RETURN WITH BID

REL # 14-728

Village of Villa Park

Local Public Agency
Formal Contract Proposal

2015 Concrete Street Improvement Program

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

STATE OF ILLINOIS

COUNTY OF DuPage

Village of Villa Park

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

FOR THE IMPROVEMENT OF

STREET NAME OR ROUTE NO. Various Streets

SECTION NO. N/A

TYPES OF FUNDS Local

☒ SPECIFICATIONS (required) ☒ PLANS (required)

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

County DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various Streets

NOTICE TO BIDDERS

Sealed proposals for the improvement described below will be received at the office of Director of Public Works ,
11 W. Home Ave., Villa Park, IL 60181 (Address) until 10:00 AM (Time) on July 7, 2015 (Date)

Sealed proposals will be opened and read publicly at the office of Public Works Director
11 W. Home Ave., Villa Park, IL 60181 (Address) at 10:00 AM (Time) on July 7, 2015 (Date)

DESCRIPTION OF WORK

Name 2015 Concrete Street Improvement Program Length: 5,600 feet (1.06 miles)
Location Various Streets within the Village of Villa Park
Proposed Improvement PCC pavement, PCC pavement patching, PCC surface diamond grind, misc. repairs, structure adjustments, and necessary restoration.

1. Plans and proposal forms will be available in the office of Villa Park Public Works, 11 W. Home Ave, Villa Park , IL 60181 (Address) for a non-refundable fee of $20.00. Please contact the Village of Villa Park at 630-834-8505 with any questions.
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
   d. BLR 12325: Apprenticeship or Training Program Certification
   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.

RETURN WITH BID

PROPOSAL

County DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various Streets

1. Proposal of _____

for the improvement of the above section by the construction of PCC pavement, PCC pavement patching, PCC surface diamond grind, misc. repairs, structure adjustments, and necessary restoration.

a total distance of 5,600 feet, of which a distance of 5,600 feet, (1.06 miles) are to be improved.

2. The plans for the proposed work are those prepared by Robinson Engineering, Ltd. and approved by the Village of Villa Park on June 19, 2015
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 60 calendar days 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:

Village Treasurer of Villa Park, IL

The amount of the check is Five Percent (5%) of the Bid Amount ( ).

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 N/A.
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

SCHEDULE OF PRICES

County DuPage
Local Public Agency Village of Villa Park
Section N/A
Route Various Streets

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	PORTLAND CEMENT CONCRETE SURFACE DIAMOND GRIND	SQ YD	18,637		
2	PAVEMENT REMOVAL	SQ YD	4,130		
3	PORTLAND CEMENT CONCRETE PAVEMENT, 8" (JOINTED)	SQ YD	4,915		
4	AGGREGATE BASE COURSE, TYPE B, 6"	SQ YD	4,915		
5	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 4", RESIDENTIAL	SQ YD	58		
6	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 6", COMMERCIAL	SQ YD	374		
7	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6", RESIDENTIAL	SQ YD	48		
8	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8", COMMERCIAL	SQ YD	608		
9	DRIVEWAY PAVEMENT REMOVAL	SQ YD	1,089		
10	PROTECTIVE COAT	SQ YD	23,552		
11	CLASS B PATCHES, TYPE II - 8"	SQ YD	1,058		
12	CLASS B PATCHES, TYPE III - 8"	SQ YD	2,741		
13	CLASS B PATCHES, TYPE IV - 8"	SQ YD	1,727		
14	PAVEMENT FABRIC	SQ YD	9,320		
15	DOWEL BARS 1-1/2"	EACH	12,135		
16	TIE BARS - 3/4"	EACH	2,807		
17	SODDING SPECIAL	SQ YD	887		
18	SAWING PORTLAND CEMENT CONCRETE PAVEMENT (FULL DEPTH)	FOOT	3,311		
19	SIDEWALK REMOVAL	SQ FT	363		
20	PORTLAND CEMENT CONCRETE SIDEWALK 5"	SQ FT	176		
21	DETECTABLE WARNINGS	SQ FT	70		
22	COMBINATION CURB AND GUTTER REMOVAL	FOOT	1,847		
23	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED)	FOOT	1,847		
24	STRUCTURES TO BE ADJUSTED	EACH	39		
25	STRUCTURES TO BE RECONSTRUCTED	EACH	6		
26	FRAMES AND LIDS, TYPE 1	EACH	7		
27	FRAMES AND GRATES, TYPE 11	EACH	7		
28	EARTH EXCAVATION (SPECIAL)	CU YD	1,335		
29	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS	CU YD	773		
30	POROUS GRANULAR EMBANKMENT	CU YD	773		
31	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	2,319		
32	AGGREGATE FOR TEMPORARY ACCESS	TON	55		
33	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE, 24"	FOOT	44		
34	TRAFFIC CONTROL AND PROTECTION	L SUM	1		
35	PRECONSTRUCTION VIDEO RECORDING	L SUM	1		
36	CONTINGENCY ALLOWANCE	DOLLARS	50,000	$1.00	$50,000.00

CONTRACTOR CERTIFICATIONS

County DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various Streets

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 Deliquency.** 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 DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various Streets

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

REL #14-728

Local Agency Proposal Bid Bond

Route Various Streets
County DuPage
Local Agency Village of Villa Park
Section N/A

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)

By: _____ (Signature and Title)

_____ (Company Name)

By: _____ (Signature and Title)

(If PRINCIPLE 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

REL #14-728

Apprenticeship or Training Program Certification

Return with Bid

Route	Various Streets
County	DuPage
Local Agency	Village of Villa Park
Section	N/A

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

Affidavit of Illinois Business Office

County DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various Streets

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)

Affidavit of Availability

For the Letting of July 7,2015

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	
Contract Number						
Contract With						
Estimated Completion Date						
Total Contract Price						Accumulated Totals
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.

						Accumulated Totals
Earthwork						
Portland Cement Concrete Paving						
HMA Plant Mix						
HMA Paving						
Clean & Seal Cracks/Joints						
Aggregate Bases & Surfaces						
Highway, R.R. and Waterway Structures						
Drainage						
Electrical						
Cover and Seal Coats						
Concrete Construction						
Landscaping						
Fencing						
Guardrail						
Painting						
Signing						
Cold Milling, Planning & Rotomilling						
Demolition						
Pavement Markings (Paint)						
Other Construction (List)						
						$ 0.00
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					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Total Uncompleted					

I, being duly sworn, do hereby declare that 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.

Subscribed and sworn to before me

this _____ day of _____ , _____ Type or Print Name _____

Officer or Director Title

_____ Signed _____

Notary Public

My commission expires _____

Company _____

(Notary Seal)

Address _____

_____

Local Public Agency
Formal Contract

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

STATE OF ILLINOIS

COUNTY DuPage

Village of Villa Park

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

FOR THE IMPROVEMENT OF

STREET NAME OR ROUTE Various Streets

SECTION NO. N/A

TYPES OF FUNDS Local

☒ SPECIFICATIONS (required) ☒ PLANS (required) ☒ CONTRACT BOND (when required)

For Municipal Projects

Submitted/Approved/Passed

☐ Mayor ☐ President of Board of Trustees ☐ Municipal Official

Date

Department of Transportation

☐ Concurrence in approval of award

Regional Engineer

Date

For County and Road District Projects

Submitted/Approved

Highway Commissioner

Date

Submitted/Approved

County Engineer/Superintendent of Highways

Date

County DuPage
Local Public Agency Villa Park
Section Number N/A
Route Various Streets

1. THIS AGREEMENT, made and concluded the _____ day of _____ (Month and Year), between the President of the Village of Villa Park acting by and through its Board of Trustees known as the party of the first part, and _____ his/their executors, administrators, successors or assigns, known as the party of the second part.

2. Witnesseth: That for and in consideration of the payments and agreements mentioned in the Proposal hereto attached, to be made and performed by the party of the first part, and according to the terms expressed in the Bond referring to these presents, the party of the second part agrees with said party of the first part at his/their own proper cost and expense to do all the work, furnish all materials and all labor necessary to complete the work in accordance with the plans and specifications hereinafter described, and in full compliance with all of the terms of this agreement and the requirements of the Engineer under it.

3. And it is also understood and agreed that the LPA Formal Contract Proposal, Special Provisions, Affidavit of Illinois Business Office, Apprenticeship or Training Program Certification, and Contract Bond hereto attached, and the Plans for Route Various Streets, in the Village of Villa Park, approved by the Village of Villa Park on June 19, 2015 (Date), are essential documents of this contract and are a part hereof.

4. IN WITNESS WHEREOF, The said parties have executed these presents on the date above mentioned.

Attest: _____ Clerk

(Seal)

The Village of Villa Park

By _____
Party of the First Part

(If a Corporation)

Corporate Name _____

By _____
President Party of the Second Part

(If a Co-Partnership)

Attest: _____
Secretary

_____
Partners doing Business under the firm name of

_____
Party of the Second Part

(If an individual)

Party of the Second Part

Contract Bond

Route Various Streets
County DuPage
Local Agency Villa Park
Section N/A

We , _____

a/an) ☐ Individual ☐ Co-partnership ☐ Corporation organized under the laws of the State of _____ ,

as PRINCIPAL, and _____

_____ as SURETY,

are held and firmly bound unto the above Local Agency (hereafter referred to as "LA") in the penal sum of

_____ Dollars (_____), lawful money of the United States, well and truly to be paid unto said LA, for the payment of which we bind ourselves, our heirs, executors, administrators, successors, jointly to 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 has entered into a written contract with the LA acting through its awarding authority for the construction of work on the above section, which contract is hereby referred to and made a part hereof, as if written herein at length, and whereby the said Principal has promised and agreed to perform said work in accordance with the terms of said contract, and has promised to pay all sums of money due for any labor, materials, apparatus, fixtures or machinery furnished to such Principal for the purpose of performing such work and has further agreed to pay all direct and indirect damages to any person, firm, company or corporation suffered or sustained on account of the performance of such work during the time thereof and until such work is completed and accepted; and has further agreed that this bond shall inure to the benefit of any person, firm, company or corporation to whom any money may be due from the Principal, subcontractor or otherwise for any such labor, materials, apparatus, fixtures or machinery so furnished and that suit may be maintained on such bond by any such person, firm, company or corporation for the recovery of any such money.

NOW THEREFORE, if the said Principal shall well and truly perform said work in accordance with the terms of said contract, and shall pay all sums of money due or to become due for any labor, materials, apparatus, fixtures or machinery furnished to him for the purpose of constructing such work, and shall commence and complete the work within the time prescribed in said contract, and shall pay and discharge all damages, direct and indirect, that may be suffered or sustained on account of such work during the time of the performance thereof and until the said work shall have been accepted, and shall hold the LA and its awarding authority harmless on account of any such damages and shall in all respects fully and faithfully comply with all the provisions, conditions and requirements of said contract, then this obligation to be void; otherwise to remain in full force and effect.

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

PRINCIPAL

_____ (Company Name)

By: _____ (Signature & Title)

Attest: _____ (Signature & Title)

_____ (Company Name)

By: _____ (Signature & Title)

Attest: _____ (Signature & Title)

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

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 or PRINCIPAL)

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

Given under my hand and notarial seal this _____ day of _____ A.D. _____

My commission expires _____ _____ Notary Public **(SEAL)**

SURETY

_____ (Name of Surety)

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

STATE OF ILLINOIS. **(SEAL)**

COUNTY OF _____

I, _____ , a Notary Public in and for said county, do hereby certify that

_____

_____

(Insert names of individuals signing on behalf or SURETY)

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

Given under my hand and notarial seal this _____ day of _____ A.D. _____

My commission expires _____ _____ Notary Public **(SEAL)**

Approved this _____ day of _____ , A.D. _____

Attest:

_____ _____ (Awarding Authority)

_____ Clerk _____ (Chairman/Mayor/President)

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2012 (referred to hereinafter as the Standard Specifications); the "Supplemental Specifications and Recurring Special Provisions", adopted January 1, 2014; the latest edition of the "Illinois Manual on Uniform Traffic Control Devices For Streets and Highways" (IMUTCD); and the "Standard Specifications for Water and Sewer Construction in Illinois", July 2009, Sixth Edition (referred to hereinafter as the Water and Sewer Specifications). In case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern. Where no conflict exists, the said Specifications shall apply to this Contract as if repeated in their entirety herein.

LOCATION OF PROJECT

This contract shall consist of general maintenance work throughout the Village of Villa Park. Following is the list of locations where this work shall occur:

Ellsworth Ave.	From	North Ave.	To	Armitage Ave.
Armitage Ave.	From	Ellsworth Ave.	To	Villa Ave.
Adele Ct.	From	Ellsworth Ave.	To	East End
Sidney Ct.	From	Ellsworth Ave.	To	East End
Stone Rd.	From	North Ave.	To	Michigan Ave.

DESCRIPTION OF PROJECT

This project is a general maintenance project and the work to be performed under this contract includes, but is not limited to, Portland Cement Concrete Pavement Removal, Portland Cement Concrete Pavement, Portland Cement Concrete Pavement Patching, Portland Cement Concrete Surface Diamond Grinding, combination curb and gutter removal and replacement, drainage structure adjustments, and all incidental and collateral work necessary to complete the project as described herein.

The location of the work to be performed shall be as marked in the field by the Resident Engineer. The exact locations of Portland Cement Concrete Pavement Patching, Portland Cement Concrete pavement removal, and combination curb and gutter removal and replacement shall be provided during construction by the Resident Engineer. Stone Road will have the existing pavement removed and a new 8" Portland Cement Concrete Pavement section constructed.

DEFINITIONS

Contractor. The individual, firm, partnership, joint venture, or corporation contracting with the Village of Villa Park for performance of prescribed work.

Department, Owner or Village. The Village of Villa Park, DuPage County, Illinois.

Engineer. The Resident Engineer who is the authorized representative of the Village of Villa Park in immediate charge of the engineering details of a construction project.

QUALIFICATIONS OF BIDDERS

Bidders will comply with all applicable Federal, State and local laws and requirements, and will further meet the qualifications prescribed in this and other applicable portions of these provisions.

Bidder, in submitting a Bid, certifies that Bidder is in compliance with all applicable Federal, State and local laws and requirements, and that Bidder further meets the qualifications prescribed in this and other applicable portions of these provisions. Engineer's determination as to the compliance and qualifications of the Bidder will be final, and Bidder, in submitting a Bid, agrees to be bound by that determination.

Bidder, in submitting a Bid, certifies that Bidder is in compliance with the following requirements and qualifications. Bidder further certifies that Bidder is able to provide written evidence of Bidder's compliance with the following requirements and qualifications. Bidder shall, upon request by Engineer, submit such written evidence within five (5) calendar days of the Engineer's request, as well as any other written evidence which Engineer may deem necessary for the purpose of evaluating Bidder's qualifications.

(a) Bidder shall be qualified to do business in the State of Illinois.

(b) Bidder shall possess either a valid Federal Employer Tax Identification Number (FEIN) or a valid Social Security Number (SSN).

(c) Bidder shall be able to provide a street address and description of the Bidder's place of business, and the mailing address of the business, if different from the street address.

(d) Bidder shall be able to provide the number of years Bidder has been engaged in the contracting business under the present firm name, and the name of the state where incorporated.

(e) Bidder shall be able to provide a list of the property and equipment available to the Bidder.

(f) Bidder shall be able to provide a financial statement demonstrating that the Bidder has the financial resources to meet all obligations related to the Work.

(g) Bidder shall maintain insurance policies with the coverages required by the Contract, and with the minimum limits of coverage required by the Contract. Bidder shall be able to provide current certificate(s) of insurance for the insurance policies held by Bidder, demonstrating that Bidder holds insurance policies with the coverages required by the contract, and with the minimum limits of coverage required by the Contract.

(h) Bidder shall have constructed a minimum of three (3) projects of a similar nature in the immediate past five (5) years. Bidder shall be able to provide a list of all projects of a similar nature constructed by Bidder in the immediate past five (5) years, which list shall contain the minimum of three (3) such projects, which list shall provide a description and the location(s) of all such projects, and shall contain the Bidder's performance record and references, as well as the names and current contact information, including addresses and telephone numbers, of persons who acted as owners' representatives for those projects and who have knowledge of those projects, and whom Bidder agrees the Village may contact for the purpose of verifying Bidder's performance and references.

(i) Bidder shall be able to provide a list of three (3) references (name, address and telephone number) with knowledge of the integrity and business practices of the bidder. Such references may not be persons who have been employed by Bidder as employees.

(j) Bidder shall be able to provide a list of projects presently under Contract, the awarded Contract amount of each, the approximate adjusted Contract amount of each (if applicable), and the dollar amount or percent of completion of each.

(k) Bidder shall be able to provide a list of Contracts which have resulted in lawsuits, whether against Bidder as a prime contractor, against Bidder as a subcontractor, or against Bidder as a party in any other capacity; or against subcontractors or suppliers performing work for Bidder or under Contract held by Bidder.

(l) Bidder shall be able to provide a list of Contracts defaulted.

(m) Bidder shall be able to provide a statement indicating whether or not Bidder has ever filed bankruptcy.

(n) Bidder shall be able to provide a list of all officers of the firm, which list shall also indicate those officers who, while in the employ of the firm or in the employ of previous firms, were associated with Contracts which resulted in lawsuits, Contracts defaulted, or firms which filed for bankruptcy.

(o) Bidder shall maintain personnel guaranteed to be employed in the responsible charge of the Work, which personnel possess sufficient technical experience to ensure the satisfactory completion of the Work. Bidder shall be able to provide the names and technical experience of such personnel, as well as statements as to whether the personnel have or have not performed satisfactorily on other contracts of like nature and magnitude or comparable difficulty at similar rate of progress.

(p) Bidder shall be able to provide a list of subcontractors and suppliers anticipated to be employed by Bidder for the purpose of completing the Work, including the firm name, street address and description of place of business; mailing address of business (if different); phone, fax and e-mail contact information of business; name of primary contact; and a list of any projects or contracts for which Bidder currently owes monies to said firm, which list shall include a description of the project or contract, the amount currently due to said firm, the period of time for which those monies have been owed, and the expected date of payment of those monies.

(q) Bidder shall participate in active apprenticeship and training programs approved by and registered with the United States Department of Labor Bureau of Apprenticeship and Training for each of the trades of work contemplated under the Contract. Bidder shall be able to provide evidence of Bidder's participation in such apprenticeship and training programs.

(r) Bidder shall only employ subcontractors who meet the requirements prescribed in this section and other sections of these specifications.

(s) Bidder shall be able to provide such other information as may assist the Village in determining whether the Bidder is adequately prepared to fulfill the Contract.

These requirements and qualifications are not intended to discourage bidding, to make it difficult for qualified Bidders to submit Bids, or to discourage beginning contractors. The purpose of these requirements and qualifications is to allow the Village to obtain sufficient information about Bidder's financial state, available equipment, personnel, and previous work experience so that the Village may mitigate the hazards involved in awarding contracts to parties who may not be qualified to perform the Work as specified.

INCREASED OR DECREASED QUANTITIES

The Village reserves the right to increase or decrease the amount of work shown in the plans in accordance with Section 109 of the Standard Specifications.

SUBCONTRACTING

Add the following to the end of Section 108.01 of the Standard Specifications:

"The apparent low Bidder will submit to the Engineer within ten calendar days after the receipt of bids, a list of the names of Bidder's proposed subcontractors along with a description of the work to be performed by each."

WORKING HOURS

Working hours will be between 7:00 A.M. and 5:00 P.M., Monday through Friday, excluding legal holidays as designated by the Contract.

Contractor will not permit the performance of Work outside these working hours without Owner's written consent, which may be given after prior written request to Engineer, except as otherwise required for the safety of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents.

If Contractor permits the performance of Work outside these working hours, Contractor will compensate Owner for the costs of inspection and other services provided by Engineer. Owner will determine the rates at which such inspection and other services are to be compensated. Owner will determine the interval or intervals at which billing will take place, and may, at Owner's discretion, submit invoices for payment to Contractor, or deduct the costs from any monies due or to become due to the Contractor from Owner.

HOLIDAYS

Add the following to the list of legal holidays in Article 107.09 of the Standard Specifications:

Thanksgiving Friday
Christmas Eve
New Year's Eve

INSURANCE

Insurance and indemnification shall be according to applicable sections of the Standard Specifications, and shall also be according to the "IRMA Contractual Insurance Guidelines", incorporated herein as Appendix A. If a conflict is determined to exist between the requirements prescribed in the Standard Specifications and the requirements prescribed in the IRMA Contractual Insurance Guidelines, such conflict will be resolved as follows:

a. If a particular type of insurance coverage is required by one standard but not by both, that type of insurance coverage will be required.

b. If the minimum limits of insurance coverage required by one standard differ from those required by the other standard, the higher minimum limits of insurance coverage will prevail.

c. If any other conflicts are determined to exist between the requirements prescribed in the two standards, the stricter of the two requirements will prevail. Owner will make the final determination as to what constitutes a stricter requirement.

MAINTENANCE OF ROADWAYS

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".

MOBILIZATION

Mobilization will be according to Section 671 of the Standard Specifications except as modified herein.

Revise Article 671.02, Basis of Payment, to read:

"**671.02 Basis of Payment.** Mobilization will not be paid for separately but rather shall be included in the cost of the items for which this work applies."

MAINTENANCE GUARANTEE

The Contractor shall execute and deliver to the Village of Villa Park, before final payment will be issued, a written warranty, in a form satisfactory to the Village, which guarantees that the work is in accordance with the Contract Documents and will not be defective. This warranty shall guarantee this work for a period of one (1)-year from the date of acceptance of the work and final payment by the Village of Villa Park.

If within this guarantee period, any work is found to be defective, as determined by the Village, the Contractor shall promptly and without cost to the Village of Villa Park, correct or repair such defective work, or remove and replace the defective work in accordance with the Special Provisions for the items in question.

The Contractor shall furnish a warranty bond in an amount equal to fifty percent (50%) of the contract amount by a surety satisfactory to the Village to guarantee Contractor's warranty to repair defective work.

USE OF FIRE HYDRANTS

Effective: August 27, 2013
Revised: February 7, 2014

Revise Article 107.18 of the Standard Specifications to read:

"**107.18 Use of Fire Hydrants.** If Contractor requires water for the completion of construction operations, and desires to obtain water from Owner, Contractor shall make application to Engineer accordingly. If such application is approved by Engineer, Contractor shall obtain water from the fire hydrant located at 100 West Home Avenue, adjacent to the Village of Villa Park Fleet Maintenance Garage. Contractor's use of said hydrant and methods of obtaining water shall be in compliance with all applicable local ordinances, rules, and regulations concerning such use. Contractor shall furnish all labor and equipment necessary to make a connection to said hydrant, and to obtain and transport water. Contractor, in obtaining water from said hydrant, shall either:

(a) Make application to Engineer for temporary use of a hydrant meter, comply with all conditions requisite for use of said meter if such application is approved, and use said hydrant meter when obtaining water from hydrant; or

(b) Make record of the quantity of water obtained from said hydrant along with the date and time obtained, and report such information after each use to the Village of Villa Park Public Works Department, 11 West Home Avenue, or, if

such use takes place outside of the normal working hours of the Public Works Department, report such information after the next use which takes place during normal working hours.

Contractor shall not use, operate or obtain water from any hydrants other than the one prescribed. Contractor shall not obtain water from Owner for construction operations or activities not under contract with Owner.

Contractor shall compensate Owner for water obtained by Contractor at the current rate charged to commercial customers by Owner, which rate may also include any administrative fees, overhead, or other costs which are typically charged to commercial customers. The actual quantity of water obtained by Contractor may, at Owner's discretion, be rounded up to the next 1,000 gallon increment so as to coincide with standard units of measure on which water billing rates are based. Owner will determine the interval or intervals at which billing will take place, and may, at Owner's discretion, submit invoices for payment to Contractor, or deduct the cost of water from any monies due or to become due to the Contractor from Owner."

PROTECTION OF EXISTING DRAINAGE FACILITIES DURING CONSTRUCTION

Unless otherwise noted in the contract plans, the existing drainage facilities shall remain in use during the period of construction.

Locations of existing drainage structures and sewers, if shown on the contract plans, are approximate. Prior to commencement of work, the Contractor, at his/her own expense, shall determine the exact location of existing structures which are within the proposed construction site.

All drainage structures are to be kept free from any debris resulting from construction operations. All work and materials necessary to prevent accumulation of debris in the drainage structure resulting from construction operations shall be removed at the Contractor's own expense, and no extra compensation will be allowed.

Unless reconstruction or adjustment of an existing manhole, catch basin, or inlet is called for in the contract plans or ordered by the Engineer, the proposed work shall meet the existing elevations of these structures. Should reconstruction or adjustment of a drainage structure be required by the Engineer in the field, the necessary work and payment shall be done in accordance with Section 602 and Article 104.02 respectively, of the Standard Specifications.

Existing frames and grates are to remain unless otherwise noted in the contract plans or as directed by the Engineer. Frames and grates that are missing or damaged prior to construction shall be replaced. The type of replacements frame or grate shall be determined by the Engineer, and replacement and payment for same shall be in

accordance with Section 604 and Article 104.02 respectively, of the Standard Specifications unless otherwise noted in the plans or special provisions.

CONSTRUCTION SAFETY AND HEALTH STANDARDS

It is a condition of this contract and shall be made a condition of each subcontract entered into pursuant to this contract that the Contractor and any Subcontractor shall not require any laborer or mechanic employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to their health or safety, as determined under Federal Construction Safety and Health Standards.

KEEPING ROADS OPEN TO TRAFFIC

All roads shall remain open to traffic unless otherwise shown on the contract plans. When necessary to close one lane because of construction, the Contractor shall maintain one-way traffic during construction hours with the use of signs and flaggers as shown on the Traffic Control Standards. Two lanes of traffic will be maintained during nights and weekends when no construction activities are being carried on.

RESPONSIBILITY FOR VANDALISM

The contractor shall be responsible for the defacement of any concrete pours before they have set up. Concrete pavement, sidewalk, driveway, or curbing that has been defaced, in the opinion of the Engineer, shall be removed and replaced by the contractor at his expense.

BITUMINOUS MATERIALS (PRIME COAT)

Description. This work shall be performed in accordance with Section 406 of the Standard Specifications, with the following modifications:

Bituminous prime coat shall be placed at least one hour in advance of the placement of HMA, but no more than forty-eight hours in advance of the placement of HMA. If Contractor places prime coat more than forty-eight hours in advance of the placement of HMA, the prime coat will not be measured for payment, and Contractor will place prime coat again in accordance with this provision. Prime coat will not be placed on weekends or on legal holidays unless permitted by the Engineer. Prime coat will not be placed before weekends or legal holidays when placement of HMA is not expected to take place until after the weekend or legal holiday, unless permitted by the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per pound for BITUMINOUS MATERIALS (PRIME COAT); which price shall include all labor, materials, and equipment necessary to complete the work as described herein.

CONTINGENCY ALLOWANCE

A contingency allowance pay item is provided as a part of this contract for the purpose of facilitating the completion of unforeseen or additional work not included in the contract as awarded, and which is determined by the Engineer to be necessary and germane to the contract.

Use of the contingency allowance will be at the discretion of the Engineer. The Engineer may, at his/her discretion, use the contingency allowance for any of the following reasons:

(a) Facilitate a temporary payment allowance to the Contractor for work completed under existing contract pay items and for which completed quantities exceed contract quantities;

(b) Facilitate a temporary payment allowance to the Contractor for work completed beyond the scope of existing contract pay items; or

(c) Facilitate a temporary payment allowance to the Contractor for the purchase of equipment, materials or such other requisition as Engineer determines to be necessary for the completion of the Work.

Such use of the CONTINGENCY ALLOWANCE will be further subject to approval by Owner. Owner's decision with regard to use of the CONTINGENCY ALLOWANCE will be final.

A. Any payments made to Contractor under the CONTINGENCY ALLOWANCE will be considered temporary, and will only be retained by Contractor until such time that an authorization of contract changes can be approved and incorporated into the contract.

B. Contractor, in accepting payments made under the CONTINGENCY ALLOWANCE, agrees to the terms of this and other applicable special provisions. Contractor agrees to relinquish any monies and any claim to monies paid under the CONTINGENCY ALLOWANCE upon approval of an authorization of contract changes and payment for any work for which payment was previously made under the CONTINGENCY ALLOWANCE. Contractor further agrees to return any monies previously paid thereunder.

C. The CONTINGENCY ALLOWANCE pay item for this contract has been established with a unit of measurement in dollars, a quantity of 50,000.00,

and a contract unit price of one dollar ($1.00), for a total CONTINGENCY ALLOWANCE contract price of Fifty Thousand dollars and no cents ($50,000.00). Bidder, in submitting a bid, accepts the quantity, unit price, and total contract price of the CONTINGENCY ALLOWANCE.

Basis of Payment. This work will be paid for at the contract unit price per dollar for CONTINGENCY ALLOWANCE. The total bid amount for this item will be $50,000.00.

PRECONSTRUCTION VIDEO RECORDING

Description. This work consists of performing color video and audio recording of the project area and other areas which may be impacted by construction.

Preconstruction video recordings will include coverage of the project area and all other areas which may be impacted by construction. Video recordings will also include construction easements when applicable. Video recordings will provide a visual record of all physical features within those areas, including, but not limited to, roadways, pavements, curbs, gutters, driveways, driveway aprons, sidewalks, carriage walks, parkways, trees, landscaping, shrubbery, plantings, landscaping walls, retaining walls, signs, sign posts, fences, utility poles, light poles, utilities, equipment, manholes, b-boxes, cleanouts, valves, curb structures, pipelines, buildings, mailboxes, and any other features located within the project area.

Video recordings will begin with an audio narrative which provides the current date and time, the name of Owner and name of project, and a description of both the starting location and the location or locations to be recorded, including street name or names, street addresses, and any additional information which may be necessary to describe the location and subject of viewing.

Video recordings will maintain viewer orientation by means of an audio commentary in the audio track of each video recording which provides an explanation of what is being viewed; and by videotaping landmarks and readily identifiable objects (property addresses, street signs, etc.) at appropriate intervals.

Preconstruction video recordings will be recorded at a rate of travel not exceeding 48 feet per minute, and zooming and panning rates will be controlled to provide clarity of features during playback. The finished product will be provided with bright, clear pictures and accurate colors free from distortion, tearing, rolls, or other forms of picture imperfection. The audio will have proper volume and clarity. All recordings will be performed at times of satisfactory visibility, and when no more than ten percent of ground is obscured by snow, leaves, or other cover.

If any element within or portion of the project area is not adequately documented by the preconstruction video recording so as to definitively demonstrate its condition prior to the start of construction, Contractor will assume responsibility for the repair, restoration

or replacement of that element or portion of the project area. Such repair, restoration or replacement will be to equal or better condition than previously existing, and will further comply with all standards and provisions which govern the work in question.

Schedule. Preconstruction video recording will be performed according to the following schedule:

(a) Preconstruction video recording will take place after a Notice to Proceed has been issued.

(b) Preconstruction video recording will take place after the Joint Utility Locating Information for Excavators (JULIE) request for the project area has cleared.

(c) Preconstruction video recording will take place before any equipment, materials, or other items are delivered to the site.

(d) Preconstruction video recording will take place no more than seven (7) chargeable days prior to the start of construction.

(e) Preconstruction video recording will take place, the required pre-construction video recording deliverables will be submitted to the Engineer, and the Engineer will review and issue written approval of the video before any activity other than utility locating will be permitted to start. Such activity will include, but not be limited to, delivery of materials and equipment, installation of traffic control and erosion control, and completion of construction layout and tree protection. No days will be charged against the contract time while the video is under review by the Engineer, including the day the deliverables are submitted and the day a response is provided. If the video or any portions thereof are rejected, the contract time will commence to run until revisions are submitted.

(f) The recording will be submitted to Engineer for review prior to commencement of any construction, and receive acceptance of recordings prior to commencement of construction. Any areas found not acceptable to the Owner will be re-filmed at no additional cost to the contract.

Deliverables.

Video will be high-definition, with a minimum resolution of 1280 x 720 pixels per frame. Video will be filmed in a landscape aspect ratio. Video filmed in a portrait aspect ratio will be considered unacceptable and will be rejected.

Preconstruction video recordings will be provided as electronic files of .avi, .mp4, .m4v, .mkv, .wmv, or .mpg file format, or of such other file format as may be approved by Engineer. Preconstruction video recordings will be provided as independent digital

container format files, which container files will include all video, audio, and other electronic information necessary to view the preconstruction video recording as intended.

Video DVD will be considered an unacceptable format for providing preconstruction video recordings, and will be rejected.

Preconstruction video recording electronic files will be provided on a portable electronic media device or devices of one of the following types: USB flash drive, SD flash memory card, CF flash memory card, data DVD, external hard drive, or such other portable electronic media device as may be approved by Engineer. Preconstruction video recording electronic files may also be provided via online file sharing, cloud storage, File Transfer Protocol (FTP), or other online or network file transfer methods if approved by Engineer.

Preconstruction video recording electronic files will be accompanied by corresponding logs which document the dates, times, and locations covered by each preconstruction video recording electronic file.

Contractor shall maintain copies of all items submitted to Engineer for Contractor's own use and record.

Method of Measurement. This work will be measured for payment on a lump sum basis. No measurement will be made of the individual components of this effort.

Basis of Payment. Preconstruction video recording will be paid for at the contract lump sum price for PRECONSTRUCTION VIDEO RECORDING.

VILLAGE OF VILLA PARK, IL

2015 CONCRETE STREET IMPROVEMENT PROGRAM
SPECIAL PROVISIONS

MATERIAL INSPECTION – REPORTS

All materials incorporated in this contract are to be inspected according to the Project Procedures Guidelines (PPG) and the process and frequency of testing under the QC/QA specifications.

The Contractor shall be responsible for QC testing of these materials with the Engineer being notified at least forty-eight (48) hours in advance of the placement of any of these materials. The Local Agency shall be responsible for the QA testing of these materials on the job and at the plant per article 1030 of the Standard Specifications. Please note that the Contractor is required to submit a QC plan to the Engineer for approval per the referenced specifications.

All concrete materials incorporated in this contract are to be inspected according to the BDE Special Provision for Quality Control/Quality Assurance of Concrete Mixtures. Please note that the Contractor is required to submit a QC plan to the Engineer for approval per the referenced specifications.

The contractor shall coordinate his work operations with the engineer to assure that the testing agencies can provide proper and sufficient notice to schedule their work. Also, all QC documentation is to be submitted to the Engineer, immediately following completion of this project. Five percent (5%) of the final contract amount due the Contractor will be withheld pending receipt of all documentation and approval of the Engineer's Final Payment Estimate by the District Bureau of Local Roads and Streets.

TRAFFIC CONTROL PLAN

Effective: September 30, 1985
Revised: January 1, 2007

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein.

Special attention is called to Article 107.09 and Section 701 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

STANDARDS: 701011-04, 701501-06, 701701-09, 701801-05, 701901-04

DETAILS: TC-10, TC-13

SPECIAL PROVISIONS: Traffic Control Plan

Work Zone Traffic Control shall be paid for at the contract unit price, lump sum for TRAFFIC CONTROL & PROTECTION.

SAW CUT JOINTS

The removal and/or replacement of any driveways, pavement, curb, sidewalk, etc. shall be accomplished by means of a saw cut joint, at the direction of the Engineer. This work will not be paid for separately, but shall be included in the unit price bid for the various items. Edge of pavement saw cutting on Stone Road will be paid for as sawing Portland Cement Concrete Pavement (full depth).

PORTLAND CEMENT CONCRETE SURFACE DIAMOND GRIND

The surface of the existing PCC pavement shall be diamond ground for profile improvement for use as a traffic surface, using a diamond grinder. Grinding shall be performed at those locations as indicated in the plans or at the direction of the Engineer in the field.

Grinding operations will utilize diamond blades mounted on a self-propelled machine designed for grinding and texturing pavement. The equipment shall be such that it will not cause strain or damage to the underlying surface of the pavement. Grinding equipment that causes ravels, aggregate fractures, spalls, or disturbance to the transverse or longitudinal joints will not be permitted. Vacuuming equipment for removal of residue and excess water shall be used. The equipment will have a positive means of extracting the slurry material from the pavement and for preventing dust from escaping into the air.

PCC surface diamond grind (diamond grinding) shall consist of grinding and texturing the entire surface of the pavement in a longitudinal direction. The area ground shall not be left slick or polished. Substantially the entire surface area of the pavement shall be ground and textured until the pavement surface on both sides of the transverse joints and all cracks are in the same plane and meet the smoothness required. In each lane, at least 95 percent of the area in each 100 foot section shall have a newly ground surface. Except at joints and cracks, grinding shall not exceed ½ inch in depth. The ground surface shall be of uniform texture.

For multiple passes, the equipment shall be carefully controlled to minimize the overlap. Overlaps shall not exceed approximately 1 inch.

When more than one grinding machine is used in the same travel lane, the blade segment thickness, blade spacings, and blade diameter shall be similar so that the texture of the ground surface is reasonably uniform across the lane.

Grinding shall result in a parallel corduroy type texturing consisting of grooves between 2 millimeters and 3 millimeters wide. The distance between grooves shall be between 2 millimeters and 3 millimeters. The peaks of the ridge shall average approximately 2 millimeters higher than the bottom of the grooves. The finished texture shall be uniform. The transverse slope of the pavement shall be uniform to a degree that no depressions or misalignment of slope greater than 3 millimeters in 3 meters exists when tested with a 3 meter straightedge. Straightedge requirements do not apply across longitudinal joints or outside ground areas. Adequate cross slope drainage must result after grinding so that no ponding of water exists.

When included as part of the contract; Pavement patching, curb and gutter removal and replacement, and structure adjustments shall all be done prior to diamond grinding.

Diamond Grinding Concrete Pavement will be measured by area in square yards. Pay areas will include the final textured surface area. Minor areas of untextured pavement will be included in the measurement. Minor areas shall total no more than 5 percent of the designated area to be textured.

The work of collection, hauling and disposal of the grinding residue is included in the contract unit price for PORTLAND CEMENT CONCRETE SURFACE DIAMOND GRIND. Payment for additional passes or regrinding to meet ride quality requirements will not be paid for separately.

The completed work will be paid for at the contract Unit Bid Price per SQUARE YARD. of PORTLAND CEMENT CONCRETE SURFACE DIAMOND GRIND.

DRIVEWAY PAVEMENT REMOVAL

Where existing driveway pavement is to be removed, it shall be removed along with the existing aggregate base and/or subgrade, to the limits shown on the plans or as directed by the Engineer.

Driveway removal shall be measured in place and the areas computed in square yards. The area measured shall be the actual areas. The contractor shall provide written notification to all property owners a minimum of forty-eight (48) hours prior to driveway removal.

The work shall be performed according to Section 440 of the "Standard Specifications" in order to provide a uniform and constant base profile for the new pavement to be placed on.

This work will be paid for at the contract unit price per SQUARE YARD for DRIVEWAY PAVEMENT REMOVAL.

The saw cutting and any additional excavation require to construct the new driveway will be considered incidental to the DRIVEWAY PAVEMENT REMOVAL.

HOT-MIX ASPHALT DRIVEWAY 4", RESIDENTIAL

Where existing residential Hot-Mix Asphalt driveways are removed, as directed by the Engineer, they shall be restored with a six-inch (6") aggregate base course, an application of Bituminous Materials (Prime Coat) at a rate of 0.25 pounds per square foot, two and one half inches (2-1/2") of Hot-Mix Asphalt Binder Course, IL-19.0, N50 and one and half inches (1-1/2") of Hot-Mix Asphalt Surface Course, Mix "D", N50. A maximum width of driveway replacement shall be from the existing back of curb to the existing face of sidewalk unless agreed to otherwise by the Engineer. This work shall be done in accordance with Sections 351, 406, and 440 of the Standard Specifications.

At the direction of the engineer access to properties shall be maintained throughout the duration of construction by means of temporary aggregate in accordance with Articles 107.09 and 402.10 of the Standard Specifications. The temporary aggregate shall be paid for at the contract unit price per TON for AGGREGATE FOR TEMPORARY ACCESS.

All grassed areas disturbed by the removal and replacement of this item shall be restored in accordance with the SODDING, SPECIAL, Special Provision contained herein, and shall be paid for at the contract unit price per SQUARE YARD for SODDING, SPECIAL.

The saw cutting and any additional excavation required to construct these driveways will be considered incidental to the driveway removal. The placement of a minimum six inches (6") of CA 6 stone will be considered incidental to driveway placement. This work will be paid for at the contract unit price per SQUARE YARD for HOT-MIX ASPHALT DRIVEWAY 4", RESIDENTIAL.

HOT-MIX ASPHALT DRIVEWAY 6", COMMERCIAL

Where existing commercial Hot-Mix Asphalt driveways are removed, as directed by the Engineer, they shall be restored with an eight-inch (8") aggregate base course, an application of Bituminous Materials (Prime Coat) at a rate of 0.25 pounds per square foot, four inches (4") of Hot-Mix Asphalt Binder Course, IL-19.0, N50, and two inches (2") of Hot-Mix Asphalt Surface Course, Mix "D", N50. A maximum width of driveway replacement shall be from the existing back of curb to the existing face of sidewalk unless agreed to otherwise by the Engineer. This work shall be done in accordance with Sections 351, 406, and 440 of the Standard Specifications.

At the direction of the engineer access to properties shall be maintained throughout the duration of construction by means of temporary aggregate in accordance with Articles 107.09 and 402.10 of the Standard Specifications. The temporary aggregate shall be paid for at the contract unit price per TON for AGGREGATE FOR TEMPORARY ACCESS.

All grassed areas disturbed by the removal and replacement of this item shall be restored in accordance with the SODDING, SPECIAL, Special Provision contained herein, and shall be paid for at the contract unit price per SQUARE YARD for SODDING, SPECIAL.

The saw cutting and any additional excavation required to construct these driveways will be considered incidental to the driveway removal. The placement of a minimum eight inches (8") of CA 6 stone will be considered incidental to driveway placement. This work will be paid for at the contract unit price per SQUARE YARD for HOT-MIX ASPHALT DRIVEWAY 6", COMMERCIAL.

PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT 6", RESIDENTIAL

Where existing residential concrete driveways are removed, as directed by the Engineer, they shall be restored with a minimum four inches (4") of cushion of CA 6 stone and six inches (6") of Portland Cement Concrete. This work shall be done in conformance with Sections 423 and 440 of the Standard Specifications. A maximum width of driveway replacement shall be from the existing back of curb to the existing face of sidewalk unless agreed to otherwise by the Engineer.

The concrete finish shall match that of the existing driveway (i.e. Broom Finish, California finish, etc.). Any special finish to match the existing driveway and any required removal and replacement of brick pavers adjacent to the concrete driveways shall be considered incidental to the cost of the PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT 6", RESIDENTIAL.

At the direction of the engineer access to properties shall be maintained throughout the duration of construction by means of temporary aggregate in accordance with Articles 107.09 and 402.10 of the Standard Specifications. The temporary aggregate shall be paid for at the contract unit price per TON for AGGREGATE FOR TEMPORARY ACCESS.

All grassed areas disturbed by the removal and replacement of this item shall be restored in accordance with the SODDING, SPECIAL, Special Provision contained herein, and shall be paid for at the contract unit price per SQUARE YARD for SODDING, SPECIAL.

The saw cutting and any additional excavation required to construct these driveways will be considered incidental to the driveway removal. The placement of a minimum four inches (4") of CA 6 stone will be considered incidental to driveway placement. This work will be paid for at the contract unit price per SQUARE YARD for PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT 6", RESIDENTIAL.

PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT 8", COMMERCIAL

Where existing commercial concrete driveways are removed, as directed by the Engineer, they shall be restored with a minimum six inches (6") of cushion of CA 6 stone and eight inches (8") of Portland Cement Concrete. This work shall be done in conformance with Sections 423 and 440 of the Standard Specifications. A maximum width of driveway replacement shall be from the existing back of curb to the existing face of sidewalk unless agreed to otherwise by the Engineer.

The concrete finish shall match that of the existing driveway (i.e. Broom Finish, California finish, etc.). Any special finish to match the existing driveway and any required removal and replacement of brick pavers adjacent to the concrete driveways shall be considered incidental to the cost of the PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT 8", COMMERCIAL.

At the direction of the engineer access to properties shall be maintained throughout the duration of construction by means of temporary aggregate in accordance with Articles 107.09 and 402.10 of the Standard Specifications. The temporary aggregate shall be paid for at the contract unit price per TON for AGGREGATE FOR TEMPORARY ACCESS.

All grassed areas disturbed by the removal and replacement of this item shall be restored in accordance with the SODDING, SPECIAL, Special Provision contained herein, and shall be paid for at the contract unit price per SQUARE YARD for SODDING, SPECIAL.

The saw cutting and any additional excavation required to construct these driveways will be considered incidental to the driveway removal. The placement of a minimum six inches (6") of CA 6 stone will be considered incidental to driveway placement. This work will be paid for at the contract unit price per SQUARE YARD for PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT 8", COMMERCIAL.

SIDEWALK REMOVAL

Where existing sidewalk is to be removed, it shall be removed along with the existing aggregate base and/or subgrade. This work shall be performed in accordance with Section 440 of the Standard Specifications.

Sidewalk removal shall be measured in place and the areas computed in square feet. The area measured shall be the actual areas.

This work will be paid for at the contract unit price per SQUARE FOOT for SIDEWALK REMOVAL.

The saw cutting and any additional excavation require to construct the new sidewalk will be considered incidental to the SIDEWALK REMOVAL.

PORTLAND CEMENT CONCRETE SIDEWALK 5"

Where directed by the Engineer, Sidewalks shall be installed with a minimum of four inches (4") CA-6 stone and five inches (5") of PC Concrete. This work shall be done in accordance with Section 424 of the Standard Specifications, and as detailed in the plans by means of a sawed joint (straight) at locations shown on the plans or as designated by the Engineer in the field.

The saw cutting and any additional excavation required to construct these sidewalk will be considered incidental to the driveway removal. The placement of a minimum four inches (4") of CA 6 stone will be considered incidental to sidewalk placement. This work shall be paid for at the contract unit price per SQUARE FOOT for PORTLAND CEMENT CONCRETE SIDEWALK 5"

All grassed areas disturbed by removal or construction of the sidewalk shall be restored in accordance with the SODDING, SPECIAL, Special Provision contained herein and shall be paid for at the contract unit price per SQUARE YARD for SODDING, SPECIAL.

Regrading of adjacent grass areas due to sidewalk elevation changes will be considered incidental to the PORTLAND CEMENT CONCRETE SIDEWALK 5".

COMBINATION CURB AND GUTTER REMOVAL

This item shall consist of the removal of combination concrete curb and gutter, and existing aggregate base, and/or subgrade in accordance with Sections 440 of the Standard Specifications, and as detailed in the plans by means of a sawed joint (straight) at locations as designated by the Engineer.

This work will be paid for at the contract unit price per FOOT for COMBINATION CURB AND GUTTER REMOVAL, and shall include saw cutting, disposal.

At the direction of the Engineer, access to properties shall be maintained throughout the duration of construction by means of temporary aggregate in accordance with Articles 107.09 and 402.10 of the Standard Specifications. The temporary aggregate shall be paid for at the contract unit price per TON for AGGREGATE FOR TEMPORARY ACCESS.

COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED)

This item shall consist of the replacement of combination concrete curb and gutter, in accordance with Section 606 of the Standard Specifications, and IDOT Standard Detail 606001-06. New curb shall be installed on a minimum of four inch (4") CA-6 stone.

All new curb and gutter shall have sawcut contraction joints two inches (2") deep at fifteen foot (15') intervals. This sawcutting shall be completed no later than twenty-four (24) hours after the curb and gutter has been poured. All joints shall be cleaned and sealed with joint sealant. Expansion and construction joints shall be as directed by the Standard Specifications and Standard Drawings. Three quarter inch (3/4") preformed joint filler shall be placed at the ends of all replaced sections, radii, P.C.'s, at five feet (5') each side of drainage structures, and at maximum intervals of 60 feet.

The thickness of the gutter flag shall be ten inches (10") or the thickness of the pavement, whichever is greater. Barrier height shall be six inches (6"), but may transition between four inches (4") and nine inches (9") when matching into existing adjacent curb.

Where new curb meets existing curb, the existing curb shall be drilled and two (2) #5 smooth dowel bars grouted in place with the grease cap placed on the side of the new curb and gutter.

This work will be paid for at the contract unit price per FOOT for COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED), and shall include materials, labor, equipment, dowel bars, required expansion material that is required due to the installation of the curb or curb and gutter. Restoration (topsoil, and sodding) for areas disturbed by curb removal and replacement shall be paid separately.

DETECTABLE WARNINGS

This item shall consist of the placement of detectable warning plates in accordance with the IDOT Standard drawings and in accordance with Article 424.09 of the Standard Specifications. The detectable warning plate(s) shall be polymer composite material red in color and meet the Village of Villa Park Standards. The Contractor is responsible for the installation of the device according to the manufacturer's specifications and the handicap ramp as described in the contract plans and specifications. This work will be paid for at the contract unit price per SQUARE FOOT for DETECTABLE WARNINGS and will include all materials, equipment and labor required to complete the work as specified above.

STRUCTURES TO BE ADJUSTED

This work shall consist of the adjustment of drainage and utility structures at those locations as indicated in the plans or as directed by the engineer in the field. This work shall be completed in accordance with the applicable portions of Section 602 of the Standard Specifications. All adjustments shall be made with concrete adjustment rings unless otherwise directed by the Engineer. The cost for the concrete adjustment rings will be included in the cost of the structure adjustment.

All existing structures are to be adjusted to finish grade of the Portland Cement Concrete Pavement, prior to the patch or pavement being poured. All trench backfill of structures to be adjusted will also be included in the cost of the structure to be adjusted. This work will be paid for at the contract unit price EACH for STRUCTURES TO BE ADJUSTED.

The top adjusting ring on all structures to be adjusted shall be a rubber fibrepolyurethane prepolymer composite adjusting ring (minimum 1" thick) as approved by the engineer. Tapered adjusting rings shall be used where necessary to match the profile of the pavement. The cost for the rubber adjusting rings will be included in the cost of the structure adjustment.

STRUCTURES TO BE RECONSTRUCTED

This work shall consist of the reconstruction of drainage and utility structures at those locations as indicated in the plans or as directed by the engineer in the field. This work shall be completed in accordance with the applicable portions of Section 602 of the Standard Specifications.

All existing structures which are reconstructed shall be adjusted to finish grade of the Portland Cement Concrete Pavement, prior to the patch or pavement being poured. All trench backfill of structures to be reconstructed will also be included in the cost of the structure to be reconstructed. This work will be paid for at the contract unit price EACH for STRUCTURES TO BE RECONSTRUCTED

The top adjusting ring on all structures to be reconstructed shall be a rubber fibrepolyurethane prepolymer composite adjusting ring (minimum 1" thick) as approved by the engineer. Tapered adjusting rings shall be used where necessary to match the profile of the pavement. The cost for the rubber and concrete adjusting rings will be included in the cost of the structure to be reconstructed.

FRAMES AND LIDS, TYPE 1

This work shall consist of the furnishing a type 1 frame and lid. The lid will either be an open or closed lid as directed by the Engineer. On sanitary structures the closed lids shall be self-sealing with concealed pick holes. Closed lids will also have the words "SANITARY", "STORM", or "WATER" cast in the lid. This pay item shall be in accordance with the applicable portions of Section 602 of the Standard Specifications.

This work shall be paid for at the contract unit price per EACH for FRAMES AND LIDS, TYPE 1.

EARTH EXCAVATION (SPECIAL)

This item is for Stone Road for excavation that is not PCC pavement or curb and gutter removal. This work shall consist of the removal and disposal of all other existing materials, including but not limited to Hot-Mix Asphalt pavement, existing aggregate base, subgrade, etc. located in the ROW except rock, other than the curb and gutter removal and PCC Pavement Removal which are paid for by specific pay item. Earth excavation and borrow and furnished excavation, the placement of all suitable excavated materials in the subgrade, or embankment, or as replacement unless specifically called out by separate pay item shall be included in Earth Excavation. This work shall be as specified and in accordance with applicable Sections 202, 204, 205, and 440 of the Standard Specifications.

This work will be paid for at the contract unit price per CUBIC YARD for EARTH EXCAVATION (SPECIAL).

AGGREGATE FOR TEMPORARY ACCESS

This work shall consist of furnishing and placing crushed stone with a gradation number of CA 6, conforming to Article 1004.01 of the Standard Specifications, for the purpose of maintaining access to private property or along public right-of-way during the construction period.

When the use of the temporary approaches is discontinued, the aggregate placed in its construction and maintenance shall be removed and disposed of as specified in Article 202.03 or included in the permanent roadway construction.

This work will be paid for at the contract unit price per TON for AGGREGATE FOR TEMPORARY ACCESS, which price shall include all costs of furnishing, placing, removing and disposing of aggregate used in the construction of temporary approaches. This aggregate will only be paid for once, regardless of the number of times it is used for temporary access. It will also only be paid for under one item if used for other purposes.

QUANTITIES FOR PAVEMENT PATCHING

The quantities called for in this contract indicate the approximate amount of patching work to be expected. The actual amount for the various patching items shall be as marked out by the engineer in the field. It shall be understood and agreed upon that the unit price for these items shall prevail throughout the period of the contract and that no additional compensation per unit price will be allowed for any increase or decrease in the patching quantity.

PATCHING LIMITATIONS

It is hereby understood and agreed that no pavement patching will be permitted after 3:00 PM on Friday of each and every week and no holes will be allowed to remain open overnight or over the weekend.

SODDING, SPECIAL

This work shall consist of preparing the ground surface, furnishing and applying topsoil to a 4" depth, fertilizing the areas to be sodded, and furnishing and placing the sod. The locations to be sodded shall be those grassed areas disturbed by curb and gutter installation, sidewalk removal and replacement, and driveway removal and replacement operations. All work shall be in accordance with the applicable portions of Section 211 and 252 of the Standard Specifications. The maximum pay width shall be twenty-four inches (24") on either side of driveways or sidewalks, and twenty-four inches (24") back of curb installed or as directed by the Engineer.

180 pounds of fertilizer nutrients per acre shall be applied at a 1:1:1 ratio as follows:

1. Nitrogen Fertilizer Nutrient 60 lb/acre

2. Phosphorus Fertilizer Nutrient 60 lb/acre
3. Potassium Fertilizer Nutrient 60 lb/acre

Watering shall be as specified in the Standard Specifications and shall be the contractor's responsibility to guarantee the growth of the sod regardless of the number of waterings required.

The contractor shall provide subsequent re-sodding until satisfactory growth of grass is produced or if settlement occurs.

This work shall be measured in place and the area calculated in square yards and shall be paid for at the contract unit price bid per SQUARE YARD for SODDING, (SPECIAL) which price shall be full compensation for all labor, equipment, and material to complete the work as specified in these special provisions.

CLEAN CONSTRUCTION / DEMOLITION DEBRIS (CCDD) REQUIREMENTS PER PA 94-1416

If the Contractor is planning on disposing of uncontaminated soils at an Illinois Environmental Protection Agency (IEPA) permitted CCDD facility, the work shall be conducted in accordance with the criteria set forth in 35 Illinois Administrative Code (IAC) 1100. The following protocol must be followed:

1. Expose soils at one or more distinct locations as directed by the Engineer and/or the Licensed Professional Engineer or Licensed Professional Geologist retained by the Contractor. The Licensed Professional Engineer or Licensed Professional Geologist should determine the number and location of the samples that should be collected for characterization of the excess soil that will be generated during the construction project.

