

AGENDA

STATE BUILDING CODE TECHNICAL REVIEW BOARD

Tuesday, May 20, 2016 - 10:00 a.m.

Virginia Housing Center, 4224 Cox Road  
Glen Allen, Virginia 23059

- I. Roll Call (Tab 1)
- II. Election of Officers
- III. Approval of February 19, 2016 Minutes (Tab 2)
- IV. Approval of March 22, 2016 Minutes (Tab 3)
- V. Public Comment
- VI. Approval of Final Order (Tab 4)
- In Re: Appeals of David & Tara Laux  
Appeal Nos. 15-5 and 15-22
- VII. Approval of Final Order (Tab 5)
- In Re: Appeal of Harry & Catherine Rowson  
Appeal No. 15-17
- VIII. Appeal Hearing (Tab 6)
- In Re: Appeal of Karen McLaughlin  
Appeal No. 11-3
- IX. Appeal Hearing (Tab 7)
- In Re: Appeal of Catherine Rowson  
Appeal Nos. 15-16
- X. Appeal Hearing (Tab 8)
- In Re: Appeal of Peppermill Homes, LLC  
Appeal No. 15-19
- XI. Interpretation Request (Tab 9)
- City of Winchester
- XII. Secretary's Report





**J. Robert Allen, CBO**

**Chairman**

(Representing the Virginia Building & Code Officials Association)

**James R. Dawson**

**Vice Chairman**

(Representing the Virginia Fire Chiefs Association)

**Matthew Arnold**

(Representing the American Institute of Architects)

**W. Keith Brower, Jr.**

(Representing the Commonwealth at large)

**Vince Butler**

(Representing the Virginia Homebuilders Association)



**J. Daniel Crigler**

(Representing the Virginia Plumbing-Heating-Cooling Contractors Association)

**John H. Epperson, PE**

(Representing the Virginia Society of Professional Engineers)

**Alan D. Givens**

(Representing the Virginia Plumbing-Heating-Cooling Contractors Association)

**Joseph A. Kessler, III**

(Representing the Associated General Contractors of Virginia)

**VACANT**

(Electrical Contractor)

**Eric Mays, PE**

(Representing the Virginia Building & Code Officials Association)

**Joanne D. Monday**

(Representing the Virginia Building Owners and Managers Association)

**Patricia S. O'Bannon**

(Representing the Commonwealth at Large)

**W. Shaun Pharr, Esq.**

(Representing the Apartment and Office Building Association of Metropolitan Washington)

**Justin I. Bell, Esq.**

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# DRAFT MINUTES

## STATE BUILDING CODE TECHNICAL REVIEW BOARD MEETING

February 19, 2016

RICHMOND, VIRGINIA

### Members Present

Mr. J. Robert Allen, Chairman  
Mr. W. Keith Brower  
Mr. Vince Butler  
Mr. J. Daniel Crigler  
Mr. James R. Dawson  
Mr. John H. Epperson, PE  
Mr. Alan D. Givens  
Mr. Eric Mays  
Ms. Joanne D. Monday  
Ms. Patricia S. O'Bannon  
Mr. W. Shaun Pharr, Esq.

### Members Absent

Mr. Matthew Arnold  
Mr. Joseph A. Kessler, III  
Mr. John A. Knepper

### Call to Order

The meeting of the State Building Code Technical Review Board ("Review Board") was called to order by the Chairman at approximately 10:00 a.m.

### Roll Call

The attendance was established by the Secretary, Alan W. McMahan, Secretary, and constituted a quorum. Mr. Justin I. Bell, Assistant Attorney General in the Office of the Attorney General, was present and serving as the Board's legal counsel.

### Approval of Minutes

After consideration and a few editorial corrections, Mr. Epperson moved to approve the minutes of the October 16, 2015 meeting as presented in the Review Board members' agenda package. The motion was seconded by Mr. Dawson and passed unanimously with Mr. Butler abstaining from the vote.

### Public Comment

The Chairman opened the floor for public comment. The Secretary reported that no one was preregistered. The Chairman closed the public comment period.



Final Orders

Appeal of International Technology Industry, Inc.; Appeal No. 15-10

After consideration and two editorial corrections, Mr. Epperson moved to approve the final order as presented in the Review Board members' agenda package. The motion was seconded by Mr. Crigler and passed unanimously with Mr. Butler abstaining from the vote.

Ms. Monday and Ms. O'Bannon arrived at approximately 10:15 a.m.

New Business

Appeal of Starr Construction, Inc.; Appeal No. 15-6:

An appeal hearing convened with the Chairman serving as the presiding officer. The appeal concerned alleged violations of the 2009 Virginia Uniform Statewide Building Code (USBC) issue as it relates to the installation of composite siding on a home in Fairfax County.

Before testimony began, the members discussed whether to hear the appeal in the absence of the appellant. After consideration, Mr. Dawson moved to hear the appeal because of the due diligence efforts of the Review Board staff to notify the appellant of the hearing. The motion was seconded by Mr. Mays and passed unanimously with Ms. Monday and Ms. O'Bannon abstaining due to their arrival subsequent to the discussion.

The following persons were sworn in and given the opportunity to present testimony:

James Makely, for Fairfax County  
Melissa Smarr, for Fairfax County

Also present were:

Paul Emerick, Esq., counsel for Fairfax County

After testimony concluded, the Chairman closed the hearing and stated a decision from the Review Board members would be forthcoming and the deliberations would be conducted in open session. It was further noted that a final order reflecting the decision



Appeal of Starr Construction, Inc.; Appeal No. 15-6 (cont'd.):

would be considered at a subsequent meeting and, when approved, would be distributed to the parties and would contain a statement of further right of appeal.

Decision – Appeal of Starr Construction, Inc.; Appeal No. 15-6:

After deliberation, Mr. Mays moved to uphold the decision of the building official and the local appeals board that USBC violations exist concerning the installation of the composite siding and the porch ceiling. The motion was seconded by Mr. Dawson and passed with Mr. Pharr voting in opposition.

Mr. Givens arrived at approximately 11:00 a.m.

Appeals of the City of Richmond; Appeal Nos. 15-12 and 15-13:

An appeal hearing convened with the Chairman serving as the presiding officer. The appeal concerned alleged violations of the 2006 Virginia Maintenance Code (VMC) as it relates to the alleged lack of maintenance to heating facilities in two manufactured homes.

The following persons were sworn in and given the opportunity to present testimony:

Mark Bridgman, for the City of Richmond  
Doug Murrow, for the City of Richmond  
John Walsh, for the City of Richmond

Also present were:

Phillip T. Storey, Esq., counsel for the Appellee

After testimony concluded, the Chairman closed the hearing and stated a decision from the Review Board members would be forthcoming and the deliberations would be conducted in open session. It was further noted that a final order reflecting the decision.



Appeals of the City of Richmond; Appeal Nos. 15-12 and 15-13  
(cont'd.):

would be considered at a subsequent meeting and, when approved, would be distributed to the parties and would contain a statement of further right of appeal.

Decision – Appeals of the City of Richmond; Appeal Nos. 15-12 and 15-13:

After consideration of both appeals, Mr. Mays moved to overturn the local appeals board and uphold the Notice and direct the city's property maintenance officer to reissue the notice with a provision that the citation regarding a performance standard for heat be removed as it relates only to rental units. The motion was seconded by Mr. Dawson.

After discussion, and prior to a vote on the motion, Mr. Mays made the following motion:

“Mr. Chairman, I move that this meeting be recessed and that the Board immediately reconvene in executive session for the purpose of consultation with legal counsel and/or briefings by staff members and attorneys pertaining to actual and/or potential litigation and other legal matters within the jurisdiction of the Board as permitted by Section A, Paragraph (7) of Section 2.2-3711 of the Code of Virginia. This motion is made with respect to the cases identified as the Appeal of the Appeals of the City of Richmond; Appeal Nos. 15-12 and 15-13.”

The motion was seconded by Ms. O'Bannon and passed unanimously. Subsequently, Ms. O'Bannon moved for the Review Board to reconvene in open session. The motion was seconded by Mr. Dawson and passed unanimously. Mr. Justin I. Bell, Assistant Attorney General and the Board's legal counsel was present.

The Chairman made the following statement:



Decision – Appeals of the City of Richmond; Appeal Nos. 15-12 and 15-13 (cont'd.):

“The Board will now reconvene in open session with a roll call to acknowledge those present. By answering “Yes” to the roll call, Board members will be certifying that to the best of their knowledge only public business matters lawfully exempted from open meeting requirements were discussed or considered and that only such public business matters as were identified in the motion by which the executive closed meeting was convened were heard, discussed or considered in the closed meeting. Any member who believes that there was a departure from the aforementioned conditions shall so state prior to the roll call, indicating the substance of the departure that, in his judgment, has taken place.”

The Secretary called the roll and all members responded with “Yes.”

Prior to a vote on the preceding motion, Mr. Mays offered a substitute motion to overturn to local appeals board because VMC Section 105.1 applies to owner-occupied dwellings. The motion was seconded by Dawson. The motion failed with five members voting “yea” and the rest of the board members voting “nay.” Then, Mr. Pharr moved to uphold the local appeals board due to insufficient evidence that the homes under appeal lacked heating facilities. The motion was seconded Mr. Butler and passed with six members voting “yea” and five members voting “nay.”

Secretary’s Report

The Secretary reviewed the proposed meeting dates for 2016 and Mr. Epperson moved to accept the proposed dates. The motion was seconded by Mr. Crigler and passed unanimously. The Secretary also shared a framed certificate of appreciation which will be presented to



the Board's past secretary, Mr. Vernon N. Hodge. The Secretary also informed Board members that Cindy Davis was recently hired as the new Deputy Director of the Division of Building & Fire Regulation. Mr. Bell provided Review Board members with an update concerning recent circuit court decisions.

Adjournment

There being no further business, the meeting was adjourned by motion of Mr. Allen at approximately 3:00 p.m.

Approved: \_\_\_\_\_

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Chairman, State Building Code Technical Review Board

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Secretary, State Building Code Technical Review Board



# DRAFT MINUTES

## STATE BUILDING CODE TECHNICAL REVIEW BOARD MEETING

March 22, 2016

RICHMOND, VIRGINIA

### Members Present

Mr. J. Robert Allen, Chairman  
Mr. W. Keith Brower  
Mr. J. Daniel Crigler  
Mr. James R. Dawson  
Mr. John H. Epperson, PE  
Mr. Alan D. Givens  
Mr. Joseph A. Kessler, III  
Mr. Eric Mays  
Ms. Joanne D. Monday  
Mr. W. Shaun Pharr, Esq.

### Members Absent

Mr. Matthew Arnold  
Mr. Vince Butler  
Mr. John A. Knepper  
Ms. Patricia S. O'Bannon

### Call to Order

The meeting of the State Building Code Technical Review Board ("Review Board") was called to order by the Chairman at approximately 10:00 a.m.

### Roll Call

The attendance was established by the Secretary, Alan W. McMahan, and constituted a quorum. Mr. Justin I. Bell, Assistant Attorney General in the Office of the Attorney General, was present and serving as the Board's legal counsel.

### Approval of Minutes

Prior to voting on the February 19, 2016 minutes, Mr. Dawson moved that more elaborative language be added to the minutes describing the Executive Session that occurred at the February meeting. Ms. Monday seconded the motion and it passed unanimously. Mr. McMahan informed the Board that those revisions would be made and the draft minutes for the February 19, 2016 Review Board meeting would be presented at the May 20, 2016 meeting for further review and consideration.

### Public Comment

The Chairman opened the floor for public comment. The Secretary reported that no one was preregistered. The Chairman closed the public comment period.



Final Orders

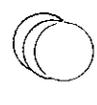
Appeal of Starr Construction, Inc.; Appeal No. 15-6

After review and consideration, Mr. Mays moved to approve the final order as presented in the Review Board members' agenda package. The motion was seconded by Mr. Crigler and passed unanimously, with Mr. Kessler abstaining from the vote.

Appeal of the City of Richmond; Appeal Nos. 15-12 and 15-13:

After review and consideration, Mr. Epperson moved to approve the final order as presented in the Review Board members' agenda package. The motion was seconded by Ms. Monday and passed unanimously, with Mr. Kessler abstaining from the vote.

Mr. Pharr arrived at approximately 10:19 a.m.



New Business

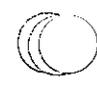
Mr. McMahan advised the Chairman and Board members that the parties in the McLaughlin appeal agreed to continue the matter subsequent to the Review Board members' agenda package being distributed and it is therefore stricken from the docket.

Appeals of David & Tara Laux; Appeal Nos. 15-15 and 15-22:

An appeal hearing convened with the Chairman serving as the presiding officer. The appeal concerned alleged violations of the 2012 Virginia Uniform Statewide Building Code (USBC) as it relates to the construction of multiple structures on property located in Fairfax County.

The following persons were sworn in and given the opportunity to present testimony:

David Laux, homeowner  
Tara Laux, homeowner  
Rick Antonowics, for Fairfax County  
Debra McMahan, for Fairfax County



Also present were:



Appeals of David & Tara Laux.; Appeal Nos 15-15 and 15-22  
(cont'd.):

Chris Costa, Esq., counsel for Fairfax County

After deliberation, Mr. Epperson moved to uphold the decision of the building official and the local appeals board concerning the Stop Work Order issued due to alleged unsafe conditions associated with unpermitted construction activities on the property. The motion was seconded by Mr. Kessler and pass unanimously.

After testimony concluded, the Chairman closed the hearing and stated a decision from the Review Board members would be forthcoming and the deliberations would be conducted in open session. It was further noted that a final order reflecting the decision would be considered at a subsequent meeting and, when approved, would be distributed to the parties and would contain a statement of further right of appeal.

Decisions – Appeals of David & Tara Laux.; Appeal No. 15-15:

After deliberation, Mr. Pharr moved to uphold the decision of the building official and the local appeals board concerning the Notice of Violation issued for unpermitted construction activities on the property. The motion was seconded by Mr. Mays and pass unanimously.

Appeal of Catherine Rowson; Appeal No. 15-16:

An appeal hearing convened with the Chairman serving as the presiding officer. The appeal concerned alleged violations of the 2012 Virginia Maintenance Code (VMC) as it relates to the alleged lack of maintenance of a residential property located in the City of Chesapeake.



Appeal of Catherine Rowson; Appeal No. 15-16 (cont'd.)

The following persons were sworn in and given the opportunity to present testimony:

Catherine Rowson, homeowner  
Harry Rowson, for the homeowner  
Armetta Skinner, for the homeowner  
Richard Burkard, Jr., for the City of Chesapeake  
Deborah S. Butler, for the City of Chesapeake  
John T. King, III, for the City of Chesapeake

Before testimony began, Ms. Rowson informed the Board that she had not received notice of her hearing and, as a result, was not prepared to offer testimony on her appeal. She asserted she was only at the meeting to assist her son in his appeal scheduled immediately after hers. The Chairman asked Ms. Rowson if she would agree to a continuance of her appeal by the Review Board until the next meeting to allow her more time to prepare. After consideration, Ms. Rowson agreed to the continuance.

Appeal of Harry and Catherine Rowson; Appeal No. 15-17:

An appeal hearing convened with the Chairman serving as the presiding officer. The appeal concerned alleged violations of the 2012 Virginia Maintenance Code (VMC) as it relates to the maintenance of a residential property located in the City of Chesapeake.

The following persons were sworn in and given the opportunity to present testimony:

Catherine Rowson, homeowner  
Harry Rowson, homeowner  
Armetta Skinner, for the homeowner  
Richard Burkard, Jr., for the City of Chesapeake



Appeal of Harry Rowson; Appeal No. 15-17:

Deborah S. Butler, for the City of Chesapeake  
John T. King, III, for the City of Chesapeake

After testimony concluded, the Chairman closed the hearing and stated a decision from the Review Board members would be forthcoming and the deliberations would be conducted in open session. It was further noted that a final order reflecting the decision would be considered at a subsequent meeting and, when approved, would be distributed to the parties and would contain a statement of further right of appeal.

Decision – Appeal of Harry Rowson; Appeal No. 15-17:

After deliberation, Mr. Epperson moved to modify the decisions of the local code official and the local board of building code appeal to allow Mr. Rowson an additional 90 days to remove debris and personal items from his home; to have a professional engineer complete a the structural evaluation of the building; and to acquire a professionally prepared estimate for necessary repairs to his home which must include a list of building permits required to complete the repairs. The motion was seconded by Mr. Mays and passed unanimously.

Subsequently, Mr. Pharr offered a further modification to the timeframe stipulating that if after 90 days, the final order has not be fully complied with, then 30 days thereafter the City may commence with its demolition process, with the caveat that no demolition may occur sooner than 90 days following the conclusion of the 90 day period. The motion was seconded by Mr. Kessler and passed unanimously.

Secretary's Report

Mr. McMahan informed the board members of several upcoming cases, future Review Board meetings and upcoming building code development activities in the state.

Adjournment

There being no further business, the meeting was adjourned by motion of Mr. Crigler at approximately 3:25 p.m.



Approved: \_\_\_\_\_

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Chairman, State Building Code Technical Review Board

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Secretary, State Building Code Technical Review Board



Virginia:

BEFORE THE  
STATE BUILDING CODE TECHNICAL REVIEW BOARD (REVIEW BOARD)

IN RE: Appeals of David & Tara Laux  
Appeal Nos. 15-15 and 15-22

Hearing Date: February 19, 2016

DECISION OF THE REVIEW BOARD

I. PROCEDURAL BACKGROUND

The State Building Code Technical Review Board (Review Board) is a Governor-appointed board established to rule on disputes arising from application of the Virginia Uniform Statewide Building Code (USBC) and other regulations of the Department of Housing & Community Development. See §§ 36-108 and 36-114 of the Code of Virginia. The Review Board's proceedings are governed by the Virginia Administrative Process Act. See § 36-114 of the Code of Virginia.

II. CASE HISTORY



In June of 2015, the Fairfax County Department of Public Works and Environmental Services (County building department), the agency responsible for the enforcement of Part I of the Virginia Uniform Statewide Building Code (USBC) conducted an inspection of property owned by David and Tara Laux (hereafter collectively referred to as "Laux") at 4613 Randolph Drive in Annandale.

The County building department consequently issued a stop work order, in June of 2015, to Laux under USBC Section 114 (Stop Work Orders) for the construction of a two-story garage addition without a valid building permit. The order required Laux to:

- (1) cease all construction activity immediately and secure the job site,
- (2) submit site-related plans accurately reflecting the scope of work,
- (3) submit architectural drawings to accurately reflect the scope of work, and
- (4) obtain a building permit and any related trade permits.

Subsequently, Laux appealed the stop work order to the Fairfax County Board of Building Code Appeals (local appeals board).

The same month, the County building department gave Laux permission to add a weather-resistant barrier to the addition's exterior walls and shingles to its roof. In doing so, the County building department stipulated "[...] any construction beyond that is subject to the stop work order and prohibited."

On June 18, 2015, the Circuit Court of Fairfax County approved an Agreed Order that showed Laux received the County's stop work





order, but did not cease work immediately; instead, Laux contacted the County building official (County building department) for permission to secure the construction on the property. The Agreed Order enjoined Laux "[...] from continuing all other construction activity on the subject property [...] during the pendency of the Lauxes' appeal of the Stop Work Order".

The local appeals board heard the appeal on July 16, 2015 and ruled to uphold the decision of the County building department.

Subsequently, Laux further appealed to the Review Board and it was styled "David & Tara Laux appeal; Appeal No. 15-15".



Review Board staff conducted an informal fact-finding conference in November of 2015, attended by Laux and legal counsel for the County building department. During the discussion, Laux explained that they tried numerous times to apply for a building permit for the garage addition, but were denied by the county without explanation. Laux stated that due to the delay in acquiring a building permit, and faced with the pending expiration of a special-use permit to build within a 15-foot side yard setback on their property, they began construction of the two-story garage addition. The county asserted Laux never had a special-use permit and that despite several legal actions in the Circuit Court of Fairfax County,

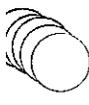






which prevented further construction on the addition, Laux continued working on the project.

Subsequent to the informal fact-finding conference, but prior to a hearing before the Review Board, Laux filed a second appeal to the local appeals board. The appeal was of a notice of violation issued by the County building department on October 26, 2015 on the same property. The notice cited violations of USBC Sections 108.1 (When applications are required) and 113.3 (Minimum Inspections) for the construction of several structures on the Lauxes' property including the aforementioned two-story garage addition, a retaining wall, a front porch, a footbridge, and the partial installation of an electrical circuit in the garage addition.



The stop work order issued in June of 2015 by the County building department required Laux to cease all construction activity on their property. The succeeding notice of violation, issued in October of 2015, required Laux to obtain the necessary permits and inspections for the two-story garage, as well as additional construction activity.

In December of 2015, the local appeals board heard the appeal of the October 25, 2015 notice of violation and ruled to uphold the decision of the County Building Department.





In January of 2016, Laux further appealed that decision to the Review Board and it was styled "David & Tara Laux appeal; Appeal No. 15-22."

A hearing was held before the Review Board with Laux; representatives of the County building department, and its counsel, present. Both appeals (Nos. 15-15 and 15-22) were heard concurrently as they pertained to the same property, are owned by the same individuals and because their issues are closely interconnected.

### III. FINDINGS OF THE REVIEW BOARD

The Review Board finds that the color photographs submitted by both parties clearly show the construction of a two-story garage addition, a retaining wall, a front porch, and footbridge, all items cited in the October 26, 2015 notice of violation. Not submitted were photographs showing the installation of an electrical circuit in the two-story garage addition, another violation cited in the same notice.

Although the photographs document construction activity on the Laux's property, no evidence was offered to substantiate that any USBC permits had been obtained to authorize the work.

USBC Section 108.2 permits certain work to be performed without a permit, typically ordinary repair-type of work where





components are only being replaced; however, none of the work documented to have taken place on Laux's property appear to qualify under the permit exception. Laux, however, argued that the retaining wall on the property was supporting less than three feet of unbalanced fill, thereby making it exempt from the requirement for a permit. The County building department contended that only portion of the retaining wall supported less than three feet of unbalanced fill.



The County building department testified about USBC Section 114 (Stop Work Orders) and emphasized its attempts to assist Laux in bringing the addition into compliance with the USBC. Laux testified they were not initially allowed to apply for a permit for the addition, with no explanation by the County building department. Laux contended that if they had been notified, in writing, of the County's reasons for not issuing the permit, as required by USBC Section 110.1 (see below), they would have addressed the deficiencies to obtain the necessary permits. In addition, the County building department noted the despite Laux's claim of having a special-use permit for construction within a 15-foot side-yard setback on their property; however, it said there was no record of such a permit.

USBC Section 110.1



"If the applications or amendments do not comply with the provisions of this code or all pertinent laws and ordinances, the permit shall not be issued and the permit





applicant shall be notified in writing of the reasons for not issuing the permit".

The Review Board finds that the USBC does not provide for the waiving of requirements for obtaining permits, however, it does provide for the granting of modifications and for allowing work to commence prior to the issuance of a permit under certain circumstances. Laux could have pursued those avenues for relief with the County building department rather than ignoring the permit requirements in the USBC.



Additionally, the Review Board bases its decision on past Review Board several cases concerning similar circumstances, notably Ruprai (Appeal No. 10-9) in which the appellant began alterations to a structure prior to obtaining the necessary building permits.

#### I. FINAL ORDER

The appeal having being given due regard, and for the reasons set out herein, the Review Board orders the decision of the County building department and the local appeals board to be, and hereby is, upheld.



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Chairman, State Technical Review Board

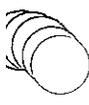




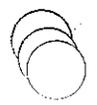
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Date Entered

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty (30) days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a Notice of Appeal with Alan W. McMahan, Secretary of the Review Board. In the event that this decision is served on you by mail, three (3) days are added to that period.







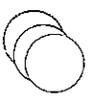
Virginia:

BEFORE THE  
STATE BUILDING CODE TECHNICAL REVIEW BOARD (REVIEW BOARD)

IN RE: Appeal of Harry & Catherine Rowson  
Appeal No. 15-17

Hearing Date: March 22, 2016

DECISION OF THE REVIEW BOARD



I. PROCEDURAL BACKGROUND

The State Building Code Technical Review Board (Review Board) is a Governor-appointed board established to rule on disputes arising from application of regulations of the Department of Housing & Community Development. See §§ 36-108 and 36-114 of the Code of Virginia. The Review Board's proceedings are governed by the Virginia Administrative Process Act. See § 36-114 of the Code of Virginia.

II. CASE HISTORY



In October of 2014, the City of Chesapeake's Department of Development and Permits (local building department), the agency responsible for the enforcement of Part III of the Virginia Uniform Statewide Building Code (the Virginia Maintenance Code or VMC), conducted an inspection of a property located at 813 Mullen Road, owned by Harry and Catherine Rowson (hereafter collectively referred to as "Rowson").

Consequently, the local building department issued a notice of unsafe structure (demolition) to Rowson in December of 2014 for violations of VMC Section 105 (Unsafe Structures or Structures Unfit for Human Occupancy). The locality sent the notice to Rowson by certified mail, posted the notice on the front of the house and had it published in a local newspaper in December of 2014.

In December of 2014, Rowson filed an appeal to the City of Chesapeake's Local Board of Building Code Appeals (local appeals board) which heard the appeal in January of 2015 and continued it for ninety days allowing Rowson time to obtain the necessary permits to correct the code violations.

Subsequently, the local building department issued a building permit to Rowson for exploratory demolition of the front porch and for the repair of one sill plate. The permit was valid for fourteen days.



In May of 2015, the local appeals board granted Rowson an additional ninety days to repair the structure. Then the local building department issued a building permit to Rowson for the repair of porch railings only.

In September of 2015, the local appeals board re-heard Rowson's appeal and ruled to deny it.

Rowson further appealed to the Review Board and a hearing was held before the Review Board with Rowson, his witnesses, the city code official and his witnesses, present.

### III. FINDINGS OF THE REVIEW BOARD

During the hearing, the local building department provided testimony to demonstrate the unsafe condition of Rowson's home. The testimony, supplemented by the color photographs and documents provided in the board package, showed multiple violations of VMC Section 105 VMC (Unsafe Structures or Structures Unfit for Human Occupancy) to the interior and exterior of the home, including water and termite damage that with the resultant peeling paint and rotten wood. In its testimony, the local building department referenced an independent structural engineer's evaluation (included in the agenda package) that indicated structural damage to the home's wall and floor framing. Rowson argued that the report was



incomplete because the engineer was unable to fully evaluate the condition of the floor due to the amount of debris and personal items covering the floor, and because the engineer did not evaluate the floor's structural system from the crawl space during the inspection. Rowson conceded that despite several extensions of time by the city, his recent medical issues and a lack of funding, due to being incapacitated, have prevented him from personally completing the repairs required by the local building department.

The Review Board finds that VMC Section 105 requires that structures be vacated and secured against public entry or razed and removed when determined to be unsafe or unsafe for occupancy, as was determined by the local building department in this case. However, the Review Board finds that a complete structural evaluation is necessary to accurately determine the extent of damage present in the home.

#### IV. FINAL ORDER

The appeal hearing has been given due regard, and for the reasons set out herein, the Review Board modifies the decision of the local building official and the local appeals board to grant one 90-day extension from the approval date of the final order to allow the appellant to: 1.) remove debris to make a



complete evaluation; 2.) acquire a complete structural engineer's report; and 3.) acquire a professionally prepared cost estimate. Moreover, the estimate must include an outline of inspections that will be required by the city to complete the repairs. A failure to submit the evaluation and estimate would allow the City of Chesapeake to demolish the house.

Furthermore, if after 90 days, the final order has not been fully complied with, then 30 days thereafter the City may commence with its demolition process; however, no demolition may occur sooner than 90 days following the conclusion of the 90-day period.

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Chairman, State Technical Review Board

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Date Entered

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty (30) days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a Notice of Appeal with Alan W. McMahan, Secretary of the Review Board. In the event that this decision



is served on you by mail, three (3) days are added to that period.



VIRGINIA:

BEFORE THE  
VIRGINIA MANUFACTURED HOUSING BOARD

IN RE: Karen McLaughlin; Appeal No. 11-3

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VIRGINIA:

BEFORE THE  
STATE BUILDING CODE TECHNICAL REVIEW BOARD (REVIEW BOARD)

IN RE: Appeal of Karen McLaughlin  
Appeal No. 11-3

REVIEW BOARD STAFF DOCUMENT

1. In July of 2009, the Loudoun County Department of Building and Development (local building department), the agency responsible for the enforcement of Part I of the 2006 Virginia Uniform Statewide Building Code (the Virginia Construction Code or VCC) issued a building permit to Van Metre Homes (Van Metre), a licensed contractor, for the construction of a single-family home at 42975 Park Creek Drive in Ashburn. The eventual owners of the home were Frank and Karen McLaughlin (McLaughlin).

2. In response to a complaint by the McLaughlins, the local building department conducted an inspection of the home in December of 2010. As a result of the inspection, the local building department issued a Notice of Violation to Van Metre Homes citing Section 115.1 (*Violations*) and Section 109.3 (*Engineering Details*), respectively. The notice noted that previous geotechnical engineering work on the property indicated that plastic soils present at the site were not approved as backfill against foundation walls, and that subsequent soil testing of the backfill around the home suggested the presence of plastic soils unsuitable for backfill material. Consequently, the local building department required proof from Van Metre that the soils had been tested and found suitable for use as backfill material.

3. In February of 2011, after reviewing the results of a subsurface report by Engineering Consulting Services (ECS) indicating that the Liquid Limits (LL) and Plasticity



Index (PI) fall at or below the maximum established by the geotechnical report, the local building department rescinded its December 1, 2010 Notice of Violation against Van Metre. In the same correspondence, the local building department said the “foundation wall is adequately designed to resist the soil pressures.”

4. Consequently, McLaughlin filed an appeal to the County of Loudoun Board of Building Code Appeals (local appeals board) of the local building department’s decision to rescind its Notice of Violation against Van Metre Homes. The local appeals board heard the appeal on March 17, 2011 and ruled to uphold the decision of the local building department.

5. In processing the McLaughlin’s appeal to the Review Board, staff conducted an informal fact-finding conference in June of 2011, attended by Karen McLaughlin; Van Metre representatives; Clendinin Consulting & Remediation Group (Clendenin) representatives; ECS representatives; and representative of the local building department. The discussion at the conference centered on three main issues: the type of backfill material used; the type of drainage system installed adjacent the basement walls; and whether the masonry basement walls were structurally adequate to resist the hydrostatic pressure exerted against them by the backfill. As a result, McLaughlin stated plans to hire a structural engineer to evaluate the home’s basement walls for their structural adequacy in resisting the lateral pressure exerted upon it by the backfill material.

6. Subsequently, from 2011 until 2015, both parties agreed to multiple continuances of the appeal. In March of 2015, the Review Board established a policy that any appeal older than two years from its application date must be processed for a hearing. In July of 2015, Review Board staff notified McLaughlin and Van Metre of this new policy.



7. In January of 2016, Review Board staff contacted the parties to make them aware of plans to schedule a hearing on the appeal. In subsequent discussions with McLaughlin and Bruce Clendenin, (president of Clendenin), representing McLaughlin, the parties expressed concern about the adequacy of the home's basement walls supporting the backfill material, as well as, the type of backfill material used against the home.

8. Later that same month, this staff document was drafted and distributed to the parties and timeframes were established for the submittal of objections; corrections or additions to the staff document; the submittal of additional documents for the record; and written arguments to be included in the record of the appeal prepared for the hearing before the Review Board.

Suggested Issue for Resolution by the Review Board

1. Whether to overturn the local building department's Feb. 8, 2011 decision that "the soils used as backfill material against the foundation wall are suitable" and do not constitute a violation of the 2006 USBC, and the local appeals board's decision to uphold that determination.

2. Whether to overturn the local building department's Feb. 8, 2011 decision that "the foundation wall is adequately designed to withstand the soil pressure imposed by those soils" and does not constitute a violation of the 2006 USBC, and the local appeals board's decision to uphold that determination.



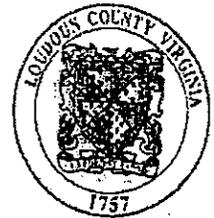
**REVIEW BOARD APPEAL 11-3**

**COMBINED DOCUMENTS  
SUBMITTED BY BOTH PARTIES**





**County Of Loudoun**  
 Department of Building and Development  
 1 Harrison St., S.E., P.O. Box 7000  
 Leesburg, Virginia 20177  
 (703) 777-0220



Automated Inspection Request (703) 771-5331

Web Inspection Request [www.loudoun.gov/b&d/wairs](http://www.loudoun.gov/b&d/wairs)

The permit holder is responsible for inspections and for assuming that the final approvals are received prior to use of building structure

This permit will expire if no inspections have been completed within the twelve month period following the permit-issue-date or within any twelve month period thereafter

When required, residential per unit cash proffers must be paid by cashier's check after all inspections have been finalized. Once received, two business days are required for processing prior to issuance of the occupancy permit

**BUILDING/ZONING PERMIT # B90137020100**

Permit Issue Date :	2009-07-22	Building Permit # :	B90137020100
Applicant Name :	VAN METRE HOMES AT	Structure Type :	RESIDENTIAL SGL FMLY DETACHED
Owner Name :	MCLAUGHLIN, FRANK & KAREN	Construction Purpose :	NEW CONSTRUCTION
Property Address :	42975 PARK CREEK DR ASHBURN VA 20148	Permit Purpose :	SFD/PRESCOTT 7300/GOURMET
Bldg/ Floor/ Unit :		Pin Number :	157307919000
Section/ Lot :	SEC 62 BLK 2 LOT 11	Tax Map Number :	/78/A52/111/
Subdivision :	BROADLANDS SOUTH	Contractor :	VIRGINIA RESIDENTIAL
Mechanics' Lien Agent :	WALKER TITLE (LEE JACKSON)	Related Permits :	EP GP MP OP PP ZP
Mech Lien Agent Addr :	11781 LEE JACKSON MEM HWY FAIRFAX VA22030	Mech Lien Agent Ph # :	703 591 2325

**Permit Comments**

Proffer: \$663.69 #3228 7/16/09 Miller and Associates.  
 Vested under the 1972 Zoning Ordinance  
 Building height, as defined in Section 520.3 of the 1972 Zoning Ordinance, may not exceed 35'.  
 Issuance of this zoning permit does not nullify restrictions that may exist due to easements, buffers, and/or legally established tree save areas. No structures on any easements, buffers &/or tree save areas.

**Detail Information**

TYPE OF SEWERAGE SYSTEM	PUBLIC
TYPE OF WATER SYSTEM	PUBLIC
TYPE OF BASEMENT	UNFINISHED
TYPE OF GARAGE	ATTACHED
NUMBER OF GARAGE SPACES	2
NUMBER OF BEDROOMS	4
NUMBER OF HALF BATHROOMS	1
NUMBER OF FULL BATHROOMS	3
ESTIMATED CONSTRUCTION COST	250000.00
ESTIMATED PROJECT COST	250000.00
HOUSE TYPE	PRESCOTT 7300
NUMBER OF OPTIONS	2
OPTION- # 1	MORNING ROOM EXT
OPTION SQUARE FEET- # 1	185
OPTION- # 2	GOURMET KITCHEN
PLANS REVIEW CHARGED (Y/N)	Y
USBC EDITION	2006
LIVING AREA 1 SQUARE FEET	3937
BLDG USE GROUP	R3
BLDG CONSTRUCTION TYPE	5B
TOTAL GARAGE SQUARE FEET	403
BASEMENT SQUARE FEET	1933
OCCUPANCY LOAD	3
SPECIAL CONDITIONS/NOTES	



SETBACK3 (SIDE1) REQUIRED	12.00
SETBACK4 (SIDE2) REQUIRED	9.00
SETBACK1 (FRONT) ACTUAL	33
SETBACK2 (REAR/FRONT2) ACT	18
SETBACK3 (SIDE 1) ACTUAL	15
SETBACK4 (SIDE 2) ACTUAL	9
BUILDING HEIGHT	28

**Fee Calculations**

<u>Description</u>	<u>Units</u>	<u>Rate</u>	<u>Total</u>
LIVING AREA SQUARE F	3937.00	101.9500	\$401377.15
GARAGE ATTACHED SQFT	403.00	39.6100	\$15862.83
TOTAL GROSS AREA SQF	0.00	0.0000	\$446334.98
GROSS AREA MODIFIER	446334.98	1.0000	\$446334.98
PERMIT MULTIPLIER FE	446334.98	0.0048	\$2142.40
RESIDENTIAL PLANS RE	0.00	0.0000	\$60.00
OVERLOT GRADING FEE	0.00	0.0000	\$150.00
PERMIT OCCUPANCY - Z	0.00	0.0000	\$30.00
PERMIT OCCUPANCY	0.00	0.0000	\$70.00
PERMIT ZONING FEE	0.00	0.0000	\$50.00
PERMIT TOTAL FEE	0.00	0.0000	\$2502.40



**ECS Mid-Atlantic, LLC**  
 14026 Thunderbolt Place, Suite 100  
 Chantilly, Virginia 20151 Phone: 703-471-8400

**RESIDENTIAL INSPECTION CERTIFICATION**

**Project / Site Data**

Builder: Virginia Residential Construction, Inc. Project / Subdivision: Broadlands Section: 62  
 Lot#: 11-2 Map ID: LC 30 F 6 Building Permit# B90137020100 Concrete Contractor: Green Village  
 Permit Address: 42975 Park Creek Dr.

Jurisdiction: Loudoun County

Inspection Type:	Result	Date	Time	Temp	Tech	Soil*	Inspection Type:	Result	Date	Time	Temp	Tech	Soil*
Footings (Record # of Piers): <u>7</u> Subgrade	<u>X</u>	<u>08/25/09</u>	<u>2:30p</u>	<u>80F</u>	<u>RMH</u>	<u>I</u>	Sloops # of Locations: <u>1</u>	<u>X</u>	<u>09/21/09</u>	<u>8:00a</u>	<u>60F</u>	<u>RMH</u>	<u>G</u>
Footings (Record # of Piers): <u>7</u> Forms	<u>X</u>	<u>08/25/09</u>	<u>2:30p</u>	<u>80F</u>	<u>RMH</u>	<u>I</u>	Arasway Stairs / Walls	<u>X</u>	<u>09/11/09</u>	<u>7:30a</u>	<u>70F</u>	<u>RMH</u>	<u>G</u>
Deck Footings (Record # of Piers): <u>Subgrade</u>							Wall-Plain Concrete						
Other Footings (Describe):							8" 10" 12"						
Basement Slab Ground Supported	<u>X</u>	<u>08/11/09</u>	<u>7:30a</u>	<u>70F</u>	<u>RMH</u>	<u>I</u>	Wall-Reinforced Concr.	<u>X</u>	<u>09/28/09</u>	<u>1:00p</u>	<u>80F</u>	<u>RMH</u>	<u>I</u>
Basement Slab Structural							Waterproofing / Drainage Mech. <u>X</u> Grav. <u></u>	<u>X</u>	<u>09/02/09</u>	<u>4:00p</u>	<u>80F</u>	<u>RMH</u>	<u>I</u>
Garage Slab Ground Supported							Camproofing / Drainage Mech. <u></u> Grav. <u></u>						
Garage Slab Structural	<u>X</u>	<u>09/11/09</u>	<u>7:30a</u>	<u>70F</u>	<u>RMH</u>	<u>G</u>	Backfill	<u>X</u>	<u>09/02/09</u>	<u>4:00p</u>	<u>80F</u>	<u>RMH</u>	<u>I</u>
Other: #1							Hearths Inspected#						
							Other: #2 ***						

\*Soil Conditions: (A) Compacted Fill (B) Seasonal High Water Table (C) Expansive Clay (D) Karst Topography (E) Perched Water (F) Shallow Rocks (G) Uncontrolled Fill (H) Other (Well/septic, Green Stone, Evidence of Chemical Contaminant) (I) Non Problem Soil

\*\* Other Inspection Descriptions:

Are erosion / siltation controls installed as required by the approved site plan?  Yes  No

Certification Statement:

I hereby certify that I am approved to inspect the above elements of residential dwellings in the LOUDOUN COUNTY jurisdiction; that I have read the Virginia Uniform Statewide Building Code, and I am thoroughly familiar with the provisions contained therein.

I further hereby certify that the installation observed at the location described above is installed in accordance with the approved plans and the Virginia Statewide Uniform Building Code

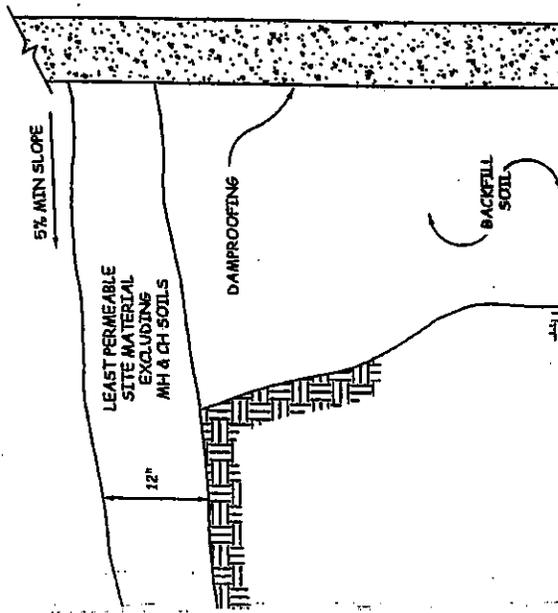
I further hereby certify that I have reviewed the approved Geotechnical Report, if applicable, and have determined the work, which is the subject of this document, to be consistent with the county approved report. I further acknowledge that I have reviewed all fill placements and compaction reports, which are applicable to the scope of this document.

Concrete and backfill placements and finishing were not observed/performed as part of our residential inspection services.

