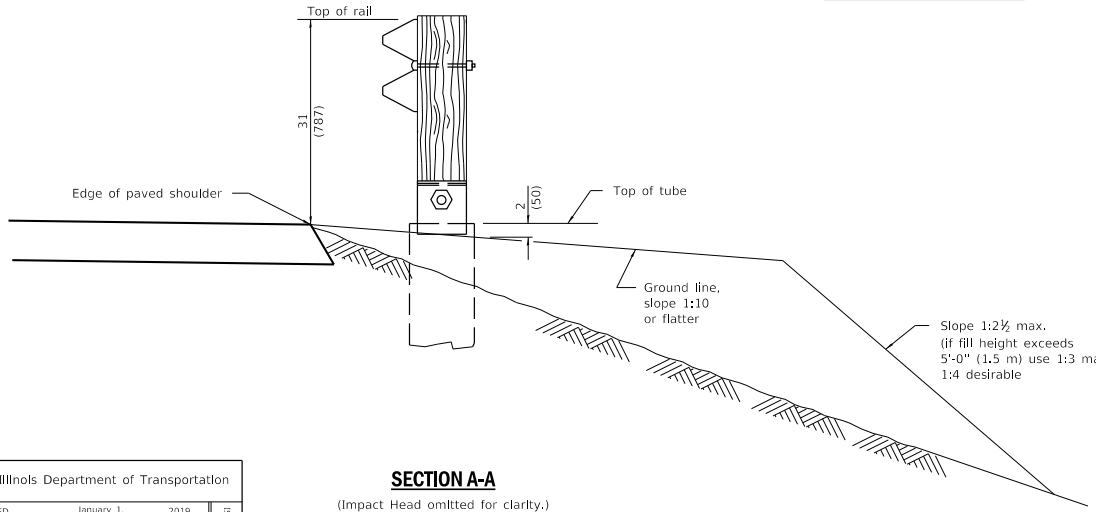
DATE	REVISIONS
1-1-17	Revised leave-outs, moved
	dimensions to Standard
	630001.
1-1-09	Switched units to
	English (metric).

PCC / HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL

STANDARD 630201-07



SHOULDER WIDENING TRANSITION FOR TANGENT TERMINAL



SECTION A-A

(Impact Head omitted for clarity.)

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2019
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

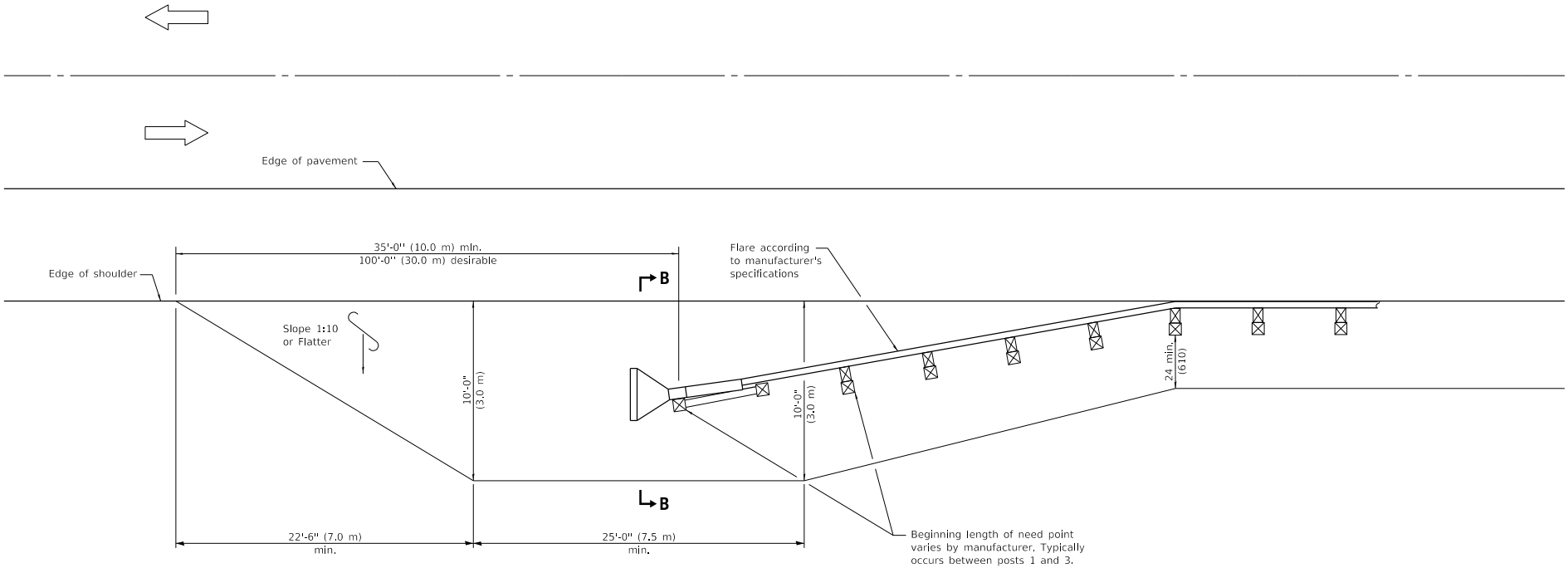
ISSUED 1-1-19

DATE	REVISIONS
1-1-19	Removed pay limits, Revised
	notes regarding the taper/flare
	and length of need point.
1-1-18	Omitted posts from 'Pay
	limits of other type'.

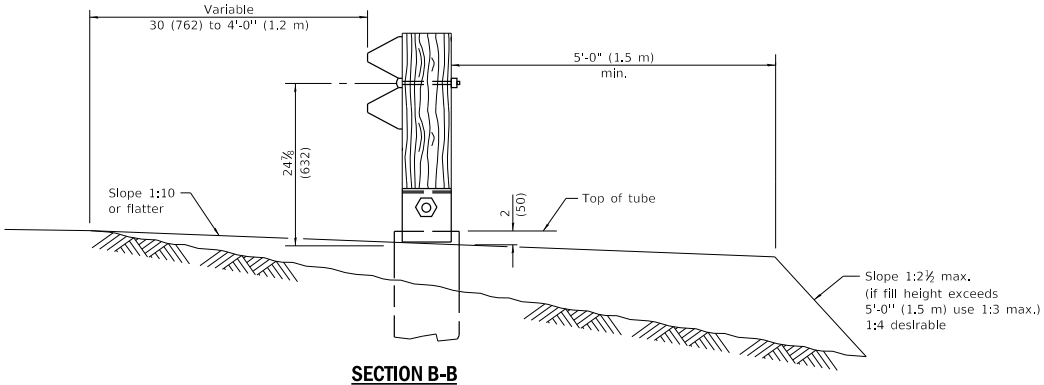
SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS

(Sheet 1 of 2)

STANDARD 630301-09



SHOULDER WIDENING TRANSITION FOR FLARED TERMINAL



SECTION B-B
(Impact Head omitted for clarity.)

Illinois Department of Transportation

PASSED January 1, 2019
ENGINEER OF POLICY AND PROCEDURES

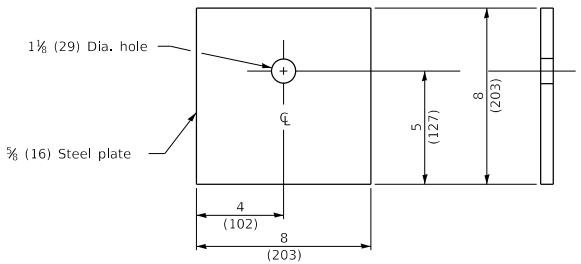
APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-00

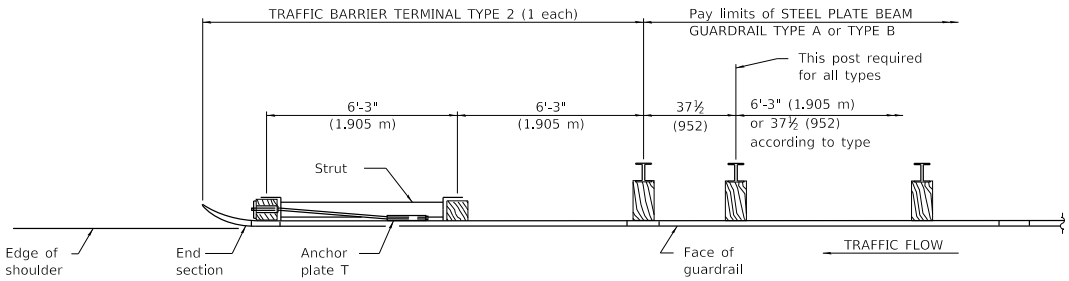
SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS

(Sheet 2 of 2)

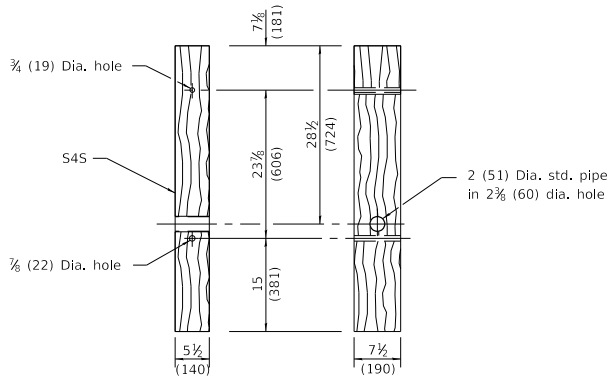
STANDARD 630301-09



BEARING PLATE K

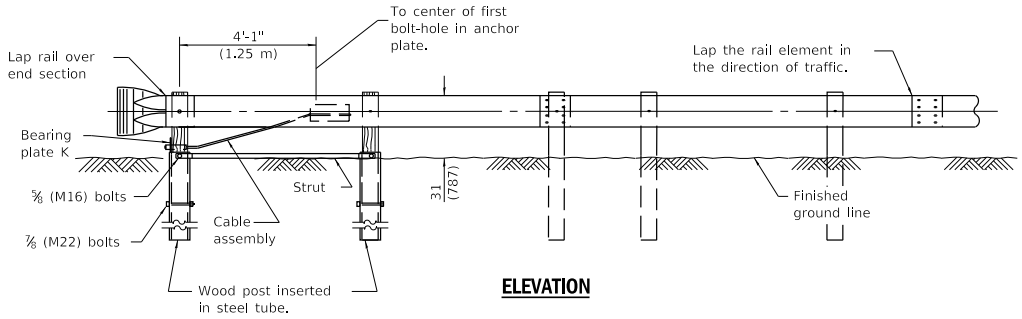


PLAN

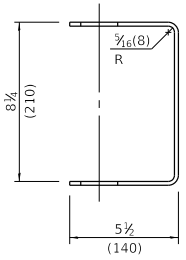


FRONT **SIDE**

WOOD POST

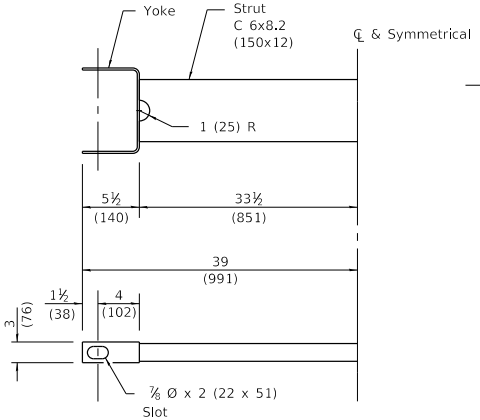


ELEVATION

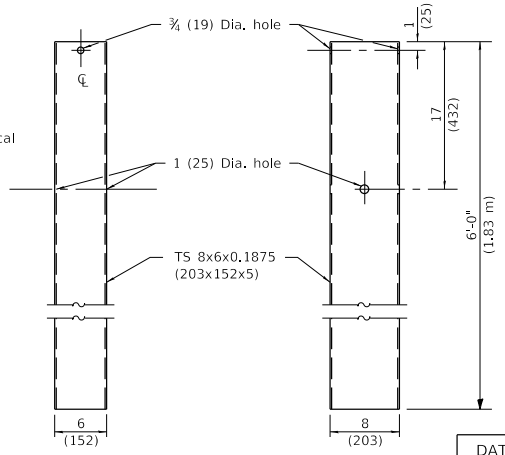


YOKE

3/16 (5) thick steel



CABLE STRUT



FRONT **SIDE**

STEEL TUBE

GENERAL NOTES

See Standard 630001 for details of guardrail not shown.

The bearing plate K shall be held in position by two eight penny nails driven into the post and bent over the top of the plate.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

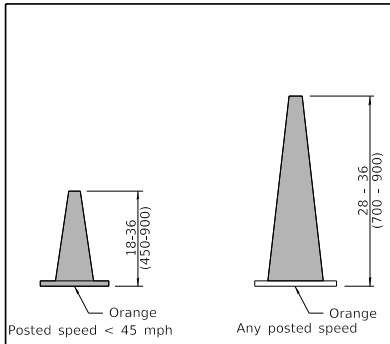
PASSED January 1, 2017
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2017
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-17

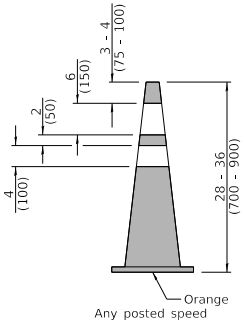
DATE	REVISIONS
1-1-17	Revised wood post length
	and hole spacing.
1-1-13	Corrected metric dimension
	for BEARING PLATE K. Changed
	pipe dia. in wood post.

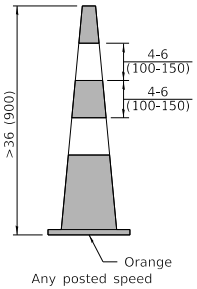
TRAFFIC BARRIER TERMINAL, TYPE 2

STANDARD 631011-10



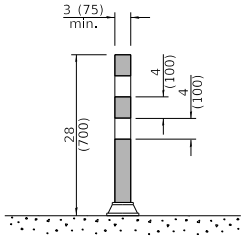
DAYTIME USE



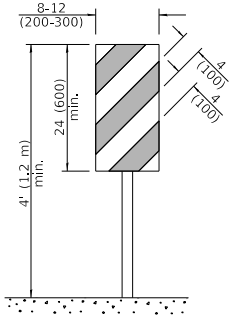


DAY OR NIGHTTIME USE

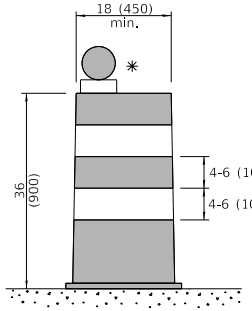
CONES



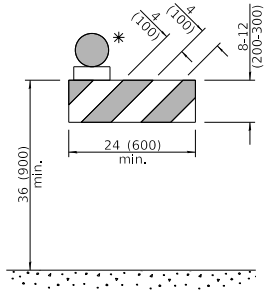
TUBULAR MARKER



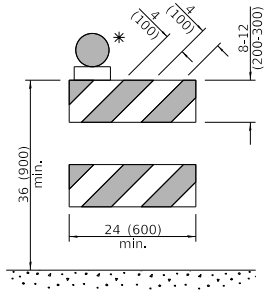
VERTICAL PANEL
POST MOUNTED



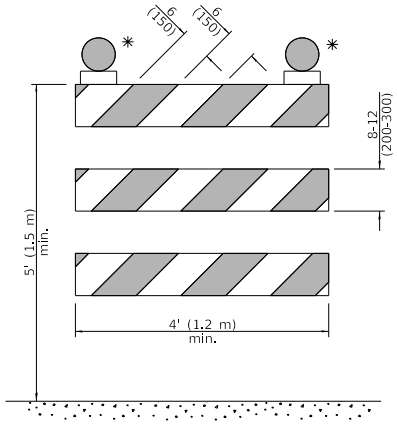
DRUM



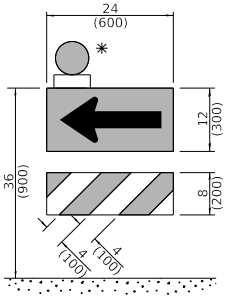
TYPE I BARRICADE



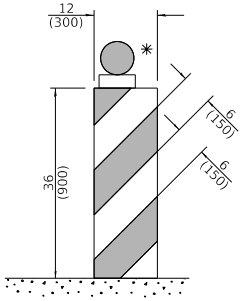
TYPE II BARRICADE



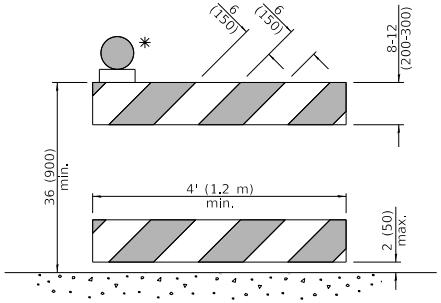
TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

✳ Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

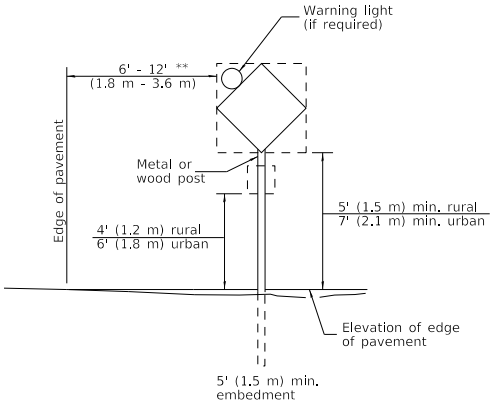
ISSUED 1-1-13

DATE	REVISIONS
1-1-19	Revised cone usage and
	added cones >36" (900 m) height.
1-1-18	Revised END WORK ZONE
	SPEED LIMIT sign from
	orange to white background.

TRAFFIC CONTROL DEVICES

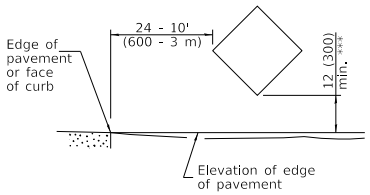
(Sheet 1 of 3)

STANDARD 701901-08



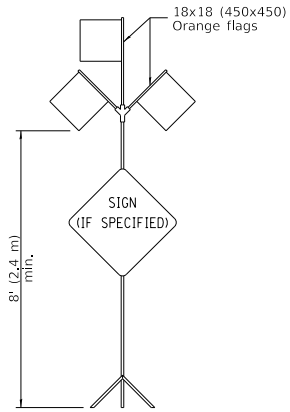
POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.



SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



HIGH LEVEL WARNING DEVICE

ROAD CONSTRUCTION NEXT X MILES

G20-I104(0)-6036

END CONSTRUCTION

G20-I105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING

WORK ZONE — W21-III5(0)-3618

SPEED LIMIT XX — R2-1-3648

PHOTO ENFORCED — R10-I108p-3618 ****

$XXX FINE MINIMUM — R2-I106p-3618

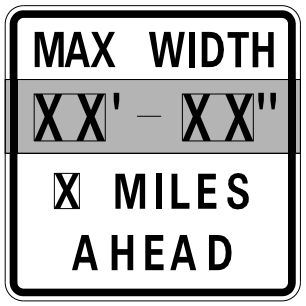
Sign assembly as shown on Standards or as allowed by District Operations.

END WORK ZONE SPEED LIMIT — G20-I103-6036

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

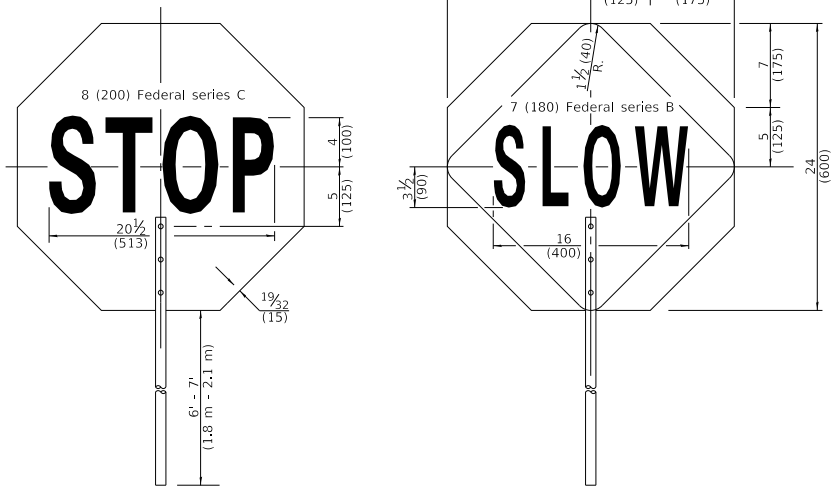
**** R10-I108p shall only be used along roadways under the juristiction of the State.



W12-I103-4848

WIDTH RESTRICTION SIGN

XX'-XX" width and X miles are variable.



FRONT SIDE

REVERSE SIDE

FLAGGER TRAFFIC CONTROL SIGN

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF SAFETY PROG. AND ENGINEERING

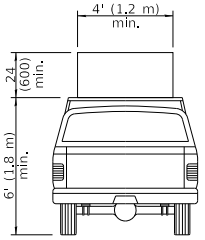
APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

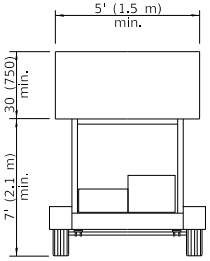
TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

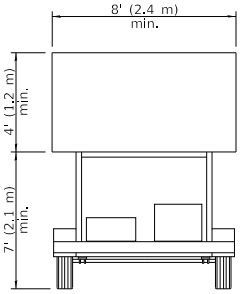
STANDARD 701901-08



TYPE A ROOF MOUNTED

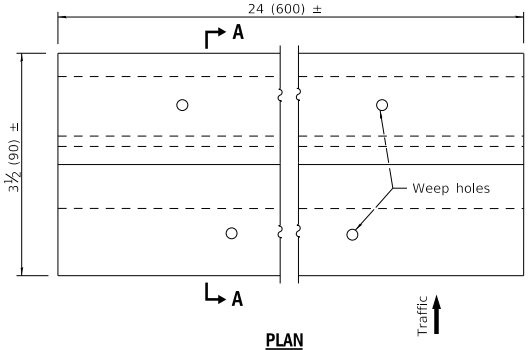


TYPE B ROOF OR TRAILER MOUNTED

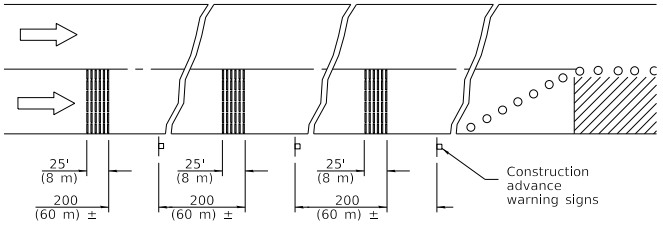


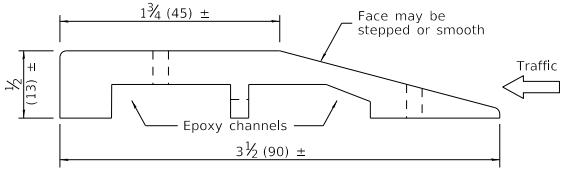
TYPE C TRAILER MOUNTED

ARROW BOARDS

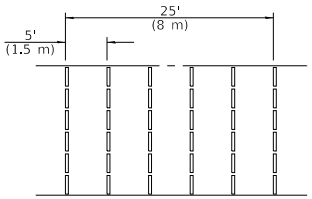


PLAN



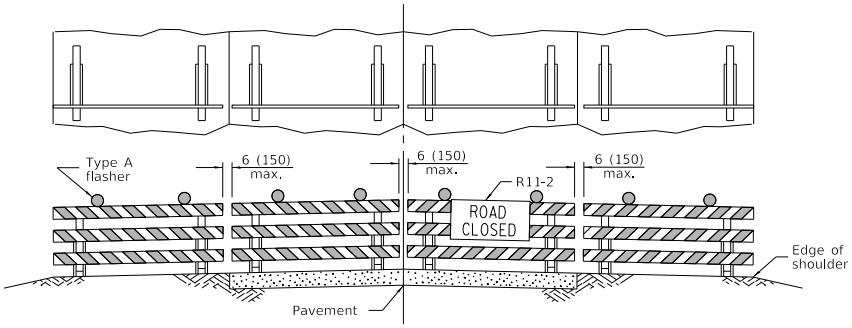


SECTION A-A



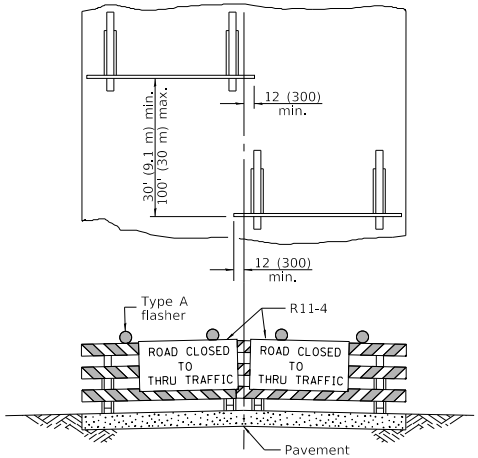
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF SAFETY PROG. AND ENGINEERING

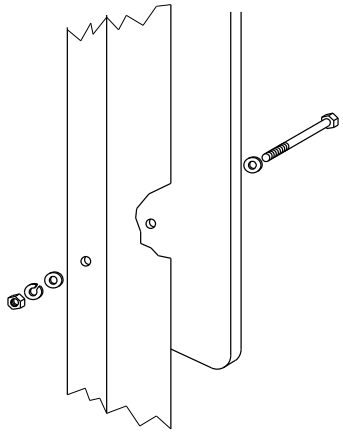
APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

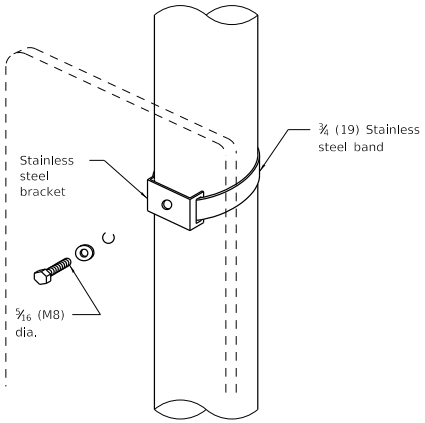
TRAFFIC CONTROL DEVICES

(Sheet 3 of 3)

STANDARD 701901-08

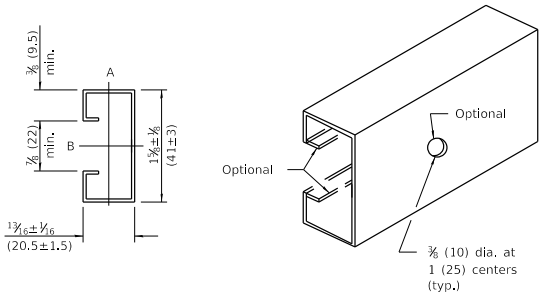


Sign panel 36 (900) wide or less

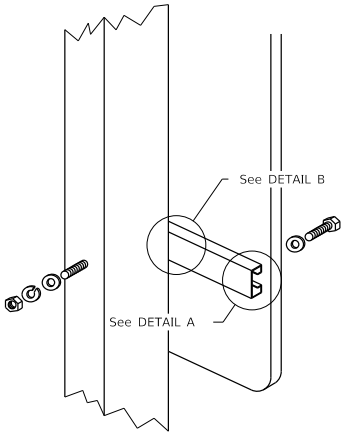


Sign panel 36 (900) wide or less

Section modulus (minimum)	Axis A	Axis B
Steel	0.050 in.³ (819 mm³)	0.105 in.³ (1720 mm³)
Aluminum	0.150 In.³ (2458 mm³)	0.315 In.³ (5162 mm³)

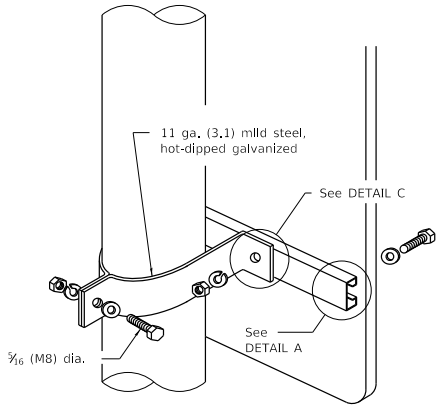


SUPPORTING CHANNEL DETAILS



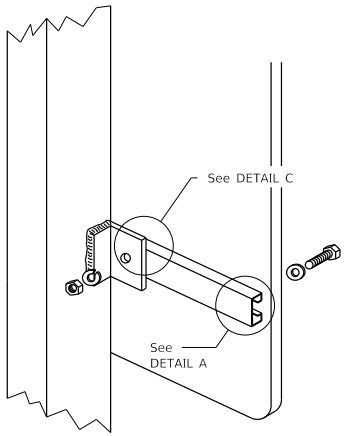
Sign panel over 36 (900) wide

WOOD OR TELESCOPING STEEL POSTS

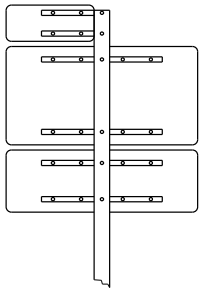


Sign panel over 36 (900) wide

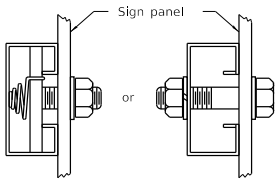
LIGHT OR SIGNAL STANDARDS



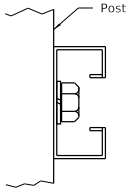
BREAKAWAY STEEL TUBING POSTS
(All sign panel sizes)



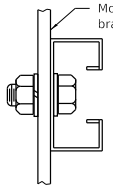
ROUTE MARKER ASSEMBLY



DETAIL A



DETAIL B



DETAIL C

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2009
ENGINEER OF OPERATIONS

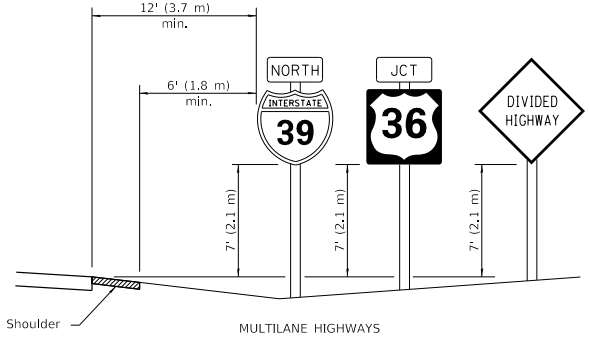
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

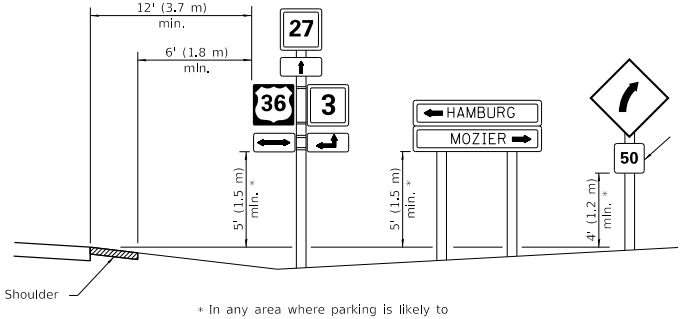
DATE	REVISIONS
1-1-09	Switched units to
	English (metric).
1-1-97	Renum. Standard 2319-6.

SIGN PANEL MOUNTING DETAILS

STANDARD 720001-01

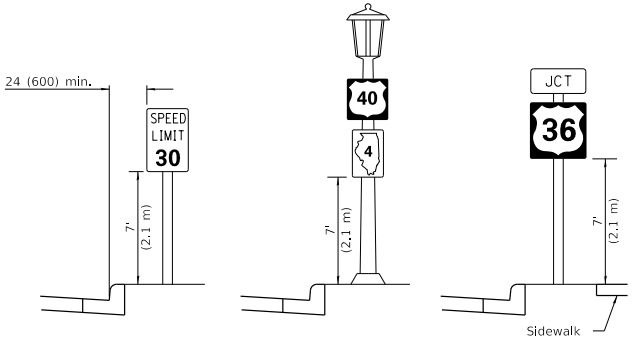


MULTILANE HIGHWAYS



* In any area where parking is likely to occur or where there are obstructions to view or where signs are located over sidewalks, the height shall be at least 7' (2.1 m).

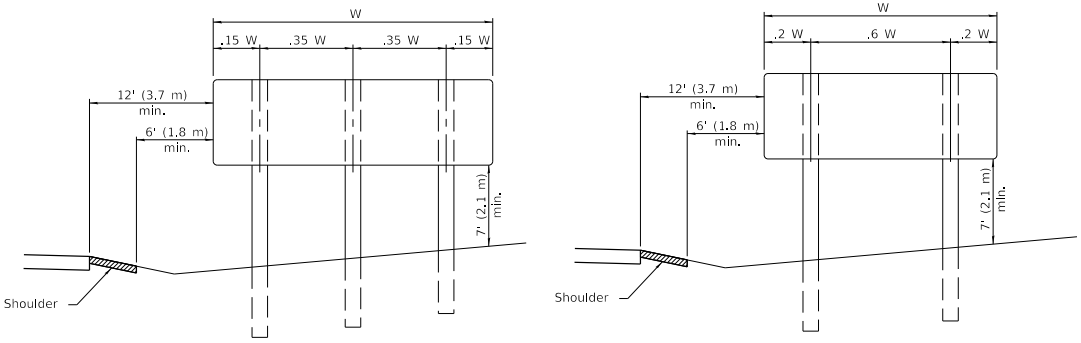
TWO LANE RURAL HIGHWAYS



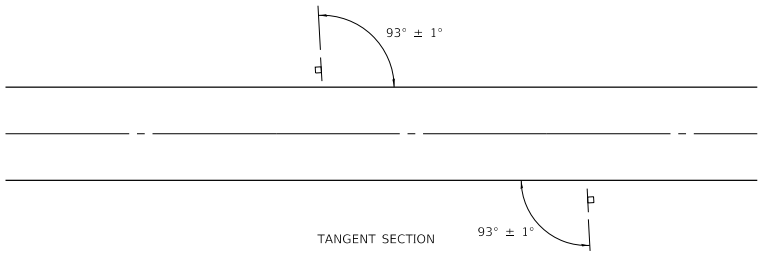
URBAN LOCATIONS

TYPICAL INSTALLATIONS

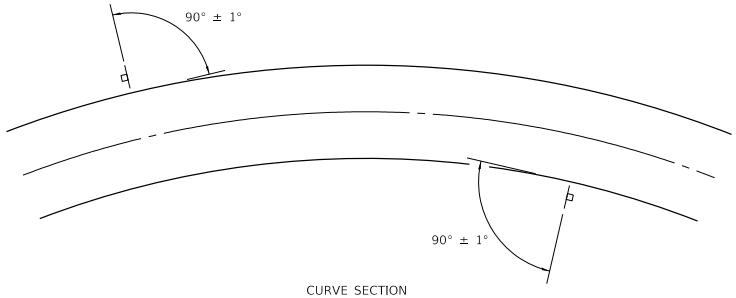
Signs in any area shall be erected to a uniform height above the edge of the pavement.