2. Remove one foot or more of overburden to allow for soil sampling at depths specific to the excavation depths of the construction project as directed by the Licensed Professional Engineer or Licensed Professional Geologist.

3. Collect representative grab soil sample(s) for the following laboratory analysis: Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Pesticides, Polychlorinated Biphenyls (PCBs), Total Metals (RCRA 8) and TCLP Metals (RCRA 8).

4. Submit grab soil sample(s) under a signed chain of custody form to an accredited laboratory for chemical analysis using USEPA Publication No. SW-846 Test Methods (*Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods*) and in accordance with the requirements outlined in 35 IAC 742 (*Tiered Approach to Corrective Action Objectives*). The testing shall be conducted on a standard (5 to 7 day) or RUSH (1 to 3 day) turnaround-time as determined by the Contractor and their retained Licensed Professional Engineer or Licensed Professional Geologist. A list of accredited laboratories is available at the IEPA website (http://www.epa.state.il.us/well/list-acredited-labs.html).

5. Documentation of any chemical analysis must include but is not limited to:
   - Chain of custody control;
   - A copy of the lab analysis;
   - Accreditation status of the laboratory performing the analysis; and
   - Certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the IEPA's rules for the accreditation of environmental laboratories and the scope of the accreditation.

6. If the soil is determined to be clean, the Contractor shall provide the *Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation* Form (IEPA Form LPC-663) completed and signed by their Licensed Professional Engineer or Licensed Professional Geologist.

7. The Contractor shall provide a copy of all lab analyses and certification forms to the intended CCDD facility and the Engineer.

It is up to the Contractor to coordinate with their intended receiving CCDD facility in advance of bidding to ensure that the facility will accept material from the project area and whether additional laboratory testing or certifications are required for disposal acceptance, beyond what has been outlined above. If the intended CCDD facility selected by the Contractor will require additional documentation or testing, it is the Contractor's responsibility to provide this information and include it in the cost of this item of work. This work shall not be paid for separately but shall be included in the various removal items.

If any contaminated soil is encountered that requires landfill disposal as a non-special waste, special waste or hazardous waste, it will be paid for per Article 109.04 of the Standard Specifications.

ADJUSTMENTS AND RECONSTRUCTIONS
Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

"602.04 Concrete. Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020."

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

"Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b."

Revise Article 603.05 to read:

"603.05 Replacement of Existing Flexible Pavement. After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b."

Revise Article 603.06 to read:

"603.06 Replacement of Existing Rigid Pavement. After the castings have been adjusted, the pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)b.

The surface of the Class PP concrete shall be constructed flush with the adjacent surface."

Revise the first sentence of Article 603.07 to read:

"603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b."

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)
Effective: April 1, 2011

Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

"(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1) ……. 1030
(j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 ±15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)"

Revise Article 603.07 of the Standard Specifications to read:

"603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

(a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.

(b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)
Thickness at inside edge	Height of casting ± 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer's specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03."

FINE AGGREGATE FOR HOT-MIX ASPHALT (HMA) (D-1)
Effective: May 1, 2007
Revised: January 1, 2012

Revise Article 1003.03 (c) of the Standard Specifications to read:

"(c) Gradation. The fine aggregate gradation for all HMA shall be FA1, FA 2, FA 20, FA 21 or FA 22. When Reclaimed Asphalt Pavement (RAP) is incorporated in the HMA design, the use of FA 21 Gradation will not be permitted.

FRICTION SURFACE AGGREGATE (D1)
Effective: January 1, 2011
Revised: November 1, 2013

Revise Article 1004.01(a)(4) of the Standard Specifications to read:

"(4) Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.

a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).

b. Crystalline Crushed Stone. Crystalline crushed stone shall be either metamorphic or igneous stone, including but is not limited to, quartzite, granite, rhyolite and diabase."

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 revisions.

(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: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete

<table>
<tr><th>Use</th><th>Mixture</th><th>Aggregates Allowed</th></tr>
<tr><td>HMA
All Other</td><td>Shoulders</td><td><u>Allowed Alone or in Combination:</u>
Gravel
Crushed Gravel
Carbonate Crushed Stone
Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF) 1/
Crushed Steel Slag1/
Crushed Concrete</td></tr>
<tr><td>HMA
High ESAL
Low ESAL</td><td>C Surface
IL-12.5,IL-9.5,
or IL-9.5L</td><td><u>Allowed Alone or in Combination:</u>
Crushed Gravel
Carbonate Crushed Stone
Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF) 1/
Crushed Steel Slag1/
Crushed Concrete</td></tr>
<tr><td rowspan="5">HMA
High ESAL</td><td rowspan="5">D Surface
IL-12.5 or
IL-9.5</td><td><u>Allowed Alone or in Combination:</u>
Crushed Gravel
Carbonate Crushed Stone (other than Limestone)
Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF) 1/
Crushed Steel Slag1/
Crushed Concrete</td></tr>
<tr><td><u>Other Combinations Allowed:</u>
<table><tr><th>Up to...</th><th>With...</th></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)1/ or Crushed Sandstone</td></tr></table></td></tr>
</table>

<table>
<tr><td>Use</td><td>Mixture</td><td>Aggregates Allowed</td></tr>
<tr><td rowspan="3">HMA
High ESAL</td><td rowspan="3">F Surface
IL-12.5 or
IL-9.5</td><td><u>Allowed Alone or in Combination:</u>

Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF)1/
Crushed Steel Slag1/

No Limestone or no Crushed Gravel alone.</td></tr>
<tr><td><u>Other Combinations Allowed:</u>
Up to...</td><td>With...</td></tr>
<tr><td>50% Crushed Gravel, or
Dolomite</td><td>Crushed Sandstone,
Crushed Slag (ACBF)1/,
Crushed Steel Slag1/, or
Crystalline Crushed Stone</td></tr>
<tr><td>HMA
High ESAL</td><td>SMA
Ndesign 80
Surface</td><td>Crystalline Crushed Stone
Crushed Sandstone
Crushed Steel Slag</td></tr>
</table>

1/ When either slag is used, the blend percentages listed shall be by volume.

Add the following to Article 1004.03 (b):

" When using Crushed Concrete, the quality shall be determined as follows. The Contractor shall obtain a representative sample from the stockpile, witnessed by the Engineer, at a frequency of 2500 tons (2300 metric tons). The sample shall be a minimum of 50 lb (25 kg). The Contractor shall submit the sample to the District Office. The District will forward the sample to the BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 327. A maximum loss of 15.0 percent by weight will be applied for acceptance. The stockpile shall be sealed until test results are complete and found to meet the specifications above."

<u>GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)</u>
Effective: June 26, 2006
Revised: January 1, 2013

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 3) ……..…..1031"

Add the following note to 1030.02 of the Standard Specifications:

Note 3. 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.

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

Effective: November 1, 2012
Revise: April 2, 2015

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 Bureau of Materials and Physical Research Policy Memorandum "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Bureau of Materials and Physical Research 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, Superpave 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 mix the FRAP will be used in.

(2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, Superpave (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 inch 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, Superpave 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 Superpave (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 Bureau of Materials and Physical Research 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 tests 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 Illinois Test Procedure, "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%	3.0%
No. 200	2.2%	2.5%
Asphalt Binder Content	0.3%	1.0%
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 homogenous, 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, Superpave/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.

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

(3) RAP from Class I, Superpave/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 prequalified by the Department for the specified testing. The consultant 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 BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 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 a 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% 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 indicated in the table below for a given N Design.

Max Asphalt Binder Replacement for FRAP with RAS Combination

HMA Mixtures 1/ 2/ 4/	Maximum % ABR		
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified 3/
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
4.75 mm N-50			40
SMA N-80			30

1/ For HMA "All Other" (shoulder and stabilized subbase) N-30, the percent asphalt binder replacement shall not exceed 50% of the total asphalt binder in the mixture.

2/ When the binder replacement exceeds 15 percent 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 percent 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 percent, the required virgin asphalt binder grade shall be PG64-28.

3/ When the ABR for SMA or IL-4.75 is 15 percent 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 percent.

1031.07 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing RAP/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. A RAS stone bulk specific gravity (Gsb) of 2.300 shall be used for mix design purposes.

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

To remove or reduce agglomerated material, 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 material. If material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by the Engineer.

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) 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.

(b) 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)

(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).

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

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

h. 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 Shoulders. The use of RAP or FRAP 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 to construct aggregate surface course and aggregate shoulders shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications"

(b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded, FRAP, or single sized will not be accepted for use as Aggregate Surface Course and Aggregate Shoulders."

HOT-MIX ASPHALT – PRIME COAT (D-1)

Effective: February 19, 2013
Revised: April 1, 2014

Revise Note 1 of Article 406.02 of the Standard Specifications to read:

"Note 1. The bituminous material used for prime coat shall be one of the types listed in the following table.

When emulsified asphalts are used, any dilution with water shall be performed by the emulsion producer. The emulsified asphalt shall be thoroughly agitated within 24 hours of application and show no separation of water and emulsion.

Application	Bituminous Material Types
Prime Coat on Brick, Concrete, or HMA Bases	SS-1, SS-1h, SS-1hP, SS-1vh, CSS-1, CSS-1h, CSS-1hP, HFE-90, RC-70
Prime Coat on Aggregate Bases	MC-30, PEP"

Add the following to Article 406.03 of the Standard Specifications:

"(i) Regenerative Air Vacuum Sweeper……1101.19"

Revise Article 406.05(b) of the Standard Specifications to read:

"(b) Prime Coat. The bituminous material shall be prepared according to Article 403.05 and applied according to Article 403.10. The use of RC-70 shall be limited to air temperatures less than 60 ºF (15 ºC)."

(1) Brick, Concrete or HMA Bases. The base shall be cleaned of all dust, debris and any substance that will prevent the prime coat from adhering to the base. Cleaning shall be accomplished by sweeping to remove all large particles and air blasting to remove dust. As an alternate to air blasting, vacuum sweeping may be used to accomplish the dust removal. Vacuum sweeping shall be accomplished with a regenerative air vacuum sweeper. The base shall be free of standing water at the time of application. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface as specified in the following table.

Type of Surface to be Primed	Residual Asphalt Rate lb/sq ft (kg/sq m)
Milled HMA, Aged Non-Milled HMA, Milled Concrete, Non-Milled Concrete & Tined Concrete	0.05 (0.244)
Fog Coat between HMA Lifts, IL-4.75 & Brick	0.025 (0.122)

The bituminous material for the prime coat shall be placed one lane at a time. The primed lane shall remain closed until the prime coat is fully cured and does not pickup under traffic. When placing prime coat through an intersection where it is not possible to keep the lane closed, the prime coat may be covered immediately following its application with fine aggregate mechanically spread at a uniform rate of 2 to 4 lb/sq yd (1 to 2 kg/sq m).

(2) Aggregate Bases. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface of 0.25 lb/sq ft ± 0.01 (1.21 kg/sq m ± 0.05).

The prime coat shall be permitted to cure until the penetration has been approved by the Engineer, but at no time shall the curing period be less than 24 hours for MC-30 or four hours for PEP. Pools of prime occurring in the depressions shall be broomed or squeegeed over the surrounding surface the same day the prime coat is applied.

The base shall be primed 1/2 width at a time. The prime coat on the second half/width shall not be applied until the prime coat on the first half/width has cured so that it will not pick up under traffic.

The residual asphalt binder rate will be verified a minimum of once per type of surface to be primed as specified herein for which at least 2,000 tons of HMA will be placed. The test will be according to the "Determination of Residual Asphalt in Prime and Tack Coat Materials" test procedure.

Prime coat shall be fully cured prior to placement of HMA to prevent pickup by haul trucks or paving equipment. If pickup occurs, paving shall cease in order to provide additional cure time.

Prime coat shall be placed no more than five days in advance of the placement of HMA. If after five days loss of prime coat is evident prior to covering with HMA, additional prime coat shall be placed as determined by the Engineer at no additional cost to the Department."

Revise the last sentence of the first paragraph of 406.13(b) to read:

"Water added to emulsified asphalt at the source as allowed in article 406.02 will not be included in the quantities measured for payment."

Revise the second paragraph of Article 406.13(b) of the Standard Specifications to read:

"Aggregate for covering prime coat will not be measured for payment."

Revise the first paragraph of Article 406.14 and the second paragraph of Article 407.12 of the Standard Specifications to read:

"Prime Coat will be paid for at the contract unit price per pound (kilogram) of residual asphalt applied for BITUMINOUS MATERIALS (PRIME COAT), POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT) or NON-TRACKING BITUMINOUS MATERIALS (PRIME COAT)."

Revise Article 407.06(b) of the Standard Specifications to read:

"A bituminous prime coat shall be applied between each lift of HMA according to Article 406.05(b)."

Revise Article 1032.02 of the Standard Specifications to read:

"1032.02 Measurement. Asphalt binders, emulsified asphalts, rapid curing liquid asphalt, medium curing liquid asphalts, slow curing liquid asphalts, asphalt fillers, and road oils will be measured by weight.

A weight ticket for each truck load shall be furnished to the inspector. The truck shall be weighed at a location approved by the Engineer. The ticket shall show the weight of the empty truck (the truck being weighed each time before it is loaded), the weight of the loaded truck, and the net weight of the bituminous material.

When an emulsion or cutback is used for prime coat, the percentage of asphalt residue of the actual certified product shall be shown on the producer's bill of lading or attached certificate of analysis. If the producer adds extra water to an emulsion at the request of the purchaser, the amount of water shall also be shown on the bill of lading.

Payment will not be made for bituminous materials in excess of 105 percent of the amount specified by the Engineer."

Add the following to the table in article 1032.04 of the Standard Specifications:

"SS-1vh	160 - 180	70 – 80"

Add the following to Article 1032.06 of the Standard Specifications:

"(g) Non Tracking Emulsified Asphalt SS-1vh:

Requirements for SS-1vh		
Test	SPEC	AASHTO Test Method
Saybolt Viscosity @ 25C, SFS	20-200	T 72
Storage Stability, 24hr., %	1 max.	T 59
Residue by Evaporation, %	50 min.	T 59
Sieve Test, %	0.3 max.	T 59
Tests on Residue from Evaporation		
Penetration @25°C, 100g., 5 sec., dmm	20 max.	T 49
Softening Point, °C	65 min.	T 53
Solubility, %	97.5 min.	T 44
Orig. DSR @ 82°C, kPa	1.00 min.	T 315"

Revise the last table of Article 1032.06 to read:

"Grade	Use
SS-1, SS-1h, CSS-1, CSS-1h, HFE-90, SS-1hP,CSS-1hP, SS-1vh	Prime or fog seal
PEP	Bituminous surface treatment prime
RS-2, HFE-90, HFE-150, HFE-300, CRSP, HFP, CRS-2, HFRS-2	Bituminous surface treatment
CSS-1h Latex Modified	Microsurfacing"

Add the following to Article 1101 of the Standard Specifications:

"1101.19 Regenerative Air Vacuum Sweeper. The regenerative air vacuum sweeper shall blast re-circulated, filtered air through a vacuum head having a minimum width of 6.0 feet at a minimum rate of 20,000 cubic feet per minute."

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2015

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 1-1-12) (Revised 1-1-15)

SUPPLEMENTAL SPECIFICATIONS

CHECK SHEET
FOR
RECURRING SPECIAL PROVISIONS

Adopted January 1, 2015

The following RECURRING SPECIAL PROVISIONS indicated by an "X" are applicable to this contract and are included by reference:

RECURRING SPECIAL PROVISIONS

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CHECK SHEET
FOR
LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Adopted January 1, 2015

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 24 and June 12, 2015 Lettings

The following special provisions indicated by an "x" are applicable to this contract and will be included by the Project Development 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
	80240	1		Above Grade Inlet Protection	July 1, 2009	Jan. 1, 2012
	80099	2		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
	80274	3		Aggregate Subgrade Improvement	April 1, 2012	Jan. 1, 2013
	80192	4		Automated Flagger Assistance Device	Jan. 1, 2008	
	80173	5		Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2013
	80241	6		Bridge Demolition Debris	July 1, 2009	
	5026I	7		Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
	5048I	8		Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
	5049I	9		Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
	5053I	10		Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
	80310	11		Coated Galvanized Steel Conduit	Jan. 1, 2013	Jan. 1, 2015
	80341	12		Coilable Nonmetallic Conduit	Aug. 1, 2014	Jan. 1, 2015
	80198	13		Completion Date (via calendar days)	April 1, 2008	
	80199	14		Completion Date (via calendar days) Plus Working Days	April 1, 2008	
*	80293	15		Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	April 1, 2015
	80294	16		Concrete Box Culverts with Skews ≤ 30 Degrees Regardless of Design Fill and Skews > 30 Degrees with Design Fills > 5 Feet	April 1, 2012	April 1, 2014
	80311	17		Concrete End Sections for Pipe Culverts	Jan. 1, 2013	
	80334	18	✓	Concrete Gutter, Curb, Median, and Paved Ditch	April 1, 2014	Aug. 1, 2014
	80277	19	✓	Concrete Mix Design – Department Provided	Jan. 1, 2012	Jan. 1, 2014
	80261	20	✓	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
	80335	21		Contract Claims	April 1, 2014	
*	80029	22		Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Jan. 2, 2015
*	80358	23		Equal Employment Opportunity	April 1, 2015	
	80265	24		Friction Aggregate	Jan. 1, 2011	Nov. 1, 2014
	80229	25		Fuel Cost Adjustment	April 1, 2009	July 1, 2009
	80329	26		Glare Screen	Jan. 1, 2014	
	80304	27		Grooving for Recessed Pavement Markings	Nov. 1, 2012	Aug. 1, 2014
	80246	28		Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	April 1, 2012
	80322	29		Hot-Mix Asphalt – Mixture Design Composition and Volumetric Requirements	Nov. 1, 2013	Nov. 1, 2014
	80323	30		Hot-Mix Asphalt – Mixture Design Verification and Production	Nov. 1, 2013	Nov. 1, 2014
*	80347	31		Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	April 1, 2015
	80348	32		Hot-Mix Asphalt – Prime Coat	Nov. 1, 2014	
	80315	33		Insertion Lining of Culverts	Jan. 1, 2013	Nov. 1, 2013
	80351	34		Light Tower	Jan. 1, 2015	
	80336	35		Longitudinal Joint and Crack Patching	April 1, 2014	
*	80324	36		LRFD Pipe Culvert Burial Tables	Nov. 1, 2013	April 1, 2015
*	80325	37		LRFD Storm Sewer Burial Tables	Nov. 1, 2013	April 1, 2015
	80045	38		Material Transfer Device	June 15, 1999	Aug. 1, 2014
	80342	39		Mechanical Side Tie Bar Inserter	Aug. 1, 2014	Jan. 1, 2015
	80165	40		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
	80337	41		Paved Shoulder Removal	April 1, 2014	
	80349	42		Pavement Marking Blackout Tape	Nov. 1, 2014	
	80298	43		Pavement Marking Tape Type IV	April 1, 2012	

	File Name	#		Special Provision Title	Effective	Revised
	80254	44	✓	Pavement Patching	Jan. 1, 2010	
	80352	45		Pavement Striping - Symbols	Jan. 1, 2015	
*	80359	46		Portland Cement Concrete Bridge Deck Curing	April 1, 2015	
*	80353	47		Portland Cement Concrete Inlay or Overlay	Jan. 1, 2015	April 1, 2015
	80338	48		Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	April 1, 2014	
	80343	49		Precast Concrete Handhole	Aug. 1, 2014	
	80300	50		Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	
	80328	51		Progress Payments	Nov. 2, 2013	
	3426I	52		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
	80157	53		Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
	80306	54		Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	April 1, 2014
	80350	55		Retroreflective Sheeting for Highway Signs	Nov. 1, 2014	
	80327	56	✓	Reinforcement Bars	Nov. 1, 2013	
	80344	57		Rigid Metal Conduit	Aug. 1, 2014	
*	80354	58		Sidewalk, Corner, or Crosswalk Closure	Jan. 1, 2015	April 1, 2015
	80340	59		Speed Display Trailer	April 2, 2014	
	80127	60		Steel Cost Adjustment	April 2, 2004	April 1, 2009
	80317	61		Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	
	80355	62		Temporary Concrete Barrier	Jan. 1, 2015	
	80301	63		Tracking the Use of Pesticides	Aug. 1, 2012	
	80356	64		Traffic Barrier Terminals Type 6 or 6B	Jan. 1, 2015	
	20338	65		Training Special Provisions	Oct. 15, 1975	
	80318	66		Traversable Pipe Grate	Jan. 1, 2013	April 1, 2014
*	80345	67		Underpass Luminaire	Aug. 1, 2014	April 1, 2015
	80357	68		Urban Half Road Closure with Mountable Median	Jan. 1, 2015	
*	80346	69		Waterway Obstruction Warning Luminaire	Aug. 1, 2014	April 1, 2015
	80288	70		Warm Mix Asphalt	Jan. 1, 2012	Nov. 1, 2014
	80302	71		Weekly DBE Trucking Reports	June 2, 2012	
	80289	72		Wet Reflective Thermoplastic Pavement Marking	Jan. 1, 2012	
	80071	73		Working Days	Jan. 1, 2002	

The following special provisions are in the 2015 Supplemental Specifications and Recurring Special Provisions:

File Name	Special Provision Title	New Location	Effective	Revised
80292	Coarse Aggregate in Bridge Approach Slabs/Footings	Articles 1004.01(b) and 1004.02(f)	April 1, 2012	April 1, 2013
80303	Granular Materials	Articles 1003.04, 1003.04(c), and 1004.05(c)	Nov. 1, 2012	
80330	Pavement Marking for Bike Symbol	Article 780.14	Jan. 1, 2014	
80331	Payrolls and Payroll Records	Recurring CS #1 and #5	Jan. 1, 2014	
80332	Portland Cement Concrete – Curing of Abutments and Piers	Article 1020.13	Jan. 1, 2014	
80326	Portland Cement Concrete Equipment	Article 1103.03(a)(5)	Nov. 1, 2013	
80281	Quality Control/Quality Assurance of Concrete Mixtures	Recurring CS #31	Jan. 1, 2012	Jan. 1, 2014
80283	Removal and Disposal of Regulated Substances	Articles 669.01, 669.08, 669.09, 669.14, and 669.16	Jan. 1, 2012	Nov. 2, 2012
80319	Removal and Disposal of Surplus Materials	Article 202.03	Nov. 2, 2012	
80307	Seeding	Article 250.07	Nov. 1, 2012	
80339	Stabilized Subbase	Article 312.06	April 1, 2014	
80333	Traffic Control Setup and Removal Freeway/Expressway	Articles 701.18(l) and 701.19(a)	Jan. 1, 2014	

The following special provisions require additional information from the designer. The additional information needs to be included in a separate document attached to this check sheet. The Project Development and Implementation section will then include the information in the applicable special provision. The Special Provisions are:

- 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

CONCRETE GUTTER, CURB, MEDIAN, AND PAVED DITCH (BDE)

Effective: April 1, 2014
Revised: August 1, 2014

Add the following to Article 606.02 of the Standard Specifications:

"(i) Polyurethane Joint Sealant ..... 1050.04"

Revise the fifth paragraph of Article 606.07 of the Standard Specifications to read:

"Transverse contraction and longitudinal construction joints shall be sealed according to Article 420.12, except transverse joints in concrete curb and gutter shall be sealed with polysulfide or polyurethane joint sealant."

Add the following to Section 1050 of the Standard Specifications:

"**1050.04 Polyurethane Joint Sealant.** The joint sealant shall be a polyurethane sealant, Type S, Grade NS, Class 25 or better, Use T (T_1 or T_2), according to ASTM C 920."

80334

CONCRETE MIX DESIGN – DEPARTMENT PROVIDED (BDE)

Effective: January 1, 2012
Revised: January 1, 2014

For the concrete mix design requirements in Article 1020.05(a) of the Supplemental Specifications and Recurring Special Provisions, the Contractor has the option to request the Engineer determine mix design material proportions for Class PV, PP, RR, BS, DS, SC, and SI concrete. A single mix design for each class of concrete will be provided. Acceptance by the Contractor to use the mix design developed by the Engineer shall not relieve the Contractor from meeting specification requirements.

80277

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

PAVEMENT PATCHING (BDE)

Effective: January 1, 2010

Revise the first sentence of the second paragraph of Article 701.17(e)(1) of the Standard Specifications to read:

"In addition to the traffic control and protection shown elsewhere in the contract for pavement, two devices shall be placed immediately in front of each open patch, open hole, and broken pavement where temporary concrete barriers are not used to separate traffic from the work area."

80254

REINFORCEMENT BARS (BDE)

Effective: November 1, 2013

Revise the first and second paragraphs of Article 508.05 of the Standard Specifications to read:

"**508.05 Placing and Securing.** All reinforcement bars shall be placed and tied securely at the locations and in the configuration shown on the plans prior to the placement of concrete. Manual welding of reinforcement may only be permitted or precast concrete products as indicated in the current Bureau of Materials and Physical Research Policy Memorandum "Quality Control / Quality Assurance Program for Precast Concrete Products", and for precast prestressed concrete products as indicated in the Department's current "Manual for Fabrication of Precast Prestressed Concrete Products". Reinforcement bars shall not be placed by sticking or floating into place or immediately after placement of the concrete.

Bars shall be tied at all intersections, except where the center to center dimension is less than 1 ft (300 mm) in each direction, in which case alternate intersections shall be tied. Molded plastic clips may be used in lieu of wire to secure bar intersections, but shall not be permitted in horizontal bar mats subject to construction foot traffic or to secure longitudinal bar laps. Plastic clips shall adequately secure the reinforcement bars, and shall permit the concrete to flow through and fully encase the reinforcement. Plastic clips may be recycled plastic, and shall meet the approval of the Engineer. The number of ties as specified shall be doubled for lap splices at the stage construction line of concrete bridge decks when traffic is allowed on the first completed stage during the pouring of the second stage."

Revise the fifth paragraph of Article 508.05 of the Standard Specifications to read:

"Supports for reinforcement in bridge decks shall be metal. For all other concrete construction the supports shall be metal or plastic. Metal bar supports shall be made of cold-drawn wire, or other approved material and shall be either epoxy coated, galvanized or plastic tipped. When the reinforcement bars are epoxy coated, the metal supports shall be epoxy coated. Plastic supports may be recycled plastic. Supports shall be provided in sufficient number and spaced to provide the required clearances. Supports shall adequately support the reinforcement bars, and shall permit the concrete to flow through and fully encase the reinforcement. The legs of supports shall be spaced to allow an opening that is a minimum 1.33 times the nominal maximum aggregate size used in the concrete. Nominal maximum aggregate size is defined as the largest sieve which retains any of the aggregate sample particles. All supports shall meet the approval of the Engineer."

Revise the first sentence of the eighth paragraph of Article 508.05 of the Standard Specifications to read:

"Epoxy coated reinforcement bars shall be tied with plastic coated wire, epoxy coated wire, or molded plastic clips where allowed."

Add the following sentence to the end of the first paragraph of Article 508.06(c) of the Standard Specifications:

"In addition, the total slip of the bars within the splice sleeve of the connector after loading in tension to 30 ksi (207 MPa) and relaxing to 3 ksi (20.7 MPa) shall not exceed 0.01 in. (254 microns)."

Revise Article 1042.03(d) of the Standard Specifications to read:

"(d) Reinforcement and Accessories: The concrete cover over all reinforcement shall be within ±1/4 in. (±6 mm) of the specified cover.

Welded wire fabric shall be accurately bent and tied in place.

Miscellaneous accessories to be cast into the concrete or for forming holes and recesses shall be carefully located and rigidly held in place by bolts, clamps, or other effective means. If paper tubes are used for vertical dowel holes, or other vertical holes which require grouting, they shall be removed before transportation to the construction site."

80327

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:

Village of Villa Park

Robinson Engineering, Ltd.

Clark Dietz, Inc.

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

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

SPECIAL PROVISION FOR EQUIPMENT RENTAL RATES

Effective: January 1, 2012

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

Replace Article 109.04(b)(4) with the following:

"(4) Equipment. For any machinery or special equipment (other than small tools) the use of which has been authorized by the Engineer, the Contractor will be paid according to the latest revision of “SCHEDULE OF AVERAGE ANNUAL EQUIPMENT OWNERSHIP EXPENSE” and latest index factor as issued by the Illinois Department of Transportation. The equipment should be of a type and size reasonably required to complete the extra work.”

Du Page County Prevailing Wage for June 2015

(See explanation of column headings at bottom of wages)

Trade Name	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
ASBESTOS ABT-GEN		ALL		38.200	38.700	1.5	1.5	2.0	13.78	10.12	0.000	0.500
ASBESTOS ABT-MEC		BLD		35.100	37.600	1.5	1.5	2.0	11.17	10.76	0.000	0.720
BOILERMAKER		BLD		45.650	49.760	2.0	2.0	2.0	6.970	17.81	0.000	0.400
BRICK MASON		BLD		42.580	46.840	1.5	1.5	2.0	9.850	13.60	0.000	1.030
CARPENTER		ALL		43.350	45.350	1.5	1.5	2.0	13.29	13.75	0.000	0.630
CEMENT MASON		ALL		39.250	41.250	2.0	1.5	2.0	12.70	17.14	0.000	0.450
CERAMIC TILE FNSHER		BLD		35.810	0.000	1.5	1.5	2.0	10.55	8.440	0.000	0.710
COMMUNICATION TECH		BLD		32.650	34.750	1.5	1.5	2.0	9.550	15.16	1.250	0.610
ELECTRIC PWR EQMT OP		ALL		37.890	51.480	1.5	1.5	2.0	5.000	11.75	0.000	0.380
ELECTRIC PWR EQMT OP		HWY		39.220	53.290	1.5	1.5	2.0	5.000	12.17	0.000	0.390
ELECTRIC PWR GRNDMAN		ALL		29.300	51.480	1.5	1.5	2.0	5.000	9.090	0.000	0.290
ELECTRIC PWR GRNDMAN		HWY		30.330	53.290	1.5	1.5	2.0	5.000	9.400	0.000	0.300
ELECTRIC PWR LINEMAN		ALL		45.360	51.480	1.5	1.5	2.0	5.000	14.06	0.000	0.450
ELECTRIC PWR LINEMAN		HWY		46.950	53.290	1.5	1.5	2.0	5.000	14.56	0.000	0.470
ELECTRIC PWR TRK DRV		ALL		30.340	51.480	1.5	1.5	2.0	5.000	9.400	0.000	0.300
ELECTRIC PWR TRK DRV		HWY		31.400	53.290	1.5	1.5	2.0	5.000	9.730	0.000	0.310
ELECTRICIAN		BLD		38.160	41.980	1.5	1.5	2.0	9.550	18.29	4.680	0.680
ELEVATOR CONSTRUCTOR		BLD		50.800	57.150	2.0	2.0	2.0	13.57	14.21	4.060	0.600
FENCE ERECTOR	NE	ALL		35.840	37.840	1.5	1.5	2.0	13.01	11.51	0.000	0.300
FENCE ERECTOR	W	ALL		45.060	48.660	2.0	2.0	2.0	10.52	18.81	0.000	0.400
GLAZIER		BLD		40.000	41.500	1.5	2.0	2.0	12.49	15.99	0.000	0.940
HT/FROST INSULATOR		BLD		48.450	50.950	1.5	1.5	2.0	11.47	12.16	0.000	0.720
IRON WORKER	E	ALL		43.000	45.000	2.0	2.0	2.0	13.45	20.65	0.000	0.350
IRON WORKER	W	ALL		45.060	48.660	2.0	2.0	2.0	10.52	18.81	0.000	0.400
LABORER		ALL		38.000	38.750	1.5	1.5	2.0	13.78	10.12	0.000	0.500
LATHER		ALL		43.350	45.350	1.5	1.5	2.0	13.29	13.75	0.000	0.630
MACHINIST		BLD		44.350	46.850	1.5	1.5	2.0	6.760	8.950	1.850	0.000
MARBLE FINISHERS		ALL		31.400	32.970	1.5	1.5	2.0	9.850	13.10	0.000	0.600
MARBLE MASON		BLD		41.780	45.960	1.5	1.5	2.0	9.850	13.42	0.000	0.760
MATERIAL TESTER I		ALL		28.000	0.000	1.5	1.5	2.0	13.78	10.12	0.000	0.500
MATERIALS TESTER II		ALL		33.000	0.000	1.5	1.5	2.0	13.78	10.12	0.000	0.500
MILLWRIGHT		ALL		43.350	45.350	1.5	1.5	2.0	13.29	13.75	0.000	0.630
OPERATING ENGINEER		BLD	1	47.100	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	2	45.800	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	3	43.250	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	4	41.500	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	5	50.850	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	6	48.100	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	7	50.100	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		FLT		35.000	35.000	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	1	45.300	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		HWY	2	44.750	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		HWY	3	42.700	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		HWY	4	41.300	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		HWY	5	40.100	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		HWY	6	48.300	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		HWY	7	46.300	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250
ORNAMNTL IRON WORKER	E	ALL		43.900	46.400	2.0	2.0	2.0	13.36	17.24	0.000	0.650
ORNAMNTL IRON WORKER	W	ALL		45.060	48.660	2.0	2.0	2.0	10.52	18.81	0.000	0.400
PAINTER		ALL		41.730	43.730	1.5	1.5	1.5	10.30	8.200	0.000	1.350
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000
PILEDRIVER		ALL		43.350	45.350	1.5	1.5	2.0	13.29	13.75	0.000	0.630
PIPEFITTER		BLD		46.000	49.000	1.5	1.5	2.0	9.000	15.85	0.000	1.780
PLASTERER		BLD		41.250	43.760	1.5	1.5	2.0	9.700	13.08	0.000	0.980
PLUMBER		BLD		46.650	48.650	1.5	1.5	2.0	13.18	11.46	0.000	0.880

ROOFER		BLD	40.100	43.100	1.5	1.5	2.0	8.280	10.54	0.000	0.530	
SHEETMETAL WORKER		BLD	44.000	46.000	1.5	1.5	2.0	10.65	13.06	0.000	0.820	
SPRINKLER FITTER		BLD	49.200	51.200	1.5	1.5	2.0	11.75	9.650	0.000	0.550	
STEEL ERECTOR	E	ALL	42.070	44.070	2.0	2.0	2.0	13.45	19.59	0.000	0.350	
STEEL ERECTOR	W	ALL	45.060	48.660	2.0	2.0	2.0	10.52	18.81	0.000	0.400	
STONE MASON		BLD	42.580	46.840	1.5	1.5	2.0	9.850	13.60	0.000	1.030	
~~SURVEY WORKER~~	-> NOT IN EFFECT				ALL	37.000	37.750	1.5	1.5	2.0	12.97	9.930 0.000 0.500
TERRAZZO FINISHER		BLD	37.040	0.000	1.5	1.5	2.0	10.55	10.32	0.000	0.620	
TERRAZZO MASON		BLD	40.880	43.880	1.5	1.5	2.0	10.55	11.63	0.000	0.820	
TILE MASON		BLD	42.840	46.840	1.5	1.5	2.0	10.55	10.42	0.000	0.920	
TRAFFIC SAFETY WRKR		HWY	32.750	34.350	1.5	1.5	2.0	6.550	6.450	0.000	0.500	
TRUCK DRIVER		ALL 1	32.550	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150	
TRUCK DRIVER		ALL 2	32.700	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150	
TRUCK DRIVER		ALL 3	32.900	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150	
TRUCK DRIVER		ALL 4	33.100	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150	
TUCKPOINTER		BLD	41.620	42.620	1.5	1.5	2.0	9.850	12.61	0.000	0.650	

Legend: RG (Region)
TYP (Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers)
C (Class)
Base (Base Wage Rate)
FRMAN (Foreman Rate)
M-F>8 (OT required for any hour greater than 8 worked each day, Mon through Fri.
OSA (Overtime (OT) is required for every hour worked on Saturday)
OSH (Overtime is required for every hour worked on Sunday and Holidays)
H/W (Health & Welfare Insurance)
Pensn (Pension)
Vac (Vacation)
Trng (Training)

Explanations

DUPAGE COUNTY

IRON WORKERS AND FENCE ERECTOR (WEST) - West of Route 53.

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations

including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Low voltage installation, maintenance and removal of telecommunication facilities (voice, sound, data and video) including telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant;

Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under: Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.;

Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEER - FLOATING

Diver. Diver Wet Tender, Diver Tender, ROV Pilot, ROV Tender

SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yeards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and

Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

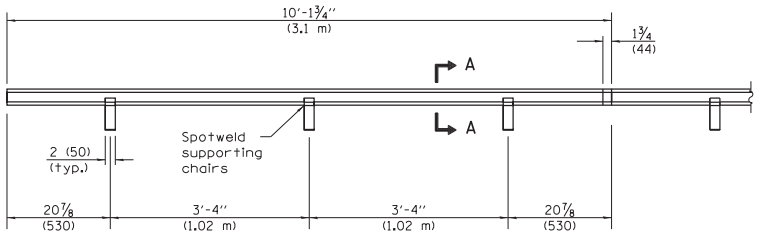
For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

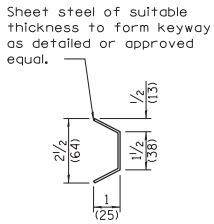
Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

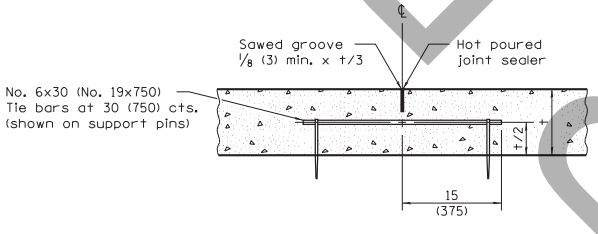
Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".



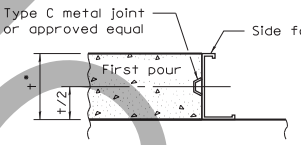
TYPE C METAL JOINT



SECTION A–A

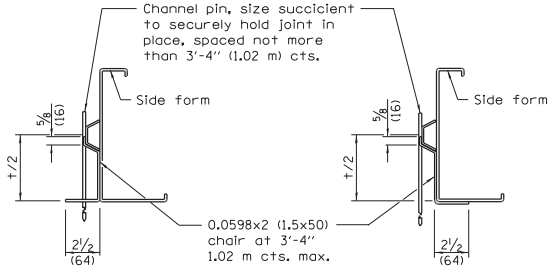


LONGITUDINAL SAWED JOINT



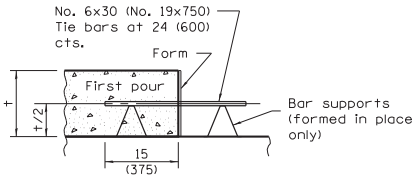
LONGITUDINAL KEYED JOINT

• 8 (203) min. pavement thickness for keyed joints.

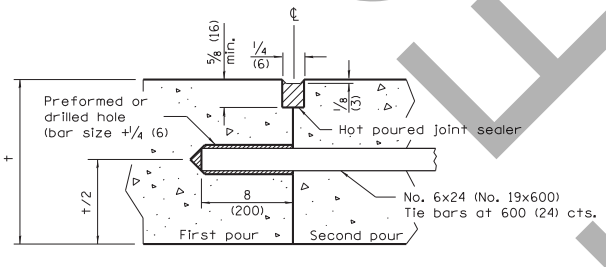


SUPPORTING CHAIR ALTERNATE

SUPPORTING CHAIR ALTERNATE



LONGITUDINAL CONSTRUCTION JOINT
(TIE BAR FORMED IN PLACE OR MECHANICALLY INSERTED)



LONGITUDINAL CONSTRUCTION JOINT
(TIE BAR GROUTED IN PLACE)

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, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

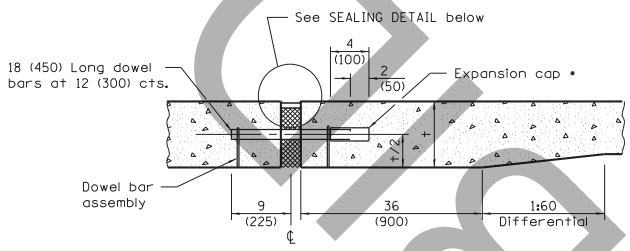
ISSUED 1-1-97

DATE	REVISIONS
1-1-15	Added: opt. for mech.
	inserted tie bars, min. pvmt.
	thickness for keyed joints.
1-1-08	Switched units to
	English (metric).

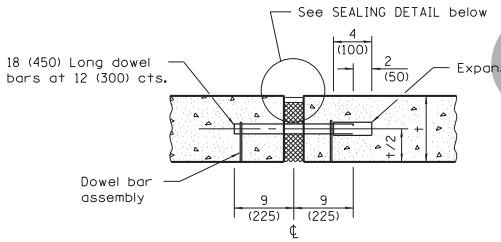
PAVEMENT JOINTS

(Sheet 1 of 2)

STANDARD 420001–08

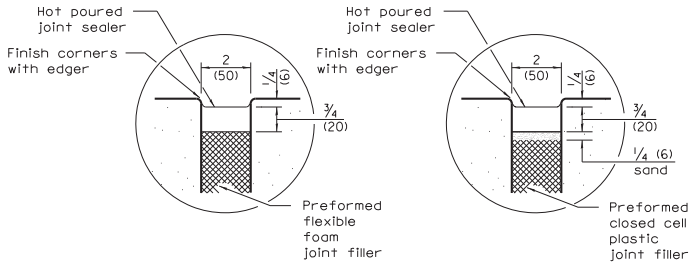


TRANSVERSE EXPANSION JOINT
(FOR PAVEMENTS WITH UNEQUAL THICKNESS)



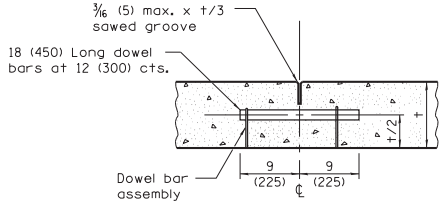
TRANSVERSE EXPANSION JOINT
(FOR PAVEMENTS WITH EQUAL THICKNESS)

• Expansion caps shall be installed on the exposed end of each dowel bar once the header has been removed and the joint filler material has been installed.

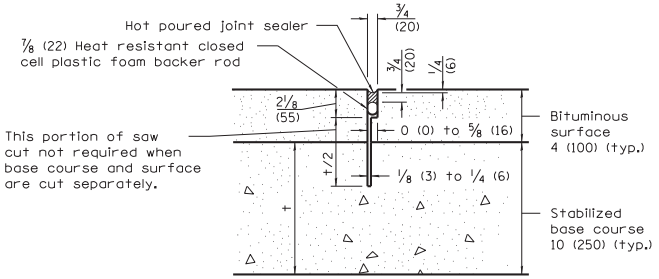


SEALING DETAIL

DOWEL BAR TABLE	
PAVEMENT THICKNESS	DOWEL BAR DIAMETER
8 (200) or greater	1½ (38)
7 (175) thru 7.99 (199)	1¼ (32)
Less than 7 (175)	1 (25)



TRANSVERSE CONTRACTION JOINT



TRANSVERSE CONTRACTION JOINT
(FOR CAM, CFA AND LFA BASE COURSE MIXTURES)

Illinois Department of Transportation

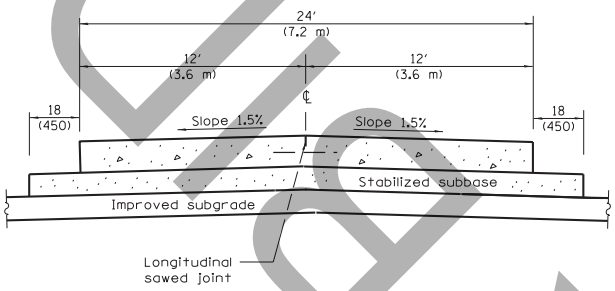
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

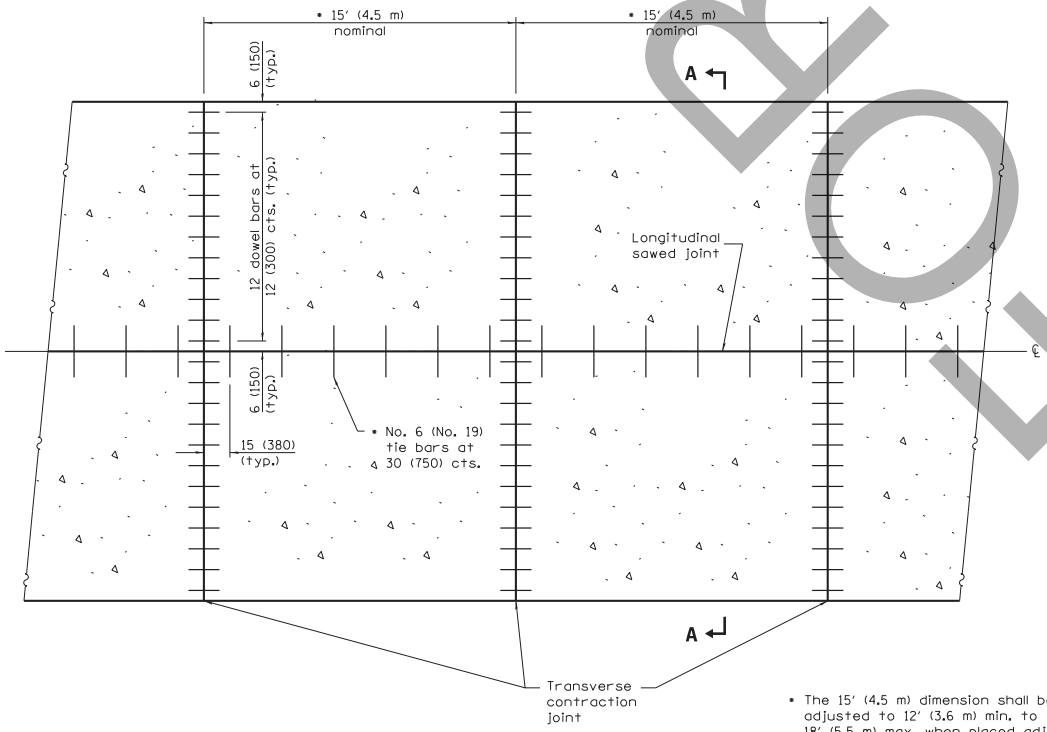
PAVEMENT JOINTS

(Sheet 2 of 2)

STANDARD 420001–08

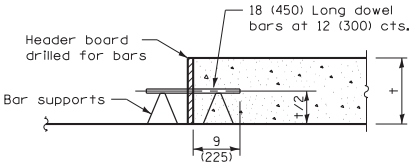


SECTION A–A
(TYPICAL 2-LANE WITH SHOULDERS)

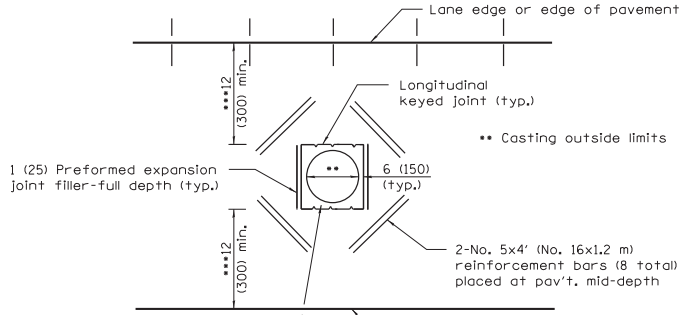


PLAN

• The 15′ (4.5 m) dimension shall be adjusted to 12′ (3.6 m) min. to 18′ (5.5 m) max. when placed adjacent to existing pcc pavement structure so that the joints are in prolongation. Adjust the tie bar spacing to maintain a clearance of 6 (150) from dowel bars.



TRANSVERSE CONSTRUCTION JOINT



••• When the 12 (300) minimum cannot be achieved, the transverse joints shall be extended to either the longitudinal joint or edge of pavement.

DETAIL OF ADDED REINFORCEMENT FOR PAVEMENT BLOCKS–OUTS

GENERAL NOTES

See Standard 420001 for details of joints not shown.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

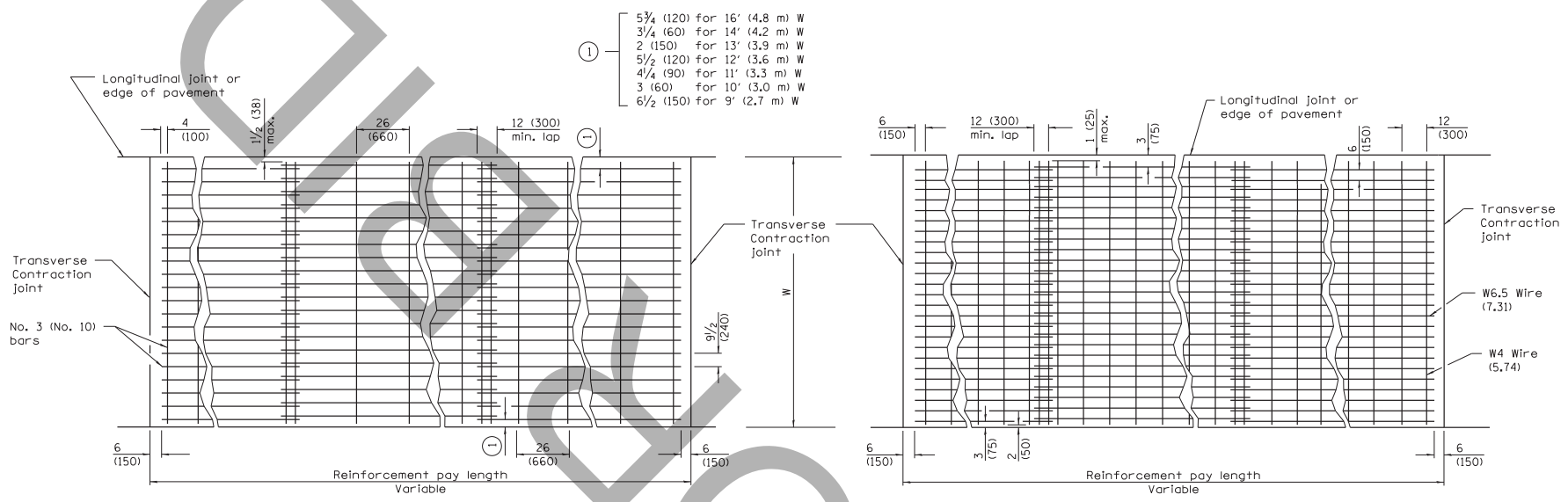
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-15	Added dimension of tie
	bars from transverse
	contraction joints
1-1-08	Switched units to
	English (metric).

24′ (7.2 m) JOINTED PCC PAVEMENT

STANDARD 420101–05



Approximately 63 lbs./100 sq. ft. (3.7 kg/m²)

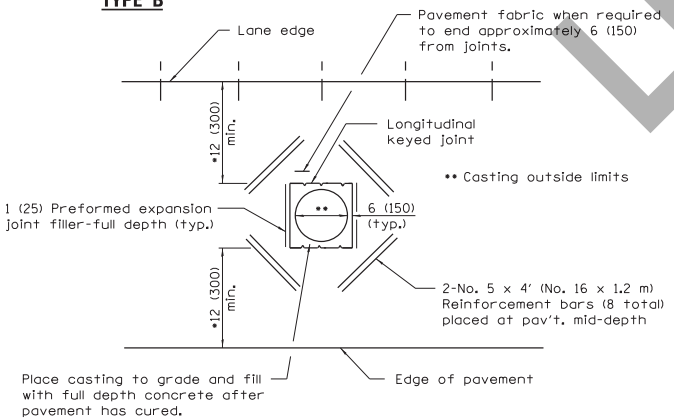
When clipped bar mats are used, each bar intersection shall be clipped with W1.7 (3.74) wire.

Approximately 63 lbs./100 sq. ft. (3.07 kg/m²)

TYPE B

TYPE A

• When the 12 (300) minimum cannot be achieved, the transverse joints shall be extended to either the longitudinal joint or edge of pavement.



DETAIL OF ADDED REINFORCEMENT FOR PAVEMENT BLOCKS–OUTS

GENERAL NOTES

Pavement block-outs shall be at least 24 (600) from contraction joints.

Pavement fabric which is lapped longitudinally shall have a minimum lap of 6 (150).

Pavement fabric may be positioned with the transverse wires on top or bottom of the longitudinal wires.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

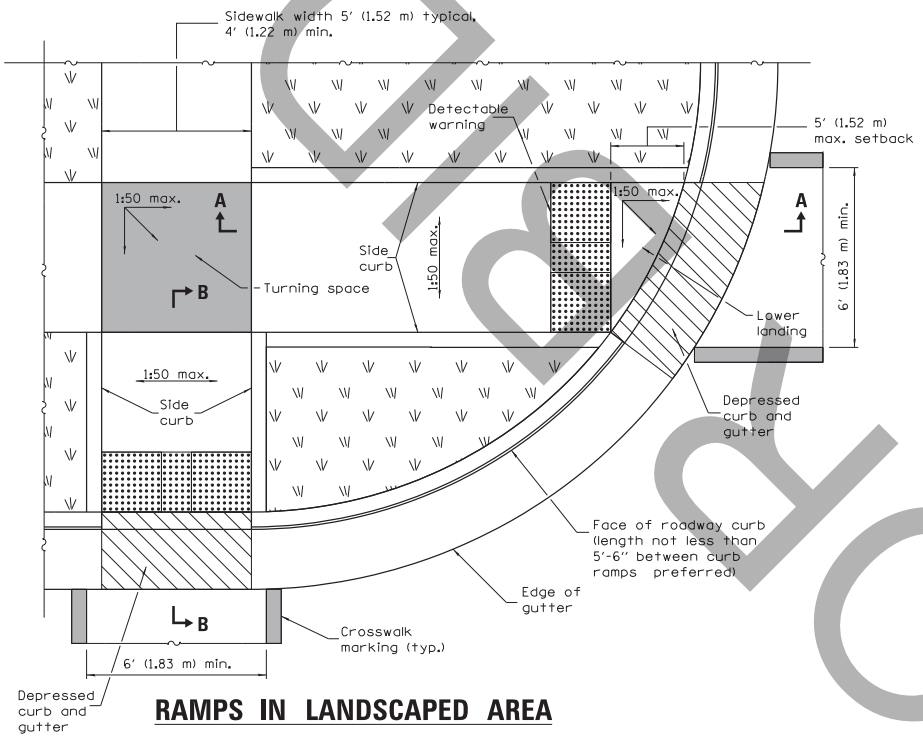
PASSED January 1, 2008
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2008
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

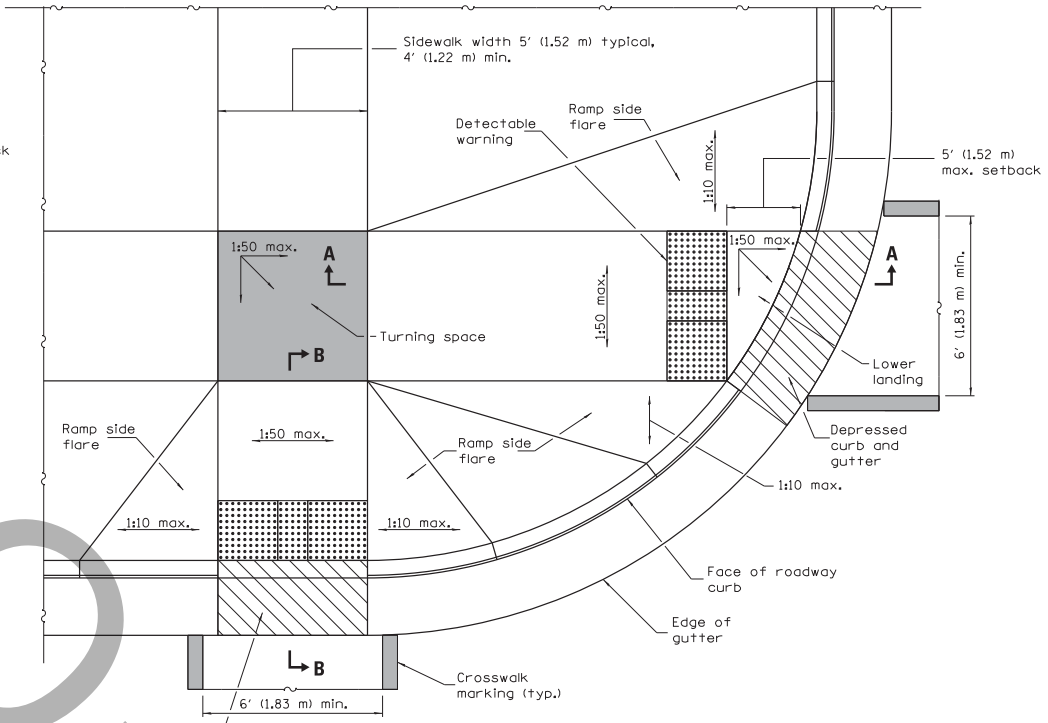
DATE	REVISIONS
1-1-08	Switched units to English (metric).
1-1-04	Minor corrections of joint information

PAVEMENT FABRIC

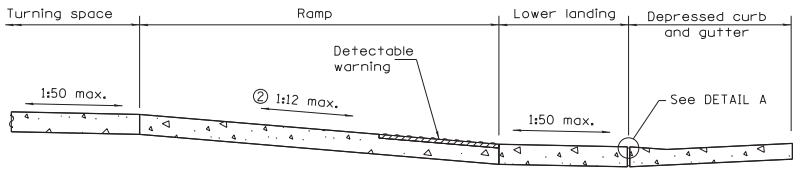
STANDARD 420701–02



RAMPS IN LANDSCAPED AREA
SETBACK ≤ 5'

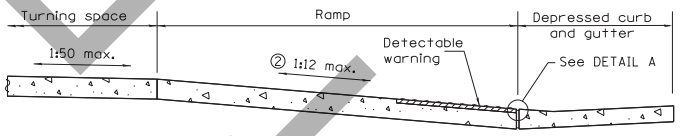


RAMPS IN PAVED AREA
SETBACK ≤ 5'



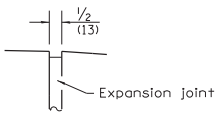
SECTION A–A

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

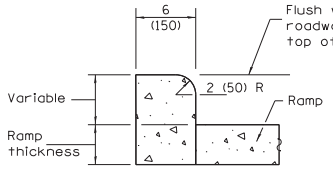


SECTION B–B

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).