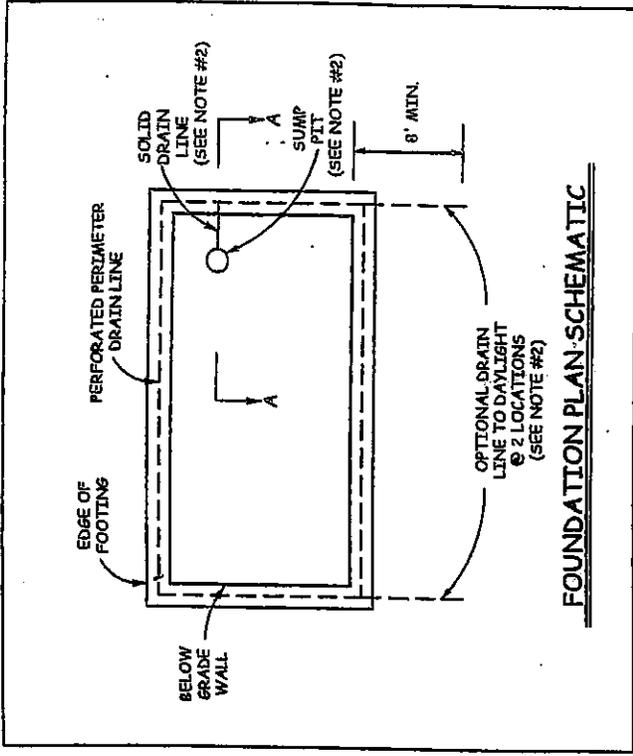
Signature: <u>Kishore K. Kotha</u> Lic. No. <u>041455</u> Date: <u>09/24/09</u>	Comments: *** Other inspections may be authorized by the Building Official prior to conducting the inspections.
	1#  2#  RECEIVED  OCT - 1 2009  Building & Governmental Affairs County of Loudoun, VA

# RESIDENTIAL BELOW GRADE DRAINAGE DETAIL (NON-SEVERE GROUNDWATER TABLE)

NOT TO SCALE



## FOUNDATION PLAN SCHEMATIC



### DEFINITIONS:

**DAMPROOFING:** SEALING HOLES, RECESSES, JOINTS & PENETRATIONS WITH APPROVED BITUMINOUS MATERIAL, PARING WITH PORTLAND CEMENT (3/8 INCH MINIMUM) ON MASONRY WALLS ONLY, FOLLOWED BY AT LEAST ONE COAT OF APPROVED BITUMINOUS MATERIAL AT THE RECOMMENDED APPLICATION RATE.

**DRAINAGE STONE:** NO. 57 STONE, OR EQUIVALENT

**GEOTEXTILE:** EOS OF 40 TO 70 (MIRAFIT 140N, AMOCO 2016, OR EQUIVALENT)

**BACKFILL SOIL:**

CLASS I - 5M, SP, SW, GM, GP, GW

CLASS II - ML OR CL W/LL-40, PT-25

**CONCRETE SLAB ON GRADE**

6 MIL VAPOR BARRIER

**SUMP PIT**

(PUMP NOT SHOWN FOR CLARITY)

(SEE NOTE #2)

**4" SOLID PVC PIPE**

(SEE NOTE #2)

**4" PERFORATED DRAIN PIPE**

ENCAPSULATED BY MINIMUM OF

6" OF DRAINAGE STONE

COVER WRAPPED IN GEOTEXTILE

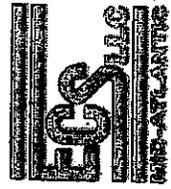
**4" DRAINAGE STONE**

**FILL ANNULUS W/DRAINAGE STONE**

### SECTION A-A

### NOTES:

- 1) BELOW GRADE LATERAL EARTH PRESSURE DESIGN REQUIREMENTS: (EXCLUDING SURCHARGE LOADS)  
CLASS I BACKFILL SOIL: 45psf/ft  
CLASS II BACKFILL SOIL: 60psf/ft
- 2) WHERE DISCHARGE OF PERIMETER DRAIN LINE CAN BE ROUTED TO DAYLIGHT BY GRAVITY, WEEPHOLE AND SOLID PVC PIPE CAN BE DELETED AND SUMP PIT CAN BE INDEPENDENTLY DISCHARGED. DAYLIGHT PERIMETER DRAIN LINE AT LEAST 8 FEET FROM STRUCTURE AT 2 LOCATIONS.



CONFIDENTIAL AGREEMENT

THIS CONFIDENTIAL AGREEMENT ("Agreement") is made on the day and year set forth below by and between Frank McLaughlin, and Karen L. McLaughlin, their successors, heirs, and assigns (whether one or more, "Buyer") and the Seller identified below ("Seller") and Virginia Residential Construction, Inc. ("VRC") and each of Seller's and VRC's respective owners, directors, officers, partners, members, employees, agents, affiliates, companies, subsidiaries, subcontractors and suppliers (collectively, "VM"). "Party" refers to Buyer or VM respectfully and "Parties" refers collectively to Buyer and VM. In consideration of the mutual promises and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Buyer and VM agree as follows:

1. Buyer and Seller entered into an Agreement of Sale dated June 24, 2009 (the "Contract") for the sale and purchase of the property known as Subdivision: Broadlands Section 62 Classics and Estates, Address: 42975 Park Creek Drive, Broadlands, Virginia, 20148, Lot: 11 Section: 62 Block: 2 (the "Home"). Closing on the purchase of the Home occurred on November 24, 2009 (the "Settlement").

2. The following problems, contractual issues, disputes, differences, miscommunications and/or misunderstandings have arisen by and between the Parties (collectively, the "Problem"):  
Sump pump operations.

Except for the Problem described above, Buyer represents and warrants to Seller that, as of the date of this Agreement, Buyer is not aware of, or otherwise have notice of, any other problems, contractual issues, disputes, differences, miscommunications and/or misunderstandings by and between the Parties.

3. In consideration of the Parties entering into this Agreement, including the Concession as reflected in paragraph 4 below, Buyer hereby releases, acquits and forever discharges VM of and from any and all actions, liabilities, claims, demands, damages, attorney's fees, cost of litigation, compensation, charges, causes of action and/or consumer protection or regulatory actions and any claims of breach of contract, or promissory estoppel that Buyer may now or hereafter have against VM (collectively, the "Claims"), whether known or unknown at this time, arising out of, or relating to, the Problem described in paragraph 2 above, as well as any other Claims against VM which the Buyer has notice of (or should reasonably have notice of) as of the date of this Agreement.

4. Seller hereby agrees to the following (collectively, the "Concession"):  
Replace current sump pump with a Zoeller M-98 1/2hp unit, install a 30" deep sump pump crock, and install a Zoeller Model 507 Sentry battery backup system. In addition, the downspouts in the rear of the Home will be buried and exited to a French drain we will install in the rear yard, exiting to the drainage ditch located to the left side of the Home. Also the sump pump discharge line will be buried and exited to the drainage ditch located to the left side of the Home.

5. The Parties acknowledge that this is a compromise settlement of the Problem described herein and that neither Party is admitting any fault or liability. This Agreement is limited in scope and, except as specifically provided herein, the Agreement and/or VM's actions have not and do not in any way: (a) alter, amend or modify the terms of the Contract; (b) extend periods of coverage specified in the Warranty Plus Limited Warranty or any other applicable warranty ("Limited Warranty"); (c) create or establish any new express or implied warranties regarding the Home; and (d) toll and/or extend any applicable statute of limitations. Except as specifically provided herein, this Agreement does not relate to, or affect any Defects in the Home under the Limited Warranty that are not related to the Problem.

6. In consideration of the Concession, Buyer agrees to keep the existence and terms of this Agreement confidential and that they have not and will not divulge it or any of its contents to other homeowners in said Subdivision, or to any other person, entity or governmental agency not involved with the resolution of the Problem, either directly or indirectly.

7. This Agreement contains the entire agreement between the Parties. VM is not bound by any statement, promise or condition not specifically set forth in this Agreement. This Agreement may be executed in two (2) counterparts, each of which, together, shall constitute one and the same Agreement. Buyer represents that prior to signing this Agreement, it has read it, understood its terms and conditions, had the opportunity to consult with an attorney of its choice, and is executing the same voluntarily. Should any one or more of the provisions of this Agreement be determined to be illegal or unenforceable, all other provisions shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Confidential Agreement as of the last date that either of the Parties shall have executed the same.

Buyer(s):

\_\_\_\_\_  
Frank McLaughlin

\_\_\_\_\_  
Date

\_\_\_\_\_  
Karen L. McLaughlin

\_\_\_\_\_  
Date

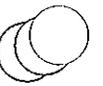
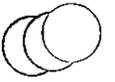
Seller: VAN METRE HOMES AT BROADLANDS, L.L.C., a Virginia limited liability company

By: Third Genpar, Inc., its manager

By: \_\_\_\_\_

Brian Davidson - Authorized Officer

\_\_\_\_\_  
Date



*Van Metre*

BUILDING TRUST FOR GENERATIONS

September 17, 2010

**BY EMAIL AND  
FEDERAL EXPRESS**

Sheila M. Costin, Esq.  
Holmes & Costin, PLLC  
P.O. Box 2734  
Fairfax, Virginia 22031  
Email: [scostin@holmesandcostin.com](mailto:scostin@holmesandcostin.com)

**Re: 42945 Park Creek Drive, Broadlands, Virginia (the "Home")**

Dear Ms. Costin:

I am an in house attorney with Van Metre Companies. Roy Kane, Director of Customer Care for Van Metre Homes, forwarded to me your September 8 and May 12, 2010 letters regarding the Home. I have discussed your letters and the concerns noted therein with Mr. Kane and Brian Davidson, Vice President of Van Metre Homes. I also have reviewed the Limited Warranty for the Home. This letter responds to your letters.

As an initial matter, Van Metre Homes at Broadlands, L.L.C. ("Seller") disagrees with the statement that Seller discovered a defect in the Home prior to settlement, namely a purported problem with underground water, but failed to disclose the same to Mr. and Mrs. McLaughlin ("Buyer"). Seller also disagrees that false representations were made to Buyer at the pre-settlement orientation and after settlement, with respect to the underground water and the running of the Home's sump pump. Van Metre Homes strives to provide a positive and rewarding home buying experience, and the conduct described in your letters is certainly not a part of our business practice.

Seller correctly advised Buyer that the existence of underground water below the Home is not a "defect" pursuant to the Limited Warranty for the Home. In addition, Mr. Kane discussed the pre-settlement orientation with John Grossnickle, Superintendent for Van Metre Homes, who conducted the orientation, and Mr. Grossnickle recalls advising Buyer that the sump pump was operating per design and frequently because recent heavy rains had raised the water table. Mr. Grossnickle did not recall advising that the sump pump would stop after a few

VAN METRE COMPANIES

5252 LYNNGATE COURT BURKE, VIRGINIA 22015

PHONE 703.425.2600 FAX 703.239.0395 [WWW.VANMETRECOMPANIES.COM](http://WWW.VANMETRECOMPANIES.COM)



HOMEBUILDING • INVESTMENT PROPERTIES • PLANNED COMMUNITIES • REAL ESTATE SERVICES

Sheila M. Costin, Esq.  
September 17, 2010  
Page 2

months, as he would be unable to predict weather conditions and the sump pump would operate as designed.

The sump pump is one of the components of the water drainage system for the Home. The Home also has a foundation drainage system. Enclosed is a copy of the plan for the foundation drainage system, which was approved by Loudoun County. Loudoun County also inspected and certified as completed the foundation drainage system before the certificate of occupancy for the Home was issued. To date, the water drainage system is operating as designed, water is draining through the foundation drainage pipes into the sump pump crock, and the sump pump is discharging the collected water away from the Home's foundation. Earlier this year, Van Metre Homes customer care personnel visited the Home to inspect the foundation drainage system. The personnel confirmed that ground water was entering the sump pump crock both through the foundation drainage pipes and otherwise by the proper direction of water per the underground portion of the foundation drainage system.

Importantly, Buyer has not experienced flooding in the Home. Also, Mr. Kane advises that during the inspection of the sump pump, Van Metre customer care personnel did not note any odor from excessive moisture or excessive humidity in the basement of the Home. Although Buyer is concerned about possible flooding, the water drainage system for the Home is operating as designed. Accordingly, there is no defect pursuant to the Limited Warranty with respect to the ground water under the Home.

In your September 8, 2010 letter, you noted a potential issue with a section in the backyard of the Home between the drainpipe and drainage ditch. Seller was not previously advised of the potential issue, and therefore cannot provide a response in this letter. Seller would like to inspect the potential issue at Buyer's convenience to determine whether there is an issue and remedial action is warranted. Please ask Buyer to contact Mr. Kane at (703) 723-2816 or rkane@vanmetrecompanies.com to schedule the inspection.

Although the items you noted in your letters do not constitute "defects" under the Limited Warranty, Seller in the spirit of good customer service will renew the offer previously extended to Buyer by Mr. Kane. Specifically, Seller, at its cost, will direct the following measures: (1) installation of a larger sump pump crock; (2) replacement of the existing 1/3 horsepower sump pump with a more powerful 1/2 horsepower sump pump; (3) installation of a battery backup system for the replacement sump pump; and (4) burying of the existing down spouts on the rear and side of the Home and the sump pit drain underground with solid drain pipe, to allow gravity flow drainage to the existing storm easement / wetlands area near the Home. It is Seller's expectation that the replacement sump pump will operate more quietly and efficiently than the existing sump pump, and together with the other proposed measures will allow for a greater capacity and pace of water collection and disbursement. It is Seller's hope that these additional measures will help to alleviate Buyer's concerns with respect to potential flooding and the level of sound emitted from the operation of the sump pump.

Sheila M. Costin, Esq.  
September 17, 2010  
Page 3

As Mr. Kane previously advised, the above offer is contingent upon the parties signing a release agreement. As there is no defect under the Limited Warranty necessitating the additional measures, Seller declines to perform the additional measures without the release agreement. Seller is willing to limit the scope of the release and waiver to the issues raised by Buyer with respect to the underground water and the water drainage system, rather than a full release and waiver of all claims that Buyer may have against Seller as provided in the release agreement previously circulated by Mr. Kane.

The offer as outlined in this letter is open for Buyer's consideration until close of business on September 30, 2010, and contingent upon the parties signing a release agreement. Please let me know if Buyer wishes to accept the offer, and I will prepare the release agreement.

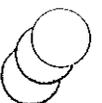
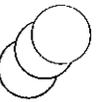
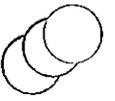
Sincerely,



Juan Manuel Estrada  
Assistant General Counsel

Enclosure

cc: Mr. Brian Davidson  
Mr. Roy Kane



**Bruce Clendenin**

**From:** Pumphrey, David [David.Pumphrey@loudoun.gov]  
**Sent:** Thursday, September 30, 2010 1:26 PM  
**To:** bruce@clendeninconsulting.com  
**Subject:** FW:  
**Attachments:** Res Below Grade Drainage - Non-Severe GW.PDF

Bruce,

I think this is what you were looking for. Pls. let me know if this is ok or if you need anything else. Pls. read the text from Mr. Andonyadis from ECS to further understand where they got this detail from.

David Pumphrey  
Building Plans Reviewer

---

**From:** MAndonyadis [mailto:MAndonyadis@ecslimited.com]  
**Sent:** Thursday, September 30, 2010 11:33 AM  
**To:** Pumphrey, David  
**Subject:** RE:

When those reports were issued back in 2001 there was no detail included, however we looked at similar reports issued for other projects in Broadlands area that we did at that time and we believe that the attached detail is applicable.

**MANOL ANDONYADIS, PE, LEED AP**  
Vice President, Chantilly Office Manager

**ECS Mid-Atlantic, LLC** T: 703-471-8400 D: 703-810-1230 C: 703-201-2541 F: 703-834-5527  
[www.ecslimited.com](http://www.ecslimited.com)

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**From:** Pumphrey, David [mailto:David.Pumphrey@loudoun.gov]  
**Sent:** Thursday, September 30, 2010 10:25 AM  
**To:** MAndonyadis  
**Subject:** RE:

Manol,

The page you sent to me was included in the report that was originally requested by Loudoun County. The information that I am requesting is from page 17 of the report (ECS Job No. 5587-G1) at the last sentence of the third paragraph. It reads as follows. "A Residential Below Grade Drainage Detail is enclosed in the Appendix which depicts our recommendations concerning acceptable below grade wall backfill types, design lateral earth pressures and below grade drainage. I appreciate your help with this matter and I can be reached at (703) 771-5751.

Thank You  
David Pumphrey Building Plans Reviewer

---

**From:** MAndonyadis [mailto:MAndonyadis@ecslimited.com]  
**Sent:** Thursday, September 30, 2010 9:13 AM

**To:** Pumphrey, David  
**Subject:**

As requested.

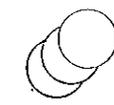
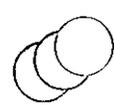
**MANOL ANDONYADIS, PE, LEED AP**

Vice President / Chantilly Office Manager

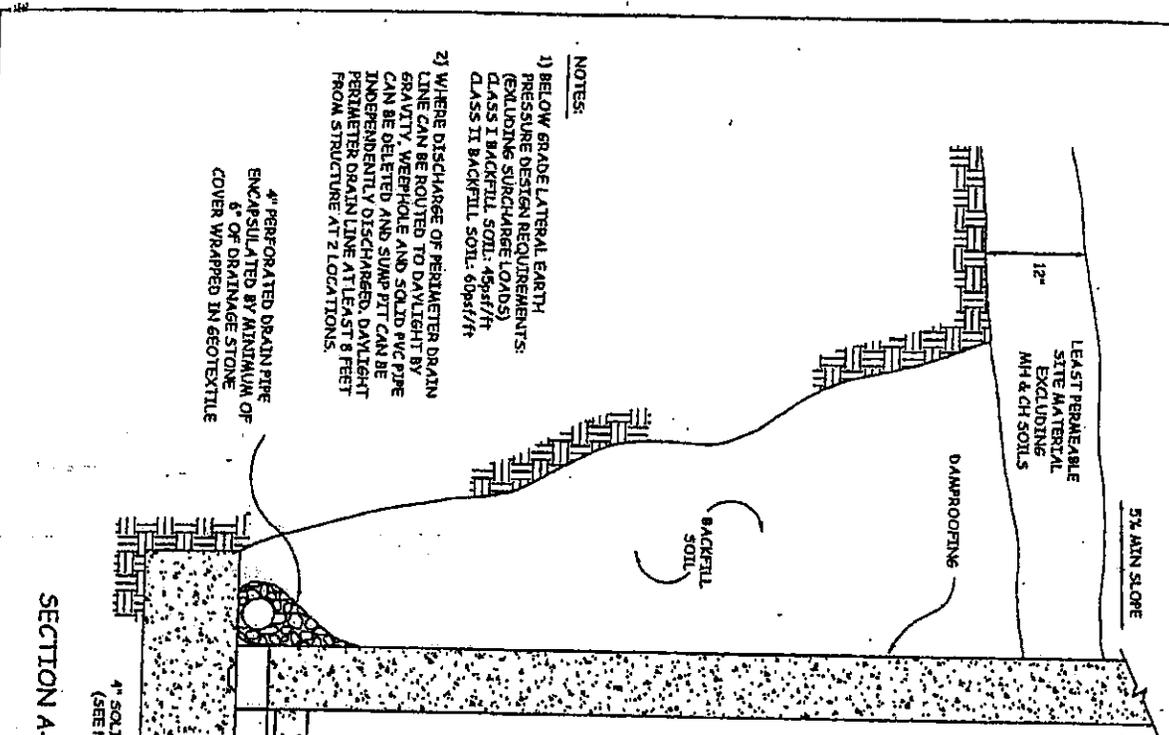
ECS Mid-Atlantic, LLC 14026 Thunderbolt Place, Suite 100, Chantilly, VA 20151

T: 703-471-8400 D: 703-810-1230 C: 703-201-2541 F: 703-834-5527 [www.ecslimited.com](http://www.ecslimited.com)

*Confidential/proprietary message/attachments. Delete message/attachments if not intended recipient.*



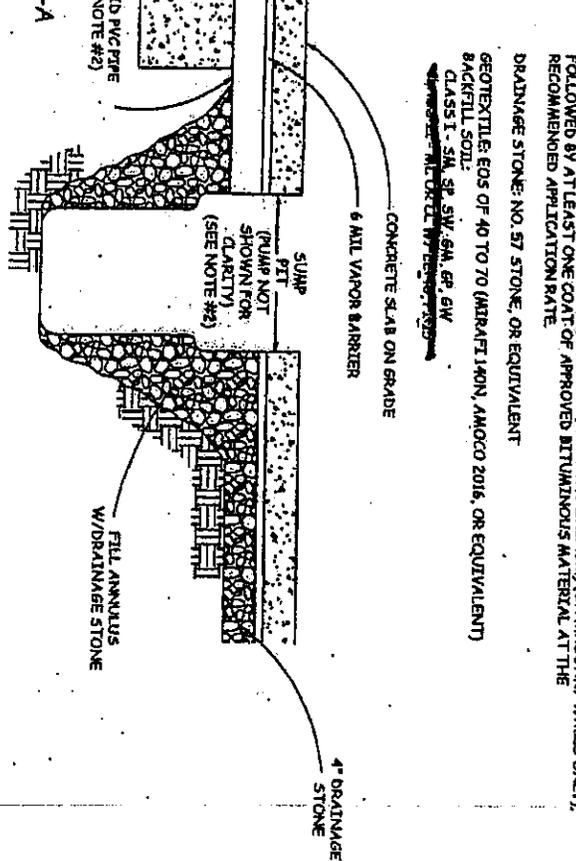
# RESIDENTIAL BELOW GRADE DRAINAGE DETAIL (NON-SEVERE GROUNDWATER TABLE) NOT TO SCALE



- NOTES:**
- 1) BELOW GRADE LATERAL EARTH PRESSURE DESIGN REQUIREMENTS: (EXCLUDING SURCHARGE LOADS) CLASS I BACKFILL SOIL: 45pcf/ft CLASS II BACKFILL SOIL: 60pcf/ft
  - 2) WHERE DISCHARGE OF PERIMETER DRAIN LINE CAN BE ROUTED TO DAYLIGHT BY GRAVITY, WEPIHOLE AND SOLID PVC PIPE CAN BE OMITTED AND SWAMP PIT CAN BE INDEPENDENTLY DISCHARGED. DAYLIGHT PERIMETER DRAIN LINE AT LEAST 8 FEET FROM STRUCTURE AT 2 LOCATIONS.

4" PERFORATED DRAIN PIPE ENCAPSULATED BY MINIMUM OF 6" OF DRAINAGE STONE COVER WRAPPED IN GEOTEXTILE

## SECTION A-A



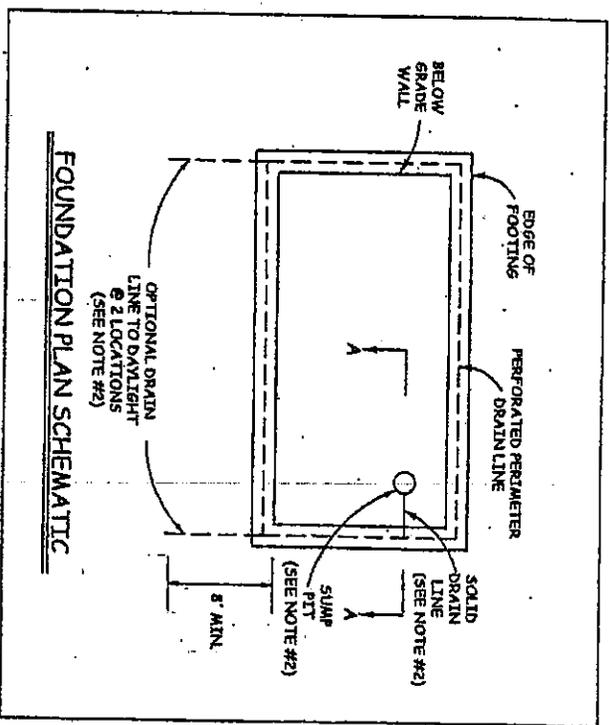
### DEFINITIONS:

**DAMP-PROOFING:** SEALING HOLES, RECESSES, JOINTS & PENETRATIONS WITH APPROVED BITUMINOUS MATERIAL, PARING WITH PORTLAND CEMENT (3/8 INCH MINIMUM) ON MASONRY WALLS ONLY, FOLLOWED BY AT LEAST ONE COAT OF APPROVED BITUMINOUS MATERIAL AT THE RECOMMENDED APPLICATION RATE.

**DRAINAGE STONE:** NO. 57 STONE, OR EQUIVALENT

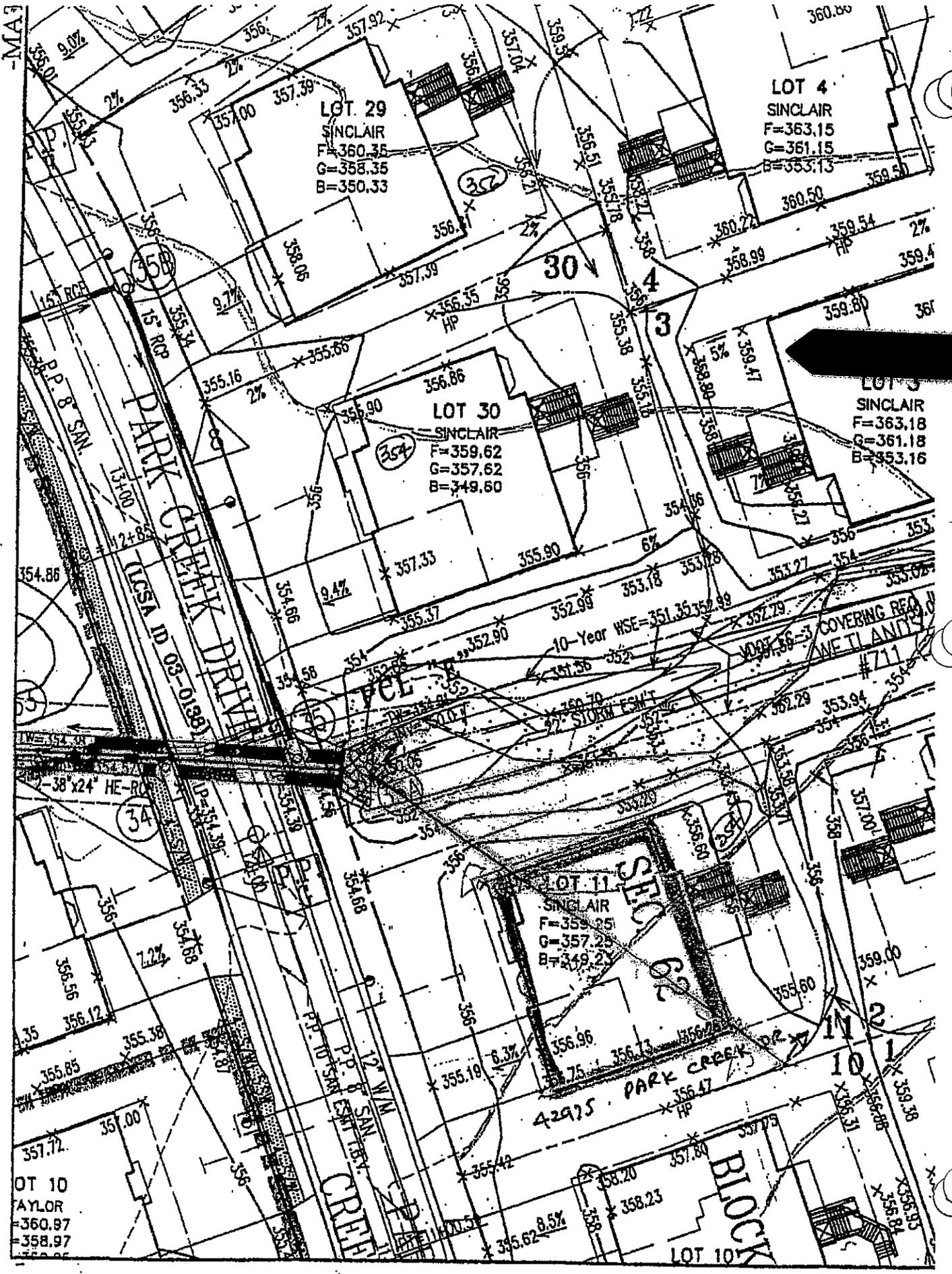
**GEOTEXTILE:** EOS OF 40 TO 70 (MIRAFAT 140N, AMOCO 2016, OR EQUIVALENT)

**BACKFILL SOIL:** CLASS I - SW, SP, SW, SM, GP, GW CLASS II - SW, SP, SW, SM, GP, GW



### FOUNDATION PLAN SCHEMATIC





LOT 29  
SINCLAIR  
F=360.35  
G=358.35  
B=350.33

LOT 4  
SINCLAIR  
F=363.15  
G=361.15  
B=353.15

LOT 30  
SINCLAIR  
F=359.62  
G=357.62  
B=349.60

LOT 3  
SINCLAIR  
F=363.18  
G=361.18  
B=353.16

LOT 11  
SINCLAIR  
F=359.25  
G=357.25  
B=349.25

LOT 10  
AYLAOR  
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G=358.97  
B=350.97

LOT 10  
BRICK

COVERING REAR NEUTLANDS #711

42975 PARK CREEK DR

PARK CREEK DRIVE

BRICK

101

102

101

102

101

102

PARK CREEK

MAF

15' RCP

9.0%

2%

9.7%

2%

9.4%

2%

9.4%

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# CCRG

Clendenin Consulting & Remediation Group

October 28, 2010

10012.L04

Steve Rodgers, Chief of Code Enforcement  
Loudoun County Building and Development  
1 Harrison Street, SE  
Leesburg, VA 20175

Subject: Design and Construction of Drainage Systems  
McLaughlin Residence - 42975 Park Creek Drive  
Broadlands, VA 20148

Dear Mr. Rodgers:

On behalf of Frank and Karen McLaughlin, Clendenin Environmental & Geotechnic Consultants, Inc. submits this letter in support of a request for attention to certain matters pertaining to the design and construction of the McLaughlin Residence at 42975 Park Creek Drive in Section 62, Lot 11, Broadlands, Virginia. The McLaughlins purchased Lot 11 in November 2009. We have broken our letter into five areas: Civil and Geotechnical Engineering Design and Loudoun County Building & Development (B&D) Requirements, Construction-Groundwater Drainage System Inspection, Construction Wall Backfill Inspection, Groundwater Intrusion Observations and Calculations, and Request for Enforcement Action.

### Civil and Geotechnical Engineering Design and B&D Requirements

ECS prepared the Report of Subsurface Exploration for Broadlands South Sections 60.1, 60.2, 60.3, 62.1, 62.2, 62.3 and 62.4 (ECS Report) dated March 1, 2001. We understand that this report was approved by B&D. The McLaughlin residence is located in Section 62, Lot 11 and is covered by the ECS Report. The ECS Report discusses concerns about shallow groundwater specifically "...it is common to have "springs" develop in areas..." "...groundwater flow continues downhill, with the water table occasionally surfacing to form wet springs and intermittent streams" and "... in the lowest lying areas and adjacent to existing creeks is a shallow groundwater table in a near continuous state". The ECS Report recommends that "all below grade space include perimeter and under slab drain systems" and that "below grade walls should be designed with perimeter drain systems." The Below Grade Drainage Detail provided by ECS recommends soil with a LL 40, PI 15 or better against all below grade walls. The ECS Report states "The drain systems should be exterior to the walls, and should include either granular backfill or manmade drainage materials..." and "High plasticity soils are not acceptable for use as below grade wall backfill".

The Civil Design plans indicate a "Wetland Impact Area" to the east of Lot 11 with a culvert invert at Elevation 350.06. This area represents the furthest up gradient extent of a very large Wetland Preservation Area that expands south of Park Creek Drive. The proposed residence on Lot 11 was set with a basement finished floor Elevation 349.23 or 0.82 feet below the culvert invert level. Lot 11 is the lowest point on the north side of Park Creek Drive and receives overland water flow and near surface groundwater drainage from Lot 1, 2 and 10.

In 2000, B&D commenced to require all Third Party Inspection firms to agree to "Reporting Procedures" and sign and seal a B&D form to confirm that understanding. A copy of the form submitted by our office is attached. Item 3 states "Any changes to the approved Geotechnical recommendations must be submitted to this office for approval prior to implementation in the field."

Clendenin Environmental & Geotechnic Consultants, Inc.

116 - I EDWARDS FERRY ROAD • LEESBURG, VIRGINIA 20176 • TEL:703/771-8816 • FAX:703/771-8825

www.clendeninconsulting.com

#### Construction-Groundwater Drainage System Inspection

According to B&D records, ECS inspected and approved the drainage systems installed to protect the McLaughlin residence in accordance with the approved ECS Report. Van Meter's letter dated September 17, 2010 claims that "To date, the water drainage system is operating as designed, water is draining through the foundation drainage pipes into the sump pump crock" and that "Loudoun County also inspected and certified as completed the foundation drainage system before the certificate of occupancy for the Home was issued."

#### Construction-Wall Backfill Inspection

According to B&D records, ECS inspected and approved the fill materials placed against the below-grade walls in accordance with the approved ECS Report.

#### Groundwater Intrusion Observation and Calculations

CCRG visited the site for the first time in March 2010. We observed and documented a constant flow of water from the 57 gravel into the single sump crock in the basement. We observed two white polyvinyl chloride pipes and two black corrugated plastic drain pipe connected to the sump. Water was not observed flowing through any of the pipes. According to Karen McLaughlin, the sump pump activates several times a minute and water had not been observed flowing through any of the pipes that enter the sump. The McLaughlin's monitored water flow into the basement sump from December 2009 to April 2010. The data indicates an average flow at 24 gallons for every 3 minute interval. Further calculations indicate that over the four month period as much as 1.4 million gallons of water may have been pumped from the sump tank. Even if we assume a 50% error, the total volume would be 700,000 gallons.

#### Request for Enforcement Action

The McLaughlin's photographs taken on September 3, 2009 show: (1) a possible exterior perimeter drain pipe; (2) soil without compaction against the below grade retaining walls; and (3) utility trenches with 57 stone backfill installed in the soil sub grade for the basement concrete slab. Recent testing by our office has determined that two of the lines are for the sanitary sewer system and two are for floor drains. No engineered under slab drains or interior perimeter drains are visible in the photographs.

The McLaughlin's request to Van Metre for details on the drainage systems and backfill inspections has been to no avail. The engineering concerns are clear. The design elevations of the culvert outlet structure and basement finished floor allows storm water that ponds in the wetland area and seeps vertically to meet resistance and move horizontally to the low point under the basement concrete slab. Moreover, as the photographs and known soil conditions indicate, highly plastic CH clay excavated from the basement was pushed back against the below grade walls in violation of the Virginia code and International Building Code (IBC) that was in force in 2009. Furthermore, if the three subsurface drainage systems; perimeter exterior, perimeter interior, and under slab, were not installed according to the approved ECS Report, then B&D regulations and policies and the IBC were violated. Our engineering concern is that absent the recommended engineered drainage systems, the McLaughlin residence is in very high risk of drainage problems that could result in structural problems in the near future.

We completed our test pit evaluate of backfill used against the below grade walls today. The preliminary findings are consistent with the photographs taken on September 3, 2010 and confirm the used of high plastic clay and large boulder size rock as backfill against the below grade walls. The photographs taken today are also attached.

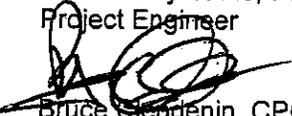
We have met with B&D staff, presented the approved engineering recommendations and photographs taken during construction and our evaluation of wall backfill. Given the facts we know and our concerns, we request quick action by B&D to ensure that the drainage systems and wall backfill have been installed according to the existing approved plans, geotechnical report and local, state and international building codes.

If you have any further questions or require additional information feel free to contact us.

Sincerely,

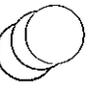
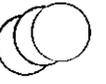
**CLENDENIN CONSULTING & REMEDIATION GROUP**

  
Nimal J. Jayaratne, PhD, PE  
Project Engineer

  
Bruce Clendenin, CPG  
President

Attachments: Excerpts from the ECS Report dated March 1, 2001  
ECS Residential Below Grade Drainage Detail  
Civil Plan of McLaughlin Residence and Wetland Area  
Van Metre Letter dated September 17, 2010  
Loudoun County Reporting Procedures Letter  
B&D records of Inspections for 42975 Park Creek Drive Residence  
Photographs taken September 3, 2009  
Photographs taken on October 28, 2010

CC: Shelia Costin, Esquire





HOLMES & COSTIN  
PLC

October 28, 2010

Steve Rodgers  
Chief of Code Enforcement  
Loudoun County Building and Development  
1 Harrison Street, SE  
Leesburg, Virginia 20175

Re: 42975 Park Creek Drive, Broadlands, VA 20148

Dear Mr. Rodgers:

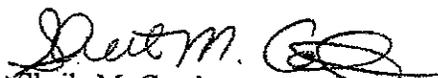
My firm represents Frank and Karen McLaughlins, the owners of 42975 Park Creek Drive, Broadlands, VA 20148. The McLaughlins purchased their home as new construction in November of 2009. They are experiencing significant difficulties with water on their property and they believe the issue relates to the fact that the Seller did not install the drainage system and wall back fill in accordance with the plans, the geotechnical report or local, state and international building codes. The McLaughlins ask that you investigate this issue and force corrective measures to ensure that the McLaughlin's home is not compromised because of code violations by the Seller.

Prior to sending this letter, the McLaughlins attempted to communicate with the Seller. They repeatedly requested an opportunity to meet with engineers to explore the problem and discover a workable solution but the Seller has steadfastly refused to meet or to exchange information needed to understand exactly what was done on the property with regard to the drainage system.

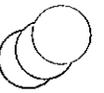
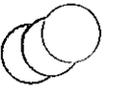
Please review the enclosed letter, with attachments, prepared by Clendenin Environmental & Geotechnic Consultants, Inc., which provides information the McLaughlins have gathered through County records, photographs taken at the time of construction, and recent testing done on their property.

Please contact me if you have any questions.

Sincerely,

  
Sheila M. Costin

12310 Pinecrest Road, Suite 301 • Reston, Virginia 20191 • 703-260-6401  
www.holmesandcostin.com





Department of Building and Development

RECEIVED

Code Enforcement Division

1 Harrison Street S. E., MSC 60b, P. O. Box 7000 MSC 60b OCT 29 2010  
Attention: Office Coordinator  
Leesburg, VA 20177-7000

\*ATTN: CHRIS HOSKINSON\*  
Buildings & Inspection  
Code Enforcement

CODE ENFORCEMENT COMPLAINT FORM

Complaint forms may not be submitted by fax or email

(Please print legibly)

Complainant's Name: Karen McLaughlin Daytime Phone: (cell) 703 786 6878

Complainant's E-mail: karenmclaugh@hotmail.com

Complainant's Address: 42975 Park Creek Drive  
Broadlands VA 20148

Alleged Violator's Name: Van Metre at Broadlands LLC + ECS

Address/Location of Alleged Violation: 42975 Park Creek Drive  
Broadlands VA 20148

Nature of Complaint (attach additional information if necessary):  
installation of drainage system +  
wall back fill -  
\*please see attached

Directions to property from Leesburg: Toll Road to Exit 5 / Claiborne  
on Claiborne to (L) on Parkway  
Park Glen, 1st (L) on Park Creek, 2nd

Property Owner's Name: (if different than the alleged violator's name and address)  
Same HO on

Property Owner's Address: Same as above

Complainant's Signature: [Signature] Date: 10/28/10

These forms are subject to FOIA - Incomplete forms will not be processed

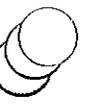
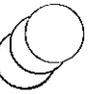
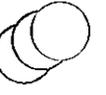
Note: By signing this form, you are attesting to the validity of this complaint and acknowledge your willingness to appear in court as a witness against the alleged violator of the Statewide Building Code.

RECEIVED

Please do not write below; to be completed by County Staff NOV 1 2010

Complaint Rec'd. by: [Signature] Date: Building & Development Code Enforcement

Case Type (circle one):  
 Building Inspection  
 Mechanical Inspections  
 Electrical Inspection  
 Plumbing/Gas Inspections  
 Fire Protection Inspection  
 Building Plan Review  
County Administration Notification  Yes  No  
ACR Case # 14869





## Loudoun County, Virginia

### Department of Building and Development

1 Harrison Street, S. E., P. O. Box 7000, Leesburg, VA 20177-7000  
Inspection Information Only : 703/777-0220 Fax: 703/737-8546

## NOTICE OF VIOLATION

December 1, 2010

Sent via certified mail return receipt requested

Van Metre Homes  
Attention Mr. Roy Kane  
44675 Cape Court  
Suite 171  
Ashburn VA 20147

**RE:** 42975 Park Creek Drive - Broadlands, Virginia

Mr. Kane:

Information received and verified by our office indicates you are in violation of the Virginia Uniform Statewide Building Code (USBC) for the following reasons:

USBC - Section 115 - Violations - 115.1 - ...it shall be unlawful for any owner or any other person, firm or corporation, on or after the effective date of any code provisions, to violate any such provisions.

USBC - Section 109 - Construction Documents - 109.3 Engineering

Approved engineering details prepared by Engineering Consulting Services (ECS) for Broadlands South Section 60.1, 60.2, 60.3, 62.1, 62.2, 62.3, 62.4 dated March 1, 2001 recommended plastic soils present at the site are not approved as suitable material for use as backfill against foundation walls.

Results of laboratory tests, dated October 10, 2010, provided by Clendenin Consulting and Remediation Group suggest material used as backfill around the foundation of the structure located at 42975 Park Creek Drive contain plastic soils with a high moisture content that are unsuitable for use as backfill material.

Van Metre Homes is required to provide proof that such soils were tested and found suitable for use as backfill material. If soils were determined unsuitable, Van Metre Homes must provide detail on the increased strength of the foundation walls which would allow their use. The required documentation must be provided and/or correction of the aforementioned violation(s) arranged on or before December 22, 2010 or this matter may be referred to the Commonwealth Attorney for legal action which may include criminal prosecution.