POST SPACING FOR NON-FREEWAY SIGN PANELS



TANGENT SECTION



CURVE SECTION

GROUND MOUNT SIGN POSITIONING

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-14	Added shoulders and slopes.
	Changed sign distances
	from roadway and shoulder.
1-1-12	Rev. sign elev. for multilane
	hwy's. Revised sign elev. and
	dist. to curb for rural loc.

SIGN PANEL ERECTION DETAILS

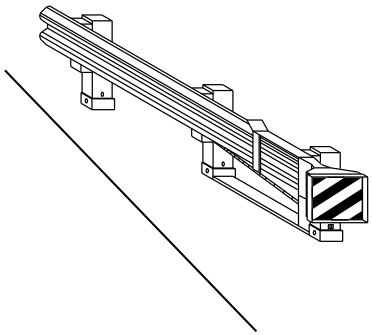
STANDARD 720006-04

Illinois Department of Transportation

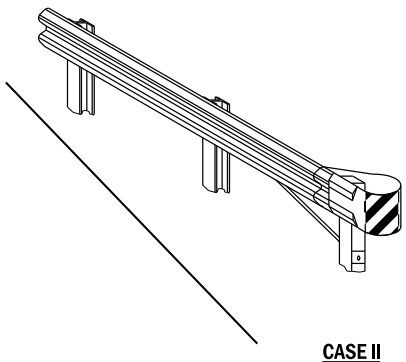
PASSED January 1, 2014
ENGINEER OF OPERATIONS

APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

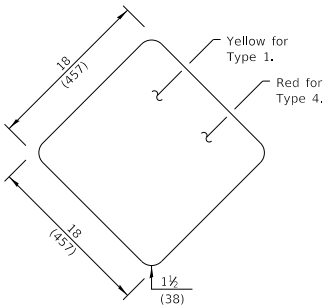
ISSUED 1-1-97



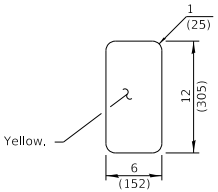
CASE I



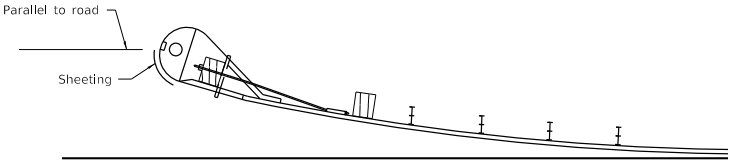
CASE II



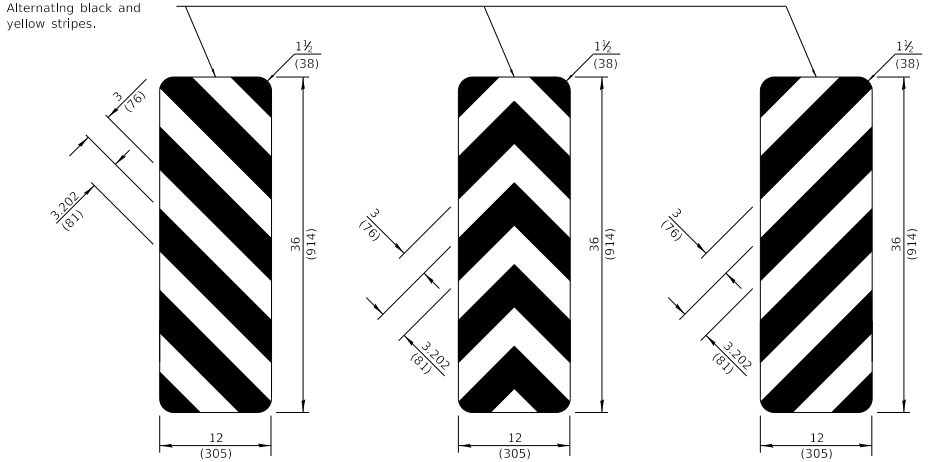
TYPE 1 OR TYPE 4



TYPE 2

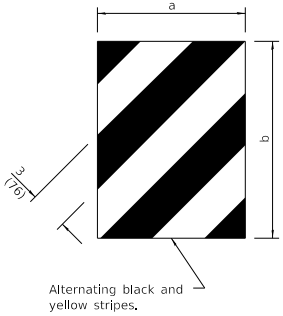


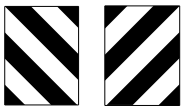
SHEETING POSITION: CASE II



TYPE 3

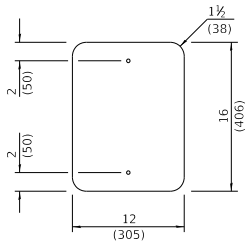
OBJECT MARKER DETAILS





DIMENSION	CASE I	CASE II
a	*	18 (450)
b	*	16 (406)

DIRECT APPLIED



POST MOUNTED

TERMINAL MARKER DETAILS

Color: Black / Yellow reflectorized

* The width and height (a, b) of the terminal marker shall be within approximately 1 (25) of the outer edge of the terminal end.

GENERAL NOTES

See detail on Standard 729001 for mounting markers to posts.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2017

ENGINEER OF OPERATIONS

APPROVED January 1, 2017

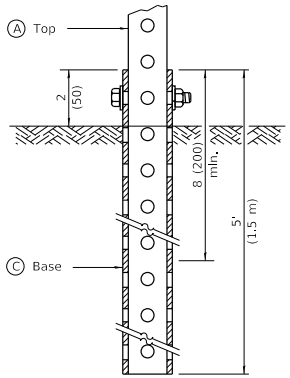
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-2016

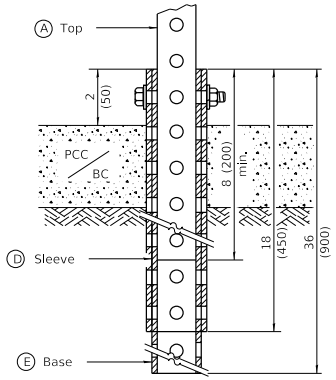
DATE	REVISIONS
1-1-17	Omitted minimum reflective
	area requirement for
	terminal marker.
4-1-16	Renumbered standard from
	635006.

OBJECT AND TERMINAL MARKERS

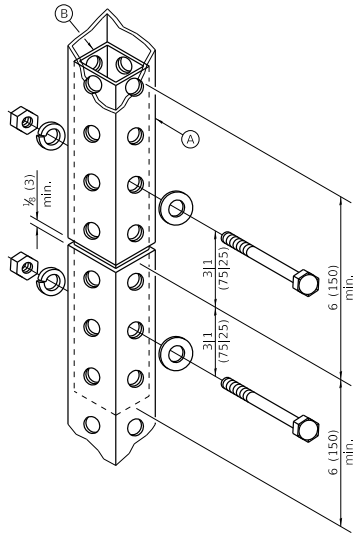
STANDARD 725001-01



GROUND MOUNT DETAIL



PAVEMENT MOUNT DETAIL



SPLICE DETAIL

A	2 x 2 x var. (51 x 51 var.)
B	1¾ x 1¾ x 12 (44 x 44 x 300)
C	2¼ x 2¼ x 60 (57 x 57 x 1500)
D	2½ x 2½ x 18 (64 x 64 x 450)
E	2¼ x 2¼ x 36) (57 x 57 x 900)

GENERAL NOTES

All bolts ⅜ (M10) hex head zinc or cadmium plated.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2009
ENGINEER OF OPERATIONS

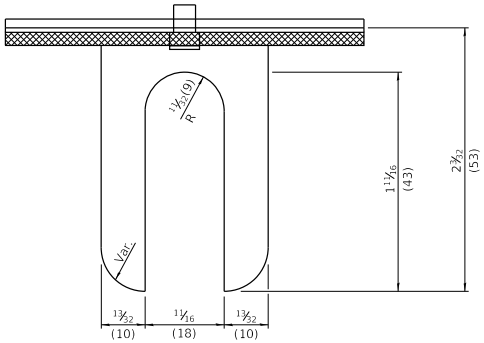
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

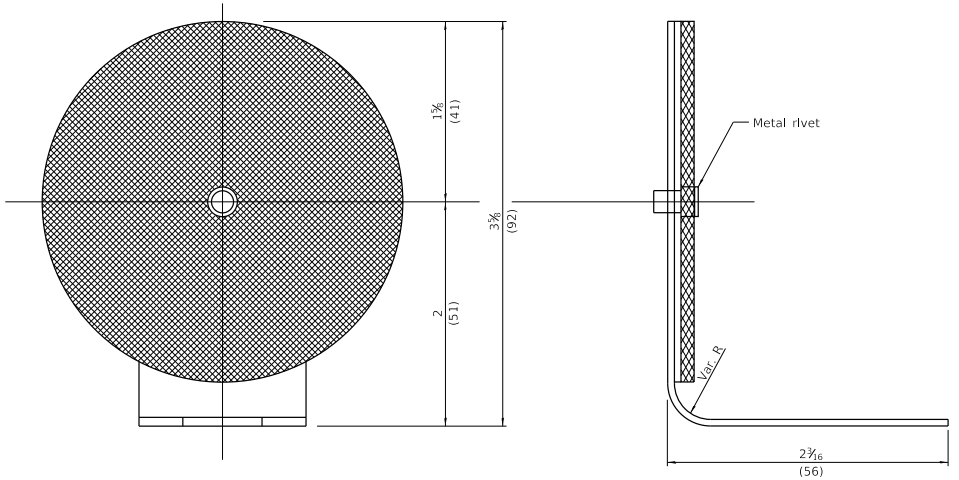
ISSUED 1-1-07

DATE	REVISIONS
1-1-09	Switched units to
	English (metric).
1-1-07	New Standard. Used to
	be part of Standard
	720006.

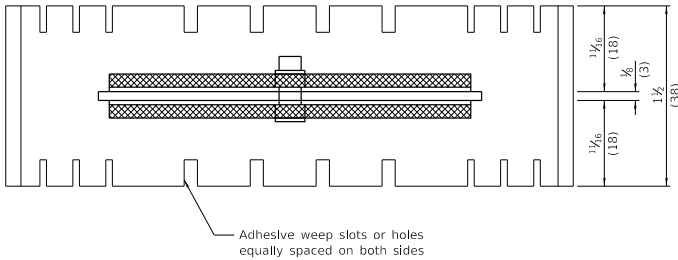
TELESCOPING STEEL SIGN SUPPORT

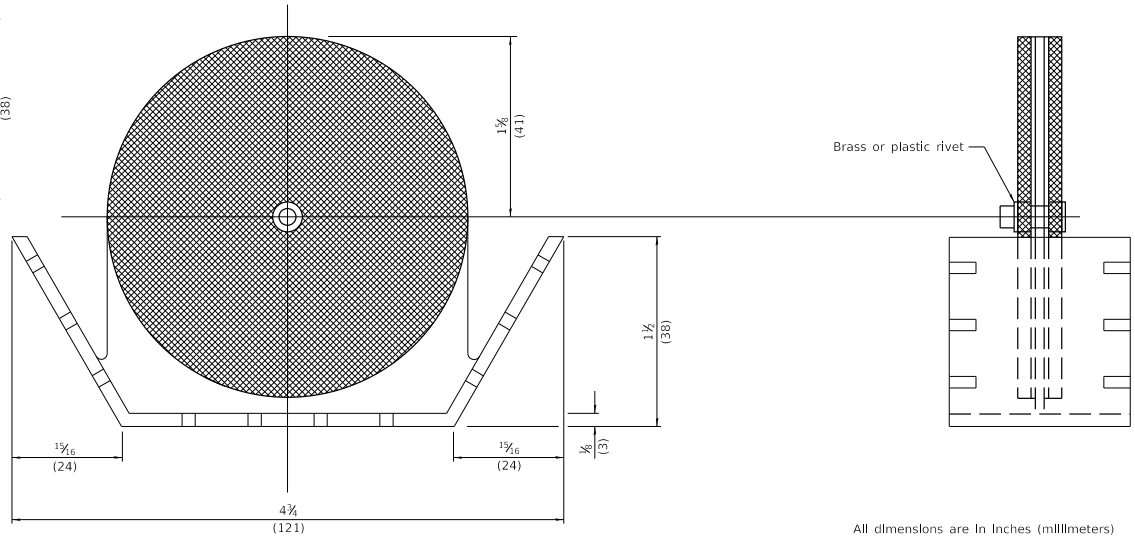
STANDARD 728001-01





REFLECTOR TYPE A
(monodirectional shown)





REFLECTOR TYPE B
(bidirectional shown)

All dimensions are in inches (millimeters)
unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2020
ENGINEER OF OPERATIONS

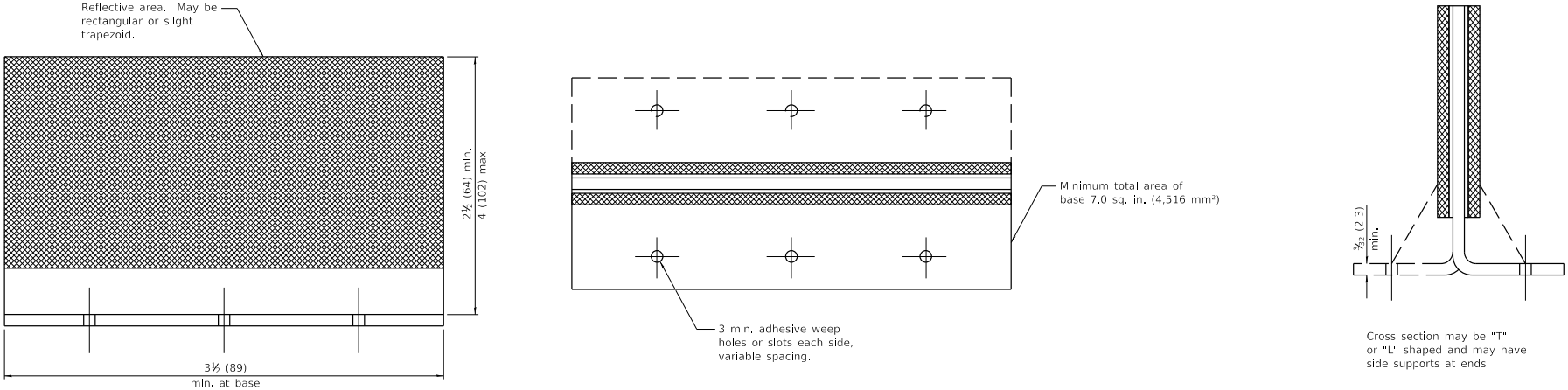
APPROVED January 1, 2020
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-2020

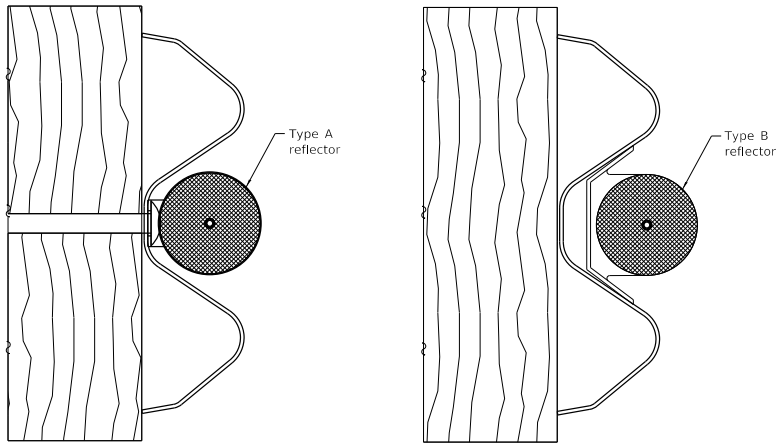
DATE	REVISIONS
1-1-20	Revised from F-shape to constant slope parapet, revised note 3 on sht. 3, and fixed typo.
4-1-16	Added reflector spacing detail. Moved TERMINAL MARKER to std. 725001.

GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

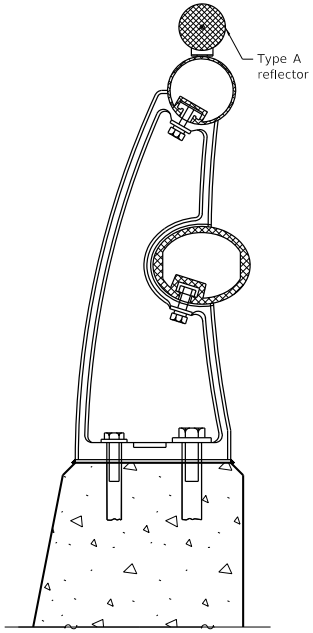
STANDARD 782006-01



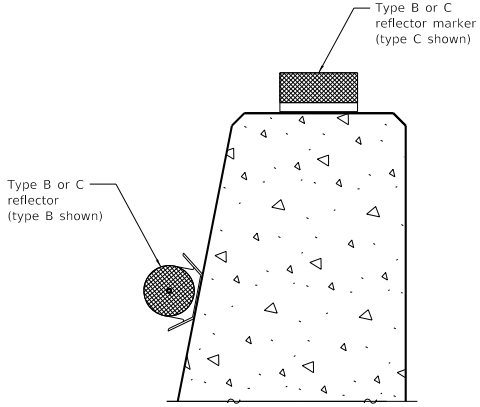
REFLECTOR TYPE C



TYPICAL MOUNTING DETAIL FOR GUARDRAIL REFLECTOR



TYPICAL MOUNTING DETAIL FOR BRIDGE RAIL REFLECTOR



TYPICAL MOUNTING DETAIL FOR BARRIER WALL REFLECTOR

Illinois Department of Transportation

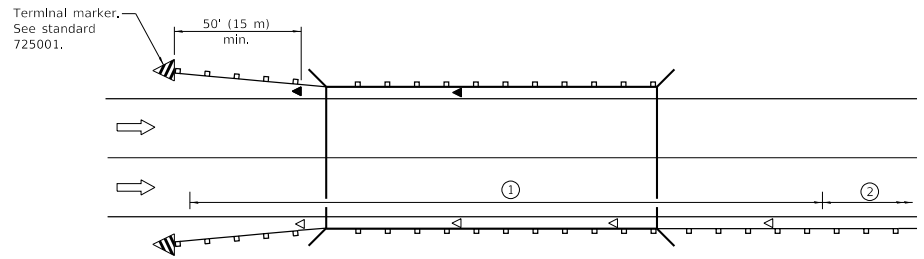
PASSED January 1, 2020
ENGINEER OF OPERATIONS

APPROVED January 1, 2020
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-2020

GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

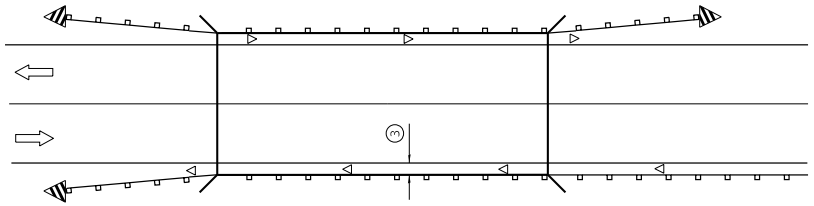
STANDARD 782006-01



1 Spacing 80 ft. (24 m) max. for first 400 ft. (122 m) or curve spacing shown in Standard 635001, whichever is less (min. 4 reflectors regardless of length).

2 After 400 ft. (122 m), transition to normal delineator spacing shown in Standard 635001, and continue as required.

ONE-WAY TRAFFIC



3 Where the shoulder width is reduced to less than 24 (610), use bidirectional crystal/crystal in lieu of monodirectional crystal.

Monodirectional crystal

Monodirectional amber

TWO-WAY TRAFFIC

GUARDRAIL / BARRIER WALL REFLECTOR PLACEMENT DETAIL

Illinois Department of Transportation

PASSED January 1, 2020
ENGINEER OF OPERATIONS

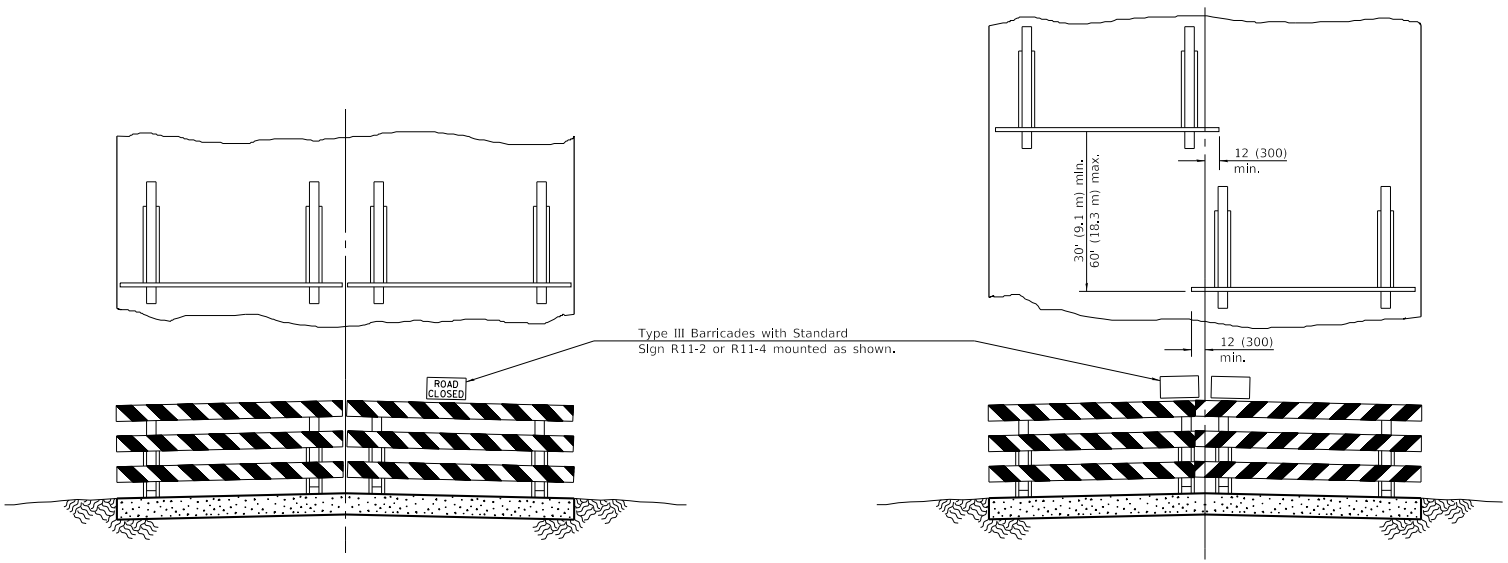
APPROVED January 1, 2020
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-2-2020

GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

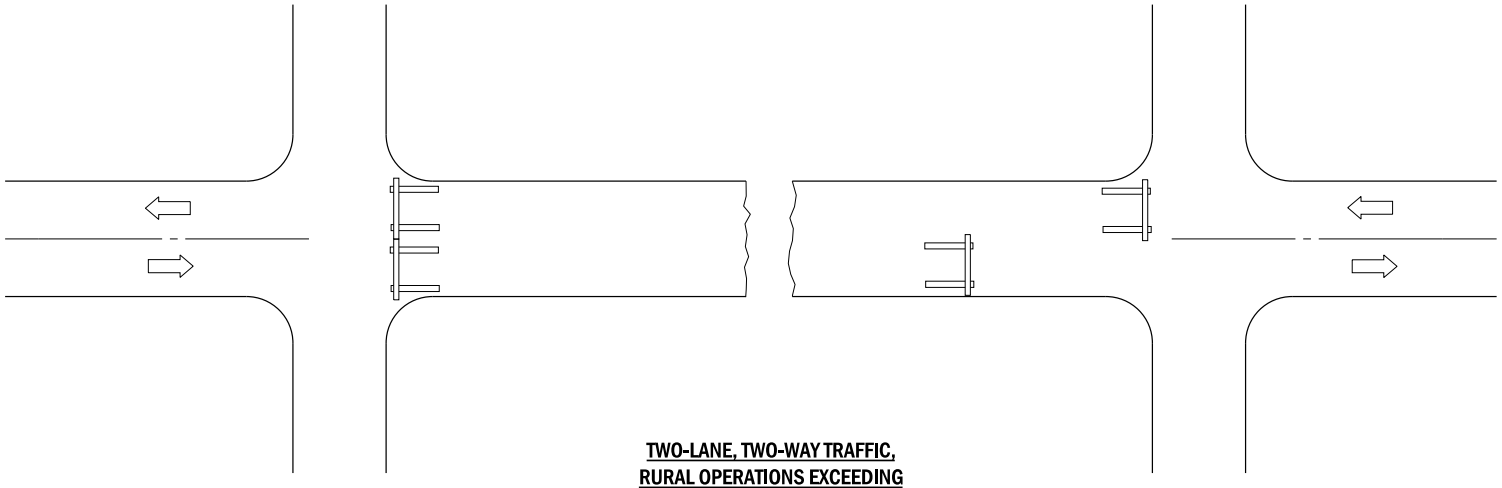
(Sheet 3 of 3)

STANDARD 782006-01



Resident traffic and day labor force's equipment to use road shoulder for passing barricade.

Use when shoulders are too narrow for passage of traffic.



TWO-LANE, TWO-WAY TRAFFIC, RURAL OPERATIONS EXCEEDING ONE DAYLIGHT PERIOD

GENERAL NOTES

Type III barricades to be width of pavement only.

Reflectorized striping shall appear on both sides of barricades. Barricades shall be positioned so that stripes slope downward toward the side on which traffic is to pass.

Although not shown, advance warning signs with minimum dimensions of 36x36 (900x900) and black legends on orange reflectorized backgrounds shall be utilized where needed.

This case is for use on rural local roads where the local authority considers this protection to be appropriate for the specific job conditions.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2009
ENGINEER OF LOCAL ROADS AND STREETS

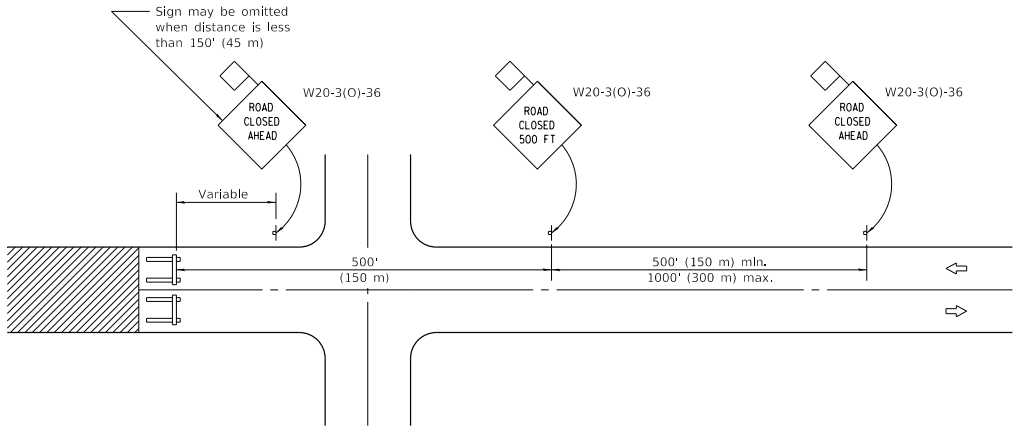
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-07

DATE	REVISIONS
1-1-09	Switched units to
	English (metric).
1-1-98	Rev. "R11-1" to "R11-4".
	Rev. 4th General Note.

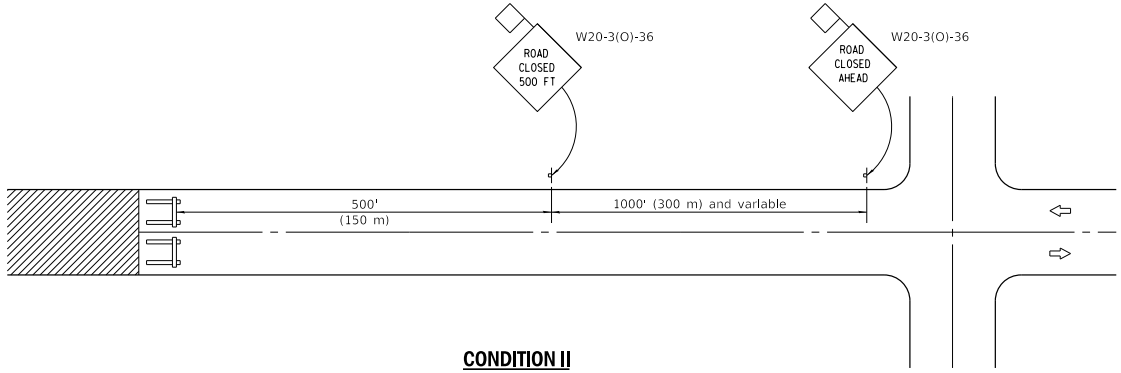
TRAFFIC CONTROL DEVICES - DAY LABOR CONSTRUCTION

STANDARD B.L.R. 17-4



CONDITION I

When distance from closure to crossroad
Is less than 1500' (450 m)



CONDITION II

When distance from closure to crossroad
is greater than 1500' (450 m)

SYMBOLS

Work area

Type III Barricade

Sign with 18x18 (450x450) min.
orange flag attached

GENERAL NOTES

Type III Barricades and R11-2-4830 signs shall be positioned as shown in "Road Closed To All Traffic" detail on Highway Standard 701901.

Two Type A Low Intensity Flashing Lights shall be used on each approach In advance of the work area during hours of darkness. One light shall be installed above the barricades and the other above the first advance warning sign.

All warning signs shall have minimum dimensions of 36 x 36 (900 x 900) and have a black legend on an orange reflectorized background.

When fluorescent signs are used, orange flags are not required.

Longitudinal dimensions may be adjusted to fit field conditions.

When the distance between the barricade and the intersection is between 1500' (450 m) and 2000' (600 m), the advance sign shall be placed at the intersection. When the distance between the barricade and the intersection is over 2000' (600 m), an additional sign shall be placed at the intersection. The additional sign shall give the distance to the barricade in miles or fractions of a mile.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2012
ENGINEER OF LOCAL ROADS AND STREETS

APPROVED January 1, 2012
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-07

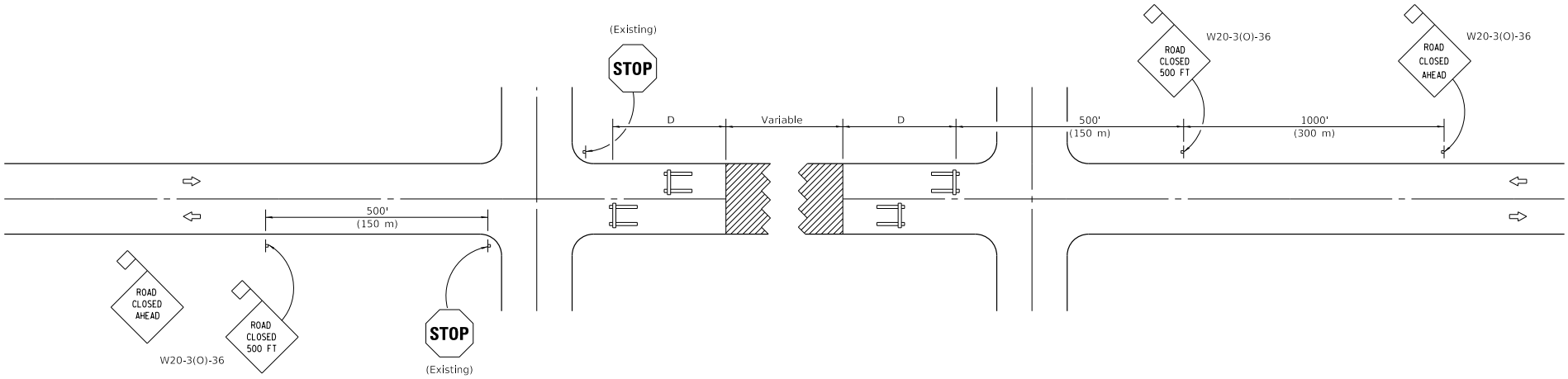
DATE	REVISIONS
1-1-12	Omitted two notes from
	GENERAL NOTES.
1-1-09	Switched units to
	English (metric).

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

STANDARD B.L.R. 21-9

CONDITION I
APPROACH TRAFFIC STOPPED

CONDITION II
APPROACH TRAFFIC DOES NOT STOP



SYMBOLS

Work area

Type III Barricade

Sign with 18x18 (450x450) min. orange flag attached

GENERAL NOTES

Type III Barricades and R11-4-6030 signs shall be positioned as shown in the "Road Closed To All Traffic" detail on Highway Standard 701901. If the distance "D" exceeds 2000' (600 m), an additional set of barricades and R11-4-6030 shall be placed at each end of the work area.

Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work area. One light shall be installed above each barricade. If only one barricade is required, the other light shall be installed above the first advance warning sign.

All warning signs shall have minimum dimensions of 36 x 36 (900 x 900) and have a black legend on an orange reflectorized background.

When fluorescent signs are used, orange flags are not required.

Longitudinal dimensions may be adjusted to fit field conditions.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2012
ENGINEER OF LOCAL ROADS AND STREETS

APPROVED January 1, 2012
ENGINEER OF DESIGN AND ENVIRONMENT

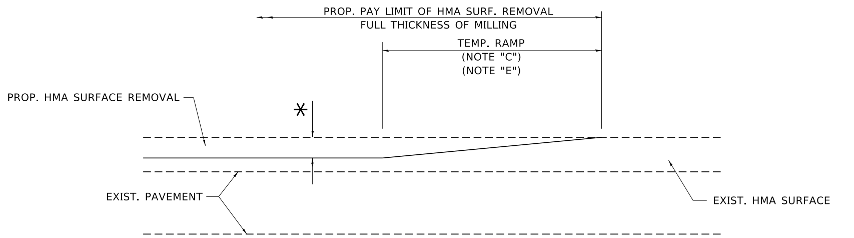
ISSUED 1-1-07

DATE	REVISIONS
1-1-12	Omitted two notes from
	GENERAL NOTES.
1-1-09	Revised General Notes
	and switched units to
	English (metric).