DETAIL A



SIDE CURB DETAIL

Illinois Department of Transportation

PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

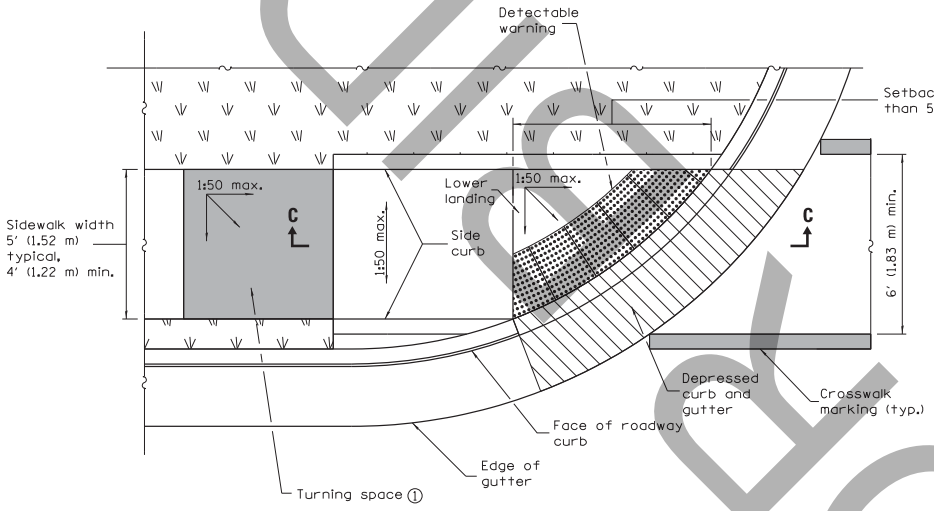
See Sheet 2 for GENERAL NOTES.

DATE	REVISIONS
1-1-15	① not appl. to int. sidewalks.
	Rev. gen. notes. Ch'd Upper
	landing to Turning space.
1-1-13	Widened crosswalk markings
	to 6' (1.83 m) min. inside
	dimension. Rev. Gen. Notes.

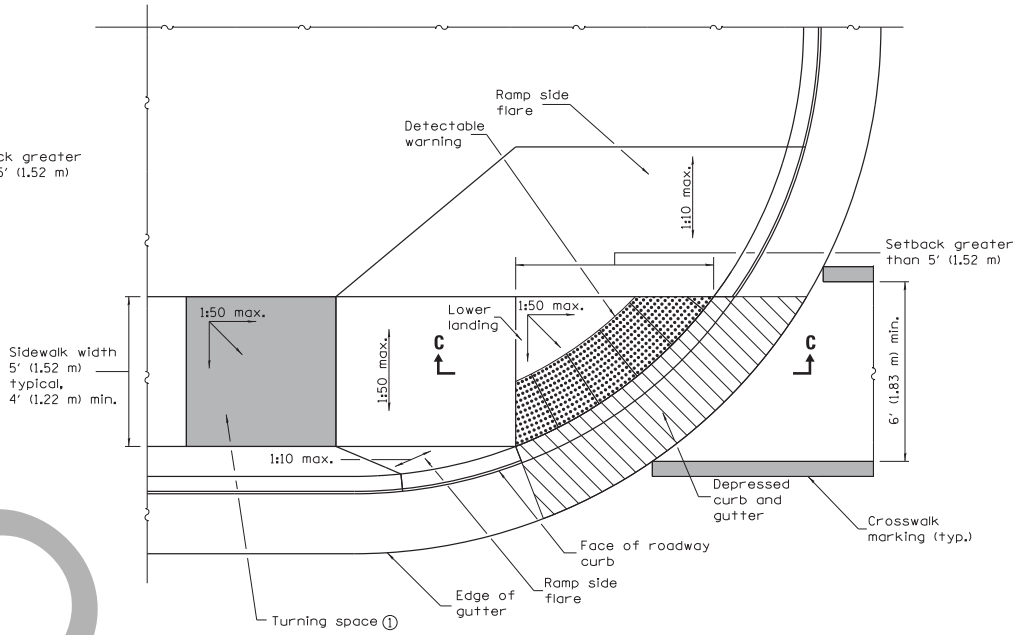
PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 1 of 2)

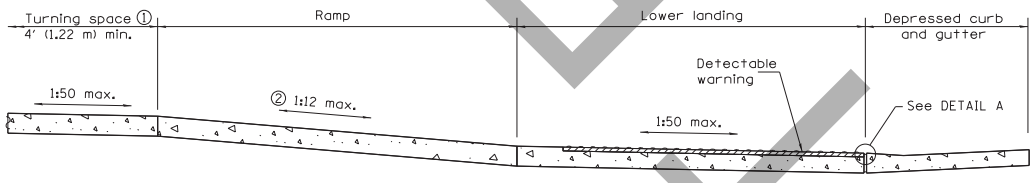
STANDARD 424001–08



RAMP IN LANDSCAPED AREA
SETBACK > 5'



RAMP IN PAVED AREA
SETBACK > 5'



SECTION C–C

① Turning space not required for ramp slopes flatter than 1:20.

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp-run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:64 is preferred.

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

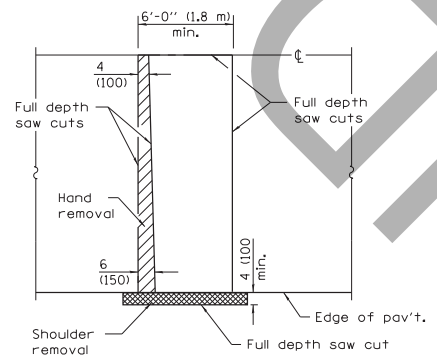
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

PERPENDICULAR CURB RAMPS FOR SIDEWALKS

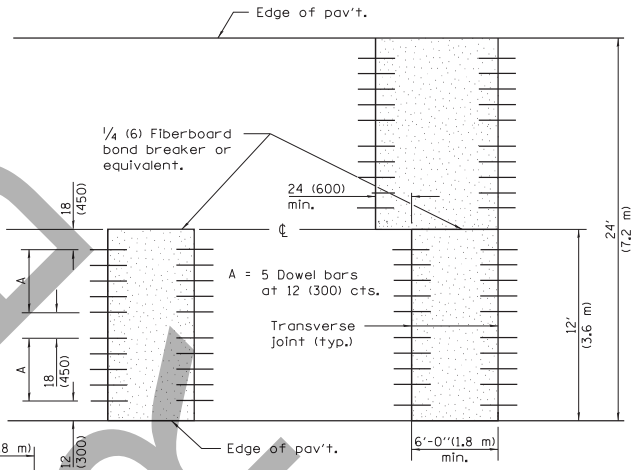
(Sheet 2 of 2)

STANDARD 424001–08

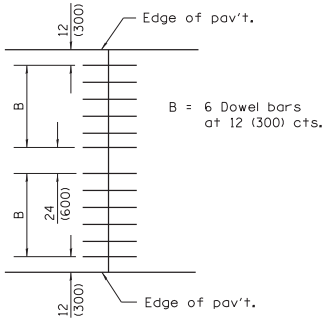


PAVEMENT SAWING DETAIL

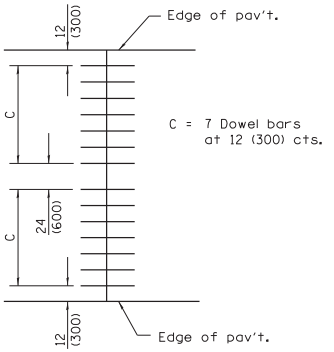
(HMA SHOULDER)



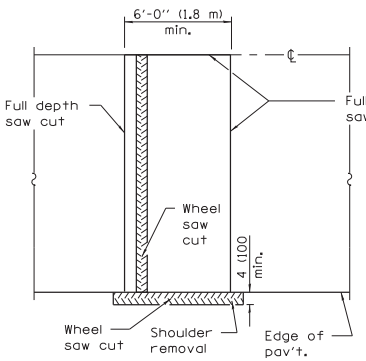
12' (3.6 m) WIDE LANES



14' (4.2 m) WIDE RAMP

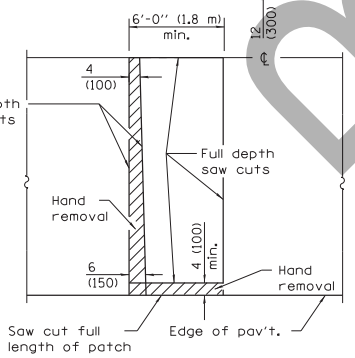


16' (4.8 m) WIDE RAMP



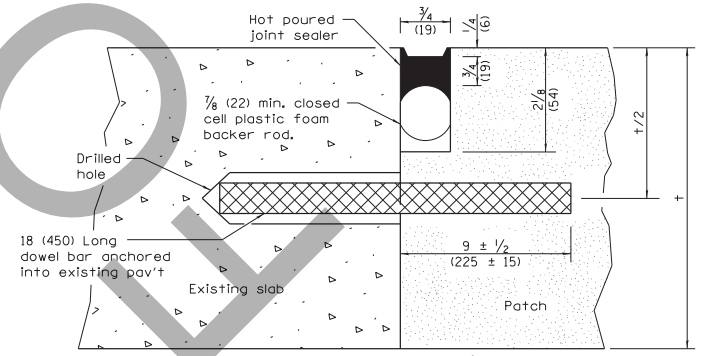
ALTERNATE SAWING DETAIL

(HMA SHOULDER)

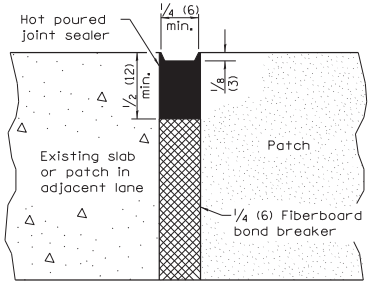


PAVEMENT SAWING DETAIL

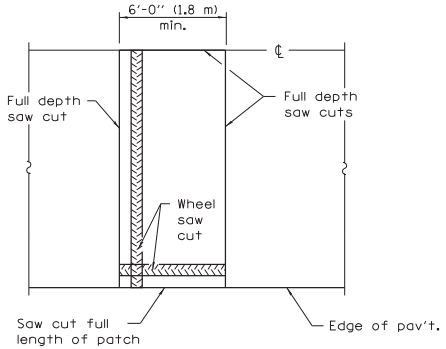
(PCC SHOULDER)



TRANSVERSE JOINT



CENTERLINE JOINT



ALTERNATE SAWING DETAIL

(PCC SHOULDER)

DOWEL BAR TABLE		
PAVEMENT THICKNESS	DOWEL BAR DIAMETER	HOLE DIAMETER
8 (200) or greater	1 1/2 (38)	1 5/8 (41)
7 (180) thru 7.99 (199)	1 1/4 (32)	1 3/8 (35)
Less than 7 (180)	1 (25)	1 1/8 (29)

GENERAL NOTES

The transverse joints for Class B patches shall align with joints or cracks in the adjacent lane whenever possible.

See Standard 420701 for details of pavement fabric.

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

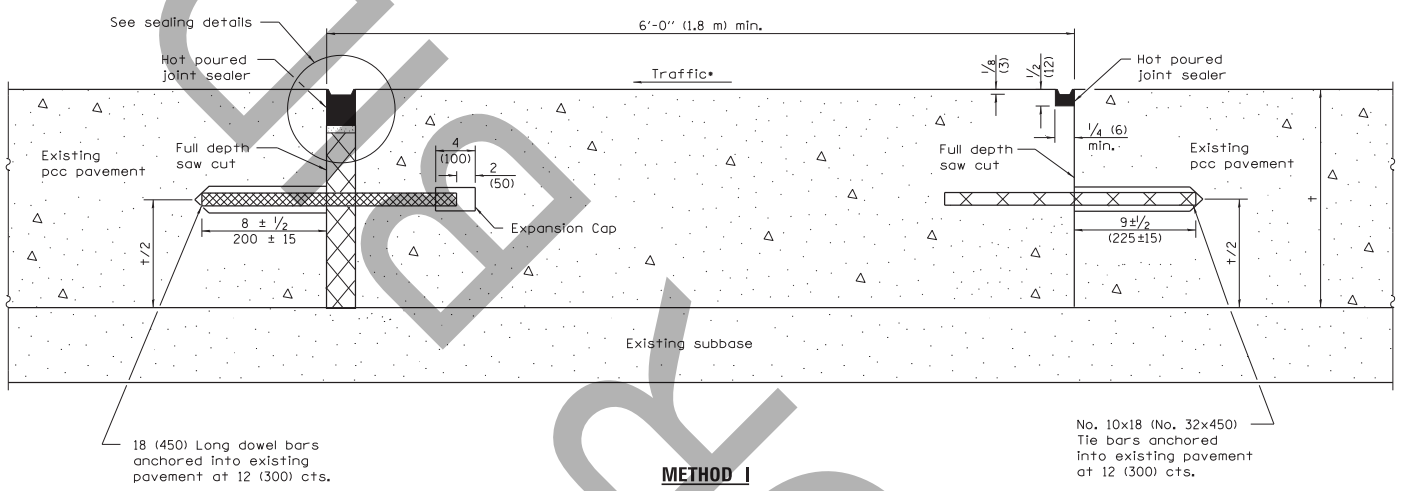
ISSUED 1-1-97

DATE	REVISIONS
1-1-08	Switched units to
	English (metric).
1-1-07	Revised General Notes.

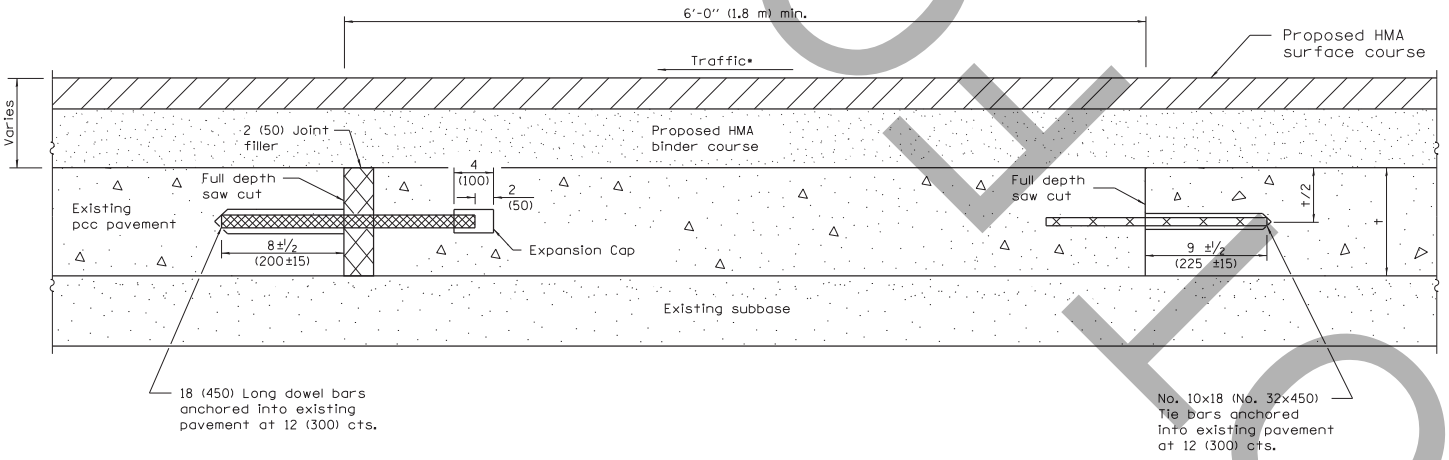
CLASS B PATCHES

(Sheet 1 of 2)

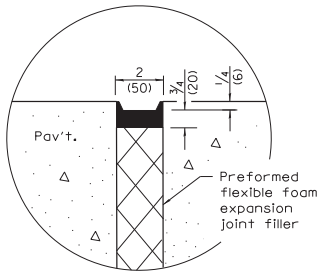
STANDARD 442101-07



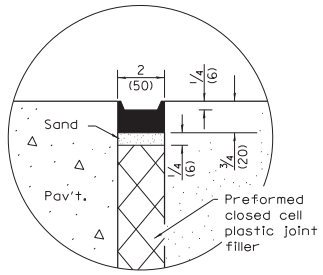
METHOD I
(Without Resurfacing)



METHOD II
(With Resurfacing)



SEALING DETAIL



SEALING DETAIL

NOTE

- When re-establishing a transverse expansion joint on a two-lane, two-way road, reverse the orientation of the dowel bars with respect to traffic for one of the patches such that the joint will be continuous across both lanes.

Illinois Department of Transportation

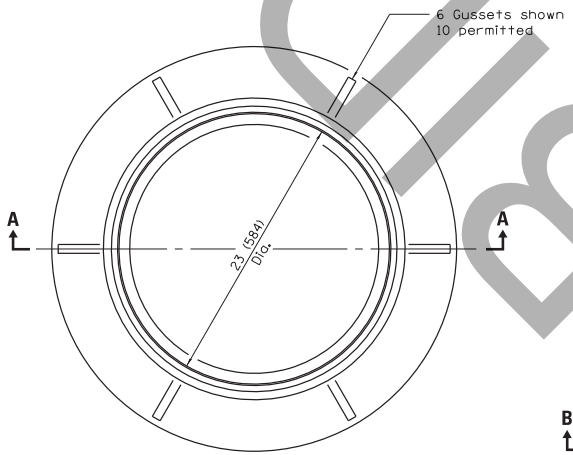
PASSED January 1. 2008
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1. 2008
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

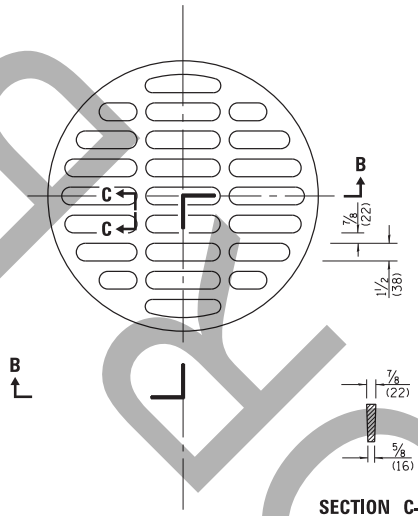
CLASS B PATCHES

(Sheet 2 of 2)

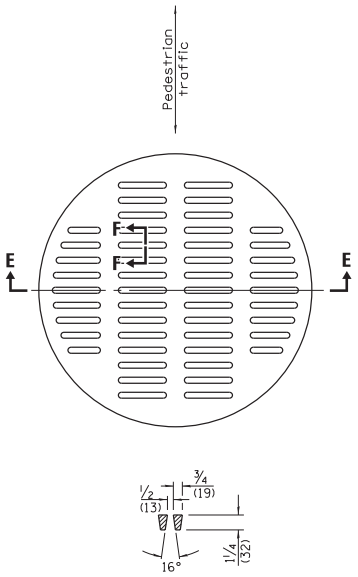
STANDARD 442101-07



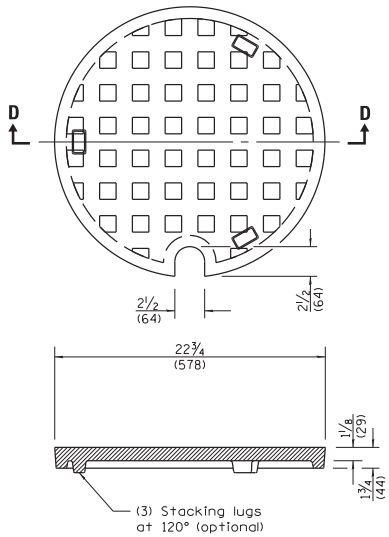
CAST FRAME



SECTION C–C

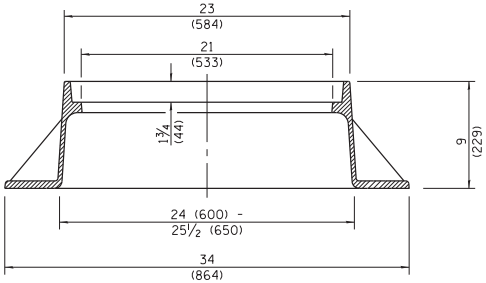


SECTION F–F

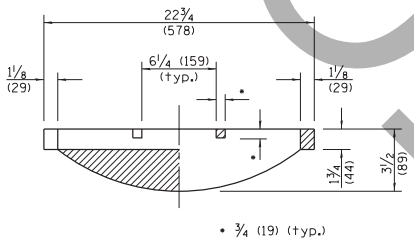


SECTION D–D

CAST CLOSED LID
Gray Iron Lid

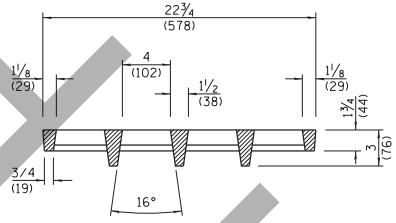


SECTION A–A
Gray Iron



SECTION B–B

CAST OPEN LID



SECTION E–E

ADA COMPLIANT
CAST OPEN LID

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

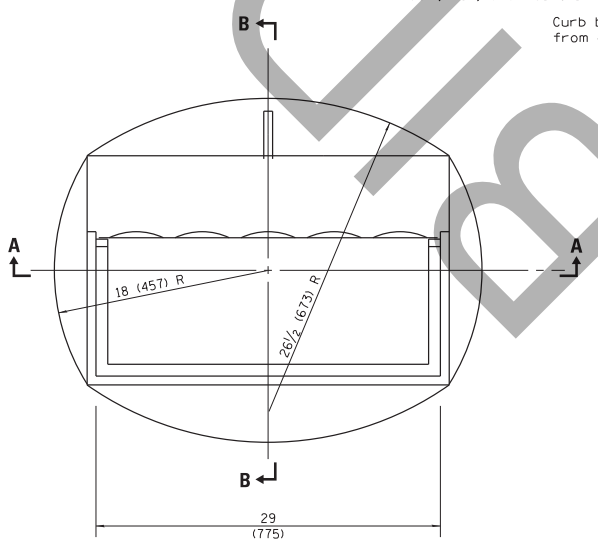
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

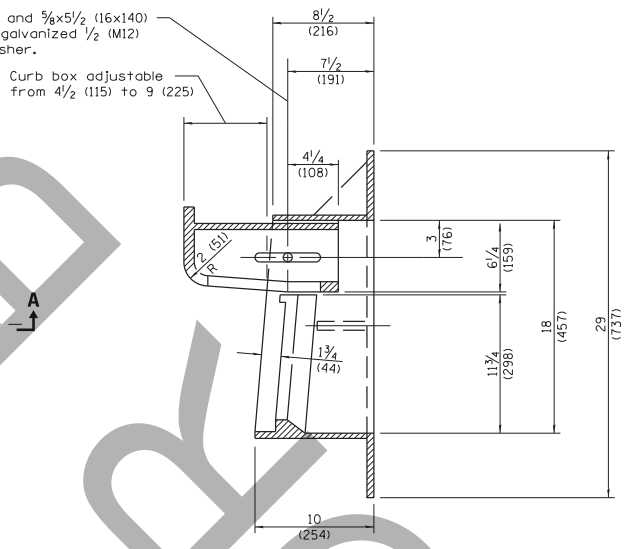
DATE	REVISIONS
1-1-15	Revised dimensioning of frame. Added ADA compliant open lid.
1-1-09	Switched units to English (metric).

FRAME AND LIDS TYPE 1

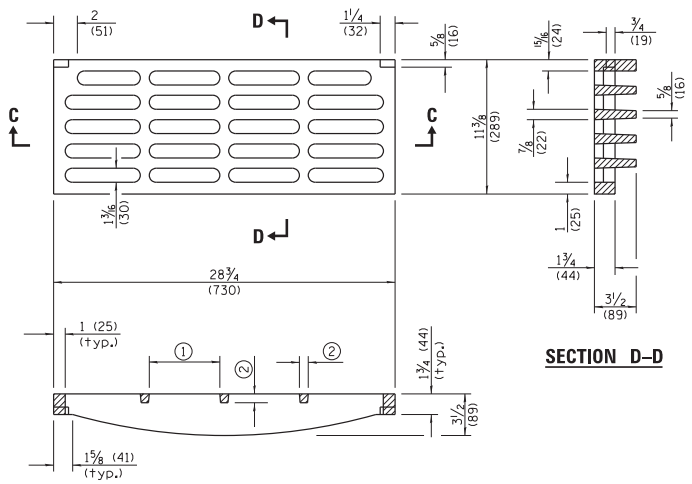
STANDARD 604001–04



CAST FRAME



SECTION B–B



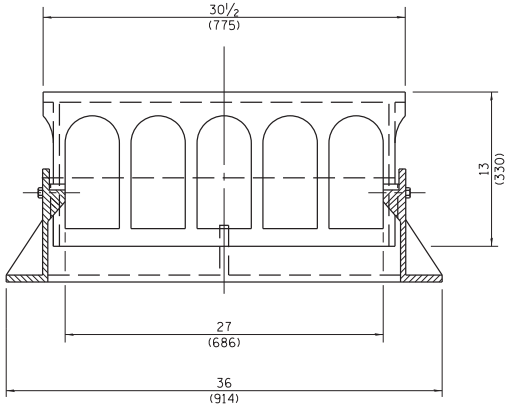
SECTION D–D

SECTION C–C

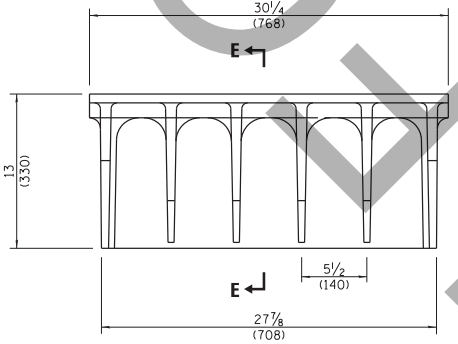
① = 6¼ (159) max. (typ.)

② = ¾ (19) min. (typ.)

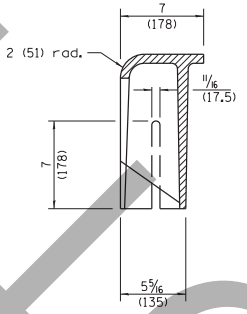
CAST GRATE



SECTION A–A



ALTERNATE CURB BOX



SECTION E–E

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2015

ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2015

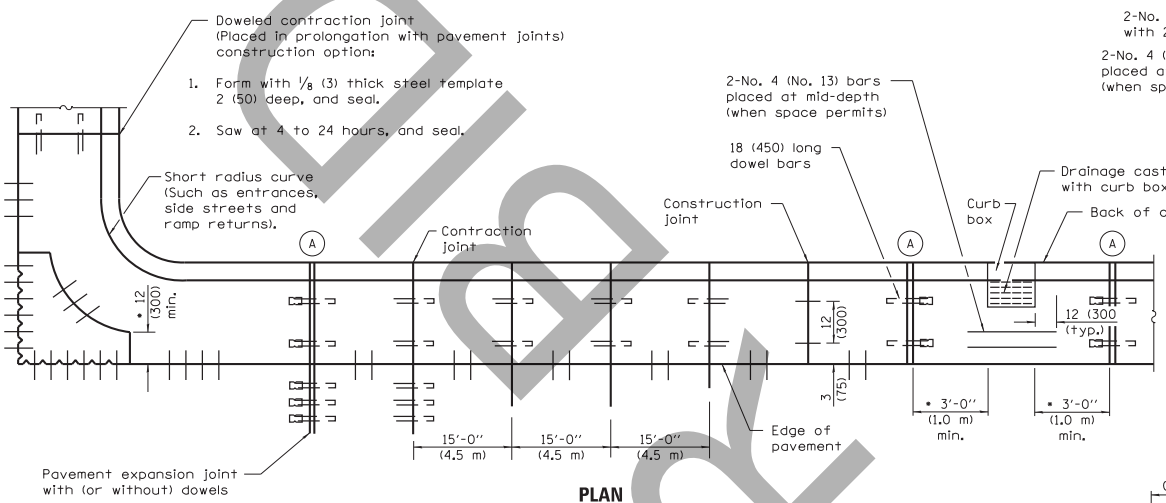
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-15

DATE	REVISIONS
1-1-15	Revised dimensions of frame and alternate curb box.
4-1-09	Switched units to English (metric).

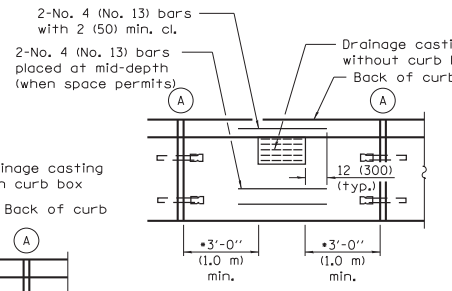
FRAME AND GRATE TYPE 11

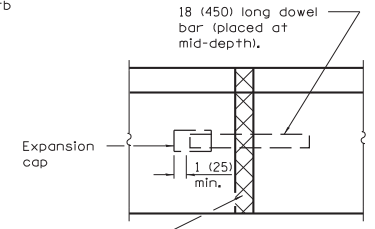
STANDARD 604051–04



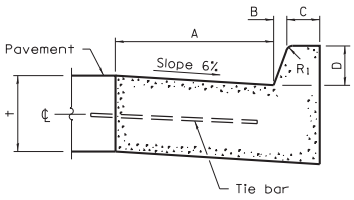
• This dimension shall be adjusted to align with joint on the adjacent pavement

PLAN
ADJACENT TO PCC PAVEMENT OR PCC BASE COURSE

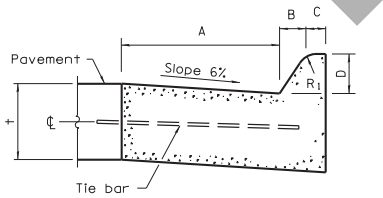




DETAIL (A)
EXPANSION JOINT



BARRIER CURB



MOUNTABLE CURB

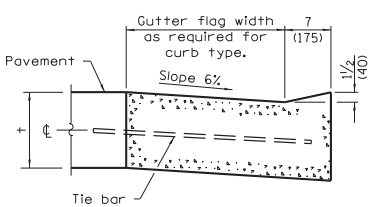
TABLE OF DIMENSIONS
BARRIER CURB

TYPE	A	B	C	D	R_1
B-6.06 * (B-15.15)	6 (150)	1 (25)	6 (150)	6 (150)	1 (25)
B-6.12 (B-15.3)	12 (300)	1 (25)	6 (150)	6 (150)	1 (25)
B-6.18 (B-15.45)	18 (450)	1 (25)	6 (150)	6 (150)	1 (25)
B-6.24 (B-15.60)	24 (600)	1 (25)	6 (150)	6 (150)	1 (25)
B-9.12 (B-22.30)	12 (300)	2 (50)	5 (125)	9 (225)	1 (25)
B-9.18 (B-22.45)	18 (450)	2 (50)	5 (125)	9 (225)	1 (25)
B-9.24 (B-22.60)	24 (600)	2 (50)	5 (125)	9 (225)	1 (25)

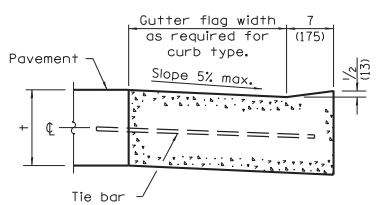
* For corner islands only.

TABLE OF DIMENSIONS
MOUNTABLE CURB

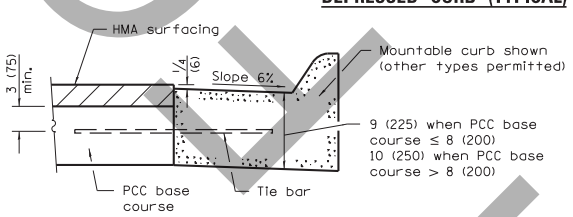
TYPE	A	B	C	D	R_1	R_2
M-2.06 (M-5.15)	6 (150)	2 (50)	4 (100)	2 (50)	3 (75)	2 (50)
M-2.12 (M-5.30)	12 (300)	2 (50)	4 (100)	2 (50)	3 (75)	2 (50)
M-4.06 (M-10.15)	6 (150)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-4.12 (M-10.30)	12 (300)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-4.18 (M-10.45)	18 (450)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-4.24 (M-10.60)	24 (600)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-6.06 (M-15.15)	6 (150)	6 (150)	2 (50)	6 (150)	2 (50)	NA
M-6.12 (M-15.30)	12 (300)	6 (150)	2 (50)	6 (150)	2 (50)	NA
M-6.18 (M-15.45)	18 (450)	6 (150)	2 (50)	6 (150)	2 (50)	NA
M-6.24 (M-15.60)	24 (600)	6 (150)	2 (50)	6 (150)	2 (50)	NA



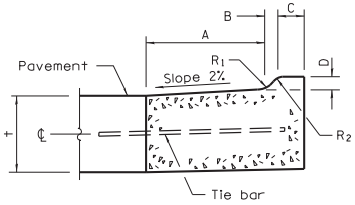
DEPRESSED CURB (TYPICAL)



DEPRESSED CURB ADJACENT TO CURB RAMP ACCESSIBLE TO THE DISABLED



ADJACENT TO PCC BASE COURSE WITH HMA SURFACING



M–2.06 (M–5.15) and M–2.12 (M–5.30)

GENERAL NOTES

The bottom slope of combination curb and gutter constructed adjacent to pcc pavement shall be the same slope as the subbase or 6% when subbase is omitted.

t = Thickness of pavement.

Longitudinal joint tie bars shall be No. 6 (No. 19) at 24 (600) centers in accordance with details for longitudinal construction joint shown on Standard 420001.

A minimum clearance of 2 (50) between the end of the tie bar and the back of the curb shall be maintained.

The dowel bars shown in contraction joints will only be required for monolithic construction.

See Standard 606301 for details of corner islands.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

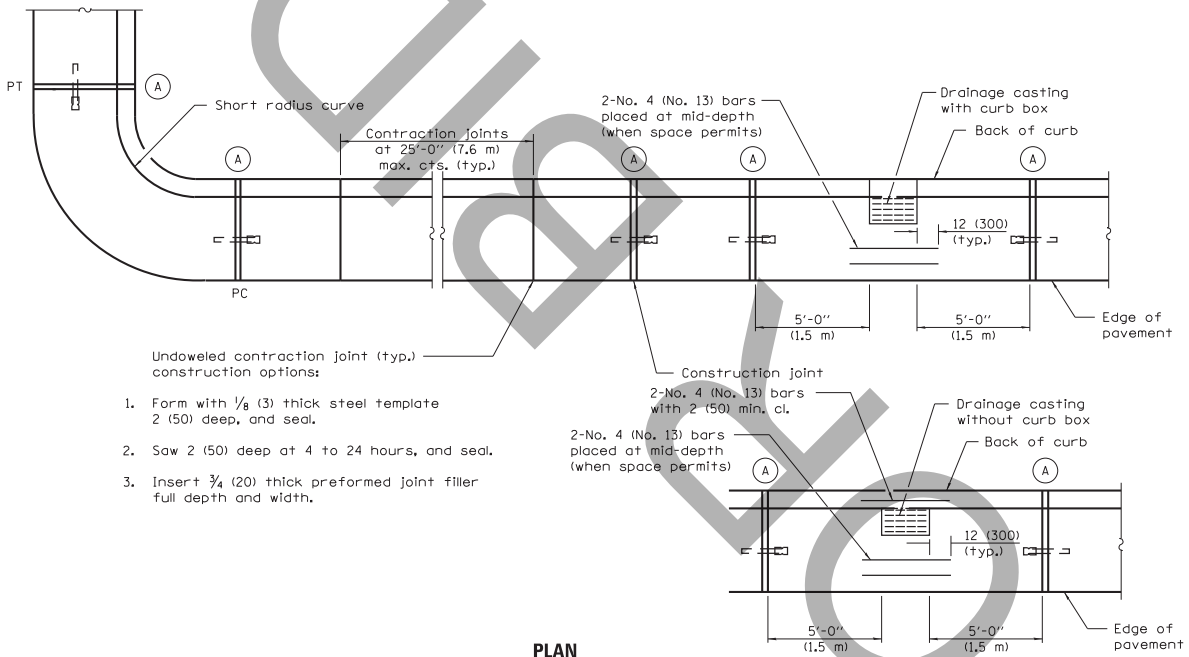
ISSUED 1-1-15

DATE	REVISIONS
1-1-15	Added B-6.06 (B-15.15) barrier curb and gutter to table (corner islands only).
1-1-13	Added general note regarding requirement for dowel bars.

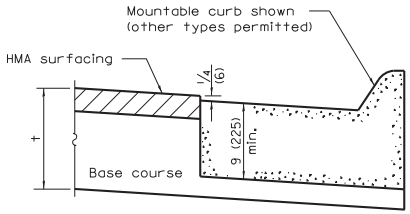
CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER

(Sheet 1 of 2)

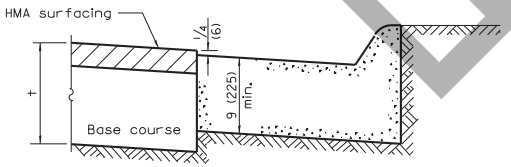
STANDARD 606001–06



PLAN

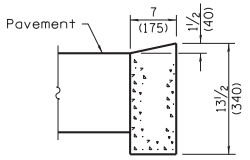


ON DISTURBED SUBGRADE

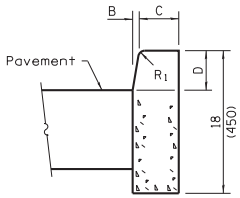


ON UNDISTURBED SUBGRADE

ADJACENT TO FLEXIBLE PAVEMENT

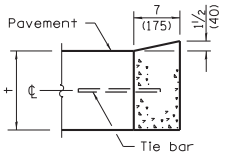


DEPRESSED CURB

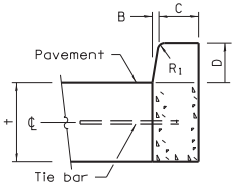


BARRIER CURB

ADJACENT TO FLEXIBLE PAVEMENT



DEPRESSED CURB



BARRIER CURB

ADJACENT TO PCC PAVEMENT OR PCC BASE COURSE

CONCRETE CURB TYPE B

Illinois Department of Transportation

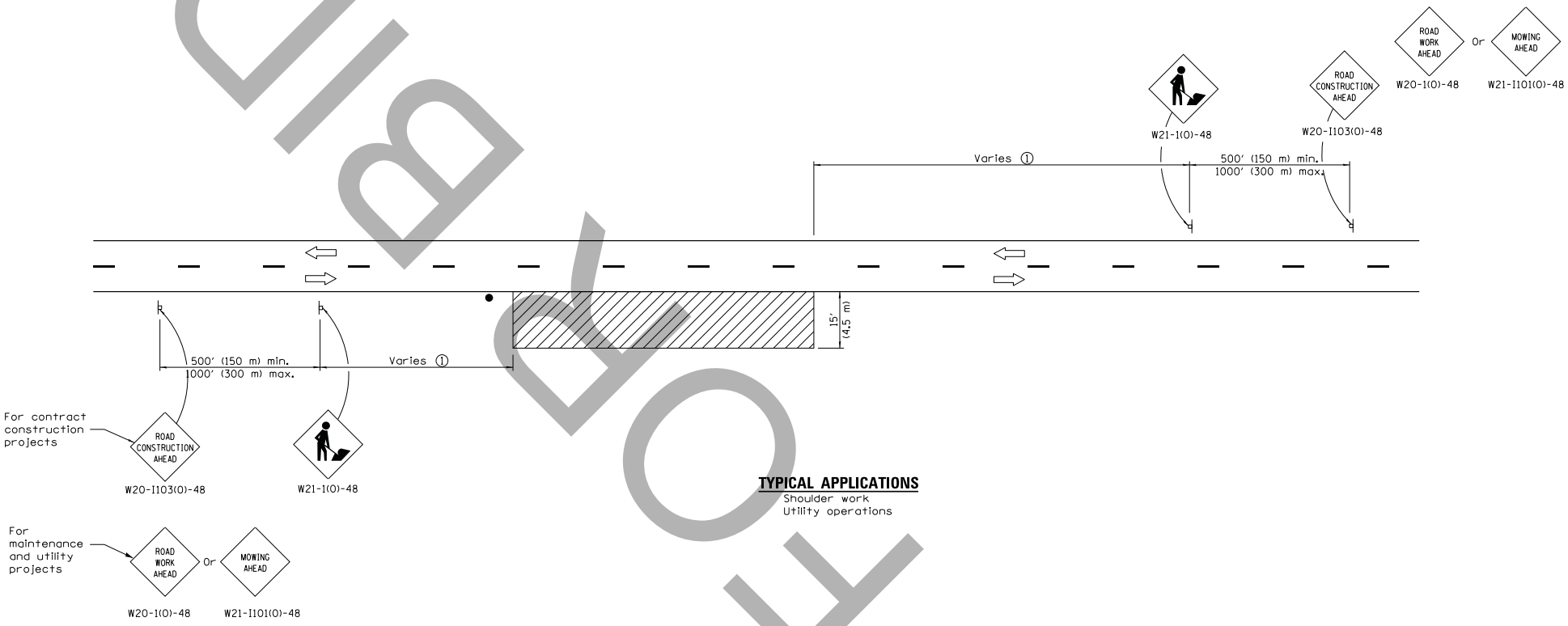
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-15

CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER

(Sheet 2 of 2)

STANDARD 606001-06



TYPICAL APPLICATIONS

Shoulder work
Utility operations

① Minimum distance is 200' (60 m). Maximum distance to be determined by the Engineer but should not exceed ½ the length required for one normal working day's operation, or 4 miles (6.4 km) whichever is less.

SYMBOLS

Work area

Sign

Flagger with traffic control sign when required

GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the shoulder, where the average speed is 1 mph (2 km/h) or less.

When the work operation does not exceed 60 minutes, traffic control may be according to Standard 701301.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2014
ENGINEER OF SAFETY ENGINEERING

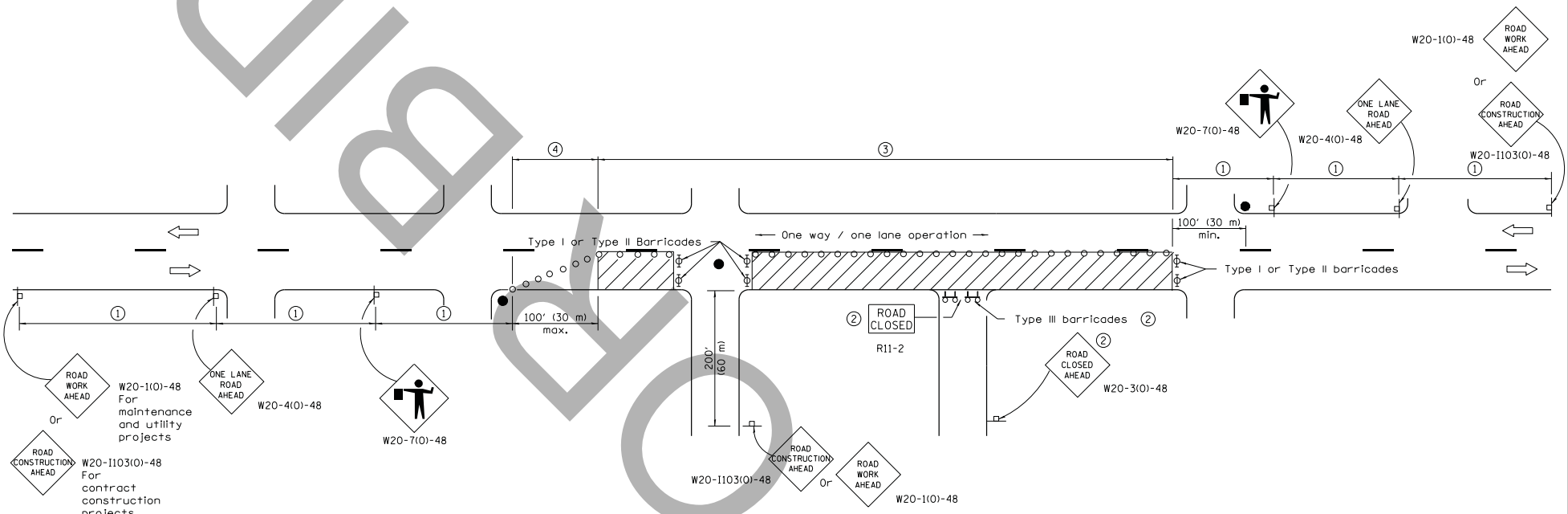
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-14	Revised workers sign
	number to agree with
	current MUTCD.
1-1-13	Omitted text 'WORKERS'
	sign.

OFF–RD MOVING OPERATIONS, 2L, 2W, DAY ONLY

STANDARD 701011–04



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

- Work area
- Cone, drum or barricade (not required for moving operations)
- Sign on portable or permanent support
- Flagger with traffic control sign
- Barricade or drum with flashing light
- Type III barricade with flashing lights

1. Refer to SIGN SPACING TABLE for distances.
2. For approved sideroad closures.
3. Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
4. Cones, drums or barricades at 20' (6 m) centers.

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an urban area.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

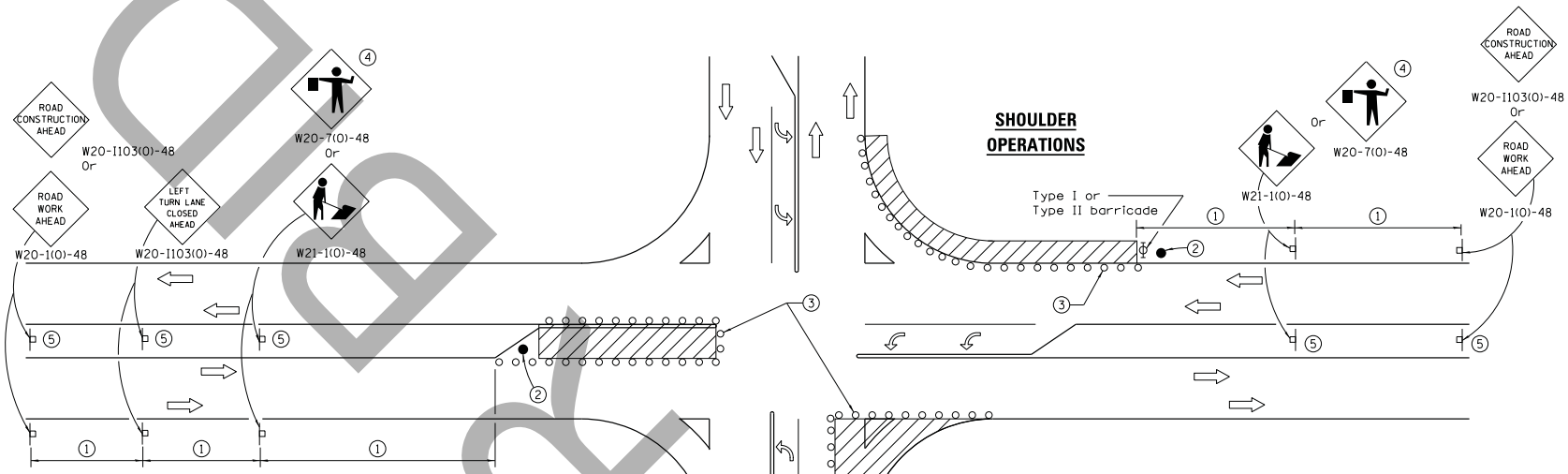
APPROVED January 1, 2011
ENGINEER OF SAFETY ENGINEERING
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to
	English (metric).
	Corrected sign No.'s.

URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED

STANDARD 701501-06



LEFT TURN LANE OR CENTER MEDIAN OPERATIONS

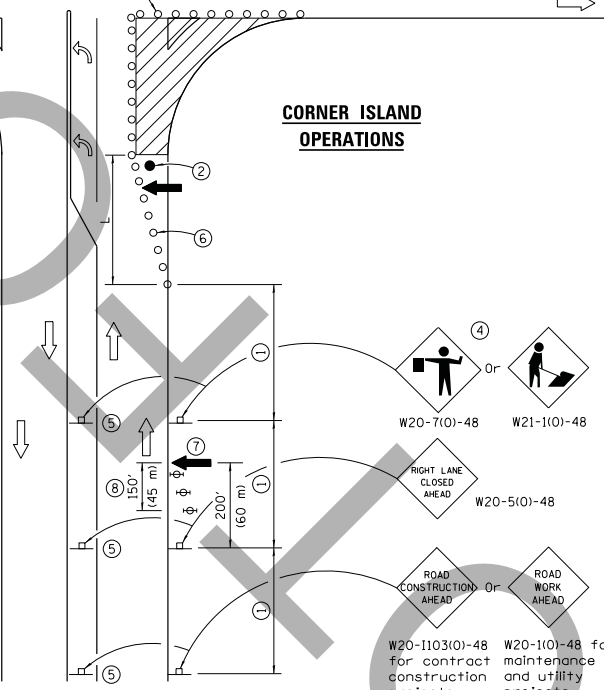
1. Refer to SIGN SPACING TABLE for distance.
2. Required for speed > 40 mph.
3. Cones at 25′ (8 m) centers for 250′ (75 m). Additional cones may be placed at 50′ (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
4. Use flagger sign only when flagger is present.
5. Omit this sign when median is less than 10′ (3 m) or for bi-directional turn lanes.
6. Cones, drums or barricades at 20′ (6 m) centers in taper.
7. Advanced arrow board required for speeds > 45 mph.
8. Three Type II barricades, drums or vertical barricades at 50′ (15 m) centers.

SIGN SPACING	
Posted Speed	Sign Spacing
55	500′ (150 m)
50-45	350′ (100 m)
<45	200′ (60 m)

SYMBOLS

- Work area
- Cone, drum or barricade
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

CORNER ISLAND OPERATIONS



GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS English	(Metric)
40 mph (70 km/h) or less:	$L=\frac{WS^2}{60}$	$L=\frac{WS^2}{150}$
45 mph (80 km/h) or greater:	L=(W)(S)	L=0.65(W)(S)

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2014
ENGINEER OF SAFETY ENGINEERING

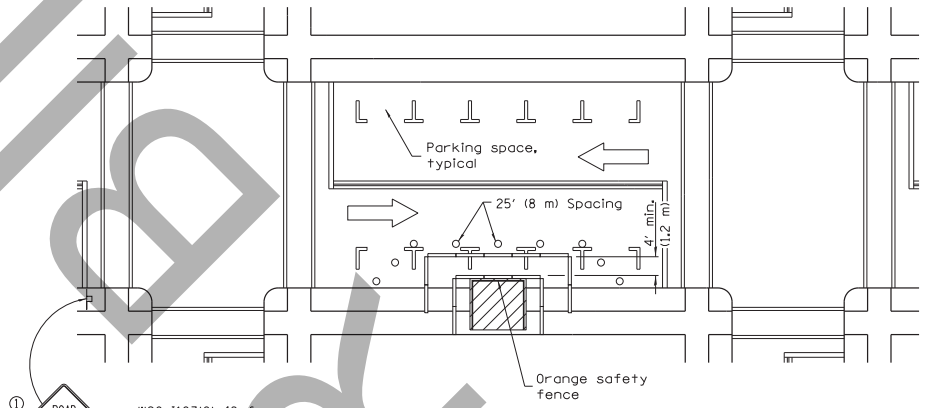
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-14	Added devices at arrow board upstream from taper.
	Rev. workers sign number.
1-1-12	Revised flagger sign.
	Omitted W21-1110 sign.

URBAN LANE CLOSURE, MULTILANE INTERSECTION

STANDARD 701701–09



① ROAD CONSTRUCTION AHEAD — W20-1103(0)-48 for contract construction projects

Or

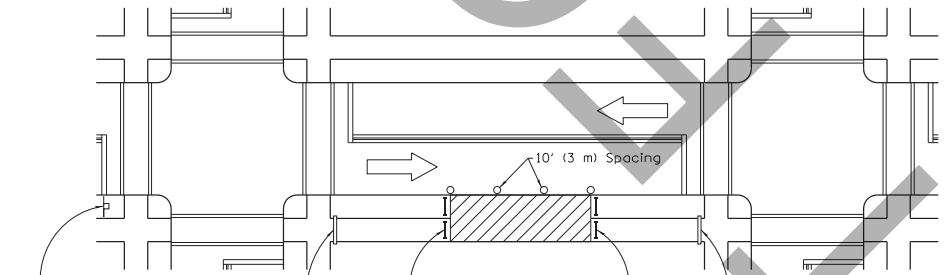
① ROAD WORK AHEAD — W20-1(0)-48 for maintenance and utility projects

SIDEWALK DIVERSION

① Omit whenever duplicated by road work traffic control.