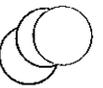
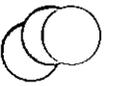
You have the right to appeal this violation in accordance with Section 119.5 of the 2006 USBC.

Sincerely,

Mr. Christopher C. Thompson  
Building Operations Manager

CT:sbr

xc: Mr. Steven Rodgers, CBO, Building Official  
Karen McLaughlin, Homeowner  
file





## Loudoun County, Virginia

### Department of Building and Development Code Enforcement Division

1 Harrison Street SE MSC 60B, PO Box 7000 MSC 60B, Leesburg, VA 20177-7000  
Inspection Information: 703-777-0220 Fax: 703-737-8546

December 1, 2010

Van Metre Home  
Attention Mr. Roy Kane  
44675 Cape Court  
Suite 171  
Ashburn VA 20147

Mr. Kane:

Thank you for speaking to me November 19, 2010 concerning the continued cycling of the sump pump at the McLaughlin residence located at 42975 Park Creek Drive in Broadlands, Virginia. There appears to be two issues that may contribute to the continued cycling of the sump pump in the basement of the structure.

The first issue is the absence of the recommended under slab drain as outlined in the approved soil report prepared by Engineering Consulting Services, hereinafter referred to as ECS, on March 1, 2001. Pictures indicate the presence of an installed drain around the exterior of the foundation. During our conversation, you mentioned there is a drain around the interior perimeter of the foundation. This was complete with weep holes through the foundation to allow water from the exterior drain to migrate through the interior drain to the sump discharge. You also mentioned you have observed water flowing through the pipe at the sump crock.

The second issue appears to be a building code violation. Test results from Clendenin Consulting and Remediation Group, dated October 28, 2010, indicate the presence of plastic soils with a high moisture content used as backfill against the foundation wall. The approved report from ECS references those soils found at the site and recommends they not be used as a backfill material against foundation walls. Accordingly, a "Notice of Violation" is attached. The code violation is referenced and requires a response from Van Metre Homes.

Please provide details of the inspections performed for the backfill material and any documentation for the design of the foundation which may have added additional strength to the foundation. These items will help to establish a better understanding of the continued discharge from the sump crock and will help alleviate concern about pressure against the foundation wall.

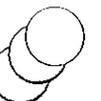
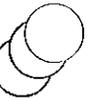
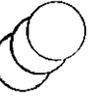
Again, I thank you for speaking to me regarding the McLaughlin residence. Please do not hesitate to contact me regarding this matter. I may be reached from 8:00 a.m. to 4:00 p.m. at 703-771-5527 or [chris.thompson@loudoun.gov](mailto:chris.thompson@loudoun.gov).

Sincerely,

Mr. Christopher C. Thompson  
Building Operations Manager

CT:sbr

xc: Mr. Steven Rodgers, CBO, Building Official  
Karen McLaughlin, Homeowner  
file



PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS. FOLD AT DOTTED LINE

**CERTIFIED MAIL**



7008 1140 0003 1114 5242  
 7008 1140 0003 1114 5242

**CERTIFIED MAIL RECEIPT**  
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage \$		Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees \$		

**Sent To**  
 VAN METRE HOME  
 ATTENTION MR ROY KANE  
 44675 CAPE COURT SUITE 171  
 ASHBURN VA 20147

*Sheet, Air or PO Box*  
 City, State

PS Form

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

VAN METRE HOME  
 ATTENTION MR ROY KANE  
 44675 CAPE COURT SUITE 171  
 ASHBURN VA 20147

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  X  Agent  Addressee

B. Received by (Printed Name) C. Date of Delivery

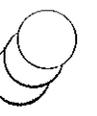
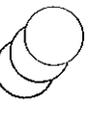
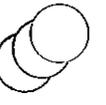
D. Is delivery address different from item 1?  Yes  
 if YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
 (Transfer from service label)

7008 1140 0003 1114 5242



**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

VAN METRE HOME  
ATTENTION MR ROY KANE  
44675 CAPE COURT SUITE 171  
ASHBURN VA 20147

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

*S. Buttery*  Agent  
 Addressee

B. Received by (Printed Name)

*S. Buttery*

C. Date of Delivery

*12-9-10*

D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type

- Certified Mail  Express Mail
- Registered  Return Receipt for Merchandise
- Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)

Yes

2. Article Number

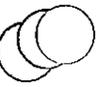
(Transfer from service label)

7008 1140 0003 1114 5242

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540





# VAN METRE COMPANIES

44675 Cape Court, Suite 171 ■ Ashburn, VA 20147 ■ 703/723-2800 ■ Fax: 703/723-1567  
www.vanmetrehomes.com

December 17, 2010

Page 1 of 3

EMAIL WITH CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Loudoun County, Virginia  
Attention Mr. Chris Thompson  
Department of Building and Development  
1 Harrison Street, S.E., P.O. Box 7000  
Leesburg, Virginia 20177-7000

DEC 28 2010

RE: 42975 Park Creek Drive – Broadlands, Virginia – Lot 11 Section 62 Block 2 – Settlement  
Date: November 24, 2009.

Mr. Thompson,

Thank you, Mr. Alex Blackburn, and Mr. Dennis Mitchell for meeting with Mr. Steve Hahn, V.P. Land Development – Van Metre Homes, Mr. Tom Marable, Project Manager Land Development – Van Metre Homes, Mr. Karl Higgins, Principal Engineer/V.P. – ECS Mid Atlantic, Mr. Andrew Shontz, Senior Engineering Geologist – ECS Mid-Atlantic, and myself on Friday, December 10, 2010 to review matters concerning 42975 Park Creek Drive – Broadlands, Virginia – Lot 11 Section 62 Block 2. The following correspondence will be followed by a certified mailed letter.

Delivered and reviewed at our meeting and also attached is the ECS Mid-Atlantic, hereinafter referred to as ECS; the engineer of record, certified sealed laboratory test results summary from soil samples taken from said property, October 28, 2010. Also reviewed, and attached is the detail of the foundation wall, footer and drain tile system for said property, including the detail for the installed ten (10) inch foundation walls, adding strength to the foundation system. As discussed at our meeting and from your Notice of Violation letter issued December 01, 2010, these documents answer as proof and validate the removal of these violations.

Regarding the first issue; foundation drain system. The recommended system is in place and performing as designed. The water from the sump crock has been tested by the Loudoun County Water Authority with the majority component as surface/ground water. The foundation system detail reviewed, is also attached. We request code violation be revoked.

Regarding the second issue; backfill used against foundation wall. Results of laboratory tests identify that the materials used within the above referenced lot to backfill the existing below grade walls are suitable based on the criteria established in the approved geotechnical report dated March 1, 2001 (ECS Project No. 5587-G1). According to the attached ECS Summary, "...the natural moisture contents are reasonably close to the optimum moisture contents (determined by Standard Proctor Test), which would suggest the backfill soils were placed in accordance with ECS' recommendations. Finally, water was not visually observed within either test pit during excavation..." Note: Moderate to heavy rains were experienced earlier in



*Van Metre*  
THE DESIGN CENTER

VAN METRE HOMES  
44675 CAPE COURT  
ASHBURN, VIRGINIA 20147

**RECEIVED**

DEC 27 2010

**BUILDING AND DEVELOPMENT**

PLACE STICKER AT TOP OF ENVELOPE, TO THE RIGHT  
OF THE DESTINATION ADDRESS, FOLD AT DOTTED LINE  
**CERTIFIED MAIL**



7008 1830 0000 1803 7532

Haster

12/17/2010

**US POSTAGE**

**\$05.88**

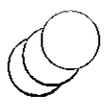
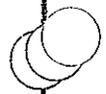


ZIP 20147

011D11617794

Loudoun County, Virginia  
Attention Mr. Chris Thompson  
Department of Building and Development  
1 Harrison Street, S.E., P.O. Box 7000  
Leesburg, Virginia 20177-7000

DEC 28 2010



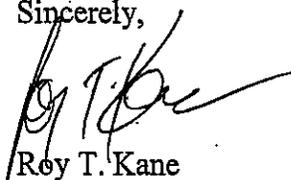
the week prior to test pit excavation. The laboratory tests results summary are also attached. We request this code violation also be revoked.

In the future, we will work diligently with your office verifying recommended systems are in place, prior to receiving a code violation based upon information received from another party.

We request both USBC – Section 115 – Violations – 115.1 and USBC – Section 109 – Construction Documents – 109.3 Engineering be revoked at the earliest possible date.

In closing, Van Metre Homes endeavors to perform all appropriate warranty for the home as covered under the Warranty Plus 10 Year Limited Warranty, and the Agreement of Sale. The home, located at 42975 Park Creek Drive – Broadlands, Virginia – Lot 11 Section 62 Block 2, has the correct grading per plan, the recommended back fill, and recommended foundation wall and drain system in place, as well as all other components of the home's design and construction. To our knowledge, the home's basement has not experienced any water intrusion, through many severe rain and snow storms. To alleviate the frequency of operation of the home's sump pump, that is also operating per design, Van Metre Homes will continue to offer, until February 15, 2011, at no charge to the homeowner, to; replace current sump pump with a Zoeller M-98 1/2hp unit, install a 30" deep sump pump crock, and install a Zoeller Model 507 Sentry battery backup system. In addition, the downspouts in the rear of the Home will be buried and exited to a French drain we will install in the rear yard, exiting to the drainage ditch located to the left side of the Home. Also the sump pump discharge line will be buried and exited to the drainage ditch located to the left side of the Home. Since this issue is not expressly covered under the Warranty of the home, or the Agreement of Sale, it is contingent upon the execution of a Confidential Release Agreement, a copy of which is also attached. Upon receipt of the signed Release Agreement from Mr. and Mrs. McLaughlin, said work will be scheduled at a date convenient to their schedule. It has been our experience with homes of this elevation – lower than neighboring homes with higher elevations, that excess ground and/or surface can collect on the property, causing the home's sump pump to operate at a higher frequency during events of rains and/or snows. It has also been our experience that adding the components offered in our Confidential Release Agreement have been an effective method of dispersing surface and/or ground water off the property.

Sincerely,



Roy T. Kane  
Director Customer Care  
Van Metre Homes

cc: S.Hahn, V.P. Land Development – Van Metre Homes  
T.Marable, Project Manager – Van Metre Homes  
K.Higgins, Principal Engineer/V.P. – ECS-Mid Atlantic  
A.Shontz, Senior Engineering Geologist – ECS-Mid Atlantic

Enclosures:

ECS Mid-Atlantic Laboratory Test Results Summary ECS Project No. 01:6934-T2  
Van Metre Homes #003 Foundation Wall Detail  
Van Metre Homes Confidential Release Agreement

**From:** Roy Kane [mailto:rkane@vanmetrehomes.com]

**Sent:** Friday, December 17, 2010 4:38 PM

**To:** Thompson, Chris

**Cc:** Steve Hahn; Tom Marable; KHiggins (KHiggins@ecslimited.com); AShontz@ecslimited.com; Roy Kane

**Subject:** RE: 42975 Park Creek Drive - Broadlands, Virginia

December 17, 2010

EMAIL WITH CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Loudoun County, Virginia  
Attention Mr. Chris Thompson  
Department of Building and Development  
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Leesburg, Virginia 20177-7000

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Sincerely,

Roy T. Kane  
Director Customer Care  
Van Metre Homes

cc: S.Hahn, V.P. Land Development – Van Metre Homes  
T.Marable, Project Manager – Van Metre Homes  
K.Higgins, Principal Engineer/V.P. – ECS-Mid Atlantic  
A.Shontz, Senior Engineering Geologist – ECS-Mid Atlantic

Attachments: ECS Mid-Atlantic Laboratory Test Results Summary ECS Project No. 01:6934-T2  
Van Metre Homes #003 Foundation Wall Detail  
Van Metre Homes Confidential Release Agreement



# ECS MID-ATLANTIC, LLC

"Setting the Standard for Service"

Geotechnical • Construction Materials • Environmental • Facilities

RECEIVED

DEC 28 2010

December 8, 2010

Building & Environment  
Code Enforcement

Mr. Tom Marable  
Van Metre Homes  
44675 Cape Court  
Suite 171  
Ashburn, Virginia 20147

ECS Project No. 01:6934-T2

Reference: Laboratory Test Results Summary, 42975 Park Creek Drive, Broadlands Section 62.2, Ashburn, Loudoun County, Virginia

Dear Mr. Marable:

As requested, representatives Karl Higgins, P.E. and Drew Shontz, P.G. of ECS Mid-Atlantic, LLC (ECS) were on-site Thursday October 28, 2010 at the above referenced residence (also referred to as Lot 11) to observe test pit operations conducted by others at the request of the existing property owner. At that time, two test pits were excavated to depths of approximately 5 to 6 feet adjacent to the house, along both the east and southwestern portions of the existing residence, to observe the condition of the basement wall backfill materials, as well as to document perched water conditions, if present.

In each of these locations, a representative bulk sample of the materials excavated for the test pits was collected, both by ECS and the property owner's geotechnical consultant (Clendenin Environmental and Geotechnic Consultants). ECS' collection of both bulk samples consisted of materials representative of those excavated from the entire depth of the excavation. Currently, we are not in possession of the laboratory results completed by Clendenin; however, we have been informed of the results by representatives of Van Metre.

The approved Geotechnical Report for this phase of development was completed by ECS for Broadlands Associates under ECS Project No. 5587-G1 (*ECS Report of Subsurface Exploration, Broadlands South Sections 60.1, 60.2, 60.3, 62.1, 62.2, 62.3, 62.4, Loudoun County, Virginia*) dated March 1, 2001. Within this report, ECS suggested that fill materials be free of rocks greater than 6-inches in diameter and have a Liquid Limit (LL) and Plasticity Index (PI) less than 45 and 22, respectively.

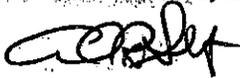
Please note that the bulk samples collected in both test pit locations did contain gravel-sized material between 3 and approximately 6 inches in diameter; however, because of the large size of this gravel material, these materials were removed prior to laboratory sieve analysis testing. Based on the results of our laboratory testing, the materials used within the above referenced lot to backfill the existing below grade walls were suitable based on the criteria established in the approved geotechnical report dated March 1, 2001 (*ECS Project No. 5587-G1*). As the Geotechnical Engineer of Record for this project, we contend the materials that were utilized as below grade wall backfill are suitable to remain as constructed. Further, the natural moisture

contents are reasonably close to the optimum moisture contents (determined by the Standard Proctor Test), which would suggest the backfill soils were placed in accordance with ECS' recommendations. Finally, water was not visually observed within either test pit during excavation or upon completion, prior to backfill. There does not appear to be a correlation between the soils materials observed during test pitting and the alleged high frequency of sump pumping claimed by the property owner.

We appreciate the opportunity to be of continued service to Van Metre on this project. If you have any questions regarding the information contained in this letter, please to not hesitate to contact the undersigned.

Respectfully,

**ECS Mid-Atlantic, LLC**



Andrew R. Shontz, P.G.  
Senior Engineering Geologist

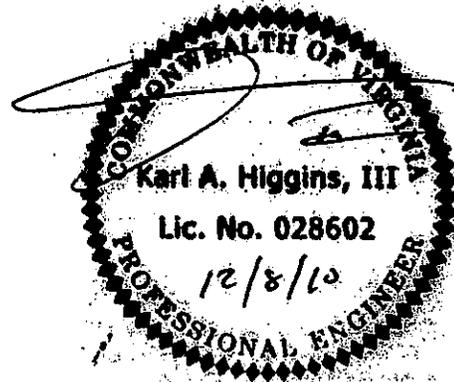


Karl A. Higgins, III, P.E.  
Principal Engineer / Vice President

Attachments: Laboratory Test Results (5 pages)

cc: Mr. Roy Kane – Van Metre Homes  
Mr. Brian Davidson – Van Metre Homes

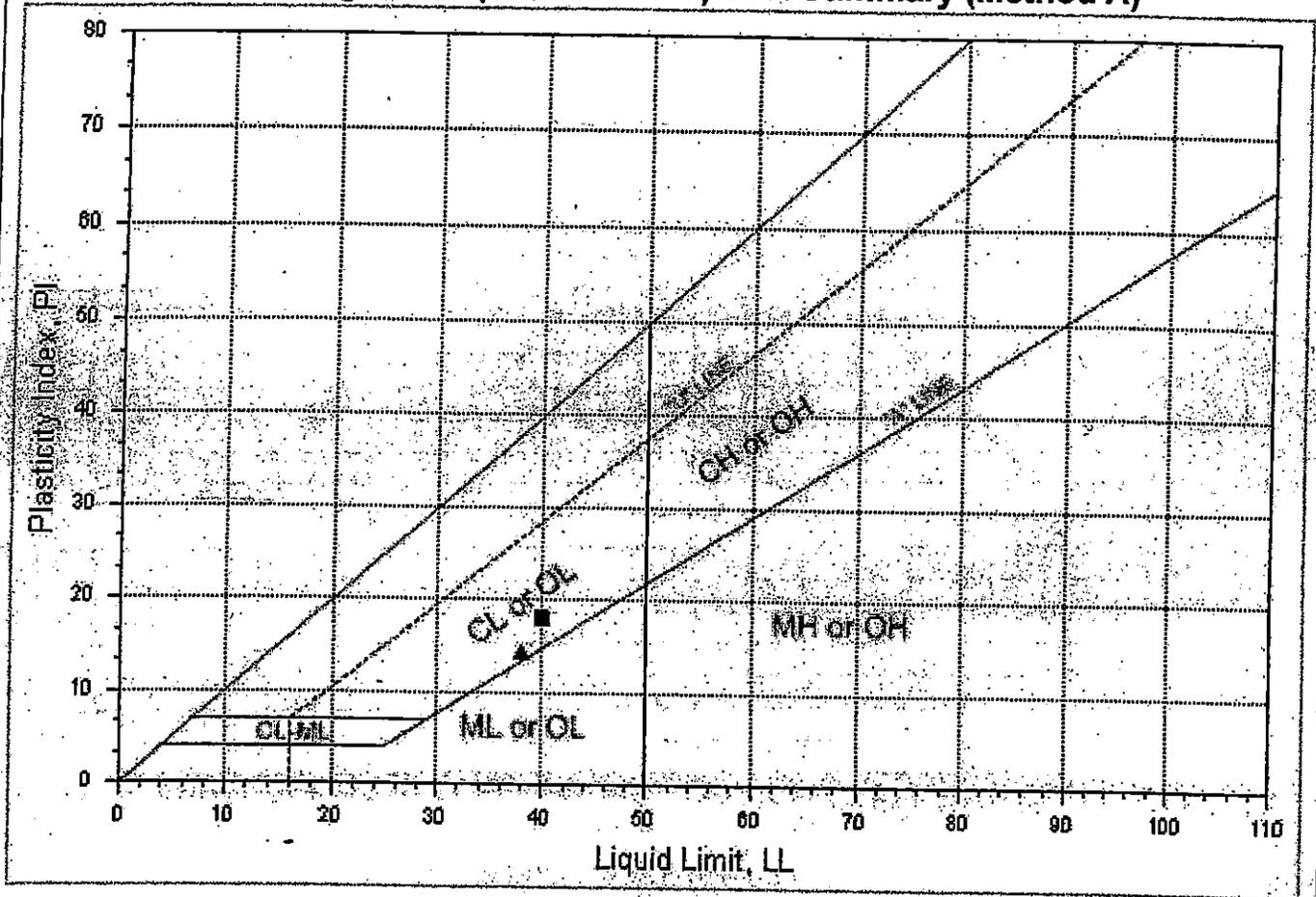
ARS/pap [I:\FieldService\\_e-projects\6901-7000\6934-T2\6934-T2 Letter.doc]







## Atterberg Limits (ASTM D 4318) Test Summary (Method A)



All samples are prepared using "DRY" method unless otherwise noted

Sample Location Sample Number	Depth (feet)	Test Symbol	Description	MC (%)	LL	PL	PI	% Passing #200 Sieve	% Sample Retained on #40 Sieve	Notes
Test Pit Lot 11 East Side / DAS-6	0.00 - 6.00	▲	Clayey Sand Yellow L/Brown (SC)	17.9	38	24	14	47.0	30.2	
Test Pit Lot 11 SW Side / DAS-6	0.00 - 5.00	■	Sandy Lean Clay w/Gravel Yellow L/Brown (CL)	15.0	40	22	18	55.0	18.1	

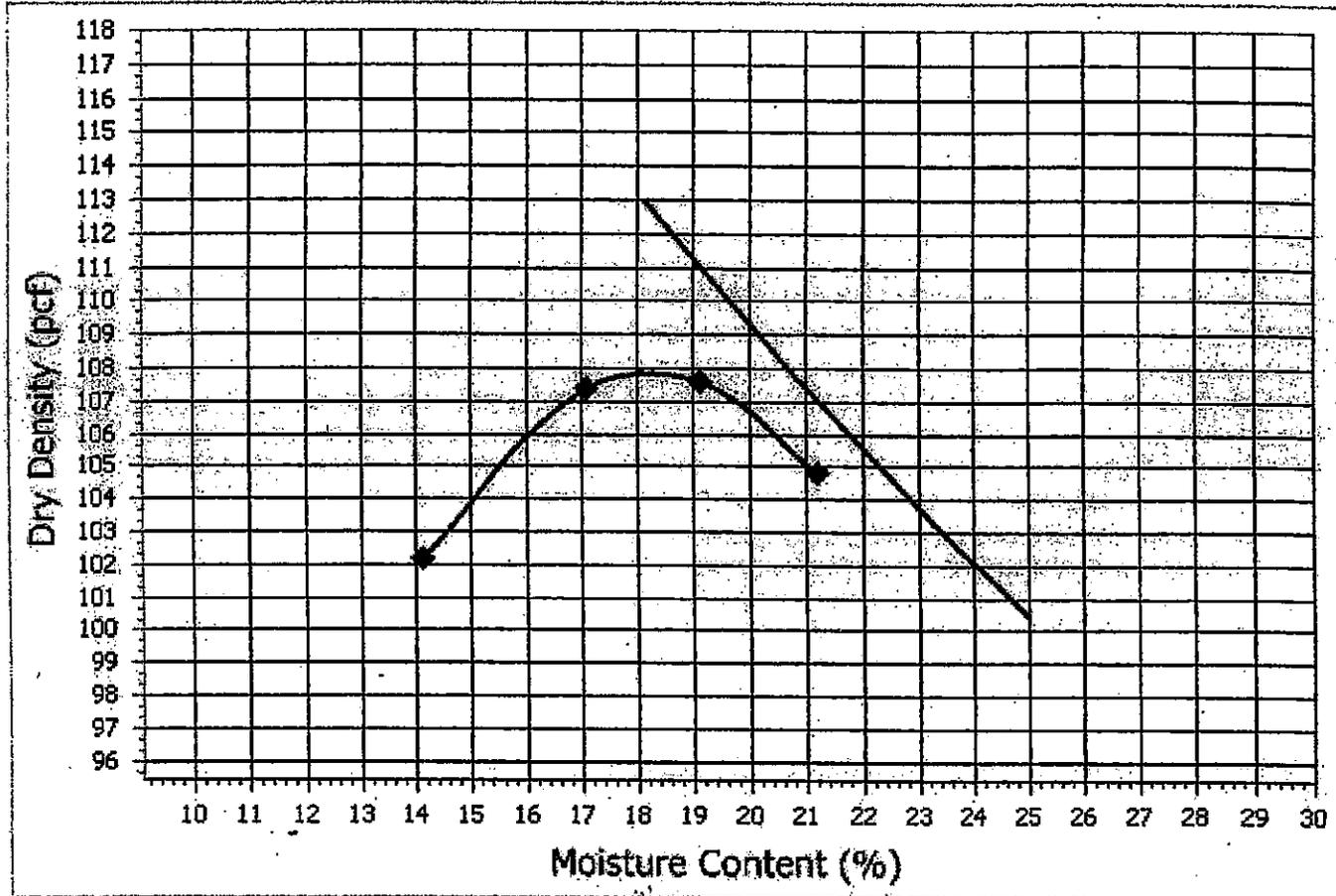
Project No. 6934-T2  
 Project Name: Broadlands - Section 62.2  
 PM: Andrew R. Shontz  
 PE: Karl A. Higgins  
 Printed on(date): December 02, 2010



ECS Mid-Atlantic, LLC

Chantilly, VA

## Proctor (VTM - 1) Test Summary



Liquid Limit (LL)	38	Natural Moisture Content	18
Plastic Limit (PL)	24	Percent Passing No. 200 Sieve	47.0
Plasticity Index (PI)	14	Percent Retained on the No. 4 Sieve	14
Liquidity Index (LI)	—	Maximum Dry Density (pcf)	108
Description	Clayey Sand Yellow L/Brown (SC)	Optimum Moisture Content (%)	18
		Corr. Maximum Dry Density (pcf)	114
Classification	SC	Corr. Optimum Moisture Content (%)	16
Test Method	—	Test Standard	VTM - 1
Specific Gravity of Soil	2.70	Specific Gravity of Soil Determination Test Method	Estimated
Specific Gravity of Oversize Fraction	2.70	Specific Gravity of Oversize Fraction Test Method	Estimated
Sample Location	Test Pit Lot 11 East Side	Sample Number	D4S-5
Preparation Method	Dry	Rammer Type	Manual

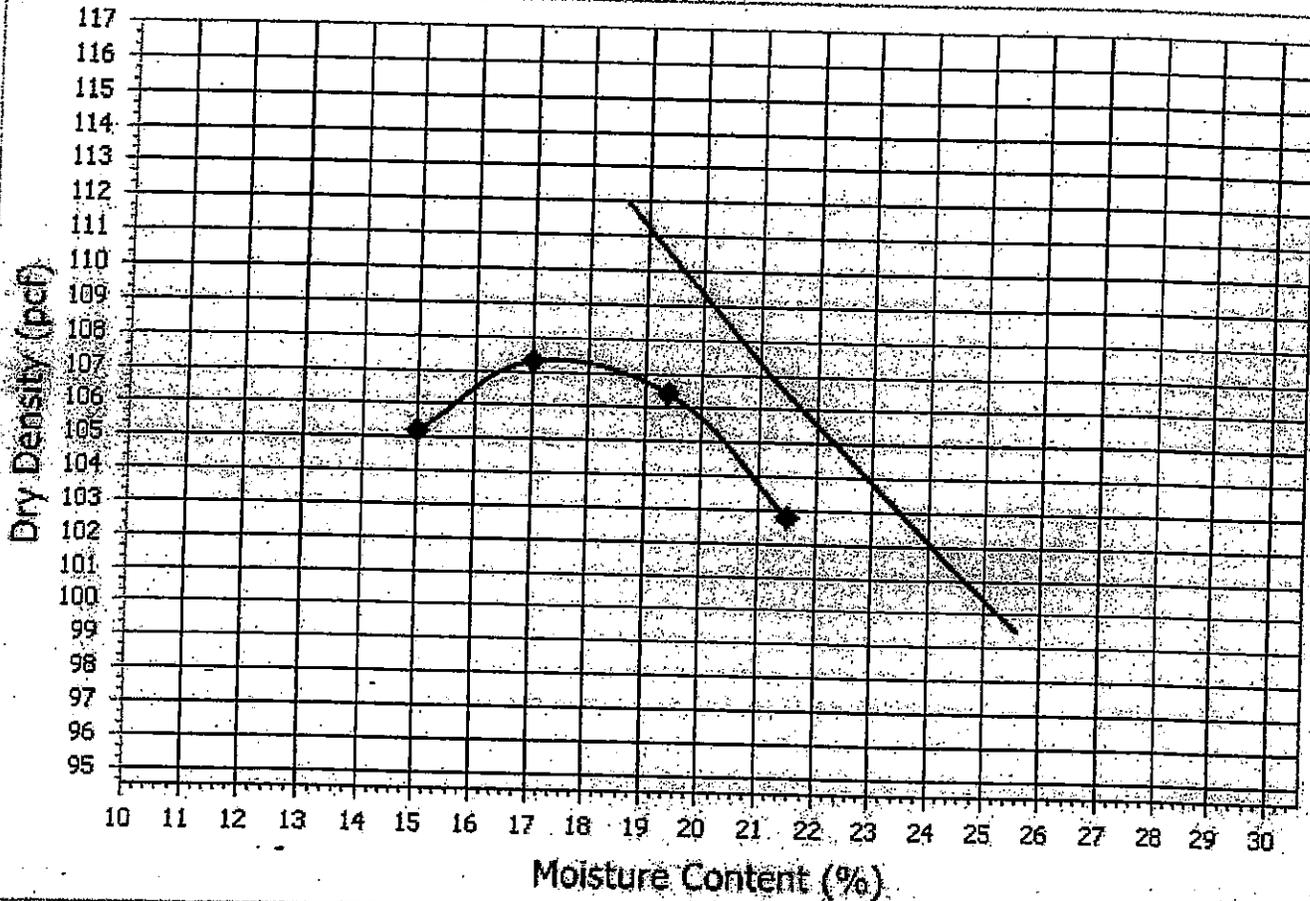
**Project No.** 6934-T2  
**Project Name:** Broadlands - Section 62.2  
**PM:** Andrew R. Shontz  
**PE:** Karl A. Higgins  
**Approved Date:** November 23, 2010



**ECS Mid-Atlantic, LLC**

Chantilly, VA

## Proctor (VTM - 1) Test Summary

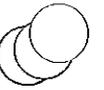
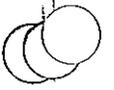


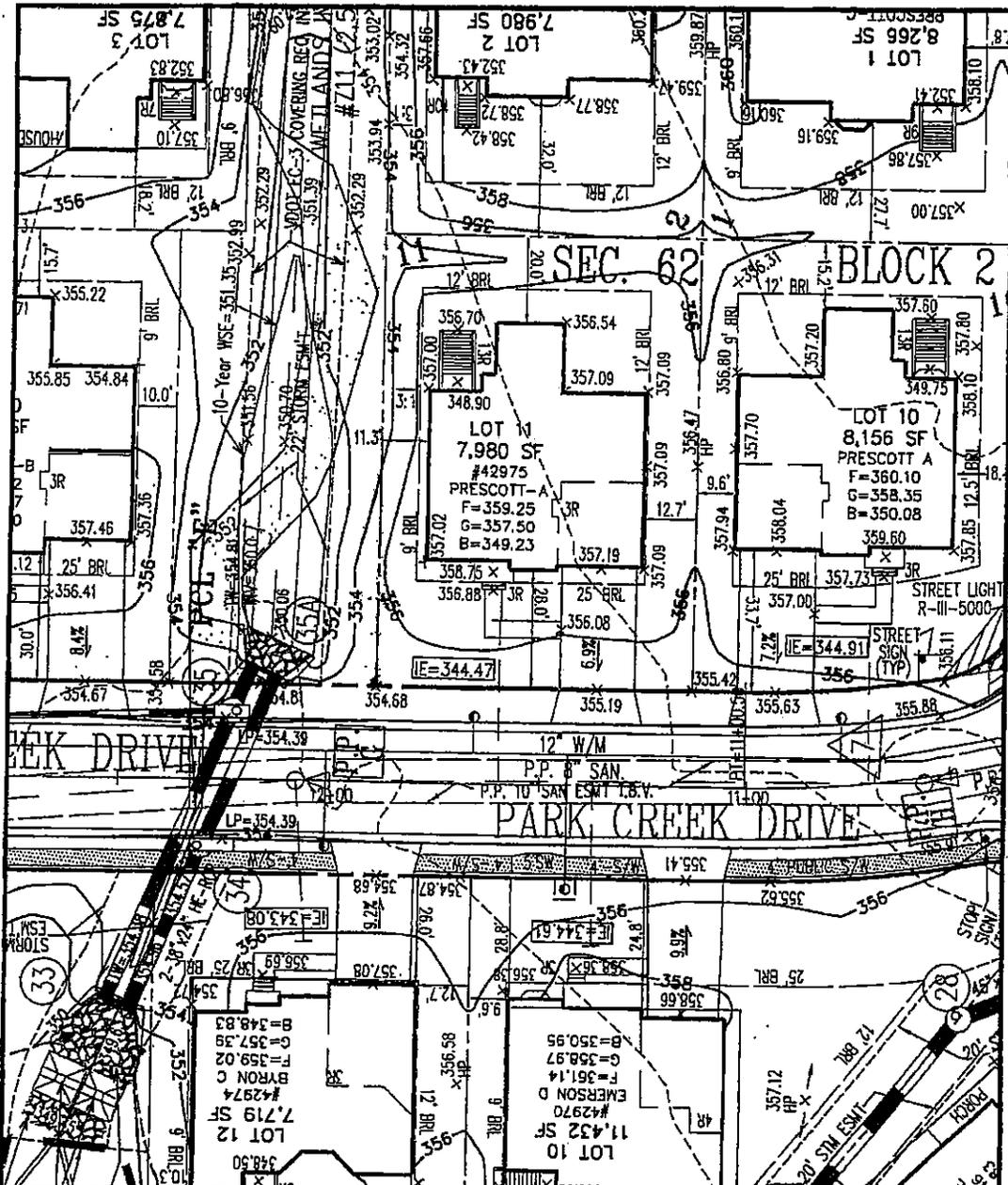
Liquid Limit (LL)	40	Natural Moisture Content	16
Plastic Limit (PL)	22	Percent Passing No. 200 Sieve	55.0
Plasticity Index (PI)	18	Percent Retained on the No. 4 Sieve	21
Liquidity Index (LI)	---	Maximum Dry Density (pcf)	107
Description	Sandy-Lean Clay w/Gravel Yellow L/Brown (CL)	Optimum Moisture Content (%)	17
		Corr. Maximum Dry Density (pcf)	116
Classification	CL	Corr. Optimum Moisture Content (%)	14
Test Method	---	Test Standard	VTM - 1
Specific Gravity of Soil	2.70	Specific Gravity of Soil Determination Test Method	Estimated
Specific Gravity of Oversize Fraction	2.70	Specific Gravity of Oversize Fraction Test Method	Estimated
Sample Location	Test Pit Lot 11 SW Side	Sample Number	D4S-6
Preparation Method	Dry	Rammer Type	Manual

Project No. 6934-T2  
 Project Name: Broadlands - Section 62.2  
 PM: Andrew R. Shontz  
 PE: Karl A. Higgins  
 Approved Date: November 23, 2010



**ECS Mid-Atlantic, LLC**  
  
 Chantilly, VA

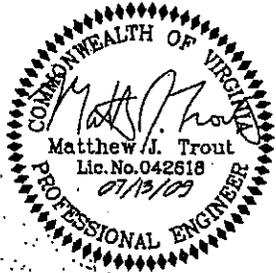




ADDRESS: 42975 PARK CREEK DRIVE

GRADING PLAN  
 LOT 11  
 BROADLANDS SO  
 SECTION 62 BLOCK 2  
 DULLES ELECTION DISTRICT  
 LOUDOUN COUNTY, VIRGINIA

Overlot Grading Plan  
 890137020100  
 Permit No.

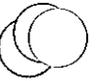
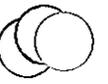


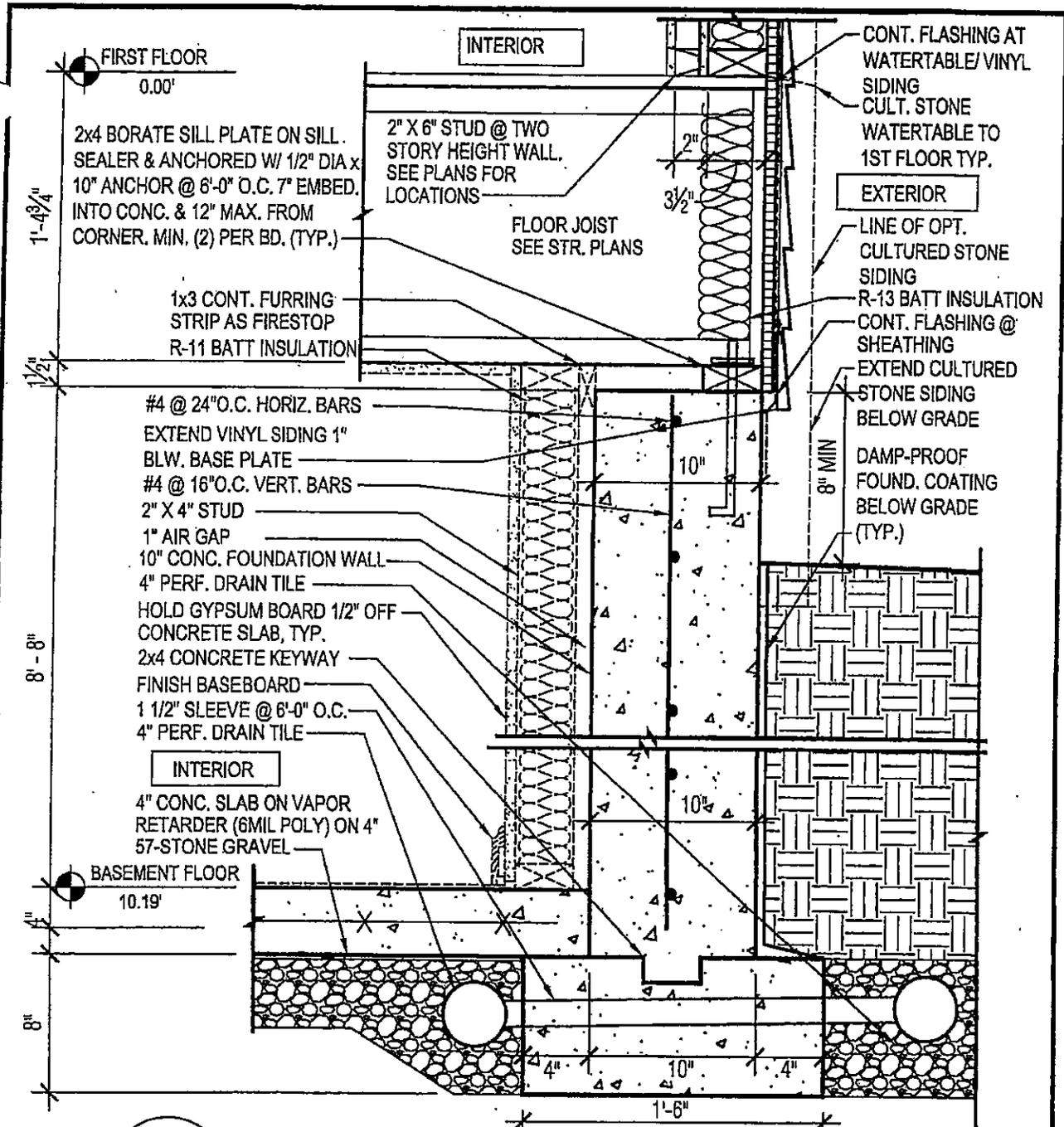
SCALE: 1"=30'  
 DATE: 07/13/09  
 DESIGNER: MJT

This lot contains hydric soils, increasing the potential for wet basements. If a basement is to be built, please take sufficient measures to minimize this potential.

**urban.**  
 Planners · Engineers · Landscape Architects · Land Surveyors

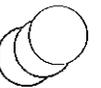
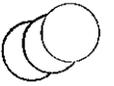
Urban, Ltd.  
 7712 Little River Turnpike  
 Annandale, Virginia 22003  
 Tel. 703.642.8080  
 Fax. 703.642.8251  
 www.urban-ld.com





**003** FOUNDATION WALL W/SIDING & STONE @ SIDES & REAR  
 SCALE: 1 1/2" = 1'-0"  
 a-dt\_per-03\_FdnSid\_Sid.dwg

PROJECT:	Master Detail Book	Van Metre Homes 44675 Cape Court, Suite 171 Ashburn, VA 20147 Tel 703-723-2800 Fax 703-723-8954	 <small>www.vanmetre.com</small>
DATE:	5/01/08		
SCALE:	1 1/2" = 1'-0"		
TITLE:	Exterior Wall at Sides/Rears w/ Siding & Cultured Stone Siding & Watertable		
APPROVALS:			



# Unresolved Item List

BUYER'S NAME: McLaughlin DATE: \_\_\_\_\_  
 COMMUNITY: Bonducks LOT/SEC/BLK: 1122 SETTLEMENT DATE: 11/19/09  
 PREPARED BY: Jan Cresswell  
 Quality Assurance Representative

1. **Unresolved Item List.** This Unresolved Item List contains all Orientation Items mutually identified by Buyer and Seller that remain uncompleted/unresolved at the time of Settlement and includes the following (collectively, "Unresolved Items"): (a) Orientation Items listed on the Pre-Settlement Demonstration Form ("PSD") that remain unresolved as of the date Buyer rewalks the Home immediately prior to Settlement ("PSD Sign-Off"); (b) Orientation Items mutually identified by Buyer and Seller for the first time at the PSD Sign-Off; and (c) Exterior Items that cannot be completed prior to Settlement because of weather conditions. AS PROVIDED BY PARAGRAPH (D) OF PART TWO OF THE AGREEMENT OF SALE AND ON THE PRE-SETTLEMENT DEMONSTRATION FORM, DAMAGED ITEMS NOT IDENTIFIED ON THIS UNRESOLVED ITEM LIST WILL NOT BE REPAIRED, REPLACED OR OTHERWISE RESOLVED BY SELLER AFTER SETTLEMENT. In accordance with Paragraph 6(d) and 22(f) of Part Two of the Agreement of Sale, except for Orientation Items listed in writing below, upon signing this Unresolved Item List and proceeding to Settlement, Buyer acknowledges full compliance by Seller with the terms of the Agreement of Sale. Once the Orientation Items listed on this Form are resolved, Seller will have performed all of its obligation under the Agreement of Sale, subject only to the RWC Limited Warranty.