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

(TWO-LANE TWO WAY RURAL TRAFFIC)
(ROAD CLOSED TO THRU TRAFFIC)

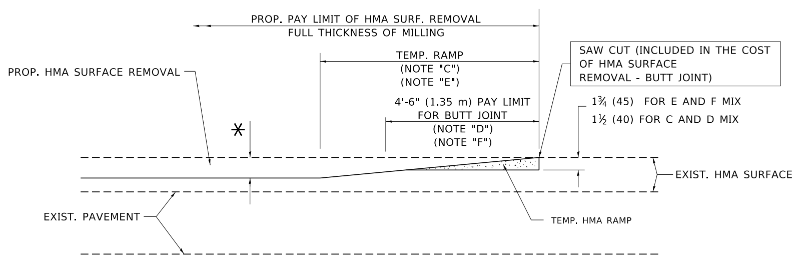
STANDARD B.L.R. 22-7



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

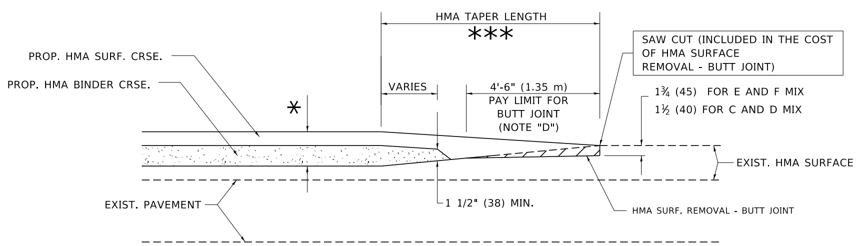


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

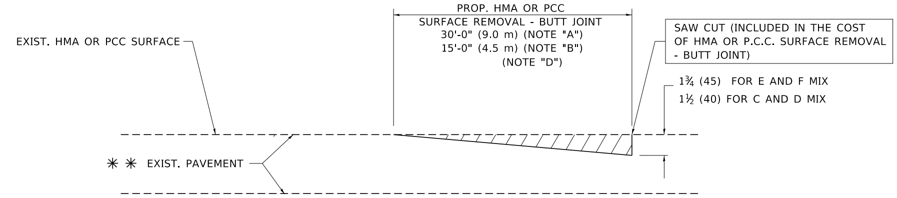
OPTION 2

TYPICAL TEMPORARY RAMP

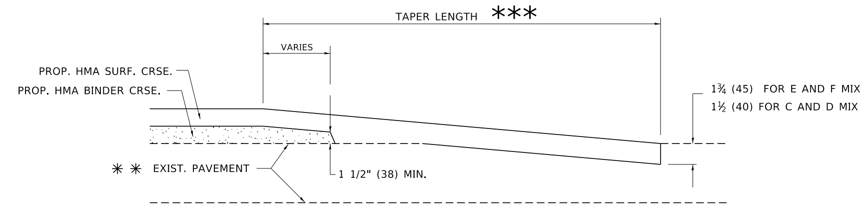


BUTT JOINT AND HMA TAPER

TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

A. MAINLINE ROADWAYS AND MAJOR SIDE ROADS.

B. MINOR SIDE ROADS.

C. THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.

D. THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.

E. TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.

F. INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT.

* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

G. SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".

*** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER)
FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR
FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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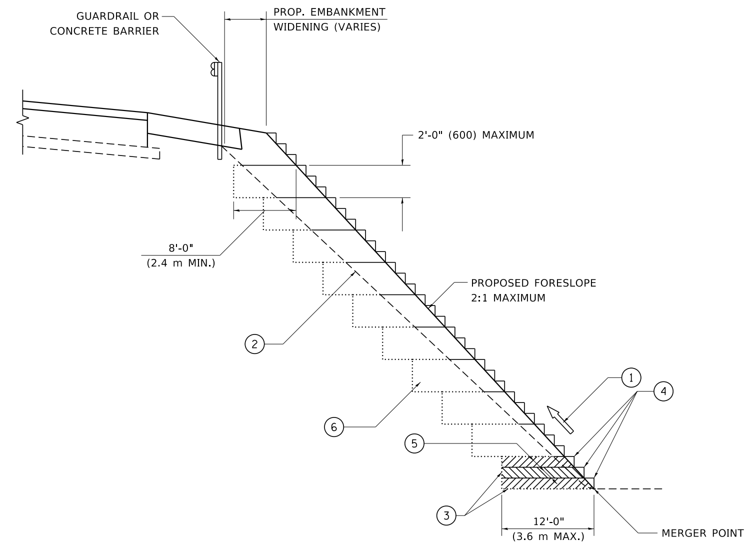
USER NAME = footemj	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BUTT JOINT AND HMA TAPER DETAILS	F.A. RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
	DRAWN -	REVISED - A. ABBAS 03-21-97			BD400-05 BD32
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - M. GOMEZ 04-06-01			CONTRACT NO.
PLOT DATE = 3/27/2019	DATE - 06-13-90	REVISED - R.BORO 01-01-07		SCALE: NONE / SHEET 1 OF 1 SHEETS / STA. TO STA.	ILLINOIS FED. AID PROJECT



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
6. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

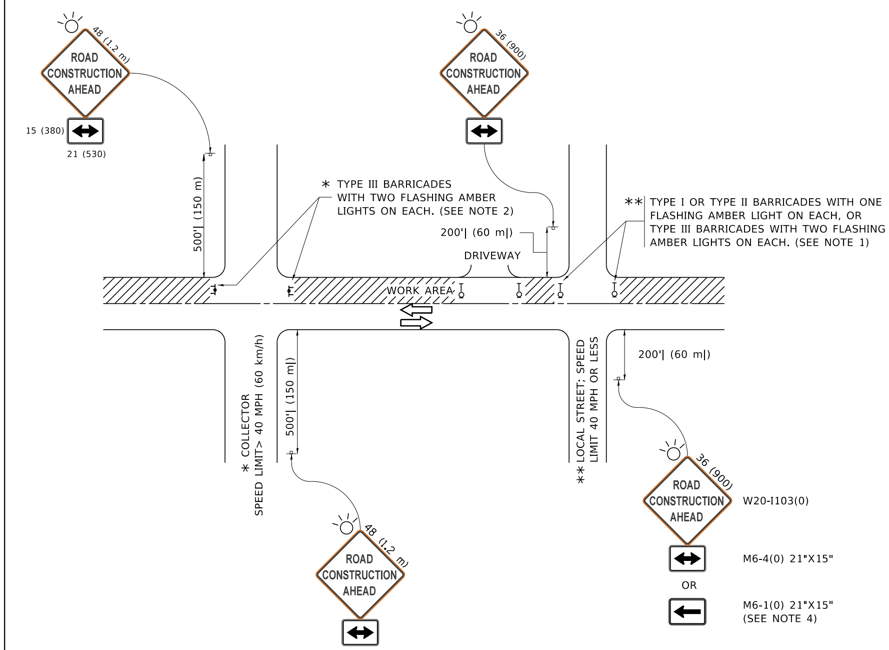
USER NAME = footemj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - CADD	REVISED -	
PLOT SCALE = 50.0000 ' / in.	CHECKED - S.E.B.	REVISED -	
PLOT DATE = 3/27/2019	DATE - 06-16-04	REVISED -	

BENCHING DETAIL FOR EMBANKMENT WIDENING

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BD-51		CONTRACT NO.		

ILLINOIS | FED. AID PROJECT



NOTES:

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.

4. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.

6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.

7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.

USER NAME = footemj	DESIGNED - L.H.A.	REVISED - A. HOUSEH 10-15-96	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED - T. RAMMACHER 01-06-00	
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - A. SCHUETZE 07-01-13	
PLOT DATE = 3/4/2019	DATE - 06-89	REVISED - A. SCHUETZE 09-15-16	

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-10	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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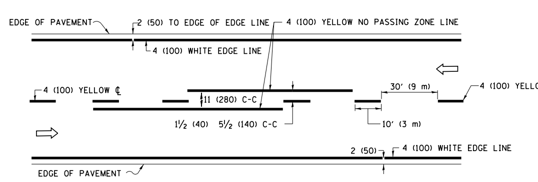
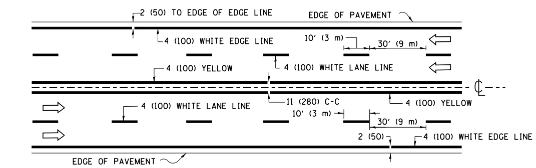
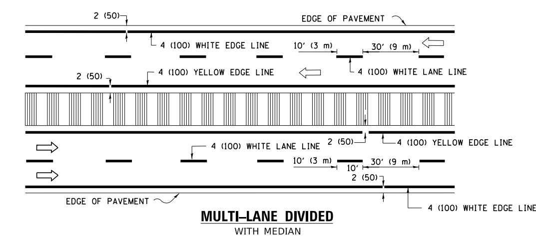


2-LANE ROADWAY

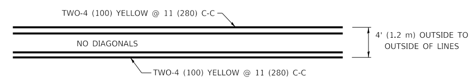


MULTI-LANE UNDIVIDED

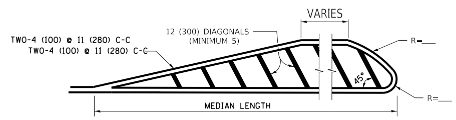


MULTI-LANE DIVIDED
WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING



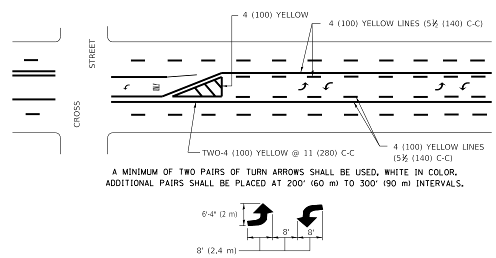
4' (1.2 m) WIDE MEDIANS ONLY



FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

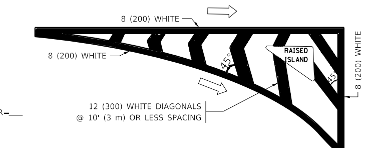
MEDIANS OVER 4' (1.2 m) WIDE



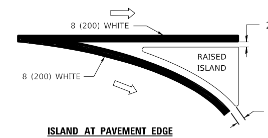
A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.

MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

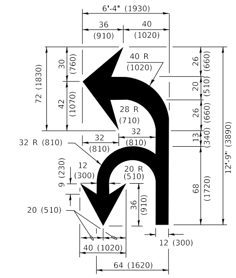


ISLAND OFFSET FROM PAVEMENT EDGE

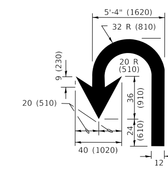


ISLAND AT PAVEMENT EDGE

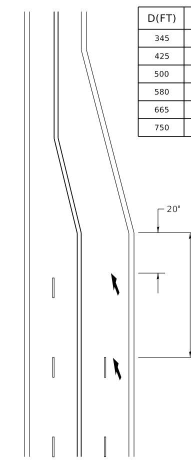
TYPICAL ISLAND MARKING



COMBINATION LEFT AND U-TURN



U-TURN



D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

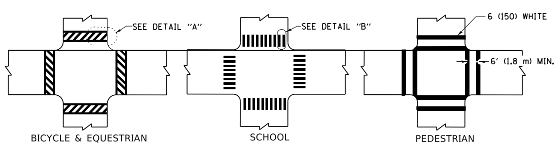
LANE REDUCTION TRANSITION

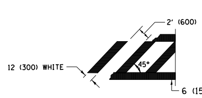
* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

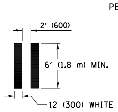
FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.





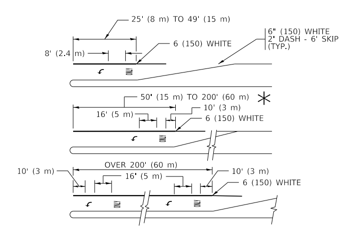
DETAIL "A"



DETAIL "B"

TYPICAL CROSSWALK MARKING

* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES



FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m^2) ONLY AREA = 20.8 SQ. FT. (1.9 m^2)

* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING

USER NAME = footemj	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED - C. JUCIUS 07-01-13	
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - C. JUCIUS 12-21-15	
PLOT DATE = 3/4/2019	DATE - 03-19-90	REVISED - C. JUCIUS 04-12-16	

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-13	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: Default
FILE NAME: pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 1\Projects\Dist\Std\22x34\CADData\CADSheets\tc13.dgn

Telescoping Sign Post

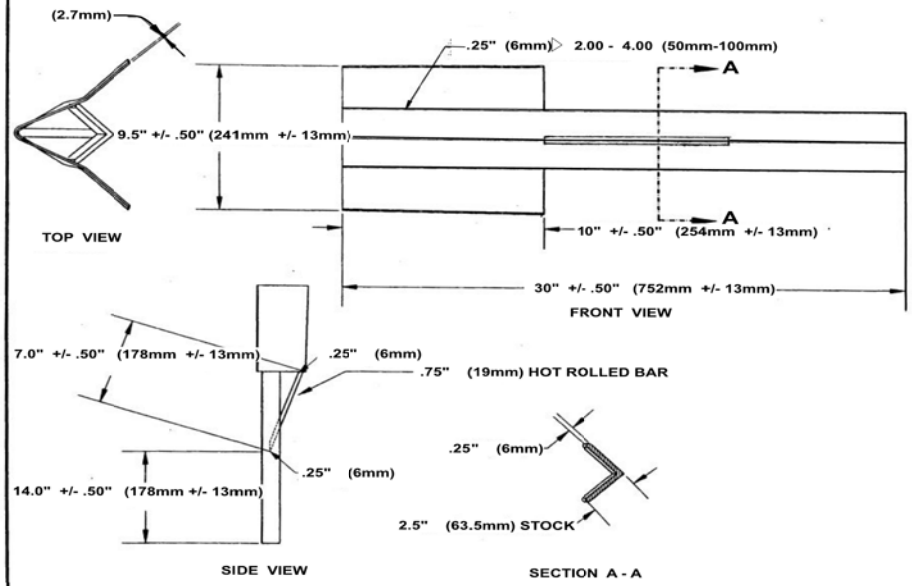
The post shall be a square tube formed of 12 gauge steel according to the standard specification for cold rolled carbon steel sheets commercial quality ASTM A 1008 (A 1008M). The post shall be formed to size and, if necessary, shall be welded in such a manner that weld or flash shall not interfere with telescoping. Holes 7/16 ± 1/64 in. (11 ± 0.4 mm) will be spaced on 1 in. (25 mm) centers on at least two opposite sides. The holes shall align to accept a 3/8 in. (10 mm) bolt through the post at any location. The post shall have a smooth galvanized finish applied either before or after forming. For all other regulations refer to Section 1093 of the latest version of Illinois Standard Specifications for Bridge and Road Construction.

Sign Bases

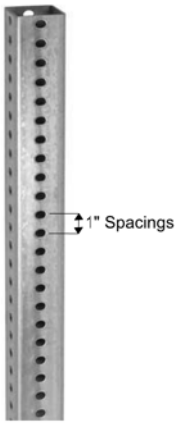
30" bases for breakaway telescoping sign supports shall be model V-Loc, #200-VS3, for use in soft soil and shall be manufactured by TAPCO (Traffic & Parking Control Co., Inc.)

Sign Base Wedge

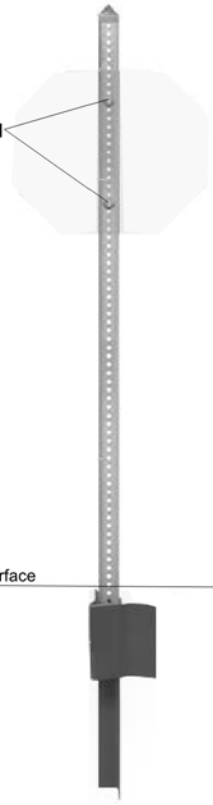
Galvanized Steel Wedge SWI for V-Loc® post bases



12 Gauge Telescoping Galvanized Square Post, 2"W x 2"D x min. 10'

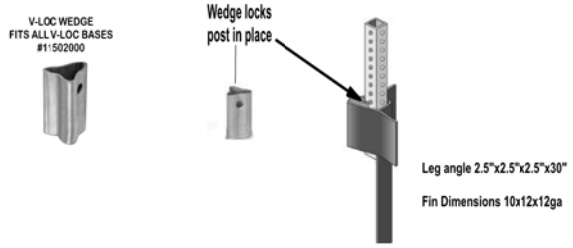


Stainless steel bolts and washers used for fastening extruded aluminum sign panels to supports, shall be according to ASTM A 276, Type 304. Stainless steel nuts shall be according to ASTM A 240 (A 240M), Type 304.



Base installed 2" Below Surface

Tapco #200-VS3 Traffic Post Breakaway Soil Anchor, for use with 2"x 2" Square Telescoping Post



Kane County Division of Transportation	
Specifications Telescoping Sign Post & Soil Bases	

Date	Revisions
07/17	Sign Post Base Hardware

Specifications
Telescoping Sign Post
&
Soil Bases

C.H. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	19-00509-00-BR	KANE	31	1
	ILLINOIS	CONTRACT NO.		

KANE COUNTY
DIVISION OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

NON-MFT
HARTER ROAD (COUNTY HIGHWAY 4) OVER TRIBUTARY #2 TO WELCH CREEK CULVERT STRUCTURE REPLACEMENT SECTION 19-00509-00-BR

DESIGN DESIGNATION:
MINOR COLLECTOR

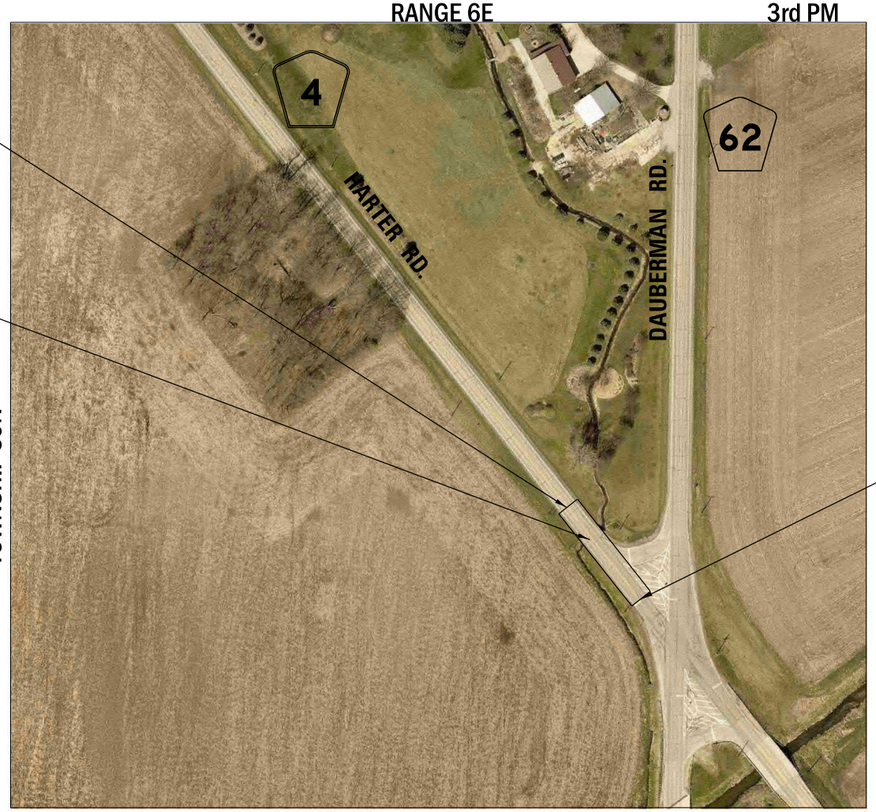
POSTED/DESIGN SPEED:
POSTED: 55 MPH
DESIGN: 60 MPH/35 MPH*

TRAFFIC DATA:
CURRENT ADT: 3,700 (2018)
FUTURE ADT: 6,300 (2050)

*REVIEW PHASE I REPORT FOR USE OF 35 MPH DESIGN SPEED.

PROJECT LOCATED IN KANEVILLE TOWNSHIP, KANE COUNTY

RANGE 6E 3rd PM



N
N.T.S.

LOCATION OF SECTION INDICATED THUS: -

100' 200' 300' — 1" = 100'
0 10' 20' 30' — 1" = 10'
0 50' 100' — 1" = 50'
0 50' 100' — 1" = 40'
0 50' 100' — 1" = 30'
0 50' 100' — 1" = 20'

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1–800–892–0123
OR 811

PROJECT MANAGER:
CHAD DILLAVOU, PE, PTOE, (312)242–6458

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0910 F:312-606-0915

GROSS LENGTH = 292 FT. = 0.055 MILE
NET LENGTH = 47 FT. = 0.009 MILE

PROJECT LOCATED IN:
THE EAST HALF OF SECTION 22 IN TOWNSHIP 39N,
RANGE 6E, OF THE THIRD PRINCIPAL MERIDIAN, KANE COUNTY, ILLINOIS

KANE COUNTY
DIVISION OF TRANSPORTATION

APPROVED February 1 2021

CARL SCHOEDEL, PE, COUNTY ENGINEER, KANE COUNTY

CHAD DILLAVOU 062-064582 LICENSED PROFESSIONAL ENGINEER STATE OF ILLINOIS

CHAD DILLAVOU, P.E. AUGUST 28, 2020
DATE

EXPIRES 11–30–2021

ZAIDA MORILLO 081-008252 REGISTERED STRUCTURAL ENGINEER STATE OF ILLINOIS

ZAIDA MORILLO, P.E., S.E. AUGUST 28, 2020
DATE
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS 081–008252
EXPIRES 11/30/2020

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE APPLICABLE REQUIREMENT SET FORTH IN "THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED APRIL 1, 2016 THEREINAFTER REFEREED TO AS STANDARD SPECIFICATIONS, THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM MANUAL TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" IN EFFECT ON THE DATE OF INVITATION FOR BIDS; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" LATEST EDITION; INTERIM SPECIAL PROVISIONS AS INCLUDED IN THE CONTRACT DOCUMENTS; AND THE DETAILS AND THE STANDARDS CONTAINED IN THESE PLANS.

2. BEFORE STARTING ANY EXCAVATIONS, THE CONTRACTOR SHALL CALL "JULIE" AT 1-800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES (48 HOUR NOTIFICATION IS REQUIRED)

3. THE LOCATIONS OF THE EXISTING UTILITIES, SHOWN ON THE DRAWINGS, REPRESENT DATA RECEIVED FROM VARIOUS SOURCES, IT IS NOT GUARANTEED TO BE CORRECT OR ALL INCLUSIVE. THE CONTRACTOR SHALL CONDUCT HIS OWN INVESTIGATIONS INTO THE LOCATION, SIZE, DEPTH, AND NATURE OF ANY AND ALL EXISTING UTILITIES WHICH MAY INTERFERE WITH THE WORK UNDER THIS CONTRACT. ANY EXISTING UTILITIES WHICH ARE TO REMAIN IN SERVICE SHALL BE FULLY PROTECTED BY THE CONTRACTOR AND ANY DAMAGE CAUSED BY THE CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED AT NO ADDITIONAL COST IN ACCORDANCE WITH ARTICLE 105.07.

4. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES

5. ALL WORK SHALL BE COMPLETED WITHIN THE LIMITS OF THE PROJECT SHOWN. NO EQUIPMENT, MATERIAL YARD OR FIELD OFFICE SHALL BE SET UP OR STORED ON TOWNSHIP OR PRIVATE PROPERTY WITHOUT WRITTEN PERMISSION OF THE ENGINEER

6. MAINTENANCE OF TRAFFIC - GENERAL: TRAFFIC CONDITIONS, ACCIDENTS AND OTHER UNFORESEEN EMERGENCY CONDITIONS MAY REQUIRE THE ENGINEER TO RESTRICT, MODIFY OR REMOVE LANE CLOSURES OR CHANNELIZATION SHOWN IN THE PLANS. THE CONTRACTOR SHALL RESPOND WITHIN 30 MINUTES OF THE TIME OF NOTIFICATION BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC CONTROL DEVICES

7. TRAFFIC CONTROL DEVICES: ALL TRAFFIC CONTROL DEVICES USED FOR THE MAINTENANCE OF TRAFFIC AS DETAILED ON THE PLANS SHALL BE REFLECTORIZED PRIOR TO INSTALLATION AND CLEANED AS NECESSARY THROUGHOUT THE DURATION OF THE CONTRACT OR AS DIRECTED BY THE ENGINEER. CLEANING AND MAINTENANCE OF THE TRAFFIC CONTROL DEVICES, INCLUDING SIGNS, WILL NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE INCLUDED IN THE APPLICABLE TRAFFIC CONTROL PAY ITEM.

DRAINAGE NOTES

1. DURING CONSTRUCTION OPERATIONS ALL LOOSE MATERIAL DEPOSITED IN THE FLOW LINE OF DRAINAGE STRUCTURES AND TEMPORARY DITCHES THAT OBSTRUCT THE NATURAL FLOW OF WATER SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF THE CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES SHALL BE CLEANED AS NECESSARY TO INSURE THAT THEY ARE FREE FROM ALL DIRT AND DEBRIS PRIOR TO THE FINAL INSPECTION OF THE PROJECT. THIS WORK WILL NOT BE MEASURED SEPARATELY FOR PAYMENT, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF EARTH EXCAVATION

2. ANY FARM DRAIN, FIELD TILE SYSTEM OR OTHER UNDERGROUND TILE FACILITY ENCOUNTERED IN THE WORK SHALL BE LOCATED AND STAKED AND REPORTED TO THE ENGINEER. ANY DRAINAGE LINES WHICH ARE CUT OR DAMAGED BY GRADING, TRENCHING, EXCAVATION OR OTHER CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AND CONNECTED TO ITS ORIGINAL ALIGNMENT. THIS WORK WILL NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF EARTH EXCAVATION.

EARTHWORK AND ROADWAY

1. EARTHWORK SHALL BE PAID FOR ONLY ONCE. REGARDLESS OF STAGING. STOCK PILING MATERIALS FOR LATER USE AND REDISTRIBUTION SHALL BE DONE AT THE CONTRACTOR'S EXPENSE. STOCK PILING NECESSARY FOR RESPREADING IN SHOULDERS, CONSTRUCTION EMBANKMENTS, CUT OR BORROW AREAS SHALL BE CONSIDERED INCLUDED IN THE UNIT PRICE OF EARTH EXCAVATION

2. THE CONTRACTOR WILL NOT BE ALLOWED TO STOCK PILE MATERIAL(S) BEYOND THE PROJECT LIMITS. THE CONTRACTOR WILL NOT PLACE STOCK PILES IN THE LOCATIONS WHERE THEY WILL BLOCK DRAINAGE WAYS OR ON PAVEMENTS THAT ARE NOT SPECIFIED FOR REMOVAL. ANY DAMAGE REQUIRING REPAIR CAUSED BY THE CONTRACTORS STOCK PILING OR CONSTRUCTION OPERATIONS WILL BE DONE AT NO ADDITIONAL COST TO THE CONTRACT. STOCK PILE AREAS SHALL BE COORDINATED WITH THE ENGINEER.

3. GEOTECHNICAL FABRIC FOR GROUND STABILIZATION:
   ITEM NO. 21001000 GEOTECHNICAL FABRIC FOR GROUND STABILIZATION WILL ONLY BE UTILIZED IN AREAS THAT HAVE BEEN IDENTIFIED AS SUBGRADE UNDERCUT AREAS OR WHERE DETERMINED IN THE FIELD BY A GEOTECHNICAL ENGINEER. THE FABRIC WILL USED IN COMBINATION WITH AGGREGATE SUBGRADE IMPROVEMENT. THE QUANTITY INCLUDED IN THE PLANS IS BASED ON THE SUBSURFACE INVESTIGATION PREPARED BY RUBINO ENGINEERS' RECOMMENDATIONS FOR UNDERCUT AREAS.

4. ALL EXCAVATION AND EMBANKMENT LOCATIONS REQUIRING SEEDING OR SODDING SHALL BE CONSTRUCTED 4 INCHES BELOW FINISHED GRADE LINE TO ALLOW TOPSOIL PLACEMENT

5. PAVEMENT ELEVATIONS: THE ELEVATIONS SHOWN ON THE PLANS ARE FINISHED GRADES FOR THE PROPOSED PAVEMENT OR SURFACE COURSE, UNLESS OTHERWISE INDICATED

REMOVAL NOTES

1. SAWCUTS:
   A SAW CUT SHALL BE MADE AT THE LIMITS OF CONSTRUCTION OR AREAS AS REQUIRED TO PERFORM THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THE SAW CUT SHALL BE ACCOMPLISHED WITH A "PAVEMENT SAW". VERMEER TYPE TRENCHERS WILL NOT BE ALLOWED FOR FINAL SAW CUT AT THE LIMITS OF CONSTRUCTIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SAW CUTTING SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE UNIT CONTRACT PRICE OF THE RELATED REMOVAL ITEM.

KANE–DUPAGE SOIL & WATER CONSERVATION DISTRICT

1. THE CONTRACTOR AND ENGINEER SHALL MEET WITH THE KANE-DUPAGE SOIL & WATER CONSERVATION DISTRICT TO COORDINATE ALL IN-STREAM WORK ACTIVITIES.

2. THE CONTRACTOR'S IN-STREAM WORK PLAN SHALL BE SUBMITTED TO THE SOIL & WATER CONSERVATION DISTRICT AND KANE COUNTY FOR REVIEW AND APPROVAL PRIOR TO STARTING ANY WORK. THERE WILL BE NO ADDITIONAL COMPENSATION FOR PROVIDING THE COORDINATION AND WORK PLAN.

3. SEE EROSION CONTROL PLAN SHEETS FOR ADDITIONAL DETAILS, CONDITIONS, AND NOTES.

TREES AND SHRUBS

1. THE CONTRACTOR SHALL REMOVE ONLY THOSE TREES AND SHRUBS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, OR THOSE, WHICH DIRECTLY INTERFERE WITH THE SAFETY OR QUALITY CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN WORKING NEAR EXISTING TREES AND SHRUBS TO AVOID DAMAGING THOSE NOT SCHEDULED FOR REMOVAL AND SHALL REPLACE IN-KIND ANY DAMAGED PLANTS AT HIS OWN EXPENSE.

HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
482011-03	HMA SHOULDER STRIPS/SHOULDERS WITH RESURFACING OR WIDENING PROJECTS
630001-12	STEEL PLATE BEAM GUARDRAIL
630106-02	LONG-SPAN GUARDRAIL OVER CULVERT
630201-07	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-10	TRAFFIC BARRIER TERMINAL, TYPE 2
701901-08	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
720006-04	SIGN PANEL ERECTION DETAILS
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PAVEMENT MARKINGS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

LOCAL ROADS STANDARDS

STANDARD NO.	DESCRIPTION
BLR 17-4	TRAFFIC CONTROL DEVICES- DAY LABOR CONSTRUCTION
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 22-7	TYP. APPL. OF T.C.D. FOR RURAL LOCAL HWYS. (2-LANE 2 WAY RURAL TRAFF.) (RD. CLOSED TO THRU TRAFF.)