SYMBOLS

- Work area
- Sign on portable or permanent support
- Barricade or drum
- Cone, drum or barricade
- Type III barricade
- Detectable pedestrian channelizing barricade



① ROAD CONSTRUCTION AHEAD — W20-1103(0)-48 for contract construction projects

Or

① ROAD WORK AHEAD — W20-1(0)-48 for maintenance and utility projects

SIDEWALK CLOSURE

GENERAL NOTES

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is affected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corners across the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail on Standard 701901.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2012
ENGINEER OF SAFETY ENGINEERING
APPROVED January 1, 2012
ENGINEER OF DESIGN AND ENVIRONMENT

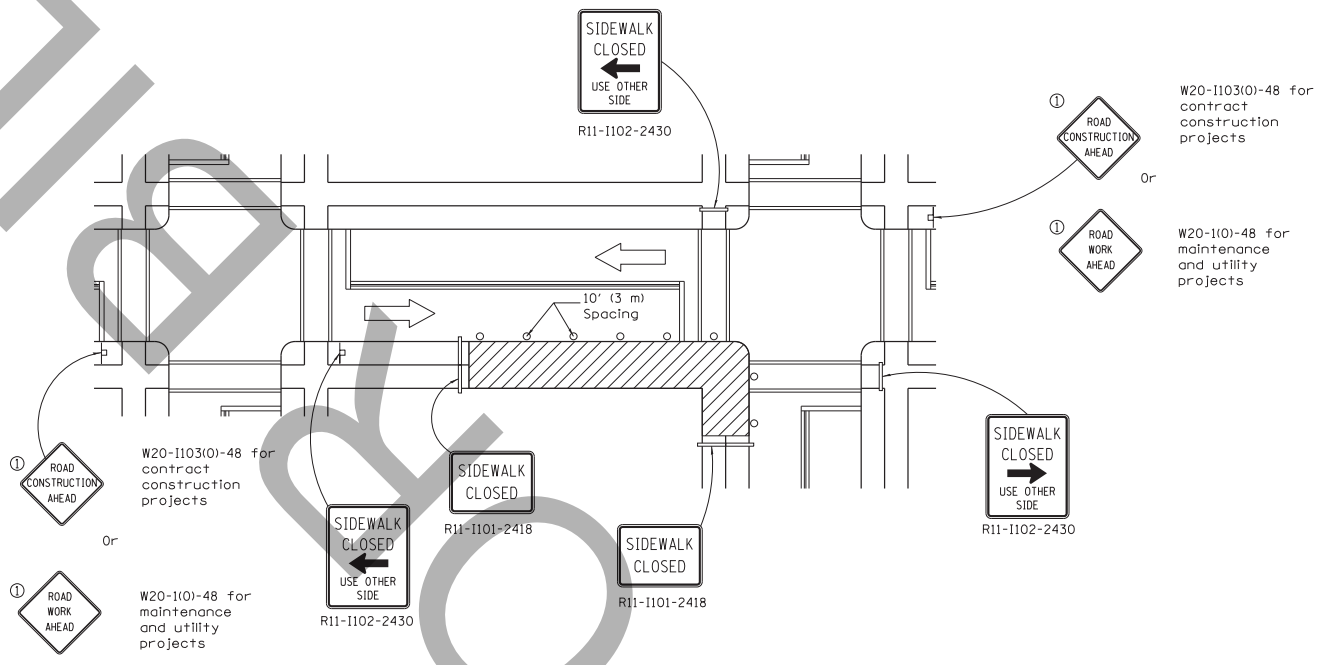
ISSUED 1-1-97

DATE	REVISIONS
1-1-12	Added SIDEWALK DIVERSION.
	Modified appearance of
	plan views. Renamed Std.
1-1-09	Switched units to
	English (metric).
	702001 to 701901.

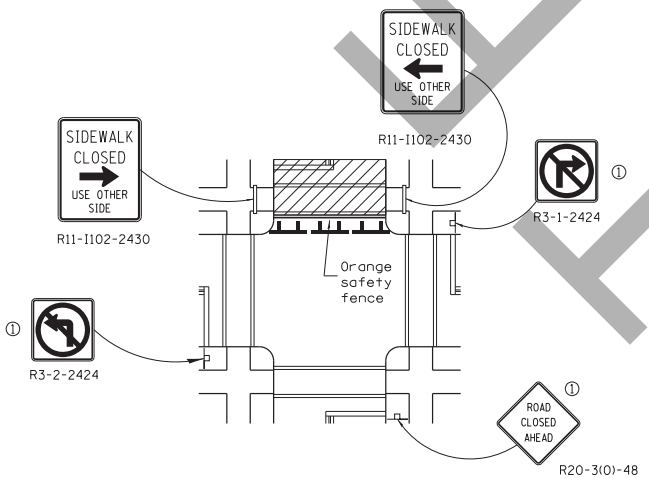
SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 1 of 2)

STANDARD 701801-05



CORNER CLOSURE



CROSSWALK CLOSURE

Illinois Department of Transportation

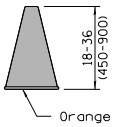
APPROVED January 1, 2012
ENGINEER OF SAFETY ENGINEERING
APPROVED January 1, 2012
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

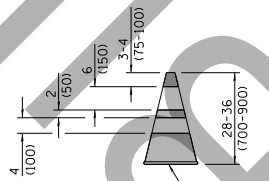
SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 2 of 2)

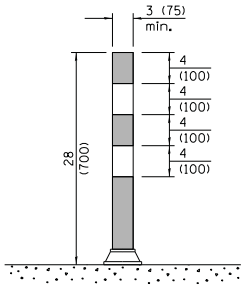
STANDARD 701801–05



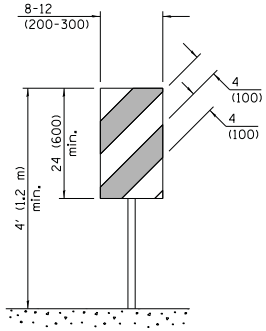
CONE



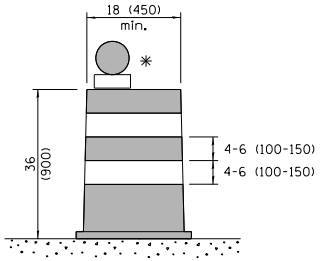
REFLECTORIZED CONE



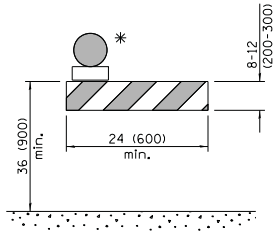
FLEXIBLE DELINEATOR



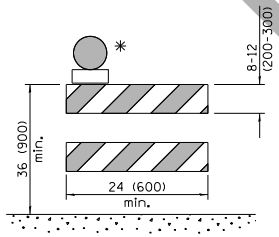
VERTICAL PANEL
POST MOUNTED



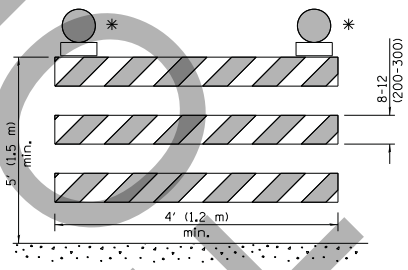
DRUM



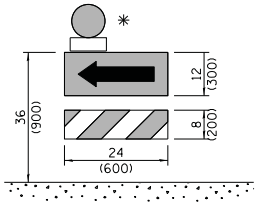
TYPE I BARRICADE



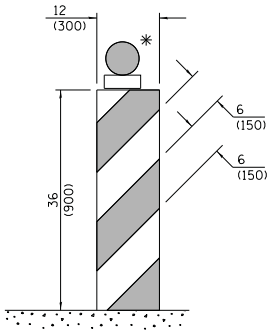
TYPE II BARRICADE



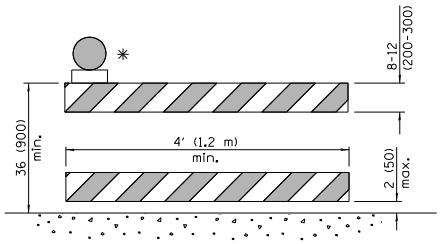
TYPE III BARRICADE



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, 2014
ENGINEER OF OPERATIONS

APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

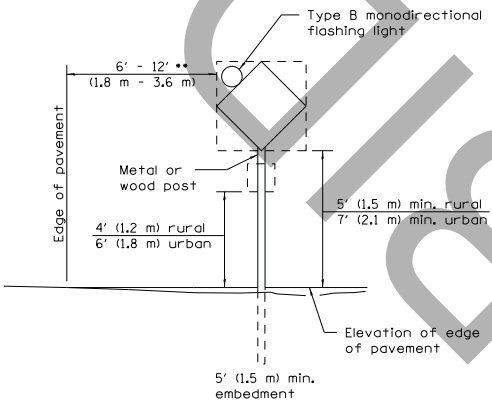
ISSUED 1-1-97

DATE	REVISIONS
1-1-14	Modified flagger sign height.
	Added highway construction
	speed zone signs.
1-1-12	Added DETECTABLE PEDESTRIAN
	CHANNELIZING BARRICADE.

TRAFFIC CONTROL DEVICES

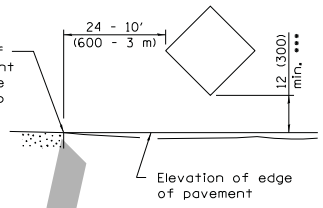
(Sheet 1 of 3)

STANDARD 701901-03



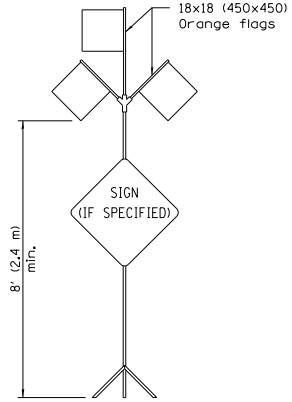
POST MOUNTED SIGNS

•• 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.

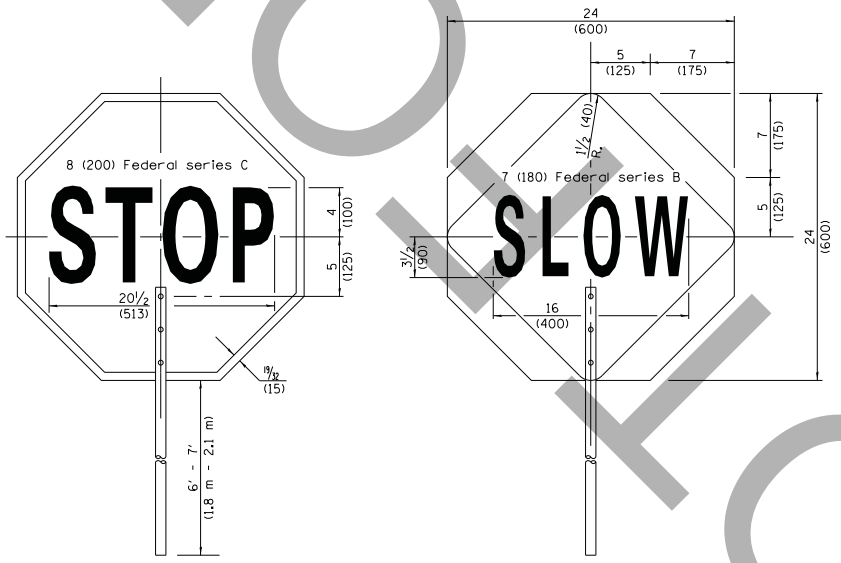


SIGNS ON TEMPORARY SUPPORTS

••• 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



FLAGGER TRAFFIC CONTROL SIGN

ROAD CONSTRUCTION NEXT X MILES — G20-1(0)-6036

END CONSTRUCTION — G20-2a(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	W21-1115(0)-3618
SPEED LIMIT XX	R2-1-3648
PHOTO ENFORCED	R10-1108p-3618
$XXX FINE MINIMUM	R2-1106p-3618

Sign assembly as shown on Standards or as allowed by District Operations.

END WORK ZONE SPEED LIMIT — G20-1103(0)-3660

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

Illinois Department of Transportation

APPROVED January 1, 2014
ENGINEER OF OPERATIONS

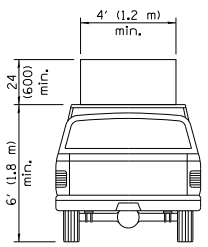
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

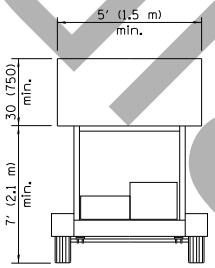
TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

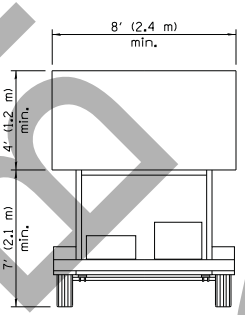
STANDARD 701901-03



TYPE A ROOF MOUNTED

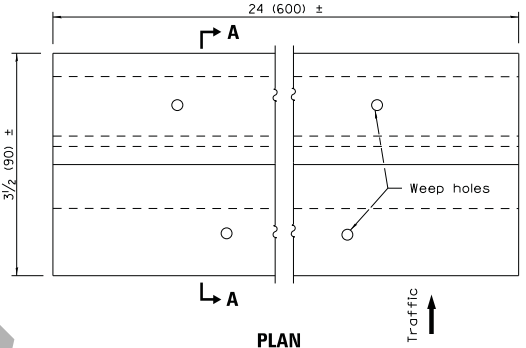


TYPE B ROOF OR TRAILER MOUNTED

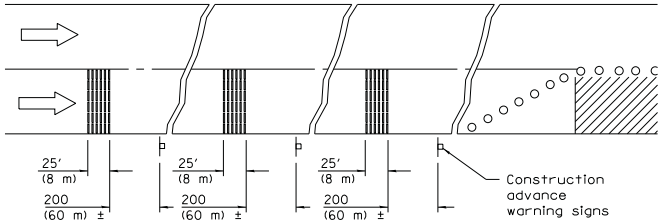


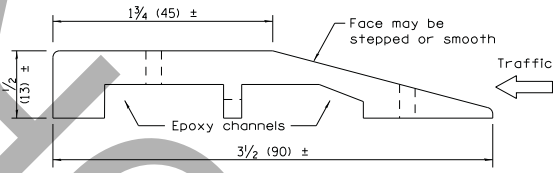
TYPE C TRAILER MOUNTED

ARROW BOARDS

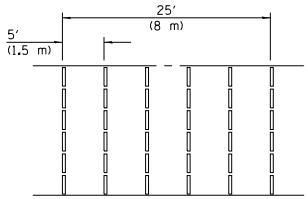


PLAN



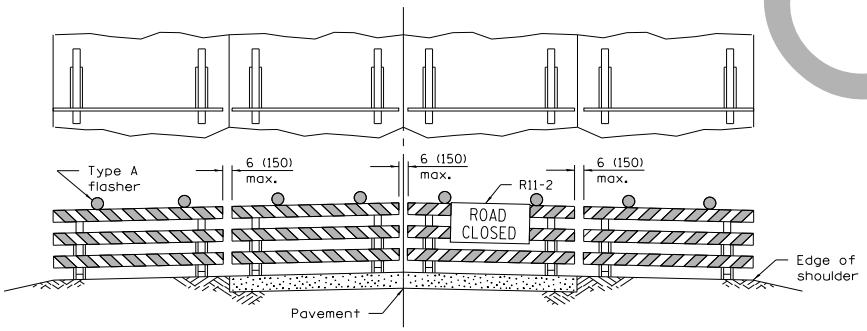


SECTION A–A



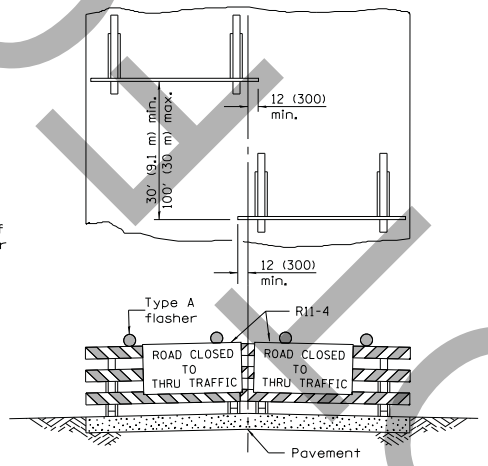
TYPICAL INSTALLATION

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, 2014
ENGINEER OF OPERATIONS

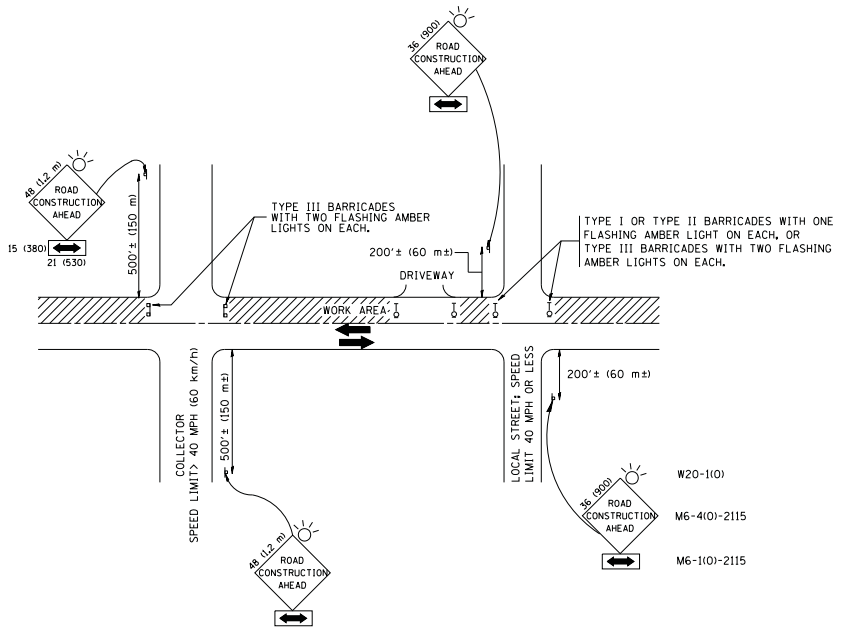
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TRAFFIC CONTROL DEVICES

(Sheet 3 of 3)

STANDARD 701901–03



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

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 AND FLAG 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. 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).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in millimeters (inches) unless otherwise shown.

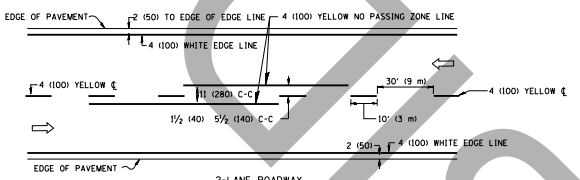
FILE NAME = W:\diststd\22x34\tc10.dgn	USER NAME = gaglianobt	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED -T. RAMMACHER 01-06-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

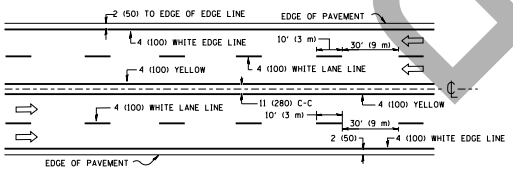
TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

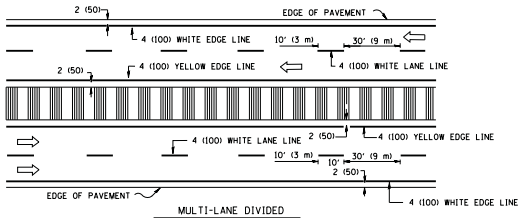
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-10	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



2-LANE ROADWAY



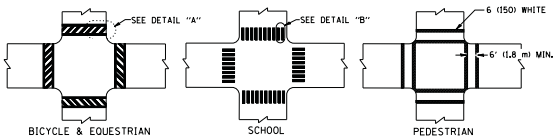
MULTI-LANE UNDIVIDED



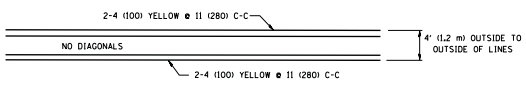
MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

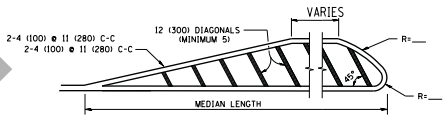
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING



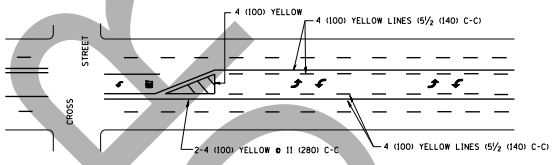
4' (1.2 m) WIDE MEDIANS ONLY



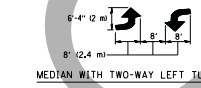
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

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

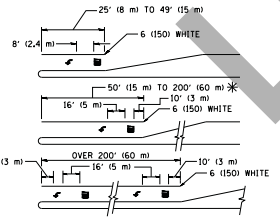


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

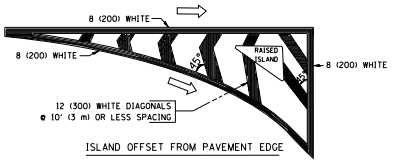


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) AREA = 20.8 SQ. FT. (1.9 m²)

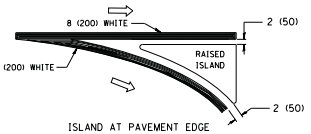
✳ TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

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 ø 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 ø 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 MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
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 ø 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 ø 6 (150) 12 (300) ø 45° 12 (300) ø 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 ø 4 (100) WITH 12 (300) DIAGONALS ø 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 ø 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 m²) EACH "X"=54.0 SQ. FT. (5.0 m²)
SHOULDER DIAGONALS	12 (300) ø 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))

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.

FILE NAME = c:\pw_work\pwidot\drivekosgn\d0103315\tc3.dgn	USER NAME = drivekosgn	DESIGNED - EVERS	REVISED -T. RAMMACHER 10-27-94	
		DRAWN -	REVISED -C. JUCIUS 09-09-09	
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -	
	PLOT DATE = 9/9/2009	DATE - 03-19-90	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-13	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

APPENDIX

A

IRMA
CONTRACTUAL INSURANCE GUIDELINES

I. INSURANCE REQUIREMENTS

Contractor shall procure and maintain, for the duration of the contract, insurance against claims for injuries to persons or damages to property, which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

MINIMUM SCOPE OF INSURANCE

Coverage shall be at least as broad as:

A. Insurance Services Office Commercial General Liability occurrence form CG 0001 with the member named as additional insured, on a form at least as broad as the attached sample endorsement including ISO Additional Insured Endorsement CG 2010 (Exhibit A), CG 2026 (Exhibit B).

CG2037 - Completed Operations – (Exhibit C)
Required if box is checked ☒ ; and

B. Owners and Contractors Protective Liability (OCP) policy with the member as insured
Required if box is checked ☒ ; and

C. Insurance Service Office Business Auto Liability coverage form number CA 0001, Symbol 01 "Any Auto."

D. Workers' Compensation as required by the Workers' Compensation Act of the State of Illinois and Employers' Liability insurance.
Coverage required for employee exposure to lead, if box is checked ☒

E. Builder Risk Property Coverage with member as loss payee
Required if box is checked ☐**.**

F. Environmental Impairment/Pollution Liability Coverage for pollution incidents as a result of a claim for bodily injury, property damage or remediation costs from an incident at, on or migrating beyond the contracted work site. Coverage shall be extended to Non-Owned Disposal sites resulting from a pollution incident at, on or mitigating beyond the site; and also provide coverage for incidents occurring during transportation of pollutants.
Required if box is checked ☐**.**

MINIMUM LIMITS OF INSURANCE

Contractor shall maintain limits no less than the following, **if required under above scope**:

A. Commercial General Liability: $1,000,000 combined single limit per occurrence for bodily injury, and property damage and $1,000,000 per occurrence for personal injury. The general aggregate shall be twice the required occurrence limit. Minimum General Aggregate shall be no less than $2,000,000 or a project/contract

specific aggregate of $1,000,000.

B. Owners and Contractors Protective Liability (OCP): $1,000,000 combined single limit per occurrence for bodily injury and property damage.

C. Business Automobile Liability: $1,000,000 combined single limit per accident for bodily injury and property damage.

D. Workers' Compensation and Employers' Liability: Workers' Compensation coverage with statutory limits and Employers' Liability limits of $500,000 per accident.

E. Builder's Risk: Shall insure against "All Risk" of physical damage, including water damage (flood and hydrostatic pressure not excluded), on a completed replacement cost basis.

F. Environmental Impairment/Pollution Liability: $1,000,000 combined single limit per occurrence for bodily injury, property damage and remediation costs.

DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and approved by the member. At the option of the member, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the member, its officials, employees, agents and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigation, claim administration and defense expenses.

OTHER INSURANCE PROVISIONS

The policies are to contain, or be endorsed to contain, the following provisions:

A. General Liability and Automobile Liability Coverages

1. The member, its officials, agents, employees and volunteers are to be covered as additional insureds as respects: liability arising out of the Contractor's work, including activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, leased or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the member, its officials, agents, employees and volunteers.

2. The Contractor's insurance coverage shall be primary as respects the member, its officials, employees, agents and volunteers. Any insurance or self-insurance maintained by the member, its officials, agents, employees and volunteers shall be excess of Contractor's insurance and shall not contribute with it.

3. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the member, its officials, employees, agents and volunteers.

4. The Contractor's insurance shall contain a Severability of Interests/Cross Liability clause or language stating that Contractor's insurance shall apply

separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

5. If any commercial general liability insurance is being provided under an excess or umbrella liability policy that does not "follow form," then the Contractor shall be required to name the member, its officials, employees, agents and volunteers as additional insureds.

6. All general liability coverages shall be provided on an occurrence policy form. Claims-made general liability policies will not be accepted.

7. The contractor and all subcontractors hereby agree to waive any limitation as to the amount of contribution recoverable against them by member. This specifically includes any limitation imposed by any state statute, regulation, or case law including any Workers' Compensation Act provision that applies a limitation to the amount recoverable in contribution such as Kotecki v. Cyclops Welding.

B. Workers' Compensation and Employers' Liability Coverage

The insurer shall agree to waive all rights of subrogation against the member, its officials, employees, agents and volunteers for losses arising from work performed by Contractor for the municipality.

1. NCCI Alternate Employer Endorsement (WC 000301) in place to insure that workers' compensation coverage applies under contractor's coverage rather than member's if the member is borrowing, leasing or in day to day control of contractors employee.
Required if box is checked ☐.

C. Professional Liability (Required if box is checked ☐)

1. Professional liability insurance with limits not less than $1,000,00 each claim with respect to negligent acts, errors and omissions in connection with professional services to be provided under the contract, with a deductible not-to-exceed $50,000 without prior written approval.

2. If the policy is written on a claims-made form, the retroactive date must be equal to or preceding the effective date of the contract. In the event the policy is cancelled, non-renewed or switched to an occurrence form, the Contractor shall be required to purchase supplemental extending reporting period coverage for a period of not less than three (3) years.

3. Provide a certified copy of actual policy for review.

4. Recommended Required Coverage (architect, engineer, surveyor, consultant): Professional liability insurance that provides indemnification and defense for injury or damage arising out of acts, errors, or omissions in providing the following professional services, but not limited to the following:

   a. Preparing, approving or failure to prepare or approve maps, drawings, opinions, report, surveys, change orders, designs or specifications;

   b. Providing direction, instruction, supervision, inspection, engineering

services or failing to provide them, if that is the primary cause of injury or damage.

D. All Coverages

Each insurance policy required shall have the member expressly endorsed onto the policy as a Cancellation Notice Recipient. Should any of the policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

ACCEPTABILITY OF INSURERS

Insurance is to be placed with insurers with a Best's rating of no less than A-, VII and licensed to do business in the State of Illinois.

VERIFICATION OF COVERAGE

Contractor shall furnish the member with certificates of insurance naming the member, its officials, employees, agents and volunteers as additional insureds (Exhibit D), and with original endorsements affecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be received and approved by the member before any work commences. The following additional insured endorsements may be utilized: ISO Additional Insured Endorsements CG 2010 (Exhibit A) or CG 2026 (Exhibit B), and CG 2037 (Exhibit C) – Completed Operations, where required. The member reserves the right to request full certified copies of the insurance policies and endorsements.

SUBCONTRACTORS

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

ASSUMPTION OF LIABILITY

The contractor assumes liability for all injury to or death of any person or persons including employees of the contractor, any sub-contractor, any supplier or any other person and assumes liability for all damage to property sustained by any person or persons occasioned by or in any way arising out of any work performed pursuant to this agreement.

II. INDEMNITY/HOLD HARMLESS PROVISION

To the fullest extent permitted by law, the Contractor hereby agrees to defend, indemnify and hold harmless the member, its officials, employees and agents against all injuries, deaths, loss, damages, claims, patent claims, suits, liabilities, judgments, cost and expenses, which may in anywise accrue against the member, its officials, agents and employees, arising in whole or in part or in consequence of the performance of this work by the Contractor, its employees, or subcontractors, or which may in anywise result therefore, except that arising out of the sole legal cause of the member, its employees or agents, the Contractor shall, at its own expense, appear, defend and pay all charges of attorneys and all costs and other expenses arising therefore or incurred in connections

therewith, and, if any judgment shall be rendered against the member, its officials, employees and agents, in any such action, the Contractor shall, at its own expense, satisfy and discharge the same.

Contractor expressly understands and agrees that any performance bond or insurance policies required by this contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify, keep and save harmless and defend the member, its officials, employees and agents as herein provided.

The Contractor further agrees that to the extent that money is due the Contractor by virtue of this contract as shall be considered necessary in the judgment of the member, may be retained by the member to protect itself against said loss until such claims, suits, or judgments shall have been settled or discharged and/or evidence to that effect shall have been furnished to the satisfaction of the member.

III. SAFETY/LOSS PREVENTION

Safety/Loss Prevention Program Requirements

- Successful bidder will provide written confirmation that a safety/loss prevention program was in place at least 90 days prior to submitting the bid proposal.

- Evidence of completed employee safety training can be provided.

Regulatory Requirements

- Successful bidder must comply with all applicable laws, regulations, and rules promulgated by any Federal, State, County, Municipal and/or other governmental unit or regulatory body now in effect or which may be in effect during the performance of the work. Included within the scope of the laws, regulations, and rules referred to in this paragraph but in no way to operate as a limitation, are Occupational Safety & Health Act (OSHA), Illinois Department of Labor (IDOL), Department of Transportation, all forms of traffic regulations, public utility, Intrastate and Interstate Commerce Commission regulations, Workers' Compensation Laws, Prevailing Wage Laws, the Social Security Act of the Federal Government and any of its titles, the Illinois Department of Human Rights, Human Rights Commission, or EEOC statutory provisions and rules and regulations.

- Evidence of specific regulatory compliance will be provided by bidder, if required by owner.

EXHIBIT A

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 10 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) Of Covered Operations
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. **Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

EXHIBIT B

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 26 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – DESIGNATED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

A. In the performance of your ongoing operations; or

B. In connection with your premises owned by or rented to you.

EXHIBIT
C

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location And Description Of Completed Operations
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

Exhibit D (Example)

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Producer/Ins. Broker Contact Info.
Name of Insurance Broker	PHONE (A/C, No, Ext): FAX (A/C, No):
	E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A :	Name of Insurance Company	Completed
INSURER B :	Name of Insurance Company	Completed
INSURER C :		
INSURER D :		
INSURER E :		
INSURER F :		

INSURED: Name of Contractor

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE OCCUR Owners & Cont.Prot. (OCP) if requested GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC	Y	Y	Policy Number Inserted	Policy Start Date	Policy Start Date	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 50,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 1,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS HIRED AUTOS SCHEDULED AUTOS NON-OWNED AUTOS			Policy Number Inserted	Policy Start Date	Policy Start Date	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $	Y	Y	Policy Number Inserted	Policy Start Date	Policy Start Date	EACH OCCURRENCE AGGREGATE	$ Per Request $ Per Request
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	Policy Number Inserted	Policy Start Date	Policy Start Date	X WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 500,000 $ 500,000 $ 500,000
	Professional Liability (other specialty coverages as requested)			Policy Number Inserted	Policy Start Date	Policy start Date	$1,000,000 per occurrence or as requested	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

List project number, location and description.
No additional endorsements limit coverage to additional insured beyond terms of actual additional insured endorsement (CG 2010 or CG 2026). Coverage to additional insured is primary. Additional Insured: Member, its officials, employees, agents and volunteers.
* Member named as cancellation notice recipient.

CERTIFICATE HOLDER

Name of Member

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. *

AUTHORIZED REPRESENTATIVE

Signature of authorized insurance company representative

APPENDIX

B

Ordinance No. 3733

AN ORDINANCE OF THE VILLAGE OF VILLA PARK, DUPAGE COUNTY, ILLINOIS AMENDING THE REQUIREMENTS OF BIDDERS FOR CONSTRUCTION PROJECTS

WHEREAS, the Village of Villa Park (the "*Village*") is a duly organized and validly existing non home-rule municipality created in accordance with the Constitution of the State of Illinois of 1970 and the laws of the State; and,

WHEREAS, section 8-9-1 of the Illinois Municipal Code (65 ILCS 5/8-9-2) allows the Village to require competitive bidding after advertising for bids in the manner prescribed by ordinance; and,

WHEREAS, the President and Board of Trustees desire to adopt purchasing procedures to provide for additional requirements of bidders for construction projects to have active apprenticeship and training programs approved and registered with the United States Department of Labor's Bureau of Apprenticeship and Training and to have bidders show three similar projects they constructed within the last five years.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Villa Park, DuPage County, Illinois, as follows:

Section 1. That Section 2-219 of the Villa Park Municipal Code, as amended, be and is hereby amended by placing the existing text as subsection A. and adding a new subsection B. to read as follows:

"B. A responsible bidder for the construction of public works projects shall meet and submit evidence of compliance with the following requirements:

(1) All applicable laws prerequisite to doing business in the State of Illinois,
(2) A federal employer tax identification number or social security number,
(3) Provision of Section 2000(e) of Chapter 21, Title 42 of the United States Code and Federal Executive Order No. 11246 as amended by Executive Order No. 11375 (known as the Equal Opportunity Employer provisions),
(4) Certificates of insurance indicating the following coverage's: general liability, worker's compensation, completed operations, automobile, hazardous occupation and product liability
(5) Compliance with all provisions of the Illinois Prevailing Wage Act, including wages, medical and hospitalization insurance and retirement for those trades covered in the Act,
(6) The bidder and all bidder's sub-contractors must participate in active apprenticeship and training programs approved and registered with the United States Department of Labor's Bureau of Apprenticeship and Training for each of the trades of work contemplated under the proposed contract,
(7) All contractors and sub-contractors are required to file certified payrolls as specified in Illinois Pubic Act 94-0515, and follow all provisions of the Employee Classification Act (820 ILCS 185/1 et seq.), and

(8) All bidders must provide three (3) projects of a similar nature constructed in the immediate past five (5) years with the name, address and telephone number of the contact person having knowledge of the project along with three (3) references (name, address, and telephone number) with knowledge of the integrity and business practices of the bidder."

Section 2. This Ordinance shall be in full force and effect upon its passage, approval, and publication as provided by law.

Passed this 11 day of February, 2013.

AYES: ALL

NAYS: Aiello Bulthuis

ABSENT: _____

Approved this 11 day of February, 2013.

Village President

Attest:

Village Clerk

VILLAGE OF VILLA PARK CORPORATE SEAL DU PAGE COUNTY, ILL.

Published in pamphlet form:

2-11, 2013

APPENDIX

C

Geotechnical Engineering Report

Pavement Evaluation

Multiple Streets

Villa Park, Illinois

March 16, 2015

Terracon Project No. MR155009

Prepared for:

Village of Villa Park

Villa Park, Illinois

Prepared by:

Terracon Consultants, Inc.

Naperville, Illinois

March 16, 2015

Terracon

Village of Villa Park
20 South Ardmore Avenue
Villa Park, Illinois 60181

Attention: Mr. Kevin Mantels, E.I.T.
Senior Engineering Assistant

Re: Geotechnical Engineering Report
Pavement Evaluation
Multiple Streets
Villa Park, Illinois
Terracon Project No. MR155009

Dear Mr. Mantels:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the above referenced project. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning the pavements at the site.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

Madhu R. Karri, P.E.
Project Engineer

KOLE C. BERG
062-060554
LICENSED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

Kole C. Berg, P.E.
Illinois No. 062-060554
Renews 11-30-2015

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Terracon has completed a geotechnical study for the proposed rehabilitation of the pavements along the alignments of several existing streets in Villa Park, Illinois. Thirty-two (32) borings were drilled in the subject areas to depths of approximately 7½ feet below the existing pavement surface. Based on the information obtained from our subsurface exploration, the following geotechnical considerations were identified:

- The existing pavements encountered at the boring locations consisted of asphaltic cement concrete (ACC) or Portland cement concrete sections (PCC). In general, both the ACC and PCC pavements exhibited varying types of distress and moderate to high severity degrees of deterioration. Typical distress types include longitudinal and transverse cracking, raveling of the surface, depressions/rutting in wheel paths, alligator cracking, joint cracking, edge cracking, corner cracking, diagonal cracking, and potholes. Pavement patching was also observed in some areas. Some of the concrete joints appeared to have been patched with asphalt cold patch compound.

- In general, the pavement distress appeared to be related to the age and traffic conditions. Some of the distress could also be related to the lack of proper maintenance over the age of the pavement. Due to the severely distressed condition of the existing pavements, we recommend that pavement rehabilitation should consist of removing existing pavement and crushed stone and replacing with the recommended thicknesses of asphalt/concrete and crushed stone aggregate. Alternately, in ACC-paved areas where low to moderate severity distress was observed, consideration could be given to milling at least 2 inches of existing asphalt and overlaying in order to extend the life of the pavement for 5 to 7 years.

- In general, the existing asphalt pavement sections consisted of approximately 3 to 6 inches of ACC over up to 8 inches of crushed stone aggregate. Similarly, the existing concrete pavement sections consisted of approximately 5 to 9½ inches of PCC over up to about 9 inches of crushed stone aggregate. Below the pavements in the borings, existing fill comprised primarily of lean clay or sandy gravel with varying amounts of silt, sand, and organics was present in twelve (12) of the thirty-two borings to depths of about 3 to 7½ feet below existing grade. Below the fill, native soils consisting predominately of medium stiff to very stiff lean clay or lean to fat clay with variable amounts of sand, gravel, and organics were encountered to the boring termination depths of about 7½ feet.

- Clay soils with relatively high moisture contents (about 21 to 49 percent) were encountered in the upper few feet of the soil profile at most of the boring locations. At some locations, the subgrade soils below the existing pavements appeared to contain a significant amount of organics (possible buried topsoil). Subgrades comprised of these soils can be become unstable when they are disturbed and/or subjected to construction

traffic. Therefore, some undercutting or stabilization of the subgrade may be required to facilitate compaction of new engineered fill and/or to provide a stable subgrade for floor slabs and pavements. In addition, the modified Proctor optimum moisture content for these soils typically ranges from about 11 to 14 percent. Therefore, significant drying of the on-site soils will likely be required before they can be properly compacted to develop a suitable subgrade for the new pavements.

- The subgrade soils should be observed and tested by proofrolling to evaluate the suitability of the materials (native and fill) for support of pavements. Unsuitable areas should be improved by compaction or be removed and replaced with engineered fill.

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **GENERAL COMMENTS** should be read for an understanding of the report limitations.

GEOTECHNICAL ENGINEERING REPORT
PAVEMENT EVALUATION
MULTIPLE STREETS
VILLA PARK, ILLINOIS

Terracon Project No. MR155009
March 16, 2015

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) has completed a subsurface exploration for the proposed rehabilitation of the pavements along the existing streets in Villa Park, Illinois. Thirty-two (32) borings were performed to depths of about 7½ feet below existing grades. This report presents the following information:

- subsurface soil conditions encountered at the boring locations,
- recommendations for pavement thickness design and construction, and
- earthwork recommendations for pavement subgrades.

Boring logs and a Boring Location Diagram are included in Appendix A. The results of the laboratory testing performed on soil samples obtained from the borings are included on the boring logs in Appendix A. Descriptions of the field exploration and laboratory testing are included in their respective appendices.

2.0 PROJECT INFORMATION

2.1 Project Description

We understand that the Village of Villa Park is considering rehabilitation plans for several existing streets. Based on the information provided, the following table summarizes the individual streets considered for improvements and the number of borings along them.

STREET	FROM	TO	LENGTH (Approx., in feet)	SURFACE/ BASE TYPE	NUMBER OF BORINGS
Illinois Avenue	North End	Maple Street	129	ACC	1
	Maple Street	Division Street	569	ACC	2
Ridge Road	Westmore Avenue	Biermann Avenue	325	PCC	2
	Biermann Avenue	Second Avenue	325	PCC	1
	Second Avenue	Third Avenue	327	PCC	1
	Third Avenue	Addison Road	350	PCC	1
Stone Road	Addison Road	Iowa Avenue	352	PCC	2
	Iowa Avenue	Wisconsin Avenue	338	PCC	1
	Wisconsin Avenue	Michigan Avenue	349	ACC	1
	North Avenue	Third Avenue	422	PCC	2
	Third Avenue	Addison Road	374	PCC	1
Sunset Drive	Yale Avenue	Harvard Avenue	440	PCC	2
	Harvard Avenue	Michigan Avenue	328	PCC	1
	Michigan Avenue	Wisconsin Avenue	329	PCC	1
	Wisconsin Avenue	Iowa Avenue	330	PCC	1
	Iowa Avenue	Addison Road	337	PCC	1
Terrace Street	Ardmore Avenue	Princeton Avenue	410	PCC	2
	Princeton Avenue	Yale Avenue	447	PCC	1
Wisconsin Avenue	Stone Road	Ridge Road	361	PCC	2
	Ridge Road	Sunset Drive	520	ACC	2
	Sunset Drive	Plymouth Street	667	ACC	2
	Plymouth Street	Vermont Street	616	ACC	2
Total			**8645**		**32**

2.2 Site Location and Description

ITEM	DESCRIPTION
Location	Various streets in Villa Park, Illinois.
Current Site Improvements	Existing streets paved with asphalt or concrete.

3.0 SUBSURFACE CONDITIONS

3.1 Typical Profile

Subsurface conditions at each boring location are described on the individual boring logs in Appendix A. The stratification boundaries shown on the boring logs represent the approximate depths where changes in material types occur. In-situ, transitions between material types can be more gradual. Based on the results of the borings, subsurface conditions on the project site can be generalized as follows:

Description	Approximate Depth to Bottom of Stratum	Material Encountered	Consistency/Density
Surface	6½ to 17½ inches	About 3 to 6 inches of ACC over up to 8 inches of crushed stone aggregate or approximately 5 to 9½ inches of PCC over up to about 9 inches of crushed stone aggregate	N/A
Stratum 1 [1]	3 to 7½ feet	Existing fill: Lean clay, lean to fat clay, sandy gravel, with varying amounts of silt, sand, and organics	N/A
Stratum 2	Undetermined; stratum continued to boring termination depths of about 7½ feet	Native soils: Lean clay or lean to fat clay with varying amounts of sand, silt, and organics	Medium stiff to very stiff

3.2 Water Level Observations

The borings were observed during and after the completion of drilling for the presence and level of water. Water was not observed in the borings at these times. The absence of water at a boring location does not necessarily mean that the boring terminated above the subsurface water level. Due to the relatively low permeability of the clay soils encountered in the borings, longer term observations in cased holes or piezometers, sealed from the influence of surface water, would be required for a better evaluation of the groundwater conditions on this site.

Water levels may fluctuate due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the borings were performed. Trapped water could occur within aggregate base layers, existing fill materials, and perched water could occur above lower permeability soil layers. Subsurface water levels during construction or at other times in the future may be different from the levels indicated on the boring logs. Water level fluctuations and

perched water should be considered when developing design and construction plans and specifications for the project.

3.3 Existing Pavement Condition

Most of the observed pavement distress consisted of moderate to high severity cracking. We generally observed a total of six (6) types of asphalt pavement distress. The following presents a brief description of each of these distress types observed at the sites:

- **Alligator Cracking:** Alligator cracking (a structural distress) is usually the result of loss of support for the pavement through a reduction in the strength of the subgrade soils. However, alligator cracking can also be caused as a result of load-related failure from traffic due to inadequate pavement thickness, especially in heavy duty traffic areas. Without proper maintenance or rehabilitation, alligator cracking usually becomes more severe. The on-set of alligator cracking was observed at several locations of the existing streets. The alligator cracking is at moderate to high severity at most of the locations. In general, the presence of alligator cracking indicates a significant loss of pavement life.
- **Depression:** Depressions are localized pavement surface areas with elevations slightly lower than those of the surrounding pavement. In many instances, light depressions are not noticeable until after a rain when ponding water creates a “bird bath” area. On dry pavement, depressions can be spotted by stains caused by ponding water. Depressions are created by settlement of the foundation soils or a result of improper construction practices. Depressions cause some roughness in the pavement surface. Depressions, resulting in ponding water and weathering were observed at several locations.
- **Longitudinal and Transverse Cracking:** Longitudinal and transverse cracking is generally associated with pavement joints and traffic corridors. It is usually the result of climate or pavement durability related factors. Without proper maintenance or rehabilitation, this type of cracking can progress to more severe forms of pavement distress including block or alligator cracking. Longitudinal and transverse cracking were observed throughout the entire paved areas at low to high severity.
- **Patching:** A patch is an area of pavement which has been placed with new materials to repair the existing pavement. A patch is considered a defect no matter how well it is performing (a patched area or adjacent area does not usually perform as well as an original pavement section). Generally some roughness is always associated with this type of distress. Patching was observed in a few areas.
- **Potholes:** A pothole is a small, usually less than 2½ feet in diameter, bowl shaped depression in the pavement surface. The perimeter edge is sharp and vertical near the top. Potholes were observed in several areas.
- **Weathering and Raveling:** Weathering and raveling are caused by the loss of asphalt binder and dislodged aggregate particles in the pavement surface from climate and

pavement durability related factors. When left untreated, weathering will eventually result in the dislodging (raveling) of aggregate particles in the pavement surface. Occasional weathering and oxidation were observed.

3.4 Pavement Core Thickness Summary

STREET	FROM	TO	BORING/ CORE NUMBER	SURFACE TYPE	THICKNESS OF PAVEMENT (INCHES)	THICKNESS OF AGGREGATE (INCHES)
Illinois Avenue	North End	Maple Street	1	ACC	4.5	8
	Maple Street	Division Street	2	ACC	4.5	8
	Maple Street	Division Street	3	ACC	4	8
Terrace Street	Ardmore Avenue	Princeton Avenue	4	PCC	7	5
	Ardmore Avenue	Princeton Avenue	5	PCC	9.5	-
	Princeton Avenue	Yale Avenue	6	PCC	7.5	-
Sunset Drive	Yale Avenue	Harvard Avenue	7	PCC	6.5	-
	Yale Avenue	Harvard Avenue	8	PCC	5	5
	Harvard Avenue	Michigan Avenue	9	PCC	6	2
	Michigan Avenue	Wisconsin Avenue	10	PCC	6.5	3
	Wisconsin Avenue	Iowa Avenue	11	PCC	6	3
	Iowa Avenue	Addison Road	12	PCC	6	3
Wisconsin Avenue	Plymouth Street	Vermont Street	13	ACC	3.5	6
	Plymouth Street	Vermont Street	14	ACC	6	6
	Sunset Drive	Plymouth Street	15	ACC	5	8
	Sunset Drive	Plymouth Street	16	ACC	4	6
	Ridge Road	Sunset Drive	17	ACC	4	7
	Ridge Road	Sunset Drive	18	ACC	4.5	6
	Stone Road	Ridge Road	19	PCC	8.5	9
	Stone Road	Ridge Road	20	PCC	7.5	3
Stone Road	Wisconsin Avenue	Michigan Avenue	21	ACC	3	8
	Iowa Avenue	Wisconsin Avenue	22	PCC	8.5	3
	Addison Road	Iowa Avenue	23	PCC	7.5	3
	Addison Road	Iowa Avenue	24	PCC	9	5
	North Avenue	Third Avenue	25	PCC	8	4
	North Avenue	Third Avenue	26	PCC	8	6
	Third Avenue	Addison Road	27	PCC	8	6
Ridge Road	Third Avenue	Addison Road	28	PCC	6.5	5
	Second Avenue	Third Avenue	29	PCC	7	5
	Biermann Avenue	Second Avenue	30	PCC	6.5	-
	Biermann Avenue	Second Avenue	31	PCC	6.5	5
	Westmore Avenue	Biermann Avenue	32	PCC	6.5	6

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 Geotechnical Considerations

The existing pavements encountered at the boring locations consisted of asphaltic cement concrete (ACC) or Portland cement concrete sections (PCC). In general, both the ACC and PCC pavements exhibited varying types of distress and moderate to high severity degrees of deterioration. Typical distress types include longitudinal and transverse cracking, raveling of the surface, depressions/rutting in wheel paths, alligator cracking, joint cracking, edge cracking, corner cracking, diagonal cracking, and potholes. Pavement patching was also observed in some areas. Some of the concrete joints appeared to have been patched with asphalt cold patch compound.

In general, the pavement distress appeared to be related to the age and traffic conditions. Some of the distress could also be related to the lack of proper maintenance over the age of the pavement. Due to the severely distressed condition of the existing pavements, we recommend that pavement rehabilitation should consist of removing existing pavement and crushed stone and replacing with the recommended thicknesses of asphalt/concrete and crushed stone aggregate. Alternately, in ACC-paved areas where low to moderate severity distress was observed, consideration could be given to milling at least 2 inches of existing asphalt and overlaying in order to extend the life of the pavement for 5 to 7 years.

In general, the existing asphalt pavement sections consisted of approximately 3 to 6 inches of ACC over up to 8 inches of crushed stone aggregate. Similarly, the existing concrete pavement sections consisted of approximately 5 to 9½ inches of PCC over up to about 9 inches of crushed stone aggregate. Below the pavements in the borings, existing fill comprised primarily of lean clay or sandy gravel with varying amounts of silt, sand, and organics was present in twelve (12) of the thirty-two borings to depths of about 3 to 7½ feet below existing grade. Below the fill, native soils consisting predominately of medium stiff to very stiff lean clay or lean to fat clay with variable amounts of sand, gravel, and organics were encountered to the boring termination depths of about 7½ feet.

Clay soils with relatively high moisture contents (about 21 to 49 percent) were encountered in the upper few feet of the soil profile at most of the boring locations. At some locations, the subgrade soils below the existing pavements appeared to contain a significant amount of organics (possible buried topsoil). Subgrades comprised of these soils can be become unstable when they are disturbed and/or subjected to construction traffic. Therefore, some undercutting or stabilization of the subgrade may be required to facilitate compaction of new engineered fill and/or to provide a stable subgrade for floor slabs and pavements. In addition, the modified Proctor optimum moisture content for these soils typically ranges from about 11 to 14 percent.

Therefore, significant drying of the on-site soils will likely be required before they can be properly compacted to develop a suitable subgrade for the new pavements.

The subgrade soils should be observed and tested by proofrolling to evaluate the suitability of the materials (native and fill) for support of pavements. Unsuitable areas should be improved by compaction or be removed and replaced with engineered fill.

4.2 Pavement Thickness Recommendations

Location	Existing Pavement Thicknesses (Average)		Recommended Standard Pavement Thicknesses (Minimum)		Recommended Rehabilitation Method
	Asphalt/ Concrete (inches)	Crushed Stone Aggregate (inches)	Asphalt/ Concrete (inches)	Crushed Stone Aggregate (inches)	
Illinois Avenue	4.5	8	5 (ACC)	10	Milling and overlaying with complete removal and replacement in selected areas
Terrace Street	8	5	8 (PCC)	4	Complete removal and replacement
Sunset Drive	6	3	8 (PCC)	4	Complete removal and replacement
Wisconsin Avenue (Plymouth Street to Vermont Street)	4.5	6	8 (PCC)	4	Complete removal and replacement
Wisconsin Avenue (Ridge Road to Plymouth Street)	4.5	7	5 (ACC)	10	Milling and overlaying with complete removal and replacement in selected areas
Wisconsin Avenue (Stone Road to Ridge Road)	8	6	8 (PCC)	4	Complete removal and replacement
Stone Road (Wisconsin Avenue to Michigan Avenue)	3	8	5 (ACC)	10	Milling and overlaying with complete removal and replacement in selected areas

Location	Existing Pavement Thicknesses (Average)		Recommended Standard Pavement Thicknesses (Minimum)		Recommended Rehabilitation Method
	Asphalt/ Concrete (inches)	Crushed Stone Aggregate (inches)	Asphalt/ Concrete (inches)	Crushed Stone Aggregate (inches)	
Stone Road (PCC sections)	8	4.5	8 (PCC)	4	Complete removal and replacement
Ridge Road (PCC sections)	6.5	5	8 (PCC)	4	Complete removal and replacement

Pavement thickness design is dependent upon:

- The anticipated traffic conditions,
- Subgrade and paving material characteristics, and
- Climate conditions at the project site.

Specific information regarding anticipated vehicle types and traffic volumes was not provided. In developing our recommendations, we have considered that traffic will consist primarily of automobile traffic and a limited number of buses and trash collection trucks. If heavier vehicles or higher traffic volumes are expected, Terracon should be notified and these recommendations should be reviewed.

We understand that existing site grades will essentially remain the same and little or no grading will be performed for this project, except for undercutting to develop the recommended pavement section and undercutting to remove any soft soils exposed at subgrade level. Complete removal and replacement of new pavement sections is recommended in areas where moderate to high severity pavement distress was observed. ACC-paved areas where low to moderate severity distress was observed, consideration could be given to milling and overlaying a portion of the existing asphalt pavement in order to extend the life of the asphalt pavements for a period of 5 to 7 years. Further recommendations are provided below.

4.2.1 Design Recommendations

Mill and Overlay

Based on the information obtained from our field visit, our soil borings, and our analysis, a pavement section with 2-inch mill and overlay of asphalt concrete will extend the useable life of the ACC-paved areas with low to moderate severity distress for a design period of about 5 to 7 years.

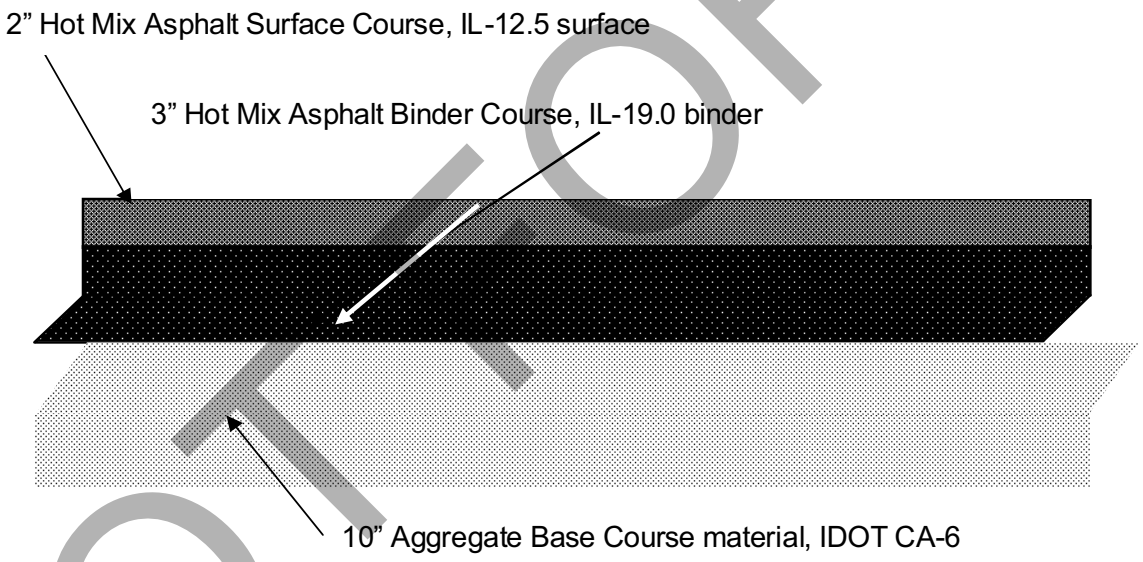
Removal and Replacement

Estimated minimum pavement sections for parking areas and drive areas are provided in the following table.