A. **PSD Items.** The following identifies all Orientation Items listed on the PSD List that remain unresolved at the time of Settlement (NOTE: IF LEFT BLANK, NO ORIENTATION ITEMS FROM THE PSD LIST REMAIN UNRESOLVED):

UNRESOLVED PSD ITEMS	DATE RESOLVED	BUYER'S INITIALS
- 0 items		

B. **Sign Off Items.** The following identifies all Orientation Items that were not listed on the PSD List, but were discovered and identified by Buyer for the first time during the Sign-Off (NOTE: IF LEFT BLANK, NO ADDITIONAL ORIENTATION ITEMS WERE DISCOVERED AND IDENTIFIED BY BUYER DURING THE PSD SIGN-OFF):

UNRESOLVED SIGN-OFF ITEMS	DATE RESOLVED	BUYER'S INITIALS
- 0 items		

C. **Weather Conditions Items.** The following identifies all Orientation Items that cannot be completed prior to Settlement due to weather conditions (NOTE: IF LEFT BLANK, NO ORIENTATION ITEMS REMAIN TO BE COMPLETED AFTER SETTLEMENT DUE TO WEATHER CONDITIONS):

WEATHER CONDITION ITEMS	CHECK IF APPLICABLE	DATE RESOLVED	BUYER'S INITIALS	WEATHER CONDITION ITEMS	CHECK IF APPLICABLE	DATE RESOLVED	BUYER'S INITIALS
UTILITIES:				CONCRETE:			
CURB BOX (ADJ.)				LEADWALK			
SEWER CLEANOUT				PUBLIC WALK			
				REPAIRS:			
DRIVEWAY:				DRIVEWAY:			
TOP DRIVEWAY							
				YARD/LANDSCAPING:			
MISCELLANEOUS:				FINAL GRADE			
POWERWASH				SHRUBS			
				TREES			
EXTERIOR PAINT:				SEED OR SOD			
FOUNDATION				SPECIAL CONDITION			
TRIM				SPLASH BLOCKS			
DOOR				FINAL LOT CORNER			
PORCH				REMOVE SILT FENCE			

Weather Condition Items will be resolved as soon as weather permits and similar work is scheduled in your Community.

2. **Resolution of Orientation Items.** Paragraph 6(f) of Part Two of the Agreement of Sale provides that Seller is obligated to resolve the Orientation Items listed above as soon as reasonably practical considering weather and other factors. PLEASE CALL THE CUSTOMER CARE DEPARTMENT AT 708-723-2818 TO REPORT ANY ORIENTATION ITEMS LISTED ABOVE (EXCEPT FOR WEATHER CONDITION ITEMS) THAT ARE NOT RESOLVED WITHIN TEN (10) DAYS AFTER THE DATE OF SETTLEMENT. Weather Condition Items will be resolved either in the Spring (April-June) or Fall (September-November), as applicable, as soon as weather permits and similar work is scheduled in the Community. Seller will attempt to schedule weather condition items based upon the Home's settlement date. However, Homes with the oldest settlement date may not be addressed first depending upon certain factors and conditions, including water logged soils.

BY SIGNING BELOW, BUYER ACKNOWLEDGES AND AGREES THAT: (1) BUYER HAS READ THIS LIST, AGREES TO ITS TERMS, AND REPRESENT THAT IT CONTAINS ALL UNRESOLVED ITEMS IN THE HOME; (2) WITH THE EXCEPTION OF THE UNRESOLVED ITEMS LISTED ABOVE, THE HOME IS COMPLETE, SATISFACTORY AND ACCEPTABLE AND, SELLER HAS COMPLETELY PERFORMED ALL OF ITS OBLIGATIONS UNDER THE AGREEMENT OF SALE, SUBJECT ONLY TO THE RWC LIMITED WARRANTY; AND (3) EXCEPT AS SET FORTH IN WRITING ON THIS UNRESOLVED ITEM LIST, NO ORAL STATEMENTS, PROMISES, AGREEMENTS OR REPRESENTATIONS HAVE BEEN MADE TO BUYER REGARDING THE HOME, THIS LIST, OR ITEMS THAT WILL BE RESOLVED AFTER SETTLEMENT.

Buyer's Signature: \_\_\_\_\_ Date: 11/19/09  
 Buyer's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Quality Assurance Representative: \_\_\_\_\_ Date: 11/19/09

ALL ITEMS IDENTIFIED ON THIS UNRESOLVED ITEM LIST HAVE BEEN RESOLVED.

Buyer's Signature: \_\_\_\_\_ Date: 11/19/09  
 Buyer's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Seller's Representative: \_\_\_\_\_ Date: 11/19/09

WHITE - HOUSE FILE

YELLOW - QUALITY ASSURANCE REPRESENTATIVE

PINK - BUYER





HOLMES & COSTIN  
PLLC

Admitted in VA and MD  
[scostin@holmesandcostin.com](mailto:scostin@holmesandcostin.com)

January 17, 2011

Chris Thompson  
Building Operations Manager  
County of Loudoun  
Building and Development  
1503 Edwards Ferry Road, 3<sup>rd</sup> Floor  
Leesburg, Virginia 20176

Re: Broadlands Section South 62.2 and 42975 Park Creek Drive, Broadlands

Dear Mr. Thompson:

Following our meeting of January 12, 2011, I wanted to summarize all of the information that I know that is presently before you and to ask a few specific questions regarding representations that have been made but not yet supported.

On September 28, 2010, your office received a Code Enforcement Complaint prepared by Karen McLaughlin which addressed the design and construction of the drainage system of the subject property. Attached to the Complaint was a cover letter from my office and a letter prepared by Clendenin Consulting & Remediation Group ("Clendenin"). For ease of reference, the Code Enforcement Complaint Form is attached as Attachment 1, my letter dated September 28, 2010 is attached as Attachment 2, and the Clendenin letter is attached as Attachment 3.

On November 12, 2010, you received the homogenized results of the five gallon samples taken from each of the two test pit areas from Clendenin. On November 15, you received an email from Clendenin with additional results of two discrete samples from the backfill. ECS Mid Atlantic ("ECS") provided you with its soil test results (two homogenized samples) December 10, 2010. A letter summarizing all of the test results from both Clendenin and ECS, as well as a collection of the results, is attached hereto as Attachment 4.

You wrote to Van Metre on December 1, 2010, and provided a Notice of Violation. See Attachments 5 and 6. You requested details of the inspections performed for the backfill and

documentation for the design of the foundation. You noted that Roy Kane had previously represented that an interior perimeter drain had been installed on the subject property and Mr. Kane had observed water flowing through the pipe at the sump crock.

During the meeting between you, Dennis Mitchell, and Alex Blackburn and representatives from Van Metre of Broadlands, LLC ("Van Metre") ECS on December 10, 2010, Van Metre provided to you a document titled Exterior Wall at Sides/Rears w/Siding & Cultured Stone Siding & Watertable dated 5/01/08, a copy of which is attached as Attachment 7, which Van Metre represented to be the detail for the foundation wall, footer and drain tile system for the subject property. Van Metre followed up with an email dated December 17, which is attached as Attachment 8.

A month later, on or about January 10, 2010, you received a copy of the Residential Inspection Certification prepared by ECS and originally filed with Loudoun County on October 1, 2009. The Certification is attached as Attachment 9. You indicated that six weeks after receiving the Notice of Violation, Van Metre has now retained a structural engineer firm to review the existing below grade walls and issue an opinion as to the walls' capability of withstanding anticipated lateral pressure from the existing soils. You anticipate that Van Metre will provide you with results.

#### Questions Regarding Design and Installation of Drainage System

The March 2001 ECS Report addressed the design of drainage system for the subject property. On page 17 of the ECS report, which was attached to the October 28 Clendenin letter (Attachment 3), the report states "[h]igh plasticity soils are not acceptable for use as below grade wall backfill. A Residential Below Grade Drainage Detail is enclosed in the Appendix which depicts our recommendations concerning acceptable below grade wall backfill types, design lateral earth pressures, and below grade drainage." The Detail, also included in Attachment 3 submitted on October 28, defined acceptable below grade backfill as having an Liquid Limit of less than or equal to 40 and a Plasticity Index of less than or equal to 15.

ECS certified that it inspected the backfill on September 2, 2009, that the backfill was non problem soil, and that the engineer had reviewed the company's Geotechnical Report and determined that the work was consistent with the county approved report (Attachment 9). The photographs taken on September 3, a day after the inspection was said to have occurred depict soil without compaction against the below grade retaining walls and provide you with the state of

the backfill work at that time. See Attachment 3 (color photographs previously provided), and Attachment 10 for black and white copies of the same September 3, 2009 photographs previously provided.

The McLaughlins undertook the expense of test pits to provide proof that unacceptable below grade wall backfill was used during the construction of their home and that Van Metre had violated the Building Code. Van Metre was invited to take samples as well. You and other County officials were also invited to observe but no one associated with the County was present. You were provided with six results—four from Clendenin and two from ECS. The Liquid Limit results of all ranged from 30 to 80 and the Plasticity index ranged from 14 to 53.

You have asked that I provide you with questions the McLaughlins may have in writing. Regarding below grade wall backfill, where are the details behind Attachment 9? Attachment 9 is a summary prepared on September 24 but each inspection has details and the County still does not have this information. This information is relevant to the issues at hand and would assist in explaining the inconsistency in the information you have in the form of the September 3 photographs, the test results, and the ECS inspection summary report.

In addition, I have questions regarding the structural engineer's opinion. First, Van Metre represented to the County in December of 2010 that Attachment 7 was the detail of the foundation and drainage system installed on the subject property. Attachment 7 provides for 10" exterior walls and Van Metre asserted that the 10" walls complied with the County requirement for additional strength (Attachment 8). The ECS Inspection Report (Attachment 9) indicates that the subject property only has 8" walls. Van Metre is now having a structural engineer provide an opinion to the County. Will you request all of information reviewed in rendering the opinion, and the basis for the opinion? Will you seek an opinion based upon the worst case soil type found against the walls, if such an opinion was not already provided? Obviously, the walls will need to withstand the worst case scenario.

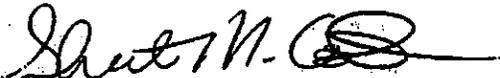
On page 17 of the ECS report, ECS stated that it recommended that "all below grade space include perimeter and underslab drainage systems to facilitate the removal of any water which may accumulate. Often, water travels in rock fractures in this area, which are not easily detected prior to construction operations. Therefore, we recommend that all below grade space include a perimeter and underdrain system, designed to flow by gravity where appropriate, or to a suitable pump pit and pump system." Attachment 3, at p. 9.

As you know, the McLaughlins first went to Van Metre to see if Van Metre might be able to help in assessing the problem with their property. In response to my inquiries as to whether Van Metre installed a perimeter and underslab drainage system in the below grade space, Van Metre provided Attachment 7. As stated above, this is the detail that indicates that the walls are 10", when the McLaughlin walls are 8". Van Metre also represented to the McLaughlins that Loudoun County inspected and certified as completed the foundation drainage system before the certificate of occupancy was issued. See p.2 of Van Metre letter attached to Attachment 3. Where is the detail for such certification, if it happened?

According to your December 1 letter, Mr. Kane represented to you on November 19 that the interior perimeter drain was installed. See Attachment 5. If it was installed, when? You have the photograph taken on September 3, 2009 of the interior perimeter of the house, which does not show drain around the interior perimeter being installed (Attachment 10). Van Metre claims it was inspected but there doesn't appear to be an inspection report for it. Finally, what about the underslab drainage system? Van Metre represented to the McLaughlins that it was installed but has not provided any information and I not aware of any response that Van Metre has made to the County's inquiries.

I thank you for your attention to this matter.

Sincerely,

  
Sheila M. Costin

cc: Frank and Karen McLaughlin  
Enclosures

# ATTACHMENT 1



Department of Building and Development

Code Enforcement Division

1 Harrison Street S. E., MSC 60b, P. O. Box 7000 MSC 60b  
Attention: Office Coordinator  
Leesburg, VA 20177-7000

RECEIVED

OCT 30 2010

Karen G. Field  
BUILDING AND DEVELOPMENT

\*ATTN: CHRIS THOMPSON\*

CODE ENFORCEMENT COMPLAINT FORM

(Please print legibly)

(cell)

Complainant's Name: Karen McLaughlin Daytime Phone: 703 786 6888

Complainant's E-mail: karen.mclaughlin@hotmail.com

Complainant's Address: 42975 Park Creek Drive  
Broadlands VA 20148

Alleged Violator's Name: Van Metre at Broadlands LLC + ECS

Address/Location of Alleged Violation: 42975 Park Creek Drive  
Broadlands VA 20148

Nature of Complaint (attach additional information if necessary):  
installation of drainage system +  
wall back fill -  
\*Please see attached

Directions to property from Leesburg: Toll Road to Exit 5 / Claiborne  
Plenty  
On Claiborne to (L) on  
Park Glen, 1st (L) on Park Creek, 2nd

Property Owner's Name: (if different than the alleged violator's name and address) Same

Property Owner's Address: Same as above

Complainant's Signature: [Signature] Date: 10/28/10

These forms are subject to FOIA - Incomplete forms will not be processed

Note: By signing this form, you are attesting to the validity of this complaint and acknowledge your willingness to appear in court as a witness against the alleged violator of the Virginia Uniform Statewide Building Code.

Please do not write below; to be completed by County Staff

Complaint Rec'd. by: \_\_\_\_\_ Date: \_\_\_\_\_

Case Type (circle one):  
Building Inspection \_\_\_\_\_ Electrical Inspection \_\_\_\_\_ Fire Protection Inspection \_\_\_\_\_  
Mechanical Inspections \_\_\_\_\_ Plumbing/Gas Inspections \_\_\_\_\_ Building Plan Review \_\_\_\_\_  
County Administration Notification Yes \_\_\_\_\_ No \_\_\_\_\_ ACR Case # \_\_\_\_\_

# ATTACHMENT 2

RECEIVED

NOV 28 2010  
Caroline H. Fild  
BUILDING AND DEVELOPMENT



HOLMES & COSTIN  
PLC

October 28, 2010

Steve Rodgers  
Chief of Code Enforcement  
Loudoun County Building and Development  
1 Harrison Street, SE  
Leesburg, Virginia 20175

Re: 42975 Park Creek Drive, Broadlands, VA 20148

Dear Mr. Rodgers:

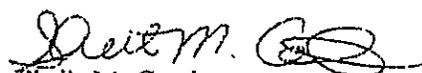
My firm represents Frank and Karen McLaughlins, the owners of 42975 Park Creek Drive, Broadlands, VA 20148. The McLaughlins purchased their home as new construction in November of 2009. They are experiencing significant difficulties with water on their property and they believe the issue relates to the fact that the Seller did not install the drainage system and wall back fill in accordance with the plans, the geotechnical report or local, state and international building codes. The McLaughlins ask that you investigate this issue and force corrective measures to ensure that the McLaughlin's home is not compromised because of code violations by the Seller.

Prior to sending this letter, the McLaughlins attempted to communicate with the Seller. They repeatedly requested an opportunity to meet with engineers to explore the problem and discover a workable solution but the Seller has steadfastly refused to meet or to exchange information needed to understand exactly what was done on the property with regard to the drainage system.

Please review the enclosed letter, with attachments, prepared by Clendenin Environmental & Geotechnic Consultants, Inc., which provides information the McLaughlins have gathered through County records, photographs taken at the time of construction, and recent testing done on their property.

Please contact me if you have any questions.

Sincerely,

  
Sheila M. Costin

**ATTACHMENT 3**



# CCRG

Clendenin Consulting & Remediation Group

October 28, 2010  
10012.L04

Steve Rodgers, Chief of Code Enforcement  
Loudoun County Building and Development  
1 Harrison Street, SE  
Leesburg, VA 20175

Subject: Design and Construction of Drainage Systems  
McLaughlin Residence - 42975 Park Creek Drive  
Broadlands, VA 20148

Dear Mr. Rodgers:

On behalf of Frank and Karen McLaughlin, Clendenin Environmental & Geotechnic Consultants, Inc. submits this letter in support of a request for attention to certain matters pertaining to the design and construction of the McLaughlin Residence at 42975 Park Creek Drive in Section 62, Lot 11, Broadlands, Virginia. The McLaughlin's purchased Lot 11 in November 2009. We have broken our letter into five areas: Civil and Geotechnical Engineering Design and Loudoun County Building & Development (B&D) Requirements; Construction-Groundwater Drainage System Inspection, Construction Wall Backfill Inspection, Groundwater Intrusion Observations and Calculations, and Request for Enforcement Action.

### Civil and Geotechnical Engineering Design and B&D Requirements

ECS prepared the Report of Subsurface Exploration for Broadlands South Sections 60.1, 60.2, 60.3, 62.1, 62.2, 62.3 and 62.4 (ECS Report) dated March 1, 2001. We understand that this report was approved by B&D. The McLaughlin residence is located in Section 62, Lot 11 and is covered by the ECS Report. The ECS Report discusses concerns about shallow groundwater specifically " ...it is common to have "springs" develop in areas...". "...groundwater flow continues downhill, with the water table occasionally surfacing to form wet springs and intermittent streams" and "... in the lowest lying areas and adjacent to existing creeks is a shallow groundwater table in a near continuous state". The ECS Report recommends that "all below grade space include perimeter and under slab drain systems" and that "below grade walls should be designed with perimeter drain systems." The Below Grade Drainage Detail provided by ECS recommends soil with a LL 40, PI 15 or better against all below grade walls. The ECS Report states "The drain systems should be exterior to the walls, and should include either granular backfill or manmade drainage materials....." and "High plasticity soils are not acceptable for use as below grade wall backfill".

The Civil Design plans indicate a "Wetland Impact Area" to the east of Lot 11 with a culvert invert at Elevation 350.06. This area represents the furthest up gradient extent of a very large Wetland Preservation Area that expands south of Park Creek Drive. The proposed residence on Lot 11 was set with a basement finished floor Elevation 349.23 or 0.82 feet below the culvert invert level. Lot 11 is the lowest point on the north side of Park Creek Drive and receives overland water flow and near surface groundwater drainage from Lot 1, 2 and 10.

In 2000, B&D commenced to require all Third Party Inspection firms to agree to "Reporting Procedures" and sign and seal a B&D form to confirm that understanding. A copy of the form submitted by our office is attached. Item 3 states "Any changes to the approved Geotechnical recommendations must be submitted to this office for approval prior to implementation in the field "

Clendenin Environmental & Geotechnic Consultants, Inc.

116 - 1 EDWARDS FERRY ROAD • LEESBURG, VIRGINIA 20176 • TEL:703/771-8816 • FAX:703/771-8825  
www.clendeninconsulting.com

#### Construction-Groundwater Drainage System Inspection

According to B&D records, ECS inspected and approved the drainage systems installed to protect the McLaughlin residence in accordance with the approved ECS Report. Van Meter's letter dated September 17, 2010 claims that "To date, the water drainage system is operating as designed, water is draining through the foundation drainage pipes into the sump pump crock" and that "Loudoun County also inspected and certified as completed the foundation drainage system before the certificate of occupancy for the Home was issued."

#### Construction-Wall Backfill Inspection

According to B&D records, ECS inspected and approved the fill materials placed against the below-grade walls in accordance with the approved ECS Report.

#### Groundwater Intrusion Observation and Calculations

CCRG visited the site for the first time in March 2010. We observed and documented a constant flow of water from the 57 gravel into the single sump crock in the basement. We observed two white polyvinyl chloride pipes and two black corrugated plastic drain pipe connected to the sump. Water was not observed flowing through any of the pipes. According to Karen McLaughlin, the sump pump activates several times a minute and water had not been observed flowing through any of the pipes that enter the sump. The McLaughlin's monitored water flow into the basement sump from December 2009 to April 2010. The data indicates an average flow of 24 gallons for every 3 minute interval. Further calculations indicate that over the four month period as much as 1.4 million gallons of water may have been pumped from the sump tank. Even if we assume a 50% error, the total volume would be 700,000 gallons.

#### Request for Enforcement Action

The McLaughlin's photographs taken on September 3, 2009 show: (1) a possible exterior perimeter drain pipe; (2) soil without compaction against the below grade retaining walls; and (3) utility trenches with 57 stone backfill installed in the soil sub grade for the basement concrete slab. Recent testing by our office has determined that two of the lines are for the sanitary sewer system and two are for floor drains. No engineered under slab drains or interior perimeter drains are visible in the photographs.

The McLaughlin's request to Van Metre for details on the drainage systems and backfill inspections has been to no avail. The engineering concerns are clear. The design elevations of the culvert outlet structure and basement finished floor allows storm water that ponds in the welland area and seeps vertically to meet resistance and move horizontally to the low point under the basement concrete slab. Moreover, as the photographs and known soil conditions indicate, highly plastic CH clay excavated from the basement was pushed back against the below grade walls in violation of the Virginia code and International Building Code (IBC) that was in force in 2009. Furthermore, if the three subsurface drainage systems; perimeter exterior, perimeter interior, and under slab, were not installed according to the approved ECS Report, then B&D regulations and policies and the IBC were violated. Our engineering concern is that absent the recommended engineered drainage systems, the McLaughlin residence is in very high risk of drainage problems that could result in structural problems in the near future.

We completed our test pit evaluate of backfill used against the below grade walls today. The preliminary findings are consistent with the photographs taken on September 3, 2010 and confirm the used of high plastic clay and large boulder size rock as backfill against the below grade walls. The photographs taken today are also attached.

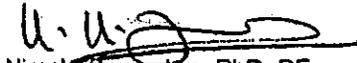
10012.L04  
October 28, 2010  
Page 3 of 3

We have met with B&D staff, presented the approved engineering recommendations and photographs taken during construction and our evaluation of wall backfill. Given the facts we know and our concerns, we request quick action by B&D to ensure that the drainage systems and wall backfill have been installed according to the existing approved plans, geotechnical report and local, state and international building codes.

If you have any further questions or require additional information feel free to contact us.

Sincerely,

**CLENDENIN CONSULTING & REMEDIATION GROUP**

  
Nimal J. Jayaratne, PhD, PE  
Project Engineer

  
Bruce Clendenin, CPG  
President

Attachments: Excerpts from the ECS Report dated March 1, 2001  
ECS Residential Below Grade Drainage Detail  
Civil Plan of McLaughlin Residence and Wetland Area  
Van Metre Letter dated September 17, 2010  
Loudoun County Reporting Procedures Letter  
B&D records of Inspections for 42975 Park Creek Drive Residence  
Photographs taken September 3, 2009  
Photographs taken on October 28, 2010

CC: Sheila Costin, Esquire

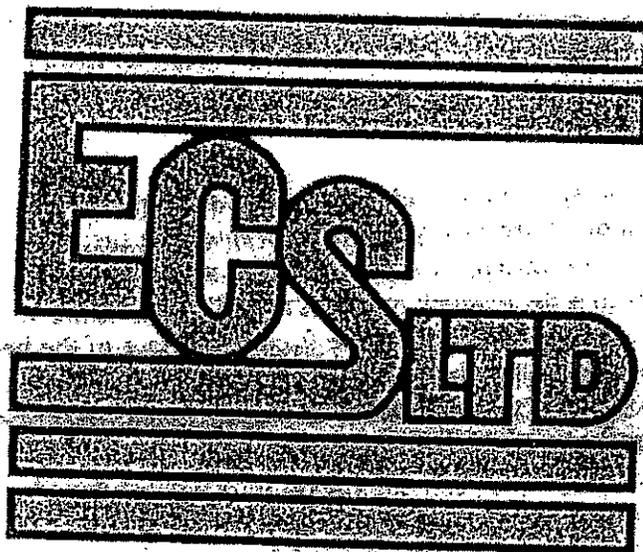
Plan approved for Permit, but  
subject to field approval of  
Construction.

62 9.15.10

Plan Reviewer

*REPLACES LOST REPORT*

*ENGINEERING BACKFILL COSTS ACQUIRED*



REPORT OF

SUBSURFACE EXPLORATION  
(LOUDOUN COUNTY TYPE II GEOTECHNICAL REPORT)

BROADLANDS SOUTH  
SECTIONS 60.1, 60.2, 60.3, 62.1, 62.2, 62.3, 62.4  
LOUDOUN COUNTY, VIRGINIA

FOR

BROADLANDS ASSOCIATES

March 1, 2001

### Groundwater Conditions

Groundwater seepage was observed in 14 of the 60 borings. See the attached logs for specific water depths. In auger drilling operations, water is not introduced into the boreholes, and the groundwater position can often be determined by observing water flowing into or out of the boreholes. Furthermore, visual observation of the soil samples retrieved during the auger drilling exploration can often be used in evaluating the groundwater conditions.

The highest groundwater observations are normally encountered in the late winter and early spring, and our current groundwater observations are expected to be near the seasonal minimum water table. Variations in the location of the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, and other factors not immediately apparent at the time of this exploration.

Groundwater on sites with shallow auger refusal depths is generally referred to as a partially perched condition. Specifically, rainfall that enters the site, either directly or from overland flow, begins to percolate through the low to moderately permeable surficial soils. Once the water percolation reaches the bedrock, which is virtually impermeable, it begins to flow at the interface of the rock and the soil and within the fractured surface of the bedrock. This groundwater flow continues downward until the water table occasionally surfaces to form a water spring, and in some instances, on the surface of the bedrock. On the other hand, in some areas and in some existing breaks, a shallow groundwater table may appear on the surface. Otherwise, it is related to rainfall, although springs may exist in the lower lying areas for extended periods of time without recharge from rainfall. Therefore, the groundwater conditions at this site are expected to be significantly influenced by surface water runoff and rainfall, especially during high precipitation seasons.

The site is also subject to severe desiccation, during extended dry periods. Therefore, mass earthwork operations undertaken in the Winter and Spring are more likely to encounter difficulties with perched conditions than those operations undertaken in the Summer or Fall. For long term planning purposes, we strongly urge that mass grading operations be undertaken to coincide with better weather periods.

In addition, it would also be highly desirable to pre-shoot any utilities, so that utility channels can act as natural conduits for groundwater flow. This is especially true of gravity type conduits, such as sewer lines. In fact, it may be desirable to collect storm water in the bedrock and in the soil. The use of pre-shooting in the bedrock and in the soil is strongly recommended. Additional comments with regards to groundwater conditions are discussed in subsequent sections of the report.

### Construction Groundwater Control

The long term continuous groundwater table at the site is well below the depth of auger refusal. However, groundwater conditions encountered at the site are strongly influenced by surface water flow and infiltration. Specifically, water that enters the site migrates downward to the interface of the soil and rock. Once the water reaches the relatively impermeable rock, the water travels laterally, often over large distances. Such perched groundwater conditions will likely be encountered during construction operations.

The degree of fracturing within the rock materials can be increased and altered significantly by blasting operations. Therefore, it is common to have "springs" develop in areas which were previously dry once initial grading operations have commenced.

Excavations performed at this site, especially those in or near existing drainage swales, generally encounter water flowing at the interface of the rock and the soil. These conditions should be anticipated and can be handled through the use of french drains installed on the uphill side of any excavations performed on site. In addition, french drains may need to be installed in areas where springs develop.

The perched groundwater conditions are seasonal in nature. While perched groundwater conditions may not be encountered during the summer months, such conditions can occur in the winter and late spring months. Specific recommendations regarding design relative to these perched groundwater conditions are contained in subsequent sections of this report.

The surface of the site should be kept properly graded in order to enhance drainage of the surface water away from the proposed areas during the construction phase. We recommend that an attempt be made to enhance the natural drainage without interrupting its pattern.

During our exploration program, we noted no perched conditions at the site. Before and during our exploration there was little precipitation. Therefore the effects of perched water were not evident during our exploration. But during periods of high precipitation construction efforts can be seriously hampered by the problem of perched water.

For this reason, it is critically important that planning operations consider construction groundwater control. One of the more cost-effective techniques that can be utilized for groundwater control, we believe, is through the prudent utilization of french drains, and in planning utility installations. For example, any utility installation that requires a gravity feed, such as sewer lines, can be effectively converted into "french drains" to help assist in groundwater control.

As a minimum, the gravel bedding of sewer lines can be converted into french drains by encapsulating the gravel bedding stone in an appropriate filter fabric. In this manner, the blasting and trenching operations required to install the sewer help intercept near surface perched water, and channelize the flow. Naturally, these changes in the sewer installation must be coordinated

with the appropriate County authorities for approval. ~~It is more important that final outlet conditions for these rock drainage systems be considered in design. If the entire sanitary sewer installation is converted to a trench drain, the problem of runoff can have severe effects on water quality. Therefore, intercepting trench drains will ultimately be required to bleed off the water flow and discharge it into storm water drains or surface improvements.~~

### Subgrade Preparation

The subgrade preparation should consist of stripping all vegetation, rootmat, topsoil, and any other soft or unsuitable material from the proposed pavement areas. We recommend the earthwork clearing be extended a minimum of 10 feet beyond the pavement limits. Stripping limits should be extended an additional 1 foot for each foot of fill required at the exterior edge of the roadway. After stripping to the desired grade, and prior to fill placement, the stripped surface should be observed by an experienced geotechnical engineer or his authorized representative. Proofrolling using a fully loaded dump truck, having an axle weight of at least 10 tons, may be used at this time to aid in identifying localized soft or unsuitable material which should be removed. Special efforts should be made to identify unsuitable soils. Any soft or unsuitable materials encountered during this proofrolling should be removed and replaced with an approved backfill compacted to the criteria given below in the section entitled "Fill Placement".

The preparation of roadway fill subgrades should be observed on a full-time basis by a representative of the geotechnical engineer to ensure that all unsuitable materials have been removed and that the subgrade is suitable for support of the proposed construction and/or fills.

In some areas, excessively soft and/or wet soils may be encountered for fill subgrades, especially in the winter or early spring months. We recommend the use of a reinforcing geotextile or geogrid where excessively soft materials are encountered that cannot be effectively removed. These materials should be covered by a minimum of 1 foot of select granular materials. This procedure is particularly applicable to fill subgrades within the expanded roadway limits. If necessary, soil bridging lifts may be utilized in accordance with VDOT approved procedures where the depth of fill will be 8 feet or more. The maximum thickness of the soil bridging lift should be 2 feet and the compaction requirements should be achieved in the upper lift of the soil bridging lift prior to commencement of additional fill operations. However, we prefer the use of reinforcing geogrids or geotextiles within pavement areas, where required.

### Fill Placement

Because of the moisture and disturbance sensitive nature of the silt and clay soils at the site, the initial one to two lifts of fill may need to be compacted without vibratory efforts. Vibratory compaction equipment may cause disturbance of the near surface site soils and upward migration

of moisture into the engineered fill soils which could inhibit compaction efforts. After placement of the initial one to two lifts, vibratory compaction can proceed, if appropriate.

Fill materials should consist of an approved material, free of organic matter, debris and rocks greater than 6-inches and have a Liquid Limit and Plasticity Index less than 45 and 22, respectively. Unacceptable fill materials include topsoil, organic materials (OH, OL) and high plasticity silts and clays (CH, MH). Some moderate plasticity soils may be suitable in some instances as discussed previously. All such materials removed during grading operations should be either stockpiled for later use in landscape fills, or placed in approved disposal areas either on site or off site. All other soil materials not excluded above are acceptable for reuse as fill. High plasticity silts and clays may be placed in the lower elevations for the deepest pavement fills, if other areas are not available for placement of these materials. If high plasticity soils are used for controlled fills within pavement areas, it should be recognized that these soils may be difficult to work with. Extended drying periods may be required to dry the soils to a level to permit compaction to the standards outlined in this report.

The on-site borrow soils may have high moisture contents which could require the application of discing or other drying techniques to the soils prior to their use as controlled fill materials. The planning of earthwork operations should recognize and account for these efforts and increased costs.

Fill materials should be placed in lifts not exceeding 8-inches in loose thickness and moisture conditioned to within +/- 2% of the optimum moisture content. Where controlled fill soils will have a total thickness not exceeding 8 feet, the soils should be compacted to a minimum of 95% of the maximum dry density obtained in accordance with VDOT Specification VTM-1, Standard Proctor Method. The expanded limits of the proposed pavement areas should be well defined, including the limits of the fill zones at the time of fill placement. Grade control should be maintained throughout the fill placement operations.

The upper one foot of soil supporting pavements, sidewalks, or gutters should be compacted to a minimum of 100% of the maximum dry density obtained in accordance with VDOT Specification VTM-1, Standard Proctor Method.

All fill operations should be observed on a full-time basis by a qualified soil technician to determine that minimum compaction requirements are being met. A minimum of one compaction test per 2,500 sq. ft area should be tested in each lift placed. The elevation and location of the tests should be clearly identified at the time of fill placement.

Granular soils (Unified Soil Classification System SM or better) should be compacted with a smooth drum vibratory roller or rubber-tire compactor. Cohesive soils should be compacted with a sheepsfoot roller, preferably a Cat 815.

Fill materials shall not be placed on frozen soils. All frozen soils should be removed prior to continuation of fill operations. Borrow fill materials shall not contain frozen materials at the

All materials with plasticity indexes greater than 22 will be unsuitable for floor slab support or as final structural fills, without significant limitations. Some of these limitations have been previously described, and will also be described in greater detail in subsequent sections. Where high plasticity soils are observed at the subgrade, they should be removed to a depth of at least 2 feet below the subgrade of the slab on grade and proposed grades established utilizing engineered fill.

Although building excavations may appear dry at the time of construction, we recommend that all below grade space include perimeter and underslab drain systems to facilitate the removal of any water which may accumulate. Often, water travels in rock fractures in this area, which are not easily detected prior to construction operations. Therefore, we recommend that all below grade space include a perimeter and underdrain system, designed to flow by gravity, where appropriate, or to a suitable sump pit and pump system.

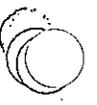
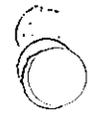
- \* Below grade walls should also be designed with perimeter drain systems. These drain systems
- \* should be exterior to the wall, and should include either granular backfill or manmade drainage materials to remove water from behind the walls. If the walls are properly designed for drainage, they may be constructed as basement walls, with an equivalent design pressure of 60 psf per foot of wall height. High plasticity soils are not acceptable for use as below grade wall backfill. A Residential Below Grade Drainage Detail is enclosed in the Appendix which depicts our recommendations concerning acceptable below grade wall backfill types, design lateral earth pressures, and below grade drainage.

### Radon Design Considerations

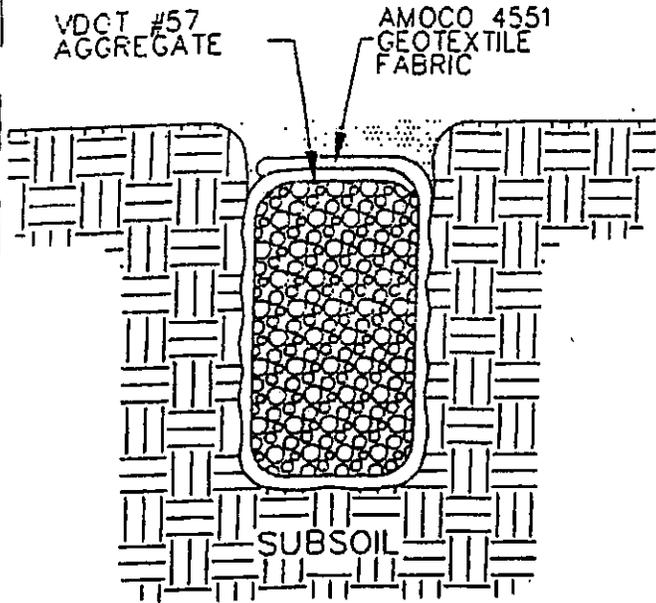
The site is in an area of moderate to high radon potential. We recommend that all single family structures, whether at grade or including below grade space, be designed with either active or passive radon degassing systems. In most instances, we believe that a passive system would be appropriate. However, it is strongly urged that all single or multi-family construction be developed with due considerations to removing radon gas from below grade or ground contact grades.

### Exterior Pavements

California Bearing Ratio (CBR) tests were performed for roadway design purposes at this site. A soaked CBR of 11 was obtained from the sample tested. However, considering the presence of various marginal soils at this site, we recommend using a soaked CBR value of 5. If Virginia design standards are utilized in the developing of pavement sections by the Civil Engineer, these soaked laboratory CBR values should be reduced by one-third to arrive at a VDOT design CBR value.

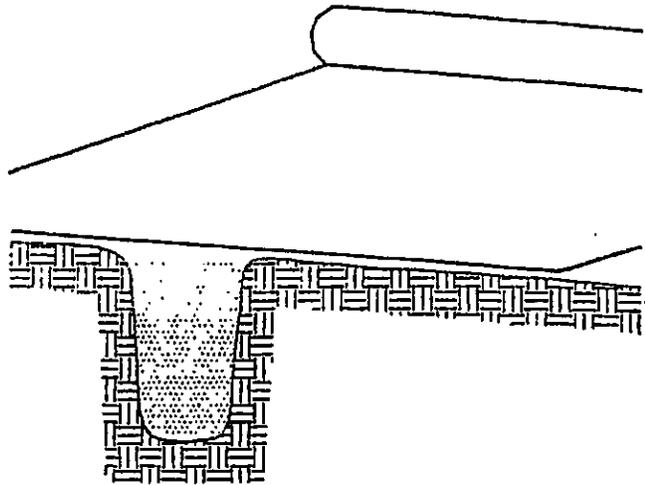


FINAL CONFIGURATION



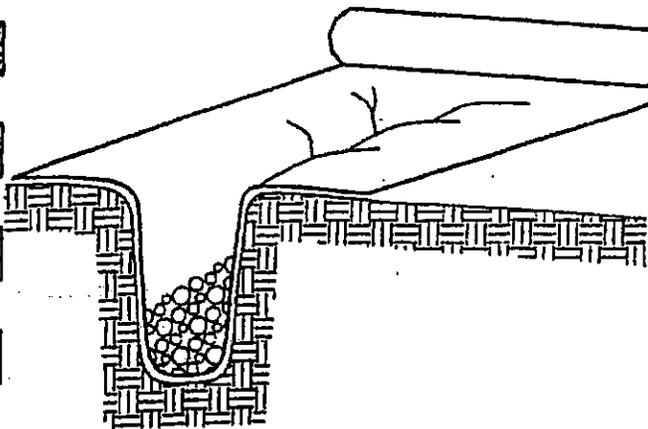
SUBDRAIN USING FILTER FABRIC

STEP 1



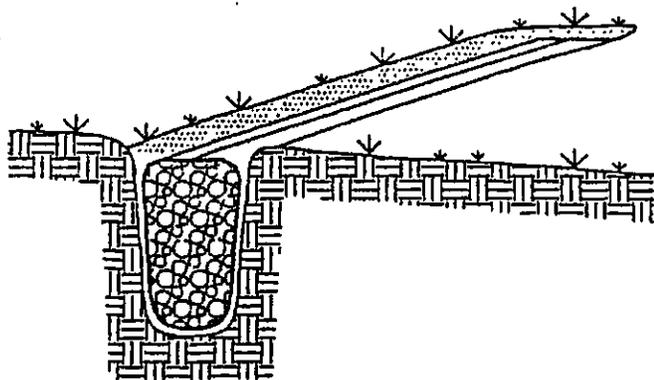
FABRIC IS UNROLLED  
DIRECTLY OVER TRENCH

STEP 2



THE TRENCH IS FILLED WITH AGGREGATE

STEP 3



THE FABRIC IS LAPPED CLOSED  
AND COVERED WITH CLAY  
SOIL COMPACTED

DRAIN INSTALLATION PROCEDURE

(NTS)

**Bruce Clendenin**

---

**From:** Pumphrey, David [David.Pumphrey@loudoun.gov]  
**Sent:** Thursday, September 30, 2010 1:26 PM  
**To:** bruce@clendeninconsulting.com  
**Subject:** FW.

**Attachments:** Res Below Grade Drainage - Non-Severe GW.PDF

Bruce,

I think this is what you were looking for. Pls. let me know if this is ok or if you need anything else. Pls. read the text from Mr. Andonyadis from ECS to further understand where they got this detail from.

David Pumphrey  
Building Plans Reviewer

**From:** MAndonyadis [mailto:MAndonyadis@ecslimited.com]  
**Sent:** Thursday, September 30, 2010 11:33 AM  
**To:** Pumphrey, David  
**Subject:** RE:

When those reports were issued back in 2001 there was no detail included, however we looked at similar reports issued for other projects in Broadlands area that we did at that time and we believe that the attached detail is applicable

**MANOL ANDONYADIS, PE, LEED AP**  
Vice President, Chantilly Office Manager

**ECS Mid-Atlantic, LLC** T. 703-471-8400 D 703-810-1230 C. 703-201-2541 F. 703-834-5527  
[www.ecslimited.com](http://www.ecslimited.com)

---

**From:** Pumphrey, David [mailto:David.Pumphrey@loudoun.gov]  
**Sent:** Thursday, September 30, 2010 10:25 AM  
**To:** MAndonyadis  
**Subject:** RE:

Manol,

The page you sent to me was included in the report that was originally requested by Loudoun County. The information that I am requesting is from page 17 of the report (ECS Job No. 5587-G1) at the last sentence of the third paragraph. It reads as follows. "A Residential Below Grade Drainage Detail is enclosed in the Appendix which depicts our recommendations concerning acceptable below grade wall backfill types, design lateral earth pressures and below grade drainage. I appreciate your help with this matter and I can be reached at (703) 771-5751.