DISTRICT STANDARDS

STANDARD NO.	DESCRIPTION
BD-32	BUTT JOINTS AND HMA TAPER
BD-51	BENCHING DETAIL FOR EMBANKMENT WIDENING
TC-10	TRAFFIC CONTROL AND PROTECTION FOR SIDEROADS, INTERSECTIONS, AND DRIVEWAYS
TC-13	DISTRICT ONE TYPICAL PAVEMENT MARKINGS

INDEX OF SHEET

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0910 F:312-606-0415

USER NAME = cdillavou	DESIGNED - EG	REVISED -
	DRAWN - EG	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED - CMD/MMJ	REVISED -
PLOT DATE = 8/31/2020	DATE - 06/19/20	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS & STANDARDS
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	2
		CONTRACT NO.		
	ILLINOIS			

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	10
20200100	EARTH EXCAVATION	CU YD	380
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	12
20700220	POROUS GRANULAR EMBANKMENT	CU YD	75
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	150
21101505	TOPSOIL EXCAVATION AND PLACEMENT	CU YD	86
25000210	SEEDING, CLASS 2A	ACRE	0.25
25000312	SEEDING, CLASS 4A	ACRE	0.25
25000314	SEEDING, CLASS 4B	ACRE	0.25
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	23
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	23
25100630	EROSION CONTROL BLANKET	SQ YD	634
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	14
28000305	TEMPORARY DITCH CHECKS	FOOT	90
28000315	AGGREGATE DITCH CHECKS	TON	15

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
28000400	PERIMETER EROSION BARRIER	FOOT	440
28100109	STONE RIPRAP, CLASS A5	SQ YD	65
28200200	FILTER FABRIC	SQ YD	65
30300001	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	39
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	219
31101400	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	390
35501314	HOT-MIX ASPHALT BASE COURSE, 7 1/2"	SQ YD	136
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	20
40604060	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	16
44000100	PAVEMENT REMOVAL	SQ YD	121
44004250	PAVED SHOULDER REMOVAL	SQ YD	101
48100700	AGGREGATE SHOULDERS, TYPE A 8"	SQ YD	22
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	372
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	53

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0910 F:312-606-0915

USER NAME = cdillavou	DESIGNED - EG	REVISED -
	DRAWN - EG	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - CMD/MMJ	REVISED -
PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

SUMMARY OF QUANTITIES
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	3
		CONTRACT NO.		
	ILLINOIS			

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	75
52200015	PERMANENT SHEET PILING	SQ FT	2,731
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2
54011204	PRECAST CONCRETE BOX CULVERTS 12' X 4'	FOOT	34
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	48
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	80
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	212.5
63000360	LONG-SPAN GUARDRAIL OVER CULVERT, 18 FT 9 IN SPAN	FOOT	87.5
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1
67100100	MOBILIZATION	L SUM	1
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	56
72400500	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	EACH	2
72400600	RELOCATE SIGN PANEL ASSEMBLY - TYPE B	EACH	1
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	1

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
78009004	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	1,098
78009024	MODIFIED URETHANE PAVEMENT MARKING - LINE 24"	FOOT	12
78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	7
X0301852	DEWATERING STRUCTURE NO. 1	EACH	1
X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	80
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
Z0013798	CONSTRUCTION LAYOUT	L SUM	1
Z0016702	DETOUR SIGNING	L SUM	1
Z0066700	STABILIZED DRIVEWAYS 10"	SQ YD	62
XXXXXXXX	KANE COUNTY TELESCOPING SIGN POST	FOOT	30
XXXXXXXX	KANE COUNTY SIGN SUPPORT, SPECIAL	EACH	3
XXXXXXXX	ITEMS ORDERED BY THE ENGINEER	DOLLAR	50,000

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0910 F:312-606-0915

USER NAME = cdillavou	DESIGNED - EG	REVISED -	
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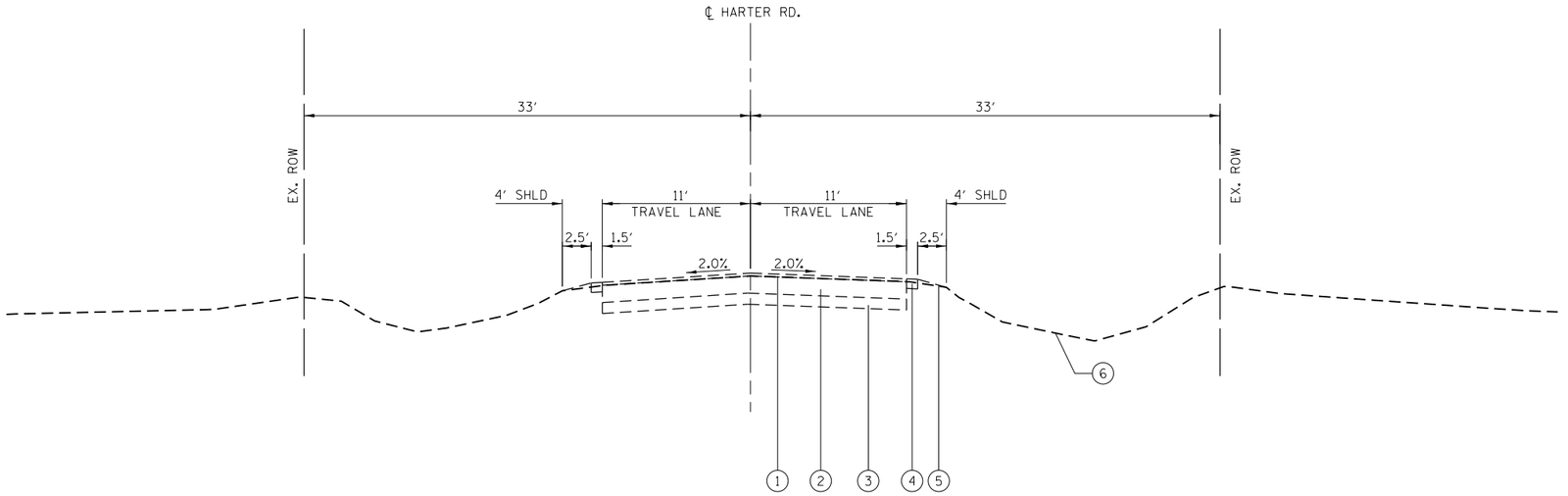
PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

SUMMARY OF QUANTITIES
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	4
		CONTRACT NO.		
	ILLINOIS			

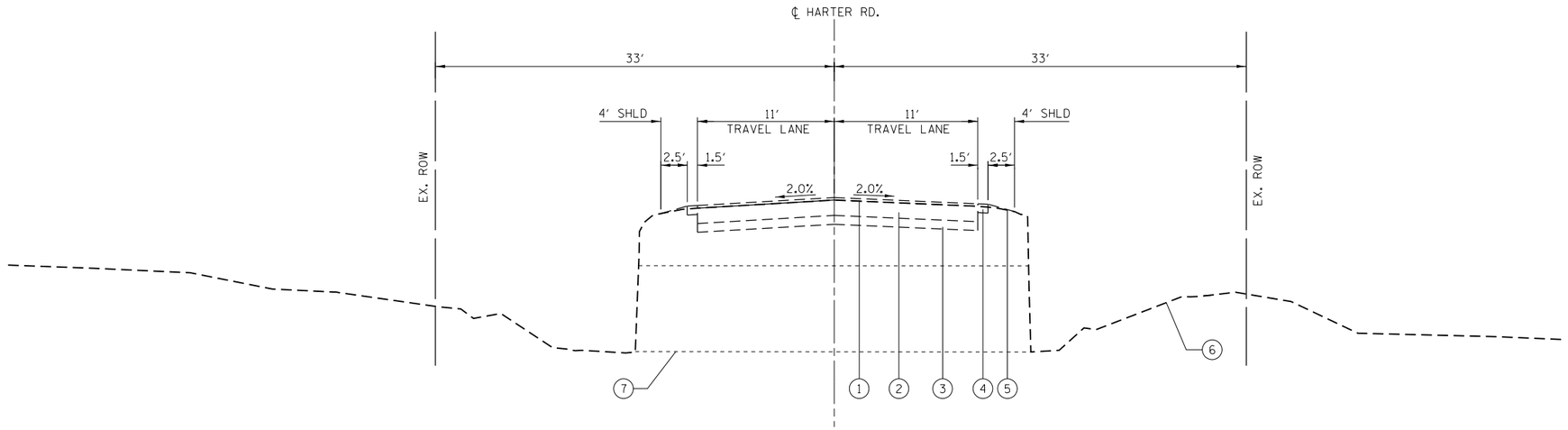


EXISTING TYPICAL SECTION

STA. 100+00 TO STA. 102+97

EXISTING LEGEND

1. EXISTING HMA SURFACE COURSE, 1-¾″
2. EXISTING HMA BINDER COURSE, VARIES 7″-8″
3. EXISTING AGGREGATE SUBBASE, VARIES 3-¾″ TO 5-¾″
4. EXISTING ASPHALT SHOULDER, VARIES 1″ TO 2″
5. EXISTING AGGREGATE SHOULDER
6. EXISTING GROUND
7. EXISTING CONCRETE BOX CULVERT



EXISTING TYPICAL SECTION

STA. 102+97 TO STA. 103+04

Primera
100 S. WACKER DRIVE SUITE 700 . CHICAGO IL 60606 . P:312-606-0900 F:312-606-0415

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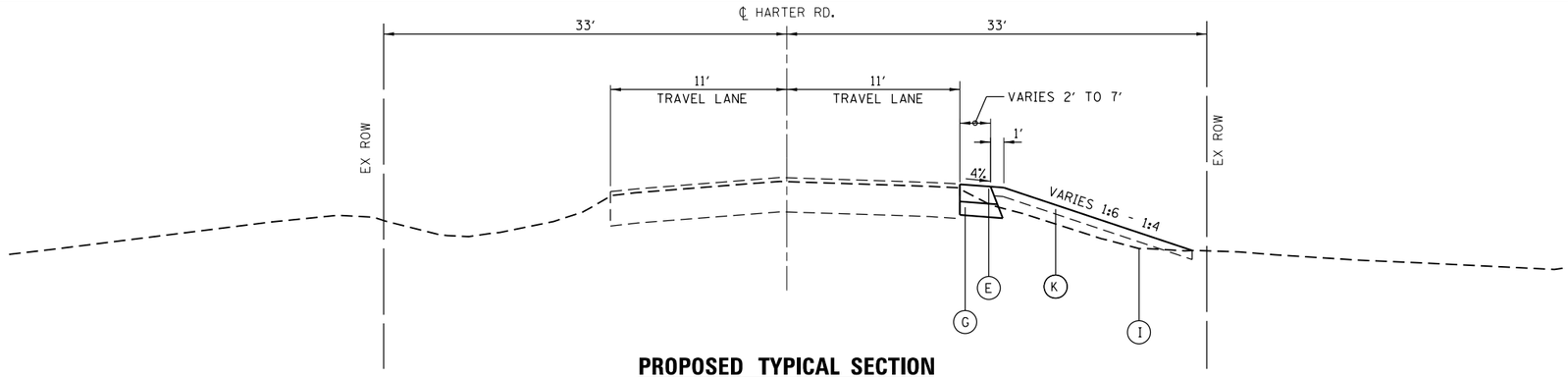
PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

EXISTING TYPICAL SECTIONS
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 1 OF 4 SHEETS | STA. 100+00 TO STA. 103+04

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	5
		CONTRACT NO.		
	ILLINOIS			

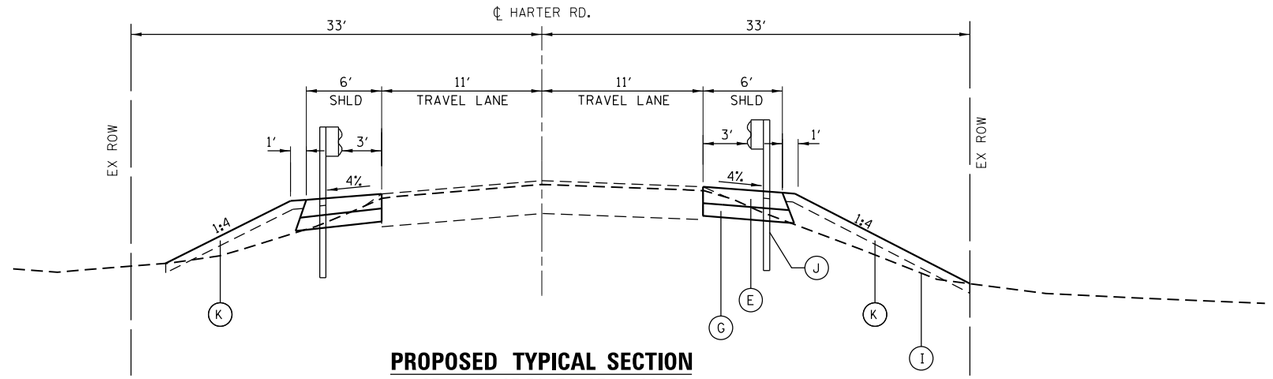


PROPOSED TYPICAL SECTION

STA. 101+18.20 TO 101+67.30

STRUCTURAL PAVEMENT DESIGN

STRUCTURAL DESIGN TRAFFIC: YEAR 2050
PV = 4472 SU = 356 MU = 254
ROAD/STREET CLASSIFICATION: CLASS 2
PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:
P = 88 S = 7 M = 5
TRAFFIC FACTOR: ACTUAL TF = 2.08 AC Type = PG64-22
MINIMUM TF = 2.08
PG GRADE: Binder/Surface = PG 64-22



PROPOSED TYPICAL SECTION

STA. 101+67.30 TO STA. 102+70

PROPOSED LEGEND

- (A) 2″ HMA SURFACE COURSE, IL-9.5, MIX ″D″, N50
- (B) 2.5″ HMA BINDER COURSE, IL-19.0, N50
- (C) 7.5″ HMA BASE COURSE
- (D) 12″ AGGREGATE SUBGRADE IMPROVEMENT
- (E) 8″ HMA SHOULDERS
- (F) 8″ AGGREGATE SHOULDERS, TYPE A
- (G) 6″ SUBBASE GRANULAR MATERIAL, TYPE B
- (H) PROPOSED BOX CULVERT
- (I) EXISTING GROUND
- (J) STEEL PLATE GUARDRAIL, TYPE A
- (K) RESTORATION LANDSCAPING:
  - EROSION CONTROL BLANKET
  - SEEDING CLASS 2A
  - TOPSOIL 4″
- (L) PERMANENT SHEET PILING
- (M) LONG-SPAN GUARDRAIL OVER CULVERT

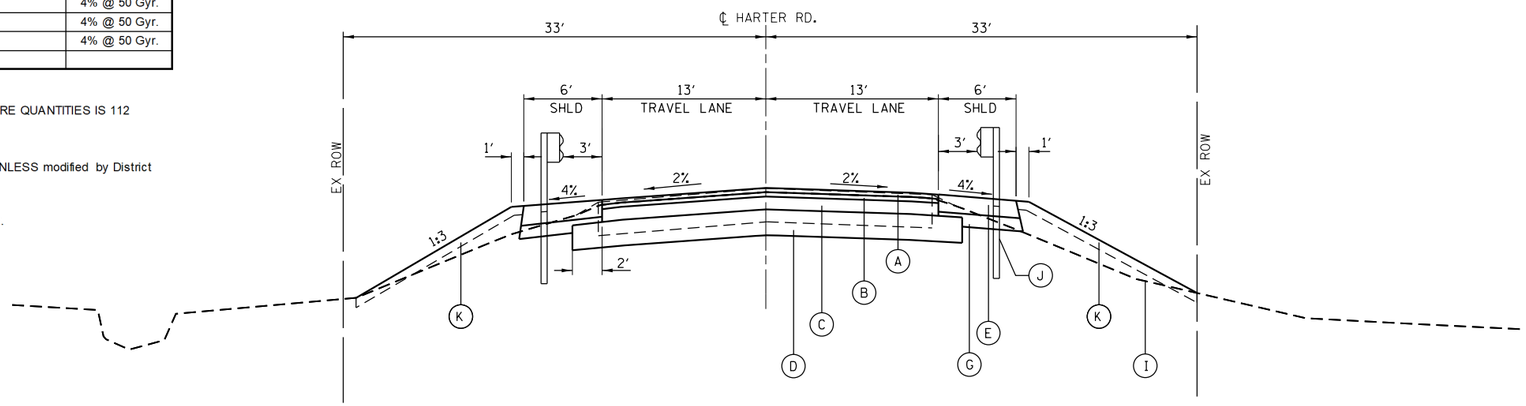
HOT–MIX ASPHALT MIXTURE REQUIREMENTS

MIXTURE TYPE	AIR VOIDS
SHOULDER RECONSTRUCTION	
HOT-MIX ASPHALT SHOULDER, 8"	4% @ 50 Gyr.
HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 12" - HARTER ROAD	
HMA SURFACE COURSE, MIX "D", N50 (IL-9.5mm) 2"	4% @ 50 Gyr.
HMA BINDER COURSE, IL-19.0, N50 2.5"	4% @ 50 Gyr.
HMA BASE COURSE, 7.5"	4% @ 50 Gyr.

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN.

FOR NON-POLYMERIZED HMA THE "AC TYPE" shall be "PG 64 -22" UNLESS modified by District ONE Special Provisions.

FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.



PROPOSED TYPICAL SECTION

STA. 102+70 TO STA. 102+88

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0900 F:312-606-0415

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KANE COUNTY
DIVISION OF TRANSPORTATION

PROPOSED TYPICAL SECTIONS
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 2 OF 4 SHEETS | STA. 101+18.20 TO STA. 102+88

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	6
		CONTRACT NO.		
	ILLINOIS			

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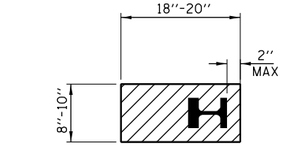
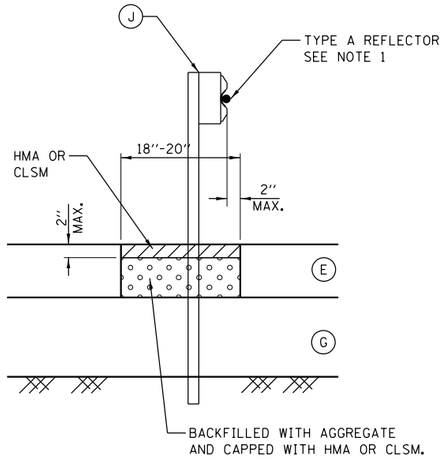
GUARDRAIL LEAVE-OUT DETAIL

SEE STD. 630001 FOR ADDITIONAL DETAILS



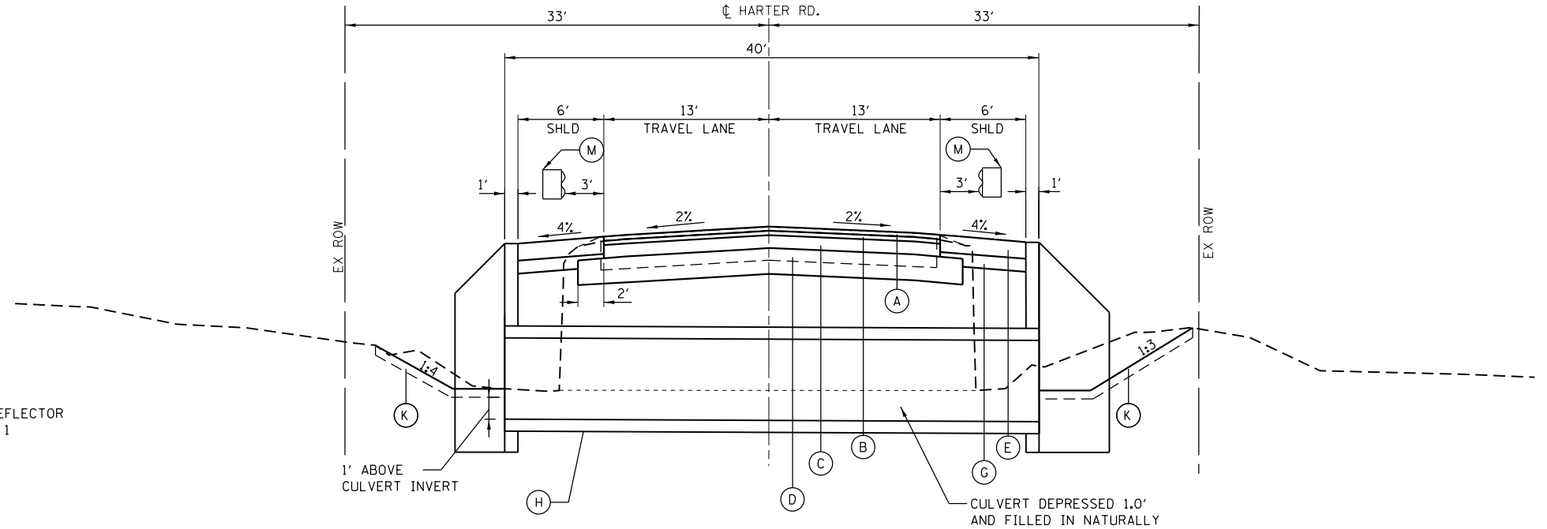
PLAN



ELEVATION

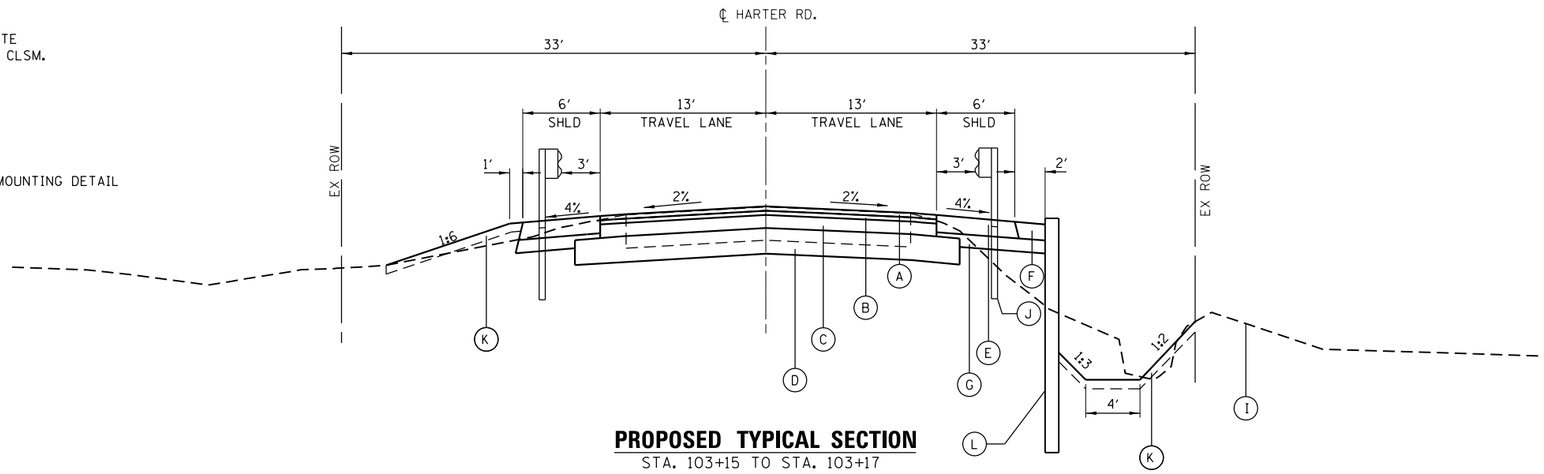
NOTE

1. SEE STANDARD 782006 FOR GUARDRAIL REFLECTOR MOUNTING DETAIL



PROPOSED TYPICAL SECTION

STA. 102+88 TO STA. 103+15



PROPOSED TYPICAL SECTION

STA. 103+15 TO STA. 103+17

PROPOSED LEGEND

- (A) 2'' HMA SURFACE COURSE, IL-9.5, MIX ''D'', N50
- (B) 2.5'' HMA BINDER COURSE, IL-19.0, N50
- (C) 7.5'' HMA BASE COURSE
- (D) 12'' AGGREGATE SUBGRADE IMPROVEMENT
- (E) 8'' HMA SHOULDERS
- (F) 8'' AGGREGATE SHOULDERS, TYPE A
- (G) 6'' SUBBASE GRANULAR MATERIAL, TYPE B
- (H) PROPOSED BOX CULVERT
- (I) EXISTING GROUND
- (J) STEEL PLATE GUARDRAIL, TYPE A
- (K) RESTORATION LANDSCAPING:
  - EROSION CONTROL BLANKET
  - SEEDING CLASS 2A
  - TOPSOIL 4''
- (L) PERMANENT SHEET PILING
- (M) LONG-SPAN GUARDRAIL OVER CULVERT

Primera
100 S. WACKER DRIVE SUITE 700 . CHICAGO IL 60606 . P:312-606-0910 F:312-606-0419

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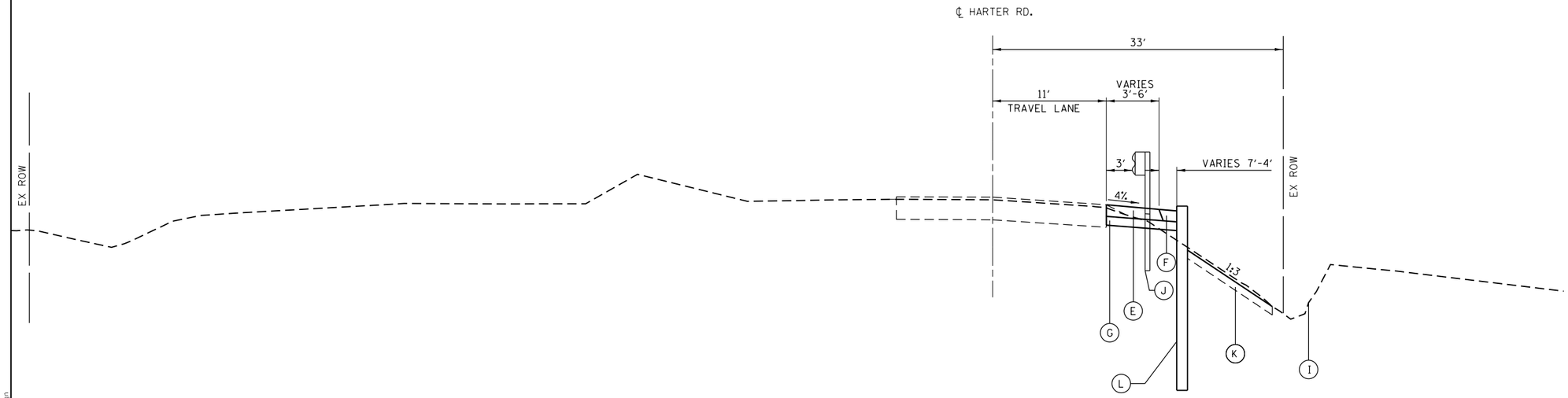
KANE COUNTY
DIVISION OF TRANSPORTATION

PROPOSED TYPICAL SECTIONS
HARTER ROAD CULVERT REPLACEMENT

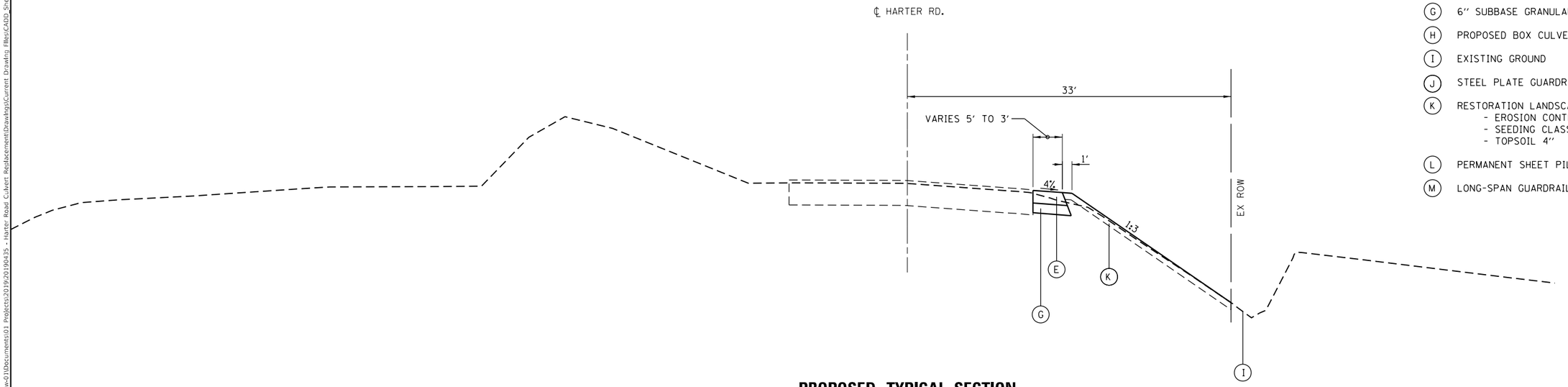
SCALE: N.T.S. | SHEET 3 OF 4 SHEETS | STA. 102+88 TO STA. 103+17

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	7
		CONTRACT NO.		
	ILLINOIS			



PROPOSED TYPICAL SECTION

STA. 103+17 TO STA. 104+00



PROPOSED TYPICAL SECTION

STA. 104+00 TO STA. 104+10.10

PROPOSED LEGEND

- (A) 2'' HMA SURFACE COURSE, IL-9.5, MIX ''D'', N50
- (B) 2.5'' HMA BINDER COURSE, IL-19.0, N50
- (C) 7.5'' HMA BASE COURSE
- (D) 12'' AGGREGATE SUBGRADE IMPROVEMENT
- (E) 8'' HMA SHOULDERS
- (F) 8'' AGGREGATE SHOULDERS, TYPE A
- (G) 6'' SUBBASE GRANULAR MATERIAL, TYPE B
- (H) PROPOSED BOX CULVERT
- (I) EXISTING GROUND
- (J) STEEL PLATE GUARDRAIL, TYPE A
- (K) RESTORATION LANDSCAPING:
  - EROSION CONTROL BLANKET
  - SEEDING CLASS 2A
  - TOPSOIL 4''
- (L) PERMANENT SHEET PILING
- (M) LONG-SPAN GUARDRAIL OVER CULVERT

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Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-506-0900 F:312-506-0915

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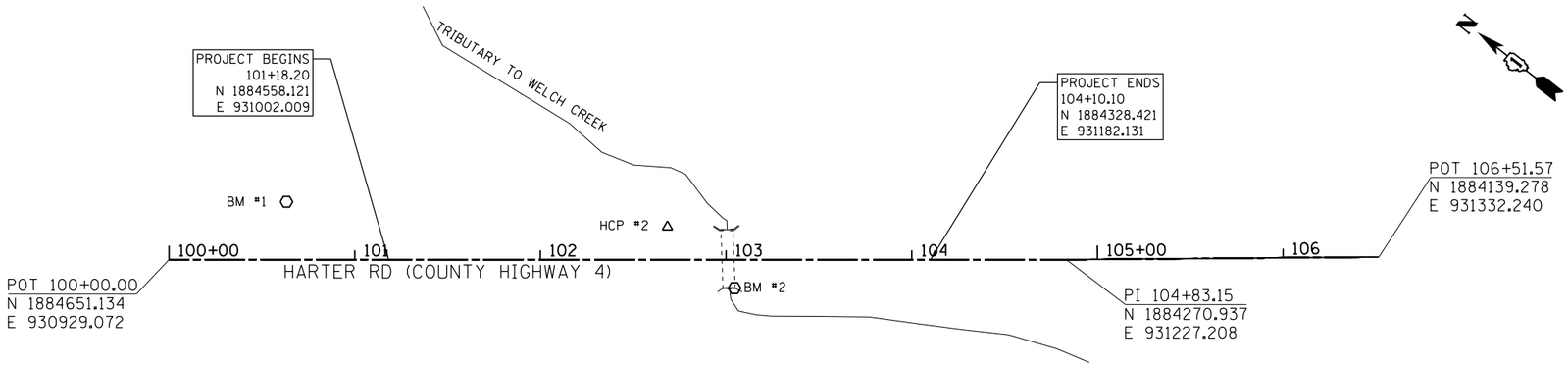
PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

PROPOSED TYPICAL SECTIONS
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 4 OF 4 SHEETS | STA. 103+17 TO STA. 104+10.10

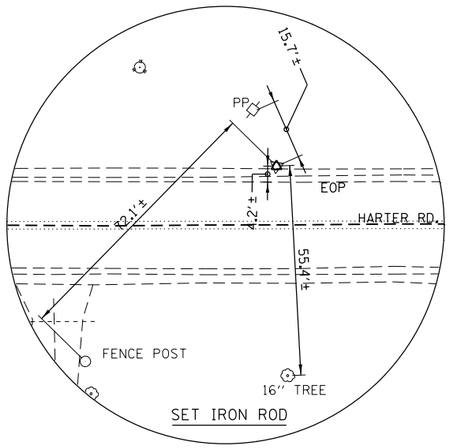
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	8
		CONTRACT NO.		
	ILLINOIS			



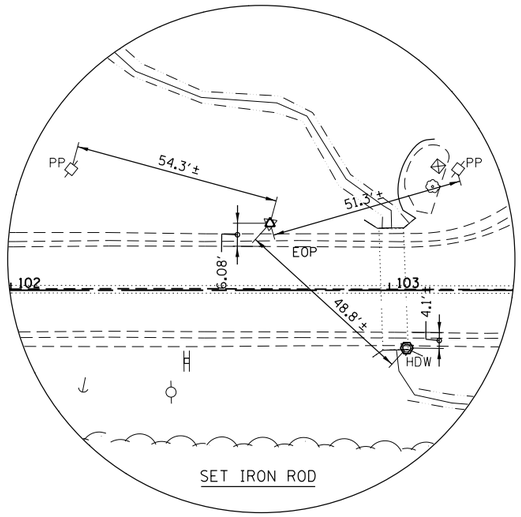
LEGEND

△ = HORIZONTAL CONTROL POINT (HCP) LOCATION

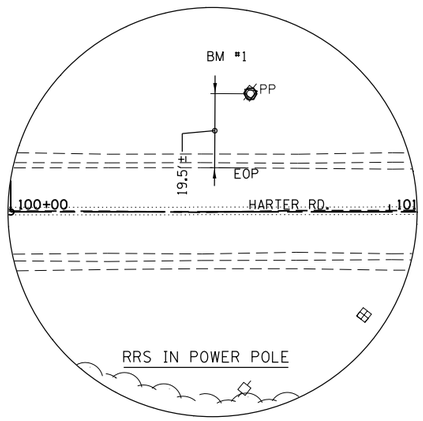
⬡ = BENCH MARK (BM) LOCATION



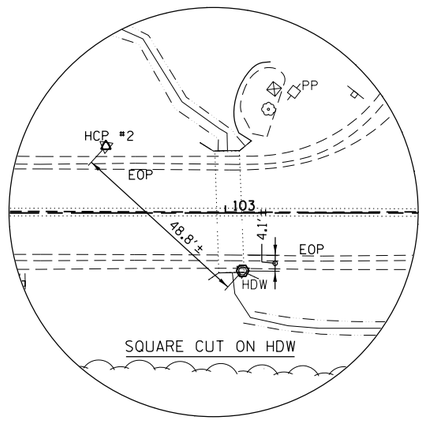
HORIZONTAL CONTROL
POINT NO. 1



HORIZONTAL CONTROL
POINT NO. 2



BENCHMARK NO. 1



BENCHMARK NO. 2

HORIZONTAL CONTROL POINTS (NAD 83)

POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
1	1884744.067	930876.081	793.581	CHAIN	STATION	15.767' LT	SET IRON ROD
2	1884450.788	931108.620	788.119	CHAIN	102+68.45	17.662' LT	SET IRON ROD

BENCH MARKS

POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
1	1884620.576	930992.658	791.494	CHAIN	100+63.28	31.180' LT	RAILROAD SPIKE IN POWER POLE
2	1884450.788	931108.620	788.119	CHAIN	103+04.53	15.281' RT	SQUARE CUT ON CULVERT HEADWALL

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Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0900 F:312-606-0415

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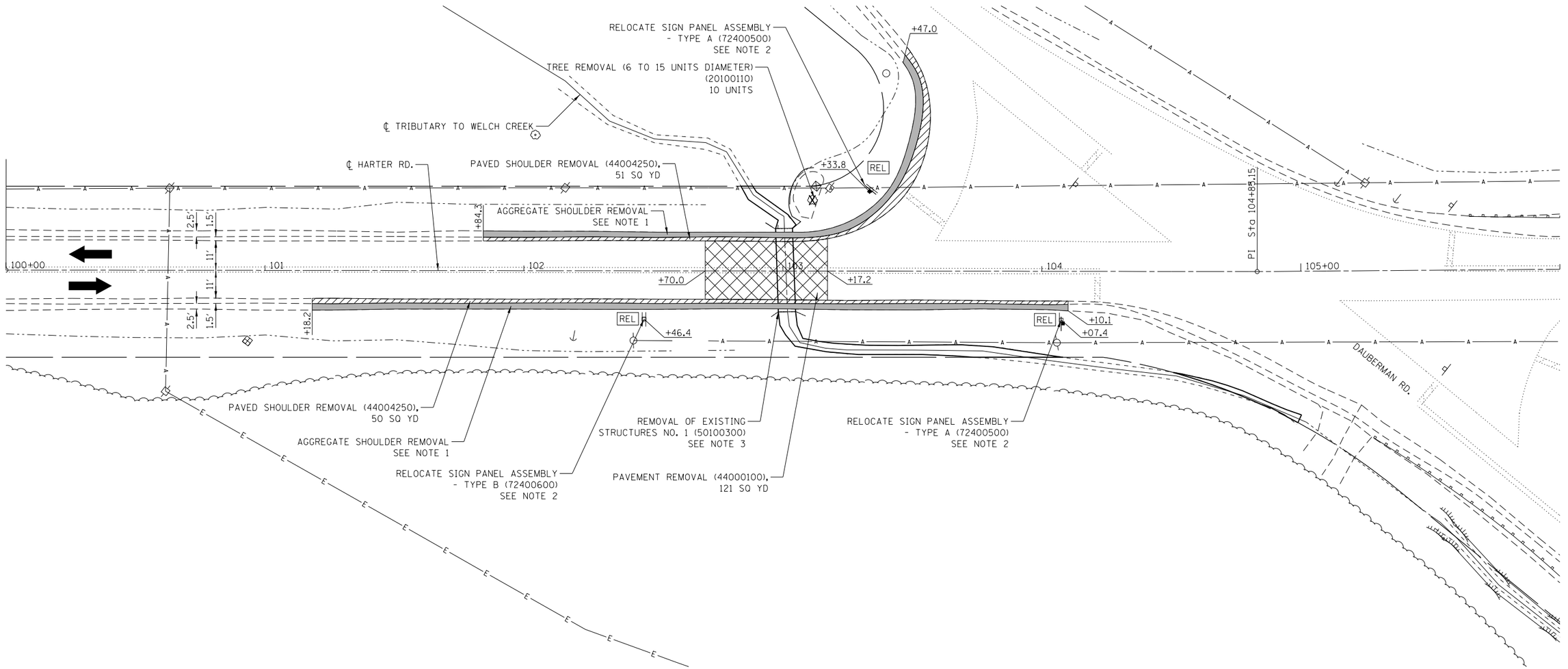
PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

ALIGNMENT, TIES & BENCHMARKS
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	9
		CONTRACT NO.		
	ILLINOIS			



LEGEND

- PAVEMENT REMOVAL (44000100)
- PAVED SHOULDER REMOVAL (44004250)
- AGGREGATE SHOULDER REMOVAL (SEE NOTES)
- REL — ITEM TO BE RELOCATED AS SPECIFIED
- X — REMOVAL OF INDIVIDUAL TREE

NOTES

1. AGGREGATE SHOULDERS SHALL NOT BE MEASURED SEPARATELY FOR PAYMENT, BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION (20200100).
2. SIGNS TO BE RELOCATED SHALL BE MOUNTED ON A NEW POST. SEE PAVEMENT MARKING & SIGNING PLAN FOR DETAILS.
3. SEE STRUCTURAL PLAN FOR DETAILS.