ACC Pavements

Pavement Area	Estimated Minimum Pavement Sections (inches) [1]			
	ACC Surface	ACC Binder	Aggregate Base Course [2]	Total
Asphalt Pavements	2	3	10	15
Concrete Pavements	8 inches PCC		4	11

1. Portland cement concrete pavements are recommended for areas subject to heavy static loads.
2. IDOT CA-6 or an approved alternate gradation.



All paving materials should meet the requirements of the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, 2007 edition (Section 1000). Concrete pavement should be air-entrained and have a minimum compressive strength of 4,000 psi after 28 days of laboratory curing (ASTM C 31). Aggregate base course materials should conform to Section 1004, Coarse Aggregates, gradation CA-6.

PCC pavements should be designed with longitudinal and transverse joints spaced no more than 15 feet apart. Control joints should be saw-cut at least 1/4 of the depth of the concrete section, and should be cut within the appropriate timeframe (usually within 12 to 24 hours,

depending on the concrete mix properties and conditions at the time of placement). Expansion (isolation) joints must be full depth and should only be used to isolate fixed objects abutting or within the paved area.

4.2.2 Construction Recommendations

The existing crushed stone base material appears to be suitable for re-use as stone base beneath the new pavement sections. Additional material should be budgeted as contingency for any contaminated or otherwise unsuitable material that will have to be disposed off the site and replaced with new imported materials.

We recommend that the aggregate base course be compacted to at least 95 percent of its maximum dry density as determined by ASTM D 1557. We also recommend that an engineering technician be present during placement of the base to verify that the compaction criteria are met and to aid in the evaluation of the placement and compaction techniques.

4.3 Earthwork

Where removal and replacement of the existing pavement section is planned, upon removal of the existing pavement and stone base and cutting to subgrade level, proofrolling with heavy construction equipment such as a loaded scraper or tandem axle dump truck is recommended to help locate unstable subgrade materials. Unstable materials located by proofrolling should be removed and replaced with suitable compacted fill material outlined in the following table.

Fill Type [1]	USCS Classification	Acceptable Location for Placement
Lean clay	CL (LL<40, PI<22)	All locations and elevations
Lean to fat clay	CL/CH (40<LL<50, PI≤25)	> 1.5 ft. below pavement finished subgrade unless tested and meets low volume change material criteria
Fat clay	CH (LL >50, PI>25)	Not recommended
Well graded granular	GW [3]	All locations and elevations

1. Controlled, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the geotechnical engineer for evaluation.
2. IDOT CA-6 crushed limestone aggregate or an approved equivalent gradation.

4.3.1 Compaction Requirements

ITEM	DESCRIPTION
Fill Lift Thickness	9 inches or less in loose thickness
Compaction Requirements [1]	95% of the material's maximum modified Proctor dry density (ASTM D 1557)
Moisture Content Cohesive Soil	Within the range of ± 2% of modified Proctor optimum moisture content at the time of placement and compaction
Moisture Content Granular Material [2]	Workable moisture levels, generally ± 2% of optimum

1. We recommend that engineered fill be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.
2. Specifically, moisture levels should be maintained low enough to allow for satisfactory compaction to be achieved without the granular fill material pumping when proofrolled.

4.3.2 Construction Considerations

Compaction equipment and techniques will be dependent on the size of the area and type of material being used as fill. For larger removal/replacement areas, it may be possible to use a sheepsfoot roller to compact existing subgrade soils and a large vibratory drum roller to compact the aggregate base materials. In localized/confined areas, a jumping jack or smaller vibratory drum roller may be required to compact new fill/base course materials.

Clay soils with high moisture contents (about 21 to 49 percent) were encountered within the upper few feet of the soil profile at most of the boring locations. At some locations, the subgrade soils below the existing pavements appeared to contain a significant amount of organics (possible buried topsoil). These soils will be sensitive to disturbance from construction activities, particularly if further wetted by surface water or seepage. Therefore, it is anticipated that some areas of the site may become unstable during proofrolling and construction operations. The amount of stabilization required would be highly dependent upon weather conditions during construction and drainage measures implemented during mass grading and construction.

Subgrade stabilization may be required in some areas of the site to facilitate construction, particularly if wet soils are encountered in cut areas or if significant precipitation occurs prior to or during site grading operations. In general (weather permitting), scarifying, drying and recompacting the exposed subgrades is expected to be the most economical means of improving these soils prior to placing new fill. However, this option is typically less effective where soft/wet soils are thicker than about one foot, and this method is also dependent on weather conditions. Alternatives for subgrade stabilization could include undercutting unsuitable (wet, low strength, and/or disturbed) soils followed by the addition of crushed stone aggregate (typically on the order of 12 to 18 inches) to improve subgrade stability, or the incorporation of a chemical additive such as lime, Class C fly ash or portland cement. A geosynthetic (i.e., a geogrid or high-modulus

geotextile) overlain with crushed stone could be used in some areas to reduce undercut depths and to develop stable subgrades for fill placement or new construction. The need for stabilization and most appropriate type of stabilization will be dependent upon soil, groundwater and weather conditions, as well as the proposed grading plan, the construction schedule and methods of construction that will be used. Terracon should be retained during construction to help provide recommendations as needed.

If seepage is encountered in excavations, the contractor is responsible for employing appropriate dewatering methods to control seepage and facilitate construction. Seepage into excavations in cohesive soils can typically be controlled using sump pits and pumps from within the excavations. Groundwater levels should be maintained at least 2 feet below the maximum anticipated excavation level.

Upon completion of subgrade preparation, care should be taken to maintain the subgrade moisture content prior to pavement construction. Construction traffic over the completed subgrade should be avoided to the extent practical. If the subgrade should become desiccated, saturated, or disturbed, the affected material should be removed; or where suitable, scarified, moisture conditioned, and recompacted prior to pavement construction.

5.0 GENERAL COMMENTS

We recommend the geotechnical engineer be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. We further recommend that a qualified geotechnical engineering firm be retained for observation and testing services during grading, excavation, pavement construction and other earth-related construction phases of the project.

Support of the pavements on/above existing fill is discussed in this report. Even with the construction observation/testing recommended in this report, a risk remains for the owner that unsuitable materials within or buried by the fill will not be discovered. This may result in larger than normal settlement and damage to the pavements, requiring additional maintenance. This risk can be reduced (but not eliminated) by thorough observation and testing as discussed herein.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we

should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A

FIELD EXPLORATION

Field Exploration Description

The borings were drilled at the approximate locations indicated on the attached Boring Location Diagram (Exhibit A-2). The boring locations were located in the field by a Terracon representative who located the borings using existing site features and landmarks. Surface elevations at the boring locations were not provided. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

Cores of the existing pavements were obtained at the boring locations. The borings were performed with a truck-mounted, rotary drill rig using continuous flight hollow-stemmed augers to advance the boreholes. Soil samples were obtained using split-barrel sampling procedures, in which a standard 2-inch (outside diameter) split-barrel sampling spoon is driven into the ground with a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches (or less) of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. These values are provided on the boring logs at the depths of occurrence. The samples were sealed and transported to the laboratory for testing and classification.

The drill crew prepared a field log of each boring. These logs included visual classifications of the materials encountered during drilling and the driller's interpretation of the subsurface conditions between samples. The boring logs included with this report represent the engineer's interpretation of the field logs and include modifications based on laboratory observation and tests of the samples.

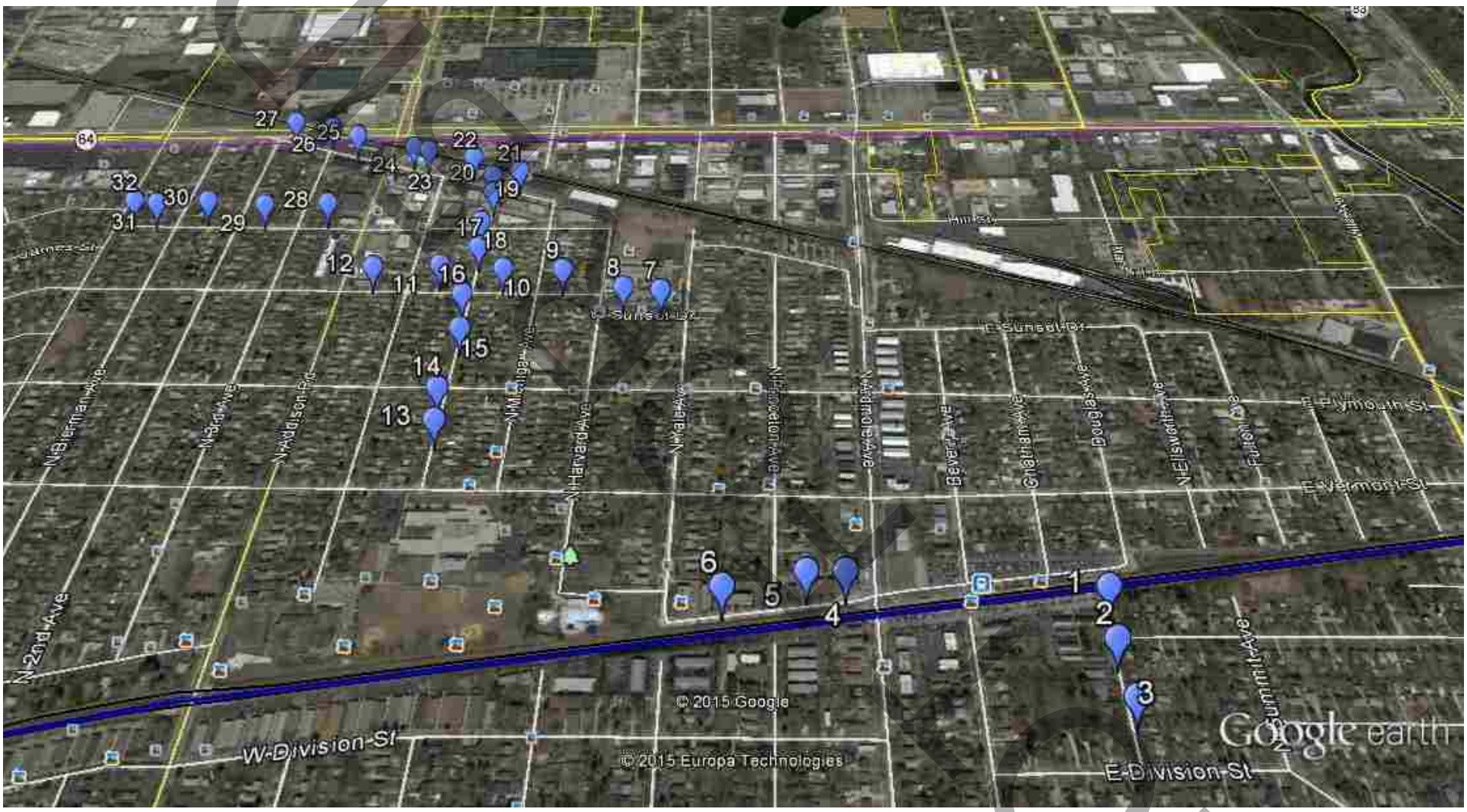


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager	MRK
Drawn by	MRK
Checked by	KCB
Approved by	KCB
Project No.	MR155009
Scale	N.T.S.
File Name	MR155009BLD
Date	March 2015

Terracon
Consulting Engineers & Scientists
135 Ambassador Drive Naperville, Illinois 60540
PH. (630) 717-4263 FAX. (630) 357-9489

BORING LOCATION DIAGRAM

PAVEMENT EVALUATION
MULTIPLE STREETS
VILLA PARK, ILLINOIS

Exhibit
A-2

BORING LOG NO. 1

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

LOCATION See Exhibit A-2

DEPTH		RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
0.4	**ASPHALT**, Approximately 4.5"					
1.1	**CRUSHED STONE AGGREGATE**, Approximately 8"					
	LEAN TO FAT CLAY (CL/CH), trace sand and organics, dark brown, (possible buried topsoil)	14	18-19-11 N=30	1500	1	31
3.0						
	LEAN TO FAT CLAY (CL/CH), trace sand, brown and gray, stiff	15	6-4-4 N=8	3500	2	26
5.5						
	LEAN CLAY (CL), trace sand and gravel, brown, very stiff	15	6-7-8 N=15	1500	3	23
7.5						
	Boring Terminated at 7.5 Feet					

5

10

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-3

BORING LOG NO. 2

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 / DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	ASPHALT, Approximately 4.5" 0.4								
	CRUSHED STONE AGGREGATE, Approximately 8" 1.0								
	GRAVELLY SAND (CRUSHED LIMESTONE), fine to coarse grained				16	29-18-8 N=26		1	11
	TO SANDY GRAVEL	5			15	7-7-8 N=15		2	11
	5.5								
	LEAN CLAY (CL), trace sand and gravel, brown, stiff				16	3-4-5 N=9	3500	3	20
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-4

BORING LOG NO. 3

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	ASPHALT/CONCRETE, Approximately 4" 0.4								
	CRUSHED STONE AGGREGATE, Approximately 5" 0.9								
	FILL - LEAN CLAY, trace sand and gravel, brown and gray, trace dark brown				16	7-8-5 N=13		1	23
					17	4-5-4 N=9		2	27
		5			10	7-6-5 N=11		3	27
	7.5 ***Boring Terminated at 7.5 Feet***	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-5

BORING LOG NO. 4

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 7" 0.6								
	CRUSHED STONE AGGREGATE, Approximately 5" 1.0								
	SILTY CLAY (CL-ML), trace sand, brown and gray, soft to stiff				16	4-7-6 N=13	500	1	26
	3.5								
	LEAN CLAY (CL), trace sand and gravel, brown, stiff to very stiff	5			15	5-7-8 N=15	4000	2	22
					16	8-9-10 N=19	5500	3	22
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-6

BORING LOG NO. 5

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 9.5" 0.4								
	LEAN CLAY (CL), trace sand and gravel, brown, stiff				16	5-5-5 N=10	3000	1	24
	3.5								
	SILTY CLAY (CL-ML), trace sand, brown and gray, stiff	5			15	5-7-8 N=15	3500	2	18
	5.5								
	LEAN CLAY (CL), trace sand and gravel, brown, stiff to very stiff				16	4-5-6 N=11	6000	3	21
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-7

BORING LOG NO. 6

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 7.5" 0.6								
	FILL - LEAN CLAY, WITH SAND AND ORGANICS, trace gravel, dark brown to black, (possible buried topsoil) 3.5				17	11-13-8 N=21		1	49
	LEAN TO FAT CLAY (CL/CH), trace sand, dark brown to brown, stiff 5.5	5			16	7-6-7 N=13	2500	2	30
	LEAN CLAY (CL), trace sand and gravel, brown, stiff to very stiff 7.5				17	6-6-7 N=13	4500	3	24
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-8

BORING LOG NO. 7

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 6.5"								
	0.5 **LEAN TO FAT CLAY (CL/CH)**, trace sand, dark brown, brown and gray mottled, medium stiff to very stiff								
	Sample 1: frozen				16	14-11-10 N=21	1000	1	30
	3.5 **LEAN CLAY (CL)**, trace sand and gravel, brown, trace gray, stiff to very stiff								
		5			17	6-6-5 N=11	4000	2	22
							7000	3	21
	7.5 ***Boring Terminated at 7.5 Feet***	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-9

BORING LOG NO. 8

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 / DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 5" / 0.4								
	CRUSHED STONE AGGREGATE, Approximately 5" / 0.8								
	LEAN TO FAT CLAY, trace gravel and organics, dark brown, (possible buried topsoil) / 1.5								
	LEAN TO FAT CLAY (CL/CH), trace sand, gray, medium stiff / 3.5				15	12-13-7 N=20	1000	1	33
	LEAN CLAY (CL), trace sand and gravel, brown and gray, very stiff	5			16	5-7-8 N=15	5000	2	21
							8000	3	21
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-10

BORING LOG NO. 9

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL, Villa Park, Illinois

SITE: Multiple Streets, Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 / DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 6" (0.5)								
	0.7 **CRUSHED STONE AGGREGATE**, Approximately 2"								
	LEAN TO FAT CLAY (CL/CH), trace sand and organics, dark brown/dark gray, soft to very stiff Sample 1: frozen				16	13-11-5 N=16	500	1	35
	3.5 **SILTY CLAY (CL-ML)**, trace sand and gravel, brown and gray, medium stiff to stiff	5			15	6-5-6 N=11	1500	2	17
	5.5 **LEAN CLAY (CL)**, trace sand and gravel, brown and gray, medium stiff						2000	3	22
	7.5 ***Boring Terminated at 7.5 Feet***	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-11

BORING LOG NO. 10

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

DEPTH	LOCATION See Exhibit A-2	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
0.5	**CONCRETE**, Approximately 6.5"								
0.8	**AGGREGATE BASE COURSE**, Approximately 3"								
	LEAN TO FAT CLAY (CL/CH), trace sand and organics, dark brown, (possible buried topsoil)								
	Sample 1: frozen				15	18-12-7 N=19		1	28
3.5	**LEAN CLAY (CL)**, trace sand and gravel, gray, trace dark gray, medium stiff to stiff				6	7-6-7 N=13	2000	2	28
	brown	5					3000	3	22
7.5	***Boring Terminated at 7.5 Feet***	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-12

BORING LOG NO. 11

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

LOCATION See Exhibit A-2

DEPTH		RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
0.5	**CONCRETE**, Approximately 6"					
0.8	**CRUSHED STONE AGGREGATE**, Approximately 3"					
	LEAN TO FAT CLAY (CL/CH), trace sand, gray/dark gray, medium stiff to stiff					
	Sample 1: frozen	12	9-9-4 N=13	1500	1	28
3.5	**LEAN CLAY (CL)**, trace sand and gravel, brown and gray, medium stiff to stiff					
5		14	5-5-5 N=10	1500	2	21
				4000	3	25
7.5	***Boring Terminated at 7.5 Feet***					
10						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-13

BORING LOG NO. 12

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

DEPTH	LOCATION See Exhibit A-2	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
0.5	**ASPHALT**, Approximately 6"								
0.8	**CRUSHED STONE AGGREGATE**, Approximately 3"								
3.0	**LEAN TO FAT CLAY (CL/CH)**, trace sand, brown, dark brown and gray, medium stiff to stiff				16	6-5-3 N=8	2000	1	33
7.5	**LEAN CLAY (CL)**, trace sand and gravel, brown/reddish brown and gray, medium stiff to stiff	5			15	5-5-5 N=10	1500	2	17
							3000	3	13
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/17/2015 | Boring Completed: 2/17/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-14

BORING LOG NO. 13

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	ASPHALT, Approximately 3.5" 0.4								
	CRUSHED STONE AGGREGATE, Approximately 6" 0.8								
	FILL - LEAN TO FAT CLAY, with organics, trace sand, dark brown to black				15	21-23-9 N=32		1	30
	dark brown/dark gray, (possible buried topsoil)				16	5-8-9 N=17		2	30
	5.5	5							
	LEAN CLAY (CL), trace sand and gravel, brown and gray, stiff						3000	3	21
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/18/2015	Boring Completed: 2/18/2015
Drill Rig: GC	Driller: DS
Project No.: MR155009	Exhibit: A-15

BORING LOG NO. 14

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	ASPHALT, Approximately 6" 0.6								
	CRUSHED STONE AGGREGATE, Approximately 6" 1.1								
	FILL - SANDY GRAVEL (CRUSHED LIMESTONE), trace silt, brown, wet					18-21-16 N=37		1	7
	3.0								
	FILL - LEAN CLAY, trace sand, gravel and organics, dark brown								
					6	6-7-7 N=14		2	25
		5							
	6.5								
	LEAN CLAY (CL), trace sand and gravel, brown/gray, medium stiff				8	4-4-3 N=7	1000	3	32
	7.5								
	Boring Terminated at 7.5 Feet								
		10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/18/2015	Boring Completed: 2/18/2015
Drill Rig: GC	Driller: DS
Project No.: MR155009	Exhibit: A-16

BORING LOG NO. 15

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 / DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	0.4 **ASPHALT**, Approximately 5"								
	1.1 **CRUSHED STONE AGGREGATE**, Approximately 8"								
	FILL - LEAN CLAY, trace sand and gravel, brown, gray, trace dark brown, soft			X	15	17-14-7 N=21		1	25
	3.5								
	LEAN CLAY (CL), trace sand and gravel, brown and gray, stiff to medium stiff			X	14	7-5-4 N=9	4000	2	22
		5							
				X	6	3-4-4 N=8	1500	3	28
	7.5								
	Boring Terminated at 7.5 Feet								
		10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/18/2015 | Boring Completed: 2/18/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-17

BORING LOG NO. 16

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	0.3 **ASPHALT**, Approximately 4"								
	CRUSHED STONE AGGREGATE, Approximately 6"								
	0.8 **LEAN CLAY (CL)**, trace sand and gravel, brown and gray, stiff to hard								
	Sample 1: frozen				16	15-15-10 N=25	2500	1	23
					15	7-8-9 N=17	9000+	2	19
		5							
							7000	3	20
	7.5 ***Boring Terminated at 7.5 Feet***								
		10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/18/2015	Boring Completed: 2/18/2015
Drill Rig: GC	Driller: DS
Project No.: MR155009	Exhibit: A-18

BORING LOG NO. 17

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	0.3 **ASPHALT**, Approximately 4"								
	CRUSHED STONE AGGREGATE, Approximately 7"								
	0.9 **FILL - LEAN CLAY**, trace sand, gravel and organics, dark brown				16	11-12-6 N=18		1	29
	3.0 **LEAN TO FAT CLAY (CL/CH)**, trace sand, dark gray, stiff to very stiff				15	6-6-5 N=11	3000	2	31
	to brown and gray	5					4500	3	26
	7.5 ***Boring Terminated at 7.5 Feet***	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/18/2015 | Boring Completed: 2/18/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-19

BORING LOG NO. 18

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 / DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	0.4 **ASPHALT**, Approximately 4.5"								
	0.9 **CRUSHED STONE AGGREGATE**, Approximately 6"								
	3.0 **FILL - LEAN TO FAT CLAY**, with organics, trace sand, dark brown to black, (possible buried topsoil)				15	14-7-5 N=12		1	46
	LEAN CLAY (CL), trace sand and gravel, brown and gray, stiff to very stiff				16	6-7-7 N=14	6000	2	22
		5					3500	3	25
	7.5 ***Boring Terminated at 7.5 Feet***	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/18/2015 | Boring Completed: 2/18/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-20

BORING LOG NO. 19

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

LOCATION See Exhibit A-2

DEPTH		RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
0.7	**CONCRETE**, Approximately 8.5"					
1.4	**CRUSHED STONE AGGREGATE**, Approximately 9"					
	LEAN TO FAT CLAY (CL/CH), trace sand, gray, soft Sample 1: frozen	16	23-24-15 N=39	3000	1	27
3.0	**LEAN CLAY (CL)**, trace sand and gravel, brown and gray, stiff to very stiff Sample 2: occasional light gray sand/gravel pockets	15	8-9-9 N=18	3000	2	26
				4500	3	22
7.5	***Boring Terminated at 7.5 Feet***					

5

10

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/18/2015 | Boring Completed: 2/18/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-21

BORING LOG NO. 20

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 / DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 7.5"								
	0.7								
	0.9 **CRUSHED STONE AGGREGATE**, Approximately 3"								
	LEAN CLAY (CL), trace sand and gravel, brown, medium stiff to stiff								
	Sample 1: frozen				16	4-4-4 N=8	1000	1	28
	3.0								
	LEAN CLAY (CL), trace sand and gravel, brown, stiff to very stiff								
		5			14	5-6-6 N=12	6000	2	20
							6500	3	21
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-22

BORING LOG NO. 21

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	0.3 **ASPHALT**, Approximately 3"								
	CRUSHED STONE AGGREGATE, Approximately 8"								
	0.8 **LEAN CLAY (CL)**, trace sand and gravel, brown and gray, stiff to very stiff								
					13	13-7-5 N=12	2500	1	29
					14	4-4-4 N=8	4000	2	23
		5							
					15	4-5-6 N=11	5000	3	22
	7.5 ***Boring Terminated at 7.5 Feet***								
		10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-23

BORING LOG NO. 22

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 8.5"								
	0.7								
	CRUSHED STONE AGGREGATE, Approximately 3"								
	1.0								
	LEAN CLAY (CL), trace sand and gravel, brown and gray, medium stiff to very stiff				15	22-17-7 N=24	2000	1	23
					14	7-8-9 N=17	4000	2	22
		5							
					16	5-9-10 N=19	8000	3	21
	7.5								
	Boring Terminated at 7.5 Feet								
		10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-24

BORING LOG NO. 23

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 7.5"								
	0.6								
	CRUSHED STONE AGGREGATE, Approximately 3"								
	0.9								
	LEAN CLAY (CL), trace sand and gravel, gray, trace brown, stiff to very stiff								
	Sample 1: occasional silt pockets				15	15-11-5 N=16	3000	1	23
	to brown and gray				16	7-8-9 N=17	6500	2	21
		5					5000	3	17
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-25

BORING LOG NO. 24

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 9" 0.8								
	CRUSHED STONE AGGREGATE, Approximately 5" 1.2								
	FILL - SANDY GRAVEL WITH SILT, light gray, (crushed limestone) 3.5				15	27-29-11 N=40		1	6
	LEAN TO FAT CLAY (CL/CH), trace sand, brown and gray mottled, stiff to very stiff	5			11	7-8-9 N=17	3500	2	25
	7.5						3000	3	28
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-26

BORING LOG NO. 25

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

LOCATION See Exhibit A-2

DEPTH		RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
0.7	**CONCRETE**, Approximately 8"					
1.0	**CRUSHED STONE AGGREGATE**, Approximately 4"					
	FILL - LEAN CLAY WITH SAND, trace gravel and organics, dark gray Sample 1: frozen	16	31-27-11 N=38		1	9
3.5	**LEAN CLAY (CL)**, trace sand, brown and gray mottled, stiff to very stiff Sample 2: occasional sand seams	15	8-8-8 N=16	3000	2	20
7.5				4000	3	22
	Boring Terminated at 7.5 Feet					

5

10

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-27

BORING LOG NO. 26

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 8" 0.7								
	CRUSHED STONE AGGREGATE, Approximately 6" 1.2								
	LEAN TO FAT CLAY, trace sand, brown/dark brown, stiff Sample 1: frozen 3.0				16	23-16-8 N=24	2500	1	27
	LEAN CLAY (CL), trace sand, brown and gray mottled, stiff				15	6-7-7 N=14	3500	2	17
		5			9	7-5-6 N=11	3500	3	14
	7.5 ***Boring Terminated at 7.5 Feet***	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-28

BORING LOG NO. 27

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 8" 0.7								
	CRUSHED STONE AGGREGATE, Approximately 6" 1.2								
	FILL - SANDY GRAVEL, trace sand, light gray, (crushed limestone) 3.5				14	31-29-18 N=47		1	11
	LEAN TO FAT CLAY (CL/CH), trace sand, brown and gray mottled, stiff 5.5	5			15	4-5-7 N=12	3000	2	26
	LEAN CLAY (CL), trace sand, brown/gray, stiff 7.5				8	7-5-4 N=9	4000	3	23
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015	Boring Completed: 2/20/2015
Drill Rig: GC	Driller: DS
Project No.: MR155009	Exhibit: A-29

BORING LOG NO. 28

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 6.5" 0.5								
	CRUSHED STONE AGGREGATE, Approximately 5" 0.9								
	LEAN CLAY (CL), trace sand, brown/dark brown, medium stiff Sample 1: frozen				15	17-22-11 N=33	1000	1	35
	3.5								
	LEAN CLAY (CL), trace sand and gravel, brown and gray mottled, medium stiff to very stiff	5			14	5-7-8 N=15	4500	2	19
					10	7-7-7 N=14	2000	3	20
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-30

BORING LOG NO. 29

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 7" 0.6								
	CRUSHED STONE AGGREGATE, Approximately 5" 1.0								
	LEAN CLAY (CL), trace sand, gray, medium stiff to very stiff				16	13-9-5 N=14	1500	1	30
	to brown and gray				14	8-9-11 N=20	4000	2	21
		5					7000	3	20
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-31

BORING LOG NO. 30

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 6.5"								
	0.7								
	LEAN CLAY (CL), trace sand and gravel, brown and gray mottled, stiff to very stiff				15	12-9-7 N=16	3000	1	21
	to brown	5			16	10-10-10 N=20	8000	2	21
							7000	3	20
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-32

BORING LOG NO. 31

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 / DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 6.5" 0.5								
	ASPHALT, Approximately 5" 1.3								
	LEAN CLAY (CL), trace sand and organics, dark gray, medium stiff Sample 1: frozen				15	17-9-5 N=14	1000	1	32
	4.0								
	LEAN CLAY (CL), trace sand and gravel, brown and gray mottled, medium stiff to stiff				16	12-8-6 N=14	2000	2	33
	with sand	5					3500	3	26
	7.5								
	Boring Terminated at 7.5 Feet	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-33

BORING LOG NO. 32

PROJECT: Pavement Rehabilitation - Village of Villa Park

CLIENT: Village of Villa Park IL
Villa Park, Illinois

SITE: Multiple Streets
Villa Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	HAND PENETROMETER, (psf)	SAMPLE NUMBER	WATER CONTENT (%)
	CONCRETE, Approximately 6.5" 0.5								
	CRUSHED STONE AGGREGATE, Approximately 6" 1.0								
	FILL - SANDY GRAVEL, trace sand, light gray, (crushed limestone)				15	43-39-19 N=58		1	9
					15	11-9-7 N=16		2	27
	5.0 **LEAN CLAY (CL)**, trace sand and gravel, brown and gray mottled, very stiff	5					4500	3	25
	7.5 ***Boring Terminated at 7.5 Feet***	10							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic SPT Hammer

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-1 for description of field procedures

See Appendix B for description of laboratory procedures and additional data (if any).

See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

None, while drilling

None, after boring

Terracon
135 Ambassador Drive
Naperville, Illinois

Boring Started: 2/20/2015 | Boring Completed: 2/20/2015

Drill Rig: GC | Driller: DS

Project No.: MR155009 | Exhibit: A-34

APPENDIX B

LABORATORY TESTING

Laboratory Testing

The soil samples obtained from the borings were tested in the laboratory to measure their natural water contents. A pocket penetrometer was used to help estimate the approximate unconfined compressive strength of selected cohesive samples. The test results are provided on the boring logs in Appendix A.

The soil samples were classified in the laboratory based on visual observation, texture, plasticity, and the limited laboratory testing described above. The soil descriptions presented on the boring logs are in general accordance with the enclosed General Notes (Exhibit C-1) and Unified Soil Classification System (USCS). The estimated USCS group symbols for native soils are shown on the boring logs, and a brief description of the USCS is included in this report (Exhibit C-2).

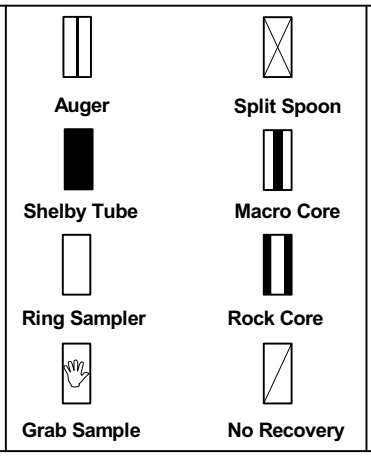
APPENDIX C

SUPPORTING DOCUMENTS

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING



WATER LEVEL

Water Initially Encountered

Water Level After a Specified Period of Time

Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally 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 in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, psf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 500	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	500 to 1,000	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	4,000 to 8,000	15 - 30	19 - 42
			Hard	> 8,000	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel [F,G,H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G,H,I]
			Fines classify as CL or CH		SC	Clayey sand [G,H,I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A" line [J]		CL	Lean clay [K,L,M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K,L,M,N]
			Liquid limit - not dried			Organic silt [K,L,M,O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K,L,M]
			PI plots below "A" line		MH	Elastic Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K,L,M,P]
			Liquid limit - not dried			Organic silt [K,L,M,Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

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

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

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

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

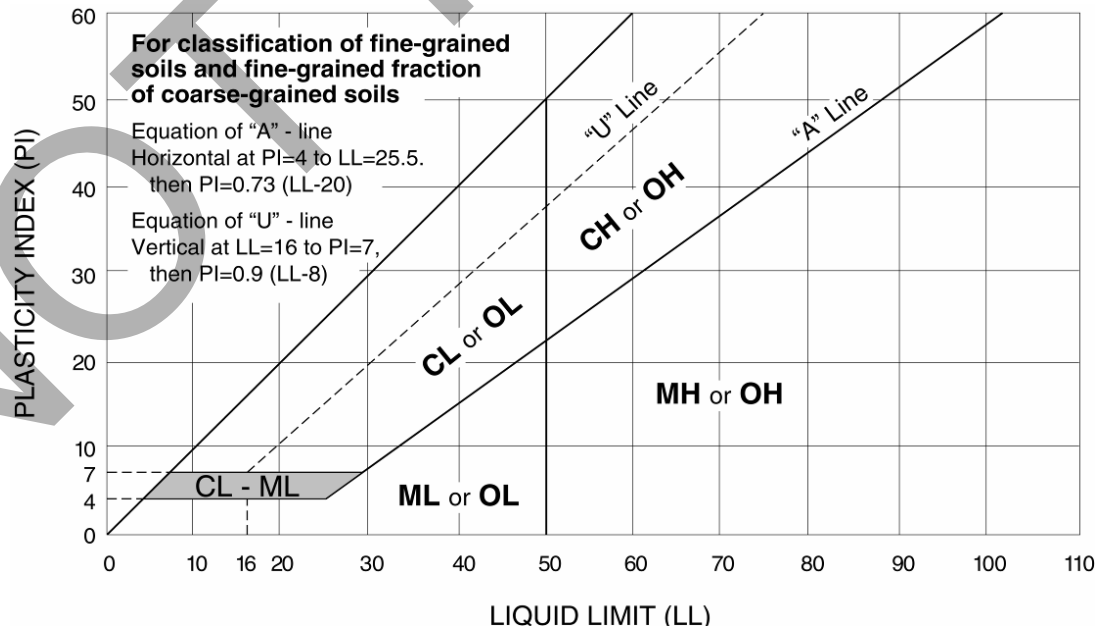
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



AGI Project No. 14-345

Subsurface Investigation Report

For the

Village of Villa Park Road Improvements

Villa Park, Illinois

Prepared for

Mr. Kevin L. Mantels, EIT
Village of Villa Park
Public Works Department
Villa Park, Illinois

Prepared by

Applied GeoScience, Inc.
2385 Hammond Dr., Suite 6
Schaumburg, Illinois 60173
847-303-0300

February 12, 2015

Applied GeoScience, Inc.
Geotechnical, Environmental & Materials Engineering

February 12, 2015

Mr. Kevin L. Mantels, EIT
Village of Villa Park
Public Works Department
Villa Park, Illinois 60181

Reference: **Geotechnical Engineering Services**
Village of Villa Park Road Improvements
Adel Court, Cornell Avenue, Division Street, Ellsworth Avenue, Grant Avenue, Home Avenue Alley, Sidney Court, and Yale Avenue
AGI Job No. 14-345

Dear Mr. Mantels:

The subsurface exploration at the above-referenced site has been completed. The attached report represents the findings of the subsurface exploration.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the contents of this report, or if we may be of further service to you in any way, please do not hesitate to contact us.

APPLIED GEOSCIENCE, INC.

Adam M. Moghamis, P.E.
Principal Engineer

enc.

INTRODUCTION

Applied GeoScience, Inc. (AGI) has completed the subsurface exploration for the proposed road improvements for the Village of Villa Park. The subject streets and alleys included in this report are Adel Court, Cornell Avenue, Division Street, Ellsworth Avenue, Grant Avenue, Home Avenue Alley, Sidney Court, and Yale Avenue.

It is our understanding that the proposed improvements will include milling and resurfacing of the existing street and alley pavement. The purpose of this investigation is to provide information regarding the pavement thickness, subbase type, subbase thickness, and subgrade type at each core hole and borehole location.

SUBSURFACE EXPLORATION PROCEDURES

Soil Borings

Thirty-four (34) soil borings were performed during the investigation between January 21 and January 30, 2015. The borings were performed using a truck-mounted drill rig with continuous flight augers and were extended to a depths of 10.25 inches to 7.0 feet. Representative samples were obtained employing split spoon sampling procedures in accordance with ASTM Specification D-1586. Samples obtained in the field were returned to our laboratory for further examination and testing. Split spoon sampling involves driving a 2.0-inch outside diameter split-barrel sampler into the soil with a 140-pound weight falling freely through a distance of 30 inches. The number of blows required to advance the sampler the last 12 inches is termed the Standard Penetration Resistance (N) and is included on the boring logs. The N value is an indication of the relative density of the soil and, to a lesser degree of accuracy, the consistency of cohesive soil. All split spoon soil samples obtained from the drilling operation were visually classified in the field. Cohesive soils were tested for unconfined compressive strength using a calibrated penetrometer test device. Due to the low temperatures during the boring process, the soil in the first split spoon sample was often frozen. The frozen soil results in Standard Penetration Resistance (N) and unconfined compressive strength values that are higher than what would be observed in unfrozen conditions. Results for relative density and a qualitative description of compressive strengths are included in the soil boring logs, which can be found in Attachment B.

Samples were sealed and returned to AGI's laboratory for further examination, classification and testing. Field logs of each boring were prepared by our field engineer. These logs include visual classifications of the materials encountered during drilling as well as the engineer's interpretation of the subsurface conditions between samples. Final boring logs included with this report represent an interpretation of the field logs and include modifications based on the laboratory testing of the samples.

Pavement Cores

Thirty-four (34) pavement cores were performed between January 21 and January 30, 2015, using a diamond bit core barrel. Water was used as a coolant. Upon completion of the cores, the core holes were patched to match the existing grade. Pavement cores were measured and visually inspected in the field. A summary and photographs of the cores is included in the coring diagrams, which can be found in Appendix C.

SOIL CONDITIONS

The subsurface exploration and testing program for the soil borings revealed that subgrade soils in the areas of the proposed improvements generally consisted of asphalt or concrete over a crushed stone or recycled stone subbase and underlain by silty clay fill materials or natural silty clay. Organic clay was encountered in Borings B-7, B-8, B-10, B-13, B-15, B-25, B-27, and B-28.

Detailed descriptions of the subgrade soil conditions beneath the pavement materials are provided below and shown in the borings logs in Appendix B. The stratification lines shown on the boring logs represent the approximate boundary between soil types. The actual transition may be more gradual.

Adele Court: Soil Borings B-1 through B-2

The existing pavement consisted of 8.00 to 8.25 inches of concrete at the ground surface over approximately 21.75 to 22.00 inches of crushed limestone. In Boring B-1, the crushed limestone was underlain by silty clay fill materials extending to a depth of 5.5 feet below ground surface. The fill materials were followed by silty clay in a stiff condition extending to the boring termination depth of 7.0 feet. In Boring B-2, the crushed limestone was underlain by silty clay in a very stiff condition extending to the boring termination depth of 7.0 feet.

Cornell Avenue: Soil Borings B-3 through B-10

The existing pavement consisted of 5.50 to 7.25 inches of asphalt at the ground surface over 4.00 to 17.00 inches of crushed limestone. In general, the crushed limestone was underlain by silty clay in a stiff condition extending to the boring termination depth of 7.0 feet below ground surface. In Borings B-4, B-5, and B-6 the crushed limestone was underlain by silty clay fill materials extending to depths of 2.0 to 2.5 feet. The fill materials were followed by silty clay in a very stiff condition extending to the boring termination depth of 7.0 feet. In Borings B-7 and B-8, the crushed limestone was underlain by a layer of organic clay approximately 6.00 to 7.50 inches thick. The organic clay was underlain by silty clay fill materials extending to depths of 3.5 to 4.0 feet. The fill materials were followed by silty clay in a very stiff and stiff condition extending to the boring termination depth of 7.0 feet. In Boring B-10, the crushed stone was underlain by silty clay fill materials extending to a depth of 1.8 feet. The fill materials were followed by a layer of organic clay approximately 8.50 inches thick. The organic clay was underlain by silty clay in a very stiff condition extending to the boring termination depth of 7.0 feet.

Division Street: Soil Borings B-11 through B-15

The existing pavement consisted of 6.00 to 7.25 inches of asphalt at the ground surface over 5.00 to 10.00 inches of crushed limestone. In Borings B-11 and B-12, the crushed limestone was underlain by silty clay in a very stiff condition extending to the boring termination depth of 7.0 feet below ground surface. In Borings B-13 and B-15, the crushed limestone was underlain by a layer of organic clay approximately 8.50 to 19.25 inches thick. The organic clay was followed by silty clay in a stiff condition extending to the boring termination depth of 7.0 feet. In Boring B-14, the crushed limestone was underlain by silty clay fill materials extending to the boring termination depth of 3.5 feet. Boring B-14 was terminated at 3.5 feet below ground surface due to a possible utility conflict.

Ellsworth Avenue: Soil Borings B-16 through B-24

The existing pavement consisted of 7.75 to 10.25 inches of concrete at the ground surface over approximately 4.00 to 22.25 inches of crushed limestone. In general, the crushed limestone was underlain by silty clay fill materials extending to depths of 2.5 to 5.0 feet below ground surface. The fill materials were followed by silty clay in a stiff condition extending to the boring termination depth of 7.0 feet. In Boring B-18, the crushed limestone was underlain by silty clay in a stiff to soft condition extending to the boring termination depth of 7.0 feet. Boring B-24 was terminated at a depth of 10.25 inches due to auger refusal on steel rebar.

Grant Avenue: Soil Borings B-25 through B-26

The existing pavement consisted of 2.25 to 3.00 inches of asphalt at the ground surface over 9.75 to 19.00 inches of crushed limestone. In Boring B-25, the crushed limestone was underlain by a layer of organic clay approximately 1.5 feet thick. The organic clay was followed by silty clay in a stiff condition extending to the boring termination depth of 7.0 feet below ground surface. In Boring B-26, the crushed limestone was underlain by silty clay in a very stiff condition extending to the boring termination depth of 7.0 feet.

Home Avenue Alley: Soil Borings B-27 through B-31

In general, the existing pavement consisted of 3.00 to 5.50 inches of asphalt at the ground surface over 7.75 to 15.50 inches of recycled stone. In Borings B-27 and B-28, the recycled stone was underlain by a layer of organic clay approximately 1.4 to 1.5 feet thick. The organic clay was followed by silty clay in a very stiff and stiff condition extending to the boring termination depth of 7.0 feet below ground surface. In Boring B-29, the recycled stone was underlain by silty clay in a stiff condition extending to the boring termination depth of 7.0 feet. In Boring B-30, the recycled stone was underlain by silty clay fill materials extending to a depth of 2.5 feet. The fill materials were followed by silty clay in a very stiff condition extending to the boring termination depth of 7.0 feet. In Boring B-31, the existing pavement consisted of asphalt over 15.50 inches of crushed limestone. The crushed limestone was underlain by silty clay fill materials extending to a depth of 3.0 feet. The fill materials were underlain by silty clay in a very stiff condition extending to the boring termination depth of 7.0 feet.

Sidney Court: Soil Borings B-32 through B-33

The existing pavement consisted of 8.00 to 8.50 inches of concrete at the ground surface over approximately 15.50 to 28.00 inches of crushed limestone. The crushed limestone was underlain by silty clay in a very stiff and stiff condition extending to the boring termination depth of 7.0 feet.

Yale Avenue: Soil Boring B-34

The existing pavement consisted of 3.50 inches of asphalt at the ground surface over 11.50 inches of crushed limestone. Boring B-34 was terminated at 1.3 feet due to a possible utility conflict.

LABORATORY TESTING PROGRAM

The testing program consisted of performing water content tests on selected soil samples according to ASTM D-2216 and organic content determination in accordance with ASTM D-2974. The cohesive soils were tested for unconfined compressive strength using both a calibrated penetrometer and/or RIMAC testing device. These tests were performed upon representative portions of the samples obtained in the field. The results of all testing performed, along with a visual classification of the material based upon both a textural analysis and the Unified Soil Classification System, are indicated on the boring logs, Appendix B.

GROUNDWATER CONDITIONS

Water level observations were recorded while drilling and immediately after completion of the borings. No groundwater was encountered in any of the borings. The borings were backfilled after drilling for safety reasons.

Groundwater observations in the borings provide an approximate indication of the groundwater conditions at the time the borings were drilled. Since the soils encountered were predominately cohesive, which have a low coefficient of permeability, much time is required for the groundwater to seep into the boreholes and attain an equilibrium level. Longer-term observations in cased holes or piezometers would be necessary for a more accurate evaluation of the groundwater conditions at this site.

Fluctuations in the groundwater level and the possible development of perched water table should be anticipated throughout the year depending on variations in climatological conditions and other factors not apparent at the time the borings were performed. The possibility of groundwater level fluctuation should be considered when developing the design and construction plans for the project.

ANALYSIS AND GUIDELINE RECOMMENDATIONS

The attached boring logs describe subsurface conditions only at the specified locations on the site. With these limitations, the following general geotechnical guideline recommendations are provided for the proposed road improvements.

Based on field and laboratory analysis, it was determined that the silty clay fill materials and natural silty clay soil encountered in the borings is relatively impermeable. Borings also indicated the presence of shallow, very moist base materials below the pavement, presumably due to the low infiltration rate of the clay soils. It is our engineering opinion that any pavement failure is due to the cyclical freezing and thawing of the trapped water. A lack of periodic maintenance may have resulted in pavement deterioration and additional infiltration of surface water. Our remedial recommendations are described below.

Option One: Short Term Remedial Treatment

Consideration may be given to patching, sealing, milling/grinding, and overlay procedures for temporary remediation of the existing pavement. If this option is chosen, 1.00 to 1.50 inches of existing pavement should be milled/grinded and resurfaced. Full depth patching may be required after milling/grinding, and an underdrainage system should be installed. Underdrains furnish an outlet for any surface water and/or groundwater that would otherwise build up in the silty clay soils. The drains should be installed at appropriate intervals between low points as determined by the site's topography. All underdrains and slope drains should be tied into storm sewers or ditches. IDOT gradation FA-1 or CA-7 backfill, or equivalent, should be used.

Short term remedial treatment such as patching, sealing, and in some areas, deep patching is recommended for the following street sections:

1. Adele Court from Ellsworth Avenue to the East End
2. Cornell Avenue from Metra Parking to Division Street
3. Cornell Avenue from Oak Street to Elm Street
4. Division Street from Harvard Avenue to Yale Avenue
5. Division Street from Yale Avenue to Princeton Avenue
6. Division Street from Princeton Avenue to Ardmore Avenue
7. Ellsworth Avenue from Armitage Avenue to 660 feet
8. Ellsworth Avenue from 660 feet to Sidney Court
9. Ellsworth Avenue from Sidney Court to Adele Court
10. Ellsworth Avenue from 660 feet to North Avenue
11. Sidney Court from Ellsworth Avenue to East End
12. Yale Avenue from North End to Division Street

Short term remedial treatment such as milling/grinding and resurfacing, with possible deep patching, is recommended for the following street sections:

1. Cornell Avenue from Division Street to Oak Street
2. Cornell Avenue from Elm Street to St. Charles Road
3. Ellsworth Avenue from Adele Court to 660 feet

Option Two: Long Term Remedial Treatment (Failed Pavement)

If economically feasible, the ideal remedial treatment for failed pavement involves removal and replacement of the existing pavement at all locations and the installation of an underdrainage system. The observed very stiff silty clay subgrade encountered below the pavement appears to be in a stable condition.

Following the removal of the existing pavement, the exposed subgrade should be proofrolled. Proofrolling aids in providing a firm subgrade and for delineating soft or disturbed areas that may exist at or slightly below subgrade level. Proofrolling will also identify any areas of soft or loose fill materials at areas where fill extend to depths of up to 2.5 to 3.5 feet at the site. If no deflection is observed at areas of fill materials, no remedial treatment is required. If deflection is observed, AGI recommends that a minimum of 1 foot of the fill materials be removed and replaced with properly compacted engineered fill materials. Loose or disturbed soils may only require scarification and recompaction in-place. Proofrolling may be accomplished with a fully loaded, tandem-axle dump truck or other equipment providing an equivalent subgrade loading. A minimum gross weight of 25 tons is recommended for the proofrolling equipment. Proofrolling should be done in dry weather conditions only as a wet subgrade will not allow detection of buried weak soils.

Any new fill or existing stockpiled gravel fill placed in the upper 12 inches below the pavement section should consist of approved granular material that is free of organic matter and debris. The fill should be placed and compacted in lifts not exceeding 9 inches in loose thickness. Each fill lift should be compacted to a minimum of 95% of the maximum dry density of the material as determined by ASTM Specification D-1557.

To prevent future pavement failure, an underdrainage system is recommended at the site. Underdrains furnish an outlet for any surface and/or groundwater that would otherwise build up in the granular material and should be installed at the lowest point of the granular subgrade replacement. The underdrains should be placed at the low points of the profile grade and at approximately 30 feet intervals between low points. All underdrains and slope drains should be tied into storm sewers or ditches. FA-1 or CA-7 backfill, or equivalent, should be used.

Long term remedial treatment is recommended for the following street sections:

1. Grant Avenue from Washington Boulevard to the South End
2. Home Avenue Alley from Harvard Avenue to the pavement change
3. Home Avenue Alley from the pavement change to Ardmore Avenue

CONSTRUCTION CONSIDERATIONS

Depending upon weather conditions during and prior to construction, some groundwater could be encountered in the anticipated construction excavations on the site. It is anticipated that any seepage into the construction excavation could be controlled with drainage ditches or by pumping from sump pits.

All excavation should be performed in accordance with the latest Occupational Safety and Health Administration requirements.

New requirements of the Illinois Environmental Protection Agency mandate that all uncontaminated soil that is to be removed from the site, including soil mixed with other clean construction or demolition debris (CCDD), sent to either a CCDD or an uncontaminated soil fill operation must be certified to be uncontaminated soil in accordance with Section 22.52(f)(2)(B) or Section 22.51a(d)(2)(B), respectively, of the Environmental Protection Act [415 ILCS 5]. Certifications for commercial/industrial properties must be made by a licensed professional engineer. Certifications for uncontaminated soil removed from a site that has not been used for commercial or industrial purposes may be made by either the site owner/operator or by a licensed professional engineer on the IEPA's forms. These forms, along with the analytical results, must be submitted to the fill operation prior to disposal of any soils excavated from the site. AGI's environmental professionals are qualified to perform testing and certifications in accordance with the IEPA's regulations.

Continuous observation by a geotechnical engineer or his representative should be maintained during site preparation and compaction of all fill and backfill material.

The soils at this site will be susceptible to disturbance from construction activities, particularly if water is present near the subgrade level. Care should be taken during excavation and construction of footings to minimize disturbance of the bearing soils. The base of all foundation excavations should be free of water and loose soil prior to placing concrete. Concrete should be placed as soon as possible after excavation to minimize bearing soil disturbance. Should the soils at bearing level become saturated, desiccated, or disturbed, the affected soils should be removed prior to placing concrete.

GENERAL COMMENTS

The analysis and guideline recommendations presented in this report are based upon the data obtained from the soil borings performed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations which may occur

between borings or across the site. The nature and extent of such variations may not become evident until construction. If variations become evident, it will be necessary to reevaluate the recommendations of this report.

Boring locations were spaced as closely as economically feasible for this project. Unanticipated subsurface conditions are sometimes encountered between borings.

It is further recommended that Applied GeoScience, Inc. be retained for testing and observation during earthwork construction phases to help ensure that design requirements are met.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranties, either expressed or implied, are intended or made. In the event that any changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing by the geotechnical engineer.