Thank You  
David Pumphrey Building Plans Reviewer

**From:** MAndonyadis [mailto:MAndonyadis@ecslimited.com]  
**Sent:** Thursday, September 30, 2010 9:13 AM

10/13/2010

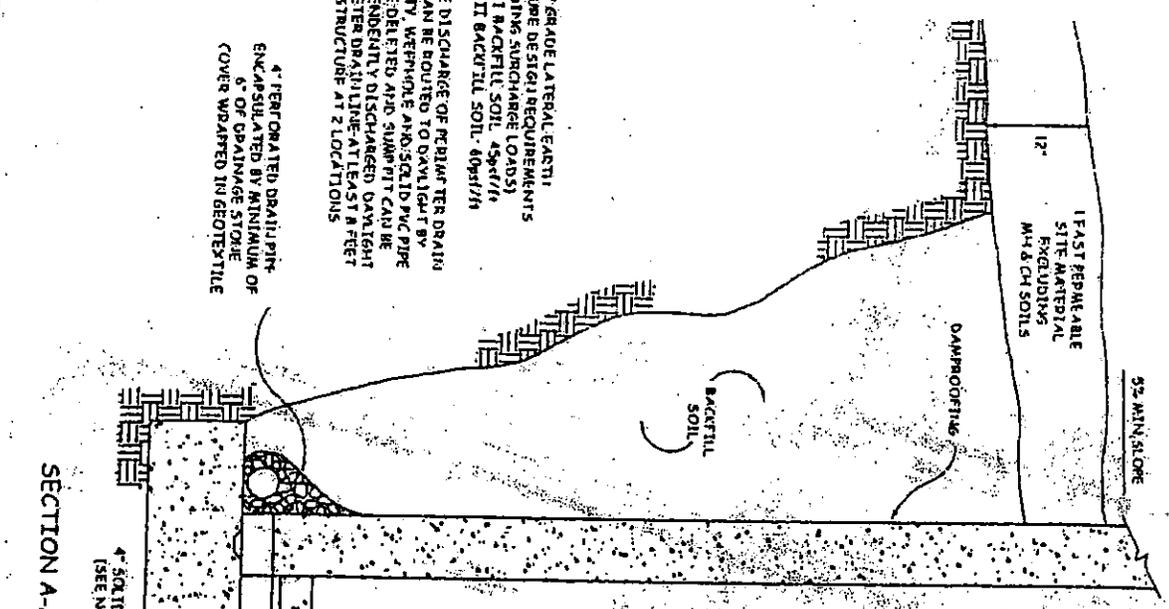
To: Pumphrey, David  
Subject:

As requested.

**MANOL ANDONYADIS, PE, LEED AP**  
Vice President / Chantilly Office Manager

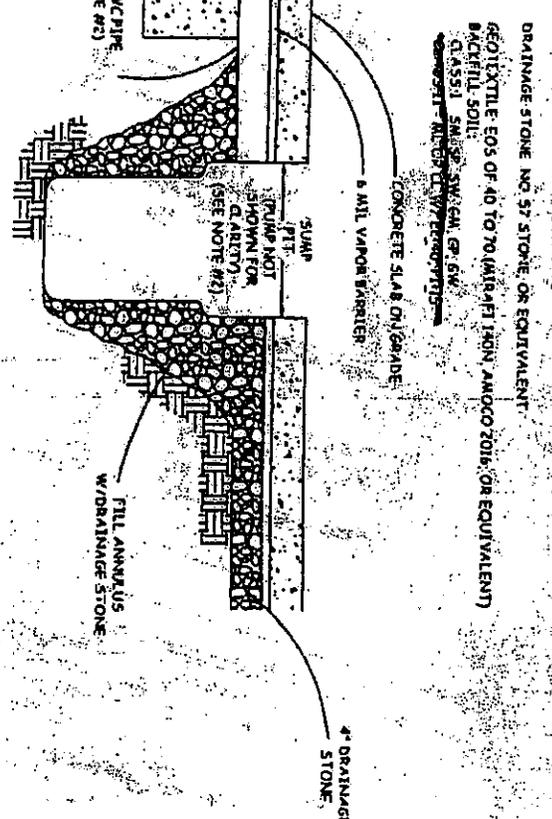
ECS Mid-Atlantic, LLC 14026 Thunderbolt Place, Suite 100 Chantilly, VA 20151  
T 703-471-8400 D 703-810-1230 C 703-201-2541 F 703-834-5527 [www.ecsimited.com](http://www.ecsimited.com)  
*Confidential/proprietary message/attachments Delete message/attachments if not intended recipient*

# RESIDENTIAL BELOW GRADE DRAINAGE DETAIL (NON-SEVERE GROUND/WATER TABLE) NOT TO SCALE



- NOTES**
- 1) BELOW GRADE LATERAL EARTH PRESSURE DESIGN REQUIREMENTS (EXCLUDING SURCHARGE LOADS) CLASS II BACKFILL SOIL - 49pcf/1.18
  - 2) WHERE DISCHARGE OF PERIMETER DRAIN LINE CAN BE ROUTED TO DRAINAGE BY GRAVITY, WETTABLE APPROX. SOLID PVC PIPE CAN BE INSTALLED AND SWAMP PIT CAN BE INDEPENDENTLY DISCHARGED DRAINAGE PERIMETER DRAIN LINE AT LEAST 8 FEET FROM STRUCTURE AT 2 LOCATIONS

**SECTION A-A**



**DEFINITIONS**

DAMP PROOFING: SEALING JOINTS, RECESSES, JOINTS, PENETRATIONS WITH APPROVED BITUMINOUS MATERIAL, FINISHING WITH PORTLAND CEMENT (3:1) IN PLASTER (MASONRY WALLS ONLY) FOLLOWED BY AT LEAST ONE COAT OF APPROVED BITUMINOUS MATERIAL AT THE RECOMMENDED APPLICATION RATE

DRAINAGE STONE: NO. 57 STONE OR EQUIVALENT

GEOTEXTILE: EOS OF 40 TO 70 MILS PER 140N AMCO SOIL OR EQUIVALENT

BACKFILL SOIL: CLASS II SANDY SILT OR CLAYEY SAND

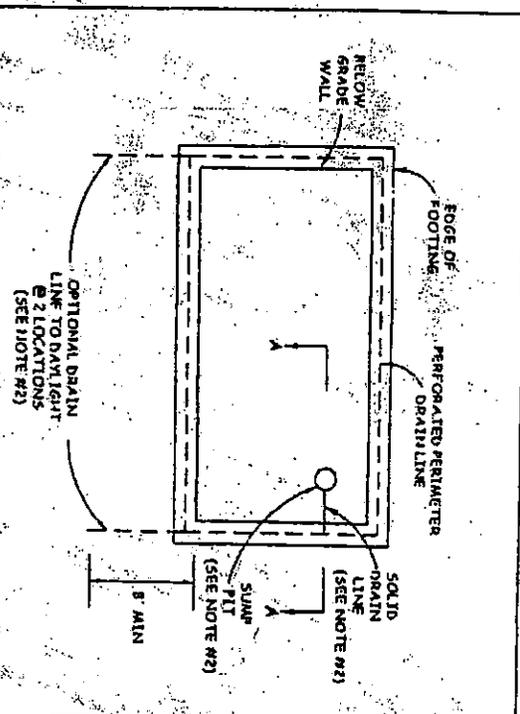
CONCRETE SLAB ON GRADE: 8 MIL VAPOR BARRIER

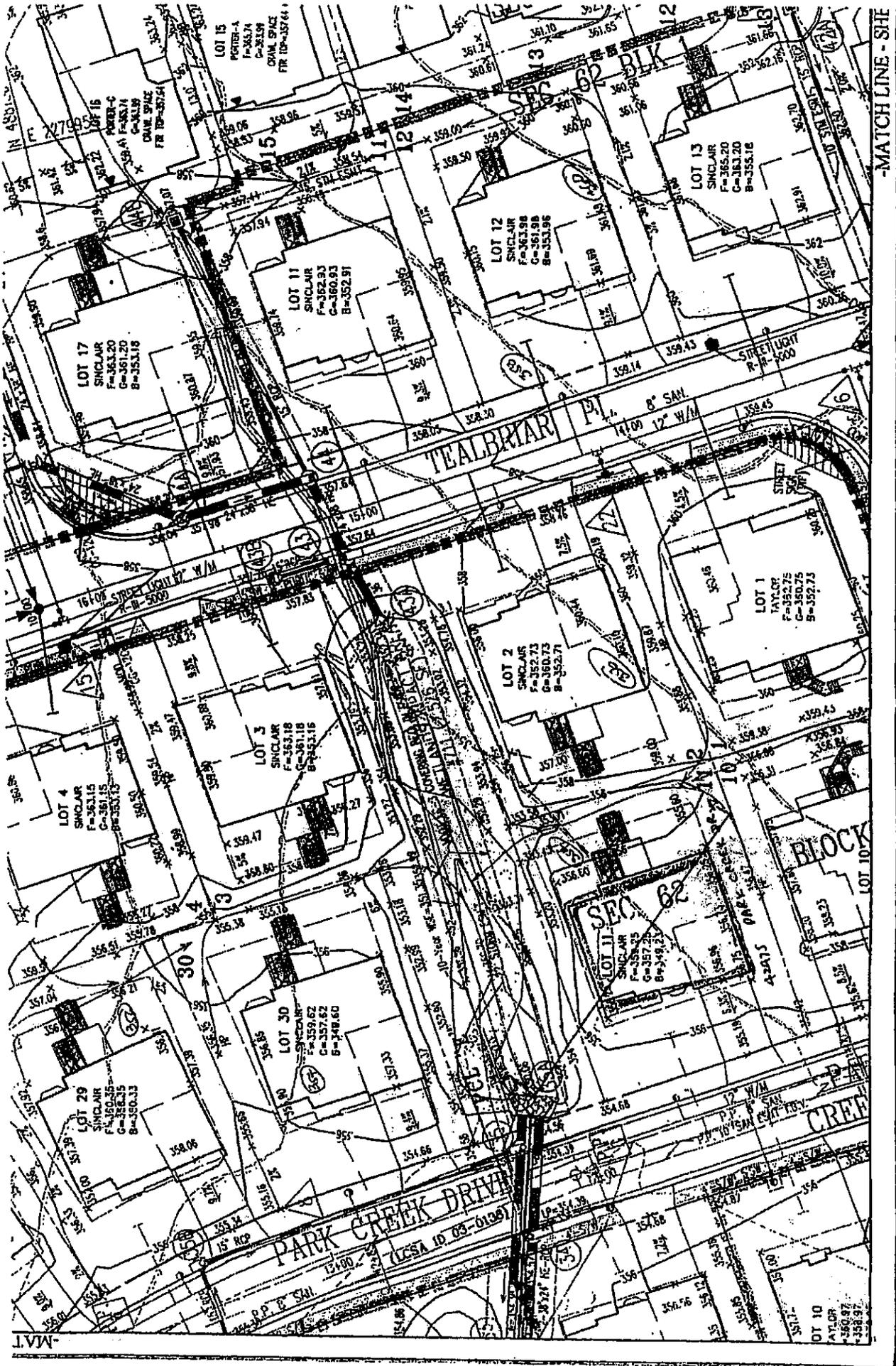
SUMP PIT: TRAP NOT SHOWN FOR CLARITY (SEE NOTE #2)

FILL ANNULUS: W/ DRAINAGE STONE

4\"/>

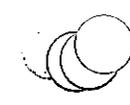
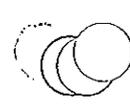
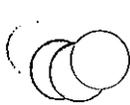
**FOUNDATION PLAN SCHEMATIC**

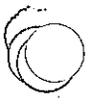




MATCH LINE - SHE

10-207



# ATTACHMENT 3

## PART II



**BUILDING TRUST FOR GENERATIONS**

September 17, 2010

**BY EMAIL AND  
FEDERAL EXPRESS**

Sheila M. Costin, Esq.  
Holmes & Costin, PLLC  
P.O. Box 2734  
Fairfax, Virginia 22031  
Email: [scostin@holmesandcostin.com](mailto:scostin@holmesandcostin.com)

**Re: 42945 Park Creek Drive, Broadlands, Virginia (the "Home")**

Dear Ms. Costin:

I am an in house attorney with Van Metre Companies. Roy Kane, Director of Customer Care for Van Metre Homes, forwarded to me your September 8 and May 12, 2010 letters regarding the Home. I have discussed your letters and the concerns noted therein with Mr. Kane and Brian Davidson, Vice President of Van Metre Homes. I also have reviewed the Limited Warranty for the Home. This letter responds to your letters.

As an initial matter, Van Metre Homes at Broadlands, L.L.C. ("Seller") disagrees with the statement that Seller discovered a defect in the Home prior to settlement, namely a purported problem with underground water, but failed to disclose the same to Mr. and Mrs. McLaughlin ("Buyer"). Seller also disagrees that false representations were made to Buyer at the pre-settlement orientation and after settlement, with respect to the underground water and the running of the Home's sump pump. Van Metre Homes strives to provide a positive and rewarding home buying experience, and the conduct described in your letters is certainly not a part of our business practice.

Seller correctly advised Buyer that the existence of underground water below the Home is not a "defect" pursuant to the Limited Warranty for the Home. In addition, Mr. Kane discussed the pre-settlement orientation with John Grossnickle, Superintendent for Van Metre Homes, who conducted the orientation, and Mr. Grossnickle recalls advising Buyer that the sump pump was operating per design and frequently because recent heavy rains had raised the water table. Mr. Grossnickle did not recall advising that the sump pump would stop after a few

**VAN METRE COMPANIES**

5252 LYNNGATE COURT—BURKE, VIRGINIA 22015

PHONE 703.425.2600 FAX 703.239.0395 [WWW.VANMETRECOMPANIES.COM](http://WWW.VANMETRECOMPANIES.COM)

HOMEBUILDING • INVESTMENT PROPERTIES • PLANNED COMMUNITIES • REAL ESTATE SERVICES



35

Sheila M. Costin, Esq.  
September 17, 2010  
Page 2

months, as he would be unable to predict weather conditions and the sump pump would operate as designed.

The sump pump is one of the components of the water drainage system for the Home. The Home also has a foundation drainage system. Enclosed is a copy of the plan for the foundation drainage system, which was approved by Loudoun County. Loudoun County also inspected and certified as completed the foundation drainage system before the certificate of occupancy for the Home was issued. To date, the water drainage system is operating as designed, water is draining through the foundation drainage pipes into the sump pump crock, and the sump pump is discharging the collected water away from the Home's foundation. Earlier this year, Van Metre Homes customer care personnel visited the Home to inspect the foundation drainage system. The personnel confirmed that ground water was entering the sump pump crock both through the foundation drainage pipes and otherwise by the proper direction of water per the underground portion of the foundation drainage system.

Importantly, Buyer has not experienced flooding in the Home. Also, Mr. Kane advises that during the inspection of the sump pump, Van Metre customer care personnel did not note any odor from excessive moisture or excessive humidity in the basement of the Home. Although Buyer is concerned about possible flooding, the water drainage system for the Home is operating as designed. Accordingly, there is no defect pursuant to the Limited Warranty with respect to the ground water under the Home.

In your September 8, 2010 letter, you noted a potential issue with a section in the backyard of the Home between the drainpipe and drainage ditch. Seller was not previously advised of the potential issue, and therefore cannot provide a response in this letter. Seller would like to inspect the potential issue at Buyer's convenience to determine whether there is an issue and remedial action is warranted. Please ask Buyer to contact Mr. Kane at (703) 723-2816 or [rkane@vanmetrecompanies.com](mailto:rkane@vanmetrecompanies.com) to schedule the inspection.

Although the items you noted in your letters do not constitute "defects" under the Limited Warranty, Seller in the spirit of good customer service will renew the offer previously extended to Buyer by Mr. Kane. Specifically, Seller, at its cost, will direct the following measures: (1) installation of a larger sump pump crock; (2) replacement of the existing 1/3 horsepower sump pump with a more powerful 1/2 horsepower sump pump; (3) installation of a battery backup system for the replacement sump pump; and (4) burying of the existing down spouts on the rear and side of the Home and the sump pit drain underground with solid drain pipe, to allow gravity flow drainage to the existing storm easement / wetlands area near the Home. It is Seller's expectation that the replacement sump pump will operate more quietly and efficiently than the existing sump pump, and together with the other proposed measures will allow for a greater capacity and pace of water collection and disbursement. It is Seller's hope that these additional measures will help to alleviate Buyer's concerns with respect to potential flooding and the level of sound emitted from the operation of the sump pump.

Sheila M. Costin, Esq.

September 17, 2010

Page 3

As Mr. Kane previously advised, the above offer is contingent upon the parties signing a release agreement. As there is no defect under the Limited Warranty necessitating the additional measures, Seller declines to perform the additional measures without the release agreement. Seller is willing to limit the scope of the release and waiver to the issues raised by Buyer with respect to the underground water and the water drainage system, rather than a full release and waiver of all claims that Buyer may have against Seller as provided in the release agreement previously circulated by Mr. Kane.

The offer as outlined in this letter is open for Buyer's consideration until close of business on September 30, 2010, and contingent upon the parties signing a release agreement. Please let me know if Buyer wishes to accept the offer, and I will prepare the release agreement.

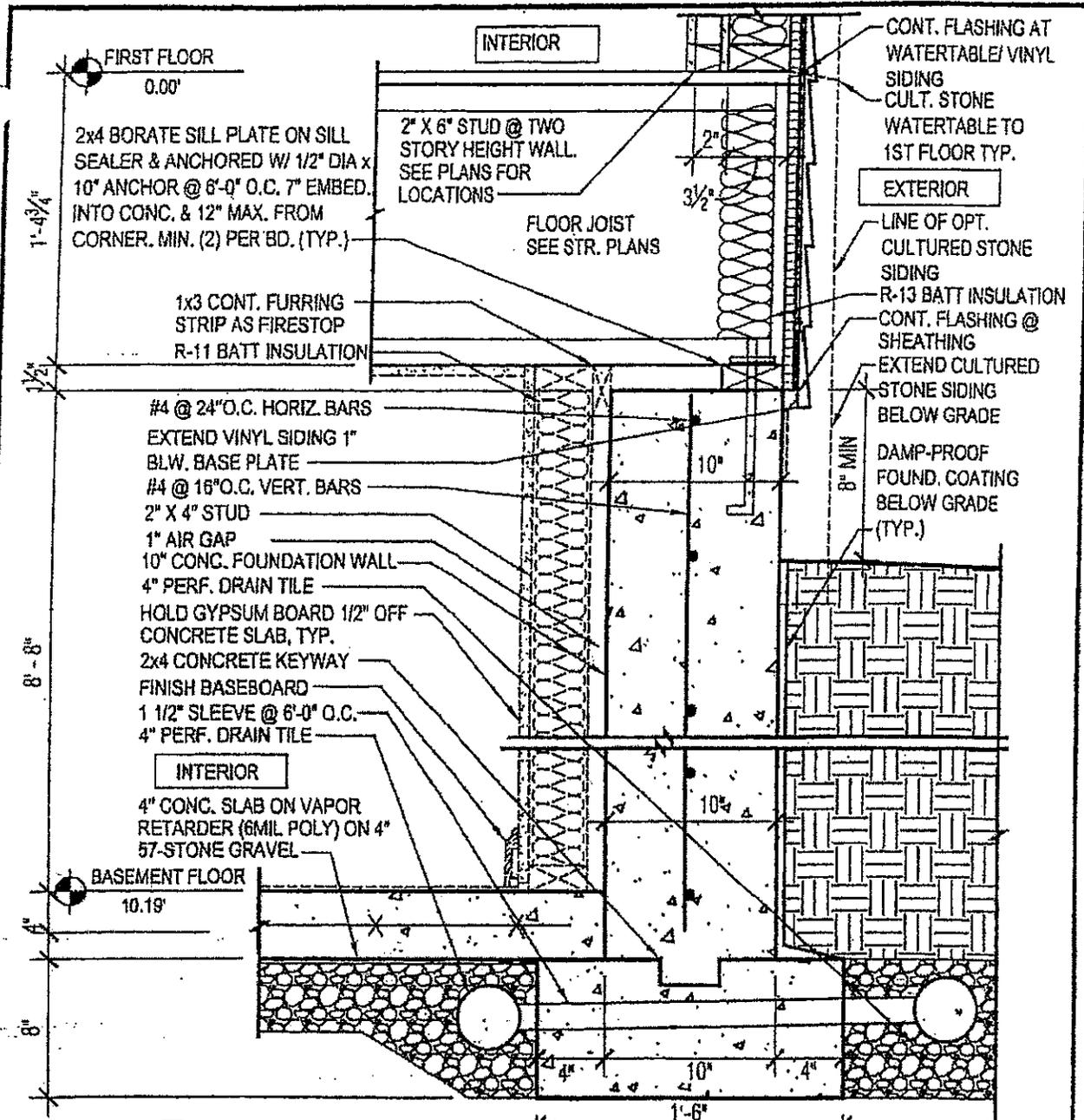
Sincerely,



Juan Manuel Estrada  
Assistant General Counsel

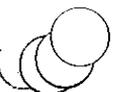
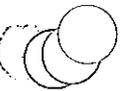
Enclosure

cc: Mr. Brian Davidson  
Mr. Roy Kane



**003** FOUNDATION WALL W/SIDING & STONE @ SIDES & REAR  
 SCALE: 1 1/2" = 1'-0"  
 a-01\_per-03\_FdnSid\_Sid.dwg

PROJECT:	Master Detail Book	Van Metre Homes 44675 Cape Court, Suite 171 Ashburn, VA 20147 Tel 703-723-2800 Fax 703-723-8954	 <small>www.VanMetreHomes.com</small>
DATE:	5/01/08		
SCALE:	1 1/2" = 1'-0"		
TITLE:	Exterior Wall at Sides/Rears w/ Siding & Cultured Stone Siding & Watertable		
APPROVALS:			



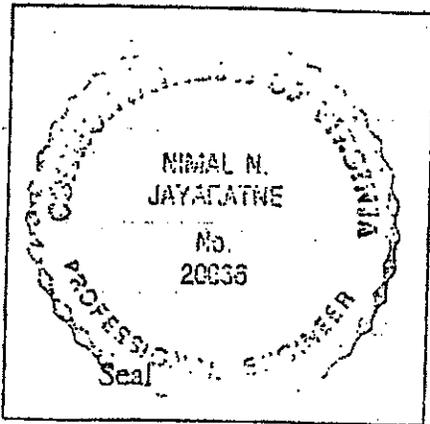
This is a request to  become or  continue to be an independent inspection agency approved to conduct certain Third Party Inspections in Loudoun County.

### REPORTING PROCEDURES

1. Inspection reports are due in this office within one week and no later than 2 weeks after inspections are made.
2. All reports will have the appropriate Building Permit numbers on them.
3. Any changes to the approved Geotechnical recommendations must be submitted to this office for approval prior to implementation in the field.
4. The minimum requirements (including the County mandated reporting format) for footing inspections on residential and commercial projects are enclosed on separate sheets.

First offense for not following the above listed procedures shall be six months probation. Second offense will result in the removal of the company from our approved third party inspection agency list.

I have read and fully understand the required reporting procedures in Loudoun County. I will accept full responsibility of my firm's reports.



NIMAL JAYARATNE  
Principal Engineer's Name (Print)

N. N. Jayaratne  
Signature

1/20/00  
Date

Name of Firm: CLENDENIN ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

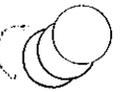
Address: 116-E EDWARDS FERRY ROAD

LEESBURG

VA 20176

Phone #: (703) 771-8816

Fax #: (703) 771-8825





# County Of Loudoun

Department of Building and Development

1 Harrison St., S.E., P.O. Box 7000

Leesburg, Virginia 20177

(703) 777-0220

Automated Inspection Request (703) 771-5331

Web Inspection Request [www.loudoun.gov/b&d/wairs](http://www.loudoun.gov/b&d/wairs)

The permit holder is responsible for inspections and for assuming that the final approvals are received prior to use of building structure

This permit will expire if no inspections have been completed within the twelve month period following the permit-issue-date or within any twelve month period thereafter

When required, residential per unit cash proffers must be paid by cashier's check after all inspections have been finalized. Once received, two business days are required for processing prior to issuance of the occupancy permit



## BUILDING/ZONING PERMIT # B90137020100

Permit Issue Date :	2009-07-22	Building Permit # :	B90137020100
Applicant Name :	VAN METRE HOMES AT	Structure Type :	RESIDENTIAL SGL FMLY DETACHED
Owner name :	MCLAUGHLIN, FRANK & KAREN	Construction Purpose :	NEW CONSTRUCTION
Property Address :	42975 PARK CREEK DR	Permit Purpose :	SFD/PRESCOTT 7300/GOURMET
	ASHBURN VA 20148	Pin Number :	157307919000
Bldg/ Floor/ Unit :		Tax Map Number :	/78/A52////11/
Section/ Lot :	SEC 62 BLK 2 LOT 11	Contractor :	VIRGINIA RESIDENTIAL
Subdivision :	BROADLANDS SOUTH	Related Permits :	EP GP MP OP PP ZP
Mechanics' Lien Agent :	WALKER TITLE (LEE JACKSON)	Mech Lien Agent Ph # :	703 591 2325
Mech Lien Agent Addr :	11781 LEE JACKSON MEM HWY		
	FAIRFAX VA22030		

### Permit Comments

Proffer: \$663.69 #3228 7/16/09 Miller and Associates.  
 Vested under the 1972 Zoning Ordinance  
 Building height, as defined in Section 520.3 of the 1972 Zoning Ordinance, may not exceed 35'.  
 Issuance of this zoning permit does not nullify restrictions that may exist due to easements, buffers, and/or legally established tree save areas. No structures on any easements, buffers &/or tree save areas.

### Detail Information

TYPE OF SEWERAGE SYSTEM	PUBLIC
TYPE OF WATER SYSTEM	PUBLIC
TYPE OF BASEMENT	UNFINISHED
TYPE OF GARAGE	ATTACHED
NUMBER OF GARAGE SPACES	2
NUMBER OF BEDROOMS	4
NUMBER OF HALF BATHROOMS	1
NUMBER OF FULL BATHROOMS	3
ESTIMATED CONSTRUCTION COST	250000.00
ESTIMATED PROJECT COST	250000.00
HOUSE TYPE	PRESCOTT 7300
NUMBER OF OPTIONS	2
OPTION- # 1	MORNING ROOM EXT
OPTION SQUARE FEET- # 1	185
OPTION- # 2	GOURMET KITCHEN
PLANS REVIEW CHARGED (Y/N)	Y
USBC EDITION	2006
LIVING AREA 1 SQUARE FEET	3937
BLDG USE GROUP	R3
BLDG CONSTRUCTION TYPE	5B
TOTAL GARAGE-SQUARE FEET	403
BASEMENT SQUARE FEET	1933
OCCUPANCY LOAD	5
SPECIAL CONDITIONS/MODS? (Y/N)	



SETBACK3 (SIDE1) REQUIRED	12.00
SETBACK4 (SIDE2) REQUIRED	9.00
SETBACK1 (FRONT) ACTUAL	33
SETBACK2 (REAR/FRONT2) ACT	18
SETBACK3 (SIDE 1) ACTUAL	15
SETBACK4 (SIDE 2) ACTUAL	9
BUILDING HEIGHT	28

**Fee Calculations**

<u>Description</u>	<u>Units</u>	<u>Rate</u>	<u>Total</u>
LIVING AREA SQUARE F	3937.00	101.9500	\$401377.15
GARAGE ATTACHED SQFT	403.00	39.6100	\$15962.83
TOTAL GROSS AREA SQF	0.00	0.0000	\$446334.98
GROSS AREA MODIFIER	446334.98	1.0000	\$446334.98
PERMIT MULTIPLIER FE	446334.98	0.0048	\$2142.40
RESIDENTIAL PLANS RE	0.00	0.0000	\$60.00
OVERLOT GRADING FEE	0.00	0.0000	\$150.00
PERMIT OCCUPANCY - Z	0.00	0.0000	\$30.00
PERMIT OCCUPANCY	0.00	0.0000	\$70.00
PERMIT ZONING FEE	0.00	0.0000	\$50.00
PERMIT TOTAL FEE	0.00	0.0000	\$2502.40

**BUILDING Permit Details - Permit: B90137020100**

File Edit View Help

Activity	Date	Inspector ID	Type	Result
INSPECTION COMPLETED	2009-11-13	RHITRICK	FINAL-BLDG	PASSED
INSPECTION COMPLETED	2009-11-12	RHITRICK	FINAL-BLDG	FAILED
INSPECTION SCHEDULED	2009-11-13	RHITRICK	FINAL-BLDG	PASSED
INSPECTION SCHEDULED	2009-11-12	RHITRICK	FINAL-BLDG	FAILED
INSPECTION COMPLETED	2009-10-05	CBARGER1	INSULATION-B	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	WATERPROOF-D	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	CONCRETE WAL	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	BACKFILL/DRA	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	AREAWAY	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	PORCH SLAB-B	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	GARAGE SLAB	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	BASEMENT SLA	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	FOOTINGS-BED	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	FOOTINGS-BLD	PASSED
INSPECTION SCHEDULED	2009-10-05	CBARGER1	INSULATION-B	PASSED
INSPECTION COMPLETED	2009-10-01	CBARGER1	PORCH FRAMIN	PASSED
INSPECTION COMPLETED	2009-10-01	CBARGER1	FRAMING-BLDG	PASSED

MORE ...

BUILDING Permit Details - Permit: B9C137020100

File Edit View Help

General Details Activity History Fee Breakdown Related Permits  
Narratives Documents

Activity	Date	Inspector ID	Type	Result
INSPECTION COMPLETED	2009-10-05	RHITRICK	GARAGE SLAB	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	BASEMENT SLA	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	FOOTINGS-BLD	PASSED
INSPECTION COMPLETED	2009-10-05	RHITRICK	FOOTINGS-BLD	PASSED
INSPECTION SCHEDULED	2009-10-05	CBARGER1	INSULATION-B	PASSED
INSPECTION COMPLETED	2009-10-01	CBARGER1	PORCH FRAMIN	PASSED
INSPECTION COMPLETED	2009-10-01	CBARGER1	FRAMING-BLDG	PASSED
INSPECTION SCHEDULED	2009-10-01	CBARGER1	PORCH FRAMIN	PASSED
INSPECTION SCHEDULED	2009-10-01	CBARGER1	FRAMING-BLDG	PASSED
INSPECTION COMPLETED	2009-09-30	GKRAJEWS	WATERPROOF-D	PASSED
INSPECTION COMPLETED	2009-09-30	GKRAJEWS	GARAGE SLAB	PASSED
INSPECTION COMPLETED	2009-09-30	GKRAJEWS	FOOTINGS-BLD	PASSED
INSPECTION COMPLETED	2009-09-30	GKRAJEWS	FOOTINGS-BLD	PASSED
INSPECTION COMPLETED	2009-09-30	GKRAJEWS	CONCRETE WAL	PASSED
INSPECTION COMPLETED	2009-09-30	GKRAJEWS	BASEMENT SLA	PASSED
INSPECTION COMPLETED	2009-09-30	GKRAJEWS	BACKFILL/DRA	PASSED
INSPECTION COMPLETED	2009-09-30	GKRAJEWS	AREAWAY	PASSED

MORE ...

Control Center Applications Improvements Parcels Permits Proffers Inspections

ZONING Permit Details - Permit: Z90137020101

File Edit View Help

General

Details

Activity History

Fee Breakdown

Related Permits

Narratives

Documents

Activity	Date	Inspector ID	Type	Result
INSPECTION COMPLETED	2009-11-12	MTAYLOR1	FINAL - ZONI	PASSED
INSPECTION SCHEDULED	2009-11-12	WATRS	FINAL - ZONI	PASSED

MORE ...

Applications Improvements Parcels Permits Proffers Transactions Inspections

start

5 LANGREC

Inbox - Microsoft Out...

4:04 PM

General Details Inspections Permit History Fee Breakdown Related Permits Documents

Type	Narrative
Activity Comments	INLIEU REQD - previous valid
Activity Comments	The as-built/wall-check plan has not been submit
Inspection Comments	ECS

MORE ...

Applications Improvements Parcels Permits Proffers Transactions Inspections

General Details Analysis Status Fee Breakdown Related Permits

Inspection Details

File View Help

Permit Number: B90137020100 Date Requested:

Type of Inspection: FOOTINGS-BLD Date Scheduled:

Inspector ID: RHITRICK Date Completed: 2009-10-05

Results: PASSED

Reinspection Charged: N Amount:

Comments:

Reasons ECS

Control Center Applications Improvements Parcels Permits Profilers Transactions Inspections

Name

**Inspection Details**

Permit Number:	B90137020100	Date Requested:	
Type of Inspection:	WATERPROOF-D	Date Scheduled:	
Inspector ID:	GKRAJEWS	Date Completed:	2009-09-30
Results:	PASSED		
Reinspection Charged:	N	Amount:	

Comments:

Reasons	ECS
---------	-----

General Details Activity History Fee Breakdown Related Permits

Name: [Redacted]

**Inspection Details**

File View Help

Permit Number:	B90137020100	Date Requested:	
Type of Inspection:	GARAGE SLAB-	Date Scheduled:	
Inspector ID:	GKRAJEWS	Date Completed:	2009-09-30
Results:	PASSED		
Reinspection Charged:	N	Amount:	

Comments:

Reasons	ECS
---------	-----

Control Center Applications Improvements Parcels Permits Proffers Transactions Inspections

General Details Activity History Fee Breakdown Related Permits

Inspection Details

Permit Number: B90137020100 Date Requested:  
Type of Inspection: GARAGE SLAB- Date Scheduled:  
Inspector ID: GKRAJEWS Date Completed: 2009-09-30  
Results: PASSED

Reinspection Charged: N Amount:

Comments:

Reasons EGS

Applications Improvements Parcels Permits Proffers Transactions Inspections

Name

**Inspection Details**

File View Help

Permit Number:	B90137020100	Date Requested:	
Type of Inspection:	FOOTINGS-BLD	Date Scheduled:	
Inspector ID:	GKRAJEWS	Date Completed:	2009-09-30
Results:	PASSED		
Reinspection Charged:	N	Amount:	

Comments:

Reasons	ECS
---------	-----

Name

Inspection Details

Permit Number:	B90137020100	Date Requested:	
Type of Inspection:	FOOTINGS-BLD	Date Scheduled:	
Inspector ID:	GKRAJEWS	Date Completed:	2009-09-30
Results:	PASSED		
Reinspection Charged:	N	Amount:	

Comments:

Reasons	ECS
---------	-----

Inspection Details

File View Help

Permit Number:	B90137020100	Date Requested:	
Type of Inspection:	CONCRETE WAL	Date Scheduled:	
Inspector ID:	GKRAJEWS	Date Completed:	2009-09-30
Results:	PASSED		
Reinspection Charged:	N	Amount:	
Comments:	Reasons ECS		

Name

**Inspection Details**

File View Help

Permit Number:	B90137020100	Date Requested:	
Type of Inspection:	BASEMENT SLA	Date Scheduled:	
Inspector ID:	GKRAJEWS	Date Completed:	2009-09-30
Results:	PASSED		
Reinspection Charged:	N	Amount:	

Comments:

Reasons	ECS
---------	-----

BUILDING Permit Details - Permit: B90137020100

File Edit View Help

- General
- Details
- Activity History
- Fee Breakdown
- Related Permits

Name

Inspection Details

File View Help

Permit Number: B90137020100 Date Requested:  
Type of Inspection: BACKFILL/DRA Date Scheduled:  
Inspector ID: GKRAJEWS Date Completed: 2009-09-30  
Results: PASSED  
Reinspection Charged: N Amount:  
Comments:

Reasons	ECS

- Applications
- Improvements
- Parcels
- Permits
- Proffers
- Transactions
- Inspections

BUILDINGS Permit Details - Permit: B90137020100

File Edit View Help

General Details Activity History Gas Breakdown Related Permits

Name

Inspection Details

File View Help

Permit Number:	B90137020100	Date Requested:	
Type of Inspection:	AREAWAY	Date Scheduled:	
Inspector ID:	GKRAJEWS	Date Completed:	2009-09-30
Results:	PASSED		
Reinspection Charged:	N	Amount:	

Comments:

Reasons ECS

Applications Improvements Parcels Permits Proffers Transactions Inspections

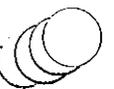
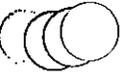
start

6 LANDPEC

Info - HomeSite

1 P11

**ATTACHMENT 3**  
**PART III**



10012 - McLaughlin  
Groundwater Impacts

Photo taken: 9/3/2009



10012 - McLaughlin  
Groundwater Impacts

photo taken: 9/3/2009



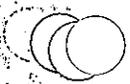
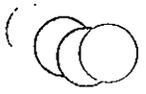
10012 - McLaughlin  
Groundwater Impacts

Photo taken: 9/3/2009



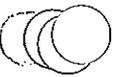
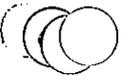


10012 - McLaughlin Groundwater  
Impact  
TP-1 Stockpile (0-5.5 feet)  
Photo Taken: 10/28/2010



10012 - McLaughlin Groundwater  
Impact  
TP-2 Stockpile (0-5 feet)  
Photo Taken: 10/28/2010

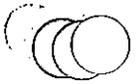




# ATTACHMENT 4



Clendenin Consulting & Remediation Group



January 14, 2011  
10:12 AM

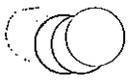
Shelia Costin, Esquire  
Hornes & Costin, PLLC  
12310 Pinecrest Road, Suite 301  
Reston, Virginia 20191

Subject: Classification of Soil Used to Backfill Below Grade Walls  
42975 Park Creek Drive  
Broadlands, VA 20148

Dear Shelia,

Clendenin Consulting & Remediation Group (CCRG) tested four soil samples designated, TP-1 Bulk, Test Pit 2 Bulk, Test Pit 1 Jar and Test Pit 2 Jar on the laboratory sheets. ECS tested a total of two soil samples designated, Test Pit Lot 11 East Side and Test Pit Lot 11 SW Side on the laboratory sheet. All samples were collected during the test pit exploration work on October 28, 2010. The Liquid Limits for all samples ranged from 38 to 80 and the Plasticity Index (PI) ranged from 14 to 53. Five of the six samples had a PI greater than 15 which is shown on the Residential Below Grade Drainage Detail provided by ECS as the maximum allowable PI for Class II soil backfill placed against below grade walls.

We understand that Van Metre Homes is considering a possible structural review of the existing below grade walls to determine if they are capable of withstanding anticipated lateral pressures from the existing soils. We hope that Loudoun County Building & Development encourages Van Meter to work with Frank and Karen McLaughlin to select a "neutral" engineer that will conduct the structural review. Van Metre's unilateral selection of an engineer would not be acceptable to the McLaughlins and would likely result in further delay and contention. We recommend that any structural analysis that is performed be based on the lateral pressure on the wall caused by the worst case soil type found against the walls.



Please call us at (703) 771-8816 if you have any questions.