0 20 40 60
SCALE IN FEET

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Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0900 F:312-606-0415

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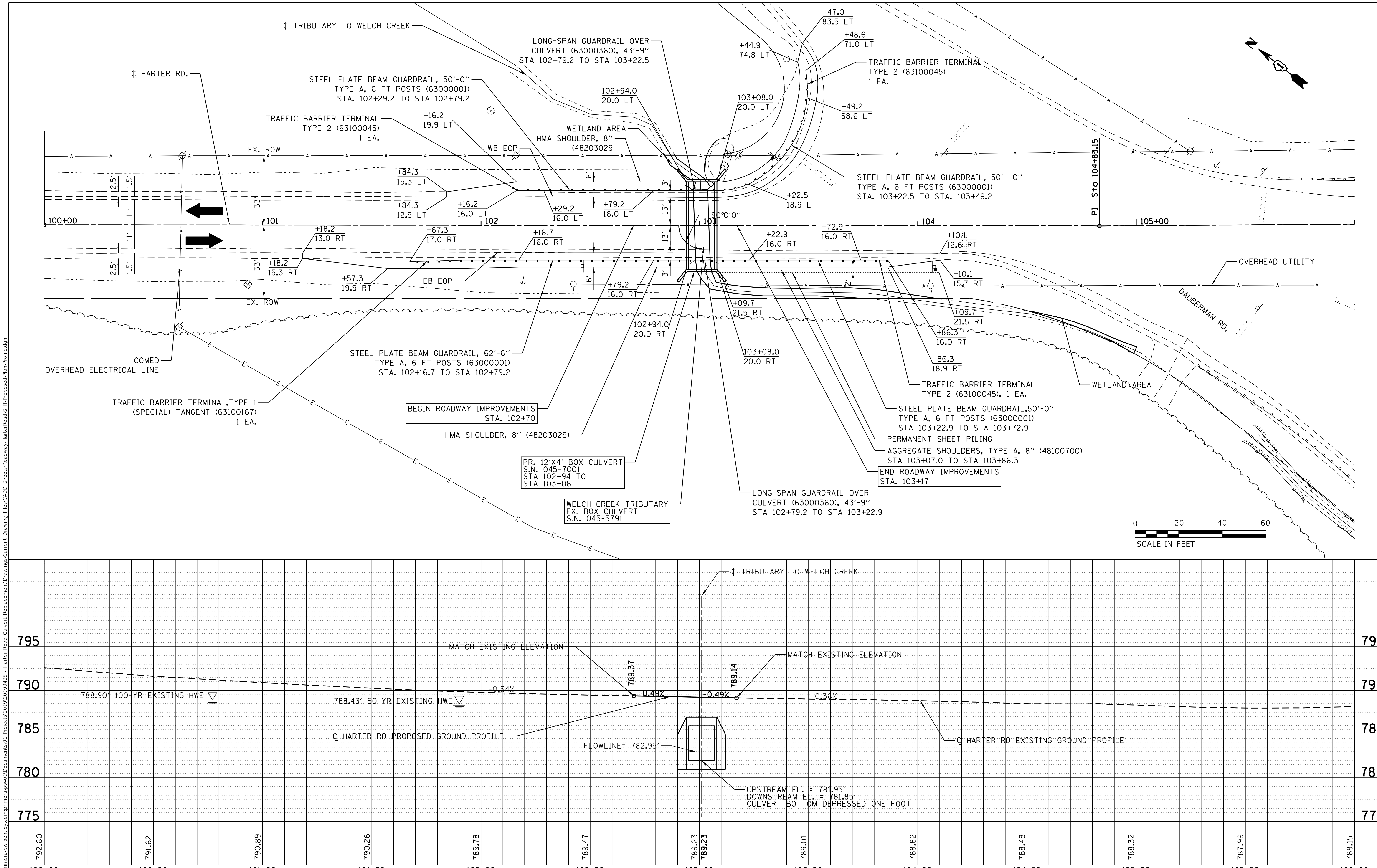
	DRAWN - BH	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - CMD/MMJ	REVISED -	
PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

REMOVAL PLAN
HARTER ROAD CULVERT REPLACEMENT

SCALE: 1" = 20' | SHEET 1 OF 1 SHEETS | STA. 100+00 TO STA. 106+00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	10
		CONTRACT NO.		
	ILLINOIS			



℄ TRIBUTARY TO WELCH CREEK
℄ HARTER RD.
LONG-SPAN GUARDRAIL OVER CULVERT (63000360), 43'-9" STA 102+79.2 TO STA 103+22.5
STEEL PLATE BEAM GUARDRAIL, 50'-0" TYPE A, 6 FT POSTS (63000001) STA. 102+29.2 TO STA 102+79.2
TRAFFIC BARRIER TERMINAL TYPE 2 (63100045) 1 EA.
WETLAND AREA
HMA SHOULDER, 8" (48203029)
WB EOP
EX. ROW
TRAFFIC BARRIER TERMINAL TYPE 2 (63100045) 1 EA.
STEEL PLATE BEAM GUARDRAIL, 50'- 0" TYPE A, 6 FT POSTS (63000001) STA. 103+22.5 TO STA. 103+49.2
PI Sta 104+83.15
OVERHEAD UTILITY
DAUBERMAN RD.
EB EOP
COMED OVERHEAD ELECTRICAL LINE
STEEL PLATE BEAM GUARDRAIL, 62'-6" TYPE A, 6 FT POSTS (63000001) STA. 102+16.7 TO STA 102+79.2
TRAFFIC BARRIER TERMINAL,TYPE 1 (SPECIAL) TANGENT (63100167) 1 EA.
BEGIN ROADWAY IMPROVEMENTS STA. 102+70
HMA SHOULDER, 8" (48203029)
PR. 12'X4' BOX CULVERT S.N. 045-7001 STA 102+94 TO STA 103+08
WELCH CREEK TRIBUTARY EX. BOX CULVERT S.N. 045-5791
LONG-SPAN GUARDRAIL OVER CULVERT (63000360), 43'-9" STA 102+79.2 TO STA 103+22.9
END ROADWAY IMPROVEMENTS STA. 103+17
AGGREGATE SHOULDERS, TYPE A, 8" (48100700) STA 103+07.0 TO STA 103+86.3
PERMANENT SHEET PILING
STEEL PLATE BEAM GUARDRAIL,50'-0" TYPE A, 6 FT POSTS (63000001) STA 103+22.9 TO STA 103+72.9
TRAFFIC BARRIER TERMINAL TYPE 2 (63100045), 1 EA.
WETLAND AREA
SCALE IN FEET
℄ TRIBUTARY TO WELCH CREEK
MATCH EXISTING ELEVATION
789.37
789.14
MATCH EXISTING ELEVATION
788.90' 100-YR EXISTING HWE
788.43' 50-YR EXISTING HWE
-0.54%
-0.49%
-0.49%
-0.36%
℄ HARTER RD PROPOSED GROUND PROFILE
FLOWLINE= 782.95'
℄ HARTER RD EXISTING GROUND PROFILE
UPSTREAM EL. = 781.95'
DOWNSTREAM EL. = 781.85'
CULVERT BOTTOM DEPRESSED ONE FOOT
795
790
785
780
775
792.60 791.62 790.89 790.26 789.78 789.47 789.23 789.23 789.01 788.82 788.48 788.32 787.99 788.15
100+00 100+50 101+00 101+50 102+00 102+50 103+00 103+50 104+00 104+50 105+00 105+50 106+00

Primera

180 S. WACKER DRIVE SUITE 700, CHICAGO IL 60606, P:312-606-0910 F:312-606-0415

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	DRAWN - EG	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - CMD/MMJ	REVISED -	
PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

PLAN & PROFILE
HARTER ROAD CULVERT REPLACEMENT

SCALE: 1" = 20' | SHEET 1 OF 1 SHEETS | STA. 100+00 TO STA. 106+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	11
		CONTRACT NO.		
	ILLINOIS			

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PLAN | NOTE BOOK NO. | SURVEYED | PLOTTED | ALIGNMENT CHECKED | R.T. OF WAY CHECKED | CADD FILE NAME | BY | DATE

PROFILE | NOTE BOOK NO. | SURVEYED | PLOTTED | GRADES CHECKED | B.M. NOTED | STRUCTURE NOTATIONS CHKED | BY | DATE

GENERAL NOTES

1. THE TRAFFIC CONTROL DEPICTED HEREIN IS THE MINIMUM REQUIREMENT. ADDITIONAL TRAFFIC CONTROL DEVICES, AS SPECIFIED BY THE SPECIAL PROVISIONS, SHALL BE PLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. ALL TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIAL PROVISIONS, SHALL BE INCLUDED IN THE COST OF THE PAY ITEM TRAFFIC CONTROL AND PROTECTION.

TEMPORARY DETOUR DURATION

THE CONTRACT DOCUMENTS WILL ALLOW THE ROADWAY CLOSURE AND TEMPORARY DETOUR DETAILED ON THIS SHEET TO REMAIN IN PLACE FOR THE DURATION OF TIME SPECIFIED IN THE SPECIAL PROVISION FOR "COMPLETION DATE". THE CONTRACTOR WILL BE EXPECTED TO COMPLETE ALL PROPOSED WORK RELATED TO THE CONSTRUCTION OF THE PROPOSED CULVERT AND ROADWAY DURING THIS CLOSURE. THE ROADWAY MUST HAVE THE HMA SURFACE COURSE PLACED AND THE GUARDRAIL INSTALLED BEFORE THE ROADWAY IS OPENED TO TRAFFIC. IF THE SURFACE COURSE AND GUARDRAIL ARE NOT COMPLETED IN THE ALLOWED TIME, ADDITIONAL TRAFFIC CONTROL DEVICES REQUIRED FOR THE COMPLETION OF REMAINING CONSTRUCTION OPERATIONS WILL BE AT THE CONTRACTOR'S EXPENSE.

CHANGEABLE MESSAGE SIGN

THE CONTRACTOR SHALL PLACE ELECTRONIC CHANGEABLE MESSAGE SIGNS ON THE NORTH AND SOUTH SIDES OF THE PROJECT, ON HARTER ROAD ONLY, TO WARN THE PUBLIC OF THE PENDING CLOSURE. THE MESSAGE BOARDS WILL NEED TO BE PLACED AND SET OUT FOR SEVEN (7) DAYS IN ADVANCE OF THE ANTICIPATED FIRST DAY OF CLOSURE. THE SIGNS SHALL REMAIN IN PLACE FOR AN ADDITIONAL TWENTY-ONE (21) DAYS AFTER THE FIRST DAY OF CONSTRUCTION. THE CONTRACTOR WILL COORDINATE WITH THE ENGINEER ON THE EXACT PLACEMENT OF THE MESSAGE BOARDS AND THE MESSAGE THAT IS TO BE DISPLAYED. THE MESSAGE MAY PERIODICALLY BE CHANGED BY THE COUNTY AND/OR ENGINEER. THERE WILL BE NO ADDITIONAL COMPENSATION FOR CHANGING OF THE MESSAGE(S). THE MESSAGE BOARDS WILL BE PAID FOR AS CHANGEABLE MESSAGE SIGN PER CALENDAR DAY FOR EACH MESSAGE SIGN UTILIZED.

LOCAL AGENCY CONTACTS

THE CONTRACTOR WILL BE REQUIRED TO COORDINATE ALL MAINTENANCE OF TRAFFIC OPERATIONS WITH ALL MUNICIPALITIES, TOWNSHIP, AND COUNTY ENTITIES WITHIN THE PROJECT LIMITS. THE FOLLOWING IS THE APPLICABLE LIST OF CONTACTS:

KANE COUNTY DIVISION OF TRANSPORTATION	DAVE BOESCH, CHIEF OF CONSTRUCTION	630-584-1170
KANE COUNTY SHERIFF	RON HAIN, SHERIFF	630-232-6840
KANE CO. OFFICE OF EMERGENCY MANAGEMENT	DONALD BRYANT, DIRECTOR	630-232-5985
KANEVILLE FIRE PROTECTION DISTRICT	DAVID SIGMUND, FIRE CHIEF	630-557-2443
KANELAND SCHOOL DISTRICT 302	TODD LEDEN, SUPERINTENDENT	630-365-5100
UNITED STATES POSTAL SERVICE	POSTMASTER	800-275-8777

KEEPING ROADS OPEN TO TRAFFIC

THE CONTRACTOR SHALL SCHEDULE HIS SEQUENCE OF OPERATIONS TO PERMIT THE CONSTRUCTION OF THIS SECTION WITH THE LEAST INCONVENIENCE TO THE TRAVELING PUBLIC. THE CONTRACTOR'S SCHEDULE SHALL REFLECT THE FOLLOWING REQUIREMENTS AND SEQUENCE OF CONSTRUCTION. THESE REQUIREMENTS FOLLOW THE SUGGESTED TRAFFIC CONTROL PLAN INCLUDED IN THE DRAWINGS.

1. HARTER ROAD MAY BE COMPLETELY CLOSED TO TRAFFIC FOR THE DURATION SPECIFIED IN THE CONTRACT DOCUMENTS.

SEQUENCE OF CONSTRUCTION

IN GENERAL, THE STAGING OF CONSTRUCTION FOR THIS SECTION SHALL BE AS FOLLOWS:

MAJOR WORK ITEMS - STAGE 1 (ROADWAY CLOSURE) HARTER ROAD

- SET UP CHANGEABLE MESSAGE BOARD
- SET UP DETOUR AS DETAILED IN THE PLANS
- SET UP TEMPORARY EROSION CONTROL MEASURES
- REMOVE EXISTING PAVEMENTS, BOX CULVERT, AND WINGWALLS
- CONSTRUCT THE PROPOSED BOX CULVERT, AND WINGWALLS
- CONSTRUCT THE SHEET PILE WALL
- CONSTRUCT EMBANKMENT, SUBGRADE AND AGGREGATE BASE COURSES
- CONSTRUCT SHOULDER AND PAVEMENTS (INCLUDING FINAL SURFACES)
- CONSTRUCT GUARDRAILS AND TRAFFIC BARRIER TERMINALS
- PLACE PERMANENT PAVEMENT MARKINGS**

** IF CONTRACTOR ELECTS TO COMPLETE PERMANENT PAVEMENT MARKING OUTSIDE OF THE CLOSURE PERIOD, THEN THE CONTRACTOR SHALL PLACE THE APPROPRIATE TEMPORARY PAVEMENT MARKINGS. ALL TEMPORARY MARKINGS ON THE PERMANENT SURFACES SHALL BE TAPE. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE TEMPORARY PAVEMENT MARKINGS.

LIMITATIONS OF CONSTRUCTION

THE CONTRACTOR SHALL COORDINATE THE ITEMS OF WORK IN ORDER TO KEEP HAZARDS AND TRAFFIC INCONVENIENCES TO A MINIMUM, AS SPECIFIED BELOW:

1. IF THERE ARE CONSTRUCTION OPERATIONS COMPLETED OUTSIDE OF THE DURATION OF THE ROADWAY CLOSURE, THOSE CONSTRUCTION OPERATIONS WILL BE CONDUCTED SO ONE LANE IN EACH DIRECTION ON HARTER ROAD REMAINS OPEN AT ALL TIMES.

2. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL THE NECESSARY SIGNS, BARRICADES, CONES, DRUMS, AND LIGHTS FOR THE WARNING AND PROTECTION OF TRAFFIC, AS REQUIRED BY SECTIONS 107 AND 701 THROUGH 703 OF THE STANDARD SPECIFICATIONS, AND AS MODIFIED.

3. IF DURING CONSTRUCTION, ADDITIONAL SIGANGE IS DEEMED NECESSARY TO PROTECT THE CONSTRUCTION ZONE, THE CONTRACTOR SHALL FURNISH AND ERECT "ROAD CONSTRUCTION AHEAD" SIGNS (W20-1 (O)-48) AT BOTH ENDS OF THE PROJECT AND AT ALL SIDE ROADS WITHIN THE LIMITS OF THE PROJECT AREA. THE NEED FOR ADDITIONAL SIGNAGE SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. THE COST FOR FOR THE ADDITIONAL SIGNAGE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR TRAFFIC CONTROL AND PROTECTION, SPECIAL.

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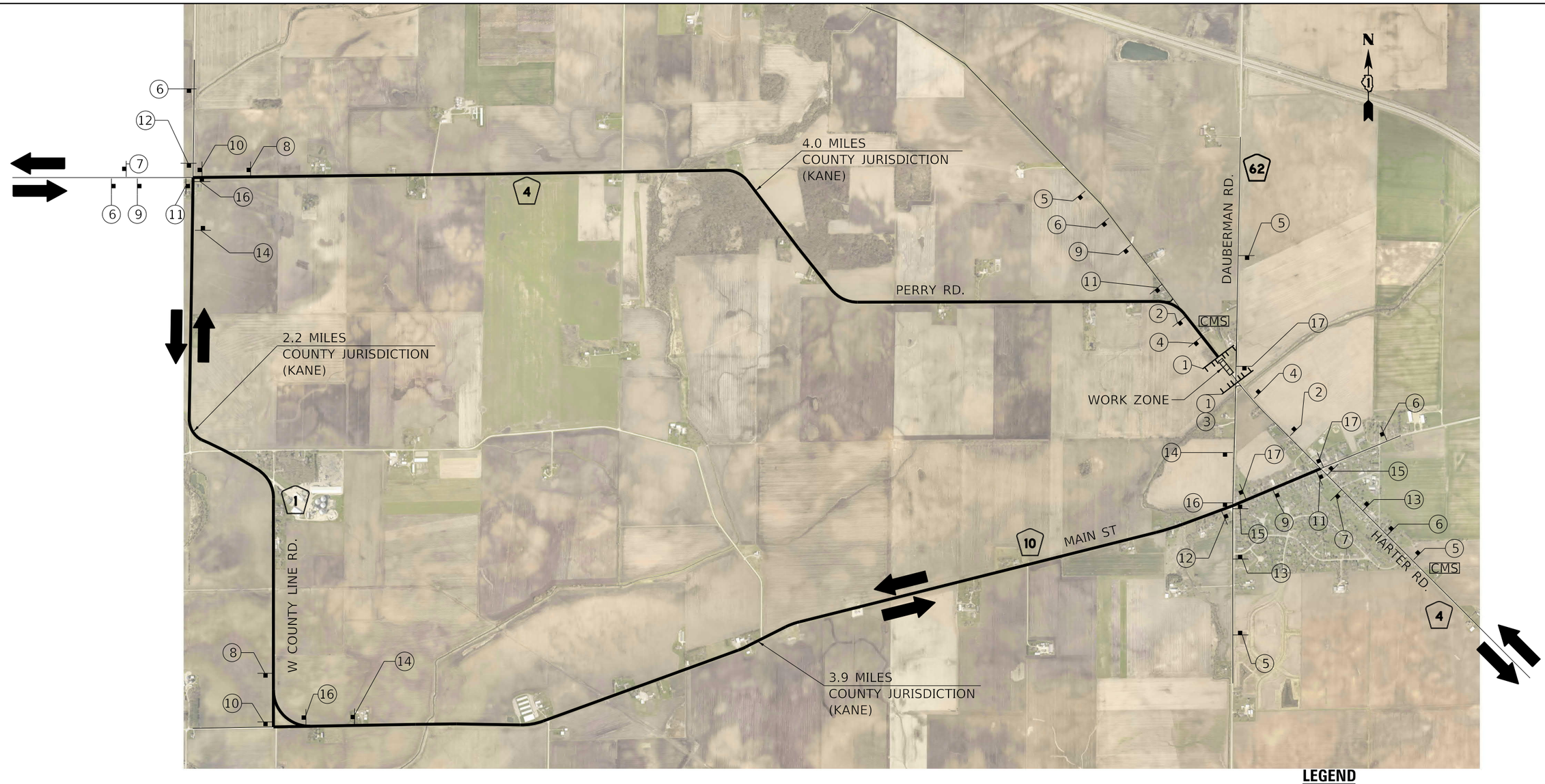
KANE COUNTY
DIVISION OF TRANSPORTATION

MAINTENANCE OF TRAFFIC NOTES
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	12
		CONTRACT NO.		
	ILLINOIS			



NOT TO SCALE

NOTE:

SEE SHEET 14 FOR SIGN ASSEMBLY TABLE

TOTAL DETOUR LENGTH IS 10.1 MILES

LEGEND

- WORK ZONE
- TRAFFIC FLOW DIRECTION
- PROPOSED SIGN POST
- TYPE III BARRICADE
- CMS — CHANGEABLE MESSAGE SIGN

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PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

MAINTENANCE OF TRAFFIC DETOUR PLAN
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 1 OF 1 SHEETS | STA. _____ | TO STA. _____

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	13
		CONTRACT NO. ____		
	ILLINOIS			

1 ROAD CLOSED R11-2	5 ROAD WORK AHEAD W20-1	9 DETOUR EAST HARTER RD M4-8 / M3-2 / D3-1 / M5-1R	13 DETOUR WEST HARTER RD M4-8 / M3-4 / D3-1 / M5-1L	17 DETOUR WEST HARTER RD M4-8 / M3-4 / D3-1 / M6-3
2 ROAD CLOSED AHEAD W20-3	6 DETOUR AHEAD W20-2	10 DETOUR EAST HARTER RD M4-8 / M3-2 / D3-1 / M6-1L	14 DETOUR WEST HARTER RD M4-8 / M3-4 / D3-1 / M5-1R	
3 DETOUR M4-10L	7 END DETOUR M4-8a	11 DETOUR EAST HARTER RD M4-8 / M3-2 / D3-1 / M6-1R	15 DETOUR WEST HARTER RD M4-8 / M3-4 / D3-1 / M6-1L	
4 ROAD CLOSED 500 FT W20-3	8 DETOUR EAST HARTER RD M4-8 / M3-2 / D3-1 / M5-1L	12 DETOUR EAST HARTER RD M4-8 / M3-2 / D3-1 / M6-3	16 DETOUR WEST HARTER RD M4-8 / M3-4 / D3-1 / M6-1R	

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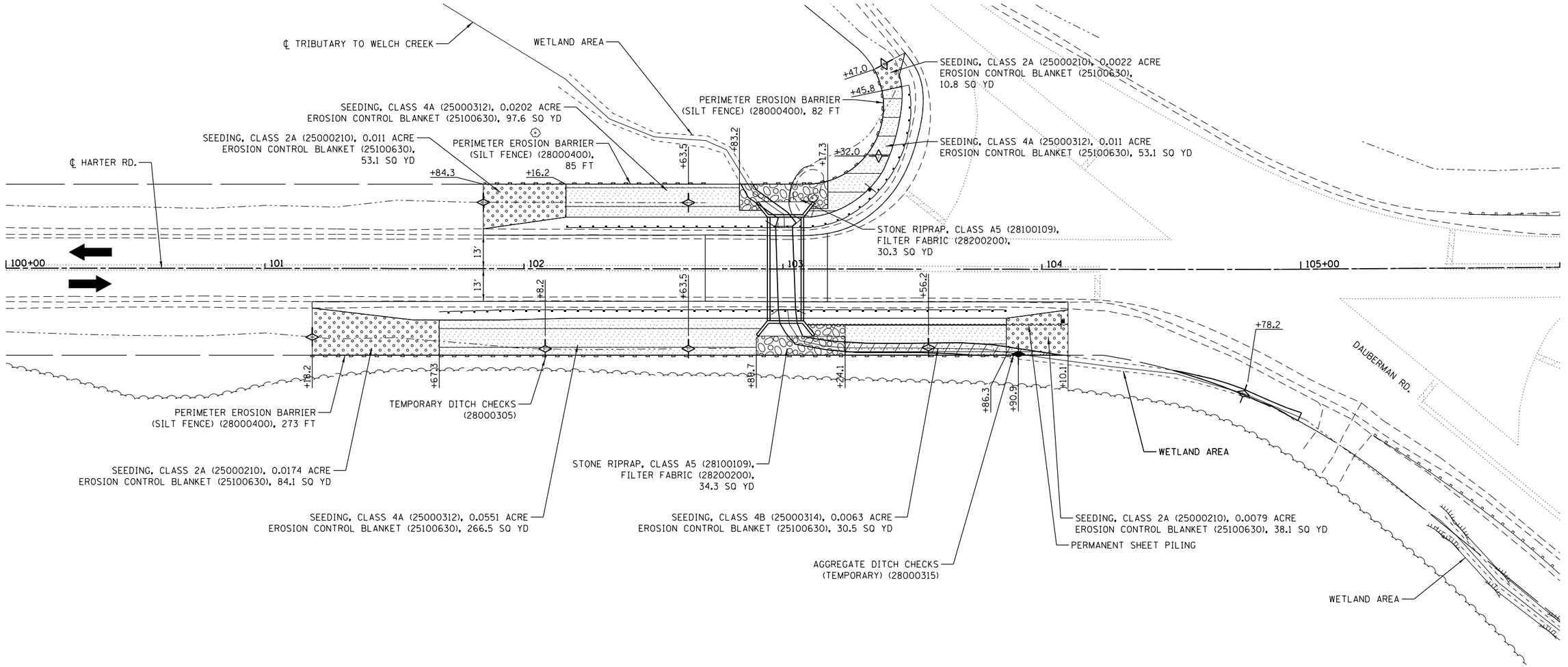
KANE COUNTY
DIVISION OF TRANSPORTATION

MAINTENANCE OF TRAFFIC SIGN TABLE
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	14
		CONTRACT NO.		
	ILLINOIS			



LEGEND

- SEEDING, CLASS 2A (25000210) EROSION CONTROL BLANKET (25100630)
- SEEDING, CLASS 4A (25000312) EROSION CONTROL BLANKET (25100630)
- SEEDING, CLASS 4B (25000314) EROSION CONTROL BLANKET (25100630)
- STONE RIPRAP, CLASS A5 (28100109) FILTER FABRIC (28200200)
- PERIMETER EROSION BARRIER (SILT FENCE) (28000400)
- TEMPORARY DITCH CHECKS (28000305)
- AGGREGATE DITCH CHECKS (TEMPORARY) (28000315)

NOTES

1. ALL AREAS TO BE SEEDED SHALL BE COVERED WITH FOUR (4) INCHES OF TOPSOIL.
2. ALL AREAS TO BE SEEDED WITH CLASS 2A SEED SHALL HAVE NITROGEN AND POTASSIUM FERTILIZER NUTRIENTS APPLIED AT A RATE OF 90 LBS/ACRE.

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KANE COUNTY
DIVISION OF TRANSPORTATION

EROSION & SEDIMENT CONTROL PLANS
HARTER ROAD CULVERT REPLACEMENT

SCALE: 1" = 20' | SHEET 1 OF 1 SHEETS | STA. 100+00 TO STA. 106+00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	15
		CONTRACT NO.		
	ILLINOIS			

EROSION CONTROL INSPECTION

ALL EROSION CONTROL MEASURES MUST BE INSPECTED WEEKLY AND AFTER EACH ½" RAIN EVENT.

WINTER SHUT DOWN

A WINTER SHUT DOWN IS NOT ANTICIPATED FOR THIS PROJECT, BUT IN THE EVENT THAT UNAVOIDABLE CIRCUMSTANCES REQUIRE A WINTER SHUT DOWN, THE CONDITION OF THE CONSTRUCTION SITE FOR WINTER SHUTDOWN SHALL BE ADDRESSED EARLY IN THE FALL GROWING SEASON SO THAT SLOPES AND OTHER BARE EARTH AREAS MAY BE STABILIZED WITH TEMPORARY AND/OR PERMANENT VEGETATIVE COVER FOR PROPER EROSION AND SEDIMENT CONTROL. ALL OPEN AREAS THAT ARE TO REMAIN IDLE THROUGHOUT THE WINTER SHALL RECEIVE TEMPORARY EROSION CONTROL MEASURES INCLUDING TEMPORARY SEEDING, MULCHING AND/OR EROSION CONTROL BLANKET PRIOR TO THE END OF THE FALL GROWING SEASON. THE AREAS TO BE WORKED BEYOND THE END OF THE GROWING SEASON MUST INCORPORATE SOIL STABILIZATION MEASURES THAT DO NOT RELY ON VEGETATIVE COVER SUCH AS EROSION CONTROL BLANKET AND HEAVY MULCHING.

TEMPORARY DITCH CHECKS

TEMPORARY DITCH CHECKS WILL BE REQUIRED AT THOSE LOCATIONS WHERE THE CONTRACTORS OPERATIONS REQUIRE TEMPORARY OR PERMANENT DITCHES. THE LOCATION OF TEMPORARY DITCH CHECKS ARE SHOWN ON THE PLANS. THE EXACT LOCATION MAY REQUIRE FIELD ADJUSTMENT AND WILL BE COORDINATED IN THE FIELD WITH THE ENGINEER. THE QUANTITIES INCLUDE A PLAN ALLOWANCE OF TEMPORARY DITCH CHECKS FOR MAINTENANCE PURPOSES. TEMPORARY DITCH CHECKS SHALL BE CONSTRUCTED AS SPECIFIED IN SECTION 280 OF THE STANDARD SPECIFICATIONS FOR ROAD AND CULVERT CONSTRUCTION, LATEST EDITION.

PERIMETER EROSION BARRIER (SILT FENCE)

PERIMETER EROSION CONTROL BARRIER (SILT FENCE) SHALL BE PLACED AT THE LOCATIONS SHOWN ON THE PLANS. THE PERIMETER EROSION CONTROL BARRIER SHALL BE CONSTRUCTED AS DETAILED ON THE PLANS AND AS SPECIFIED IN SECTION 280 OF THE STANDARD SPECIFICATIONS FOR ROAD AND CULVERT CONSTRUCTION, LATEST EDITION.

STOCKPILE LOCATIONS AND PROTECTING STOCKPILE AREAS

STOCKPILES SHOULD NOT BE PLACED IN OR NEAR CRITICAL AREAS, OR AREAS THAT HAVE HIGH POTENTIAL FOR CONTRIBUTING SEDIMENTS TO STORMWATER FACILITIES.

CONTRACTOR MAY OPT TO STOCKPILE MATERIAL. STAGING OF THE PROJECT IS AT THE DISCRETION OF THE CONTRACTOR AND COORDINATION OF STOCKPILES WILL BE WITH KANE COUNTY DIVISION OF TRANSPORTATION (KDOT) AND KANE-DUPAGE SOIL AND WATER CONSERVATION DISTRICT (KDSWCD). STOCKPILES OF SOIL AND OTHER CONSTRUCTION MATERIALS TO REMAIN IN PLACE MORE THAN THREE (3) DAYS SHALL BE FURNISHED WITH EROSION AND SEDIMENT CONTROL MEASURES (I.E. PERIMETER SILT FENCE). STOCKPILES, NOT BEING ACTIVELY WORKED AND TO REMAIN IN PLACE FOR 14 DAYS OR MORE SHALL RECEIVE TEMPORARY SEEDING.

STABILIZED CONSTRUCTION AREA

TEMPORARY STABILIZATION OF THE CONSTRUCTION AREA SHOULD TAKE PLACE AT THE END OF EACH WORKDAY.

PERMANENT STABILIZATION OF THE CONSTRUCTION AREA SHALL BE COMPLETED WITHIN 7 DAYS OF FINAL GRADING.

WORK IN FLOWING WATER

NO WORK SHALL BE PERFORMED IN FLOWING WATER. WORK IN AND NEAR THE CRITICAL AREAS SHOULD BE ISOLATED FROM CONCENTRATED FLOWS OR STREAM FLOW. ONCE WORK IN THIS AREA BEGINS, PRIORITY SHALL BE GIVEN TO THE COMPLETION OF THE WORK AND FINAL STABILIZATION OF ALL DISTURBED AREAS. SEE ADDITIONAL IN-STREAM NOTES.

DEWATERING

WHEN DEWATERING THE CONSTRUCTION AREA IS NECESSARY, ALL WATERS SHALL BE FILTERED BY USING FILTER BAGS OR AN ALTERNATIVE MEASURE APPROVED BY THE KANE-DUPAGE SOIL & WATER CONSERVATION DISTRICT. ALL FILTER BAGS MUST HAVE SECONDARY CONTAINMENT DEVICES AND SHOULD BE PLACED ON LEVEL GROUND. WATER MUST HAVE SEDIMENT REMOVED BEFORE BEING ALLOWED TO RETURN TO THE ORIGINAL CREEK. THE DISCHARGE SHALL BE DESIGNED SO THAT RETURNING WATERS DO NOT CAUSE EROSION. THE CONTRACTOR WILL COORDINATE THE METHOD, DESIGN AND LOCATION OF THE DEWATERING PLAN AND FILTER BAG(S) WITH KANE-DUPAGE SOIL & WATER CONSERVATION DISTRICT AT THE PRE-CONSTRUCTION MEETING.

DEWATERING AND FILTERING BAG SYSTEMS REQUIRED FOR ALL CONSTRUCTION OPERATIONS WILL NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE INCLUDED IN THE COST OF THE RELATED WORK ITEM REQUIRING DEWATERING. DEWATERING WILL INCLUDE MEANS, METHODS AND ALL MATERIALS TO DEWATER AND TO PROVIDE FILTRATION OF WATERS BEFORE RE-ENTERING THE CREEK.