APPENDIX A

Soil Boring Location Diagram

2015 Village of Villa Park Road Improvements - Boring Diagrams

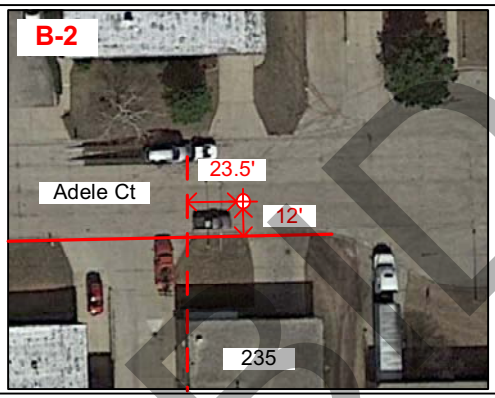
Adele Court (B-1 to B-2)

BORING B-1: 226 East Adele Court

Diagram

BORING B-2: 235 East Adele Court

Diagram

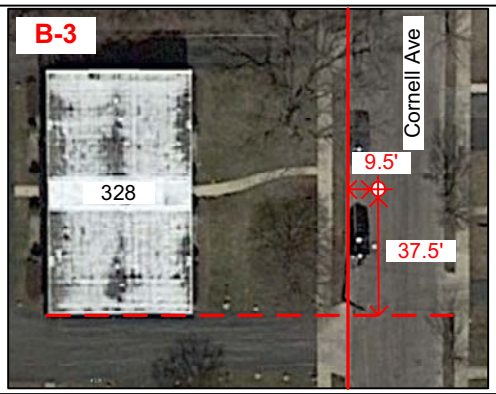


2015 Village of Villa Park Road Improvements - Boring Diagrams

North Cornell Avenue (B-3 to B-10)

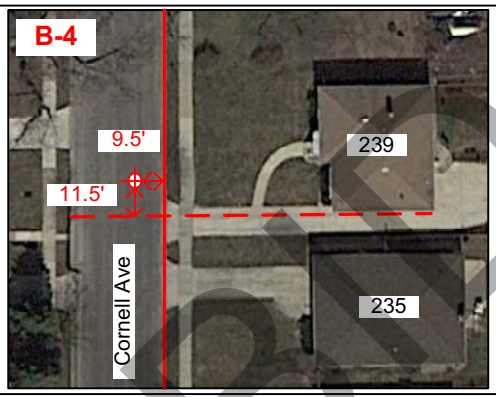
BORING B-3: 328 North Cornell Avenue

Diagram



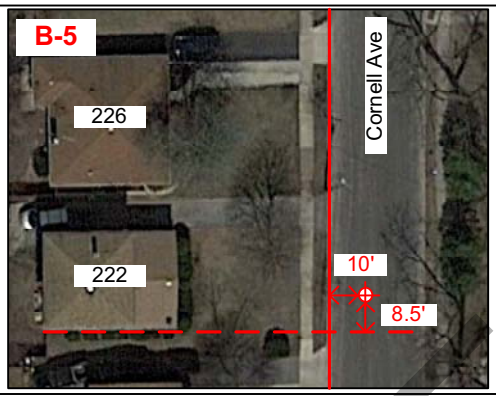
BORING B-4: 239 North Cornell Avenue

Diagram



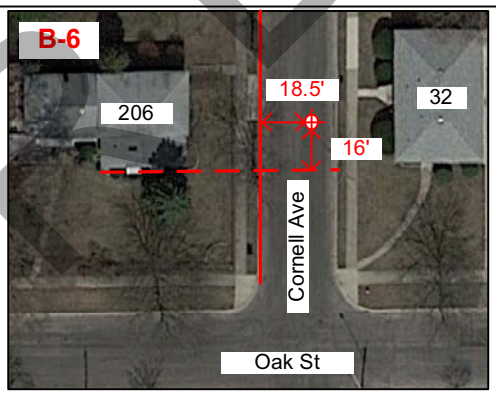
BORING B-5: 222 North Cornell Avenue

Diagram



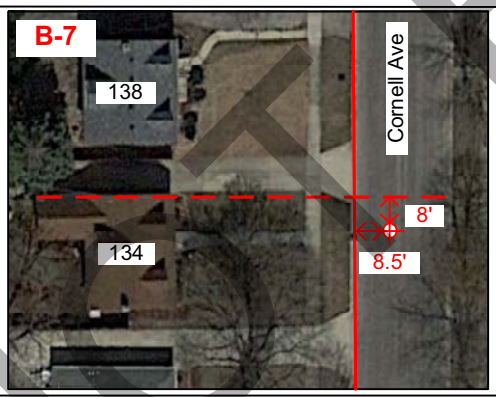
BORING B-6: 206 North Cornell Avenue

Diagram



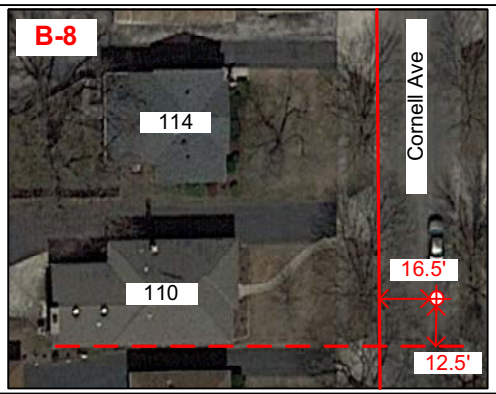
BORING B-7: 134 North Cornell Avenue

Diagram



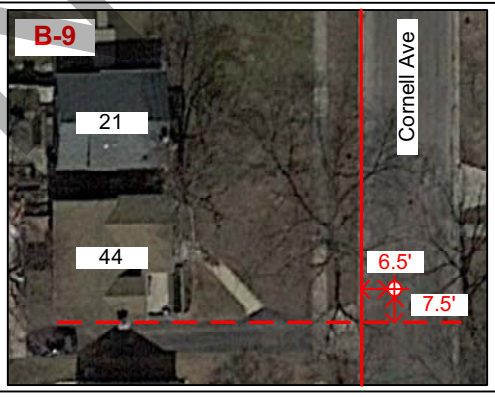
BORING B-8: 110 North Cornell Avenue

Diagram



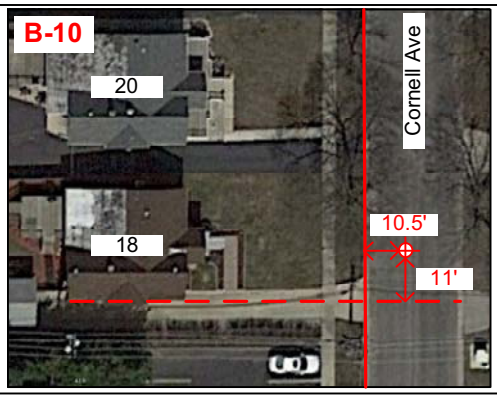
BORING B-9: 44 North Cornell Avenue

Diagram



BORING B-10: 18 North Cornell Avenue

Diagram

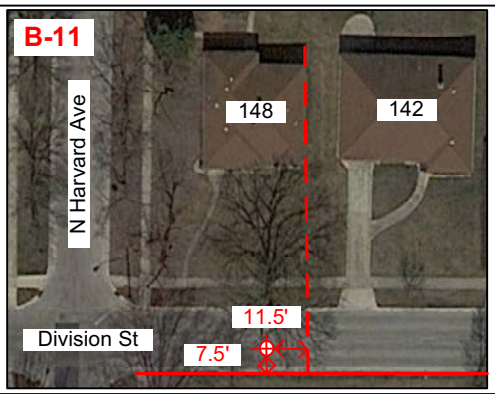


2015 Village of Villa Park Road Improvements - Boring Diagrams

West Division Street (B-11 to B-15)

BORING B-11: 148 West Division Street

Diagram

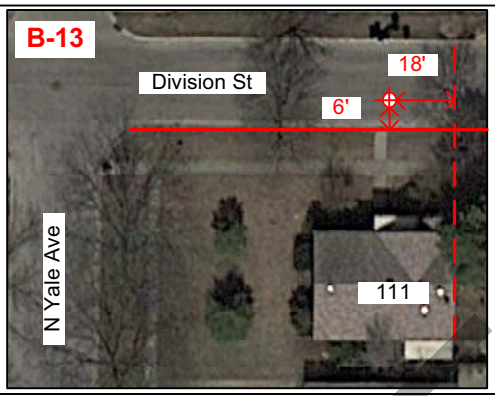


BORING B-12: 126 West Division Street

Diagram

BORING B-13: 111 West Division Street

Diagram



BORING B-14: 35 West Division Street

Diagram

BORING B-15: 20 West Division Street

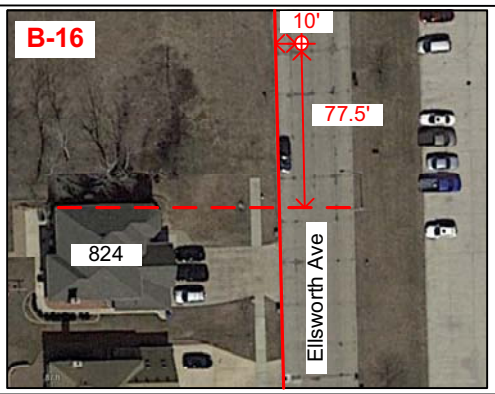
Diagram

2015 Village of Villa Park Road Improvements - Boring Diagrams

Ellsworth Avenue (B-16 to B-24)

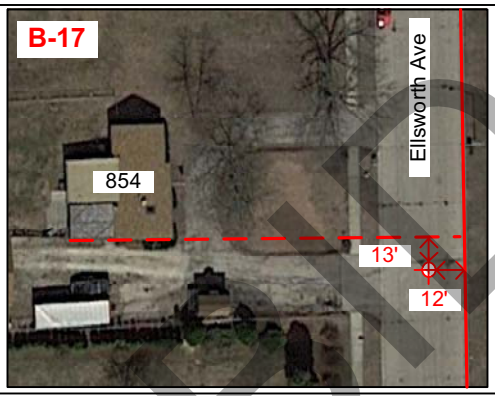
BORING B-16: 824 Ellsworth Avenue

Diagram



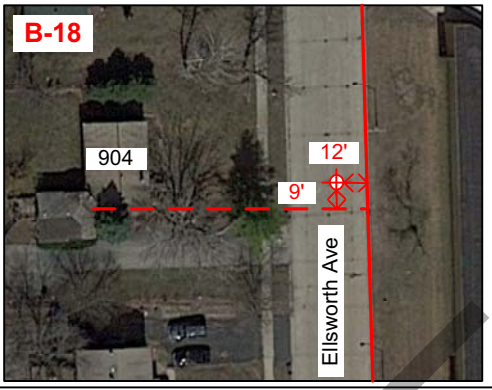
BORING B-17: 854 Ellsworth Avenue

Diagram



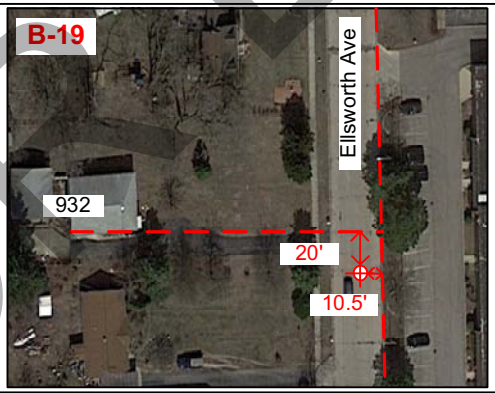
BORING B-18: 904 Ellsworth Avenue

Diagram



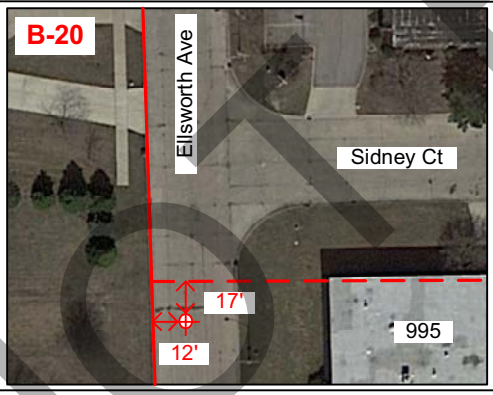
BORING B-19: 932 Ellsworth Avenue

Diagram



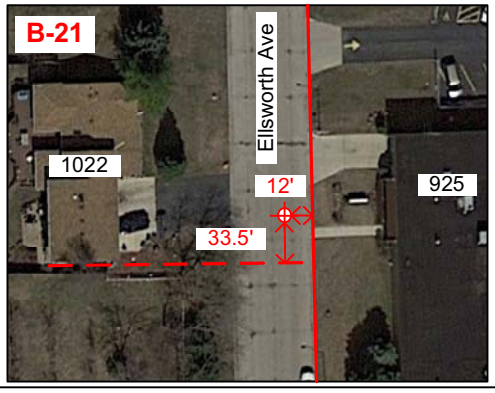
BORING B-20: 995 Ellsworth Avenue

Diagram



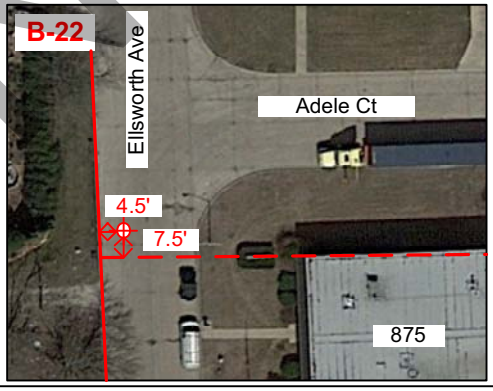
BORING B-21: 1022 Ellsworth Avenue

Diagram



BORING B-22: 875 Ellsworth Avenue

Diagram



BORING B-23: 865 Ellsworth Avenue

Diagram

2015 Village of Villa Park Road Improvements - Boring Diagrams

Ellsworth Avenue (B16 to B-24)

BORING B-24: 150 North Avenue

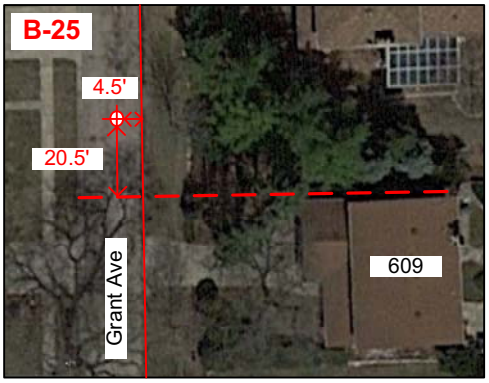
Diagram

2015 Village of Villa Park Road Improvements - Boring Diagrams

Grant Avenue (B-25 to B-26)

BORING B-25: 609 Grant Avenue

Diagram



BORING B-26: 630 Grant Avenue

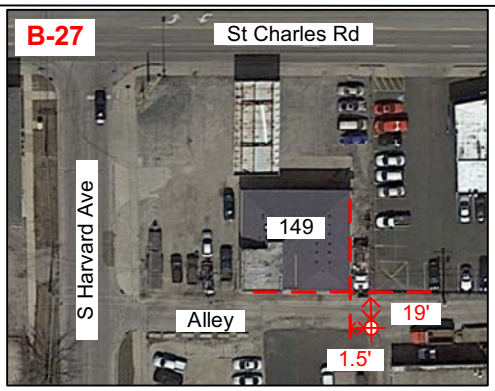
Diagram

2015 Village of Villa Park Road Improvements - Boring Diagrams

Home Avenue Alley (B-27 to B-31)

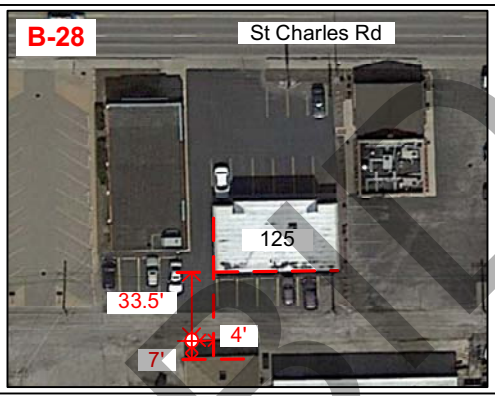
BORING B-27: 149 West St Charles Road

Diagram



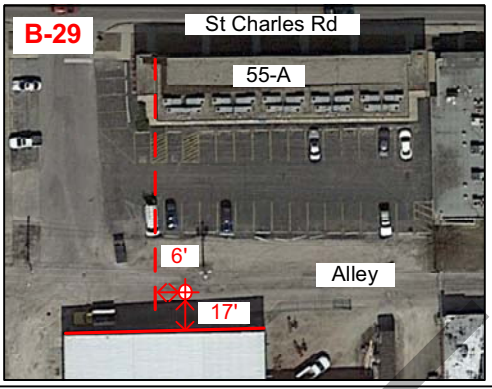
BORING B-28: 125 West St Charles Road

Diagram



BORING B-29: 55-A West St Charles Road

Diagram

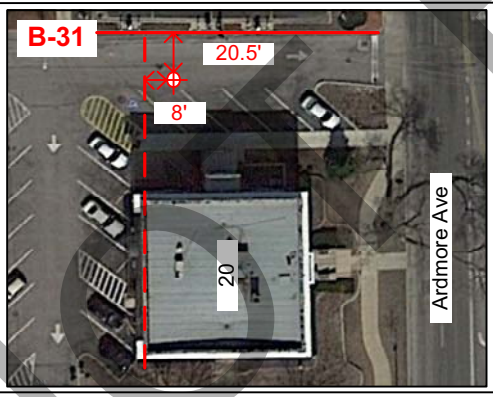


BORING B-30: 28 Home Avenue

Diagram

BORING B-31: 20 South Ardmore Avenue

Diagram

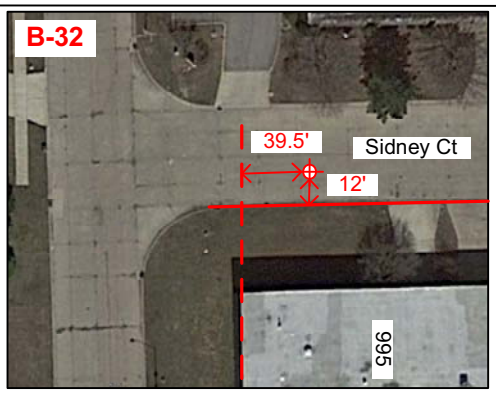


2015 Village of Villa Park Road Improvements - Boring Diagrams

East Sidney Court (B-32 to B-33)

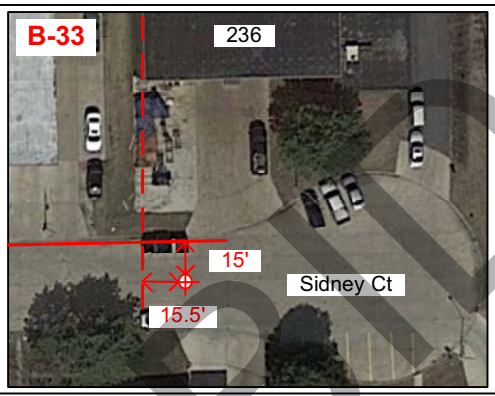
BORING B-32: 995 Ellsworth Avenue

Diagram



BORING B-33: 236 East Sidney Court

Diagram

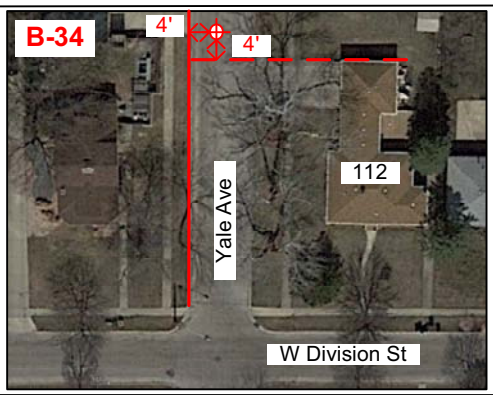


2015 Village of Villa Park Road Improvements - Boring Diagrams

North Yale Avenue (B-34)

BORING B-34: 112 West Division Street

Diagram



APPENDIX B

Soil Boring Logs

AGI Job No. 14-345	BORING LOG NO. B-1	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 226 E Adele Ct (from Ellsworth Ave to East End)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

Depth (Ft.)	Graphic Log	Description	SAMPLES: SPT-N Blows / Ft.	SAMPLES: Number	SAMPLES: Type	SAMPLES: % Recovery	TESTS: Moisture, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: Dry Density PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.7		8.25 inches of concrete									
		~21.75 inches of crushed limestone	36	1	SS	94					
2.5		FILL, silty clay, trace sand, gravel & organics, brown, gray & black, stiff	8	2	SS	94	25		1.8		
5.5		SILTY CLAY, trace sand & gravel, brown & gray, stiff, (CL)	4	3	SS	100	27		1.1		
7.0		End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

Applied GeoScience, Inc.
2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-2	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 235 E Adele Ct (from Ellsworth Ave to East End)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

	GRAPHIC LOG	DEPTH (FT.)	SAMPLES SPT-N BLOWS / FT.	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES % RECOVERY	TESTS MOISTURE, %	TESTS HNu Units ppm	TESTS Qu tsf Failure Type	TESTS DRY DENSITY PCF	TESTS Est. Coefficient of Permeability k, (cm/sec)
8 inches of concrete											
0.7											
~22 inches of crushed limestone			51	1	SS	61					
2.5											
SILTY CLAY, trace sand & gravel, brown & gray, very stiff, (CL)			11	2	SS	11	20		2		
		5									
			14	3	SS	11	17		2.5		
7.0											
End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-3	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 328 N Cornell Ave (from Metra Parking to Division)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.5										
	5.5 inches of asphalt									
1.1	7.5 inches of crushed limestone									
	SILTY CLAY, trace sand & gravel, brown, frozen soil, (CL)	10	1	SS	72	25				
2.5	SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)									
5		11	2	SS	67	19		3		
		14	3	SS	100	21		2.8		
7.0	End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-4	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 239 N Cornell Ave (from Metra Parking to Division)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

	GRAPHIC LOG	DEPTH (FT.)	SAMPLES SPT-N BLOWS / FT.	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES % RECOVERY	TESTS MOISTURE, %	TESTS HNu Units ppm	TESTS Qu tsf Failure Type	TESTS DRY DENSITY PCF	TESTS Est. Coefficient of Permeability k, (cm/sec)
0.5 6 inches of asphalt											
15 inches of crushed limestone											
1.8			26	1	SS	89	23				
FILL, silty clay, trace sand & gravel, brown & gray, frozen soil											
2.5 SILTY CLAY, trace sand & gravel, brown & gray, very stiff, (CL)											
		5	9	2	SS	78	18		2.75		
			7	3	SS	100	19		2.5		
7.0 End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

Applied GeoScience, Inc.
2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-5	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 222 N Cornell Ave (from Division St to Oak St)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.5										
	5.75 inches of asphalt									
	11 inches of crushed limestone									
1.4										
	FILL, silty clay, trace sand & gravel, brown & gray, frozen soil	8	1	SS	56	26				
2.5										
	SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)	11	2	SS	61	18		3.25		
5										
		12	3	SS	100	19		3		
7.0										
	End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-6	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 206 N Cornell Ave (from Division St to Oak St)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.5										
	6.5 inches of asphalt									
0.9	4 inches of crushed limestone									
	FILL, silty clay, trace sand & gravel, black gray & brown, frozen soil	10	1	SS	78	25				
2.0										
	SILTY CLAY, trace sand & gravel, brown & gray, very stiff, (CL)					20		2.75		
5		13	2	SS	50	19		3		
		10	3	SS	100	21		2.5		
7.0										
	End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-7	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 134 N Cornell Ave (from Oak St to Elm St)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

		GRAPHIC LOG	DEPTH (FT.)	SAMPLES				TESTS				
				SPT-N BLOWS / FT.	NUMBER	TYPE	% RECOVERY	MOISTURE, %	HNu Units ppm	Qu tsf Failure Type	DRY DENSITY PCF	Est. Coefficient of Permeability k, (cm/sec)
0.5	6 inches of asphalt											
	10.5 inches of crushed limestone											
1.4												
	ORGANIC CLAY, black			10	1	SS	61	27				
2.0	Organic Content = 2.4%											
	FILL, silty clay, trace sand & gravel, brown & gray, stiff							17		2.25		
3.5												
	SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)			7	2	SS	67	14		3		
			5									
				8	3	SS	44	22		2.5		
7.0												
	End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-8	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 110 N Cornell Ave (from Oak St to Elm St)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.6	7.25 inches of asphalt									
	17 inches of crushed limestone									
2.0		34	1	SS	33					
	ORGANIC CLAY, black Organic Content = 5.9%					24		1.75		
2.5	FILL, silty clay, trace sand & gravel, black, gray & brown, stiff									
4.0	SILTY CLAY, trace sand & gravel, brown, stiff, (CL)	5	2	SS	50	23		1.5		
5										
7.0		3	3	SS	89	25		1.25		
	End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-9	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 44 N Cornell Ave (from Elm St to St Charles Rd)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

	GRAPHIC LOG	DEPTH (FT.)	SAMPLES				TESTS				
			SPT-N BLOWS / FT.	NUMBER	TYPE	% RECOVERY	MOISTURE, %	HNu Units ppm	Qu tsf Failure Type	DRY DENSITY PCF	Est. Coefficient of Permeability k, (cm/sec)
0.5 6.25 inches of asphalt											
14.75 inches of crushed limestone											
1.8			12	1	SS	56	17				
SILTY CLAY, trace sand & gravel, brown & gray, frozen soil, (CL)											
2.5 SILTY CLAY, trace sand & gravel, brown & gray, very stiff, (CL)											
		5	10	2	SS	56	19		3.5		
5.3 SILTY CLAY, trace sand & gravel, brown & gray, hard, (CL)											
			19	3	SS	100	18		4		
7.0 End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-10	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 18 N Cornell Ave (from Elm St to St Charles Rd)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

		GRAPHIC LOG	DEPTH (FT.)	SAMPLES				TESTS				
				SPT-N BLOWS / FT.	NUMBER	TYPE	% RECOVERY	MOISTURE, %	HNu Units ppm	Qu tsf Failure Type	DRY DENSITY PCF	Est. Coefficient of Permeability k, (cm/sec)
0.5	6 inches of asphalt											
1.2	8.75 inches of crushed limestone											
1.8	FILL, silty clay, trace sand & gravel, brown, frozen soil			8	1	SS	50	21				
2.5	ORGANIC CLAY, black Organic Content = 7.5%							39				
	SILTY CLAY, trace sand & gravel, brown & gray, very stiff, (CL)			5	2	SS	50	19		2.6		
			5									
				9	3	SS	78	17		3.7		
7.0	End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

Applied GeoScience, Inc.
2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-11	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 148 W Division St (from Harvard Ave to Yale Ave)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

	GRAPHIC LOG	DEPTH (FT.)	SAMPLES SPT-N BLOWS / FT.	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES % RECOVERY	TESTS MOISTURE, %	TESTS HNu Units ppm	TESTS Qu tsf Failure Type	TESTS DRY DENSITY PCF	TESTS Est. Coefficient of Permeability k, (cm/sec)
7.25 inches of asphalt 0.6											
10 inches of crushed limestone 1.4											
SILTY CLAY, trace sand & gravel, brown & gray, frozen soil, (CL) 2.5			9	1	SS	67	21				
SILTY CLAY, trace sand & gravel, brown & gray, very stiff, (CL)		5	9	2	SS	94	20		2.8		
			8	3	SS	100	22		2.2		
7.0 End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-12	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 126 W Division St (from Harvard Ave to Yale Ave)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

			SAMPLES				TESTS				
	GRAPHIC LOG	DEPTH (FT.)	SPT-N BLOWS / FT.	NUMBER	TYPE	% RECOVERY	MOISTURE, %	HNu Units ppm	Qu tsf Failure Type	DRY DENSITY PCF	Est. Coefficient of Permeability k, (cm/sec)
0.5 6 inches of asphalt											
1.1 7 inches of crushed limestone											
SILTY CLAY, trace sand & gravel, black & gray to brown & gray, frozen soil, (CL)			11	1	SS	78	22				
2.5 SILTY CLAY, trace sand & gravel, brown & gray, very stiff, (CL)											
			10	2	SS	67	21		2.3		
		5									
			13	3	SS	94	19		3		
7.0 End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-13	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 111 W Division St (from Yale Ave to Princeton Ave)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

		GRAPHIC LOG	DEPTH (FT.)	SAMPLES SPT-N BLOWS / FT.	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES % RECOVERY	TESTS MOISTURE, %	TESTS HNu Units ppm	TESTS Qu tsf Failure Type	TESTS DRY DENSITY PCF	TESTS Est. Coefficient of Permeability k, (cm/sec)
0.5	6 inches of asphalt											
0.9	5 inches of crushed limestone											
	ORGANIC CLAY, black Organic Content = 7.4%			8	1	SS	72	48				
2.5												
	SILTY CLAY, trace sand & gravel, brown & gray, stiff, (CL)			6	2	SS	67	24		1.7		
			5									
5.5												
	SILTY CLAY, trace sand & gravel, brown & gray, very stiff, (CL)			10	3	SS	100	20		3		
7.0												
	End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-14	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 35 W Division St (from Yale Ave to Princeton Ave)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES				TESTS				
		SPT-N BLOWS / FT.	NUMBER	TYPE	% RECOVERY	MOISTURE, %	HNu Units ppm	Qu tsf Failure Type	DRY DENSITY PCF	Est. Coefficient of Permeability k, (cm/sec)
0.5	6.5 inches of asphalt									
1.0	5 inches of crushed limestone									
	FILL, silty clay, with crushed stone Boring terminated at 3.5 ft due to possible utility conflict	19	1	SS	67	22		2.2		
3.5	End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-15	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 20 W Division St (from Princeton to Ardmore)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

Depth (Ft.)	Graphic Log	Description	SAMPLES: SPT-N Blows / Ft.	SAMPLES: Number	SAMPLES: Type	SAMPLES: % Recovery	TESTS: Moisture, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: Dry Density PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.5		6 inches of asphalt									
1.3		9 inches of crushed limestone									
2.0		ORGANIC CLAY, black Organic Content = 4.3%	9	1	SS	72	30				
		SILTY CLAY, trace sand & gravel, brown & gray, stiff, (CL)					27		1		
5			5	2	SS	67	26		1.1		
5.5		SILTY CLAY, trace sand & gravel, brown & gray, medium stiff, (CL)									
7.0			3	3	SS	83	26		0.5		
		End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

Applied GeoScience, Inc.
2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-16	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 824 Ellsworth Ave (from Armitage Ave to 660 ft)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
		8 inches of concrete								
0.7										
1.0		4 inches of crushed limestone								
		FILL, silty clay, trace sand & gravel, brown & gray, frozen soil								
			10	1	SS	83	19			
3.0										
		SILTY CLAY, trace sand & gravel, brown & gray, very stiff, (CL)								
			14	2	SS	100	19	3.1		
5										
			17	3	SS	94	18	3.5		
7.0										
		End Of Boring								

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-17	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 854 Ellsworth Ave (from Armitage Ave to 660 ft)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

	GRAPHIC LOG	DEPTH (FT.)	SAMPLES				TESTS				
			SPT-N BLOWS / FT.	NUMBER	TYPE	% RECOVERY	MOISTURE, %	HNu Units ppm	Qu tsf Failure Type	DRY DENSITY PCF	Est. Coefficient of Permeability k, (cm/sec)
7.75 inches of concrete 0.6											
7 inches of crushed limestone 1.2											
FILL, silty clay, trace sand & gravel, brown & gray, frozen soil 3.0			12	1	SS	72	18				
SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)		5	11	2	SS	10	19		2.4		
			14	3	SS	100	16		3.3		
7.0 End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-18	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 904 Ellsworth Ave (from 660 ft to Sidney Ct)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.6	7.75 inches of concrete									
	~22.25 inches of crushed limestone	25	1	SS	72					
2.5	SILTY CLAY, trace sand & gravel, brown & gray, stiff, (CL)	6	2	SS	56	28		1		
5										
5.5	SILTY CLAY, trace sand & gravel, brown & gray, soft, (CL)	3	3	SS	67	32		0.2		
7.0	End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-19	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 932 Ellsworth Ave (from 660 ft to Sidney Ct)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.6										
	7.75 inches of concrete									
1.7	13 inches of crushed limestone									
	FILL, silty clay, trace sand & gravel, dark brown, frozen soil	44	1	SS	100	26				
3.0										
	SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)	10	2	SS	67	21		2.3		
5										
		9	3	SS	83	23		2.1		
7.0										
	End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-20	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 995 Ellsworth Ave (from Sidney Ct to Adele Ct)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.6										
1.9		24	1	SS	100					
3.0						26				
5		7	2	SS	67	26		1.3		
7.0		7	3	SS	11	24		1.5		

7.75 inches of concrete

15.25 inches of crushed limestone

FILL, silty clay, trace sand & gravel, brown & black, frozen soil

SILTY CLAY, trace sand & gravel, brown & gray, stiff, (CL)

End Of Boring

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-21	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 1022 Ellsworth Ave (from Sidney Ct to Adele Ct)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
		8 inches of concrete								
0.7										
1.0		4 inches of crushed limestone								
		FILL, silty clay, trace sand & gravel, brown, frozen soil								
		8	1	SS	94	25				
2.5										
		SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)								
		12	2	SS	83	18		3.2		
5										
		10	3	SS	89	21		2.3		
7.0										
		End Of Boring								

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-22	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 875 Ellsworth Ave (from Adele Ct to 660 ft)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
		8 inches of concrete								
0.7		~22 inches of crushed limestone								
		17	1	SS	78					
2.5										
3.0		FILL, silty clay, trace sand & gravel, brown & gray								
		SILTY CLAY, trace sand & gravel, brown, stiff, (CL)								
		5	2	SS	94	26		1.3		
5										
		6	3	SS	89	27		1		
7.0										
		End Of Boring								

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	▼	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-23	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 865 Ellsworth Ave (from Adele Ct to 660 ft)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.6		7.75 inches of concrete								
		~22.25 inches of crushed limestone								
		41	1	SS	83					
2.5		FILL, silty clay, trace sand & gravel, brown & black, stiff								
		9	2	SS	44	29		1.3		
5.0		SILTY CLAY, trace sand & gravel, brown & gray, medium stiff, (CL)								
		5	3	SS	78	31		0.7		
7.0		End Of Boring								

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	▼	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-24	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 150 North Ave (from 660 ft to North Ave)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

GRAPHIC LOG	DEPTH (FT.)	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
	0.9									

10.25 inches concrete over crushed limestone

Boring terminated. Auger refusal due to steel rebar.

End Of Boring

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-25	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 609 Grant Ave (from Washington Blvd to South End)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.2										
2.25 inches of asphalt 9.75 inches of crushed limestone										
1.0										
ORGANIC CLAY, black Organic Content = 3.1%		10	1	SS	83	29				
2.5										
SILTY CLAY, trace sand & gravel, brown, stiff, (CL)		6	2	SS	78	27		1.3		
5										
		6	3	SS	56	28		1		
7.0										
End Of Boring										

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-26	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 630 Grant Ave (from Washington Blvd to South End)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.3										
3 inches of asphalt 19 inches of crushed limestone										
1.8		27	1	SS	50					
SILTY CLAY, trace sand & gravel, brown, frozen soil, (CL)						18				
2.5										
SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)										
		9	2	SS	72	16		3.1		
5										
		8	3	SS	100	23		2		
7.0										
End Of Boring										

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-27	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 149 W St Charles Rd (Harvard to Pvmt Change)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.4										
	5.25 inches of asphalt									
	7.75 inches of recycled stone									
1.1										
	ORGANIC CLAY, black Organic Content = 6.6%	12	1	SS	83	37				
2.5										
	SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)	12	2	SS	67	21		2.2		
5										
		10	3	SS	78	19		2.5		
7.0										
	End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-28	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 125 W St Charles Rd (Harvard to Pvmt Change)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
0.3										
4 inches of asphalt 8 inches of recycled stone										
1.0										
ORGANIC CLAY, black Organic Content = 9.5%		19	1	SS	78	39				
2.5										
SILTY CLAY, trace sand & gravel, brown, stiff, (CL)		6	2	SS	78	23		1.3		
5										
		9	3	SS	67	25		1.5		
7.0										
End Of Boring										

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-29	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 55A W St Charles Rd (Harvard to Pvmt Change)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES				TESTS				
		SPT-N BLOWS / FT.	NUMBER	TYPE	% RECOVERY	MOISTURE, %	HNu Units ppm	Qu tsf Failure Type	DRY DENSITY PCF	Est. Coefficient of Permeability k, (cm/sec)
0.3 3 inches of asphalt 9 inches of recycled stone										
1.0 SILTY CLAY, trace sand & gravel, brown, frozen soil, (CL)		17	1	SS	89	23				
2.5 SILTY CLAY, trace sand & gravel, brown, stiff, (CL)		5	2	SS	78	24		1.3		
5		5	3	SS	100	26		1		
7.0 End Of Boring										

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-30	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 28 Home Ave (from Pvmt Change to Ardmore)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

	GRAPHIC LOG	DEPTH (FT.)	SAMPLES				TESTS				
			SPT-N BLOWS / FT.	NUMBER	TYPE	% RECOVERY	MOISTURE, %	HNu Units ppm	Qu tsf Failure Type	DRY DENSITY PCF	Est. Coefficient of Permeability k, (cm/sec)
0.4 4.75 inches of asphalt											
9.75 inches of recycled stone											
1.2 FILL, silty clay, trace sand & gravel, brown & black, frozen soil			20	1	SS	39	21				
2.5 SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)											
		5	11	2	SS	94	17		3.1		
			11	3	SS	89	24		2		
7.0 End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-31	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 20 S Ardmore Ave (from Pvmt Change to Ardmore)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

	GRAPHIC LOG	DEPTH (FT.)	SAMPLES SPT-N BLOWS / FT.	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES % RECOVERY	TESTS MOISTURE, %	TESTS HNu Units ppm	TESTS Qu tsf Failure Type	TESTS DRY DENSITY PCF	TESTS Est. Coefficient of Permeability k, (cm/sec)
0.5 5.5 inches of asphalt											
15.5 inches of crushed limestone											
1.8			34	1	SS	94					
FILL, silty clay, trace sand & gravel, brown & black, frozen soil							24				
3.0											
SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)			8	2	SS	78	19		2.4		
		5									
			12	3	SS	78	21		2.5		
7.0											
End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

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2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-32	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 995 Ellsworth Ave (from Ellsworth Ave to East End)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

GRAPHIC LOG	DEPTH (FT.)	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
	8.5 inches of concrete									
	0.7									
	15.5 inches of crushed limestone									
		18	1	SS	89	24				
	2.0									
	SILTY CLAY, trace sand & gravel, brown, frozen soil, (CL)									
	2.5									
	SILTY CLAY, trace sand & gravel, brown, very stiff, (CL)									
		8	2	SS	83	17		2.5		
	5									
		18	3	SS	100	17		3.3		
	7.0									
	End Of Boring									

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

Applied GeoScience, Inc.
2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-33	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 236 E Sidney Ct (from Ellsworth Ave to East End)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

DEPTH (FT.)	GRAPHIC LOG	SAMPLES: SPT-N BLOWS / FT.	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: % RECOVERY	TESTS: MOISTURE, %	TESTS: HNu Units ppm	TESTS: Qu tsf Failure Type	TESTS: DRY DENSITY PCF	TESTS: Est. Coefficient of Permeability k, (cm/sec)
		8 inches of concrete								
0.7										
		~28 inches of crushed limestone								
		50	1	SS	89					
3.0										
		SILTY CLAY, trace sand & gravel, brown & gray, stiff, (CL)								
		11	2	SS	22	26		1.5		
5										
		7	3	SS	78	27		1		
7.0										
		End Of Boring								

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

Applied GeoScience, Inc.
2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-29-15	FINISHED	1-29-15
DRILL CO.	GBE	DRILL RIG	CME-75
DRILLER	Gabe	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

AGI Job No. 14-345	BORING LOG NO. B-34	Sheet 1 of 1

CLIENT: Village of Villa Park

PROJECT: 2015 Village of Villa Park Road Improvements

ADDRESS: 112 W Division St (from North End to Division St)

LOCATION: Various Streets

COUNTY: DuPage

CITY & STATE: Villa Park, Illinois

SURFACE ELEVATION Datum:

	GRAPHIC LOG	DEPTH (FT.)	SAMPLES				TESTS				
			SPT-N BLOWS / FT.	NUMBER	TYPE	% RECOVERY	MOISTURE, %	HNu Units ppm	Qu tsf Failure Type	DRY DENSITY PCF	Est. Coefficient of Permeability k, (cm/sec)
0.3 3.25 inches of asphalt											
11.5 inches of crushed limestone											
1.3 Boring terminated due to possible utility conflict											
End Of Boring											

WATER LEVEL OBSERVATIONS		
WL	▽	Dry
WL	▼	
WL	⧩	

Applied GeoScience, Inc.
2385 Hammond Drive, Suite 6
Schaumburg, Illinois 60173
Tel: (847) 303-0300
Fax: (847) 303-0900

STARTED	1-30-15	FINISHED	1-30-15
DRILL CO.	Williams	DRILL RIG	45-C
DRILLER	Pecka	ASS'T DRILLER	
ENG/GEOL.	JG	APPROVED	AM

APPENDIX C

Pavement Coring Diagrams

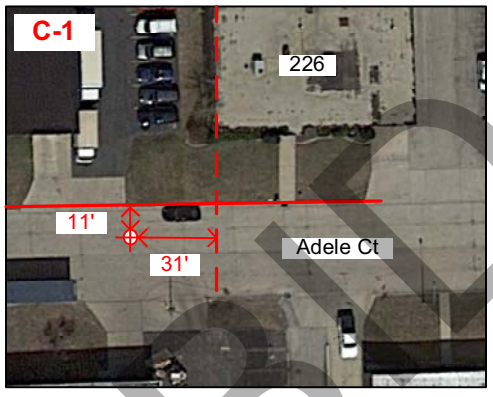
2015 Village of Villa Park Road Improvements - Pavement Corings

Adele Court from Ellsworth Avenue to the East End (C-1 to C-2)

CORE C-1
226 East Adele Court

	Thickness (in)	Condition
Total Pavement (Concrete)	**8.25**	Fair to Good
Subbase	~ 21.75	Crushed Limestone

Diagram

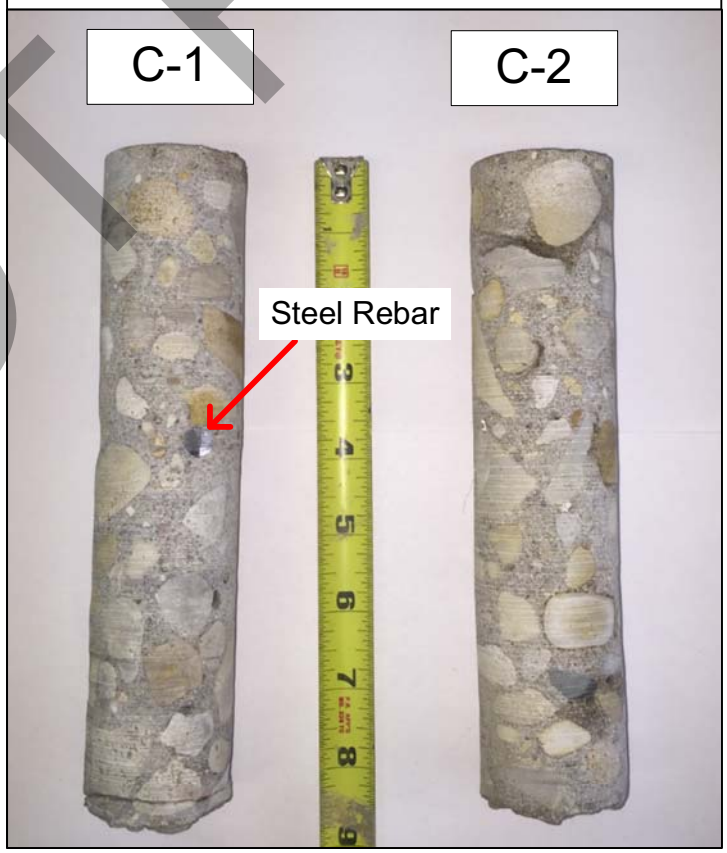


CORE C-2
235 East Adele Court

	Thickness (in)	Condition
Total Pavement (Concrete)	**8.00**	Fair
Subbase	~ 22.00	Crushed Limestone

Diagram

CORE PHOTOS



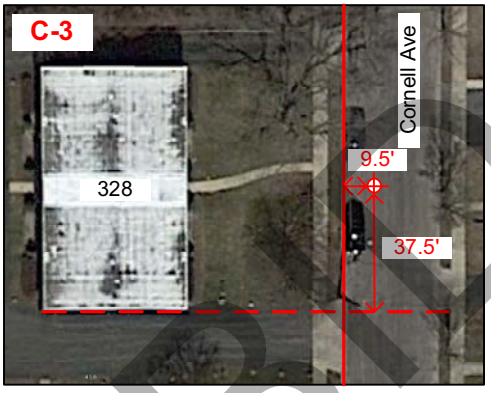
2015 Village of Villa Park Road Improvements - Pavement Corings

North Cornell Avenue from the Metra Parking Lot to Division Street (C-3 to C-4)

CORE C-3
328 North Cornell Avenue

	Thickness (in)	Condition
Surface	2.25	Fair
Binder	3.25	Fair
Total Pavement	**5.50**	
Subbase	7.50	Crushed Limestone

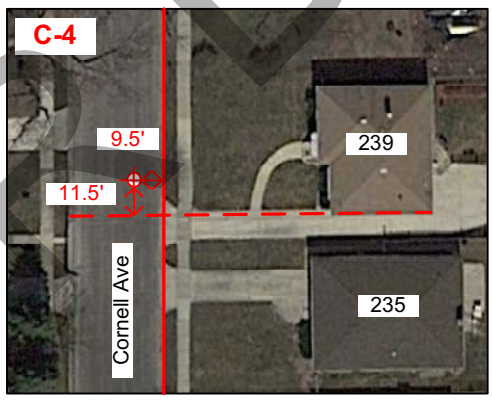
Diagram



CORE C-4
239 North Cornell Avenue

	Thickness (in)	Condition
Surface	1.75	Fair
Binder	4.25	Fair
Total Pavement	**6.00**	
Subbase	15.00	Crushed Limestone

Diagram



CORE PHOTOS

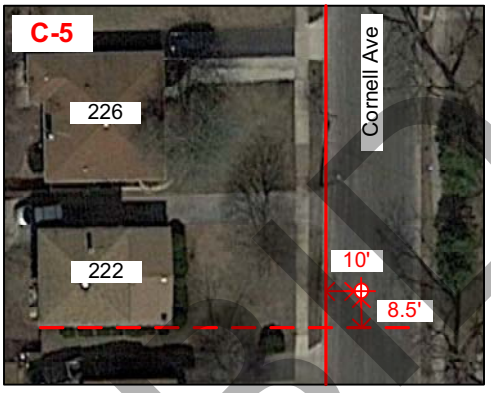
2015 Village of Villa Park Road Improvements - Pavement Corings

North Cornell Avenue from Division Street to Oak Street (C-5 to C-6)

CORE C-5
222 North Cornell Avenue

	Thickness (in)	Condition
Surface	2.00	Fair to Good
Binder	3.75	Fair
Total Pavement	**5.75**	
Subbase	11.00	Crushed Limestone

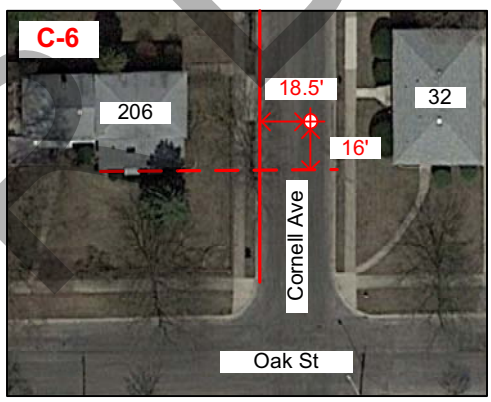
Diagram



CORE C-6
206 North Cornell Avenue

	Thickness (in)	Condition
Surface	2.00	Fair to Good
Binder	4.50	Fair
Total Pavement	**6.50**	
Subbase	4.00	Crushed Limestone

Diagram



CORE PHOTOS

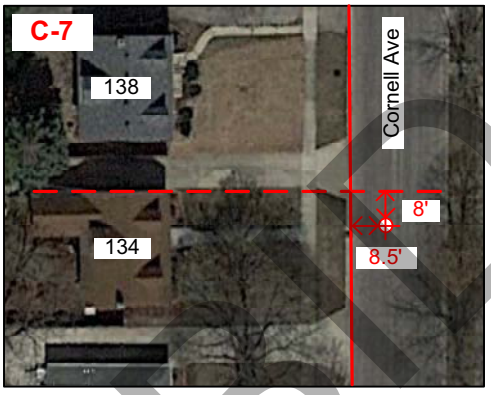
2015 Village of Villa Park Road Improvements - Pavement Corings

North Cornell Avenue from Oak Street to Elm Street (C-7 to C-8)

CORE C-7
134 North Cornell Avenue

	Thickness (in)	Condition
Surface	2.00	Good
Binder	4.00	Fair
Total Pavement	**6.00**	
Subbase	10.50	Crushed Limestone

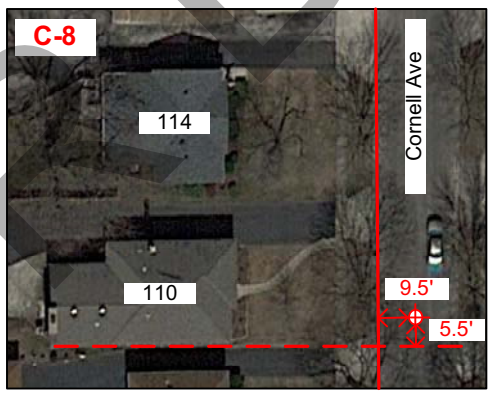
Diagram



CORE C-8
110 North Cornell Avenue

	Thickness (in)	Condition
Surface	3.25	Fair to Good
Binder	4.00	Fair
Total Pavement	**7.25**	
Subbase	17.00	Crushed Limestone

Diagram



CORE PHOTOS

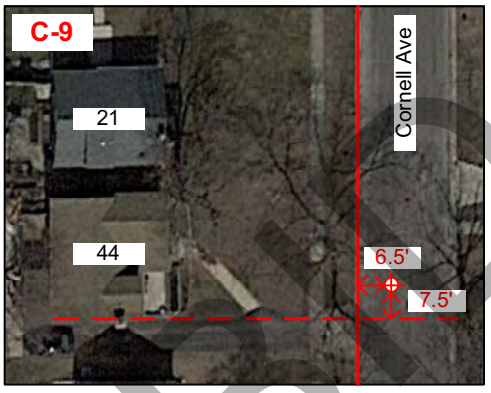
2015 Village of Villa Park Road Improvements - Pavement Corings

North Cornell Avenue from Elm Street to St. Charles Road (C-9 to C-10)

CORE C-9
44 North Cornell Avenue

	Thickness (in)	Condition
Surface	2.00	Fair to Good
Binder	4.25	Fair
Total Pavement	**6.25**	
Subbase	14.75	Crushed Limestone

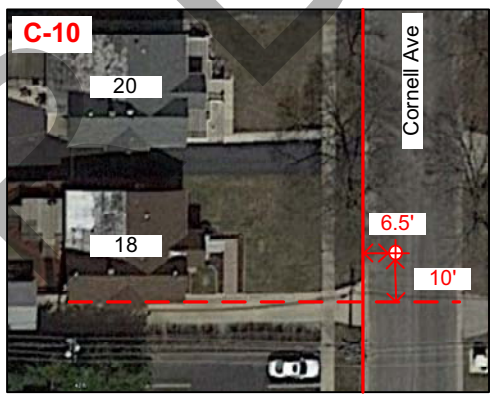
Diagram



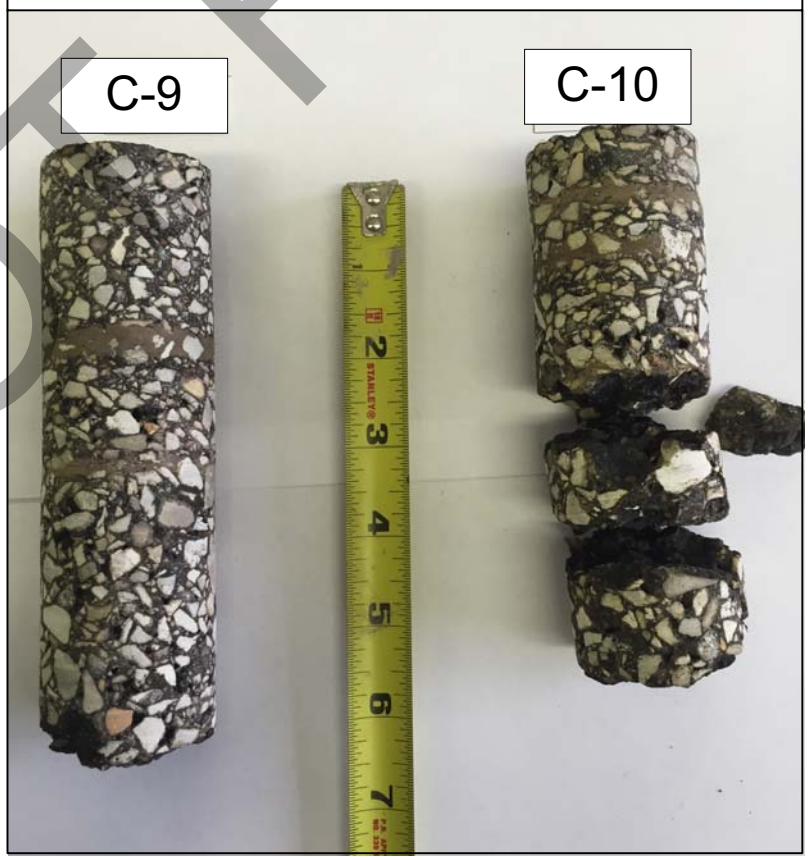
CORE C-10
18 North Cornell Avenue

	Thickness (in)	Condition
Surface	2.00	Fair
Binder	4.00	Poor
Total Pavement	**6.00**	
Subbase	8.75	Crushed Limestone

Diagram



CORE PHOTOS



2015 Village of Villa Park Road Improvements - Pavement Corings

West Division Street from Harvard Avenue to Yale Avenue (C-11 to C-12)

CORE C-11
148 West Division Street

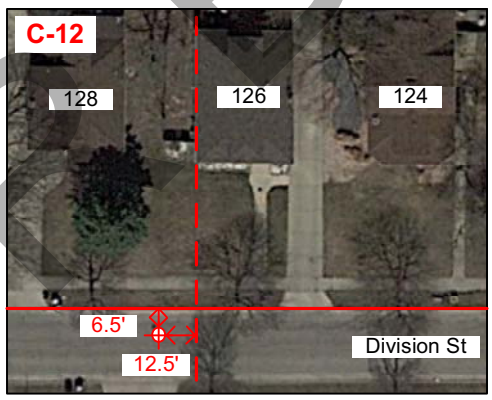
	Thickness (in)	Condition
Surface	2.75	Fair to Good
Binder	4.50	Fair
Total Pavement	**7.25**	
Subbase	10.00	Crushed Limestone

Diagram

CORE C-12
126 West Division Street

	Thickness (in)	Condition
Surface	2.00	Good
Binder	4.00	Fair to Good
Total Pavement	**6.00**	
Subbase	7.00	Crushed Limestone

Diagram



CORE PHOTOS

2015 Village of Villa Park Road Improvements - Pavement Corings

West Division Street from Yale Avenue to Princeton Avenue (C-13 to C-14)

CORE C-13
111 West Division Street

	Thickness (in)	Condition
Surface	2.75	Fair to Good
Binder	3.25	Fair to Good
Total Pavement	**6.00**	
Subbase	5.00	Crushed Limestone

Diagram

CORE C-14
35 West Division Street

	Thickness (in)	Condition
Surface	2.75	Good
Binder	3.75	Fair to Good
Total Pavement	**6.50**	
Subbase	5.00	Crushed Limestone

Diagram

CORE PHOTOS

2015 Village of Villa Park Road Improvements - Pavement Corings

West Division Street from Princeton Avenue to Ardmore Avenue (C-15)

CORE C-15
20 West Division Street

	Thickness (in)	Condition
Surface	2.00	Fair to Good
Binder	4.00	Fair to Good
Total Pavement	**6.00**	
Subbase	9.00	Crushed Limestone

Diagram

CORE PHOTOS

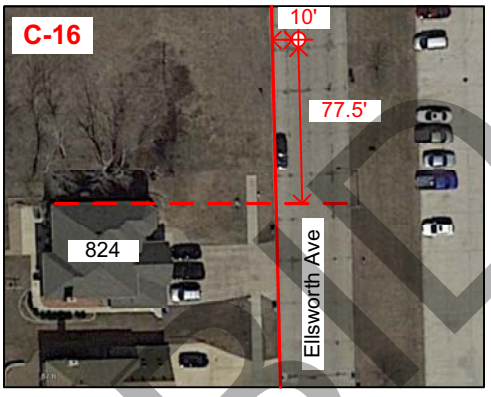
2015 Village of Villa Park Road Improvements - Pavement Corings

Ellsworth Avenue from Armitage Avenue to 660 ft South (C-16 to C-17)

CORE C-16
824 Ellsworth Avenue

	Thickness (in)	Condition
Total Pavement (Concrete)	**8.00**	Fair to Good
Subbase	4.00	Crushed Limestone