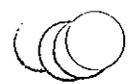
Sincerely,

**CLENDENIN CONSULTING & REMEDIATION GROUP**

Nimal N. Jayaratne, PhD, PE  
Project Engineer

  
Bruce Clendenin, CPG  
President

Attachment: CCRG Laboratory Results  
ECS Laboratory Results



# Plasticity Chart McLaughlin Groundwater Impacts

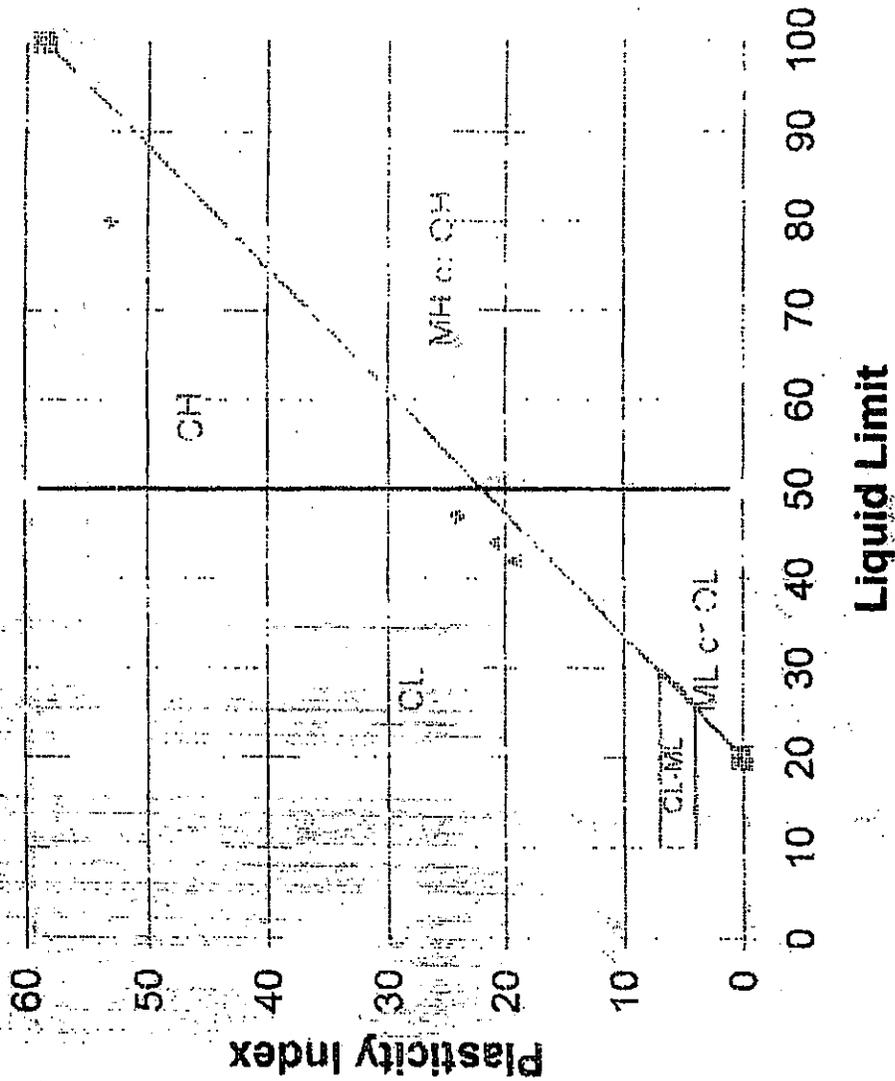
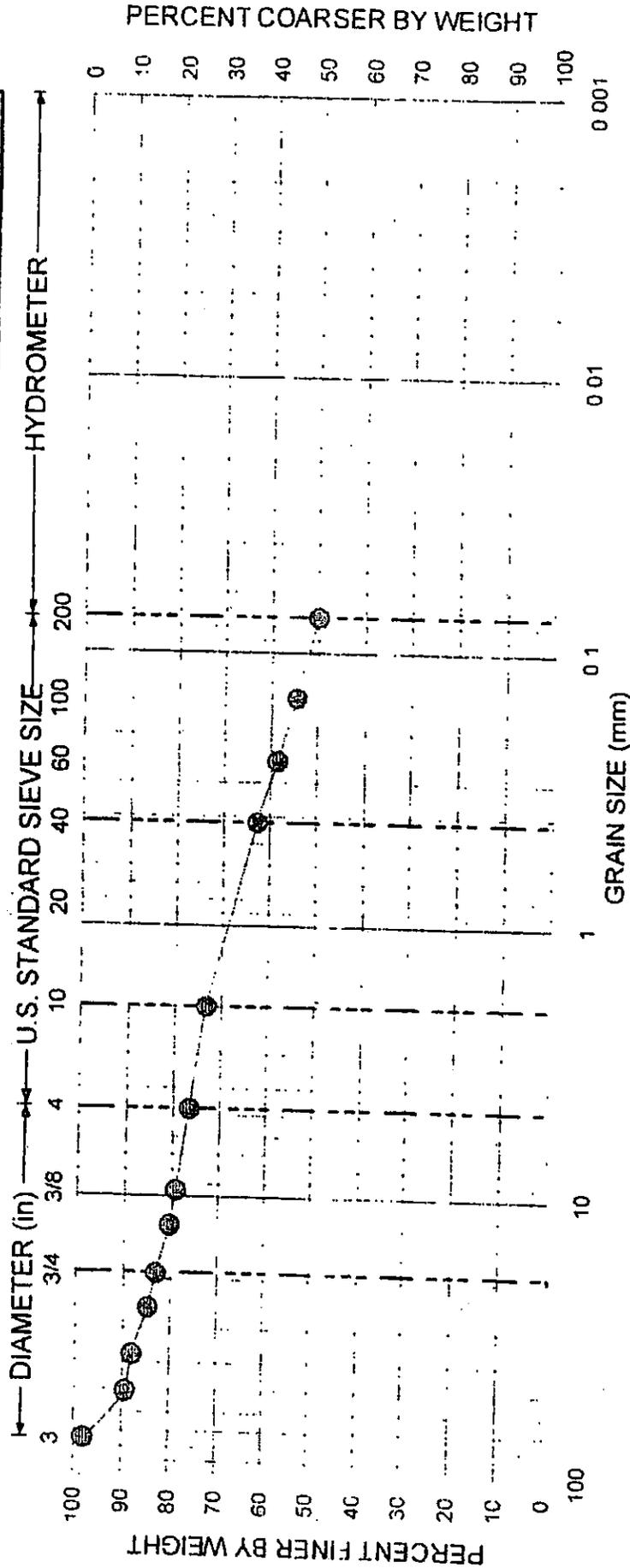
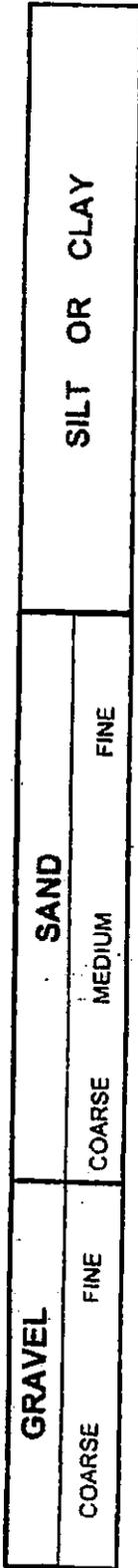


Figure 1

**PROJECT NAME: McLaughlin Groundwater Impacts**  
**PROJECT NUMBER: 10012**

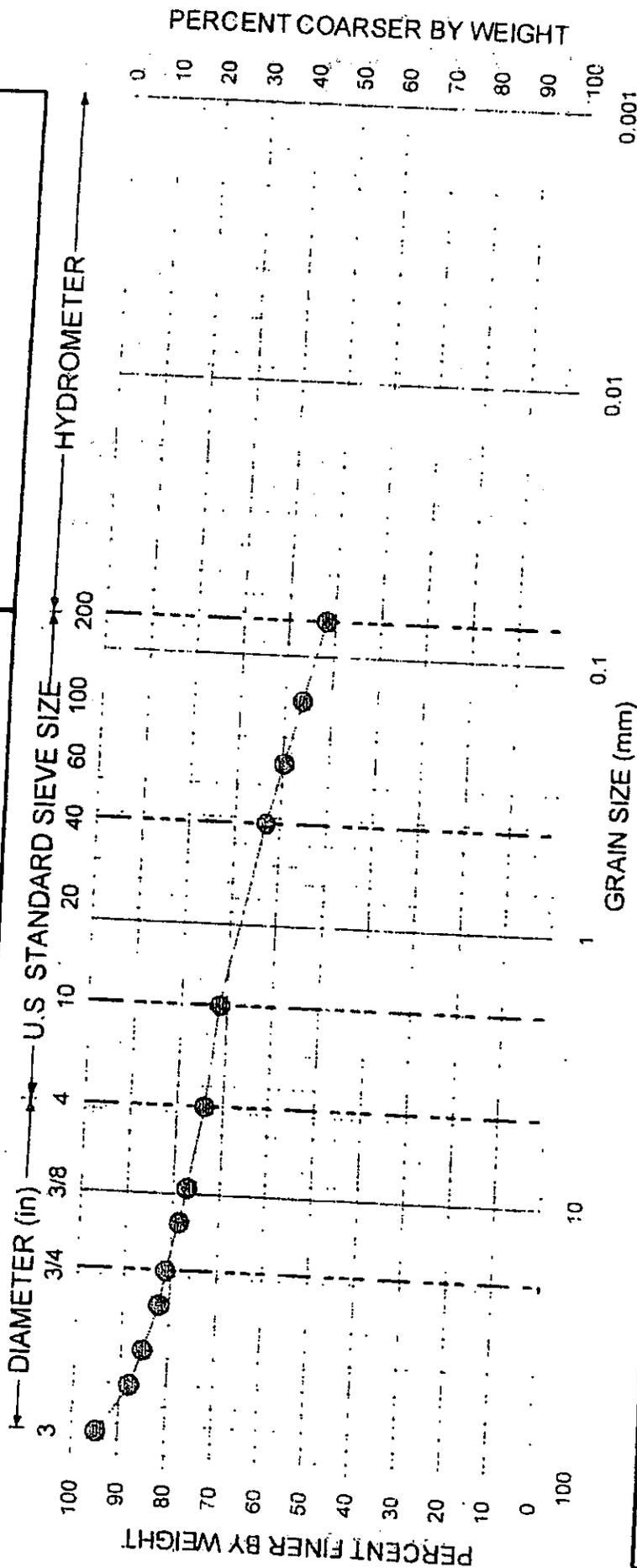
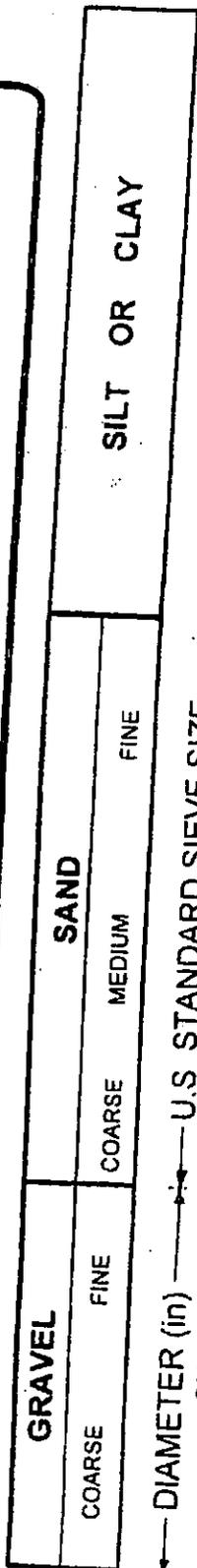


KEY NUMBER	BORING NUMBER	SAMPLE DEPTH (ft)	MC (%)	LL	PL	PI	SOIL DESCRIPTION
φ	TP-1	Bulk 2.5-5.5	---	42	23	19	Brown sandy lean CLAY with rock (CL) [A-7-6]

**GRADATION ANALYSIS**  
**AASHTO T-88**  
 TESTED BY JMK    DATE 11-3-10  
 CHECKED BY RD    SHEET 1 of 2

**JAY KAY TESTING**  
 Baltimore, Maryland

**PROJECT NAME: McLaughlin Groundwater Impacts**  
**PROJECT NUMBER: 10012**



GRADATION ANALYSIS		AASHTO T-88	
TESTED BY JMK		DATE: 11-3-10	
CHECKED BY RD		SHEET: 2 of 2	
JAY KAY TESTING		Baltimore, Maryland	
BORING NUMBER	TP-2	SOIL DESCRIPTION	Brown rocky lean CLAY with sand (CL) [A-7-6]
SAMPLE NUMBER	Bulk		
DEPTH (ft.)	0-5.0		
MC (%)	---	LL	44
		PL	23
		PI	21

# STANDARD PROCTOR TEST REPORT

DATE OF REPORT: 11-3-10  
 PROJECT: McLaughlin Groundwater Impacts  
 PROJECT NO: 10012

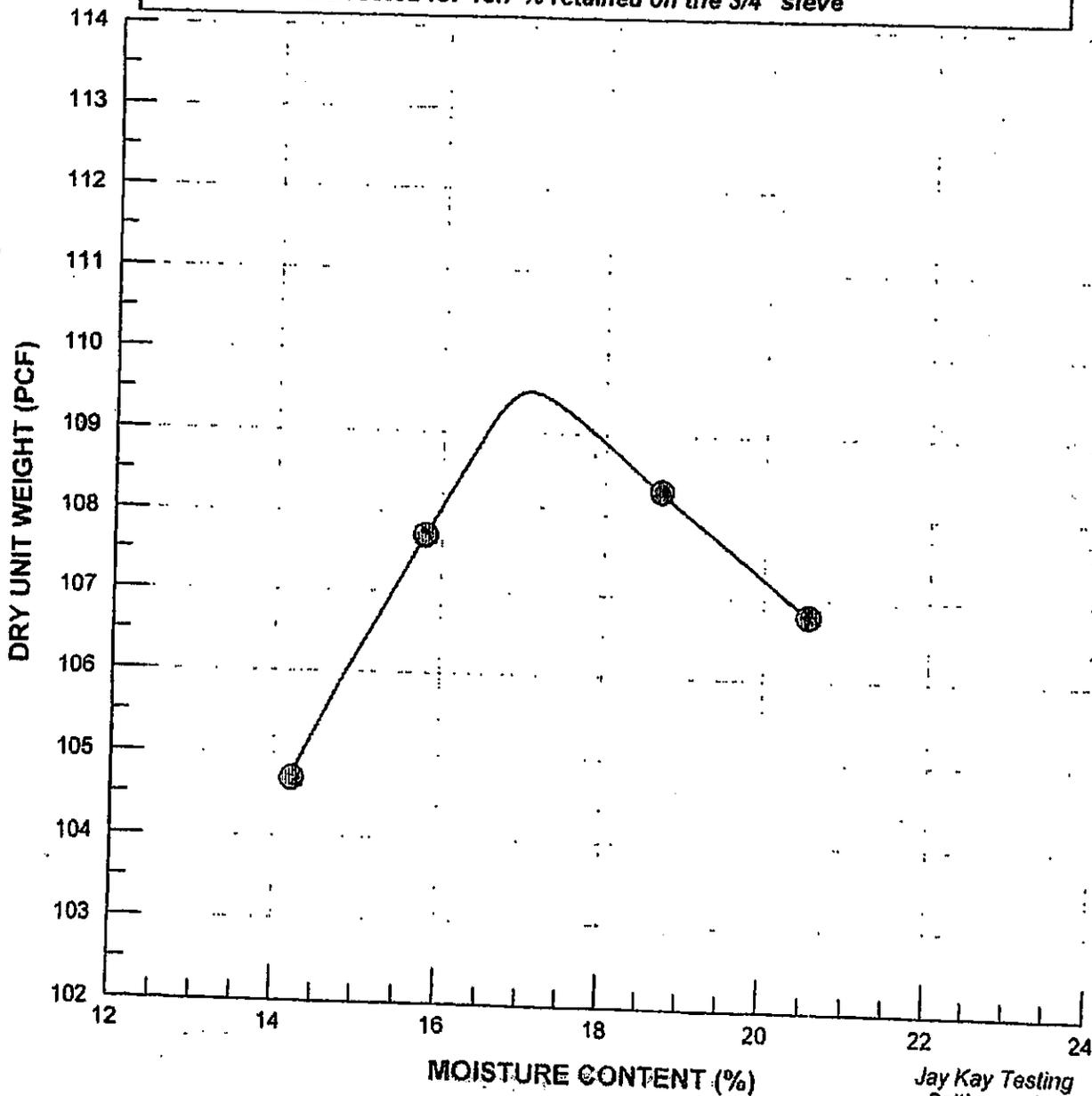
DESCRIPTION OF SOIL: Brown rocky lean CLAY with sand  
 SAMPLE NO.: TP-2 ( 0-5.0' ) - Bulk

LIQUID LIMIT: 44      PLASTIC LIMIT: 23      PLASTICITY INDEX: 21  
 PERCENT PASSING # 200: 52.1 %      USCS: CL      AASHTO: A-7-6  
 TEST PROCEDURE USED: AASHTO T-99 C

**TEST RESULTS:**

	Uncorrected	** Corrected
Maximum Dry Unit Weight =	109.5 PCF	116.6 PCF
Optimum Moisture Content =	17.0 %	14.2 %

*\*\* Corrected for 18.7 % retained on the 3/4" sieve*



Jay Kay Testing  
 Baltimore, MD

# STANDARD PROCTOR TEST REPORT

DATE OF REPORT: 11-3-10  
 PROJECT: McLaughlin Groundwater Impacts  
 PROJECT NO: 10012

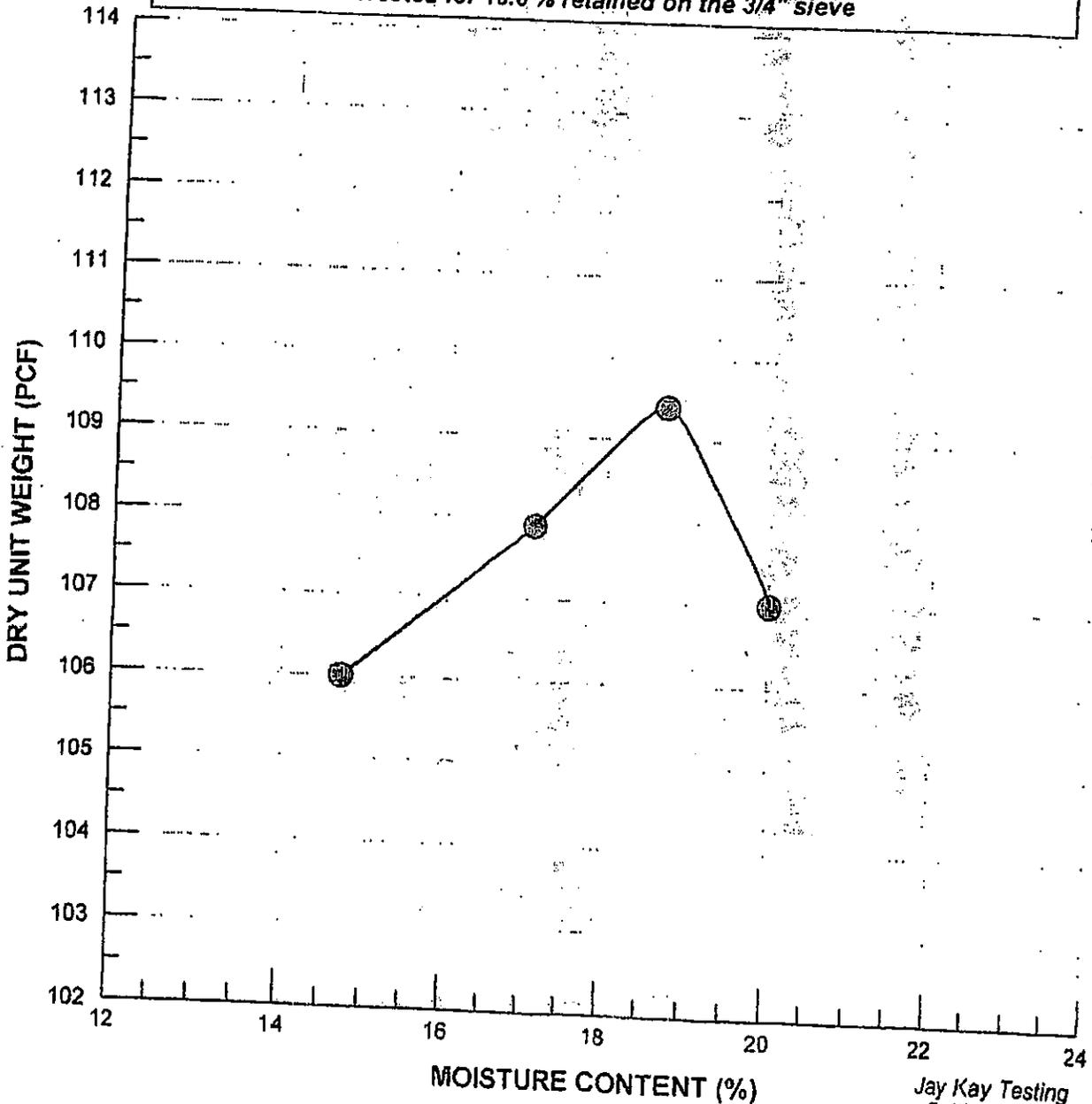
DESCRIPTION OF SOIL: Brown sandy lean CLAY with rock  
 SAMPLE NO.: TP-1 ( 2.5-5.5' ) - Bulk

LIQUID LIMIT: 42      PLASTIC LIMIT: 23      PLASTICITY INDEX: 19  
 PERCENT PASSING # 200: 50.3 %      USCS: CL      AASHTO: A-7-6  
 TEST PROCEDURE USED: AASHTO T-99 C

**TEST RESULTS:**

	Uncorrected	** Corrected
Maximum Dry Unit Weight =	109.4 PCF	115.7 PCF
Optimum Moisture Content =	18.7 %	15.9 %

**\*\* Corrected for 16.6 % retained on the 3/4" sieve**



Jay Kay Testing  
 Baltimore, MD

SUMMARY OF LABORATORY TESTING

**MCLAUGHLIN GROUNDWATER IMPACT**

**RECEIVED**

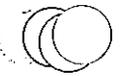
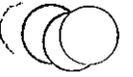
NOV 16 2010

**CLENDENIN CONSULTING &  
REMEDATION GROUP**

Boring Number	Sample Number	Depth (ft.)	ATTERBERG LIMITS			
			Liquid Limit	Plastic Limit	Plasticity Index	
TP-1	Jar	0-2.5	47	23	24	
TP-2	Jar	1.0-2.0	80	27	53	

Jay Kay Testing  
Baltimore, MD  
11-13-2010





# ATTACHMENT 5



## Loudoun County, Virginia

### Department of Building and Development Code Enforcement Division

1 Harrison Street SE MSC 60B, PO Box 7000 MSC 60B, Leesburg, VA 20177-7000  
Inspection Information: 703-777-0220 Fax: 703-737-8546

December 1, 2010

Van Metre Home  
Attention Mr. Roy Kane  
44675 Cape Court  
Suite 171  
Ashburn VA 20147

Mr. Kane:

Thank you for speaking to me November 19, 2010 concerning the continued cycling of the sump pump at the McLaughlin residence located at 42975 Park Creek Drive in Broadlands, Virginia. There appears to be two issues that may contribute to the continued cycling of the sump pump in the basement of the structure.

The first issue is the absence of the recommended under slab drain as outlined in the approved soil report prepared by Engineering Consulting Services, hereinafter referred to as ECS, on March 1, 2001. Pictures indicate the presence of an installed drain around the exterior of the foundation. During our conversation, you mentioned there is a drain around the interior perimeter of the foundation. This was complete with weep holes through the foundation to allow water from the exterior drain to migrate through the interior drain to the sump discharge. You also mentioned you have observed water flowing through the pipe at the sump crotch.

The second issue appears to be a building code violation. Test results from Clendennin Consulting and Remediation Group, dated October 28, 2010, indicate the presence of plastic soils with a high moisture content used as backfill against the foundation wall. The approved report from ECS references those soils found at the site and recommends they not be used as a backfill material against foundation walls. Accordingly, a "Notice of Violation" is attached. The code violation is referenced and requires a response from Van Metre Homes.

Please provide details of the inspections performed for the backfill material and any documentation for the design of the foundation which may have added additional strength to the foundation. These items will help to establish a better understanding of the continued discharge from the sump crotch and will help alleviate concern about pressure against the foundation wall.

Again, I thank you for speaking to me regarding the McLaughlin residence. Please do not hesitate to contact me regarding this matter. I may be reached from 8:00 a.m. to 4:00 p.m. at 703-771-5527 or [chris.thompson@loudoun.gov](mailto:chris.thompson@loudoun.gov).

Sincerely,

Mr. Christopher C. Thompson  
Building Operations Manager

CT:abr

cc: Mr. Steven Rodgers, CBO, Building Official  
Karen McLaughlin, Homeowner  
file

# ATTACHMENT 6



**Loudoun County, Virginia**

**Department of Building and Development  
Code Enforcement Division**

1 Harrison Street SE MSC 60B, PO Box 7000 MSC 60B, Leesburg, VA 20177-7000  
Inspection Information: 703-777-0220 Fax: 703-737-8546

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44675 Cape Court  
Suite 171  
Ashburn VA 20147

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Again, I thank you for speaking to me regarding the McLaughlin residence. Please do not hesitate to contact me regarding this matter. I may be reached from 8:00 a.m. to 4:00 p.m. at 703-771-5527 or [chris.thompson@loudoun.gov](mailto:chris.thompson@loudoun.gov).

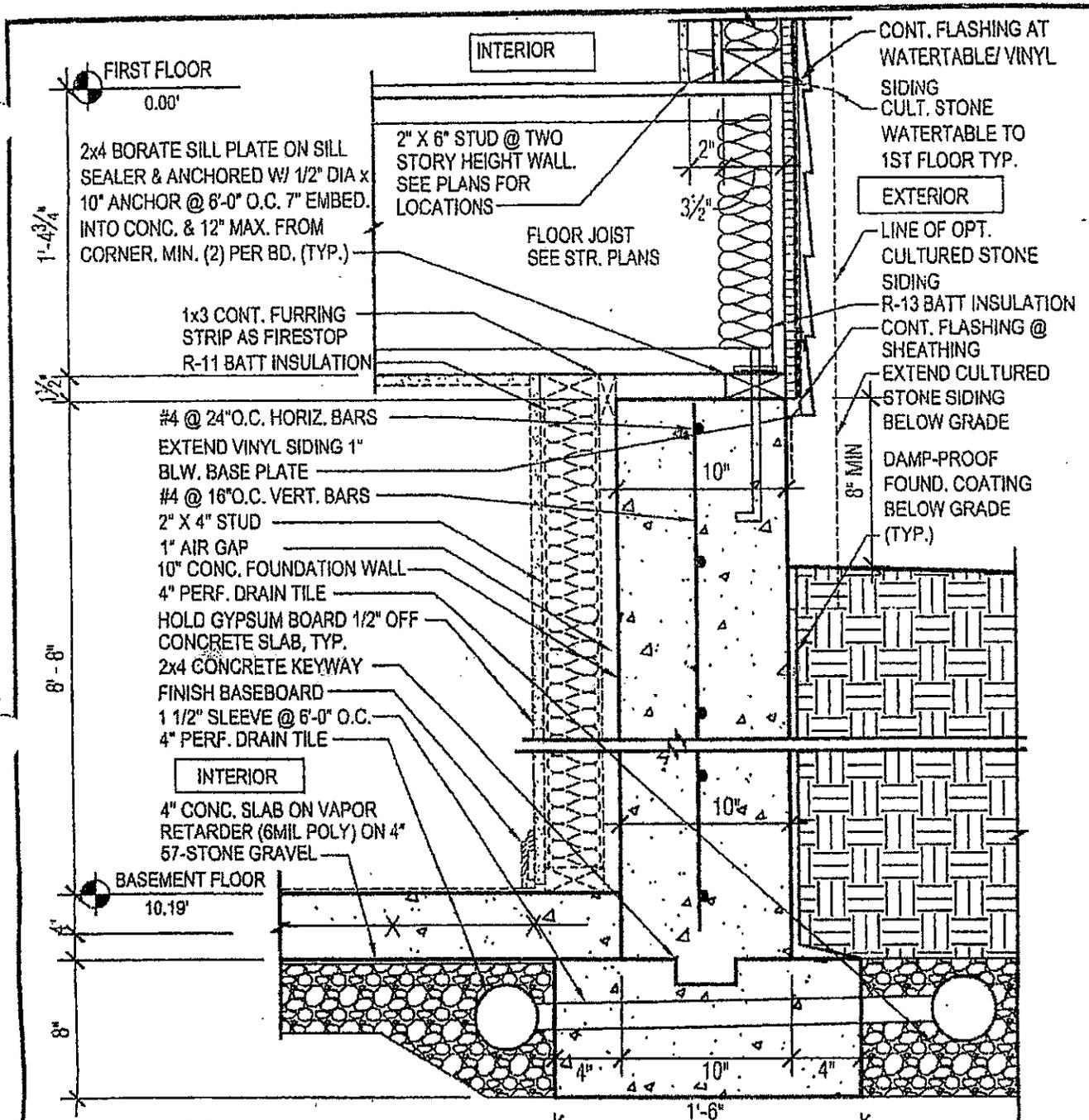
Sincerely,

Mr. Christopher C. Thompson  
Building Operations Manager

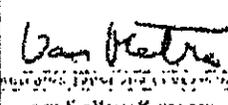
CT:sbr

xc: Mr. Steven Rodgers, CBO, Building Official  
Karen McLaughlin, Homeowner  
file

# ATTACHMENT 7



**003** FOUNDATION WALL W/SIDING & STONE @ SIDES & REAR  
 SCALE: 1 1/2" = 1'-0"  
 a-dt\_per-03\_FdnSid\_Sid.dwg

PROJECT:	Master Detail Book	Van Metro Homes 44675 Cape Court, Suite 171 Ashburn, VA 20147 Tel 703-723-2800 Fax 703-723-8954	 <small>www.VanMetroHomes.com</small>
DATE:	5/01/08		
SCALE:	1 1/2" = 1'-0"		
TITLE:	Exterior Wall at Sides/Rears w/ Siding & Cultured Stone Siding & Watertable		
APPROVALS:			

# ATTACHMENT 8

**Sheila Costin**

---

**From:** Karen McLaughlin <karenmclaugh@hotmail.com>  
**Sent:** Monday, December 27, 2010 10:43 AM  
**To:** scostin@holmesandcostin.com  
**Subject:** FW: 42975 Park Creek Drive - Broadlands, Virginia

**Categories:** H&C

---

**From:** Chris.Thompson@loudoun.gov  
**To:** karenmclaugh@hotmail.com  
**Subject:** FW: 42975 Park Creek Drive - Broadlands, Virginia  
**Date:** Mon, 27 Dec 2010 15:04:03 +0000

Karen,  
Here is the response minus the attachments.  
Chris

**From:** Roy Kane [mailto:rkane@vanmetrehomes.com]  
**Sent:** Friday, December 17, 2010 4:38 PM  
**To:** Thompson, Chris  
**Cc:** Steve Hahn; Tom Marable; KHiggins (KHiggins@ecslimited.com); AShontz@ecslimited.com; Roy Kane  
**Subject:** RE: 42975 Park Creek Drive - Broadlands, Virginia

December 17, 2010

**EMAIL WITH CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

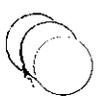
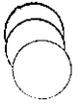
Loudoun County, Virginia  
Attention Mr. Chris Thompson  
Department of Building and Development  
1 Harrison Street, S.E., P.O. Box 7000  
Leesburg, Virginia 20177-7000

RE: 42975 Park Creek Drive – Broadlands, Virginia – Lot 11 Section 62 Block 2 – Settlement Date: November 24, 2009.

Mr. Thompson,

Thank you, Mr. Alex Blackburn, and Mr. Dennis Mitchell for meeting with Mr. Steve Hahn, V.P. Land Development – Van Metre Homes, Mr. Tom Marable, Project Manager Land Development – Van Metre Homes, Mr. Karl Higgins, Principal Engineer/V.P. – ECS Mid Atlantic, Mr. Andrew Shontz, Senior Engineering Geologist – ECS Mid-Atlantic, and myself on Friday, December 10, 2010 to review matters concerning 42975 Park Creek Drive – Broadlands, Virginia – Lot 11 Section 62 Block 2. The following correspondence will be followed by a certified mailed letter.

Delivered and reviewed at our meeting and also attached is the ECS Mid-Atlantic, hereinafter referred to ECS, the engineer of record, certified sealed laboratory test results summary from soil samples taken from said property, October 28, 2010. Also reviewed, and attached is the detail of the foundation wall, footer and drain tile system for said property, including the detail for the installed ten (10) inch foundation walls, adding strength to the foundation system. As discussed at our meeting and from your Notice of Violation letter issued December 01, 2010, these documents answer as proof and validate the removal of these violations.



regarding the first issue; foundation drain system. The recommended system is in place and performing as designed. The water from the sump crock has been tested by the Loudoun County Water Authority with the majority component as surface/ground water. The foundation system detail reviewed, is also attached. We request code violation be revoked.

regarding the second issue; backfill used against foundation wall. Results of laboratory tests identify that the materials used within the above referenced lot to backfill the existing below grade walls are suitable based on the criteria established in the approved geotechnical report dated March 1, 2001 (ECS Project No. 5587-G1). According to the attached ECS Summary, "...the natural moisture contents are reasonably close to the optimum moisture contents determined by Standard Proctor Test), which would suggest the backfill soils were placed in accordance with ECS' recommendations. Finally, water was not visually observed within either test pit during excavation..." Note: Moderate to heavy rains were experienced earlier in the week prior to test pit excavation. The laboratory tests results summary are also attached. We request this code violation also be revoked.

In the future, we will work diligently with your office verifying recommended systems are in place, prior to receiving a code violation based upon information received from another party. We request both USBC – Section 115 – Violations – 115.1 and USBC – Section 109 – Construction Documents – 109.3 Engineering be revoked at the earliest possible date.

In closing, Van Metre Homes endeavors to perform all appropriate warranty for the home as covered under the Warranty Plus 10 Year Limited Warranty, and the Agreement of Sale. The home, located at 42975 Park Creek Drive – Broadlands, Virginia – Lot 11 Section 62 Block 2, has the correct grading per plan, the recommended back fill, and recommended foundation wall and drain system in place, as well as all other components of the home's design and construction. To our knowledge, the home's basement has not experienced any water intrusion, through many severe rain and snow storms. To alleviate the frequency of operation of the home's sump pump, that is also operating per design, Van-Metre Homes will continue to offer, until February 15, 2011, at no charge to the homeowner, to; replace current sump pump with a Zoeller M-98 1/2hp unit, install a 30" deep sump pump crock, and install a Zoeller Model 507 Sentry battery backup system. In addition, the downspouts in the rear of the Home will be buried and exited to a French drain we will install in the rear yard, exiting to the drainage ditch located to the left side of the Home. Also the sump pump discharge line will be buried and exited to the drainage ditch located to the left side of the Home. Since this issue is not expressly covered under the Warranty of the home, or the Agreement of Sale, it is contingent upon the execution of a Confidential Release Agreement, a copy of which is also attached. Upon receipt of the signed Release Agreement from Mr. and Mrs. McLaughlin, said work will be scheduled at a date convenient to their schedule. It has been our experience with homes of this elevation – lower than neighboring homes with higher elevations, that excess ground and/or surface can collect on the property, causing the home's sump pump to operate at a higher frequency during events of rains and/or snows. It has also been our experience that adding the components offered in our Confidential Release Agreement have been an effective method of dispersing surface and/or ground water off the property.

Sincerely,

Roy T. Kane  
Director Customer Care  
Van Metre Homes

cc: S.Hahn, V.P. Land Development – Van Metre Homes  
T.Marable, Project Manager – Van Metre Homes  
K.Higgins, Principal Engineer/V.P. – ECS-Mid Atlantic  
A.Shontz, Senior Engineering Geologist – ECS-Mid Atlantic

Attachments: ECS Mid-Atlantic Laboratory Test Results Summary ECS Project No. 01:6934-T2  
Van Metre Homes #003 Foundation Wall Detail  
Van Metre Homes Confidential Release Agreement

# ATTACHMENT 9



ECS Mid-Atlantic, LLC  
 14026 Thunderbolt Place, Suite 100  
 Chantilly, Virginia 20151 Phone: 703 471-8400

**RESIDENTIAL INSPECTION CERTIFICATION**

Project / Site Data

Builder: Virginia Residential Construction, Inc. Project / Subdivision: Broadlands Section: 62  
 Lot#: 11-2 Map ID: LC 30 F 6 Building Permit#: B90137020100 Concrete Contractor: Green Village  
 Permit Address: 42975 Park Creek Dr.

Jurisdiction: Loudoun County							Inspection Type:		Result	Date	Time	Temp	Tech	Soil*
Inspection Type:	Result	Date	Time	Temp	Tech	Soil*	Inspection Type:	Result	Date	Time	Temp	Tech	Soil*	
	App   Re						Sloope # of Locations:	App   Re						
Footings (Record # of Piers): <u>7</u> Subgrade	X	08/25/09	2:30p	80F	RMH	I	<u>1</u>	X	09/21/09	8:00a	60F	RMH	G	
Footings (Record # of Piers): <u>7</u> Forms	X	08/25/09	2:30p	80F	RMH	I	Areaway Stairs / Walls	X	08/11/09	7:30a	70F	RMH	G	
Deck Footings (Record # of Piers) Subgrade							Wall-Plain Concrete							
Other Footings (Describe)**							8" 10" 12"							
Basement Slab Ground Supported	X	09/11/09	7:30a	70F	RMH	I	Wall-Reinforced Concr.	X	08/28/09	1:00p	80F	RMH	I	
Basement Slab Structural							X 8" 10" 12"							
Garage Slab Ground Supported							Waterproofing / Drainlife Mech. X Grav.	X	09/02/09	4:00p	80F	RMH	I	
Garage Slab Structural	X	09/11/09	7:30a	70F	RMH	G	Damproofing / Drainlife Mech. Grav.							
Other: #1 ***							Backfill	X	09/02/09	4:00p	80F	RMH	I	
							Hearths Inspected#							
							Other: #2 ***							

\*Soil Conditions: (A) Compacted Fill (B) Seasonal High Water Table (C) Expansive Clay (D) Karst Topography (E) Perched Water (F) Shallow Rocks (G) Uncontrolled Fill (H) Other (Wall/Septic, Green Stone, Evidence of Chemical Contaminant) (I) Non Problem Soil

\*\* Other Inspection Descriptions:

Are erosion / siltation controls installed as required by the approved site plan?  Yes  No

Certification Statement:

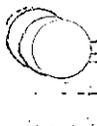
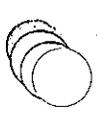
I hereby certify that I am approved to inspect the above elements of residential dwellings in the LOUDOUN COUNTY jurisdiction; that I have read the Virginia Uniform Statewide Building Code, and I am thoroughly familiar with the provisions contained therein.

I further hereby certify that the installation observed at the location described above is installed in accordance with the approved plans and the Virginia Statewide Uniform Building Code

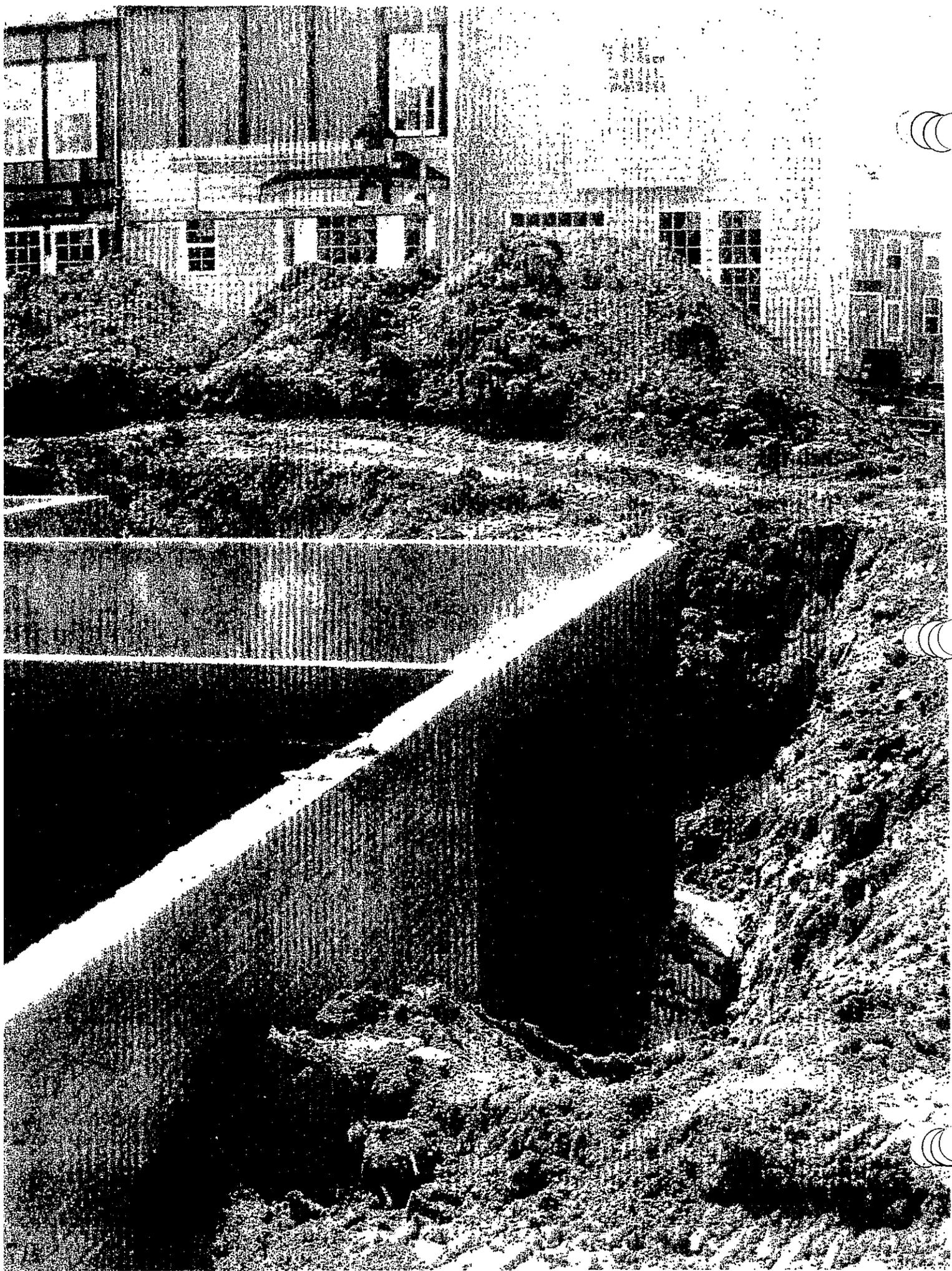
I further hereby certify that I have reviewed the approved Geotechnical Report, if applicable, and have determined the work, which is the subject of this document, to be consistent with the county approved report. I further acknowledge that I have reviewed all fill placements and compaction reports, which are applicable to the scope of this document.

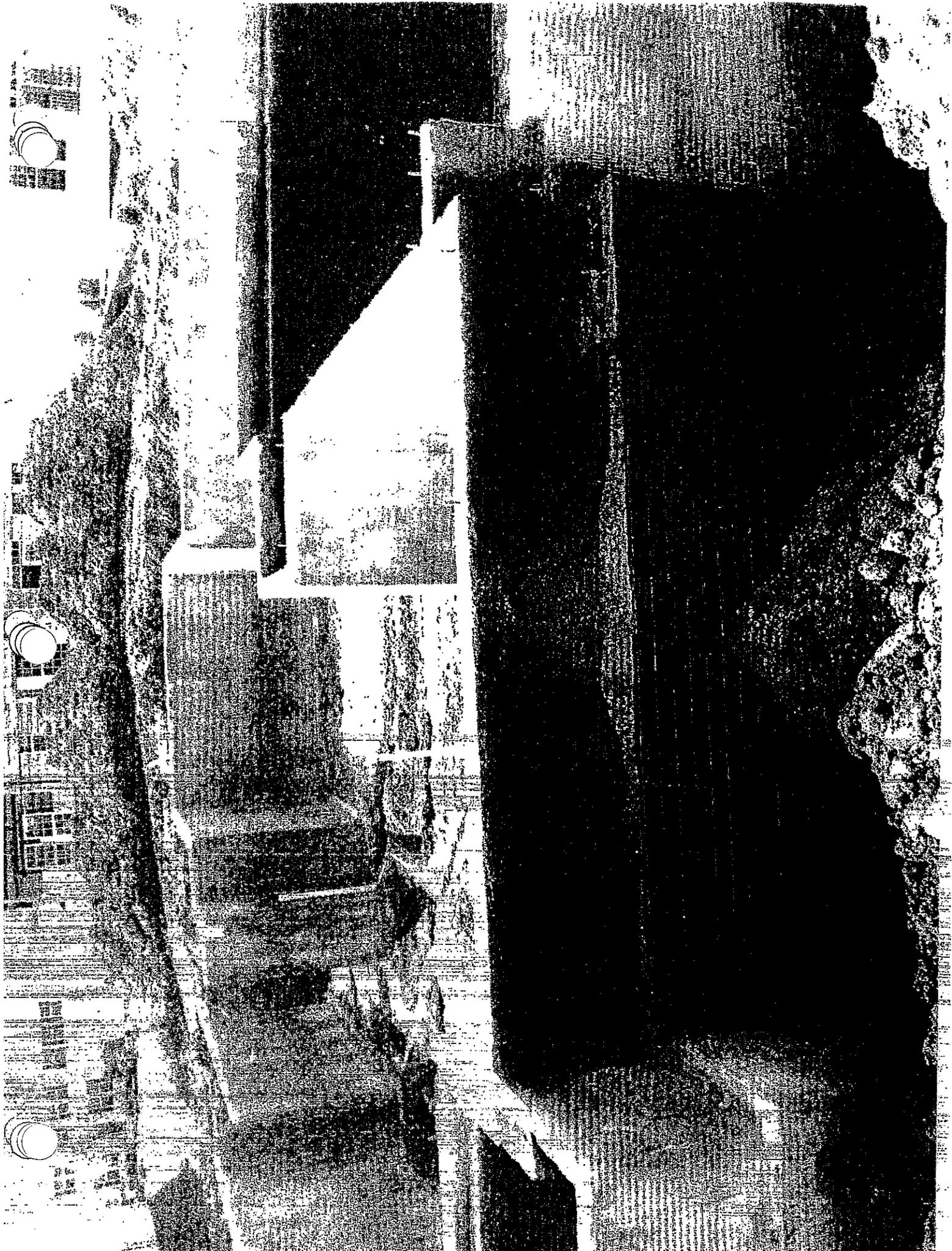
Concrete and backfill placement and compaction were not observed/performed as part of our residential inspection services.