KEEPING PAVEMENTS CLEAN

THE CONTRACTOR WILL KEEP ALL PERMANENT PAVEMENT SURFACES CLEAN OF DIRT OR CONSTRUCTION DEBRIS. THE PAVEMENT SHALL BE CLEANED AT THE END OF EACH DAYS OPERATION OR MORE FREQUENTLY AS REQUIRED BY THE ENGINEER IF THE DEBRIS IS DEEMED TO BE A HAZARD TO THE MOTORING PUBLIC.

STABILIZED CONSTRUCTION ENTRANCE

A STABILIZED CONSTRUCTION ENTRANCE IS NOT ANTICIPATED FOR THIS PROJECT. HOWEVER, IF IT IS DETERMINED BY THE ENGINEER OR THE KANE-DUPAGE SOIL AND WATER CONVERSATION DISTRICT THAT THE CONTRACTOR OPERATIONS REQUIRE A STABILIZED ENTRANCE, QUANTITY HAS BEEN INCLUDED IN THE PROJECT TO COMPLETE THIS WORK. THE CONTRACTOR SHALL ONLY BE PAID FOR THE STABILIZED CONSTRUCTION ENTRANCE, IF ONE IS REQUIRED TO BE INSTALLED. IF REQUIRED, THE CONTRACTOR WILL SUBMIT THE LOCATION AND DETAILS TO KDSWCD FOR APPROVAL.

CONCRETE WASHOUT

A CONCRETE WASHOUT IS NEEDED FOR THIS PROJECT. IT SHOULD BE DRAWN ON THESE PLANS BY THE CONTRACTOR AT THE TIME OF INSTALLATION. WASHOUTS ARE TO BE CONSTRUCTED AND MAINTAINED IN A MANNER CONSISTENT WITH THE DETAILS ON THE PLANS AND THE LATEST EDITION OF THE ILLINOIS URBAN MANUAL.

STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING				A	B	•	•	A	B			
DORMANT SEEDING	C										C	
TEMPORARY SEEDING			D									
EROSION CONTROL				E								

A. CLASS 2A

B. CLASS 4A & 4B

C. INCREASE SEEDING RATES BY 25% WHEN DORMANT SEEDING (NOT ANTICIPATED)

D. TEMPORARY SEEDING (PERENNIAL RYE GRASS, SPRING OATS)

E. EROSION CONTROL BLANKET (PERMANENT SEED AREAS ONLY)

• IRRIGATION MAY BE NEEDED DURING JUNE AND JULY (INCLUDED IN SEEDING)

NOTE: SEEDING TO BE COMPLETED PER REQUIREMENTS OF SECTION 250 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND CULVERTS AND THE SPECIAL PROVISIONS.

GENERAL NOTES

A) UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS IN THE ILLINOIS URBAN MANUAL, LATEST EDITION.

B) THE KANE-DUPAGE SOIL AND WATER CONSERVATION DISTRICT (KDSWCD) MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITIES, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

C) A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

D) PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING BUT NOT LIMITED TO, ADDITIONAL PHASES OF DEVELOPMENT AND OFF-SITE BORROW OR WASTE AREAS) A SUPPLEMENTARY EROSION CONTROL PLAN SHALL BE SUBMITTED TO THE OWNER FOR REVIEW BY THE KDSWCD.

E) THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE KDSWCD.

F) IT IS THE RESPONSIBILITY OF THE OWNER AND/OR GENERAL CONTRACTOR TO INFORM ANY SUB-CONTRACTOR(S) WHO MAY PERFORM WORK ON THIS PROJECT, OF THE REQUIREMENTS IN IMPLEMENTING AND MAINTAINING THESE EROSION CONTROL PLANS AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS SET FORTH BY THE ILLINOIS EPA.

G) THE CONTRACTOR IS RESPONSIBLE FOR INDICATING THE CURRENT LOCATION OF THE CONCRETE WASHOUT AND ANY MODIFICATIONS TO THE LOCATIONS OR DETAILS OF EROSION AND SEDIMENT CONTROLS ON THESE PLANS.

CONTRACTOR SUBMITTAL

MEANS AND METHODS TO CONSTRUCT THE CULVERT, CHANNEL AND OTHER APPURTENANT WORK IS THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR IS REQUIRED TO SUBMIT TO KDSWCD AND THE UNITED STATES ARMY CORP OF ENGINEERS (USACE) FOR APPROVAL ALL DRAWINGS AND/OR DETAILS SHOWING THE EXACT SEQUENCING, METHODS, AND LOCATIONS OF THE COFFERDAMS WHICH WILL INCLUDE DEWATERING AND FILTRATION METHODS.

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PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

EROSION & SEDIMENT CONTROL NOTES
HARTER ROAD CULVERT REPLACEMENT

SCALE: N.T.S. | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	16
		CONTRACT NO.		
	ILLINOIS			

IN-STREAM WORK

A. WORK IN THE WATERWAY SHOULD BE TIMED TO TAKE PLACE DURING LOW OR NO-FLOW CONDITIONS. LOW FLOW CONDITIONS ARE FLOW AT OR BELOW THE NORMAL WATER ELEVATION.

B. THE PLAN WILL BE DESIGNED TO ALLOW FOR THE CONVEYANCE OF THE 2-YEAR PEAK FLOW PAST THE WORK AREA WITHOUT OVERTOPPING THE COFFERDAM. THE CORPS HAS THE DISCRETION TO REDUCE THIS REQUIREMENT IF DOCUMENTED BY THE APPLICANT TO BE INFEASIBLE OR UNNECESSARY.

C. WATER SHALL BE ISOLATED FROM THE IN-STREAM WORK AREA USING A COFFERDAM CONSTRUCTED OF NON-ERODIBLE MATERIALS (STEEL SHEETS, AQUA BARRIERS, RIPRAP AND GEOTEXTILE LINER, ETC.). EARTHEN COFFERDAMS ARE NOT PERMISSIBLE.

D. THE COFFERDAM MUST BE CONSTRUCTED FROM THE UPLAND AREA AND NO EQUIPMENT MAY ENTER FLOWING WATER AT ANY TIME. IF THE INSTALLATION OF THE COFFERDAM CANNOT BE COMPLETED FROM SHORE AND ACCESS IS NEEDED TO REACH THE AREA TO BE COFFERED, OTHER MEASURES, SUCH AS THE CONSTRUCTION OF A CAUSEWAY WILL BE NECESSARY TO ENSURE THAT EQUIPMENT DOES NOT ENTER THE WATER. ONCE THE COFFERDAM IS IN PLACE AND THE ISOLATED AREA IS DEWATERED, EQUIPMENT MAY ENTER THE COFFERED AREA TO PERFORM THE REQUIRED WORK.

E. IF BYPASS PUMPING IS NECESSARY, THE INTAKE HOSE SHALL BE PLACED ON A STABLE SURFACE OR FLOATED TO PREVENT SEDIMENT FROM ENTERING THE HOSE. THE BYPASS DISCHARGE SHALL BE PLACED ON A NON-ERODIBLE, ENERGY DISSIPATING SURFACE PRIOR TO REJOINING THE STREAM FLOW AND SHALL NOT CAUSE EROSION. FILTERING OF BYPASS WATER IS NOT NECESSARY UNLESS THE BYPASS WATER HAS BECOME SEDIMENT-LADEN AS A RESULT OF THE CURRENT CONSTRUCTION ACTIVITIES.

F. DURING DEWATERING OF THE COFFERED WORK AREA, ALL SEDIMENT-LADEN WATER MUST BE FILTERED TO REMOVE SEDIMENT. POSSIBLE OPTIONS FOR SEDIMENT REMOVAL INCLUDE BAFFLE SYSTEMS, ANIONIC POLYMERS SYSTEMS, DEWATERING BAGS, OR OTHER APPROPRIATE METHODS. WATER SHALL HAVE SEDIMENT REMOVED PRIOR TO BEING RE-INTRODUCED TO THE DOWNSTREAM WATERWAY. A STABILIZED CONVEYANCE FROM THE DEWATERING DEVICE TO THE WATERWAY MUST BE IDENTIFIED IN THE PLAN. DISCHARGE WATER IS CONSIDERED CLEAN IF IT DOES NOT RESULT IN A VISUALLY IDENTIFIABLE DEGRADATION OF WATER CLARITY.

G. THE AREA FROM THE TOE TO THE TOP OF THE SIDE SLOPE SHALL BE TEMPORARILY STABILIZED DURING CONSTRUCTION TO REDUCE THE POTENTIAL FOR EROSION. ALL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO PROPOSED CONDITIONS AND FULLY STABILIZED PRIOR TO ACCEPTING FLOWS.

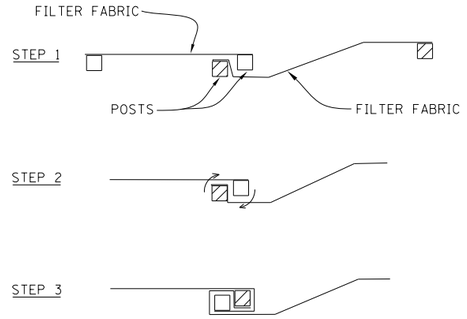
DIVERSION AND DEWATERING

DIVERSION AND DEWATERING WORK SHALL CONSIST OF FURNISHING ALL LABOR, TOOLS EQUIPMENT, AND MATERIALS TO INSTALL, MAINTAIN, AND OPERATE ALL NECESSARY DEWATERING SYSTEMS TO DIVERT, REMOVE WATER FROM THE CHANNEL REACH OR DESIGNED TO CONTROL SEDIMENT DISCHARGE IN DEWATERING APPLICATIONS WHERE WATER IS BEING PUMPED FOR THE CONSTRUCTION OF THE PROPOSED CULVERT, HEADWALLS, STONE RIP RAP CHANNEL LINING AND OTHER WORK ASSOCIATED WITH CONSTRUCTION OF THE CULVERT TO ASSURE THE WORK CAN BE COMPLETED IN THE DRY OR IN MANAGEABLE CONDITIONS AS APPROVED BY THE ENGINEER.

THIS ITEM WILL ALSO CONSIST OF CONSTRUCTING A DEWATERING FILTERING SYSTEM CONSISTING OF FILTRATION OR SEDIMENT BAGS FOR COLLECTING SEDIMENT FROM PUMPING OPERATIONS WITHIN COFFER DAMS AND SUMP PITS. CONSTRUCTION WATERS WILL INCLUDE, BUT NOT BE LIMITED TO, ALL WATERS GENERATED FROM THE INSTALLATION OF CULVERT, HEADWALLS, DRAINAGE SYSTEMS, FOOTING AND AGGREGATE BASE CONSTRUCTION.

IN-STREAM WORK: DIVERSION & DEWATERING - BASIS OF PAYMENT

ALL WORK REQUIRED TO PROVIDE FOR THE DEWATERING AND/OR DIVERSION SYSTEMS FOR THE CONSTRUCTION OF THE CULVERT, END SECTIONS, CHANNEL AND BANK STABILIZATION SHALL BE MEASURED FOR PAYMENT AT THE CONTRACT UNIT EACH FOR "DEWATERING STRUCTURE NUMBER 1," WHICH WORK SHALL INCLUDE MEANS AND METHODS FOR DESIGN OF COFFERDAMS, BARRIER WALL, FILTER FABRIC, PIPING, PUMPING, FOUNDATION PREPARATION, FRAMING AND SUPPORTS, DEWATERING FILTERING SYSTEM CONSISTING OF FILTRATION OR SEDIMENT BAGS, INSTALLATION, MAINTENANCE, REMOVAL OF SYSTEMS AND ALL LABOR, MATERIAL, AND EQUIPMENT NEEDED TO PERFORM THE WORK DESCRIBED HEREIN AND AS SPECIFIED ON THE PLANS.



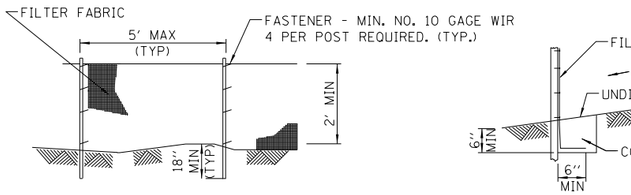
ATTACHING TWO SILT FENCES

NOTES

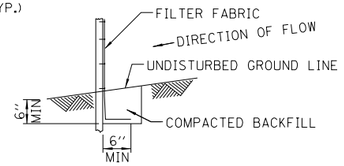
1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. CUT THE FABRIC NEAR THE BOTTOM OF THE STAKES TO ACCOMMODATE THE 6" FLAP.
4. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES INTO THE GROUND AND BURY THE FLAP.
5. COMPACT BACKFILL (PARTICULARLY AT SPLICES) COMPLETELY TO PREVENT STORMWATER PIPING.

PERIMETER EROSION BARRIER (SILT FENCE) – SPLICING TWO FENCES

STD. IUM-620B(W)
(SILT FENCE - SPLICING TWO FENCES)



ELEVATION



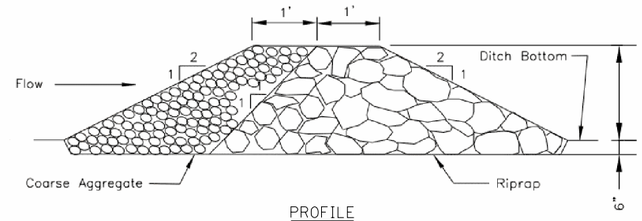
FABRIC ANCHOR DETAIL

NOTES

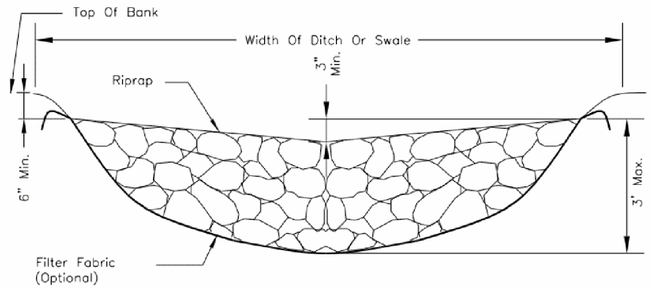
1. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 40 FOR WOVEN.
3. FENCE POSTS SHALL BE EITHER STANDARD STEEL POST OR WOOD POST WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.

PERIMETER EROSION BARRIER (SILT FENCE)

STD. IUM-620A
(SILT FENCE PLAN)



PROFILE



CROSS SECTION
CENTERLINE LOOKING DOWNSTREAM

NOTES

1. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS I, II, OR IV AND SHALL BE PLACED OVER THE CLEARED AREA PRIOR TO THE PLACING OF ROCK.
2. COARSE AGGREGATE SHALL MEET ONE OF THE FOLLOWING IDOT GRADATIONS, CA-1, CA-2, CA-3, OR CA-4.
3. RIPRAP SHALL MEET IDOT GRADATION RR-3 OR RR-4 AND MEET QUALITY DESIGNATION A.
4. COARSE AGGREGATE AND RIPRAP SHALL BE PLACED ACCORDING TO CONSTRUCTION SPECIFICATION 25 ROCKFILL USING PLACEMENT METHOD 1 AND CLASS III COMPACTION.
5. FOR ADDED STABILITY, THE BASE OF THE DAM MAY BE KEYED 6 INCHES INTO THE SOIL.
6. MAXIMUM DRAINAGE AREA TO EACH DAM IS 10 ACRES.
7. ROCK CHECK DAM-COARSE AGGREGATE IL-605CA MAY BE USED FOR DRAINAGE AREAS UNDER 2 ACRES.

AGGREGATE DITCH CHECK

N.T.S.

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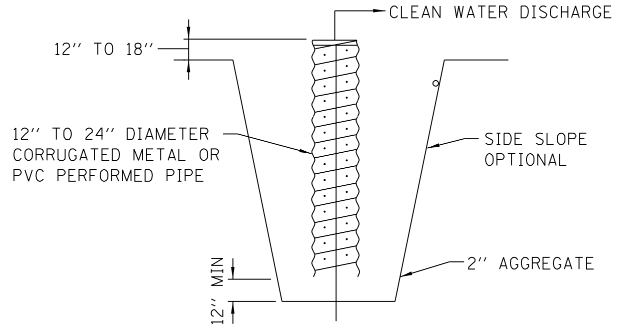
PLOT SCALE = 40.0000 ' / in.	CHECKED - CMD/MMJ	REVISED -	
PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

EROSION & SEDIMENT CONTROL DETAILS
HARTER ROAD CULVERT REPLACEMENT

SCALE: 1" = 20' | SHEET 1 OF 2 SHEETS | STA. 100+00 TO STA. 106+00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	17
		CONTRACT NO.		
	ILLINOIS			



SECTION

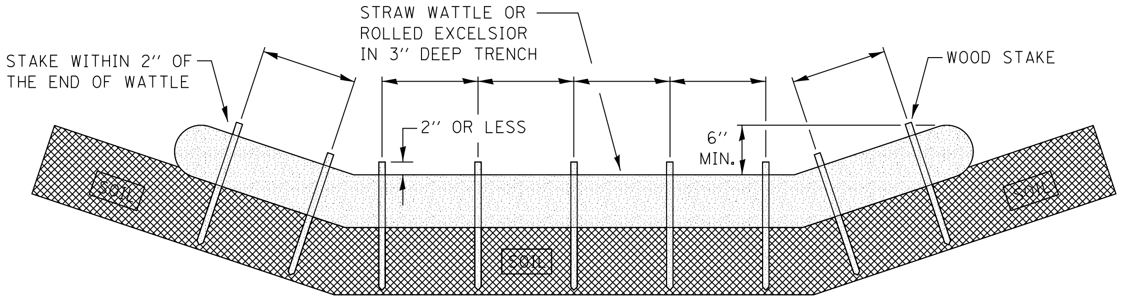
NOTES

1. PIT DIMENSIONS ARE OPTIONAL.
2. THE STANDPIPE WILL BE CONSTRUCTED BY PERFORATING A 12''-24'' DIAMETER CORRUGATED METAL OR PVC PIPE.
3. A BASE OF 2'' AGGREGATE WILL BE PLACED IN THE PIT TO A MINIMUM DEPTH OF 12''. AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE WILL THEN BE BACKFILLED WITH 2'' AGGREGATE.
4. THE STANDPIPE WILL EXTEND 12'' TO 18'' ABOVE THE LIP OF THE PIT.
5. IF DISCHARGE WILL BE PUMPED DIRECTLY TO A STORM DRAINAGE SYSTEM, THE STANDPIPE WILL BE WRAPPED WITH FILTER FABRIC BEFORE INSTALLATION.
6. IF DESIRED, 1/4''-1/2'' HARDWARE CLOTH MAY BE PLACED AROUND THE STANDPIPE PRIOR TO ATTACHING THE FILTER FABRIC. THIS WILL INCREASE THE RATE OF WATER SEEPAGE INTO THE PIPE.

SUMP PIT PLAN

STD. IL-650
(SUMP PIT PLAN)

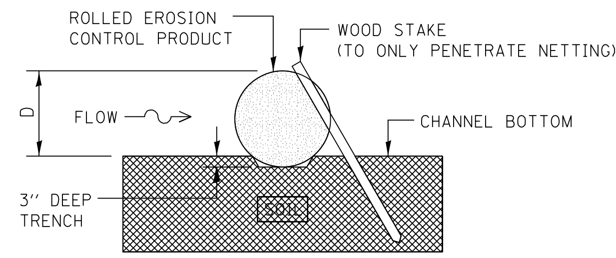
THE SUMP PIT WILL NOT BE MEASURED SEPARATELY FOR PAYMENT BUT SHALL BE CONSIDERED PART OF THE DEWATERING OPERATIONS.



STAKING PATTERN GUIDE

NOTES

1. OVERLAP MINIMUM IS THE DIAMETER OF THE ROLL.
2. 4' SPACING FOR WATTLES.
3. 2' SPACING FOR ROLLED EXCELSIOR.
4. OR SPACE ACCORDING TO MANUFACTURER'S SPECIFICATIONS.



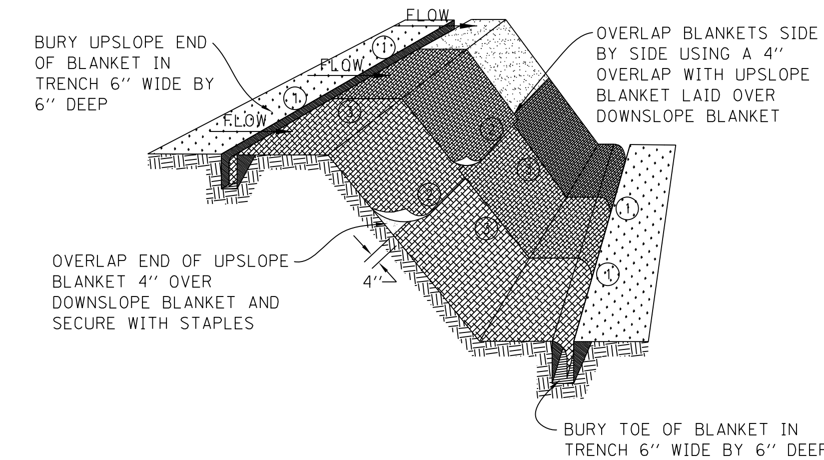
STAKE DETAIL

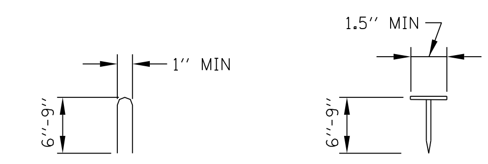
NOTES

1. ENDS OF WATTLES OR ROLLED EXCELSIOR SHALL BE TURNED AT LEAST 6'' UPSLOPE.
2. RECOMMENDED STAKES ARE 1 1/8'' WIDE X 1 1/8'' THICK X 30'' LONG.
3. STAKES SHALL NOT EXTEND ABOVE THE STRAW WATTLE MORE THAN 2''.
4. SPACING: THE TOE OF THE UPSTREAM DITCH CHECK SHALL CREATE A HORIZONTAL LINE WITH THE TOP OF THE DOWNSTREAM DITCH CHECK.

TEMPORARY DITCH CHECK ROLLED EXCELSIOR

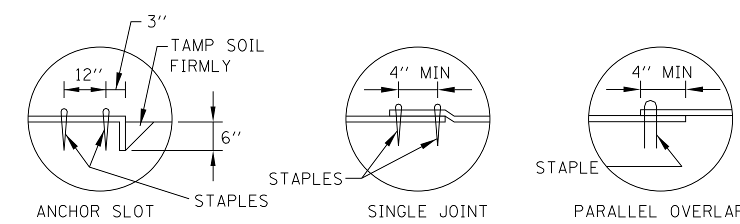
STD. IUM-514RC
(ROLLED EROSION CONTROL PRODUCTS)





STAPLE DETAIL

PUSH PIN DETAIL



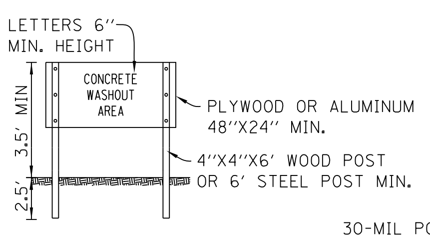
DETAIL 1 DETAIL 2 DETAIL 3

NOTES

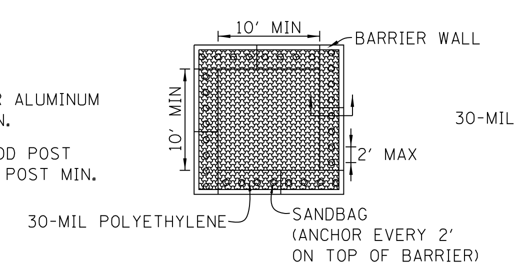
1. STAPLES SHALL BE PLACED IN A DIAMOND PATTERN AT 2 PER S.Y. FOR STITCHED BLANKETS. NON-STICHED SHALL USE 4 STAPLES PER S.Y. OF MATERIAL. THIS EQUATES TO 200 STAPLES WITH STITCHED BLANKET AND 400 STAPLES WITH NON-STICHED BLANKET PER 100 S.Y. OF MATERIAL.
2. STAPLE OR PUSH PIN LENGTHS SHALL BE SELECTED BASED ON SOIL TYPE AND CONDITIONS. (MINIMUM STAPLE LENGTH IS 6'')
3. EROSION CONTROL MATERIAL SHALL BE PLACED IN CONTACT WITH THE SOIL OVER A PREPARED SEEDBED.
4. ALL ANCHOR SLOTS SHALL BE STAPLED AT APPROXIMATELY 12'' INTERVALS.

EROSION CONTROL BLANKET INSTALLATION DETAILS

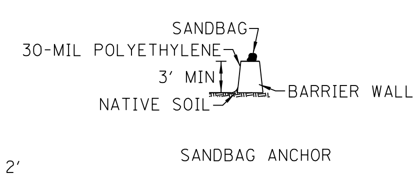
STD. IUM-530
(EROSION CONTROL BLANKET)



SIGN DETAIL



PLAN VIEW



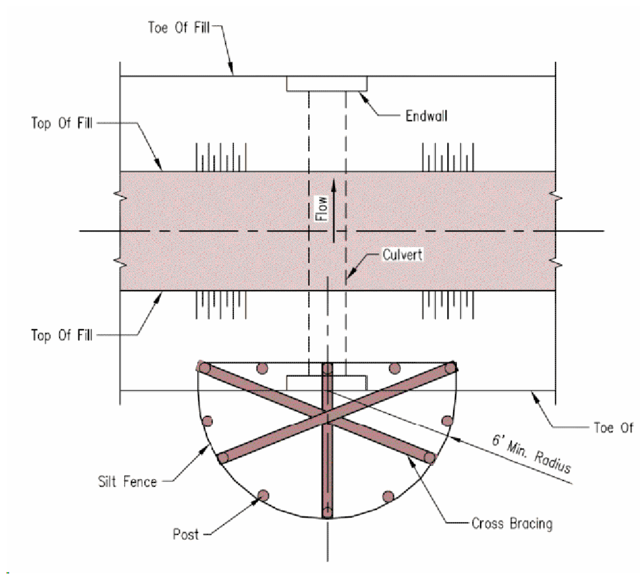
BARRIER WALL ANCHOR SECTION

NOTES

1. MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND/OR SLURRY AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION.
2. FACILITY SHALL BE CLEANED OR RECONSTRUCTED IN A NEW AREA ONCE WASHOUT BECOMES TWO-THIRDS FULL.

TEMPORARY CONCRETE WASHOUT FACILITY – BARRIER WALL

STD. IUM-654BW
(TEMPORARY CONCRETE WASHOUT)



PLAN VIEW

INLET & PIPE PROTECTION

NOTES

1. THE SILT FENCE SHALL MEET THE REQUIREMENTS AS SHOWN ON STANDARD DRAWING IL-ENG-49 SILT FENCE, EXCEPT THE MAXIMUM POST SPACING SHALL BE 3 FEET AND THE TOPS OF POSTS SHALL BE CROSS BRACED.
2. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE HEIGHT OF THE SILT FENCE.
3. THE MAXIMUM DRAINAGE AREA TO THE CULVERT BEING PROTECTED IS 1 ACRE.

Primera
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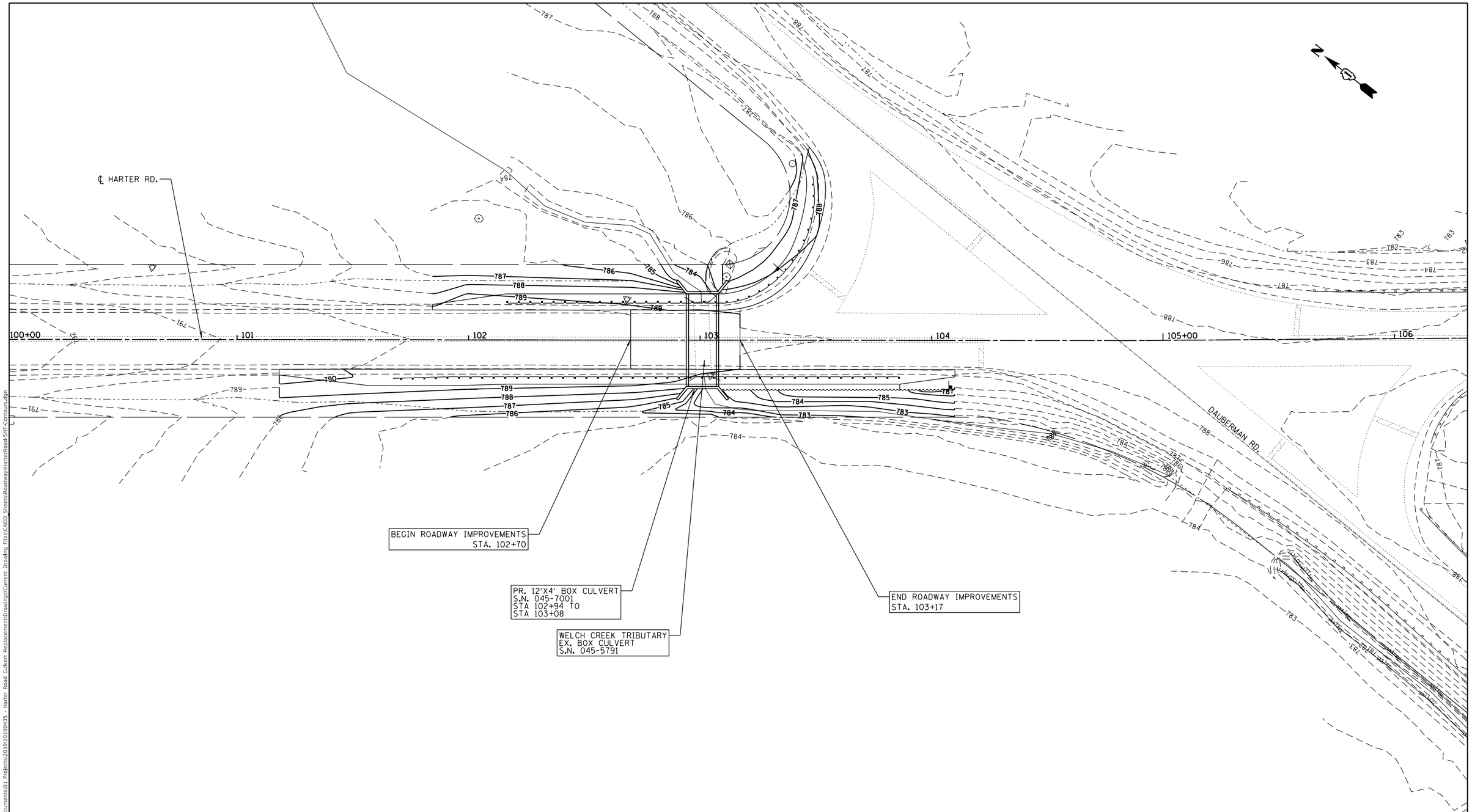
	DRAWN - BH	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - CMD/MMJ	REVISED -	
PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

EROSION & SEDIMENT CONTROL DETAILS
HARTER ROAD CULVERT REPLACEMENT
SCALE: 1" = 20' | SHEET 2 OF 2 SHEETS | STA. 100+00 TO STA. 106+00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	18
		CONTRACT NO.		
	ILLINOIS			



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Primera
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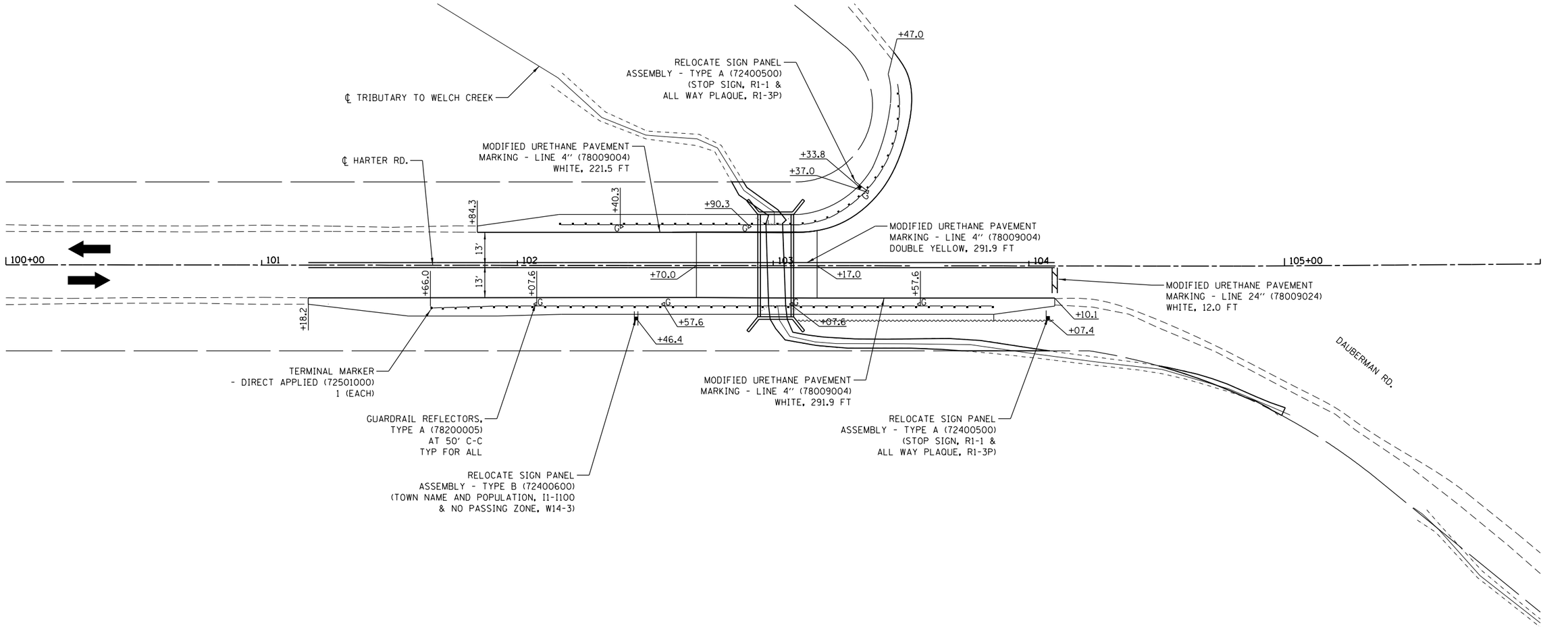
PLOT DATE = 8/31/2020	DATE - 06/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

GRADING PLAN
HARTER ROAD CULVERT REPLACEMENT

SCALE: 1" = 20' | SHEET 1 OF 1 SHEETS | STA. 100+00 TO STA. 106+00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	19
		CONTRACT NO.		
	ILLINOIS			



LEGEND

- ◁G GUARDRAIL REFLECTORS, TYPE A (78200005)
- ◂ TERMINAL MARKER - DIRECT APPLIED (72501000)
- ⚑ PROPOSED SIGN/POST AS SPECIFIED

NOTES

1. ALL PERMANENT PAVEMENT MARKINGS ON FINAL SURFACES SHALL BE MODIFIED URETHANE AND SHALL FOLLOW IDOT D1 STANDARD TC13 (DISTRICT ONE TYPICAL PAVEMENT MARKING) DETAIL AND THIS PLAN.
2. ALL SIGNS, NEW OR RELOCATED, SHALL BE MOUNTED ON NEW TELESCOPING STEEL SIGN POSTS AND BASES PER IDOT STDS 720001 & 720006.
3. THE TELESCOPING STEEL SIGN BASES SHALL BE INSTALLED IN THE GROUND WITH NEW TAPCO MODEL #200-VS3 30" FOR 2"x2" SQUARE POSTS, AND IN ASPHALT WITH TAPCO MODEL #200-VS1 30" FOR 2"X2" SQUARE POSTS. THIS WORK SHALL BE PAID FOR AS "KANE COUNTY SIGN SUPPORT, SPECIAL".