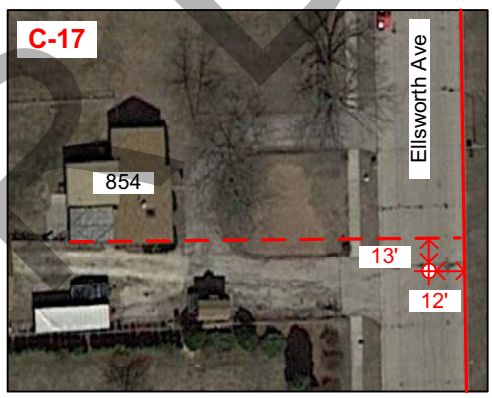
Diagram



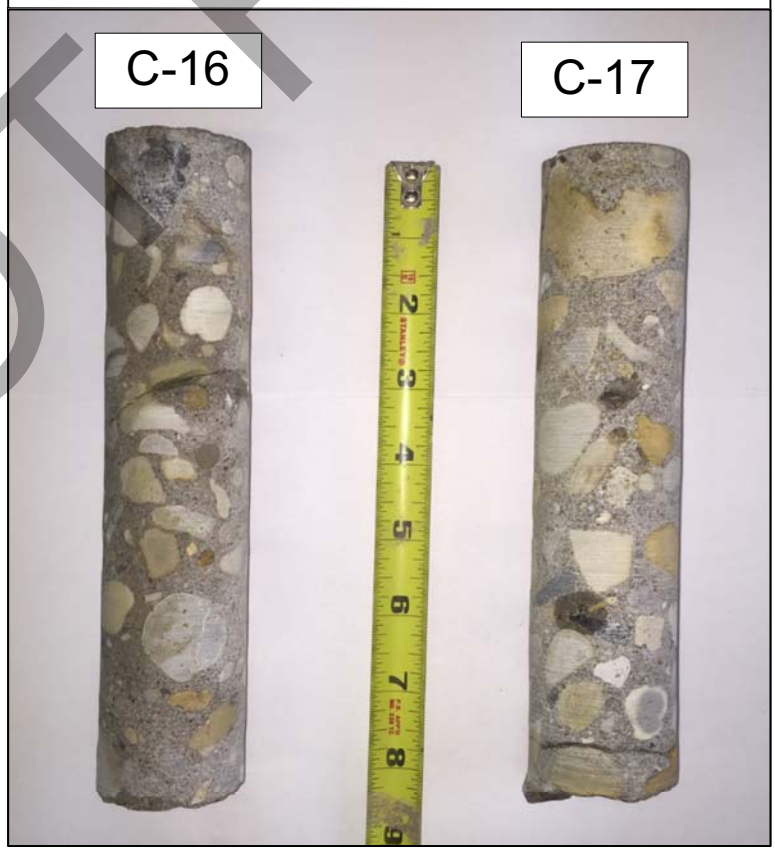
CORE C-17
854 Ellsworth Avenue

	Thickness (in)	Condition
Total Pavement (Concrete)	**7.75**	Fair to Good
Subbase	7.00	Crushed Limestone

Diagram



CORE PHOTOS



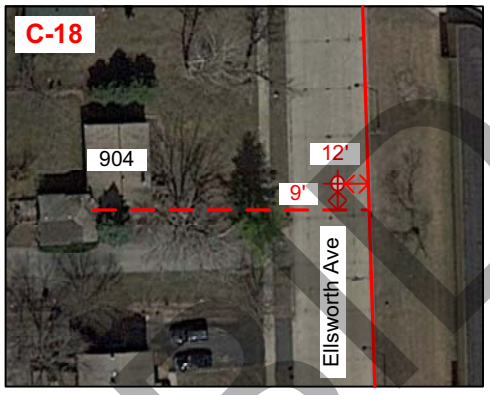
2015 Village of Villa Park Road Improvements - Pavement Corings

Ellsworth Avenue from 660 ft South to Sidney Court (C-18 to C-19)

CORE C-18
904 Ellsworth Avenue

	Thickness (in)	Condition
Total Pavement	**7.75**	Good
Subbase	~ 22.25	Crushed Limestone

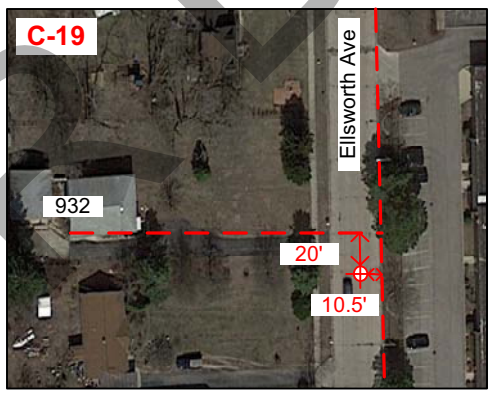
Diagram



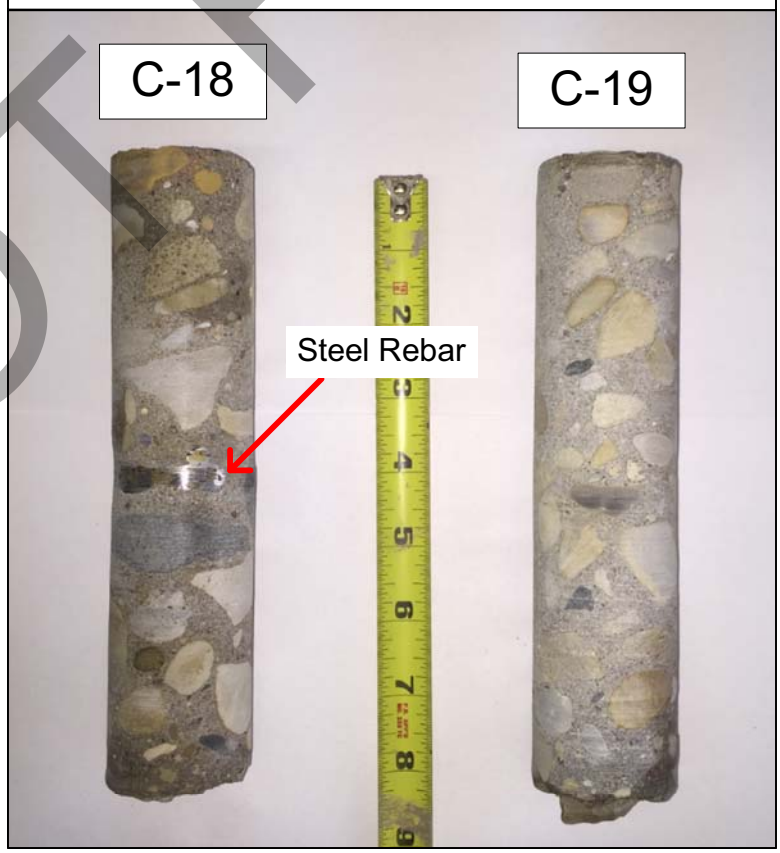
CORE C-19
932 Ellsworth Avenue

	Thickness (in)	Condition
Total Pavement (Concrete)	**7.75**	Good
Subbase	13.00	Crushed Limestone

Diagram



CORE PHOTOS



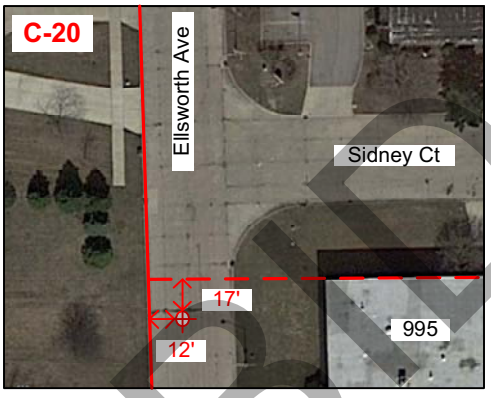
2015 Village of Villa Park Road Improvements - Pavement Corings

Ellsworth Avenue from Sidney Court to Adele Court (C-20 to C-21)

CORE C-20
995 Ellsworth Avenue

	Thickness (in)	Condition
Total Pavement (Concrete)	**7.75**	Fair to Good
Subbase	15.25	Crushed Limestone

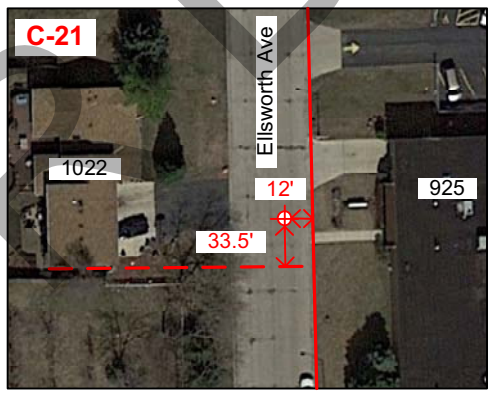
Diagram



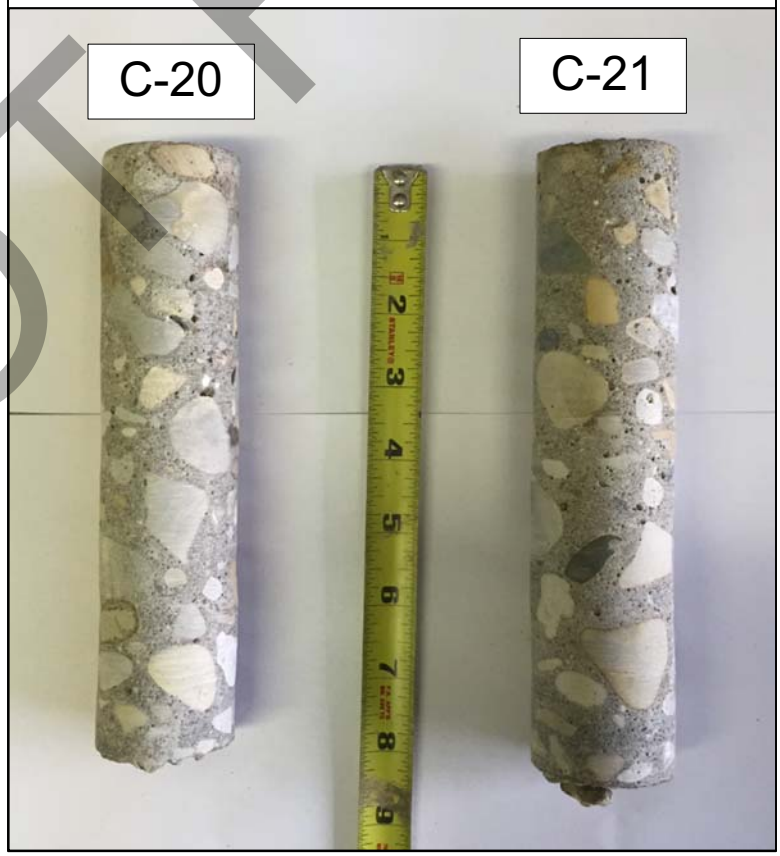
CORE C-21
1022 Ellsworth Avenue

	Thickness (in)	Condition
Total Pavement (Concrete)	**8.00**	Good
Subbase	4.00	Crushed Limestone

Diagram



CORE PHOTOS



2015 Village of Villa Park Road Improvements - Pavement Corings

Ellsworth Avenue from Adele Court to 660 ft South (C-22 to C-23)

CORE C-22
875 Ellsworth Avenue

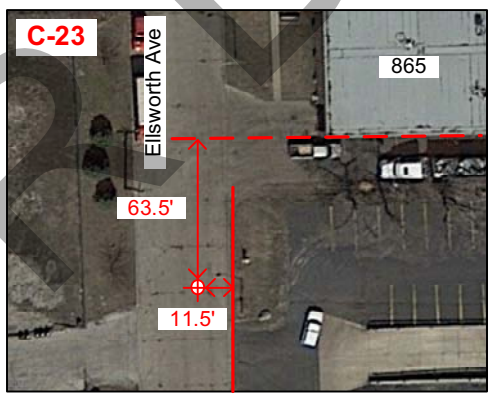
	Thickness (in)	Condition
Total Pavement (Concrete)	**8.00**	Fair to Good
Subbase	~ 22.00	Crushed Limestone

Diagram

CORE C-23
865 Ellsworth Avenue

	Thickness (in)	Condition
Total Pavement (Concrete)	**7.75**	Fair to Good
Subbase	~ 22.25	Crushed Limestone

Diagram



CORE PHOTOS

2015 Village of Villa Park Road Improvements - Pavement Corings

Ellsworth Avenue from 660 ft South to North Avenue (C-24)

CORE C-24
150 North Avenue

	Thickness (in)	Condition
Total Pavement (Concrete)	**10.25**	Fair
Subbase	****SEE BELOW****	Crushed Limestone

Diagram

**** The thickness of crushed limestone was not obtained due to boring refusal from the presence of steel rebar ****

CORE PHOTOS

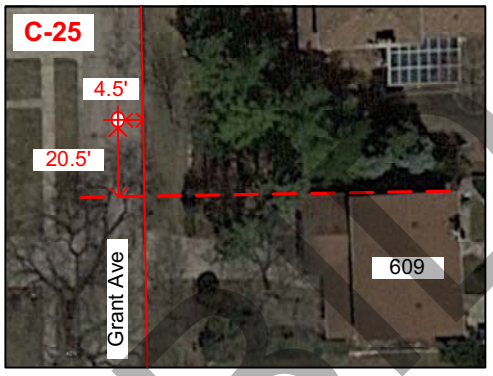
2015 Village of Villa Park Road Improvements - Pavement Corings

Grant Avenue from Washington Boulevard to the South End (C-25 to C-26)

CORE C-25
609 Grant Avenue

	Thickness (in)	Condition
Surface	2.25	Poor
Binder	0.00	
Total Pavement	**2.25**	
Subbase	9.75	Crushed Limestone

Diagram

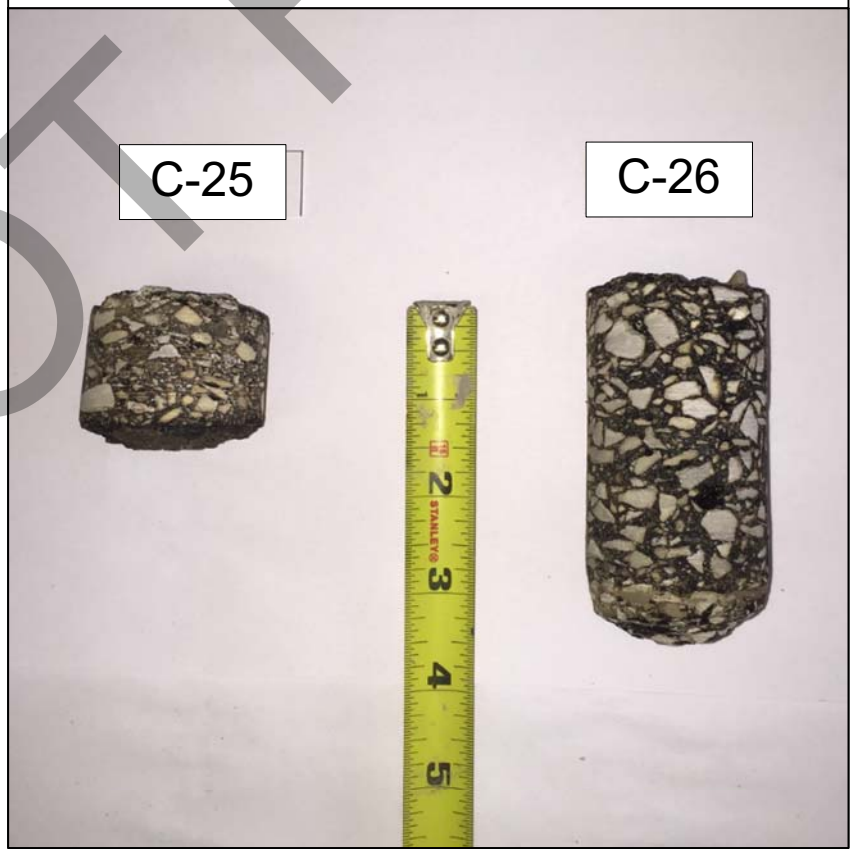


CORE C-26
630 Grant Avenue

	Thickness (in)	Condition
Surface	0.00	
Binder	3.00	Poor
Total Pavement	**3.00**	
Subbase	19.00	Crushed Limestone

Diagram

CORE PHOTOS



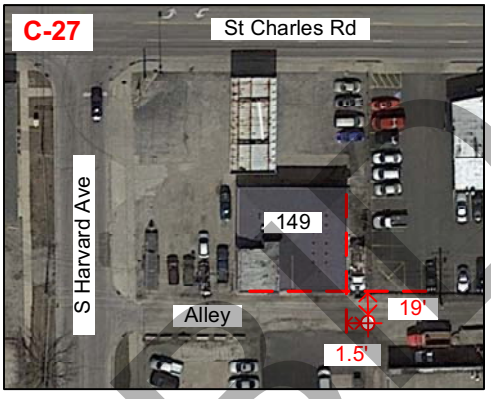
2015 Village of Villa Park Road Improvements - Pavement Corings

Home Alley from Harvard Avenue to the Pavement Change (C-27 to C-29)

CORE C-27
149 West St Charles Road (alley)

	Thickness (in)	Condition
Surface	3.00	Poor
Binder	2.25	Poor
Total Pavement	**5.25**	
Subbase	7.75	Recycled Stone

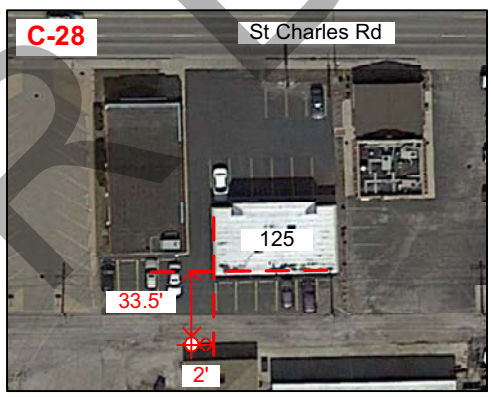
Diagram



CORE C-28
125 West St Charles Road (alley)

	Thickness (in)	Condition
Surface	2.25	Poor
Binder	1.75	Poor
Total Pavement	**4.00**	
Subbase	8.00	Recycled Stone

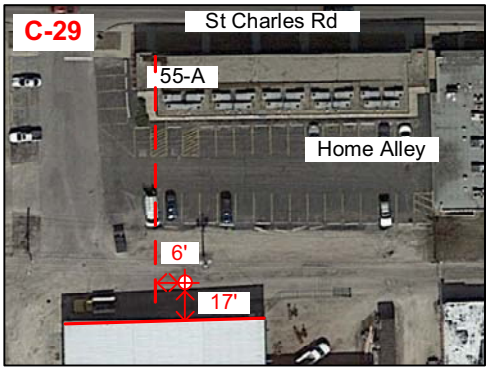
Diagram



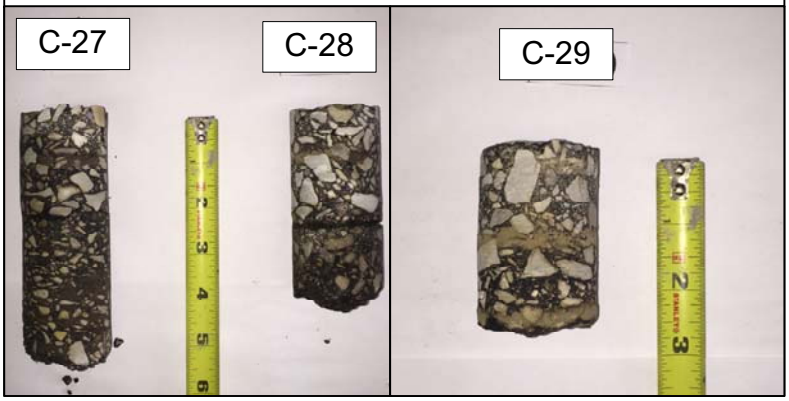
CORE C-29
55-A West St Charles Road (alley)

	Thickness (in)	Condition
Surface	0.00	
Binder	3.00	Poor
Total Pavement	**3.00**	
Subbase	9.00	Recycled Stone

Diagram



CORE PHOTOS



2015 Village of Villa Park Road Improvements - Pavement Corings

Home Alley from the Pavement Change to Ardmore Avenue (C-30 to C-31)

CORE C-30
28 Home Avenue (alley)

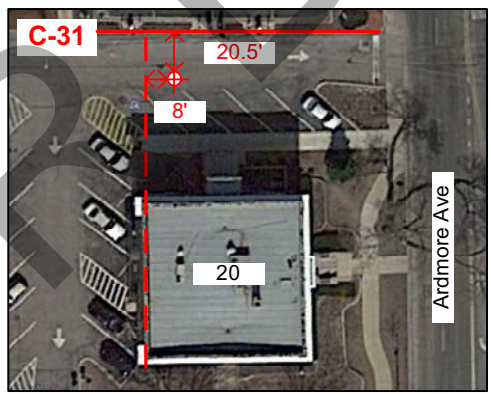
	Thickness (in)	Condition
Surface	1.75	Poor to Fair
Binder	3.00	Poor to Fair
Total Pavement	**4.75**	
Subbase	9.75	Recycled Stone

Diagram

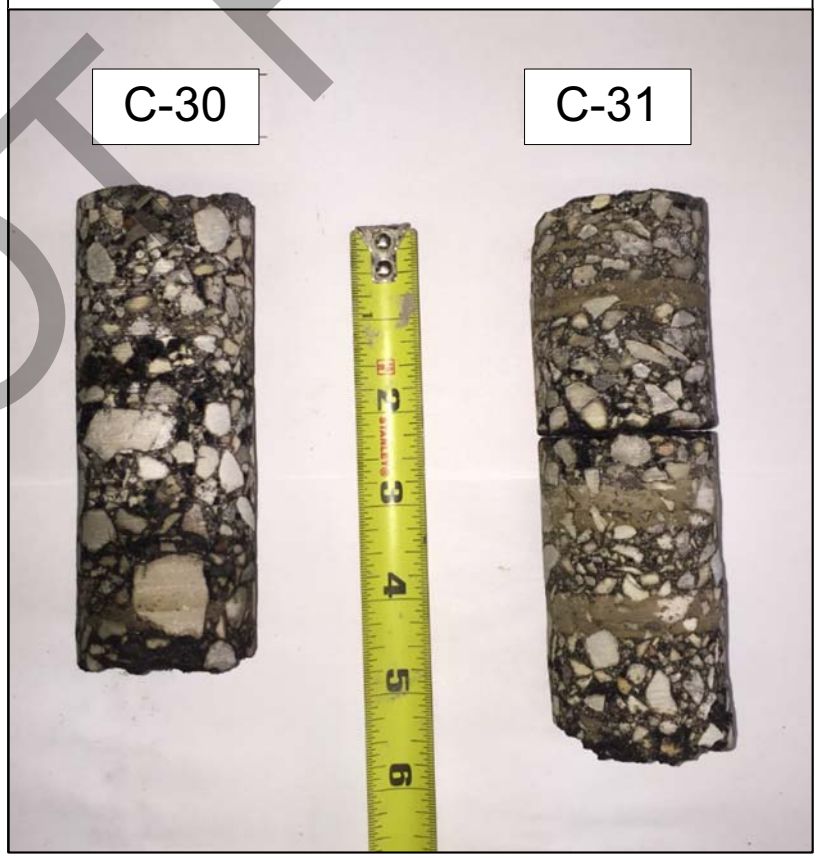
CORE C-31
20 South Ardmore Avenue (alley)

	Thickness (in)	Condition
Surface	2.25	Fair
Binder	3.25	Fair
Total Pavement	**5.50**	
Subbase	15.50	Crushed Limestone

Diagram



CORE PHOTOS



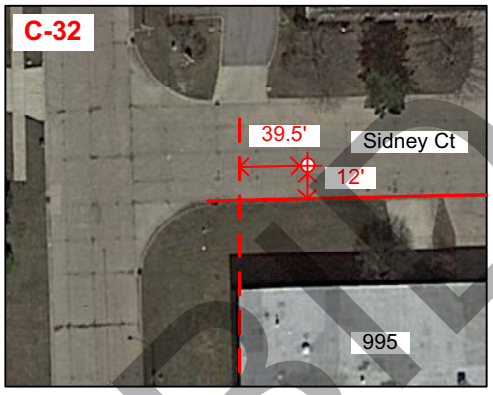
2015 Village of Villa Park Road Improvements - Pavement Corings

East Sidney Court from Ellsworth Avenue to the East End (C-32 to C-33)

CORE C-32
995 Ellsworth Avenue

	Thickness (in)	Condition
Total Pavement (Concrete)	**8.50**	Fair to Good
Subbase	15.50	Crushed Limestone

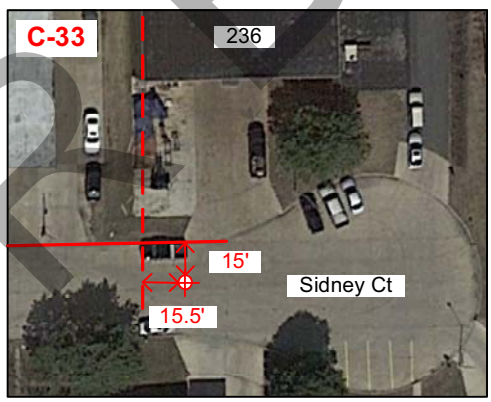
Diagram



CORE C-33
236 East Sidney Court

	Thickness (in)	Condition
Total Pavement (Concrete)	**8.00**	Fair
Subbase	~ 28.00	Crushed Limestone

Diagram



CORE PHOTOS

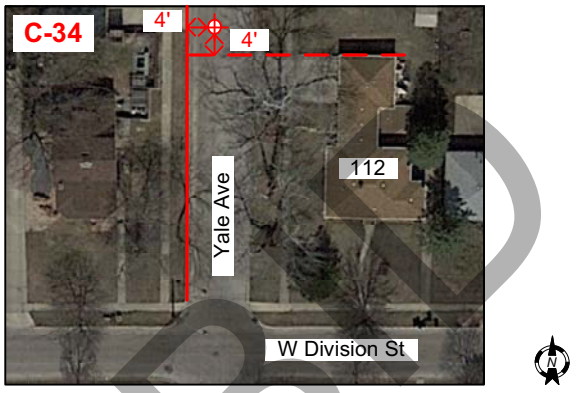
2015 Village of Villa Park Road Improvements - Pavement Corings

North Yale Avenue from the North End to Division Street (C-34)

CORE C-34
112 West Division Street

	Thickness (in)	Condition
Surface	2.25	Fair to Good
Binder	1.00	Fair
Total Pavement	**3.25**	
Subbase	11.50	Crushed Limestone

Diagram



CORE PHOTOS

SOIL AND MATERIAL CONSULTANTS, INC.

office: 1-847-870-0544
fax: 1-847-870-0661
www.soilandmaterialconsultants.com
us@soilandmaterialconsultants.com

January 30, 2015
File No. 21873

Mr. Kevin Mantels
Village of Villa Park
20 South Ardmore Avenue
Villa Park, IL 60181

Re: Pavement Investigation
Geotechnical Year 1 – Group 2
Villa Park, Illinois

Dear Mr. Mantels:

We are submitting our report for the pavement investigation completed on various streets for the Geotechnical Year 1 - Group 2 Road Program located in the Village of Villa Park, Illinois.

The investigation was requested to determine existing pavement sections and subgrade soil support conditions. The information is intended to assist in planning, design and construction of the proposed road program.

SCOPE OF THE INVESTIGATION

The field investigation included a total of 32 test locations as shown on the enclosed sketches. The pavement section was cored to determine material types and thicknesses. The supporting soils were visually and texturally classified in the field to depths of 7.0 feet. Soil samples were obtained using a split barrel sampler advanced utilizing an automatic SPT hammer.

Pavement materials and soil samples obtained during the field investigation were returned to our laboratory for review and testing. Soil testing included determination of moisture content. Cohesive soils obtained by split barrel sampling were further tested to determine dry unit weight and unconfined compressive strength. The results of all field and laboratory testing are included in summary with this report.

RESULTS

The pavement cores determined the existing pavement section at the selected locations. Our findings are presented on the enclosed logs and are summarized as follows:

Location	HMA Surf. (in.)	HMA Bind. (in.)	Granular Base (in.)	Emulsified Soil & Agg. Mix (in.)	Total HMA (in.)	Total Pvmnt. (in.)
Armitage Avenue – Harvard Drive to Ardmore Avenue						
C/B-1	5.00		8.50		5.00	13.50
C/B-2	4.00**		4.50	5.75	4.00	14.25
C/B-3	2.50**	4.00	4.50		6.50	11.00
C/B-4	7.75**			3.75	7.75	11.50
C/B-5	5.25**			4.75	5.25	10.00

Location	Concrete (in.)	Granular Base (in.)	Total Pavement (in.)
Armitage Avenue – Ellsworth Avenue to Villa Avenue			
C/B-6	8.00	3.50	11.50
C/B-7	7.50	6.25	13.75
C/B-8	8.50	15.50	24.00

Location	HMA Surf. (in.)	HMA Bind. (in.)	Granular Base (in.)	Emulsified Soil & Agg. Mix (in.)	Total HMA (in.)	Total Pvmnt. (in.)
W. Belden Avenue						
C/B-9		2.00	5.00		2.00	7.00
C/B-10	0.75	1.50	9.50		2.25	11.75
C/B-11		3.50		4.00	3.50	7.50
C/B-12		3.75	6.50	4.00	3.75	14.25
C/B-13		3.75	4.75		3.75	8.50
W. Sidney Avenue						
C/B-14		2.75	10.75		2.75	13.50
C/B-15		2.50	57.50		2.50	60.00
C/B-16		1.75	21.25		1.75	23.00

Location	HMA Surf. (in.)	HMA Bind. (in.)	Granular Base (in.)	Bituminous Treated Agg. (in.)	Total HMA (in.)	Total Pvmnt. (in.)
Yale Avenue						
C/B-17	2.00	2.00	6.50	3.00	4.00	13.50
C/B-18	1.75	1.25*	3.25	2.75	3.00	9.00
C/B-19	1.75	2.00	2.00	3.75*	3.75	9.50
C/B-20	2.25		4.75	5.00	2.25	12.00
C/B-21	2.00		3.25	9.50*	2.00	14.75
C/B-22	2.25		5.25	3.50	2.25	11.00
C/B-23	2.00	1.75	6.75		3.75	10.50
C/B-24	2.00		4.00	6.00	2.00	12.00

*Failures noted.
**Petromat was noted beneath the most recent overlay.
Please refer to the core logs for more detailed information

Location	HMA Surf. (in.)	HMA Bind. (in.)	Granular Base (in.)	Emulsified Soil & Agg. Mix (in.)	Total HMA (in.)	Total Pvmnt. (in.)
Princeton Avenue						
C/B-25		4.00	2.50		4.00	6.50
C/B-26		3.25	3.00		3.25	6.25
C/B-27	1.25	2.00	32.75		3.25	36.00
C/B-28	2.25	3.50	4.25		5.75	10.00
C/B-29	1.75		82.25		1.75	84.00
Ardmore Avenue						
C/B-30	2.25**	3.00	4.75		5.25	10.00
C/B 31	7.50**			1.75	7.50	9.25
C/B 32	6.00**			5.25	6.00	11.25

*Failures noted.
**Petromat was noted beneath the most recent overlay.
Please refer to the core logs for more detailed information

EXISTING CONDITIONS

Armitage Avenue

Pavement cores and borings C/B-1 to C/B-5 were performed on Armitage Avenue between North Harvard Avenue and Ardmore Avenue. Visual examination of the pavement reveals areas with distress and failures but was generally in fair condition. Alligatoring, cold joint cracking, and meandering cracks were observed. Patching of previous distressed areas was also noted.

The pavement cores show the existing pavement sections at these locations include 4.0 inches to 7.75 inches of bituminous concrete over 4.5 inches to 8.5 inches of granular base and/or 3.75 inches to 5.75 inches of emulsified soil and aggregate mix. Petromat was noted at all locations except C/B-1. The total pavement section is found to range in thickness from 10.0 inches to 14.25 inches.

Directly beneath the pavement is the presence of topsoil which extended to depths of 2.0 to 3.0 feet. Cohesive soils were encountered underlying the topsoil at these locations and are classified as soft to hard clay/silt mixtures with lesser portions of sand and gravel. Cobbles and boulders may be present within the soil at any elevation, although none were encountered while drilling.

Locations C/B-6 to C/B-8 were performed on Armitage Avenue between Ellsworth Avenue and Villa Avenue. The existing concrete pavement revealed areas of distress and failures but was generally in fair condition. Bituminous concrete patches in previously distressed areas was noted.

The pavement cores show the existing pavement sections at these locations include 7.5 inches to 8.5 inches of concrete over 3.5 inches to 15.5 inches of granular base. The total pavement section is found to range in thickness from 11.5 inches to 24.0 inches.

Cohesive soils were encountered beneath the pavement materials at these locations. These are classified as very tough to hard clay/silt mixtures with lesser portions of sand and gravel. Cobbles and boulders may be present within the soil at any elevation, although none were encountered while drilling.

W. Belden Avenue

Locations C/B-9 through C/B-13 were performed on W. Belden Avenue from the west end to Ardmore Avenue. Visual examination of the pavement reveals areas with significant distress and was in a poor to extremely poor condition. Alligatoring, cold joint cracking, meandering cracks, raveling, and settlement were observed. Patching of previously distressed areas west of Yale Avenue was noted.

The pavement cores show the existing pavement sections at these locations include 2.0 inches to 3.75 inches of bituminous concrete over 4.75 inches to 9.5 inches of granular base and/or 4.0 inches of emulsified soil and aggregate mix. The total pavement section is found to range in thickness from 7.0 inches to 14.25 inches.

High moisture content topsoil was present directly beneath the pavement and extended to depths of 1.0 to 2.5 feet. Cohesive soils were encountered underlying the topsoil and are classified as stiff to hard clay/silt mixtures with lesser portions of sand and gravel. Cobbles and boulders may be present within the soil at any elevation, although none were encountered while drilling.

Sidney Avenue

Pavement cores and borings C/B-14 through C/B-16 were drilled to the scheduled depth of 7.0 feet. Boring C/B-14 was extended to a depth of 10.0 feet due to the presence of underlying organic silt. Visual examination of the pavement reveals areas with distress and was generally in fair to poor condition. Cold joint cracks, meandering cracking, and settlement were observed. Patching of previously distressed areas was also noted.

The pavement cores show the existing pavement sections at these locations include 1.75 inches to 2.75 inches of bituminous concrete over 10.75 inches to 57.5 inches of granular base. The total pavement section is found to range in thickness from 13.5 inches to 60.0 inches. The deep granular base at location C/B-15 is likely due to the presence of a utility trench.

Buried topsoil was present directly underlying the pavement at locations C/B-14 and C/B-16. The topsoil was found extending to depths of 3.5 to 5.5 feet. Cohesive soils were also encountered and are classified as soft to very tough clay/silt mixtures with lesser amounts of sand and gravel.
A deposit with significant high moisture content and low-strength organic clay and silt was encountered at C/B-14. These soils are highly compressible due to their high moisture contents and are likely present in other areas of the site but were not discovered within the scope of this investigation.

Yale Avenue

Locations C/B-17 to C/B-24 were performed on Yale Avenue between West Armitage Avenue and Wildfire Drive. Visual examination of the pavement reveals areas with meandering cracks and settlement along the pavement edges. The roadway was generally in fair condition.

The pavement cores show the existing pavement sections at these locations include 2.0 inches to 4.0 inches of bituminous concrete over 2.75 inches to 9.5 inches of bituminous treated aggregate and 4.0 inches to 12.0 inches of granular base with the exception of C/B-23 which only contains granular base. The total pavement section is found to range in thickness from 9.0 inches to 15.75 inches.

Fill soils were encountered directly underlying the pavement materials at locations C/B-21 and C/B-22. Composition of the fill includes the presence of clay/silt mixtures extending to depths of 1.5 feet to 2.0 feet at these locations. The limits of fill placement were not determined within the scope of this investigation.

Buried topsoil was noted beneath the pavement material and/or fill soils at locations C/B-17 through C/B-23. The topsoil extended to depths of 2.0 feet to 4.0 feet.

Underlying natural soil conditions consist of cohesive soils. These are classified as soft to hard clay/silt mixtures with lesser portions of sand and gravel. Portions of these soils are sometimes high in moisture content with values in excess of 30% determined.

Non-cohesive soils were also encountered as indicated at the bottom of boring C/B-24. These include medium dense sand/silt mixtures. Cobbles and boulders may be present within the site soils at any elevation, although none were encountered while drilling.

Significant deposits of high moisture content and low-strength organic silts and clays are indicated at borings C/B-21 and C/B-22. These conditions are likely present in other areas of the site but were not discovered within the scope of this investigation.

Princeton Avenue

Pavement cores and borings C/B-25 to C/B-29 were performed on Princeton Avenue south of West Armitage Avenue. Visual examination of the pavement reveals areas with significant distress between Armitage Avenue and West Belden Avenue. These include cold joint cracking, meandering cracks, alligatoring, material raveling, potholes, and settlement. The poor surface condition prevents effective water run-off.

C/B-27 and C/B-28 were located between Belden Avenue and the south end of Princeton with location C/B-29 on the section of Princeton Avenue north of Wildfire Drive. Visual examination of the pavement reveals areas of some distress. These include cold joint cracking, meandering cracks, alligatoring, potholes, and settlement. Patching of previously distressed areas was noted. The poor surface condition prevents effective water run-off in some areas.

The pavement cores show the existing pavement sections at these locations include 1.75 inches to 5.75 inches of bituminous concrete over 2.75 inches to 82.25 inches of granular base The total pavement section is found to range in thickness from 6.25 inches to 84.0 inches. The

deep granular base indicated at locations C/B-27 and C/B-29 is likely due to the presence of utility trenches.

Topsoil was present directly beneath the pavement materials at locations C/B-25 through C/B-28 and was found extending to depths of 2.0 to 4.5 feet. Cohesive soils were encountered underlying the topsoil at these locations. These are classified as very soft to hard clay/silt mixtures with lesser portions of sand and gravel. Cobbles and boulders may be present within the site soils at any elevation, although none were encountered while drilling.

A significant deposit of high moisture content and low-strength organic silt is indicated at boring C/B-27. These conditions are likely present in other areas of the site but were not discovered within the scope of this investigation.

Ardmore Avenue

Locations C/B-30 to C/B-32 were performed on Ardmore Avenue between East Armitage Avenue and West Belden Avenue. Visual examination of the pavement reveals areas of some distress. These include edge cracking, meandering cracks, and alligatoring.

The pavement cores show the existing pavement sections at these locations include 5.25 inches to 7.5 inches of bituminous concrete over 4.5 inches of granular base or 1.75 inches to 5.25 inches of emulsified soil and aggregate mix. Petromat was noted beneath the most recent surface overlay at each of the locations. The total pavement section ranges in thickness from 9.25 inches to 11.25 inches.

Topsoil was present directly beneath the pavement at each of the locations and extended to depths of 1.5 to 2.0 feet. Cohesive soils, classified as tough to hard clay/silt mixtures with lesser portions of sand and gravel are present beneath the topsoil. A layer of loose silt/clay was also encountered as indicated at location C/B-32. Cobbles and boulders may be present within the soil at any elevation, although none were encountered while drilling.

DISCUSSION

Grind and Overlay

Some of the streets included in this investigation could be considered for a grind and overlay form of pavement rehabilitation. Generally this would include milling of the existing bituminous surface as needed for overlaying. A thin mill or thicker overlay could be considered if the profile of the road allows for the surface of the pavement to be elevated. Deeper milling may be needed in areas where failures were noted in the original bituminous materials. Surface areas with extensive pavement deterioration will likely require full depth patching with either bituminous concrete binder, portland cement concrete (on Armitage east of Ellsworth), or a combination of crushed aggregate (CA06) and binder. A leveling binder should then be placed as needed. The use of a reflective crack control fabric can also be considered. The new design thickness of HMA surface overlay would then be placed.

Some streets that could be considered for a typical grind and overlay procedure are Armitage Avenue, Yale Avenue, and Ardmore Avenue.

Partial Reconstruction

Some of the other streets included in the investigation could be considered for a partial reconstruction form of rehabilitation. This would include the removal of all the existing bituminous materials. The underlying original granular base would then be re-graded, compacted and proof rolled. Areas that are found to be unstable would then be removed and replaced with a minimum of 12.0 inches of crushed aggregate, CA06, over a woven geotextile fabric. Any new aggregate base, if needed, would then be placed and compacted. A new bituminous pavement section that includes a minimum of 2.25 inches of HMA binder and 1.5 inches of HMA surface would then be placed.

Some streets that could be considered for partial reconstruction are as follows: West Belden Avenue west of Yale Avenue, Sidney Avenue, Princeton Avenue between Belden Avenue and the south end, and Princeton Avenue north of Wildfire Drive to the north end.

Total Reconstruction

Total reconstruction of some streets will be necessary due to the extensive amount of pavement deterioration that has occurred combined with the amount of patching that may be needed. The complete reconstruction of the pavement would include the removal of all the existing pavement materials and high organic topsoil. The presence of buried topsoil extending to approximate depths of 1.5 feet to 2.5 feet should be considered in the design. The subgrade would then be excavated to the design elevation, compacted and proof rolled. Any areas of unstable soils will most likely require removal and replacement with large crushed aggregate, possibly in conjunction with the use of an appropriate geotextile fabric. The new aggregate base would then be placed and compacted followed by the placement of the designed thickness of bituminous concrete binder and bituminous concrete surface courses.

Streets that should be considered for a total reconstruction are West Belden Avenue between Yale Avenue and Ardmore Avenue and Princeton Avenue between Armitage Avenue and Belden Avenue. Any of the other streets could also be considered for a total reconstruction but may not be economically feasible.

CONCLUSION

This report has been prepared to assist in initial determination of existing pavement sections and supporting soil conditions. Locally varying conditions may be present between test locations.

Any questions concerning the information presented in this report should be directed to our office.

Very truly yours,

SOIL AND MATERIAL CONSULTANTS, INC.

Reid T. Steinbach, E.I.T
Project Engineer

Thomas P. Johnson, P.E.
President

Enc.RTS/TPJ

N

SMC	SOIL AND MATERIAL CONSULTANTS, INC.	LOCATION SKETCH
Client:	VILLAGE OF VILLA PARK	
Project:	GEOTECHNICAL YEAR 1 – GROUP 2	
Location:	VILLA PARK, ILLINOIS	
File No. 21873	Date: 01-19-15	Scale: NONE

N

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Project:	GEOTECHNICAL YEAR 1 – GROUP 2	
Location:	VILLA PARK, ILLINOIS	
File No. 21873	Date: 01-19-15	Scale: NONE

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Location:	VILLA PARK, ILLINOIS	
File No. 21873	Date: 01-19-15	Scale: NONE

SOIL AND MATERIAL CONSULTANTS, INC.

8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

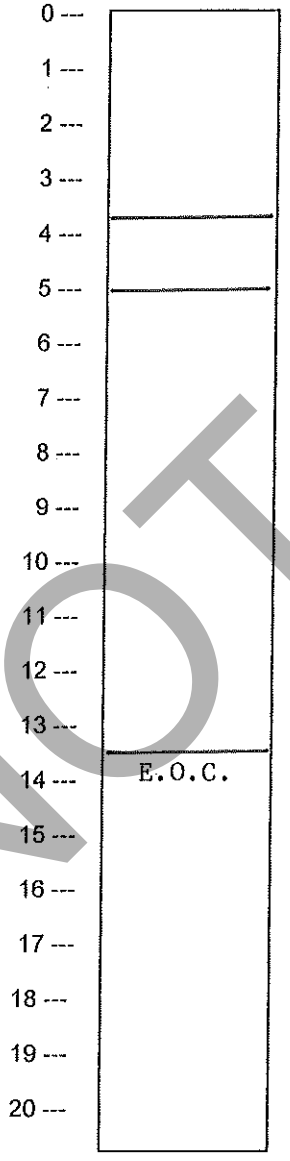
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 1 Work Done By: DB & JL

Location of Core: 210 W. Armitage Avenue, 10' S. of CL

Comments:



Type of Material	Recovery
3-3/4" Bituminous concrete - surface	Full
1-1/4" Bituminous concrete - surface	Full
8-1/2" Crushed limestone with fines	Partial
Total 13-1/2"	

SOIL AND MATERIAL CONSULTANTS, INC.

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ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/15

File No.: 21873

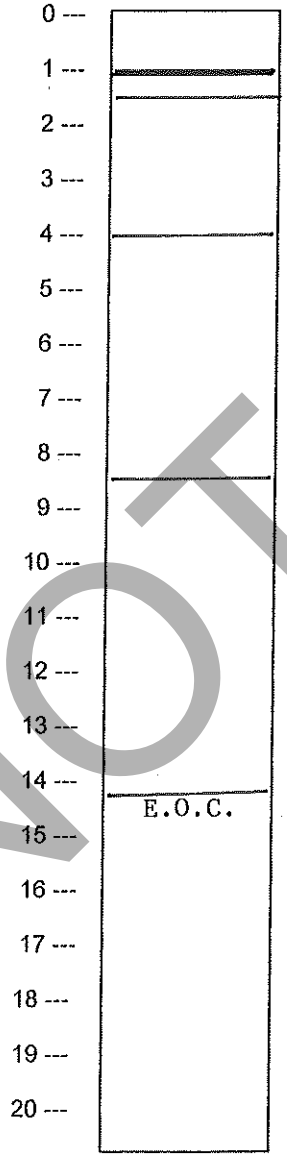
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 2 Work Done By: DB & JL

Location of Core: 230 W. Armitage Avenue, 6' N. of CL

Comments:



Type of Material	Recovery
1-0" Bituminous concrete - surface	Full
Petromat	
0-1/2" Bituminous concrete - surface	Full
2-1/2" Bituminous concrete - surface	Full
4-1/2" Crushed limestone with fines	Partial
5-3/4" Emulsified soil & aggregate mixture	Partial
Total 14-1/4"	

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ARLINGTON HEIGHTS, IL 60004

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Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 3 Work Done By: DB & JL

Location of Core: 250 W. Armitage Avenue, 5' S. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1	1-1/4" Bituminous concrete - surface	Full
	Petromat	
2	1-1/4" Bituminous concrete - surface	Full
3		
4	4-0" Bituminous concrete - binder	Full
5		
6		
7		
8		
9	4-1/2" Crushed gravel with fines	Partial
	some broken asphalt	
10		
11	Total 11-0"	
	E.O.C.	
12		
13		
14		
15		
16		
17		
18		
19		
20		

SOIL AND MATERIAL CONSULTANTS, INC.

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ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
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Date: 12/29/14

File No.: 21873

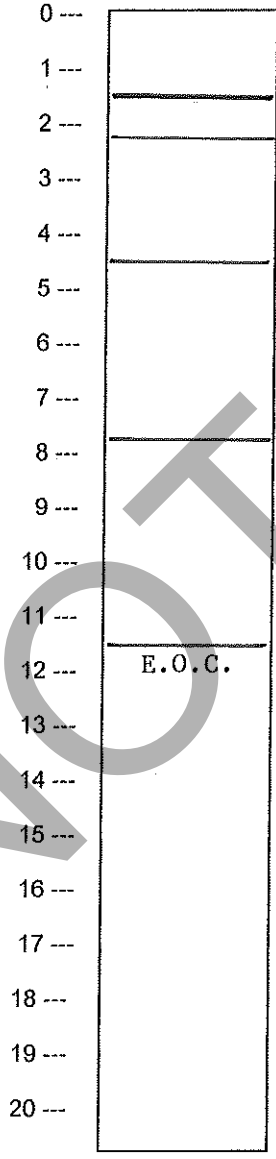
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 4 Work Done By: DB & JL

Location of Core: 286 W. Armitage Avenue, 5' N. of CL

Comments:



Type of Material	Recovery
1-1/2" Bituminous concrete - surface	Full
Petromat	
0-3/4" Bituminous concrete - surface	Full
2-1/4" Bituminous concrete - surface	Full
3-1/4" Bituminous concrete - surface	Full
3-3/4" Emulsified soil & aggregate mixture	Partial
Total 11-1/2"	

SOIL AND MATERIAL CONSULTANTS, INC.

8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

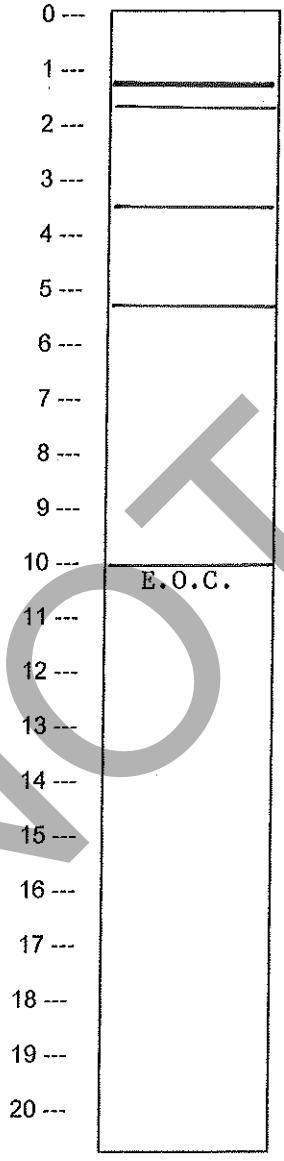
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 5 Work Done By: DB & JL

Location of Core: 23 E. Armitage Avenue, 7' S. of CL

Comments:



Type of Material	Recovery
1-1/4" Bituminous concrete - surface	Full
Petromat	
0-1/4" Bituminous concrete - surface no bond	Full
2-0" Bituminous concrete - surface	Full
1-3/4" Bituminous concrete - surface	Full
4-3/4" Emulsified soil & aggregate mixture	Partial
Total 10-0"	

SOIL AND MATERIAL CONSULTANTS, INC.

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ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
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Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 6 Work Done By: DB & JL

Location of Core: 1199 E. Armitage Avenue, 11' N. of CL (Crown Battery Bldg.)

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1		
2		
3		
4	8-0" Concrete	Full
5		
6		
7		
8		
9		
10	3-1/2" Crushed limestone with fines	Partial
11	Total 11-1/2"	
12 E.O.C.		
13		
14		
15		
16		
17		
18		
19		
20		

SOIL AND MATERIAL CONSULTANTS, INC.