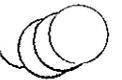
<p>Signature: <u>Kishore K. Kotha</u>          Date: <u>09/24/09</u></p> <p>Professional Engineer Seal          COMMONWEALTH OF VIRGINIA          KISHORE K. KOTHA          Lic. No. 041455          09/24/09          PROFESSIONAL ENGINEER</p>	<p>Comments: *** Other inspections may be authorized by the Building Official prior to conducting the inspections.</p> <p>1#</p> <p>2#</p> <p>OCT -1 2009</p>
--	---



# ATTACHMENT 10







*[Faint, illegible text or markings, possibly bleed-through from the reverse side of the page.]*



**ECS MID-ATLANTIC, LLC**

*"Setting the Standard for Service"*

**MID-ATLANTIC Geotechnical • Construction Materials • Environmental • Facilities**

January 18, 2011

Mr. Roy Kane  
Van Metre Homes  
44675 Cape Court  
Suite 171  
Ashburn, Virginia 20147

ECS Project No. 01:6934-T2

Reference: Lateral Earth Pressure Review for Basement Walls, 42975 Park Creek Drive, Broadlands Section 62.2, Ashburn, Loudoun County, Virginia

Dear Mr. Kane:

We are in receipt of a letter from Clendenin Consulting and Remediation Group (Clendenin) dated October 28, 2010, whereby the preparer of the letter alleges that the basement walls of the subject residence were backfilled with soils that: A) do not meet the requirements of the geotechnical report issued by ECS, and B) exert lateral pressures that are higher than the walls were designed for. The purpose of this letter is to address these comments from Clendenin.

Please reference our previous letter dated December 8, 2010 whereby we stated that the soil materials used as basement wall backfill were consistent with those recommended in our report. Further, walls backfilled with these soil materials should be designed structurally to resist a fluid equivalent lateral earth pressure of 60 pcf as is stated in our original geotechnical report.

ECS performed the inspection of the basement wall formwork for this residence during construction (please see the attached Residential Inspection Certification dated September 24, 2009). ECS documented the minimum wall width to be 8-inches. Please note that we have instructed our third party inspectors to identify the minimum basement wall width, if more than one thickness is specified for a basement plan. For this project, two wall thicknesses are required; an 8-inch wall thickness for areaway and porch walls and a 10-inch wall thickness for the main below-grade building walls. Since the approved plans indicate 10-inch thick building walls, we have no reason to believe that they were not constructed to this dimension as the inspector noted no discrepancies in his report.

One other note regarding the Residential Inspection Certification form is worth mentioning. The concrete contractor was reported on our certification as Green Village Concrete, when in fact it was Stonewall Concrete. We apologize for this clerical error.

ECS received a letter from Alliance Structural Engineers (the structural engineer of record) dated January 12, 2011 regarding the basement walls. Alliance confirmed that 8-inch or 10-inch

Van Metre Homes  
ECS Job No. 01:6934-T2  
January 18, 2011  
Page 2

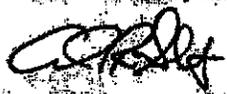
thick concrete walls, reinforced per the plans, will be sufficiently thick to resist the 60 pcf lateral earth pressure. We have attached these letters for convenience.

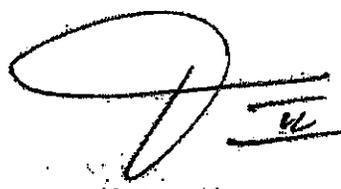
In summary, the walls were backfilled with soils that met the requirements of the geotechnical report, and the walls are adequately designed to resist the soil pressures. There does not appear to be a correlation between the soils materials observed during test pitting of the wall backfill and the alleged high frequency of sump pumping claimed by the property owner.

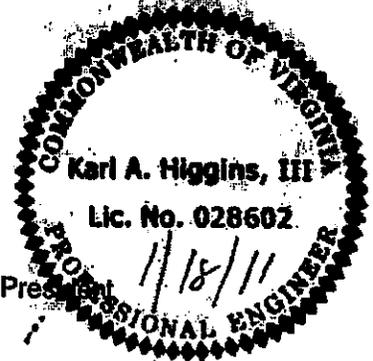
We appreciate the opportunity to be of continued service to Van Metre on this project. If you have any questions regarding information contained in this letter, please do not hesitate to contact the undersigned.

Respectfully,

ECS Mid-Atlantic, LLC

  
Andrew R. Shontz, P.G.  
Senior Engineering Geologist

  
Karl A. Higgins, III, P.E.  
Principal Engineer/Vice President



Attachments: Residential Lot Certification  
Alliance Structural Engineers Letters dated January 12, 2011

cc: Mr. Tom Marable - Van Metre Homes  
Mr. Brian Davidson - Van Metre Homes

ARS/tyk c:\fieldservice\p-projects\6901-7000\6934-12\6934-12\_1r1r\_2011.doc



**ECS Mid-Atlantic, LLC**  
 14026 Thunderbolt Place, Suite 100  
 Chantilly, Virginia 20151 Phone: 703 471-8400

**RESIDENTIAL INSPECTION CERTIFICATION**

**Project / Site Data**

Builder: Virginia Residential Construction, Inc. Project / Subdivision: Broadlands Section: 62  
 Lot#: 11-2 Map ID: LC 39 F 6 Building Permit#: B90137020100 Concrete Contractor: Green Village  
 Permit Address: 42975 Park Creek Dr.

Jurisdiction: Loudoun County

Inspection Type:	Result	Date	Time	Temp	Tech	Soil	Inspection Type:	Result	Date	Time	Temp	Tech	Soil
Footings (Record # of Piers):	App / Rej						Slopes # of Locations:	App / Rej					
7 Subgrade	X	08/25/09	2:30p	80F	RMH	I	1	X	08/21/09	8:00a	60F	RMH	G
7 Forms	X	08/25/09	2:30p	80F	RMH	I	Areaway Slabs / Walls	X	08/11/09	7:30a	70F	RMH	G
Deck Footings (Record # of Piers):							Wet-Plain Concrete						
Other Footings (Describe):							Wet-Reinforced Concr.						
Basement Slab Ground Supported	X	08/11/09	7:30a	70F	RMH	I	Waterproofing / Drainage Mech.	X	08/28/09	1:00p	80F	RMH	I
Basement Slab Structural							Dampproofing / Drainage Mech.						
Garage Slab Ground Supported							Backfill	X	09/02/09	4:00p	80F	RMH	I
Garage Slab Structural	X	09/11/09	7:30a	70F	RMH	G	Hearths Inspected#						
Other: #1 ***							Other: #2 ***						

\*Soil Conditions: (A) Compacted Fill (B) Seasonal High Water Table (C) Expansive Clay (D) Kerf Topography (E) Perched Water (F) Shallow Rocks (G) Uncontrolled Fill (H) Other (Well/Septic, Green Stone, Evidence of Chemical Contaminant) (I) Not Problem Soil

\*\* Other Inspection Descriptions:

Are erosion / sediment controls installed as required by the approved site plan?  Yes  No

**Certification Statement:**

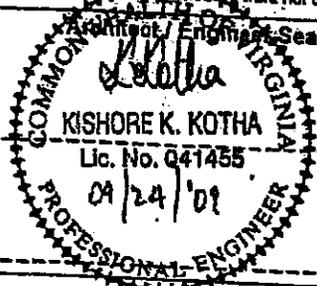
I hereby certify that I am approved to inspect the above elements of residential dwellings in the LOUDOUN COUNTY Jurisdiction; that I have read the Virginia Uniform Statewide Building Code, and I am thoroughly familiar with the provisions contained therein.

I further hereby certify that the installation observed at the location described above is installed in accordance with the approved plans and the Virginia Statewide Uniform Building Code

I further hereby certify that I have reviewed the approved Geotechnical Report, if applicable, and have determined the work, which is the subject of this document, to be consistent with the county approved report. I further acknowledge that I have reviewed all fill placements and compaction reports, which are applicable to the scope of this document.

Concrete and backfill placements and fillings were not observed/performed as part of our residential inspection services.

Signature: Kishore K. Kotha  
 Date: 09/24/09



Comments: \*\*\* Other inspections may be authorized by the Building Official prior to conducting the inspections.

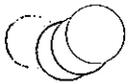
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**RECEIVED**

OCT - 1 2009

Building & Development  
 County of Loudoun, VA



**COUNTY OF LOUDOUN**  
**DEPT. OF BUILDING AND DEVELOPMENT**  
**MEMORANDUM**

DATE: January 19, 2011  
TO: ~~Chris Thompson~~, Code Enforcement Operations Manager  
Cc: Terrance Wharton, Director  
FROM: Ryan Reed, CPSS, County Soil Scientist  
SUBJECT: Acceptable Liquid Limit and Plasticity Index values

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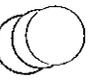
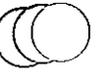
The County Soil Scientist received a request to determine the acceptable Liquid Limit and Plasticity Index values for the investigations by various consultants at 42975 Park Creek Drive, Broadlands Section 62.2, Ashburn, VA.

Review of the existing County information (Soil Survey) indicates the subject area was originally underlain by Soil Mapping Unit 67B, Haymarket and Jackland soils. The soils are classified by USDA-NRCS standards as *fine, smectitic, mesic, typic, hapludalfs* and *fine, smectitic, mesic, aquic, hapludalfs*, respectively. Due to the particle size distribution and clay mineralogy (components contributing to the Liquid Limit), permeability and landscape position, these soils, in general, would not be recommended for houses with basements or as material for backfill against foundations by the County Soil Scientist. However, better information, such as site specific investigations may reveal that some materials within the Soil Mapping Unit 67B are suitable.

The approved geotechnical report dated March 1, 2001 sets the upper limits of acceptable values for Liquid Limit and Plasticity Index for fill on this site at 45 and 22, respectively. The Liquid Limit, considered in conjunction with the Plasticity Index, serves to quantify the plasticity characteristics of a soil. While contemporary convention is more conservative, with maximum values of 40 for Liquid Limit and 15 for the Plasticity Index generally accepted, the judgment and standard of care of the professional service for the subject project must be considered (ASTM D2487.1.7).

Therefore, I would recommend that all Liquid Limit and Plasticity Index values for the above-referenced, addressed parcel, be evaluated using the upper limits established in the March 1, 2001 report.

If you have any further questions, please do not hesitate to contact me at 703-737-8426 or [ryan.reed@loudoun.gov](mailto:ryan.reed@loudoun.gov).





# CCRG

## Clendenin Consulting & Remediation Group

January 25, 2011  
10012.L09

JAN 25 2011  
BUILDING  
CONSTRUCTION

Steve Rodgers  
Chief of Code Enforcement  
Loudoun County Building & Development  
1 Harrison Street  
Leesburg, Virginia 20175

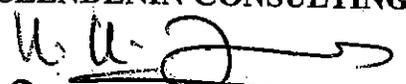
Subject: 42975 Park Creek Drive, Broadlands, VA 20148

Dear Mr. Rodgers:

We have reviewed the ECS letter dated January 18, 2011. The ECS and CCRG laboratory test results establish that the soils against the basement walls are classified as CL and CH. The ECS letter fails to state that the basement walls are designed to support lateral pressures from these soils well in excess of 60 pounds per square foot. The attached 2009 International Building Code, page 332 states that minimum "at-rest pressure for CL soils is 100 psf. Furthermore, the IBC states on page 331 that "Design lateral pressure shall be increased if soils at the site are expansive".

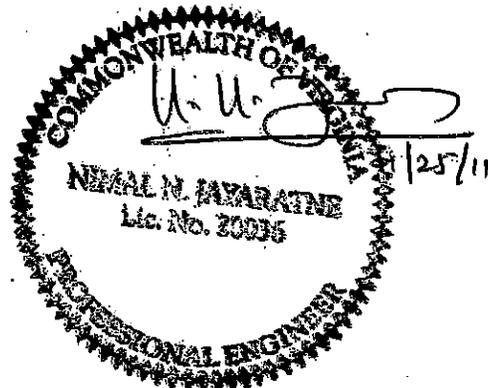
Please contact us at 703-7718816 if you have questions.

Sincerely,  
**CLENDENIN CONSULTING & REMEDIATION GROUP**

  
Nimal N. Jayaratne, PhD, PE

  
Bruce E. Clendenin, CPG

Attachment: IBC page 331-332



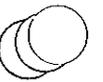


TABLE 1609.6.2(2)—continued  
NET PRESSURE COEFFICIENTS,  $C_{net}^{a,b}$

OR OF	DESCRIPTION	$C_{net}$ FACTOR		
		Enclosed	Partially enclosed	
and cladding discontinuity— parapets	Wall elements: $h \leq 60'$ (Zone 5) Figure 6-11A			
	Positive	10 square feet or less	1.00	1.32
		500 square feet or more	0.75	1.06
	Negative	10 square feet or less	-1.34	-1.66
		500 square feet or more	-0.83	-1.15
	Wall elements: $h > 60'$ (Zone 5) See ASCE 7 Figure 6-17 Zone 4			
	Positive	20 square feet or less	0.92	1.23
		500 square feet or more	0.66	0.98
	Negative	20 square feet or less	-1.68	-2.00
		500 square feet or more	-1.00	-1.32
Parapet walls				
Positive		3.64	3.95	
Negative		-2.45	-2.76	

304.8 mm, 1 square foot = 0.0929 m<sup>2</sup>, 1 degree = 0.0175 rad.  
Interpolation between values in the table is permitted.

Values have been grouped together. Less conservative results may be obtained by applying ASCE 7 provisions.

**3 Determination of net pressure coefficients.** The design of the MWFRS and for components shall be based on the sum of the internal and external net pressure coefficients.

The net pressure coefficient,  $C_{net}$ , for walls and roofs shall be determined from Table 1609.6.2(2).

Where  $C_{net}$  has more than one value, the more conservative wind load condition shall be used for design.

**4 Application of wind pressures.** When using the equivalent all-heights method, wind pressures shall be applied simultaneously on, and in a direction normal to, the building envelope wall and roof surfaces.

**5.4.4.1 Components and cladding.** Wind pressure for each component or cladding element is determined as follows using  $C_{net}$  values based on the projected wind area,  $A$ , contained within the zones in which there is a discontinuity of width and/or length "a," "2a" or "4a": corners of roofs and walls; edge strips for eaves, rakes and eaves; or field areas on walls or roofs. Refer to figures in tables in ASCE 7 as referenced in Table 1609.6.2(2) in accordance with the following:

Calculated pressures at local discontinuities shall be applied over specific edge strips or corner areas.

2. Include "field" (Zone 1, 2 or 4, as applicable) wind pressures applied to areas beyond the boundaries of the areas of discontinuity.
3. Where applicable, the calculated pressures at local discontinuities (Zones 2 or 3) shall be combined with design pressures that apply specifically on rakes or eave overhangs.

### SECTION 1610 SOIL LATERAL LOADS

**1610.1 General.** Foundation walls and retaining walls shall be designed to resist lateral soil loads. Soil loads specified in Table 1610.1 shall be used as the minimum design lateral soil loads unless determined otherwise by a geotechnical investigation in accordance with Section 1803. Foundation walls and other walls in which horizontal movement is restricted at the top shall be designed for at-rest pressure. Retaining walls free to move and rotate at the top shall be permitted to be designed for active pressure. Design lateral pressure from surcharge loads shall be added to the lateral earth pressure load. Design lateral pressure shall be increased if soils at the site are expansive. Foundation walls shall be designed to support the weight of the full hydrostatic pressure of undrained backfill unless a drainage system is installed in accordance with Sections 1805.4.2 and 1805.4.3.

**Exception:** Foundation walls extending not more than 8 feet (2438 mm) below grade and laterally supported by the top by flexible diaphragms shall be permitted to be designed for active pressure.

SEISMIC

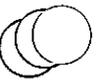
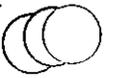


TABLE 1610.1  
LATERAL SOIL LOAD

DESCRIPTION OF BACKFILL MATERIAL <sup>a</sup>	UNIFIED SOIL CLASSIFICATION	DESIGN LATERAL SOIL LOAD <sup>a</sup> (pound per square foot per foot of depth)	
		Active pressure	At-rest pressure
Well-graded, clean gravels; gravel-sand mixes	GW	30	60
Poorly graded clean gravels; gravel-sand mixes	GP	30	60
Silty gravels, poorly graded gravel-sand mixes	GM	40	60
Clayey gravels, poorly graded gravel-and-clay mixes	GC	45	60
Well-graded, clean sands; gravelly sand mixes	SW	30	60
Poorly graded clean sands; sand-gravel mixes	SP	30	60
Silty sands, poorly graded sand-silt mixes	SM	45	60
Sand-silt clay mix with plastic fines	SM-SC	45	100
Clayey sands, poorly graded sand-clay mixes	SC	60	100
Inorganic silts and clayey silts	ML	45	100
Mixture of inorganic silt and clay	ML-CL	60	100
Inorganic clays of low to medium plasticity	CL	60	100
Organic silts and silt clays, low plasticity	OL	Note b	Note b
Inorganic clayey silts, elastic silts	MH	Note b	Note b
Inorganic clays of high plasticity	CH	Note b	Note b
Organic clays and silty clays	OH	Note b	Note b

For SI: 1 pound per square foot per foot of depth = 0.157 kPa/m, 1 foot = 304.8 mm.

- a. Design lateral soil loads are given for moist conditions for the specified soils at their optimum densities. Actual field conditions shall govern. Submerged or saturated soil pressures shall include the weight of the buoyant soil plus the hydrostatic loads.
- b. Unsuitable as backfill material.
- c. The definition and classification of soil materials shall be in accordance with ASTM D 2487.

**SECTION 1611  
RAIN LOADS**

**1611.1 Design rain loads.** Each portion of a roof shall be designed to sustain the load of rainwater that will accumulate on it if the primary drainage system for that portion is blocked plus the uniform load caused by water that rises above the inlet of the secondary drainage system at its design flow. The design rainfall shall be based on the 100-year hourly rainfall rate indicated in Figure 1611.1 or on other rainfall rates determined in approved local weather data.

$$.2(d_s + d_h) \quad \text{(Equation 16-35)}$$

or SI:  $R = 0.0098(d_s + d_h)$

where:

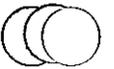
$d_h$  = Additional depth of water on the undeflected roof above the inlet of secondary drainage system at its design flow (i.e., the hydraulic head), in inches (mm).

$d_s$  = Depth of water on the undeflected roof up to the inlet of secondary drainage system when the primary drainage system is blocked (i.e., the static head), in inches (mm).

$R$  = Rain load on the undeflected roof, in psf (kN/m<sup>2</sup>). When the phrase "undeflected roof" is used, deflections from loads (including dead loads) shall not be considered when determining the amount of rain on the roof:

**1611.2 Ponding instability.** For roofs with a slope less than 1/4 inch per foot [1.19 degrees (0.0208 rad)], the design calculations shall include verification of adequate stiffness to preclude progressive deflection in accordance with Section 8.4 of ASCE 7.

**1611.3 Controlled drainage.** Roofs equipped with hardware to control the rate of drainage shall be equipped with a secondary drainage system at a higher elevation that limits accumulation of water on the roof above that elevation. Such roofs shall be designed to sustain the load of rainwater that will accumulate on them to the elevation of the secondary drainage system plus the uniform load caused by water that rises above the inlet of the secondary drainage system at its design flow determined from Section 1611.1. Such roofs shall also be checked for ponding instability in accordance with Section 1611.2.





## Loudoun County, Virginia

### Department of Building and Development Code Enforcement Division

1 Harrison Street SE MSC 60B, PO Box 7000 MSC 60B, Leesburg, VA 20177-7000  
Inspection Information: 703-777-0220 Fax: 703-737-8546

February 8, 2011

Holmes & Costin PLLC  
Attn: Sheila M. Costin  
12310 Pinecrest Road  
Suite 301  
Reston VA 20191

Dear Ms. Costin:

In response to your letter dated October 28, 2010, as a result of receiving the required Code Enforcement complaint form from Karen McLaughlin on October 29, 2010, this Division promptly investigated the alleged violation, issued a Notice of Violation to Van Metre Homes on December 1, 2010 requiring proof that soils were tested and found suitable for use as backfill material, and determined the following apply:

1. The approved subsurface report prepared by Engineering Consulting Services, LTD, hereinafter referred to as ECS, dated March 1, 2001 sets the maximum Limits for Liquid Limits (LL) and Plasticity Index (PI) for fill use as backfill material. These limits were approved at LL of less than 45 and PI of less than 22. The soil tests on samples collected on October 24<sup>th</sup> show the values for the LL and PI fall at or below the maximum as set forth in the Geotechnical Report.
2. The foundation wall is adequately designed to resist the soil pressures.
3. The drainage system installed around the exterior of the foundation meets the minimum requirements of the 2006 Virginia Uniform Statewide Building Code.

It is the determination of this office that the soils used as backfill material against the foundation wall are suitable. The foundation wall is adequately designed to withstand the soil pressure imposed by those soils. No code violations are known to exist. Accordingly, the Notice of Violation issued to Van Metre Homes on December 1, 2010 is rescinded.

Should you have further inquiries or concerns relative to this matter, please do not hesitate to contact me. I may be reached from 8:00 a.m. to 4:00 p.m., Monday through Friday at 703-771-5527.

Sincerely,

Mr. Christopher Thompson  
Building Operations Manager  
CT:sbr

xc: Mrs. Karen McLaughlin, Homeowner  
Mr. Roy Kane, Van Metre Homes  
Mr. Steven Rodgers, CBO, Building Official  
file

**Attachments:**

- ECS Mid-Atlantic , LLC letter dated December 8, 2010 (includes laboratory results)**
- Van Metre Companies letter dated December 17, 2010**
- Email from Roy Kane of Van Metre Homes dated December 17, 2010**
- ECS Mid Atlantic, LLC, page 14, regarding fill materials, Liquid Limit and Plasticity Index**
- ECS Mid-Atlantic, LLC, page 17, regarding below grade space**
- ECS Mid-Atlantic, LLC, Residential Below Grade Drainage Detail**
- ECS Mid-Atlantic, LLC, Residential Inspection Certification**
- Alliance Structural Engineers letter to Chris Fox dated January 10, 2011**
- Alliance Structural Engineers letter to Chris Fox dated January 12, 2011**
- ECs Mid-Atlantic, LLC letter dated January 18, 2011**
- B&D Memorandum from Ryan Reed dated January 19, 2011**





## Loudoun County, Virginia

### Department of Building and Development

1 Harrison Street, S. E., P. O. Box 7000, Leesburg, VA 20177-7000

Administration: 703/777-0397

Inspection Information Only : 703/777-0220 Fax: 703/737-8546

February 9, 2011

Van Metre Companies  
Attention Roy Kane  
44675 Cape Court  
Suite 171  
Ashburn VA 20147

**RE:** Rescinding Notice of Violation      Pertaining to: 42975 Park Creek Drive

Dear Mr. Kane,

Information received by this office indicates the violations cited December 1, 2010, to your company for the above referenced address, have been remedied. Therefore, the Notice of Violation issued is rescinded.

If you should have comments or inquiries relative to this matter, I may be reached Monday through Friday, 8:00 a.m. to 4:00 p.m. at 703-771-5527.

Sincerely,

Mr. Christopher Thompson  
Building Operations Manager

CT:sbr

xc: Mr. Steven D. Rodgers  
file





HOLMES & COSTIN  
PLLC

Admitted in VA and MD

[scostin@holmesandcostin.com](mailto:scostin@holmesandcostin.com)

March 3, 2011

Chairman of the Board of Building & Fire Code Appeals  
County of Loudoun  
Board of Building & Fire Code Appeals  
1503 Edwards Ferry Road, Suite 300  
Leesburg, Virginia 20176

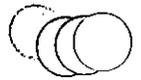
Re: Appeal of Rescission of Notion of Violation relating to 42975 Park Creek  
Drive, Broadlands

Dear Sir:

My firm represents Frank and Karen McLaughlin, the owners of 42975 Park Creek Drive, Broadlands, Virginia 20148. The McLaughlins are appealing the Building Official's rescission of the Notice of Violation Dated December 1, 2010. The builder of their house is in violation of the 2006 Virginia Uniform Statewide Building Code and needs to comply with it. In addition, the McLaughlins are appealing the determination that the soil found at the McLaughlins' residence, namely clay, is suitable to be used as backfill material on below grade walls as designed. Such a determination is contrary to the 2006 Virginia Uniform Statewide Building Code and contrary to the requirements of the geotechnical report for their property.

The McLaughlins also appeal the determination that their foundation walls were designed to resist the pressure of the soils found on their property. The Building Official did not provide a basis for the determination; however, he included wall designs by Alliance Structural Engineers. Alliance Structural Engineers were not tasked to calculate the pressures of the soils found on the McLaughlin property. They were asked to review the adequacy of a foundation wall for the "Equivalent Fluid Pressure of 60 PCF."

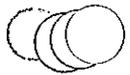
The six soil samples taken from the McLaughlin property revealed the existence of CL and CH clay. The 2009 International Building Code (table 1661.1) provides for the design lateral soil load for inorganic clays of medium plasticity (CL) backfill is the Equivalent Fluid



Pressure of 100 PCF. No number is provided for CH clay in the chart because it is not suitable as backfill.

Finally, the McLaughlins are appealing the failure of the Building Official to ensure compliance with the 2006 Virginia Uniform Statewide Building Code with respect to the installation of an interior perimeter drainage system and an underslab drainage system. The geotechnical report prepared by ECS, Ltd., was approved by Loudoun County and became one of the construction documents for the property. The Complaint addressed the issue of installation and the McLaughlins proceeded to present evidence that the systems were not installed. There were some representations by the builder that an interior perimeter system was installed but it was refuted. There was no evidence of an underslab system being installed. The February 8, 2011 letter does not address either the interior perimeter drainage system or the underslab drainage system. The McLaughlins seek enforcement of the 2006 Virginia Uniform Statewide Building Code to have both of these systems installed to meet the requirements of the 2006 Virginia Uniform Statewide Building Code.

I thank you for your attention to this matter.



Sincerely,

Sheila M. Costin

cc: Christopher Thomson, Building Official  
Frank and Karen McLaughlin  
Enclosures: Notice of Violation  
Thompson February 8, 2011 letter, w/enclosures  
Costin January 17, 2011 letter, w/enclosures  
~~ECS-2001 Report~~





**Loudoun County, Virginia**

**Department of Building and Development**

**Code Enforcement Division**

**Board of Building Code Appeals**

1 Harrison Street, S. E., P. O. Box 7000, MSC 60b Leesburg, VA 20177-7000  
Administration: 703-771-5449

March 14, 2011

County of Loudoun  
Board of Building Code Appeals  
1 Harrison Street MSC 60B  
Leesburg VA 20177-7000

Dear Board Members:

The Board of Building Code Appeals will meet to hear an appeal of the rescission of a Notice of Violation issued to Van Metre Companies dated December 1, 2010. The meeting will take place Tuesday, March 29 at 7:00 p.m. in the Code Enforcement Conference Room located at 1503 Edwards Ferry Road. Dinner will be served at 6:00 p.m.

Homeowners Frank & Karen McLaughlin have requested an appeal of:

- The rescission of the Notices of Violation issued December 1, 2010 to Van Metre Homes relative to their home located at 42975 Park Creek Drive in Broadlands.
- The determination of the Building Code Official that the soil used as a backfill material against the foundation walls is suitable
- The foundation walls area adequately designed to withstand pressure from the soil
- The failure to enforce the building code regarding the absence of interior perimeter and underslab drain systems.

I encourage the Board to request only relevant testimony be presented. Enclosed are copies of the request for appeal and supporting documentation from both the appellant and the defendant.

Sincerely,

Mr. Raymond Rinaldi  
Clerk of the BBCA

RR:sbr

xc: Frank & Karen McLaughlin, Appellant.  
Sheila Costin, Holmes & Costin, Attorney for the Appellant  
Mr. Steven Rodgers, Building Official  
Mrs. Zaida Thompson, Assistant County Attorney  
Mrs. Stephanie B. Ryder, Secretary to the BBCA

file





# CCRG

## Clendenin Consulting & Remediation Group

May 11, 2011  
10012:L11

Frank & Karen McLaughlin  
42975 Park Creek Drive  
Broadlands, VA 20148

Subject: Soil Classification Test Results  
Below Grade Wall Backfill  
42975 Park Creek Drive  
Broadlands, VA 20148

Dear Ms. McLaughlin:

Following is a summary of soil classification test results on soil samples collected by CCRG from the test pits excavated adjacent to the below grade walls of subject residence. I observed the test pit excavation on October 28, 2010.

Sample No.	Depth (ft)	Liquid Limit	Plasticity Index	USCS Symbol
TP-1/Bulk	2.5-5.5	42	19	CL
TP-2/Bulk	0.0-5.0	44	21	CL
TP-1/Jar	0.0-2.5	47	24	CL
TP-2/Jar	1.0-2.0	80	53	CH

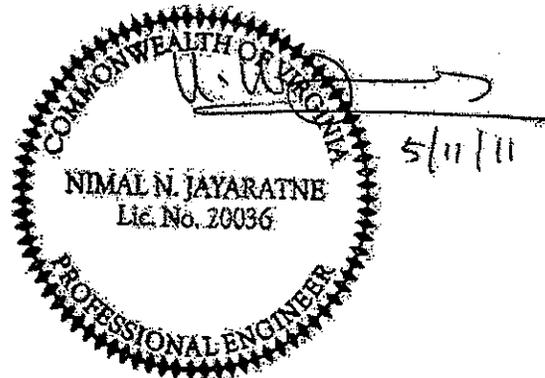
Details of laboratory test results are attached with the plasticity chart.

Please call us at (703) 771-8816 if you have any questions.

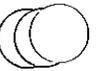
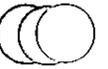
Sincerely,

CLENDENIN CONSULTING & REMEDIATION GROUP

Nimal N. Jayaratne, PhD, PE  
Project Engineer



Attachment: Laboratory test results



# STANDARD PROCTOR TEST REPORT

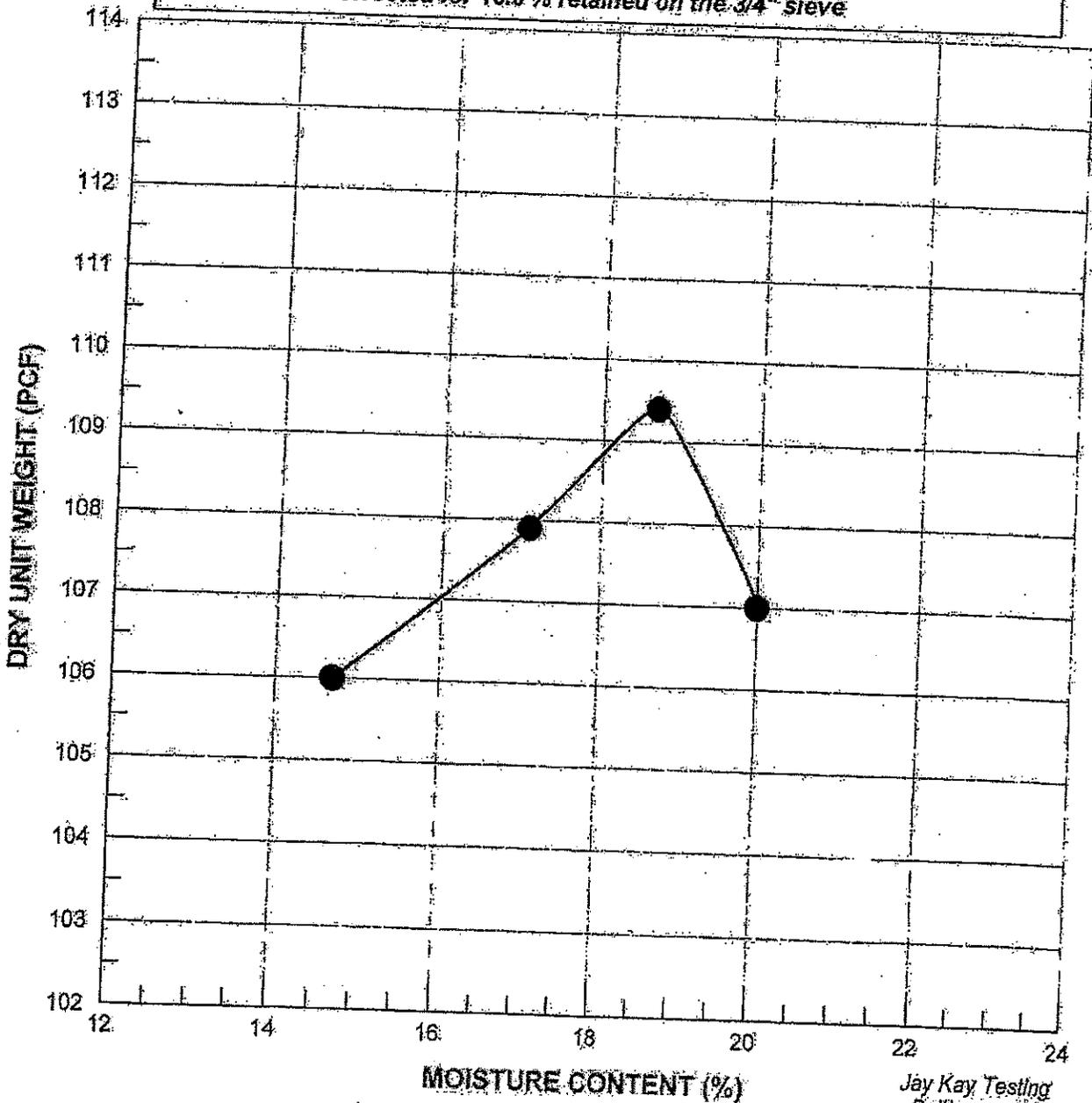
DATE OF REPORT: 11-3-10  
 PROJECT: McLaughlin Groundwater Impacts  
 PROJECT NO: 10012

DESCRIPTION OF SOIL: Brown sandy lean CLAY with rock  
 SAMPLE NO.: TP-1 (2.5-5.5') - Bulk

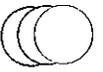
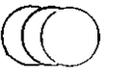
LIQUID LIMIT: 42      PLASTIC LIMIT: 23      PLASTICITY INDEX: 19  
 PERCENT PASSING # 200: 50.3%      USCS: CL      AASHTO: A-7-6  
 TEST PROCEDURE USED: AASHTO T-99 G

**TEST RESULTS:**

	Uncorrected	** Corrected
Maximum Dry Unit Weight =	109.4 PCF	115.7 PCF
Optimum Moisture Content =	18.7 %	15.9 %
** Corrected for 16.6 % retained on the 3/4" sieve		

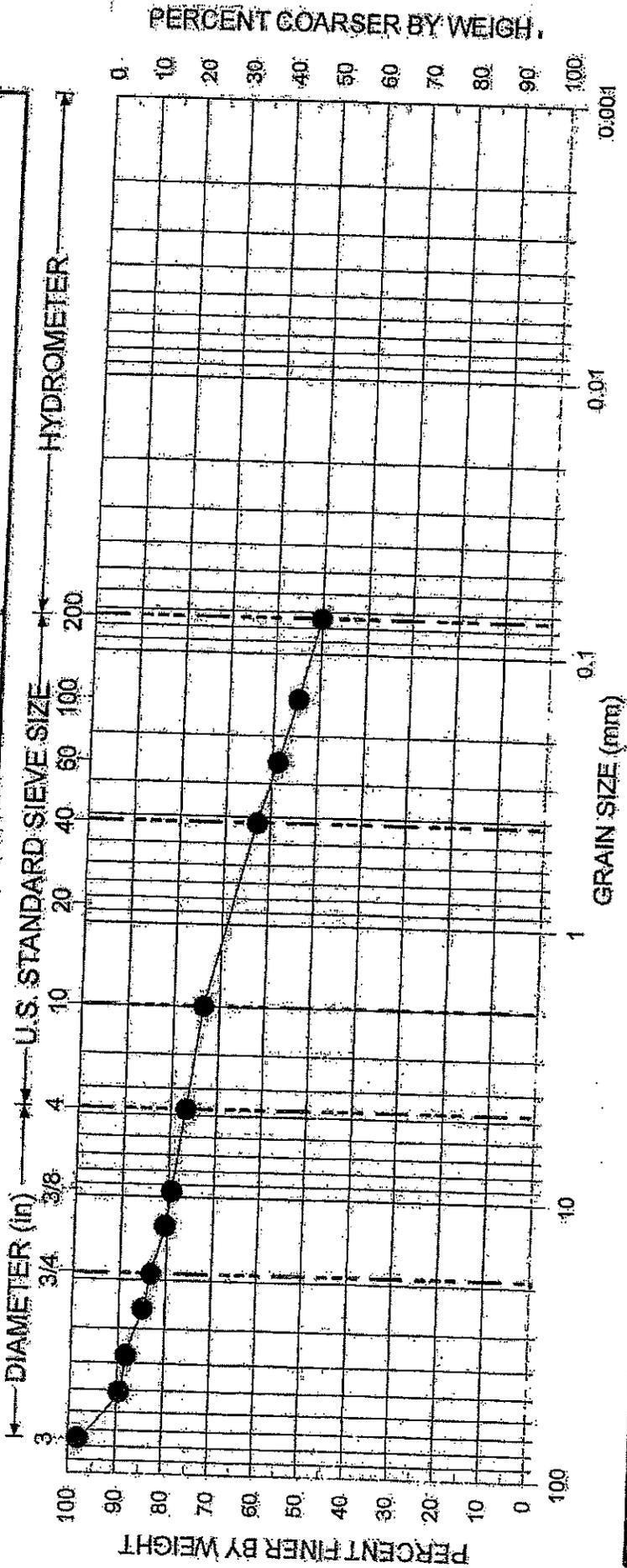


Jay Kay Testing  
 Baltimore, MD

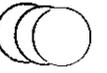


**PROJECT NAME: McLaughlin Groundwater Impacts**  
**PROJECT NUMBER: 10012**

GRAVEL		SAND			SILT OR CLAY	
COARSE	FINE	COARSE	MEDIUM	FINE		



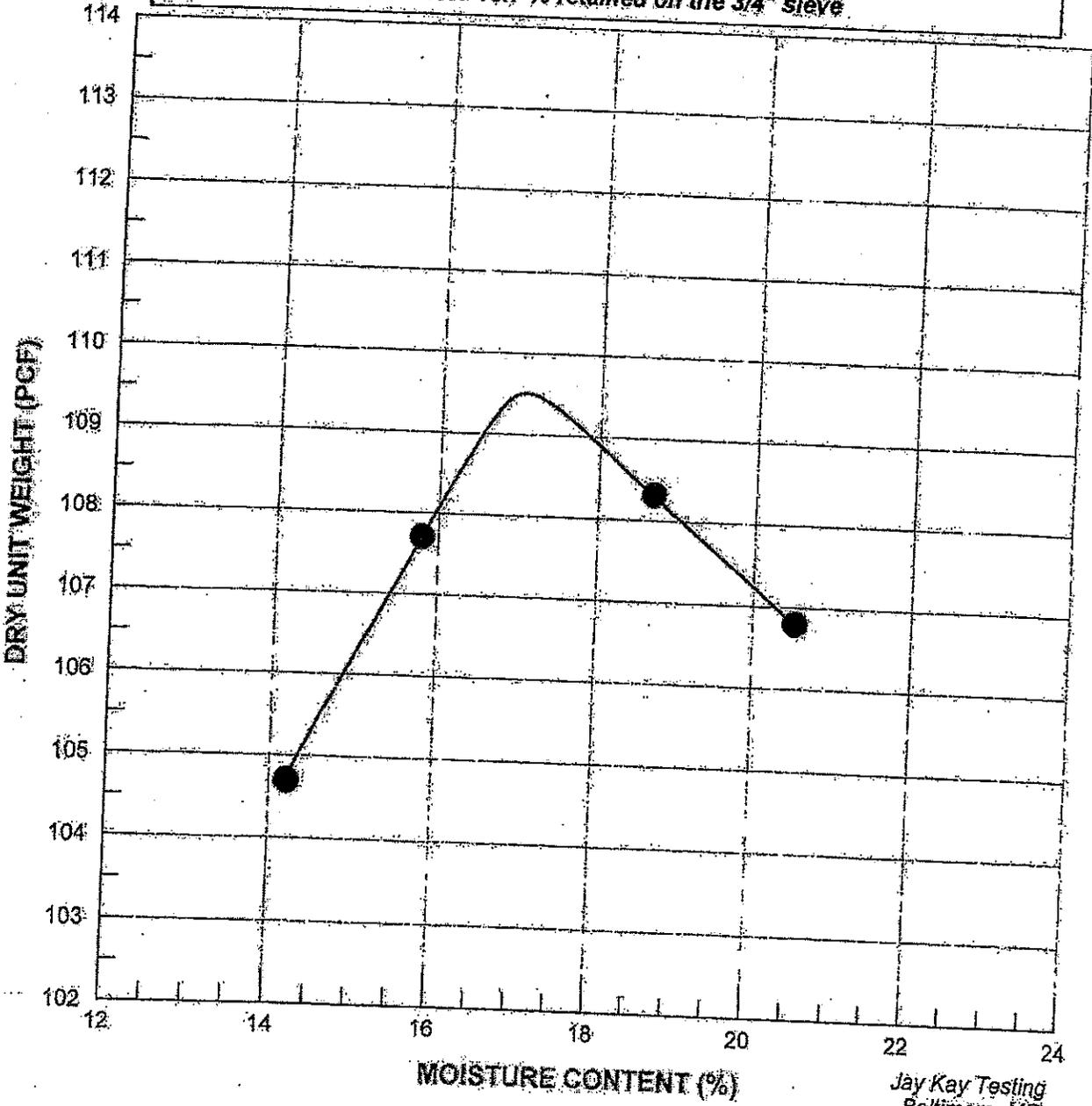
GRADATION ANALYSIS AASHTO T-88	TESTED BY: JIMK CHECKED BY: IRD	DATE: 11-3-10 SHEET: 1 of 2
	<b>JAY KAY TESTING</b> Baltimore, Maryland	
SOIL DESCRIPTION		
BORING NUMBER TP-1	SAMPLE DEPTH (ft.) 2.5-5.5	SOIL DESCRIPTION Brown sandy/lean CLAY with rock (CL) [A-7-6]
MG (%) LL 42	PL 23	PI 19