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PLOT DATE = 8/31/2020	DATE - 6/19/20	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

PAVEMENT MARKING & SIGNING PLAN
HARTER ROAD CULVERT REPLACEMENT

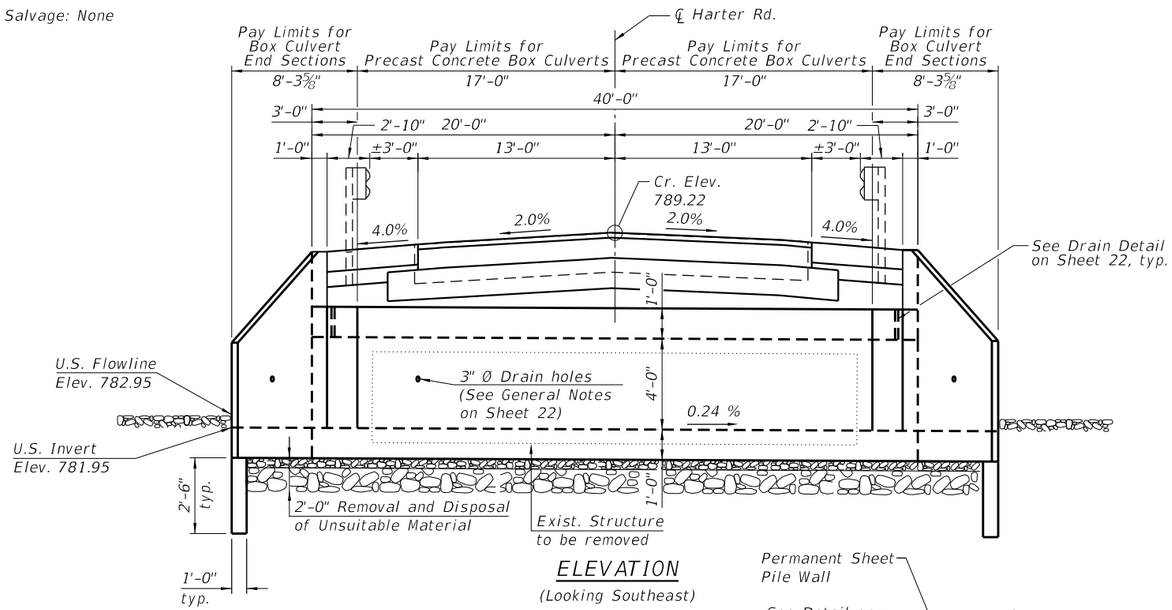
SCALE: 1" = 20' | SHEET 1 OF 1 SHEETS | STA. 100+00 TO STA. 106+00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	20
		CONTRACT NO.		
	ILLINOIS			

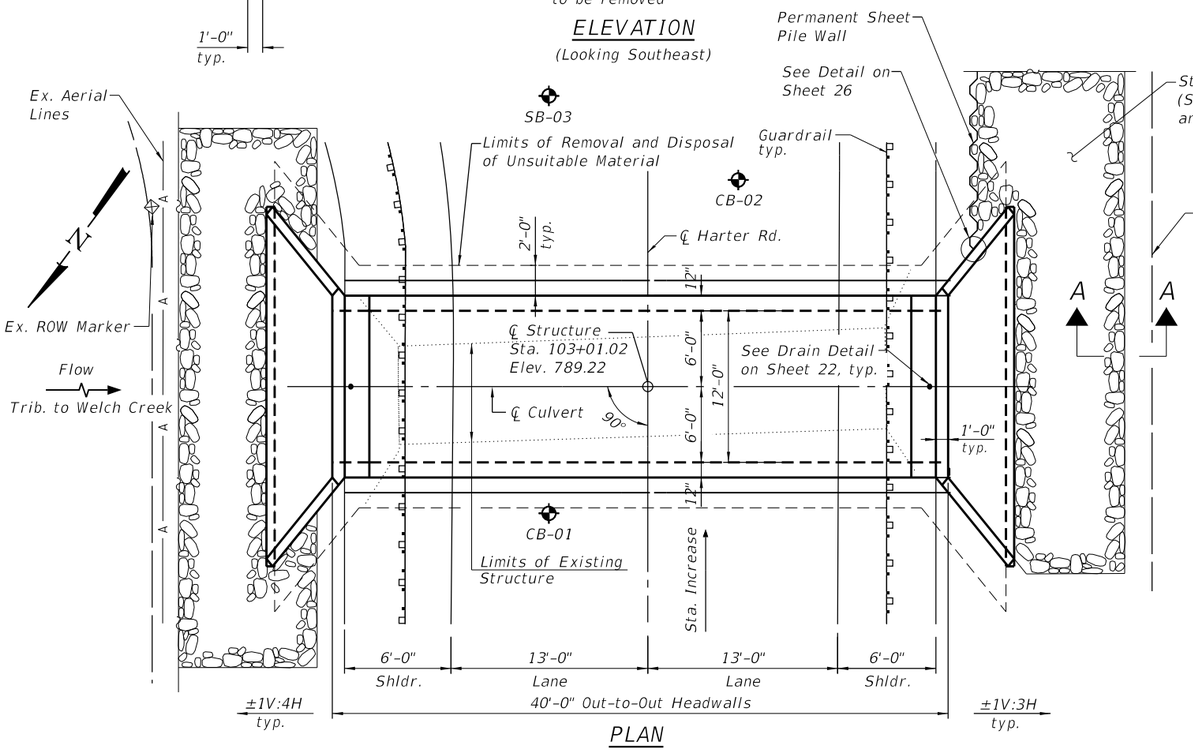
Benchmark: Control Point 2 – Station 103+04.53 Offset 15.281' RT. N. 1884450.788 E. 931108.620 Elev. 788.119
Square cut on culvert headwall.

Existing Structure: Structure Number 045-5791 was originally constructed at an unknown time before 1951 as a cast-in-place single box culvert 7'-0" wide by 3'-6" high and 31'-8" long with cast-in-place concrete headwalls. The existing structure to be removed and replaced with a precast single box culvert 12'-0" wide by 4'-0" high and 40'-0" long with precast end sections. Traffic will be detoured during construction.

Salvage: None

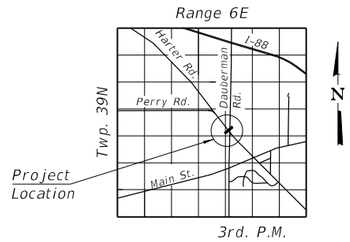


ELEVATION
(Looking Southeast)

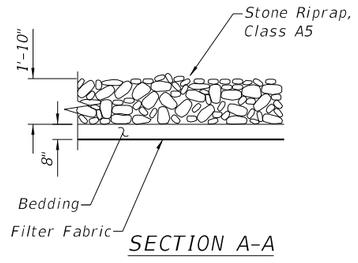


PLAN

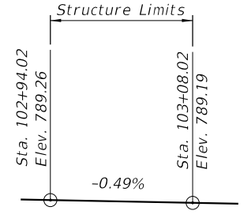
INDEX OF SHEETS



LOCATION SKETCH



SECTION A-A



PROFILE GRADE
(Along ℄ Harter Rd.)

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition and IDOT 2017 Culvert Manual

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 5,000 psi
fy = 65,000 psi (Welded Wire Reinforcement)

LOADING HL-93

Allow 50#/sq.ft. for future wearing surface

ROADWAY CLASSIFICATION

F.A.S Rte. 176 – Harter Road (CH 4)
Functional Class: Minor Collector
ADT: 3,700 (2018); 6,300 (2050)
ADTT: 222 (2018); 378 (2050)
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic

WATERWAY INFORMATION

Drainage Area = 199 Acres

Existing Overtopping Elev: 788.59 at Sta. 104+05
Proposed Overtopping Elev: 788.59 at Sta. 104+05

Flood	Frequency Year	Discharge C.F.S.	Waterway Opening Sq. Ft.		Natural H.W.E.	Head - Ft.		Headwater Elev.	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
Ten-Year	10	116	21	35	785.9	0.5	0.0	786.4	785.9
Design	30	186	25	36	786.7	1.0	0.0	787.7	786.7
Base	100	276	25	36	788.0	0.9	0.0	788.9	788.0
OVT (E)	100	276	25	36	788.0	0.9	0.0	788.9	788.0
OVT (P)	500	415	25	36	788.5	0.7	0.4	789.2	788.9
Max. Calc.	500	415	25	36	788.5	0.7	0.4	789.2	788.9

OVT = Overtopping Event
(E) = Existing, (P) = Proposed

10-Year Outlet Velocity from Existing Structure = 7.62 fps
10-Year Outlet Velocity from Proposed Structure = 4.50 fps
Frequency Year 2 Peak Discharge Rate = 48 C.F.S.

ZAIDA MORILLO 081-008252 REGISTERED STRUCTURAL ENGINEER STATE OF ILLINOIS

8/28/2020
Date

Zaida Morillo, P.E. S.E.
Licensed Structural Engineer
State of Illinois 081-008252
Expires 11/30/2020

I certify that to the best of my knowledge, information and belief, the structure and design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Bridge Design Specifications".

GENERAL PLAN AND ELEVATION
HARTER ROAD OVER WELCH CREEK TRIBUTARY
SECTION 19-00509-00-BR
KANE COUNTY
STATION 103+01.02
STRUCTURE NO. 045-7001

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0900 F:312-606-0415

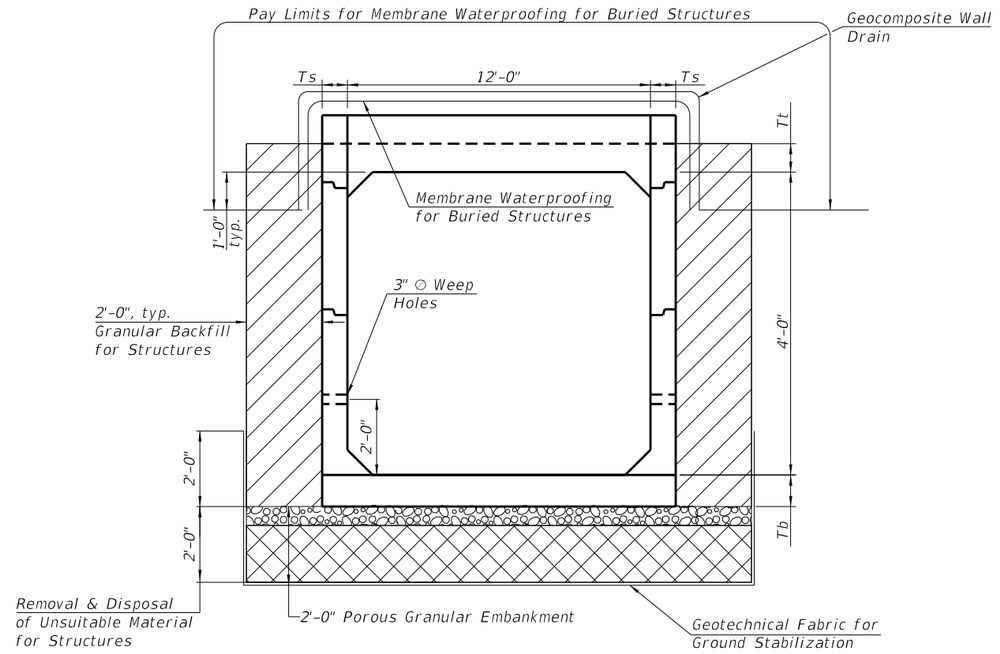
USER NAME = cdillavou	DESIGNED - NA	REVISED -	
	DRAWN - PY	REVISED -	
PLOT SCALE = 10.0000 ' / in.	CHECKED - ZM	REVISED -	
PLOT DATE = 8/31/2020	DATE - 8/31/2020	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
HARTER ROAD CULVERT REPLACEMENT

SCALE: | SHEET 1 OF 8 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	21
		CONTRACT NO.		
	ILLINOIS			



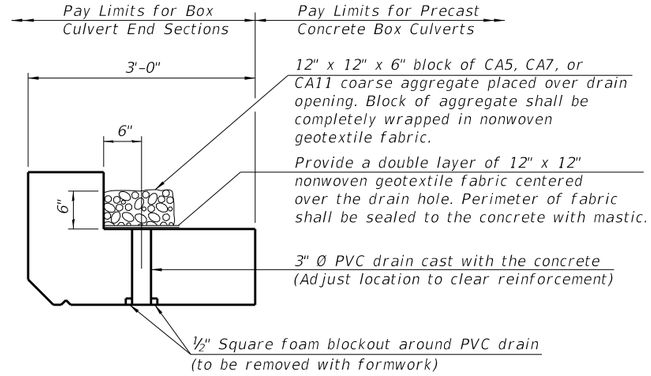
SECTION THRU BARREL

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	75
Geotechnical Fabric for Ground Stabilization	Sq. Yd.	116
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	53
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	75
Permanent Sheet Piling	Sq. Ft.	2,731
Box Culvert End Sections, Culvert No. 1	Each	2
Precast Concrete Box Culverts, 12'x4'	Foot	34
Granular Backfill for Structures	Cu. Yd.	48
Geocomposite Wall Drain	Sq. Yd.	80
Membrane Waterproofing System for Buried Structures	Sq. Yd	80

GENERAL NOTES

1. The design fill height for this box is 2.0 ft. The precast box culvert sections shall conform to the requirements of ASTM C 1577.
2. Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification. The cost to provide the drain holes to be included in the cost of Precast Concrete Box Culverts, 12'x4'.
3. Porous Granular Embankment shall be capped with 6 in. of CA7. This 6 in. thick layer of backfill material shall be installed per Art. 540.06 of the Standard Specifications. The 6 in. thick layer of backfill material required for the precast concrete box culvert shall also apply to the end sections. Cost of the porous granular backfill material will not be paid for separately but shall be included in the unit price of Porous Granular Embankment.
4. Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.
5. Precast concrete box culverts and box culvert end sections shall be backfilled with Granular Backfill for Structures below the top of the box culvert extending to a vertical plane 2 ft from the exterior sides of the culvert, 2 ft from the back face of the end sections, and not closer than 2 ft from the face of embankment.
6. The Precast Concrete Box Culvert shall conform to the requirements of Article 540.06 of the Standard Specifications.
7. The joints between precast box sections shall be sealed and all voids filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process.
8. Lifting holes shall be filled with concrete plugs and mastic after box sections are in place.
9. Membrane Waterproofing for Buried Structures shall be in accordance with IDOT Guide Bridge Special Provision GPSP #81.
10. The limits and quantities of removal and replacment shown are based on the boring data and may be modified by the Engineer for variable subsurface conditions encountered in the field.



DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

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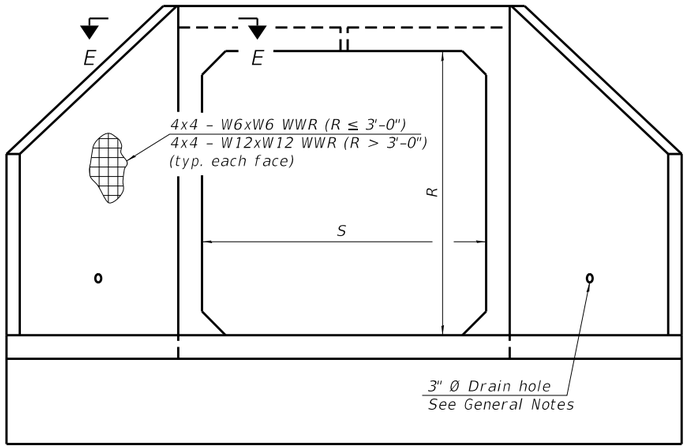
USER NAME = cdillavou	DESIGNED - NA	REVISED -	
	DRAWN - CAO	REVISED -	
PLOT SCALE = 16.0000 ' / in.	CHECKED - ZM	REVISED -	
PLOT DATE = 8/31/2020	DATE - 8/31/2020	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

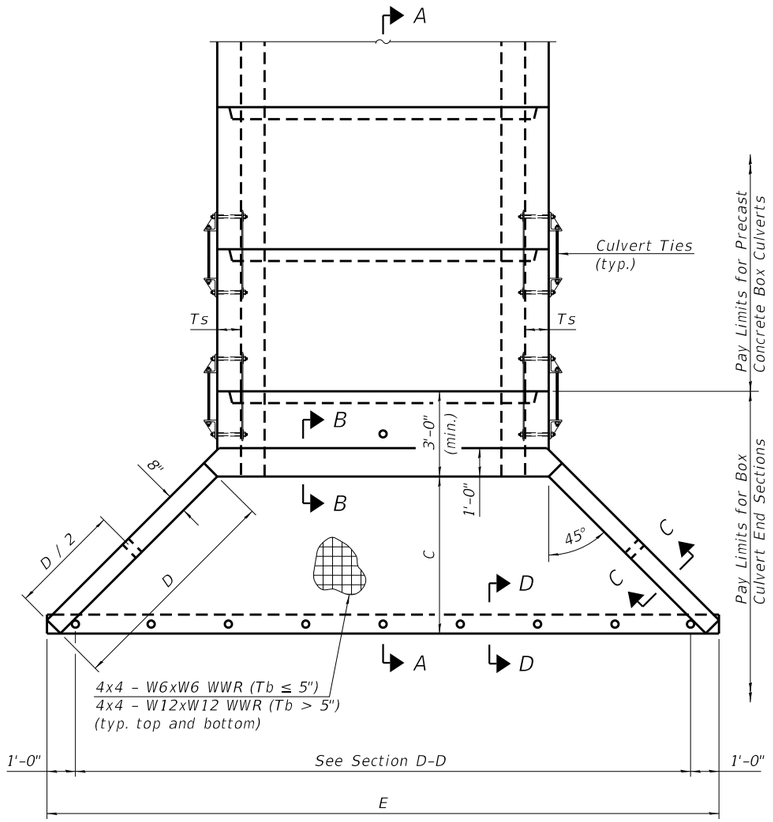
GENERAL DATA
HARTER ROAD CULVERT REPLACEMENT

SCALE: | SHEET 2 OF 8 SHEETS | STA. | TO STA.

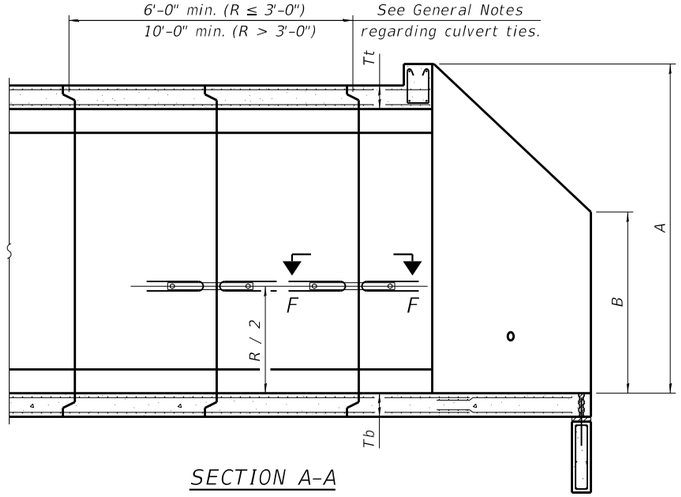
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	22
		CONTRACT NO.		
	ILLINOIS			



END VIEW



PLAN



SECTION A-A

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Box Culvert End Sections.

The Contractor may furnish the end section as a single precast concrete piece or construct the end section in the field using cast-in-place (CIP) construction. For CIP construction, the bottom slab thickness shall be increased by 2" and the clear cover to the bottom mat of reinforcement shall be increased to 3".

Box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements for ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

The number of culvert ties shall be sufficient to engage the minimum length of culvert barrel shown within the pay limits for Precast Concrete Box Culverts and will be dependent upon the length of box culvert segments furnished by the Contractor. Culvert ties are not required for box culverts having a rise (R) less than or equal to 3 ft and a span (S) greater than or equal to 10 ft.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the unit price for Box Culvert End Sections of the culvert number specified.

Shop drawings that detail slab thickness and reinforcement layout for the Box Culvert End Sections shall be provided to the Engineer for review and approval. Reinforcement bars not detailed herein shall be detailed with a clear distance at the end of the reinforcement not less than ½" nor more than 2". For the precast option, it shall be the Contractor's responsibility for determining a method of handling and a construction procedure shall be included on the shop drawings. The Contractor shall determine and detail in the shop drawings any necessary strengthening or stiffening provisions necessary to handle the precast segment. Any required modifications shall be at no extra charge.

The Contractor may use reinforcement bars in lieu of welded wire reinforcement (WWR). Reinforcement bars shall be limited to the sizes of #3 through #5 bars, a maximum spacing of the lesser of 8" or the member thickness, and shall result in an area of reinforcement equal to or greater than that provided by the WWR. Minimum lap lengths detailed herein are applicable to WWR and reinforcement bars.

Reinforcement (circumferential and longitudinal) in the culvert barrel portion of the end section being lapped with reinforcement from the wingwalls or bottom slab of the end section shall not be less than that required by ASTM C 1577 for the design fill height or the reinforcement detailed for the end section, whichever is greater.

One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

Span (S)	Rise (R)	Tt	Tb	Ts	A	B	C	D	E	Concrete Cu. Yd.	Culvert Ties Required
3'-0"	2'-0"	7"	6"	4"	3'-4"	2'-2"	2'-10⅝"	4'-1"	10'-4⅝"	2.8	Yes
3'-0"	2'-0"	4"	4"	4"	3'-1"	2'-1"	2'-7⅞"	3'-9"	9'-11"	2.3	Yes
3'-0"	3'-0"	7"	6"	4"	4'-4"	2'-8"	3'-10⅝"	5'-6"	12'-4⅝"	3.7	Yes
3'-0"	3'-0"	4"	4"	4"	4'-1"	2'-7"	3'-7⅞"	5'-2"	11'-11"	3.1	Yes
4'-0"	2'-0"	7.5"	6"	5"	3'-4½"	2'-2½"	2'-11⅜"	4'-2"	11'-8"	3.3	Yes
4'-0"	2'-0"	5"	5"	5"	3'-2"	2'-1"	2'-8½"	3'-10"	11'-2⅜"	2.8	Yes
4'-0"	3'-0"	7.5"	6"	5"	4'-4½"	2'-8½"	3'-11⅜"	5'-7"	13'-8⅛"	4.2	Yes
4'-0"	3'-0"	5"	5"	5"	4'-2"	2'-7"	3'-8½"	5'-3"	13'-2⅜"	3.7	Yes
4'-0"	4'-0"	7.5"	6"	5"	5'-4½"	3'-2½"	4'-11⅜"	7'-0"	15'-8⅛"	5.3	Yes
4'-0"	4'-0"	5"	5"	5"	5'-2"	3'-1"	4'-8⅝"	6'-8"	15'-2½"	4.7	Yes
5'-0"	2'-0"	8"	7"	6"	3'-5"	2'-3"	2'-11⅜"	4'-2"	12'-10"	3.9	Yes
5'-0"	2'-0"	6"	6"	6"	3'-3"	2'-2"	2'-10"	4'-0"	12'-7¼"	3.5	Yes
5'-0"	3'-0"	8"	7"	6"	4'-5"	2'-9"	3'-11⅜	5'-7"	14'-10⅛"	4.9	Yes
5'-0"	3'-0"	6"	6"	6"	4'-3"	2'-8"	3'-10"	5'-5"	14'-7¼"	4.5	Yes
5'-0"	4'-0"	8"	7"	6"	5'-5"	3'-3"	4'-11⅜"	7'-0"	16'-10⅛"	6.1	Yes
5'-0"	4'-0"	6"	6"	6"	5'-3"	3'-2"	4'-9¼"	6'-9"	16'-5⅞"	5.5	Yes
5'-0"	5'-0"	8"	7"	6"	6'-5"	3'-9"	5'-11⅜"	8'-5"	18'-10⅛"	7.4	Yes
5'-0"	5'-0"	6"	6"	6"	6'-3"	3'-8"	5'-9¼"	8'-2"	18'-5⅞"	6.8	Yes
6'-0"	2'-0"	8"	7"	7"	3'-5"	2'-3"	2'-11⅜"	4'-2"	14'-0"	4.3	Yes
6'-0"	2'-0"	7"	7"	7"	3'-4"	2'-2"	2'-10⅝"	4'-1"	13'-10⅝"	4.2	Yes
6'-0"	3'-0"	8"	7"	7"	4'-5"	2'-9"	3'-11⅜"	5'-7"	16'-0⅛"	5.4	Yes
6'-0"	3'-0"	7"	7"	7"	4'-4"	2'-8"	3'-10⅝"	5'-6"	15'-10⅜"	5.2	Yes
6'-0"	4'-0"	8"	7"	7"	5'-5"	3'-3"	4'-11⅜"	7'-0"	18'-0⅛"	6.5	Yes
6'-0"	4'-0"	7"	7"	7"	5'-4"	3'-2"	4'-10¾"	6'-11"	17'-10¾"	6.5	Yes
6'-0"	5'-0"	8"	7"	7"	6'-5"	3'-9"	5'-11⅜"	8'-5"	20'-0⅛"	8.0	Yes
6'-0"	5'-0"	7"	7"	7"	6'-4"	3'-8"	5'-10¾"	8'-4"	19'-10¾"	7.8	Yes
6'-0"	6'-0"	8"	7"	7"	7'-5"	4'-3"	6'-11½"	9'-10"	22'-0¼"	9.5	Yes
6'-0"	6'-0"	7"	7"	7"	7'-4"	4'-2"	6'-10¾"	9'-9"	21'-10¾"	9.3	Yes
7'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11⅜"	4'-2"	15'-2"	4.9	Yes
7'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11⅜"	5'-7"	17'-2⅛"	6.1	Yes
7'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11⅜"	7'-0"	19'-2⅛"	7.4	Yes
7'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11⅜"	8'-5"	21'-2⅛"	8.9	Yes
7'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11½"	9'-10"	23'-2¼"	10.6	Yes
8'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11⅜"	4'-2"	16'-2"	5.3	Yes
8'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11⅜"	5'-7"	18'-2⅛"	6.5	Yes
8'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11⅜"	7'-0"	20'-2⅛"	7.8	Yes
8'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11⅜"	8'-5"	22'-2⅛"	9.3	Yes
8'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11½"	9'-10"	24'-2¼"	11.0	Yes
9'-0"	2'-0"	9"	9"	9"	3'-6"	2'-3"	3'-0¾"	4'-4"	17'-6⅞"	6.2	Yes
9'-0"	3'-0"	9"	9"	9"	4'-6"	2'-9"	4'-0¾"	5'-9"	19'-6⅞"	7.5	Yes
9'-0"	4'-0"	9'	9"	9"	5'-6"	3'-3"	5'-0¾"	7'-2"	21'-6⅞"	9.0	Yes
9'-0"	5'-0"	9"	9"	9"	6'-6"	3'-9"	6'-0⅞"	8'-7"	23'-7"	10.6	Yes
9'-0"	6'-0"	9"	9"	9"	7'-6"	4'-3"	7'-0⅛"	9'-11"	25'-5⅝"	12.4	Yes
10'-0"	2'-0"	10"	10"	10"	3'-7"	2'-4"	3'-1½"	4'-5"	18'-10¼"	7.1	No
10'-0"	3'-0"	10"	10"	10"	4'-7"	2'-10"	4'-1½"	5'-10"	20'-10¼"	8.6	No
10'-0"	4'-0"	10"	10"	10"	5'-7"	3'-4"	5'-1½"	7'-3"	22'-10⅜"	10.2	Yes
10'-0"	5'-0"	10"	10"	10"	6'-7"	3'-10"	6'-1½"	8'-8"	24'-10⅜"	12.0	Yes
10'-0"	6'-0"	10"	10"	10"	7'-7"	4'-4"	7'-1½"	10'-1"	26'-10⅜"	13.9	Yes
11'-0"	2'-0"	11"	11"	11"	3'-8"	2'-4"	3'-2⅞"	4'-7"	20'-3⅛"	8.2	No
11'-0"	3'-0"	11"	11"	11"	4'-8"	2'-10"	4'-2⅞"	6'-0"	22'-3⅛"	9.8	No
11'-0"	4'-0"	11"	11"	11"	5'-8"	3'-4"	5'-2¼"	7'-4"	24'-1¾"	11.5	Yes
11'-0"	5'-0"	11"	11"	11"	6'-8"	3'-10"	6'-2¼"	8'-9"	26'-1¾"	13.3	Yes
11'-0"	6'-0"	11"	11"	11"	7'-8"	4'-4"	7'-2¼"	10'-2"	28'-1⅞"	15.5	Yes
12'-0"	2'-0"	12"	12"	12"	3'-9"	2'-5"	3'-3⅝"	4'-8"	21'-6½"	9.3	No
12'-0"	3'-0"	12"	12"	12"	4'-9"	2'-11"	4'-3⅝"	6'-1"	23'-6½"	11.1	No
12'-0"	4'-0"	12"	12"	12"	5'-9"	3'-5"	5'-3⅝"	7'-6"	25'-6⅝"	13.0	Yes
12'-0"	5'-0"	12"	12"	12"	6'-9"	3'-11"	6'-3⅝"	8'-11"	27'-6⅝"	14.1	Yes
12'-0"	6'-0"	12"	12"	12"	7'-9"	4'-5"	7'-3⅝"	10'-4"	29'-6⅝"	17.4	Yes

Note:
Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft.

(Sheet 1 of 2)

SCB-AES 2-17-2017

Primera
100 S. WACKER DRIVE SUITE 700 . CHICAGO IL 60606 . P:312-606-0910 F:312-606-0915

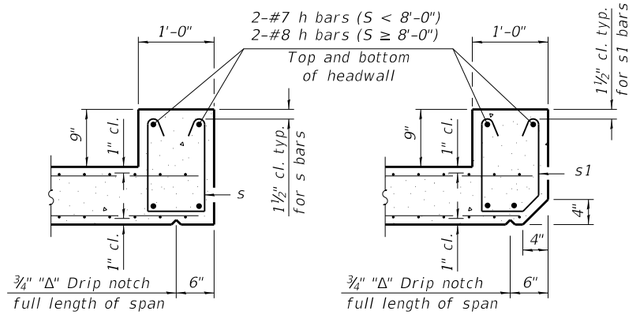
USER NAME = cdillavou	DESIGNED - NA	REVISED -	
	DRAWN - CAO	REVISED -	
PLOT SCALE = 16.0000 ' / in.	CHECKED - ZM	REVISED -	
PLOT DATE = 8/31/2020	DATE - 8/31/2020	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

END SECTION DETAILS
HARTER ROAD CULVERT REPLACEMENT

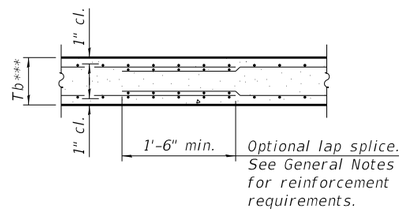
SCALE: | SHEET 3 OF 8 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	23
		CONTRACT NO.		
	ILLINOIS			

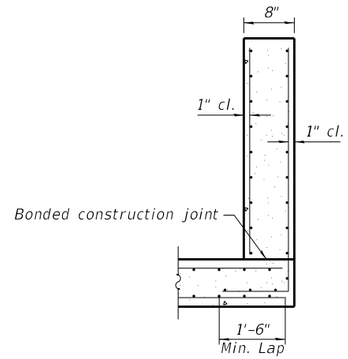


SECTION B-B
(Top slab at downstream end)

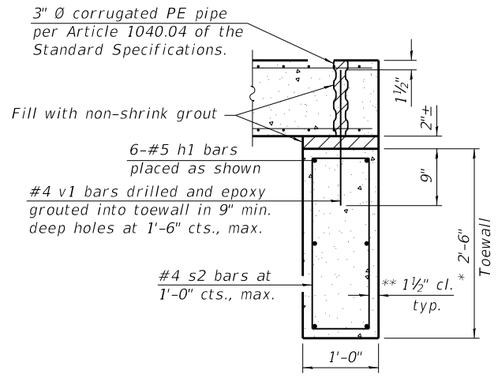
SECTION B-B
(Top slab at upstream end)



SECTION B-B
(Bottom Slab)

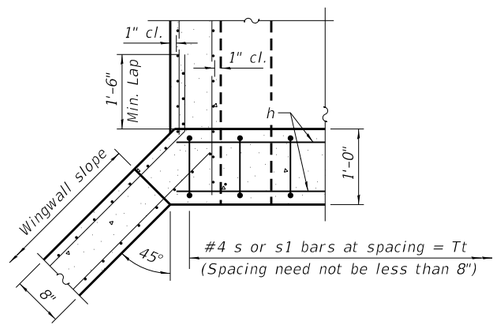


SECTION C-C

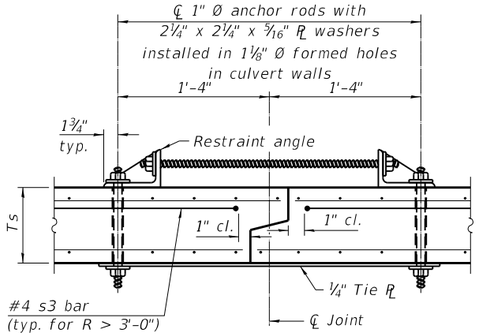


SECTION D-D

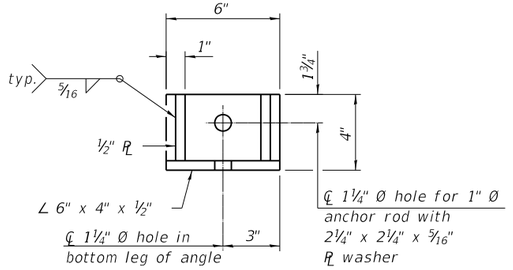
*** This dimension shall be increased by 2" for CIP construction.