8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

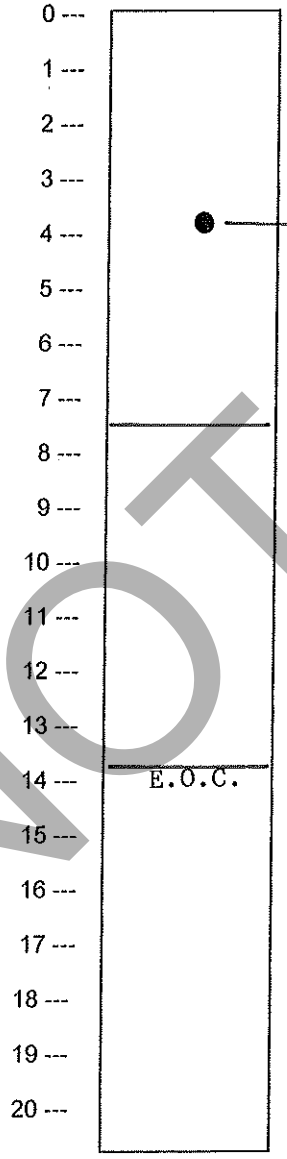
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 7 Work Done By: DB & JL

Location of Core: 650 E. Armitage Avenue, 8' S. of CL

Comments:



Type of Material	Recovery
7-1/2" Concrete	Full
Rebar at 3-3/4"	
6-1/4" Crushed limestone with fines	Partial
Total 13-3/4"	

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FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

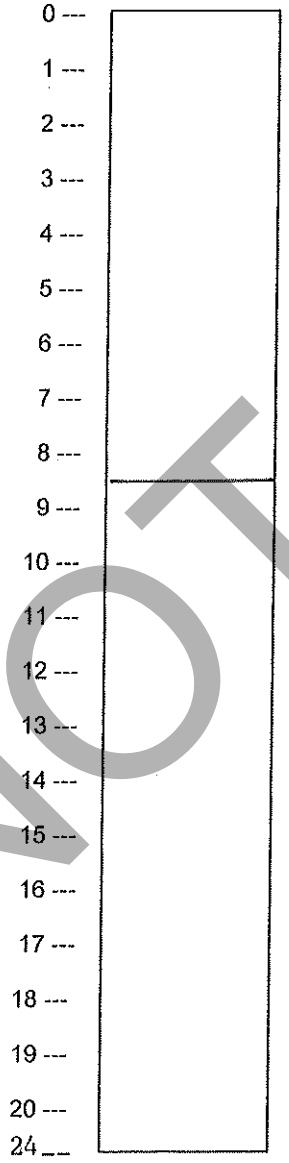
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 8 Work Done By: DB & JL

Location of Core: E. Armitage Avenue, 25' W. of Villa Avenue, 12' N. of CL

Comments:



Type of Material	Recovery
8-1/2" Concrete	Full
15-1/2" Crushed limestone with fines	Partial
Total 24-0"	

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ARLINGTON HEIGHTS, IL 60004

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FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 9 Work Done By: DB & JL

Location of Core: 146 W. Belden Avenue, 5' S. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1	2-0" Bituminous concrete - binder	Full
2		
3		
4	5-0" Crushed gravel with fines	Partial
5		
6		
7	Total 7-0"	
	E.O.C.	
8		
9		
10		
11		
12		
13		
14		
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16		
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19		
20		

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File No.: 21873

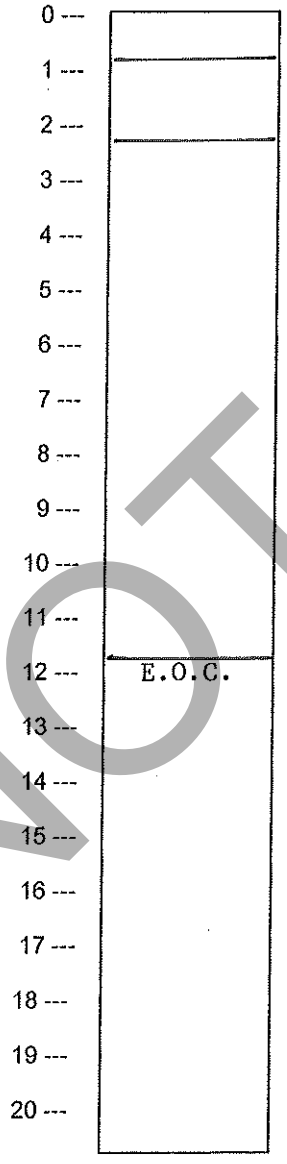
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 10 Work Done By: DB & JL

Location of Core: 1044 W. Belden Avenue, 5' N. of CL

Comments:



Type of Material	Recovery
0-3/4" Bituminous concrete - surface	Full
1-1/2" Bituminous concrete - binder	Full
9-1/2" Crushed limestone with fines	Partial
Total 11-3/4"	

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File No.: 21873

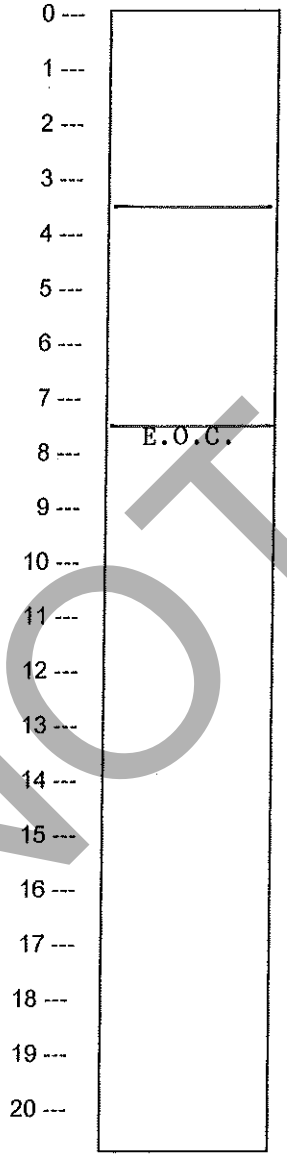
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 11 Work Done By: DB & JL

Location of Core: 1107 W. Belden Avenue, 4' S. of CL

Comments:



Type of Material	Recovery
3-1/2" Bituminous concrete - binder	Full
4-0" Emulsified soil & aggregate mixture	Partial
Total 7-1/2"	

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OFFICE: (847) 870-0544
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Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park

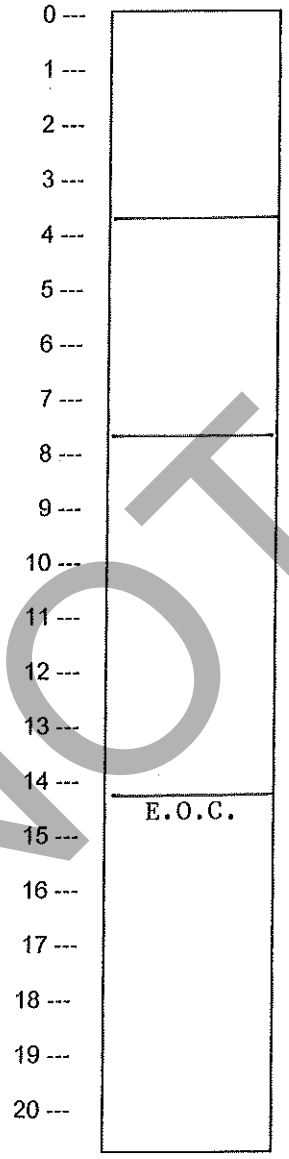
Reference: Geotechnical Year 1 - Group 2

Core No: 12

Work Done By: DB & JL

Location of Core: W. Belden Avenue, 50' W. of Princeton Avenue, 6' N. of CL

Comments:



Type of Material	Recovery
3-3/4" Bituminous concrete - binder	Full
4-0" Emulsified soil & aggregate mixture	Partial
6-1/2" Crushed limestone with fines	Partial
Total 14-1/4"	

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Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 13 Work Done By: DB & JL

Location of Core: 41 W. Belden Avenue, 5' S. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1		
2	3-3/4" Bituminous concrete - binder	Full
3		
4		
5		
6	4-3/4" Crushed limestone with fines	Partial
7		
8		
9	Total 8-1/2" E.O.C.	
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

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Date: 1/12/15

File No.: 21873

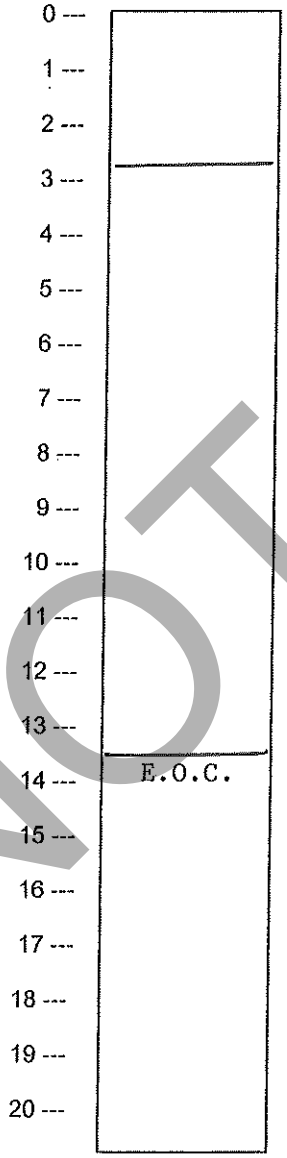
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 14 Work Done By: JL & BB

Location of Core: 150 W. Sidney Avenue, 4' N. of CL

Comments:



Type of Material	Recovery
2-3/4" Bituminous concrete - binder	Full
10-3/4" Limestone/sand/asphalt mixture contaminated with clay	Partial
Total 13-1/2"	

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Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park

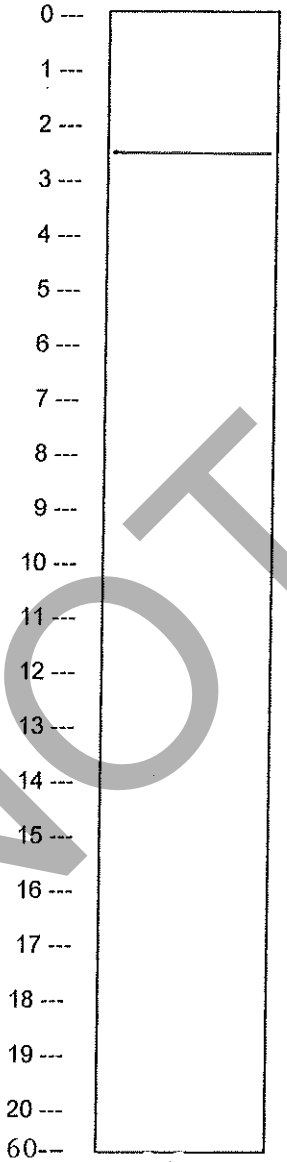
Reference: Geotechnical Year 1 - Group 2

Core No: 15

Work Done By: JL & BB

Location of Core: Sidney Avenue, 50' E. of Yale Avenue, 3' N. of CL

Comments:



Type of Material	Recovery
2-1/2" Bituminous concrete - binder	Full
57-1/2" Crushed limestone with fines	Partial
Total 60-0"	

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Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 16 Work Done By: JL & BB

Location of Core: Sidney Avenue, 235' E. of Yale Avenue, 2' S. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1	1-3/4" Bituminous concrete - binder	Full
	no bond	
2		
3		
4		
5		
6		
7		
8		
9	21-1/4" Sand/grave/crushed asphalt mixture	Partial
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
23	Total 23-0+"	
	E.O.C.	

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Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 17 Work Done By: JL & BB

Location of Core: 1142 Yale Avenue, 7' W. of CL

Comments:

(Depth, In.)		Type of Material	Recovery
0			
1	2-0"	Bituminous concrete - surface	Full
2		no bond	
3	2-0"	Bituminous concrete - binder	Full
4			
5	3-0"	Bituminous treated aggregate	Partial
6			
7			
8			
9	6-1/2"	Crushed limestone with fines	Partial
10			
11			
12			
13			
14	E.O.C.	Total 13-1/2"	
15			
16			
17			
18			
19			
20			

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Date: 1/12/15

File No.: 21873

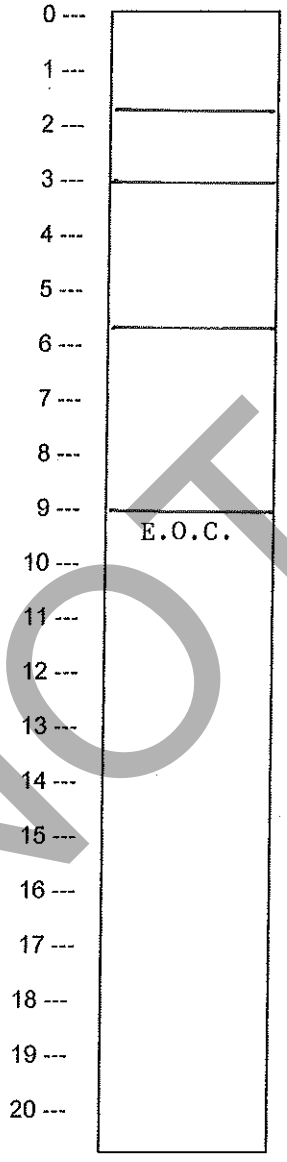
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 18 Work Done By: JL & BB

Location of Core: 1115 Yale Avenue, 5' E. of CL

Comments:



Type of Material	Recovery
1-3/4" Bituminous concrete - surface	Full
no bond	
1-1/4" Bituminous concrete - binder (failed)	Partial
2-3/4" Bituminous treated aggregate	Full
3-1/4" Crushed limestone with fines	Partial
Total 9-0"	

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ARLINGTON HEIGHTS, IL 60004

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FAX: (847) 870-0661

Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park

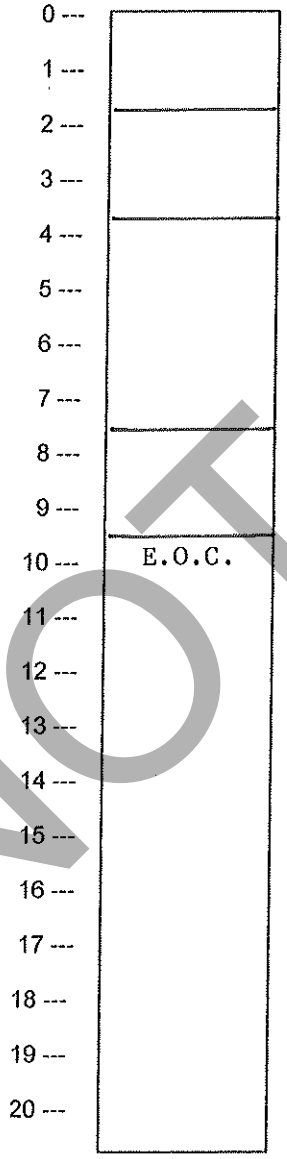
Reference: Geotechnical Year 1 - Group 2

Core No: 19

Work Done By: DB & JL

Location of Core: 1043 Yale Avenue, 10' W. of CL

Comments:



Type of Material	Recovery
1-3/4" Bituminous concrete - surface	Full
2-0" Bituminous concrete - binder	Full
3-3/4" Bituminous treated aggregate (failed)	Partial
2-0" Crushed limestone with fines	Partial
Total 9-1/2"	

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Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park

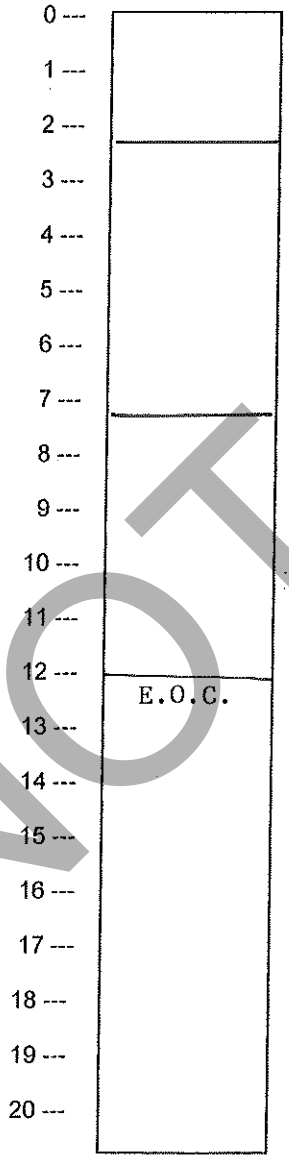
Reference: Geotechnical Year 1 - Group 2

Core No: 20

Work Done By: JL & BB

Location of Core: 1001 Yale Avenue, 5' E. of CL

Comments:



Type of Material	Recovery
2-1/4" Bituminous concrete - surface	Full
5-0" Bituminous treated aggregate	Full
4-3/4" Crushed limestone with fines	Partial
Total 12-0"	

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Date: 1/12/15

File No.: 21873

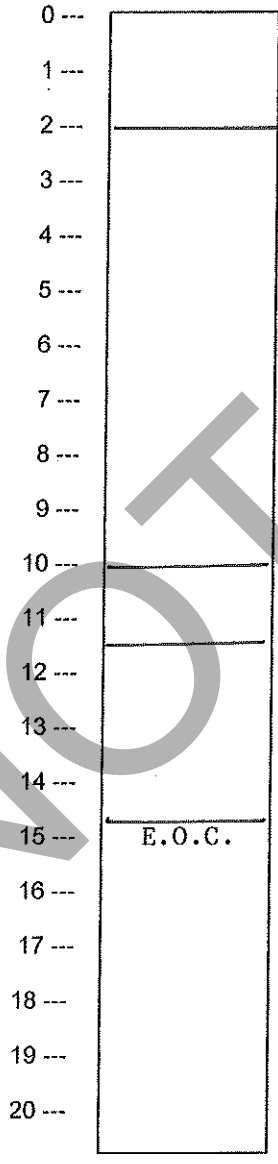
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 21 Work Done By: JL & BB

Location of Core: 951 Yale Avenue, 6' W. of CL

Comments:



Type of Material		Recovery
2-0"	Bituminous concrete - surface	Full
8-0"	Bituminous treated aggregate (failed)	Partial
1-1/2"	Built-up surface treatments (failed)	Partial
3-1/4"	Crushed limestone with fines, some large	Partial
Total 14-3/4"		

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Date: 1/12/15

File No.: 21873

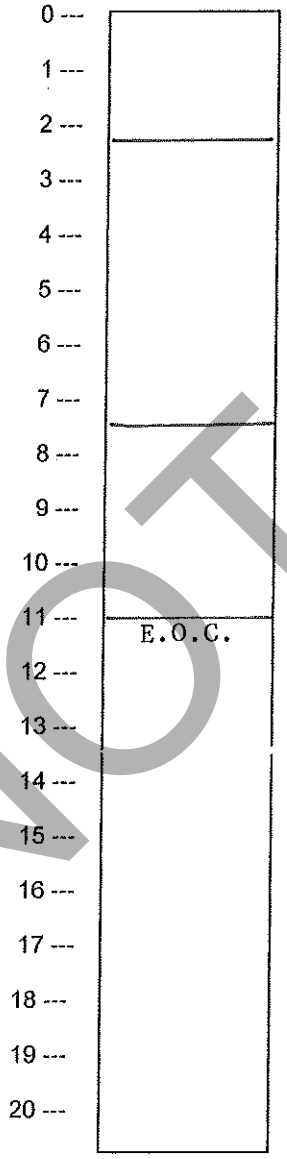
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 22 Work Done By: JL & BB

Location of Core: 932 Yale Avenue, 6' E. of CL

Comments:



Type of Material	Recovery
2-1/4" Bituminous concrete - surface	Full
5-1/4" Bituminous treated aggregate	Full
3-1/2" Crushed limestone with fines	Partial
Total 11-0"	

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Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park

Reference: Geotechnical Year 1 - Group 2

Core No: 23

Work Done By: JL & BB

Location of Core: 911 Yale Avenue, 4' W. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1	2-0" Bituminous concrete - surface	Full
2		
3	1-3/4" Bituminous concrete - binder	Full
4		
5		
6		
7	6-3/4" Crushed limestone & asphalt with fines	Partial
8		
9		
10	Total 10-1/2"	
11	E.O.C.	
12		
13		
14		
15		
16		
17		
18		
19		
20		

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Date: 1/12/15

File No.: 21873

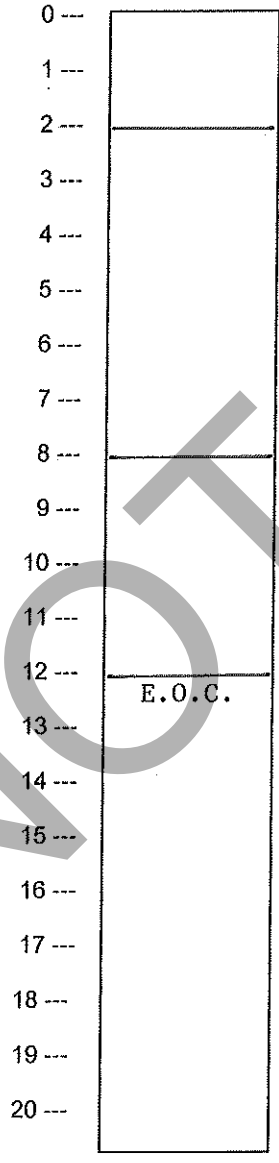
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 24 Work Done By: JL & BB

Location of Core: 835 Yale Avenue, 6' E. of CL

Comments:



Type of Material		Recovery
2-0"	Bituminous concrete - surface	Full
6-0"	Bituminous treated aggregate	Full
4-0"	Crushed limestone with fines	Partial
Total 12-0"		

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File No.: 21873

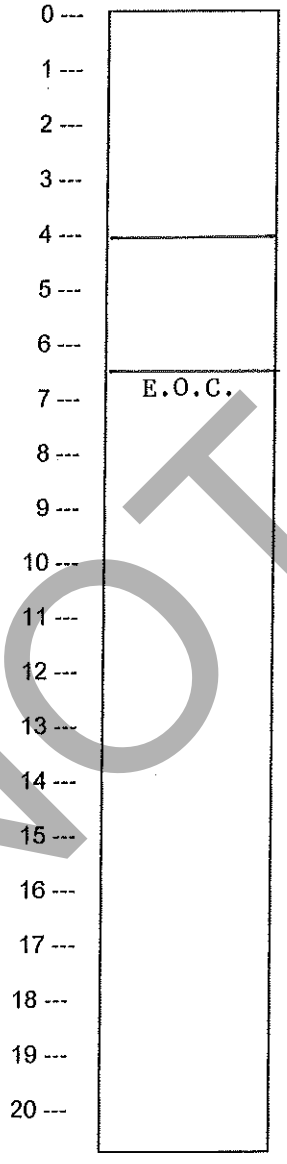
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 25 Work Done By: JL & BB

Location of Core: Princeton Avenue, 50' S. of Armitage Avenue, 6' W. of CL

Comments:



Type of Material	Recovery
4-0" Bituminous concrete - binder	Full
2-1/2" Crushed limestone with fines	Partial
Total 6-1/2"	

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Date: 1/12/15

File No.: 21873

CORE LOG

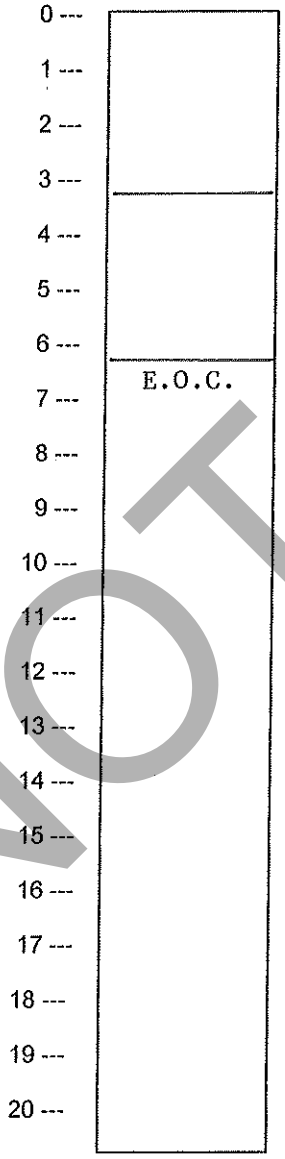
Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 26 Work Done By: JL & BB

Location of Core: 1105 Princeton Avenue, 5' E. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0	3-1/4" Bituminous concrete - binder	Full
3	3-0" Crushed limestone with fines	Partial
6	Total 6-1/4"	
E.O.C.		



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OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park

Reference: Geotechnical Year 1 - Group 2

Core No: 27

Work Done By: JL & BB

Location of Core: 1036 Princeton Avenue, 5' W. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1	1-1/4" Bituminous concrete - surface	Full
2	2-0" Bituminous concrete - binder	Full
3		
4		
5		
6		
7		
8		
9	32-3/4" Crushed gravel with fines	Partial
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
36	Total 36-0"	

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Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park

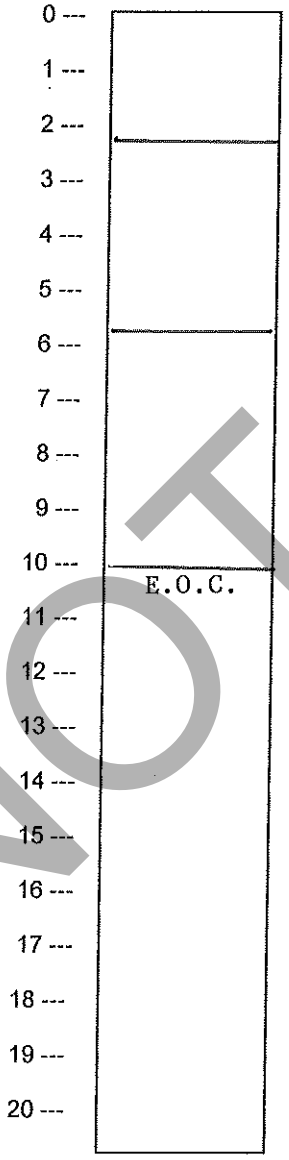
Reference: Geotechnical Year 1 - Group 2

Core No: 28

Work Done By: JL & BB

Location of Core: 1022 Princeton Avenue, 4' E. of CL

Comments:



Type of Material	Recovery
2-1/4" Bituminous concrete - surface	Full
3-1/2" Bituminous concrete - binder	Full
4-1/4" Crushed limestone with fines	Partial
Total 10-0"	

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Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 29 Work Done By: JL & BB

Location of Core: 837 Princeton Avenue, 5' E. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0	1-3/4" Bituminous concrete - surface	Partial
10	82-1/4" Crushed limestone with fines	Partial
84 E.O.C.	Total 84-0"	

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Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 30 Work Done By: DB & JL

Location of Core: 1144 Ardmore Avenue, 6' W. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0	1-1/4" Bituminous concrete - surface	Full
1	Petromat	
2	1-0" Bituminous concrete - surface	Full
3	3-0" Bituminous concrete - binder	Full
4		
5		
6		
7	4-3/4" Crushed & uncrushed gravel with fines some asphalt pieces	Partial
8		
9		
10	Total 10-0"	
E.O.C.		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

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Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 31 Work Done By: DB & JL

Location of Core: 1128 Ardmore Avenue, 7' E. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0	1-1/2" Bituminous concrete - surface	Full
1	Petromat	
2	0-3/4" Bituminous concrete - surface no bond	Full
3	1-1/2" Bituminous concrete - surface	Full
4	1-1/2" Bituminous concrete - surface	Full
5		
6	2-1/4" Bituminous concrete - surface	Full
7		
8	1-3/4" Emulsified soil & aggregate mixture	Partial
9	Total 9-1/4"	
10	E.O.C.	
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

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Date: 12/29/14

File No.: 21873

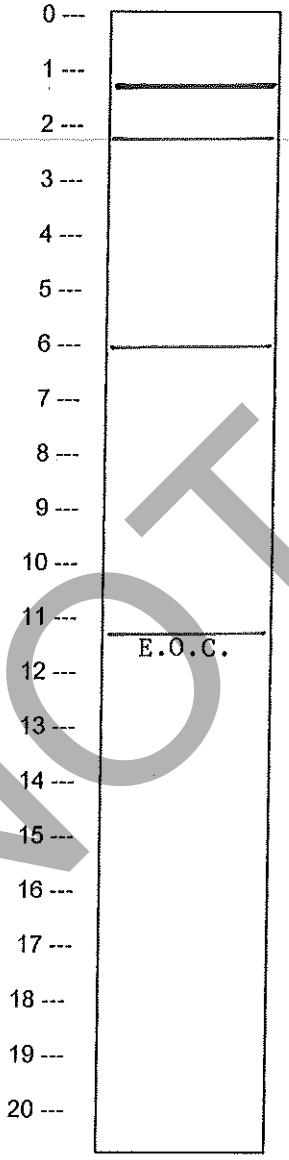
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 32 Work Done By: DB & JL

Location of Core: 881 Ardmore Avenue, 4' W. of CL

Comments:



Type of Material	Recovery
1-1/4" Bituminous concrete - surface	Full
Petromat	
1-0" Bituminous concrete - surface	Full
3-3/4" Bituminous concrete - surface	Full
5-1/4" Emulsified soil & aggregate mixture	Partial
Total 11-1/4"	

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Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 1

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

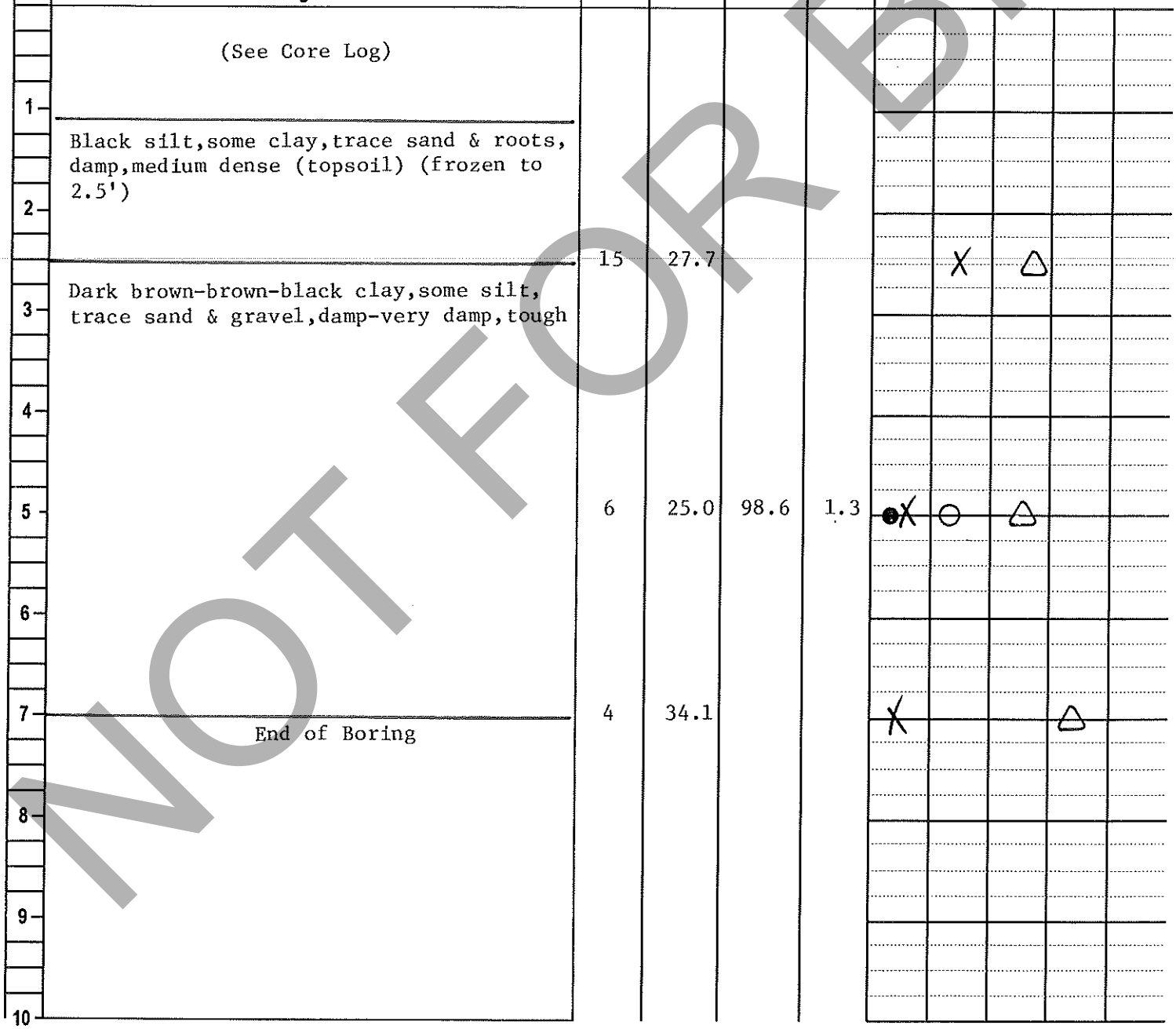
Comments: 210 W. Armitage Ave., 10' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1					
2	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.5')				
3	Dark brown-brown-black clay,some silt, trace sand & gravel,damp-very damp,tough	15	27.7		
4					
5		6	25.0	98.6	1.3
6					
7	End of Boring	4	34.1		
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 2

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 230 W. Armitage Ave., 6' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration (×)	moisture content (△)	dry unit weight lbs./cu.ft. (ɣ)	unconfined compressive strength (○)
1	(See Core Log)				
2	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.0')		25.9		
3	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,very tough	18	21.7	105.0	3.5
4	Brown-gray clay & silt,some fine sand, trace gravel,damp,soft		21.8		
5	Brown-gray clay,some silt,trace sand & gravel,damp,very tough	5	22.0	101.4	2.0
6					
7	End of Boring	7	18.4	115.1	2.9
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 3

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

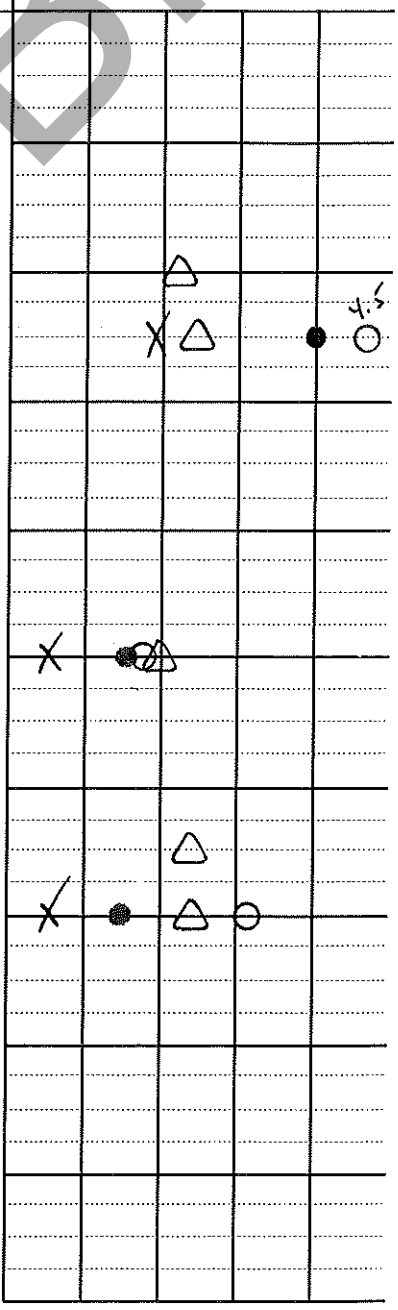
Comments: 250 W. Armitage Ave., 5' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.0')				
2			21.1		
	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,hard	19	23.7	99.6	4.5
3					
4	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,tough				
5		5	20.1	106.5	1.8
6	Brown-gray clay & silt,trace gravel,damp, soft				
			24.2		
7	Brown-gray clay,some silt,trace sand & gravel,damp,very tough	5	23.9	102.8	3.1
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 4

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 286 W. Armitage Ave., 5' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp, medium dense (topsoil) (frozen to 3.0')				
2					
3		17	31.3		
	Brown to brown-gray clay,some silt,trace sand & gravel,damp,very tough				
4					
5		6	19.9	107.5	2.5
	Brown clay & silt,some fine sand,trace gravel,very damp,soft				
6			24.6		
	Brown-gray clay,some silt,trace sand & gravel,damp,very tough				
7		6	20.5	107.6	3.4
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 5

Logged By: DB Page: 1 of 1

Client: Village of Villa Park

File No. 21873 Date Drilled: 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

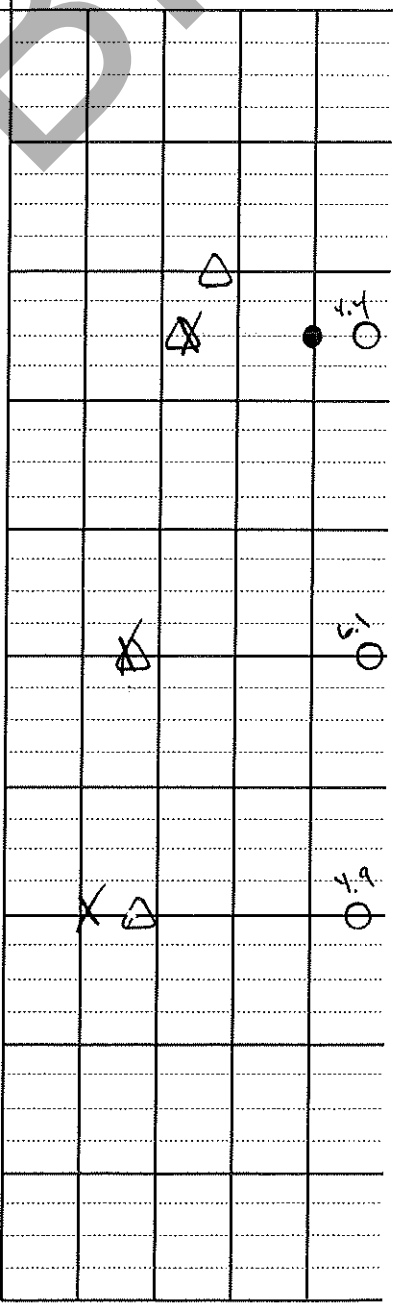
Comments: 23 E. Armitage Ave., 7' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.5')				
2			28.4		
	Dark brown-brown clay,some silt,trace sand & gravel,damp,hard	23	22.4	102.4	4.4
3					
4	Brown-gray clay,some silt,trace sand & gravel,damp,hard				
5		15	17.4	112.6	6.1
6					
7	End of Boring	11	19.0	114.4	4.9
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 6

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1199 E. Armitage Ave., 11' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Brown-gray-black clay, some silt, trace sand & gravel, damp, very tough to hard (frozen to 2.0')	19	18.6	103.9	2.0
3					
4					
5		9	17.7	112.1	4.5
6					
7	End of Boring	20	18.5	113.6	5.7
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 7

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 650 E. Armitage Ave., 8' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Dark brown to brown-gray clay, some silt, trace sand & gravel, very tough to hard	18	24.9	98.4	2.5
3					
4					
5		13	18.6	113.9	5.9
6					
7	End of Boring	15	19.3	111.9	4.6
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 8

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: E. Armitage Ave., 25' W. of Villa Ave., 12' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Dark brown-brown-black clay,some silt, trace sand & gravel,damp,very tough				
3		12	22.0	100.5	2.2
4	Brown-gray clay,some silt,trace sand & gravel,damp,very tough to hard				
5		9	20.5	108.5	3.6
6					
7	End of Boring	12	20.7	109.8	4.3
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 9

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 146 W. Belden Ave., 5' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp (topsoil)		25.0		
	Brown clay,some silt,trace sand & gravel, damp,hard (frozen to 2.0')				
2		23	23.0		
3					
4					
5		13	18.5	114.9	5.4
6					
7	End of Boring	18	18.8	110.9	5.8
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 10

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1044 W. Belden Ave., 5' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.0')				
2		14	34.4		
3	Brown to brown-gray clay,some silt,trace sand & gravel,damp,tough to very tough				
4					
5		6	28.2	89.9	1.3
6					
7	End of Boring	6	22.1	106.7	2.7
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 11

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

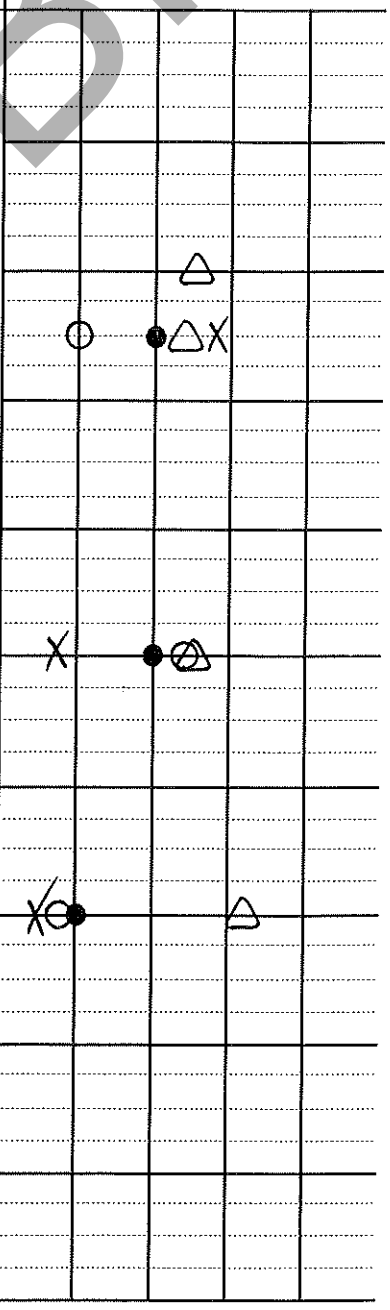
Comments: 1107 W. Belden Ave., 4' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 1.5')				
2	Dark brown-brown-black clay,some silt, trace sand & gravel,damp,tough		25.4		
3		28	23.3	101.1	1.0
4	Brown-gray clay,some silt,trace sand & gravel,damp,very tough				
5		7	24.6	100.0	2.4
6	Brown-gray clay,some silt,trace sand & gravel,damp,stiff				
7	End of Boring	5	30.6	93.9	0.9
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 12

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL
W. Belden Ave., 50' W. of
Princeton Ave., 6' N. of CL

Comments:

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ϒ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp, medium dense (topsoil) (frozen to 2.5')				
2		19	28.2		
3	Dark brown-brown clay,some silt,trace sand & gravel,damp,very tough				
4					
5		6	23.0	103.5	2.3
6	Dark brown clay & silt,trace fine sand & gravel,damp				
			21.7		
7	Dark brown clay,some silt,trace sand & gravel,damp,very tough	12	17.0	109.6	2.7
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 13

Logged By: DB Page: 1 of 1

Client: Village of Villa Park

File No. 21873 Date Drilled: 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

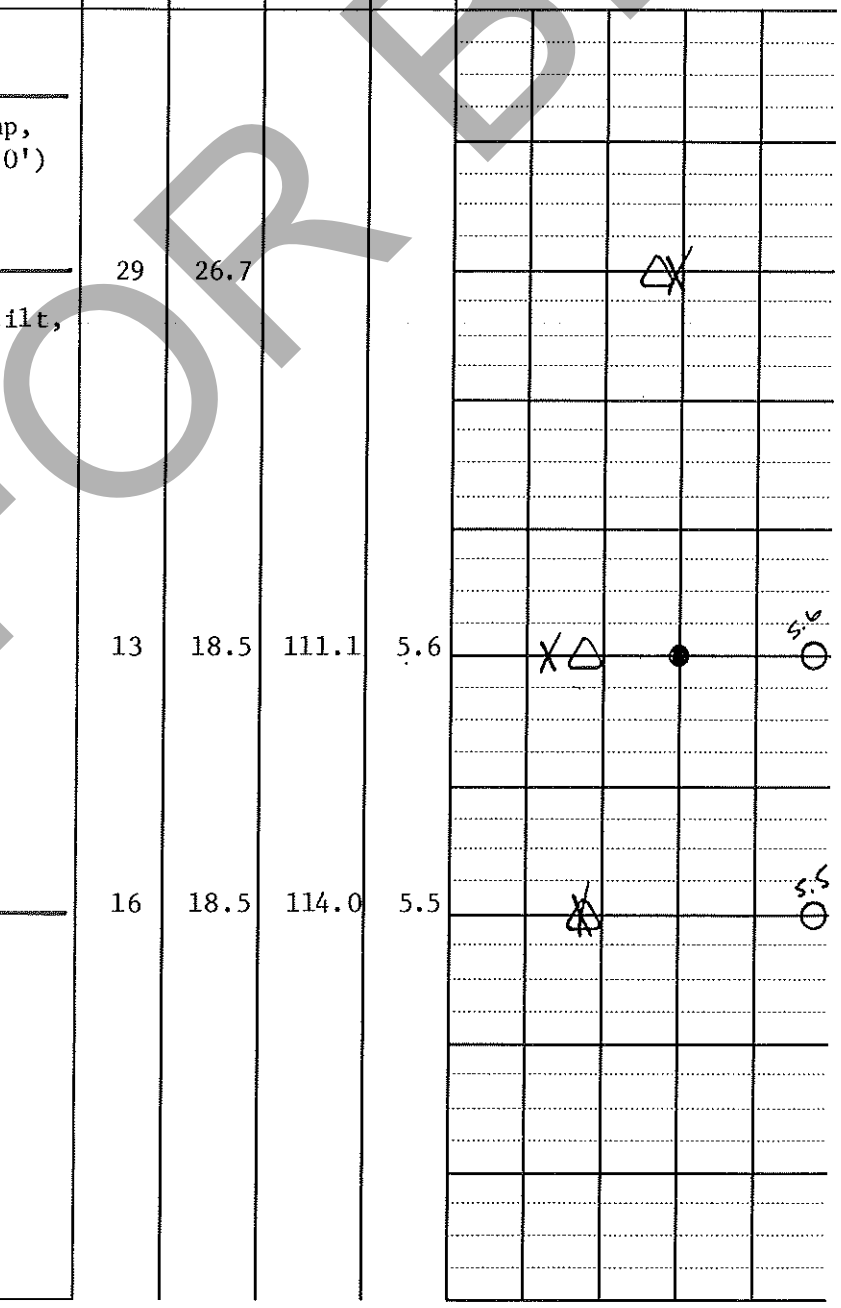
Comments: 41 W. Belden Ave., 5' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ⊗	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp, medium dense (topsoil) (frozen to 2.0')				
2		29	26.7		
3	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,hard				
4					
5		13	18.5	111.1	5.6
6					
7	End of Boring	16	18.5	114.0	5.5
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 14

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 150 W. Sidney Ave., 4' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.0')	15	27.9		
3					
4					
5		10	55.1		
6	Dark brown-black clay,some silt,trace sand & gravel,damp,stiff		60.1	58.4	0.9
7	Gray organic silt,trace shells,very damp, soft	3	74.3		
8					
9	Gray clay,some fine sand,trace gravel, very damp,soft				
10	End of Boring	4	17.6		

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

55.1 60.1 74.3

Water encountered at 8.0 feet during drilling operations (W.D.).
Water recorded at 5.0 feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

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SOIL BORING LOG 15

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL
Sidney Avenue

Comments: 50' E. of Yale Ave., 3' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Crushed limestone with fines, damp-saturated, loose to very loose				
2					
3	▽				
4		5	13.1		
5		3	14.2		
6	Gray clay, some fine sand, trace gravel, very damp, soft				
7		3	22.4		
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at 3.0 feet during drilling operations (W.D.).
Water recorded at 4.0 feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.
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SOIL BORING LOG 16

Logged By: DB Page: 1 of 1

Client: Village of Villa Park File No. 21873 Date Drilled: 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL
Sidney Avenue

Comments: 235' E. of Yale Ave., 2' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log) (4"-6" concrete slab at 1.5')				
2	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil)				
3		13	28.0		
4	Dark brown clay,some silt,trace sand & gravel,damp,tough				
5		7	32.9	86.1	1.7
6	Brown-gray silt & clay,trace roots & peat,damp,loose		35.0		
7	Brown-gray clay,some silt,trace sand & gravel,damp,very tough End of Boring	7	22.0	105.1	2.8
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 17

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1142 Yale Ave., 7' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.0')	14	26.2		
3					
4	Brown-gray clay,some silt,trace sand & gravel,damp,tough to very tough				
5		3	28.2	90.9	1.0
6					
7	End of Boring	8	19.9	109.3	2.5
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.
Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 18

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1115 Yake Ave., 5' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt, some clay, trace sand & roots, damp (topsoil) (frozen to 2.0')				
2			27.1		
3	Dark brown to brown-gray clay, some silt, trace sand & gravel, damp, very tough to hard	12	15.7	147.3	3.3
4					
5		11	19.0	108.6	4.4
6	Dark brown to brown-gray clay, some silt, trace sand & gravel, damp, very tough				
7	End of Boring	6	22.3	106.7	2.7
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 19

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1043 Yale Ave., 10' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,very tough (topsoil)				
2			23.2		
	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,very tough	16	23.8	101.6	2.6
3					
4	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,tough to very tough				
5		5	28.0	94.4	1.8
6					
7	End of Boring	8	22.2	105.5	2.9
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 20

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1001 Yale Ave., 5' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,loose (topsoil) (frozen to 2.0')				
2		6	39.7		
3	Brown-gray clay,some silt,trace sand & gravel,very damp,soft				
4					
5		3	34.2		
6	Brown-gray silt,trace clay & fine sand, very damp to saturated,loose				
7	End of Boring	5	24.9		
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 21

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 951 Yale Ave., 6' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Dark brown-brown-gray clay,some silt, trace sand & gravel,damp (frozen to 2.0') Fill		44.1		
3	Black silt,some clay,trace sand & roots, damp,dense (topsoil)	32	28.8		
4	Brown clay,some silt,trace sand,gravel & organic matter,very damp,soft				
5		3	67.5		
6	Dark brown-gray organic silt,trace shells & roots,very damp,very loose				
7	Gray clay,some fine sand,trace gravel, damp,soft		44.9		
	End of Boring	3	22.7		
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at 6.0 feet during drilling operations (W.D.).
Water recorded at 3.5 feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

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SOIL BORING LOG 22

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 932 Yale Ave., 6' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Dark brown-brown clay, some silt, trace sand & gravel, damp (frozen) - Fill		19.9		
2	Black silt, some clay, trace sand & roots, damp, dense (topsoil) (frozen to 2.0')	35	34.8		
3					
4	Dark brown-black clay, some silt, trace sand & gravel, very damp, stiff				
5		4	43.3		
6	Dark brown organic silt & clay, some peat, trace roots, very damp, very loose				
7		2	63.6		
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

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SOIL BORING LOG 23

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

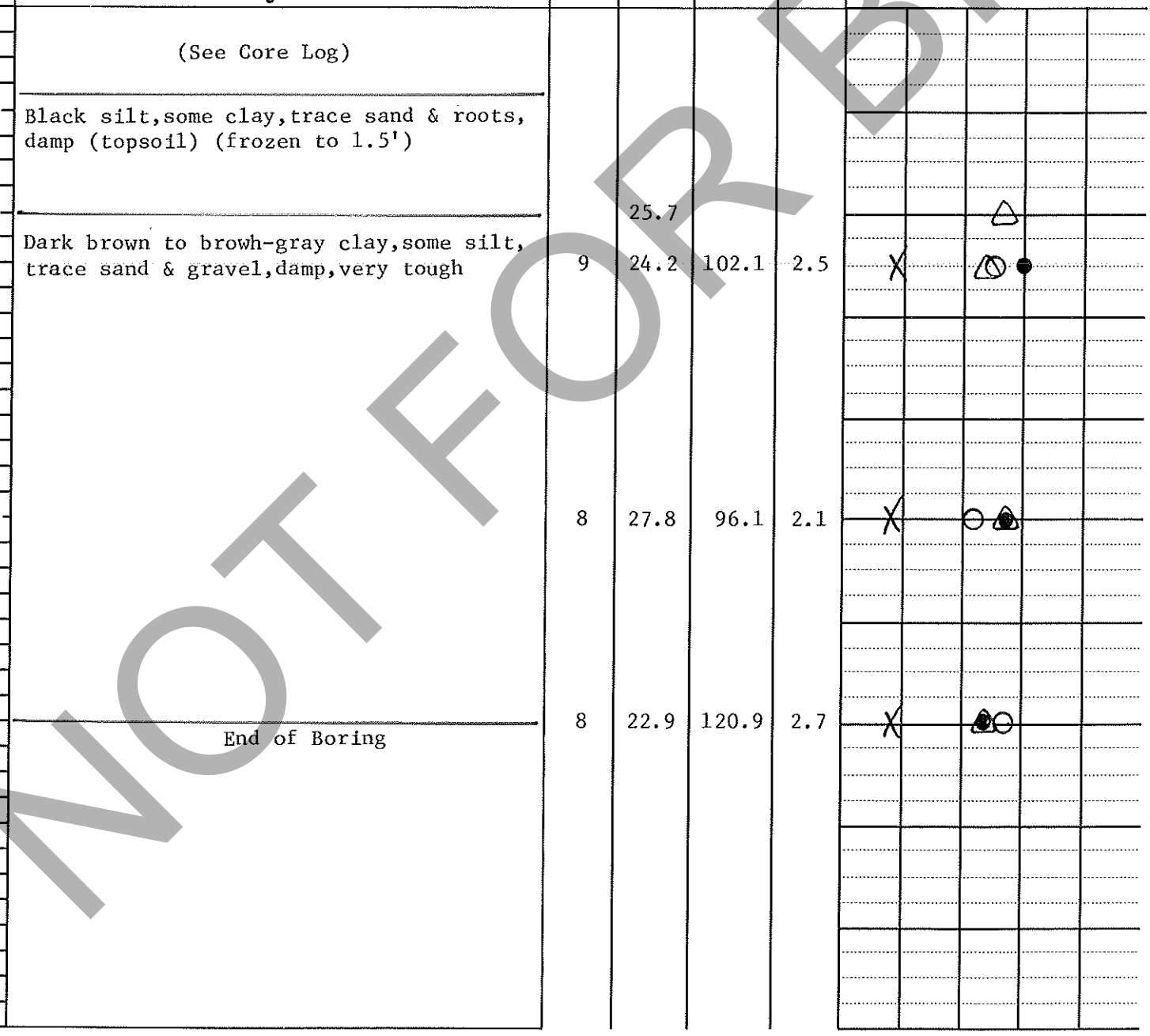
Comments: 911 Yale Ave., 4' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp (topsoil) (frozen to 1.5')				
2			25.7		
	Dark brown to browh-gray clay,some silt, trace sand & gravel,damp,very tough	9	24.2	102.1	2.5
3					
4					
5		8	27.8	96.1	2.1
6					
7	End of Boring	8	22.9	120.9	2.7
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 24

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 835 Yale Ave., 6' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1					
2	Brown-gray clay, some silt, trace sand & gravel, damp, very tough to hard	15	17.8	107.7	2.5
3					
4					
5		16	19.4	112.9	5.0
6					
7	Brown fine sand, some silt, trace gravel, medium dense	12	13.2		
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 25

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL
Princeton Ave.

Comments: 50' S. of Armitage Ave., 6' W. of CL

Equipment: ☑ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt, some clay, trace sand & roots, damp (topsoil)				
2			29.5		
	Dark brown clay, some silt, trace sand & gravel, damp, very tough	9	21.7	100.3	2.5
3					
4	Brown-gray clay, some silt, trace sand & gravel, damp, very tough				
5		7	20.0	109.3	2.5
6					
7	End of Boring	11	21.4	109.2	3.4
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 26

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1105 Princeton Ave., 5' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.5')				
2					
3	Brown to brown-gray clay,some silt,trace sand & gravel,damp,very tough	12	27.9		
4					
5		8	19.0	109.7	2.8
6					
7	End of Boring	9	18.7	111.6	3.0
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 27

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1036 Princeton Ave., 5' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Crushed limestone with fines,damp,loose (frozen to 1.5')				
2		7	11.0		
3	Black silt,some clay,trace sand & roots, damp (topsoil)		37.2		
4					
5	Brown to brown-gray clay,some silt,trace sand & gravel,damp,soft	3	38.2		
6	Gray organic silt,some clay,trace roots, very damp,very soft		44.2		
7	Gray clay,some silt,trace sand & gravel, damp,very soft	3	14.8		
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at 5.5 feet during drilling operations (W.D.).
Water recorded at 3.0 feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 28

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1022 Princeton Ave., 4' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ϒ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.0')				
2		12	29.9		
3	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,very tough to hard				
4					
5		7	22.7	105.7	2.8
6					
7	End of Boring	14	17.7	117.0	5.8
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 29

Logged By: DB Page: 1 of 1

Client: Village of Villa Park

File No. 21873 Date Drilled: 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 837 Princeton Ave., 5' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	Elevation Existing Surface				
	(See Core Log)				
1	Crushed limestone with fines				
2					
			5.0		
3					
		22			
4					
		10	4.6		
5					
6					
7	End of Boring	19	5.2		
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 30

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1144 Ardmore Ave., 6' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.0')				
2			33.1		
3	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,very tough	11	24.4		
4					
5		11	21.0	108.0	3.8
6					
7	End of Boring	11	20.2	110.4	3.4
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.
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SOIL BORING LOG 31

Logged By: DB Page: 1 of 1

Client: Village of Villa Park

File No. 21873 Date Drilled: 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1128 Ardmore Ave., 7' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.0')				
2			25.9		
	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,tough to hard	15	23.8	95.0	1.0
3					
4					
5		10	18.0	108.2	3.3
6					
7	End of Boring	11	20.1	106.7	4.6
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 32

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 881 Ardmore Ave., 4' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ϑ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt, some clay, trace roots, damp (topsoil) (frozen to 2.0')		21.9		
2	Brown to brown-gray clay, some silt, trace sand & gravel, damp, tough	20	22.2	100.1	1.3
3					
4	Brown silt, some clay, trace fine sand & gravel, damp, loose				
5		9	20.3		
6	Brown clay, some silt, trace sand & gravel, damp, hard				
7	End of Boring	13	20.0	111.1	5.0
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

General Notes

SAMPLE CLASSIFICATION

Soil sample classification is based on the Unified Soil Classification System, the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), ASTM D-2488, the Standard Test Method for Classification of Soils for Engineering Purposes, ASTM D-2487(when applicable), and the modifiers noted below.

CONSISTENCY OF COHESIVE SOILS

Term	Qu -tons/sq. ft.	N (unreliable)
Very Soft	0.00 - 0.25	0 - 2
Soft	0.26 - 0.49	3 - 4
Stiff	0.50 - 0.99	5 - 8
Tough	1.00 - 1.99	9 - 15
Very Tough	2.00 - 3.99	16 - 30
Hard	4.00 - 7.99	30 +
Very Hard	8.00 +	

RELATIVE DENSITY OF GRANULAR SOILS

Term	N - blows/foot
Very Loose	0 - 4
Loose	5 - 9
Medium Dense	10 - 29
Dense	30 - 49
Very Dense	50 +

IDENTIFICATION AND TERMINOLOGY

Term		Size Range
Boulder		over 8 in.
Cobble		3 in. to 8 in.
Gravel	-coarse	1 in. to 3 in.
	-medium	3/8 in. to 1 in.
	-fine	#4 sieve to 3/8 in.
Sand	-coarse	#10 sieve to #4 sieve
	-medium	#40 sieve to #10 sieve
	-fine	#200 sieve to #40 sieve
Silt		0.002 mm to #200 sieve
Clay		smaller than 0.002 mm

Modifying Term	Percent by Weight
Trace	1 - 10
Little	11 - 20
Some	21 - 35
And	36 - 50

Moisture Condition

Dry
Damp
Very Damp
Saturated

DRILLING, SAMPLING & SOIL PROPERTY SYMBOLS

CF - Continuous Flight Auger
HS - Hollow Stem Auger
HA - Hand Auger
RD - Rotary Drilling
AX - Rock Core, 1-3/16 in. diameter
BX - Rock Core, 1-5/8 in. diameter
NX - Rock Core, 2-1/8 in. diameter
S - Sample Number
T - Type of Sample
J - Jar
AS - Auger Sample
SS - Split-spoon (2 in. O.D. with 1-3/8 in. I.D.)
ST - Shelby Tube (2 in. O.D. with 1-7/8 in. I.D.)
R - Recovery Length, in.
B - Blows/ 6 in. interval, Standard Penetration Test (SPT)
N - Blows/ foot to drive 2 in. O.D. split-spoon sampler with 140 lb. hammer falling 30 in., (STP)
Pen. - Pocket Penetrometer reading, tons/ sq. ft.
W - Water Content, % of dry weight
Uw - Dry Unit Weight of soil, lbs./ cu. ft.
Qu - Unconfined Compressive Strength, tons/ sq. ft.
Str - % Strain at Qu.
WL - Water Level
WD - While Drilling
AD - After Drilling
DCI - Dry Cave-in
WCI - Wet Cave-in
LL - Liquid Limit, %
PL - Plastic limit, %
PI - Plasticity Index (LL-PL)
LI - Liquidity Index [(W-PL)/PI]