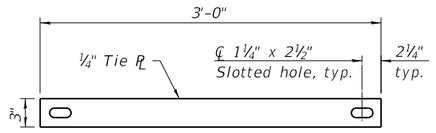
SECTION E-E



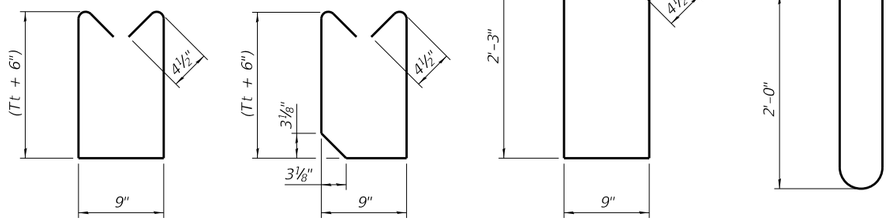
SECTION F-F
(Showing culvert tie details)



RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL



BAR s | BAR s1 | BAR s2 | BAR s3

TOEWALL CONSTRUCTION SEQUENCE

1. Perform excavation and construct toewall.
2. Backfill accordingly and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.

** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.

Notes:

1" Ø anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for the tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2¼"x2¼"x5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional ½ turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

SCB-AES 2-17-2017

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0910 F:312-606-0915

USER NAME = cdillavou	DESIGNED - NA	REVISED -	
	DRAWN - CAO	REVISED -	
PLOT SCALE = 8.0000 ' / in.	CHECKED - ZM	REVISED -	
PLOT DATE = 8/31/2020	DATE - 8/31/2020	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

END SECTION DETAILS
HARTER ROAD CULVERT REPLACEMENT

SCALE: | SHEET 4 OF 8 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	24
		CONTRACT NO.		
	ILLINOIS			

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Permanent Sheet Piling	Sq Ft	2,731

GENERAL NOTES

1. See Special Provisions for Steel Sheet Piling design and construction requirements.

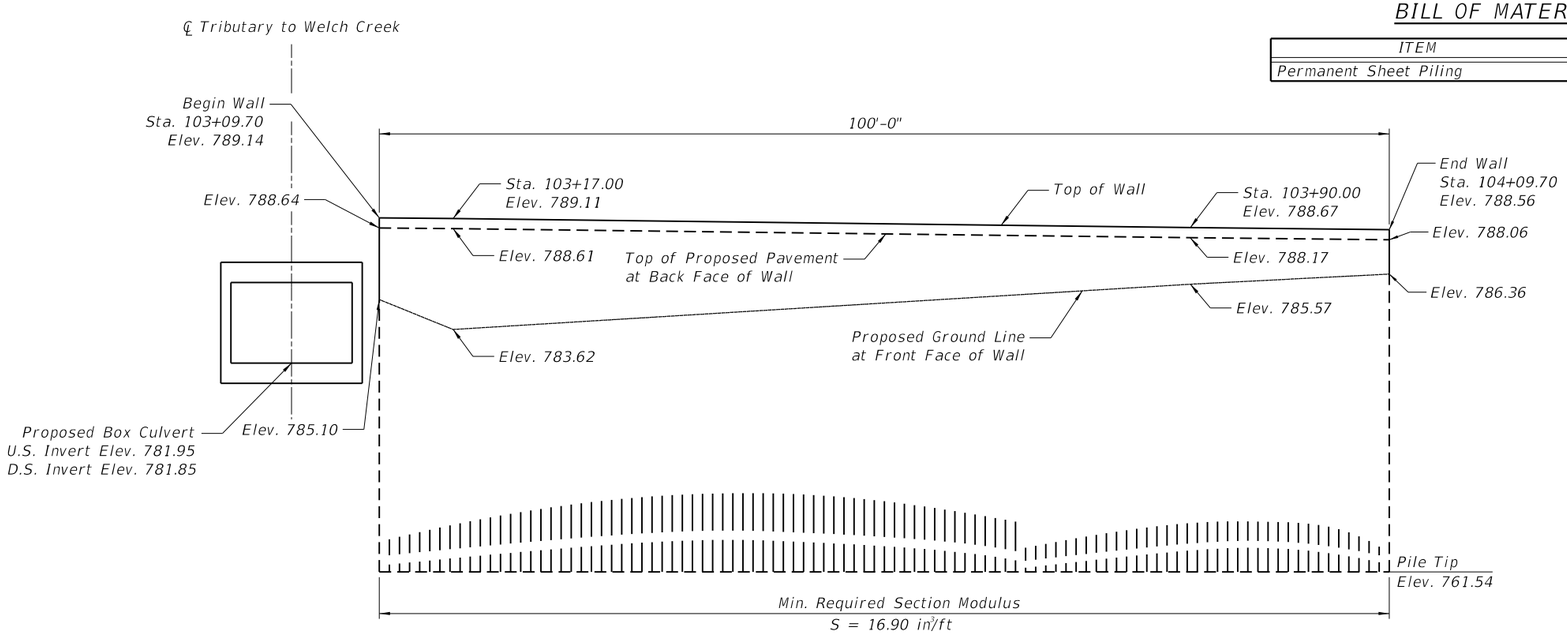
2. Permanent Steel Sheet Piling and Steel Cap station and offsets are measured to the front face of the wall. Contractor shall verify that chosen sheet pile size and offset will accommodate the minimum shoulder width as shown in the roadway plans.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge
Design Specifications, 8th Edition
and IDOT Bridge Manual, 2012

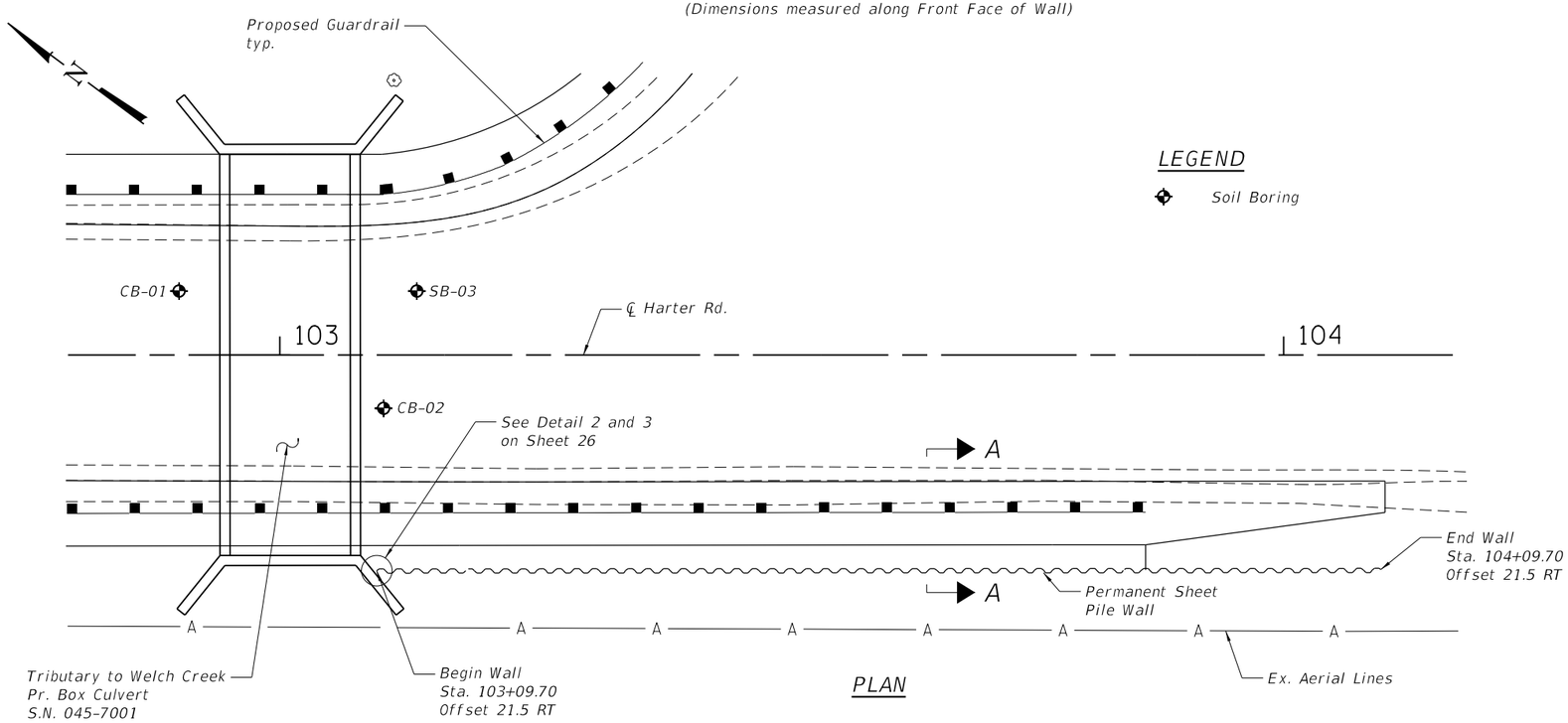
DESIGN STRESSES

fy = 50,000 psi (Steel Sheet Piling)



ELEVATION

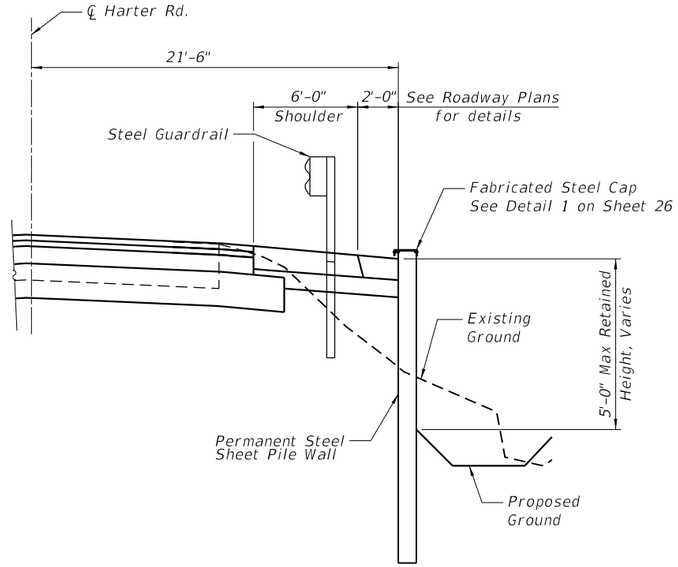
(Looking Northeast at Front Face of Wall)
(Dimensions measured along Front Face of Wall)



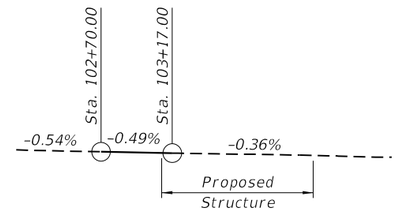
LEGEND

Soil Boring

PLAN



SECTION A-A



PROFILE GRADE

(Along ℄ Harter Rd.)

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Primera
100 S. WACKER DRIVE SUITE 700 . CHICAGO, IL 60606 . P:312-606-0910 F:312-606-0415

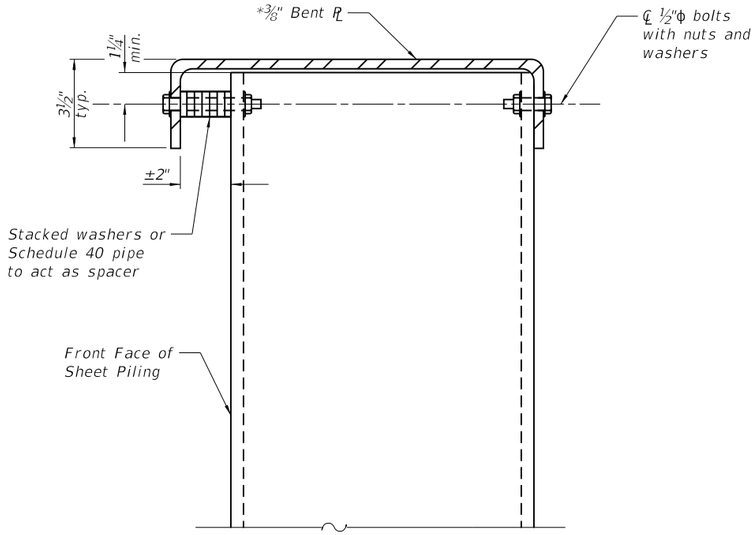
USER NAME = cdillavou	DESIGNED - NA	REVISED -	
	DRAWN - PY	REVISED -	
PLOT SCALE = 10.0000 ' / in.	CHECKED - ZM	REVISED -	
PLOT DATE = 8/31/2020	DATE - 8/31/2020	REVISED -	

KANE COUNTY
DIVISION OF TRANSPORTATION

PERMANENT SHEET PILE WALL
HARTER ROAD CULVERT REPLACEMENT

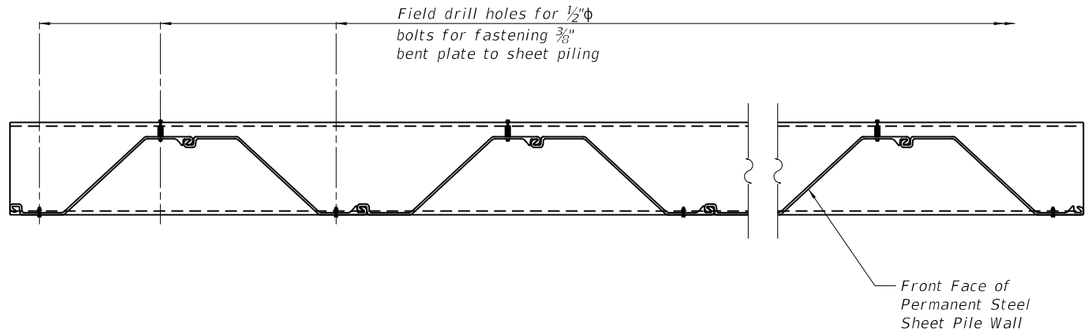
SCALE: NTS | SHEET 5 OF 8 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	25
		CONTRACT NO.		
	ILLINOIS			



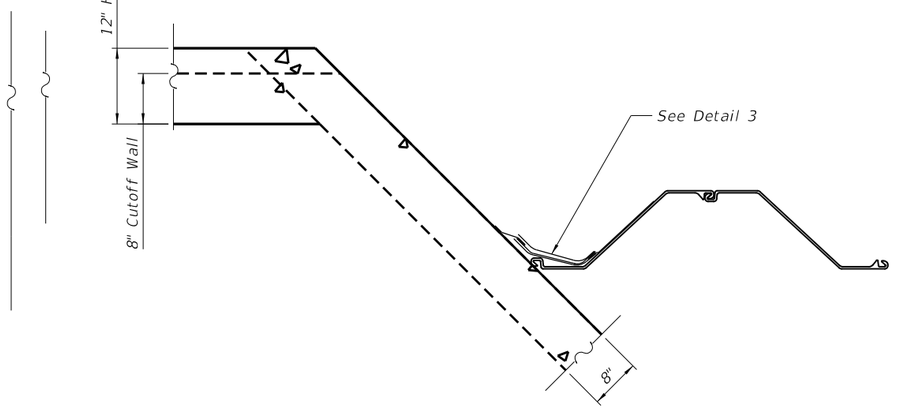
DETAIL 1

*AASHTO M270 Grade 50W

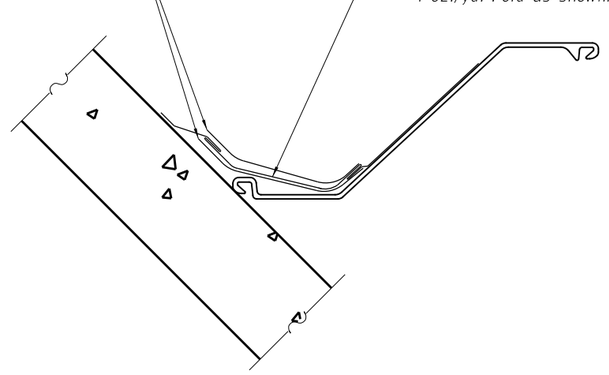


SHEET PILING WALL PLAN

Showing connection of fabricated steel cap to Permanent Steel Sheet Pile Wall



DETAIL 2



DETAIL 3

Note:
All costs associated with the installation of the geosynthetic filter fabric, fabric reinforced elastomeric mat, and steel cap, shall be included in the contract unit price for "Permanent Sheet Piling" and shall not be paid for separately.

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-906-0910 F:312-906-0915

USER NAME = cdillavou	DESIGNED - NA	REVISED -
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PLOT SCALE = 10.0000 ' / in.	CHECKED - ZM	REVISED -
PLOT DATE = 8/31/2020	DATE - 8/31/2020	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

SHEET PILE WALL DETAILS
HARTER ROAD CULVERT REPLACEMENT

SCALE: NTS | SHEET 6 OF 8 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	26
		CONTRACT NO.		
	ILLINOIS			

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING CB-01

Sheet 1 of 1

Rubino Job No.: G19.109
Project: Harter Road Culvert Replacement
Location: Harter Road
City, State: Kaneville, Illinois
Client: Primera Engineers, Ltd.

Drilling Method: 3 ¼ Hollow Stem Auger
Sampling Method: Shelby Tube/Split Spoon
Hammer Type: Automatic
Boring Location: NB lane of Harter Road
6½ feet east from center line

WATER LEVELS***
While Drilling 8.5 ft
Hole Collapse 9.5 ft
Delay N/A

Station: N/A
Offset: N/A

Surface Elev.: 789.0 ft

Elevation (feet)	Depth, (feet)	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0				Approximately 9 inches of ASPHALT				
					Approximately 8 inches of SUBBASE STONE				
785			1	9	Medium stiff, black silty CLAY, trace sand and gravel	CL	4 2 2 N=4	30	Qp=1.5 tsf 7% Organic Content
	5		2	18			2 2 3 N=5	27	Qp=0.8 tsf 5% Organic Content
			3	13	Medium stiff, brown and gray mottled silty CLAY, trace sand and gravel	CL	0 2 3 N=5	17	Qp=1.0 tsf
780			4	15	Medium stiff, brown silty CLAY, trace sand and gravel	CL	0 2 2 N=4	15	Qp=0.3 tsf
	10		5	18			2 1 3 N=4	15 12	Qp=0.3 tsf
775			6	15	Stiff, gray silty CLAY, trace sand and gravel	CL	4 4 6 N=10	11	Qp=3.0 tsf
	15				End of boring at approximately 15 feet below existing grade.				

STANDARD PENETRATION TEST DATA
Moisture PL LL (0 25 50)
STRENGTH, tsf Qu Qp (0 2.0 4.0)

Completion Depth: 15.0 ft
Date Boring Started: 10/28/19
Date Boring Completed: 10/28/19
Logged By: J.W.
Drilling Contractor: Rubino Engineering, Inc.

Sample Types: Auger Cutting, Split-Spoon, Rock Core, Pressuremeter, Shelby Tube, Grab Sample, No Recovery

Latitude: 41.840224
Longitude: -88.528338
Drill Rig: Geoprobe 7822DT
Remarks:

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING CB-02

Sheet 1 of 1

Rubino Job No.: G19.109
Project: Harter Road Culvert Replacement
Location: Harter Road
City, State: Kaneville, Illinois
Client: Primera Engineers, Ltd.

Drilling Method: 3 ¼ Hollow Stem Auger
Sampling Method: Shelby Tube/Split Spoon
Hammer Type: Automatic
Boring Location: SB lane of Harter Road
6 feet west from center line

WATER LEVELS***
While Drilling 8.5 ft
Upon Completion 9 ft
Delay N/A

Station: N/A
Offset: N/A

Surface Elev.: 789.1 ft

Elevation (feet)	Depth, (feet)	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0				Approximately 9 inches of ASPHALT				
			1	15	FILL: brown and gray gravel with sand and fines		8 12 13 N=25	6	
785			2	0	Medium stiff, black silty CLAY, trace sand and gravel	CL	2 2 2 N=4	22	
	5		3	2	Soft to medium stiff, brown silty CLAY, trace sand and gravel		0 1 1 N=2	17 18	Q_u = 0.5 tsf
780			4	17		CL	0 1 2 N=3	14	Qp=0.5 tsf
	10		5	18			2 2 3 N=5	12	Qp=0.5 tsf
775			6	15	Stiff, gray silty CLAY, trace sand and gravel	CL	5 5 7 N=12	13 12	Qp=1.5 tsf
	15				End of boring at approximately 15 feet below existing grade.				

STANDARD PENETRATION TEST DATA
Moisture PL LL (0 25 50)
STRENGTH, tsf Qu Qp (0 2.0 4.0)

Completion Depth: 15.0 ft
Date Boring Started: 10/28/19
Date Boring Completed: 10/28/19
Logged By: J.W.
Drilling Contractor: Rubino Engineering, Inc.

Sample Types: Auger Cutting, Split-Spoon, Rock Core, Pressuremeter, Shelby Tube, Grab Sample, No Recovery

Latitude: 41.840156
Longitude: -88.528318
Drill Rig: Geoprobe 7822DT
Remarks:

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0900 F:312-606-0915

USER NAME = cdillavou	DESIGNED - NA	REVISED -	KANE COUNTY DIVISION OF TRANSPORTATION
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PLOT SCALE = 2.0000 ' / in.	CHECKED - ZM	REVISED -	
PLOT DATE = 8/31/2020	DATE - 8/31/2020	REVISED -	

SOIL BORING LOGS
HARTER ROAD CULVERT REPLACEMENT
SCALE: SHEET 7 OF 8 SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	27
		CONTRACT NO.		
	ILLINOIS			

rubino ENGINEERING INC.
Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING SB-03

Rubino Job No.: G19.109
Project: Harter Road Culvert Replacement
Location: Harter Road
City, State: Kaneville, Illinois
Client: Primera Engineers, Ltd.

Drilling Method: 3 ¼ Hollow Stem Auger
Sampling Method: Split Spoon
Hammer Type: Automatic
Boring Location: NB lane of Harter Road
6½ feet east from center line

WATER LEVELS***
While Drilling 6 ft
Hole Collapse 9 ft
Delay N/A

Station: N/A
Offset: N/A

Surface Elev.: 788.9 ft

Elevation (feet)	Depth, (feet)	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0				Approximately 8¼ inches of ASPHALT				
					Approximately 5¾ inches of SUBBASE STONE				
785			1	13	Soft to medium stiff, black silty CLAY, trace sand and gravel	CL	3 3 3 N=6	25	Qp=1.8 tsf 6% Organic Content
	5		2	14			1 2 1 N=3	23	Qp=1.3 tsf 4% Organic Content
			3	18	Very soft, brown silty CLAY, trace sand and gravel	CL	1 0 1 N=1	14	Qp=0.0 tsf
780			4	18	Medium stiff, brown silty CLAY, trace sand and gravel	CL	1 1 3 N=4	14	Qp=0.5 tsf
	10		5	18			2 3 3 N=6	12	Qp=1.0 tsf
775			6	18	Stiff, gray silty CLAY, trace sand and gravel	CL	2 4 7 N=11	10 13	Qp=1.5 tsf
	15				End of boring at approximately 15 feet below existing grade.				

STANDARD PENETRATION TEST DATA
Moisture PL LL (0 25 50)
STRENGTH, tsf Qu Qp (0 2.0 4.0)

Completion Depth: 15.0 ft
Date Boring Started: 10/28/19
Date Boring Completed: 10/28/19
Logged By: J.W.
Drilling Contractor: Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.840169
Longitude: -88.528279
Drill Rig: Geoprobe 7822DT
Remarks:

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0900 F:312-606-0915

USER NAME = cdillavou	DESIGNED - NA	REVISED -	KANE COUNTY DIVISION OF TRANSPORTATION
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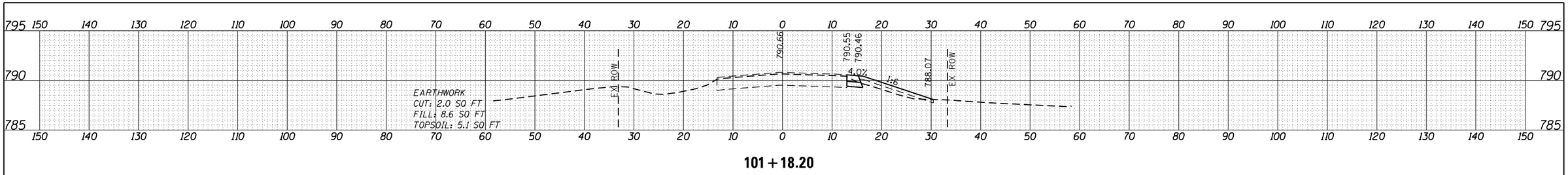
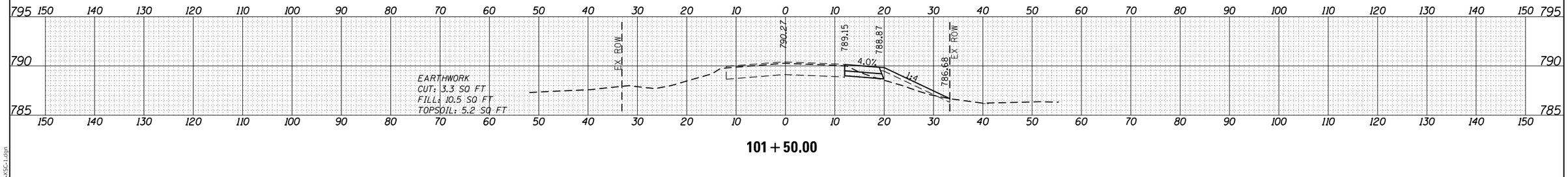
PLOT DATE = 8/31/2020	DATE - 8/31/2020	REVISED -	

SOIL BORING LOGS
HARTER ROAD CULVERT REPLACEMENT
SCALE: SHEET 8 OF 8 SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	28
		CONTRACT NO.		
	ILLINOIS			



101 + 18.20



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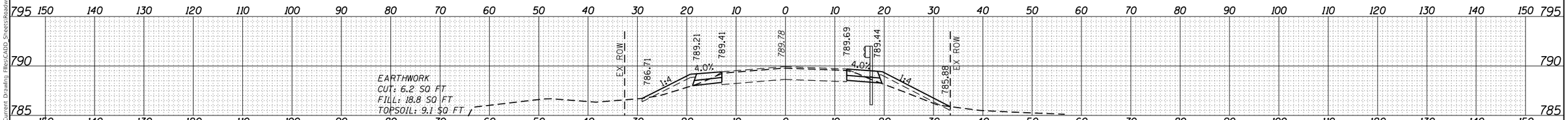

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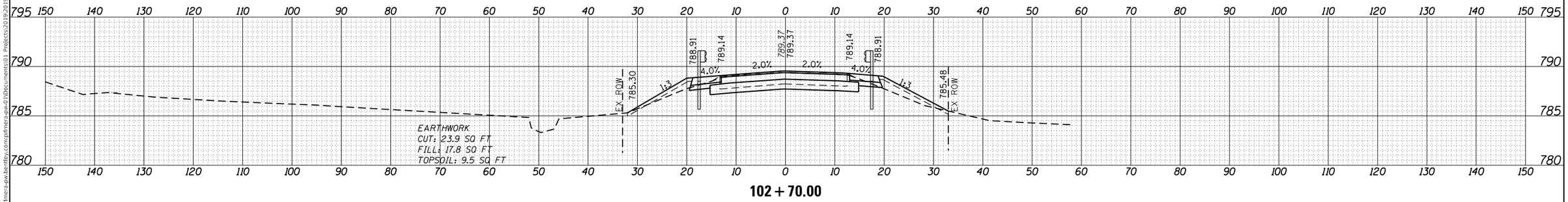

102 + 70.00

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Primera
100 S. WACKER DRIVE SUITE 700 . CHICAGO IL 60606 . P:312-606-0900 F:312-606-0415

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PLOT DATE = 8/31/2020	DATE -	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CROSS SECTIONS
HARTER ROAD CULVERT REPLACEMENT

SCALE: 1" = 10' (H) 1" = 5' (V) | SHEET 1 OF 3 SHEETS | STA. 101+18.20 TO STA. 102+70.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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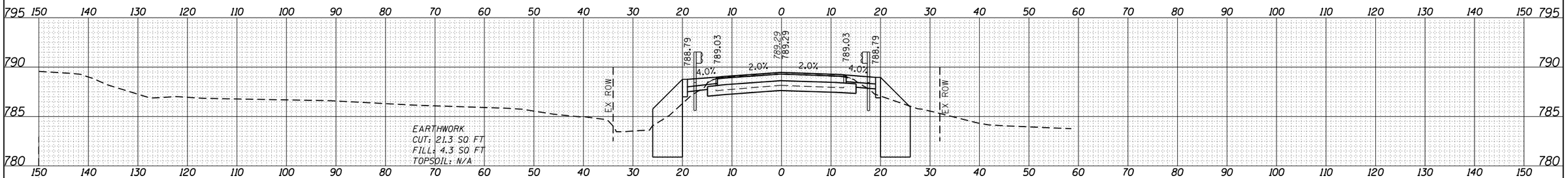
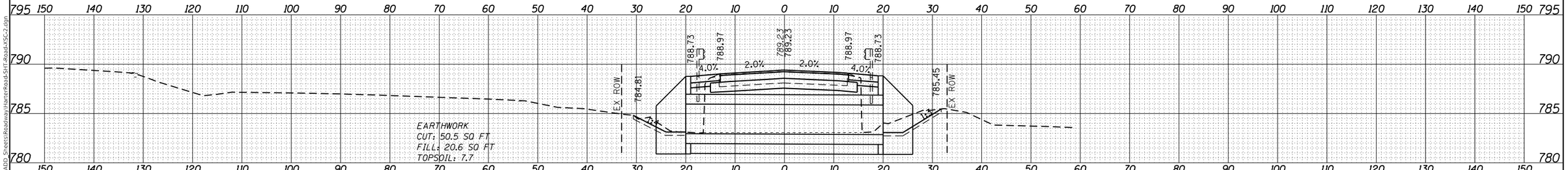
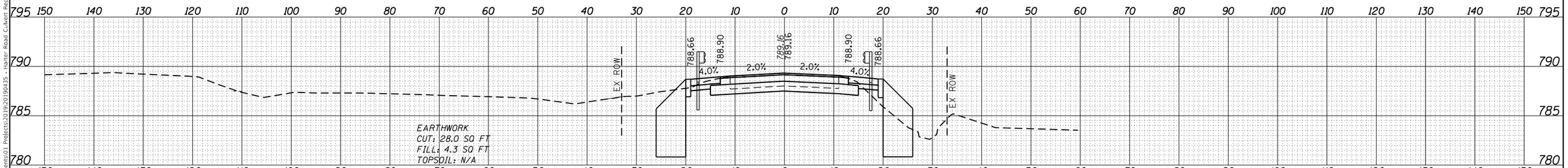
		CONTRACT NO.		
	ILLINOIS			



102 + 88.00



103 + 00.00



103 + 15.00

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-606-0900 F:312-606-0415

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	DRAWN -	REVISED -
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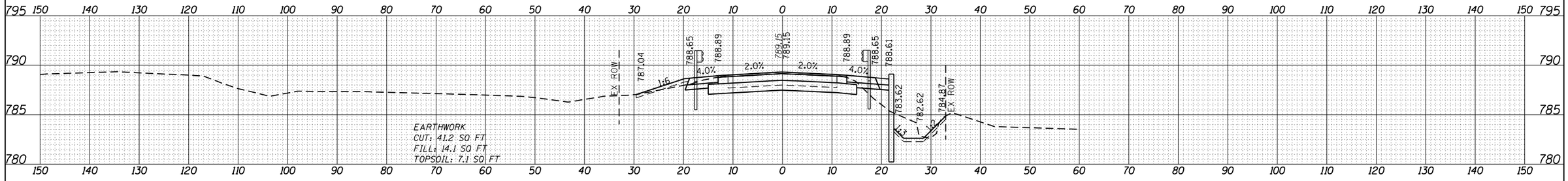
PLOT DATE = 8/31/2020	DATE -	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

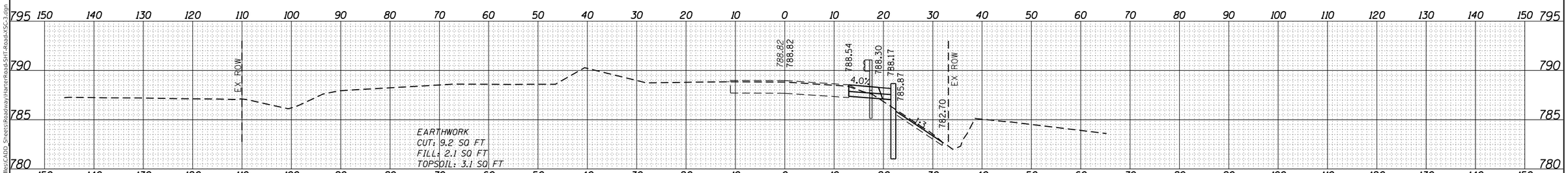
CROSS SECTIONS
HARTER ROAD CULVERT REPLACEMENT

SCALE: 1" = 10' (H) 1" = 5' (V) | SHEET 2 OF 3 SHEETS | STA. 102+88.00 TO STA. 103+15.00

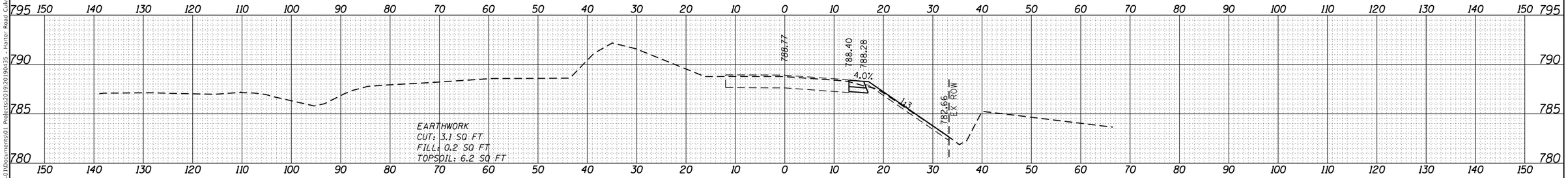
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	30
		CONTRACT NO.		
	ILLINOIS			



103 + 17.00



103 + 90.00



104 + 10.10

Primera
100 S. WACKER DRIVE SUITE 700 , CHICAGO IL 60606 , P:312-506-0900 F:312-506-0915

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	DRAWN -	REVISED -
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PLOT DATE = 8/31/2020	DATE -	REVISED -

KANE COUNTY
DIVISION OF TRANSPORTATION

CROSS SECTIONS
HARTER ROAD CULVERT REPLACEMENT

SCALE: 1" = 10' (H), 1" = 5' (V) | SHEET 3 OF 3 SHEETS | STA. 103+17.00 TO STA. 104+10.10

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	19-00509-00-BR	KANE	31	31
		CONTRACT NO.		
	ILLINOIS			