# STANDARD PROCTOR TEST REPORT

DATE OF REPORT: 11-3-10  
 PROJECT: McLaughlin Groundwater Impacts  
 PROJECT NO: 10012  
 DESCRIPTION OF SOIL: Brown rocky lean CLAY with sand  
 SAMPLE NO: TP-2 (0-5.0') - Bulk  
 LIQUID LIMIT: 44      PLASTIC LIMIT: 23      PLASTICITY INDEX: 21  
 PERCENT PASSING # 200: 52.1%      USCS: CL      AASHTO: A-7-6  
 TEST PROCEDURE USED: AASHTO T-99 G

**TEST RESULTS:**  
 Maximum Dry Unit Weight =      Uncorrected: 109.5 PCF      \*\* Corrected: 115.6 PCF  
 Optimum Moisture Content =      17.0%      14.2%  
 \*\* Corrected for 18.7% retained on the 3/4" sieve

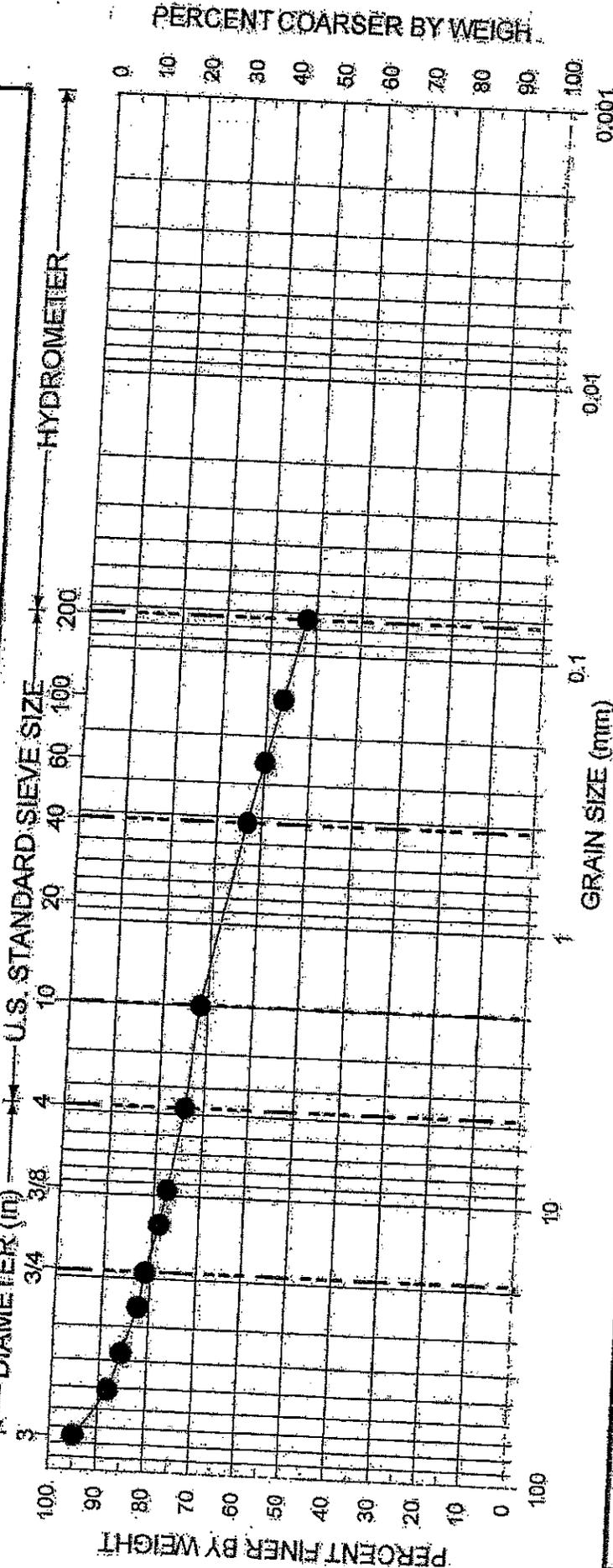


Jay Kay Testing  
Baltimore, MD

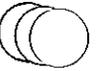
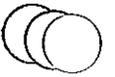


**PROJECT NAME: McLaughlin Groundwater Impacts**  
**PROJECT NUMBER: 10012**

GRAVEL		SAND			SILT OR CLAY	
COARSE	FINE	COARSE	MEDIUM	FINE		



BORING NUMBER TP-2	SAMPLE DEPTH (ft.) 0-5.0	MC (%) ---	LL 44	PL 23	PI 21	SOIL DESCRIPTION Brown rocky lean CLAY with sand (CL) [A-7-6]	GRADATION ANALYSIS AASHTO T-88	TESTED BY: JMK CHECKED BY: RD	DATE: 11-3-10 SHEET: 2 of 2
								<b>JAY KAY TESTING</b> Baltimore, Maryland	



# Plasticity Chart McLaughlin Groundwater Impacts

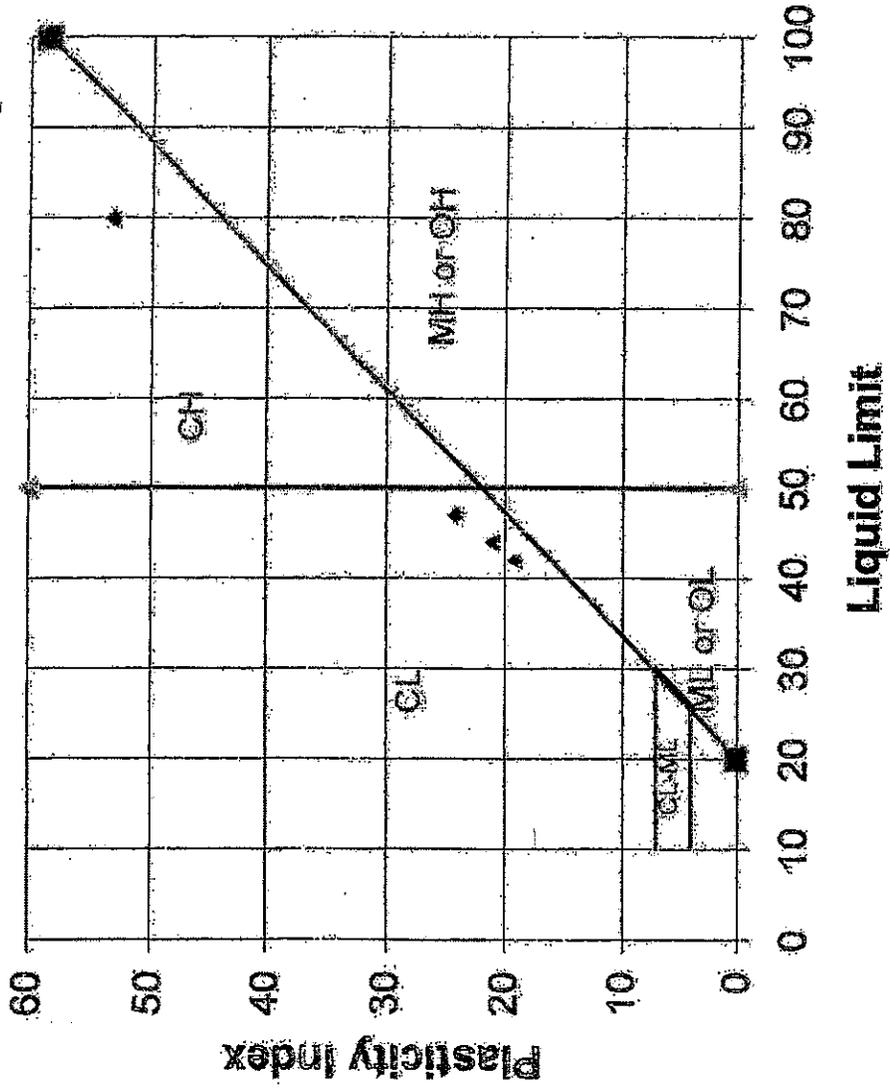
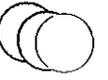


Figure 1



**RECEIVED**

NOV 16 2010

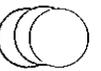
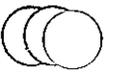
**CLENDENIN CONSULTING &  
REMEDATION GROUP**

**SUMMARY OF LABORATORY TESTING**

**MCLAUGHLIN GROUNDWATER IMPACT**

Boring Number	Sample Number	Depth (ft.)	ATTERBERG LIMITS		
			Liquid Limit	Plastic Limit	Plasticity Index
TP-1	Jar	0-2.5	47	23	24
TP-2	Jar	1.0-2.0	80	27	53

Jay Key Testing  
Baltimore, MD  
11/13/2010



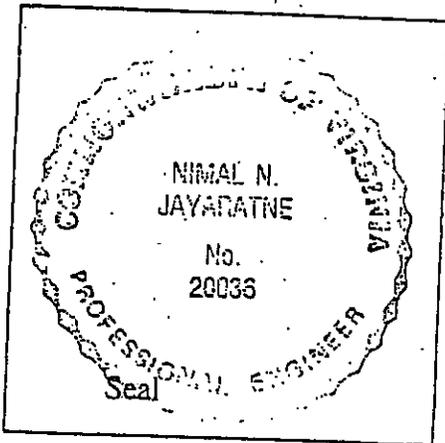
This is a request to  become or  continue to be an independent inspection agency approved to conduct certain Third Party Inspections in Loudoun County.

### REPORTING PROCEDURES

1. Inspection reports are due in this office within one week and no later than 2 weeks after inspections are made.
2. All reports will have the appropriate Building Permit numbers on them.
3. Any changes to the approved Geotechnical recommendations must be submitted to this office for approval prior to implementation in the field.
4. The minimum requirements (including the County mandated reporting format) for footing inspections on residential and commercial projects are enclosed on separate sheets.

First offense for not following the above listed procedures shall be six months probation. Second offense will result in the removal of the company from our approved third party inspection agency list.

I have read and fully understand the required reporting procedures in Loudoun County. I will accept full responsibility of my firm's reports.



NIMAL JAYARATNE  
Principal Engineer's Name (Print)

N. N.  
Signature

1/20/00  
Date

Name of Firm: CLANDENIN ENVIRONMENTAL AND GEOTECHNIC CONSULTANTS

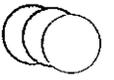
Address: 116-D EDWARDS FERRY ROAD

LEESBURG

VA 20176

Phone #: (703) 771-8816

Fax #: (703) 771-8825





## Loudoun County, Virginia

www.loudoun.gov

### Department of Building and Development

1 Harrison Street, S.E., P.O. Box 7000, Mailstop #60A, Leesburg, VA 20177-7000

(703) 777-0220

FAX Numbers: Permits (703) 771-5522 - Engineering (703) 737-8993

Zoning & Administration (703) 771-5215

May 16, 2011

Broadlands Associates LLP  
Steve Hahn, Vice President of Land Development  
44675 Cape Court, Suite 171  
Ashburn, VA 20147

Dear Mr. Hahn,

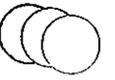
This letter is in regards to an ongoing complaint the County has received from Mrs. Karen McLaughlin who owns lot 11 in Broadlands South Section 62 Block 2. As you are aware, her complaint is that the sump pump runs too frequently and the lot grading isn't done correctly. In addition, the County is receiving complaints from other property owners in section 62 regarding the frequent operation of their sump pumps, such as Mark Phillips, owner of lot 20.

Staff inspected Mrs. McLaughlin's property May 6, 2011 and noted the following: No rain events had occurred for over 48 hours prior to the inspection. The sump pump discharged regularly every couple of minutes. There was standing water in what appears to be a low area at the south west corner of her property and along the property line with lot 10. Settlement has occurred around the foundation, specifically around the gutter downspouts, the areaway into the basement, the south west corner by the sliding door, and on the east side of the house where the utilities enter the house.

County staff does not recommend building basements in soils with very poor potential due to high shrink swell clays and perched water tables. Much of Section 62 has these problematic soils. These soils increase the potential for a wet basement. If a basement is built, sufficient measures must be taken to minimize this potential.

Loudoun County will not release the performance bonds for Section 62 until sufficient measures pertaining to individual and/or collective lot grading have been taken which adequately address the property owners' complaints.

In regards to Mrs. McLaughlin's complaint, staff makes the following recommendations: Increase the size of the sump crock and pump to assist with reducing the frequency of the pump's operation. In addition, install a battery backup so the system continues to operate should there be a power outage. Verify there is positive fall along the drainage swale across the back yard and near the south west corner of the property along lot 10. To help alleviate the saturated soil conditions, install a French drain in the swale across the back of her property and extend it along the property line with lot 10. Tie the gutter downspouts and sump pump discharge from



both lots 10 and 11 into the French drain. Also, raise the grade along the foundation to obtain 6 inches of fall within 10 feet of the foundation walls.

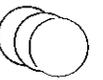
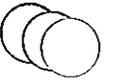
If you have any further questions, please do not hesitate to contact me at (703) 777-0635 or [john.leffler@loudoun.gov](mailto:john.leffler@loudoun.gov).

Sincerely,



John Leffler  
Quality Assurance Engineer

CC. Terrance D. Wharton, Director  
Gary Clare, Chief Engineer  
Gary Deal, Quality Assurance Manager  
Karen McLaughlin



## **McMahan, Alan (DHCD)**

---

**From:** Roy Kane [rkane@vanmetrehomes.com]  
**Sent:** Thursday, May 19, 2011 4:53 PM  
**To:** McMahan, Alan (DHCD)  
**Subject:** Appeal of Frank & Karen McLaughlin to the Review Board (Appeal No. 11-3)  
**Attachments:** McLaughlin - Resolution.pdf; McLaughlin - Confidential Agreement.pdf; McLaughlin File.pdf

May 19, 2011

Commonwealth of Virginia  
Department of Housing and Community Development  
State Building Code Technical Review Board  
Mr. Alan McMahan  
Main Street Centre  
600 East Main Street  
Suite 300  
Richmond, Virginia 23219

**Subject:**

Dear Mr. McMahan,

This correspondence and the attached documents are in response to the appeal concerns regarding the suspected code violations on property owned by Frank & Karen McLaughlin, located at 42975 Park Creek Drive, Broadlands, Virginia 20148. On March 28, 2011 an Appeal Hearing was held to include representatives with Karen McLaughlin, and Van Metre Homes, who met with the Loudoun County Board of Building Code Appeals (Appeal No. 01/2011). The Appeals Board voted unanimously that; the soil used as backfill material against the foundation wall is acceptable; the foundation wall are adequately designed to withstand pressure from the soil is acceptable; and the building code regarding absence of interior perimeter and underslab drain systems is unfounded (please find the complete Appeal attached as solution>).

The McLaughlin's settled on their home November 24, 2009. Shortly after moving in the McLaughlins contacted us regarding their concerns with the frequency of operations of their sump pump. The home site is located lower than adjacent homes on the site plan (please find a copy of the Over Grading Plan with the McLaughlin's initials within the document titled <McLaughlin File>). Through the next several weeks, inspections of the sump pump were completed at the home by representatives from Van Metre Homes Construction, Land, and Customer Care Departments. At each inspection the sump pump was found performing as designed and no signs of any water intrusion were found throughout the basement.

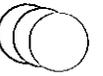
In our ongoing efforts to assist the McLaughlins and alleviate the frequency of sump operations and at this time, continue to offer, at no cost;

"Replace current sump pump with a Zoeller M-98 1/2hp unit, install a 30" deep sump pump crock, and install a Zoeller Model 507 Sentry battery backup system. In addition, the downspouts in the rear of the Home will be buried and exited to a French drain we will install in the rear yard, exiting to the drainage ditch located to the left side of the Home. Also the sump pump discharge line will be buried and exited to the drainage ditch located to the left side of the Home".

Since this offer is above and beyond and Agreement of Sale, and/or any implied Warranty (The Warranty Plus 10 Year Limited Warranty) for the home, a Confidential Agreement is required (please see the attached <Confidential Release>). The McLaughlins at this time have not elected to sign the release agreement.

Also attached, please find copies of supporting documents to include; Lateral Earth Pressure Review for Basement Walls, Residential Inspection Certification, 8" and 10" Foundation Wall Design for EFP=60 PCF, Laboratory Test Results Summary from Test Pit Soils, Foundation Under Drain System 003, and the Unresolved Item List at Settlement Form (please see documents under attached <McLaughlin File>).

Closing, Van Metre Homes, a company that has been in the home building industry for over fifty years continues to endeavor to perform all appropriate warranty work on our homes. The McLaughlin's home is graded per plan; the recommended backfill was used for the home; and the recommended foundation wall and drain systems are in place. To

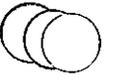


our knowledge the home's basement has not experienced any water intrusion through many severe snow and rain storms. It has been our experience with a home of this elevation – lower than neighboring homes with higher elevations, which excess ground and/or surface water can collect on the property, causing the home's sump pump to operate with increased frequency. It has also been our experience that adding the components offered in our Confidential Release Agreement has been an effective method of dispersing surface and/or ground water away from the property and decreases the possible effects of the water recycling back into the homes under drain system.

We look forward to future correspondence.

Sincerely,  
Roy.

Roy T. Kane  
Director Customer Care  
Van Metre Homes  
44675 Cape Court  
Suite 171  
Ashburn, VA 20147  
(703) 723-2816  
(703) 723-1567 Fax  
(703) 932-4627 Mobile  
[rkane@vanmetrecompanies.com](mailto:rkane@vanmetrecompanies.com)



## McMahan, Alan (DHCD)

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**From:** Roy Kane [rkane@vanmetrehomes.com]  
**Sent:** Monday, May 23, 2011 5:05 PM  
McMahan, Alan (DHCD)  
Roy Kane  
**Subject:** RE: Appeal of Frank & Karen McLaughlin to the Review Board (Appeal No. 11-3)

Good afternoon Mr. McMahan,  
We wanted to also enclose some the correspondence to Mr. and Mrs. McLaughlin for your information, please see below.  
Are representatives from Loudoun County also a part of the Appeal process?  
Thanks,  
Roy.

---

**From:** Roy Kane  
**Sent:** Wednesday, April 14, 2010 5:17 PM  
**To:** 'frank.mclaughlin@gmail.com'; 'karenmclaugh@hotmail.com'  
**Cc:** George Poe; Jonathan Grossnickle; Daryl Franks; Rebecca Leach; Tom Marable; Roy Kane  
**Subject:** RE: 11-62-2 McLaughlin - Sump Pump

Good afternoon Mr. and Mrs. McLaughlin,  
I hope this email finds you well and you are enjoying our Spring weather. I just wanted to touch base with you to see if you have reached a decision with regard to the proposed work to your sump pump?

Thank you for your considerations, please contact me with any questions.  
Sincerely,  
Roy.

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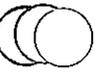
**From:** Roy Kane  
**To:** 'frank.mclaughlin@gmail.com' <frank.mclaughlin@gmail.com>; 'karenmclaugh@hotmail.com' <karenmclaugh@hotmail.com>  
**Cc:** George Poe; Jonathan Grossnickle; Tom Marable; Rebecca Leach; Daryl Franks; Roy Kane  
**Sent:** Wed Mar 24 18:48:32 2010  
**Subject:** RE: 11-62-2 McLaughlin - Sump Pump

Good afternoon Mr. and Mrs. McLaughlin,  
Thank you for your considerations as we work to remedy your concerns with your sump pump. Mr. McLaughlin as follow up to our past conversations, our offer to complete additional work to your sump pump as outlined below in our February 09, 2010 email remains, and has been amended to include to bury the downspouts in the rear of your home, to the drainage channel to the right of your home. The downspout ditches added to the rear of your home will also act as a French drain, diverting water away from the back of your home, to the drainage channel. Also included, we offer to bury the sump pump discharge line, carrying water from the sump pump to the drainage channel.

Also reviewed in our email below, dated February 09, 2010, and discussed from our past conversations, when such work is performed that is not covered by your warranty, or a sales agreement, a release agreement completed, as ground water in your sump crock is not expressly covered by Warranty Plus, The Limited Warranty for your home, and Part Two of the Agreement of Sale, Section 4(a), Section 4(c), and Section 13.

We look forward to completing the work. Upon receipt of the signed release agreement attached, work can be scheduled within seventy-two (72) hours. This offer will remain valid for thirty (30) days from today's date. If we are unable to perform work as described, this offer will be removed and we will consider the matter closed.

Thank you for your considerations, please contact me with any questions.  
Sincerely,  
Roy.



**From:** Roy Kane

**Sent:** Tuesday, February 09, 2010 4:45 PM

**To:** 'frank.mclaughlin@gmail.com'; 'karenmclaugh@hotmail.com'

Jonathan Grossnickle; George Poe; Steve Hahn; Brian Davidson; Tom Marable; Jerry Catron; Rebecca Leach; Roy

**Subject:** RE: 11-62-2 McLaughlin - Sump Pump

Good afternoon Mr. and Mrs. McLaughlin,

Mrs. McLaughlin, thank you for your time on Friday, February 05, to meet with Jon, Tom, Chris, and I to review your concerns with the sump pump operations. As discussed, the tests from Loudoun County Water Authority came back showing the majority of water to be ground water. As explained in previous communications, the sump pump system is operating per design. In efforts to reduce the frequency of the sump pump operations, Van Metre Homes, at its cost and in the spirit of good customer service, will perform additional work to address this issue. It should be noted that the ground water in your sump crock is not expressly covered by Warranty Plus, The Limited Warranty for your home, as well as Section 4(a) and Section 4(c) of Part Two of the Agreement of Sale.

We are offering to install a larger sump crock, change the sump to a one-half (1/2) horsepower (HP), and install a battery backup system. All work to be performed by a licensed plumber. On Friday we observed when we disconnected your sump, the ground water rose slowly to the drain-tile level. On the proposed system, the 1/2 HP sump will be located to better accommodate the water level, to assist in reducing the systems running time.

As also discussed, when such work is performed that is not covered by your warranty, or a sales agreement it is routine to have a release agreement completed. The agreement identifies the problem to be addressed, and the concession. Attached please find the release. Upon receipt of the signed release agreement, work can be scheduled within seventy-two (72) hours.

Please contact me with any questions. I look forward to future correspondence.

Thanks,

---

**From:** Roy Kane

**Sent:** Thursday, May 19, 2011 5:15 PM

**To:** 'McMahan, Alan (DHCD)'

**Cc:** Hodge, Vernon (DHCD)

**Subject:** RE: Appeal of Frank & Karen McLaughlin to the Review Board (Appeal No. 11-3)

Good afternoon Mr. McMahan,  
Thank you for the confirmation.

We look forward to future correspondence.  
Roy.

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**From:** McMahan, Alan (DHCD) [mailto:Alan.McMahan@dhcd.virginia.gov]

**Sent:** Thursday, May 19, 2011 5:03 PM

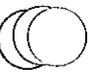
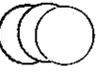
**To:** Roy Kane

**Cc:** Hodge, Vernon (DHCD)

**Subject:** RE: Appeal of Frank & Karen McLaughlin to the Review Board (Appeal No. 11-3)

Mr. Kane,

I received your email with three attachments regarding Appeal No. 11-5.



Should you have any questions, or need additional information, please contact me.

Regards,



**Alan McMahan, CBO**

*Codes Services Specialist*  
Staff - State Building Code Technical Review Board  
Technical Assistance Services Office  
Division of Building & Fire Regulation  
Department of Housing & Community Development  
600 East Main Street, Suite 300  
Richmond, Virginia 23219  
(804) 371-7175  
(804) 371-7092 - fax  
[alan.mcmahan@dhcd.virginia.gov](mailto:alan.mcmahan@dhcd.virginia.gov)

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**From:** Roy Kane [mailto:rkane@vanmetrehomes.com]  
**Sent:** Thursday, May 19, 2011 4:53 PM  
**To:** McMahan, Alan (DHCD)  
**Subject:** Appeal of Frank & Karen McLaughlin to the Review Board (Appeal No. 11-3)

May 19, 2011

Commonwealth of Virginia  
Department of Housing and Community Development  
State Building Code Technical Review Board  
Mr. Alan McMahan  
Main Street Centre  
600 East Main Street  
Suite 300  
Richmond, Virginia 23219

Subject:

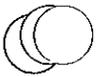
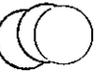
Dear Mr. McMahan,

This correspondence and the attached documents are in response to the appeal concerns regarding the suspected code violations on property owned by Frank & Karen McLaughlin, located at 42975 Park Creek Drive, Broadlands, Virginia 20148. On March 28, 2011 an Appeal Hearing was held to include representatives with Karen McLaughlin, and Van Metre Homes, who met with the Loudoun County Board of Building Code Appeals (Appeal No. 01/2011). The Appeals Board voted unanimously that; the soil used as backfill material against the foundation wall is acceptable; the foundation wall are adequately designed to withstand pressure from the soil is acceptable; and the building code regarding absence of interior perimeter and underslab drain systems is unfounded (please find the complete Appeal attached as <Resolution>).

The McLaughlin's settled on their home November 24, 2009. Shortly after moving in the McLaughlins contacted us regarding their concerns with the frequency of operations of their sump pump. The home site is located lower than adjacent homes on the site plan (please find a copy of the Over Grading Plan with the McLaughlin's initials within the document titled <McLaughlin File>). Through the next several weeks, inspections of the sump pump were completed at the home by representatives from Van Metre Homes Construction, Land, and Customer Care Departments. At each inspection the sump pump was found performing as designed and no signs of any water intrusion were found throughout the basement.

In our ongoing efforts to assist the McLaughlins and alleviate the frequency of sump operations and at this time, continue to offer, at no cost;

"Replace current sump pump with a Zoeller M-98 1/2hp unit, install a 30" deep sump pump crock, and install a Zoeller Model 507 Sentry battery backup system. In addition, the downspouts in the rear of the Home will be buried and exited to a French drain we will install in the rear yard, exiting to the drainage ditch located to the left



side of the Home. Also the sump pump discharge line will be buried and exited to the drainage ditch located to the left side of the Home".

Since this offer is above and beyond and Agreement of Sale, and/or any implied Warranty (The Warranty Plus 10 Year Limited Warranty) for the home, a Confidential Agreement is required (please see the attached <Confidential Release>). The McLaughlins at this time have not elected to sign the release agreement.

attached, please find copies of supporting documents to include; Lateral Earth Pressure Review for Basement Walls, Residential Inspection Certification, 8" and 10" Foundation Wall Design for EFP=60 PCF, Laboratory Test Results Summary from Test Pit Soils, Foundation Under Drain System 003, and the Unresolved Item List at Settlement Form (please see documents under attached <McLaughlin File>).

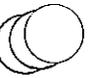
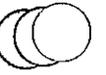
In closing, Van Metre Homes, a company that has been in the home building industry for over fifty years continues to endeavor to perform all appropriate warranty work on our homes. The McLaughlin's home is graded per plan; the recommended backfill was used for the home; and the recommended foundation wall and drain systems are in place. To our knowledge the home's basement has not experienced any water intrusion through many severe snow and rain storms. It has been our experience with a home of this elevation – lower than neighboring homes with higher elevations, which excess ground and/or surface water can collect on the property, causing the home's sump pump to operate with increased frequency. It has also been our experience that adding the components offered in our Confidential Release Agreement has been an effective method of dispersing surface and/or ground water away from the property and decreases the possible effects of the water recycling back into the homes under drain system.

We look forward to future correspondence.

Sincerely,

Roy.

Roy T. Kane  
Director Customer Care  
Van Metre Homes  
4775 Cape Court  
Suite 171  
Ashburn, VA 20147  
(703) 723-2816  
(703) 723-1567 Fax  
(703) 932-4627 Mobile  
[rkane@vanmetrecompanies.com](mailto:rkane@vanmetrecompanies.com)





Land Records Result List

PARCELS  
Total Records - 88888  
Implemented - 1999-01-05  
GIS Update - 2010-11-01

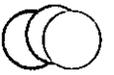
Parcel Details: 781A52111111 157307919000 MCLAUGHLIN, FRA...

PARCEL TAX...  
781A521111...  
Select  
Applications Imp

PIN #: 157307919000 Taxmap: 781A5211111 Property Address: 42975 PARK CREEK DR ASHBURN VA 20148	Current Owner Name & Address: MCLAUGHLIN, FRANK & KAREN 42975 PARK CREEK DR BROADLANDS VA20148-4138	Primary Zoning: PDH4 Multiple Zoning? N Use: RES
Subdivision: BROADLANDS SOUTH Section/Phase: 62 Block: 2 Lot: 11	Potential Add'l Lot Yield: N/A Land Book Acreage: 0000.180 Current Legal Acreage: 0000.180 Legal Acreage Eff Date: 2007-05-14 Legal Acreage Chg Date: CURRENT	Delinquent Taxes? N

2010 Latest Assessment:								
Land	OR	Land Use	+	Improvements	+	Supplement	=	Total
159,300				441,500		0		600,800
( 100 % Complete )						Supp. Info.		



CONFIDENTIAL AGREEMENT

THIS CONFIDENTIAL AGREEMENT ("Agreement") is made on the day and year set forth below by and between Frank McLaughlin and Karen L. McLaughlin, their successors, heirs, and assigns (whether one or more, "Buyer") and the Seller identified below ("Seller") and Virginia Residential Construction, Inc. ("VRC") and each of Seller's and VRC's respective owners, directors, officers, partners, members, employees, agents, affiliates, companies, subsidiaries, subcontractors and suppliers (collectively, "VM"). "Party" refers to Buyer or VM respectively and "Parties" refers collectively to Buyer and VM. In consideration of the mutual promises and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Buyer and VM agree as follows:

1. Buyer and Seller entered into an Agreement of Sale dated June 24, 2009 (the "Contract") for the sale and purchase of the property known as Subdivision: Broadlands Section 62 Clusters and Estates, Address: 42975 Park Creek Drive, Broadlands, Virginia, 20146, Lot: 11 Section: 62 Block: 2 (the "Home"). Closing on the purchase of the Home occurred on November 24, 2009 (the "Settlement").
2. The following problems, contractual issues, disputes, differences, miscommunications and/or misunderstandings have arisen by and between the Parties (collectively, the "Problem"): Slump pump operations.  
Except for the Problem described above, Buyer represents and warrants to Seller that, as of the date of this Agreement, Buyer is not aware of, or otherwise have notice of, any other problems, contractual issues, disputes, differences, miscommunications and/or misunderstandings by and between the Parties.
3. In consideration of the Parties entering into this Agreement including the Concession as reflected in paragraph 4 below, Buyer hereby releases, acquits and forever discharges VM of and from any and all actions, liabilities, claims, demands, damages, attorney's fees, cost of litigation, compensation, charges, causes of action and/or consumer protection or regulatory actions and any claims of breach of contract, or promissory estoppel that Buyer may now or hereafter have against VM (collectively, the "Claims"), whether known or unknown at this time, arising out of or relating to, the Problem described in paragraph 2 above, as well as any other Claims against VM (which the Buyer has notice of or should reasonably have notice of) as of the date of this Agreement.
4. Seller hereby agrees to the following (collectively, the "Concession"): Replumb existing slump pump with a Zoeller M-98 1/2hp unit, install a 30" deep slump pump stack, and install a Zoeller Model 567 Sump Pump battery backup system. In addition, the downspouts in the rear of the Home will be buried and extended to a sump drain system in the parking area, sitting in the drainage ditch located to the left side of the Home. Also the sump pump discharge line will be buried and extend to the drainage ditch located to the left side of the Home.
5. The Parties acknowledge that this is a compromise settlement of the Problem described herein and that neither Party is admitting any fault or liability. This Agreement is limited in scope and, except as specifically provided herein, the Agreement and/or VM's actions have not and do not in any way: (a) alter, amend or modify the terms of the Contract; (b) extend periods of coverage specified in the Warranty Plus Limited Warranty or any other applicable warranty ("Limited Warranty"); (c) create or establish any new express or implied warranties regarding the Home; and (d) toll and/or extend any applicable statute of limitations. Except as specifically provided herein, this Agreement does not relate to, or affect any Defects in the Home under the Limited Warranty that are not related to the Problem.
6. In consideration of the Concession, Buyer agrees to keep the existence and terms of this Agreement confidential and that they have not and will not divulge it or any of its contents to other homeowners in said Subdivision, or to any other person, entity or governmental agency not involved with the resolution of the Problem, either directly or indirectly.
7. This Agreement contains the entire agreement between the Parties. VM is not bound by any statement, promise or condition not specifically set forth in this Agreement. This Agreement may be executed in two (2) counterparts, each of which, together, shall constitute one and the same Agreement. Buyer represents that prior to signing this Agreement, it has read it, understood its terms and conditions, had the opportunity to consult with an attorney of its choice, and is executing the same voluntarily. Should any one or more of the provisions of this Agreement be determined to be illegal or unenforceable, all other provisions shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Confidential Agreement as of the last date that either of the Parties shall have executed the same.

Buyer(s):

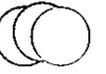
Frank McLaughlin \_\_\_\_\_ Date \_\_\_\_\_

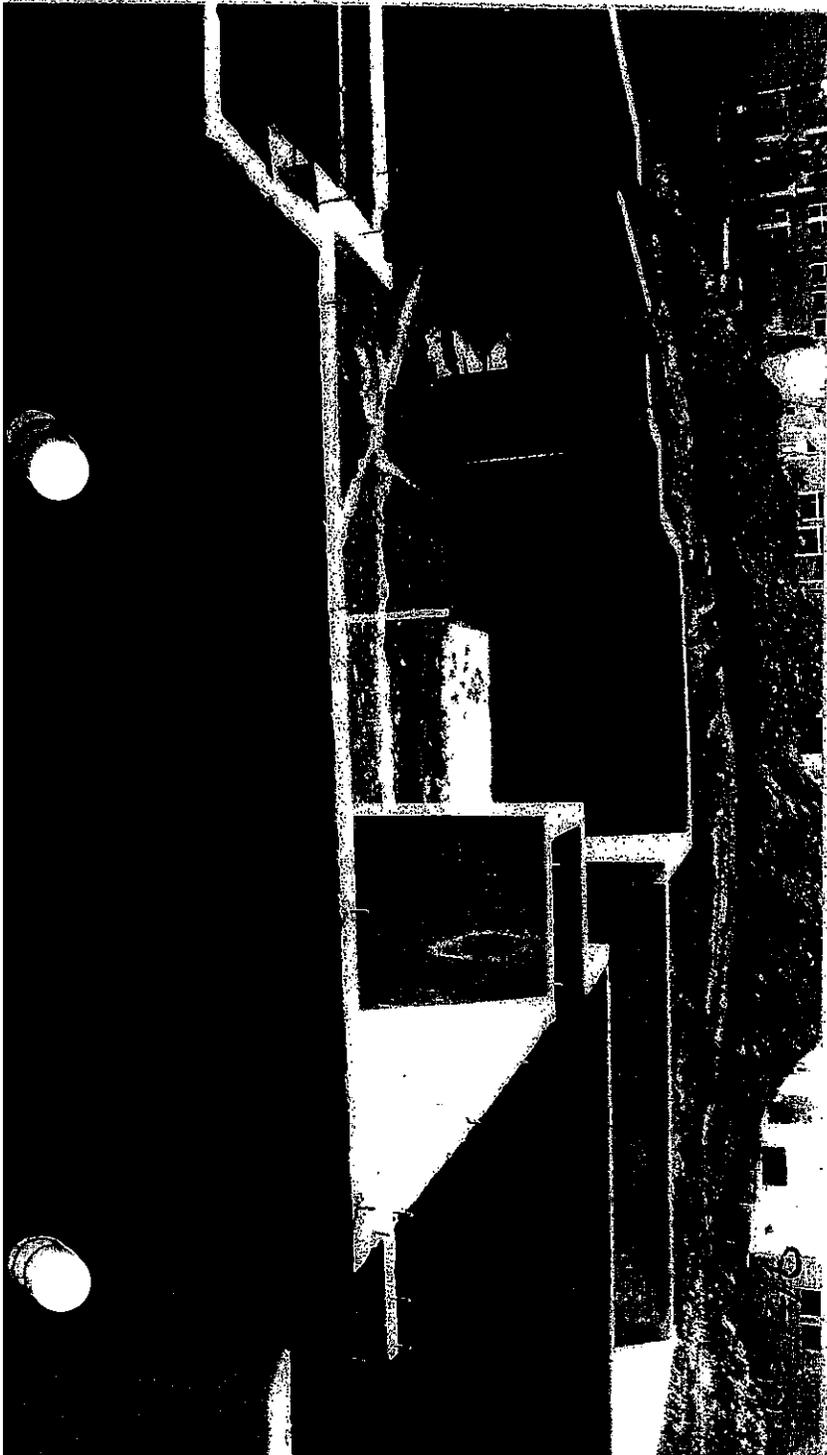
Karen L. McLaughlin \_\_\_\_\_ Date \_\_\_\_\_

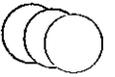
Seller: VAN METRE HOMES AT BROADLANDS, L.L.C., a Virginia limited liability company

By: Third Genpar, Inc., its manager

By: Britan Davidson - Authorized Officer \_\_\_\_\_ Date \_\_\_\_\_

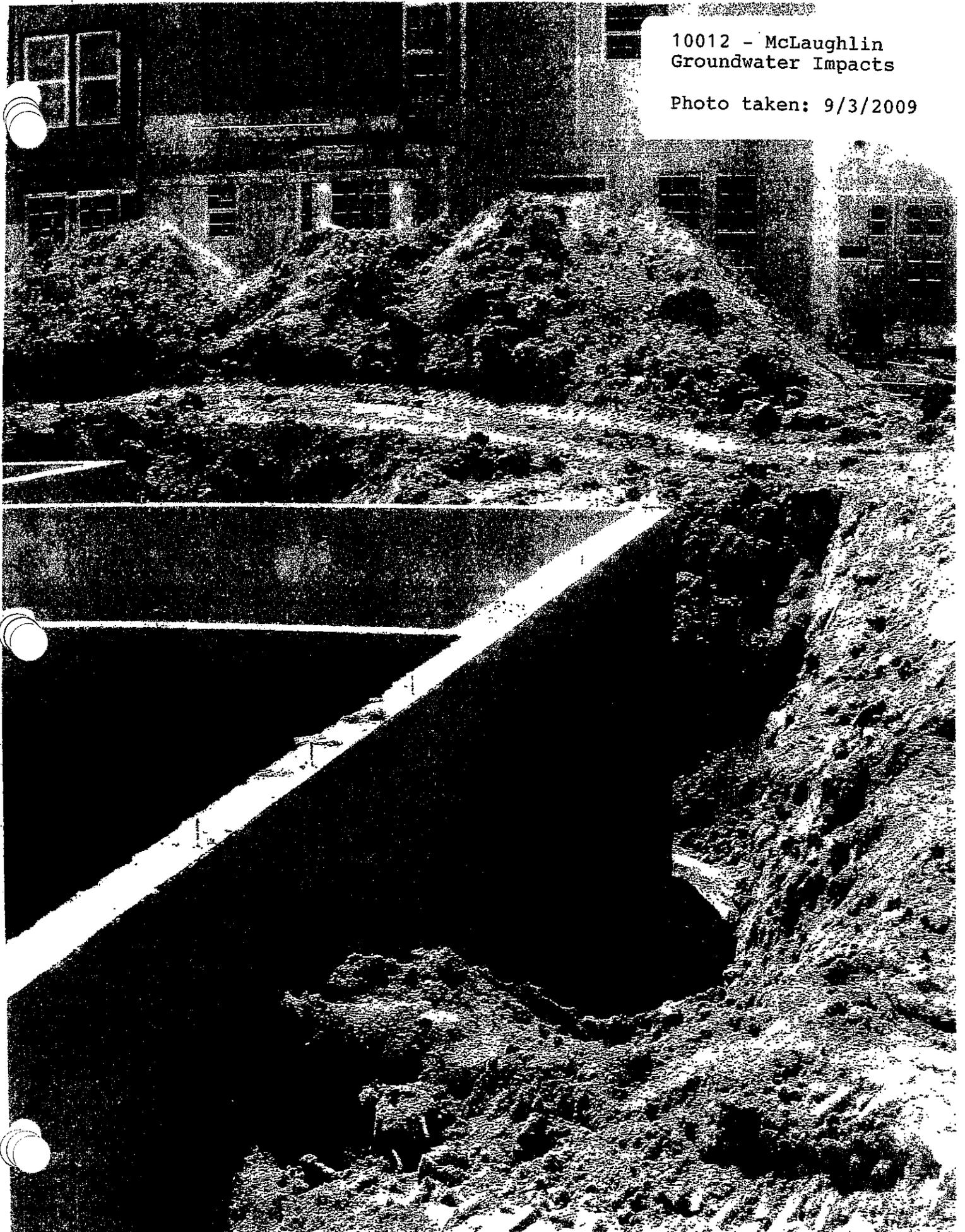






10012 - McLaughlin  
Groundwater Impacts

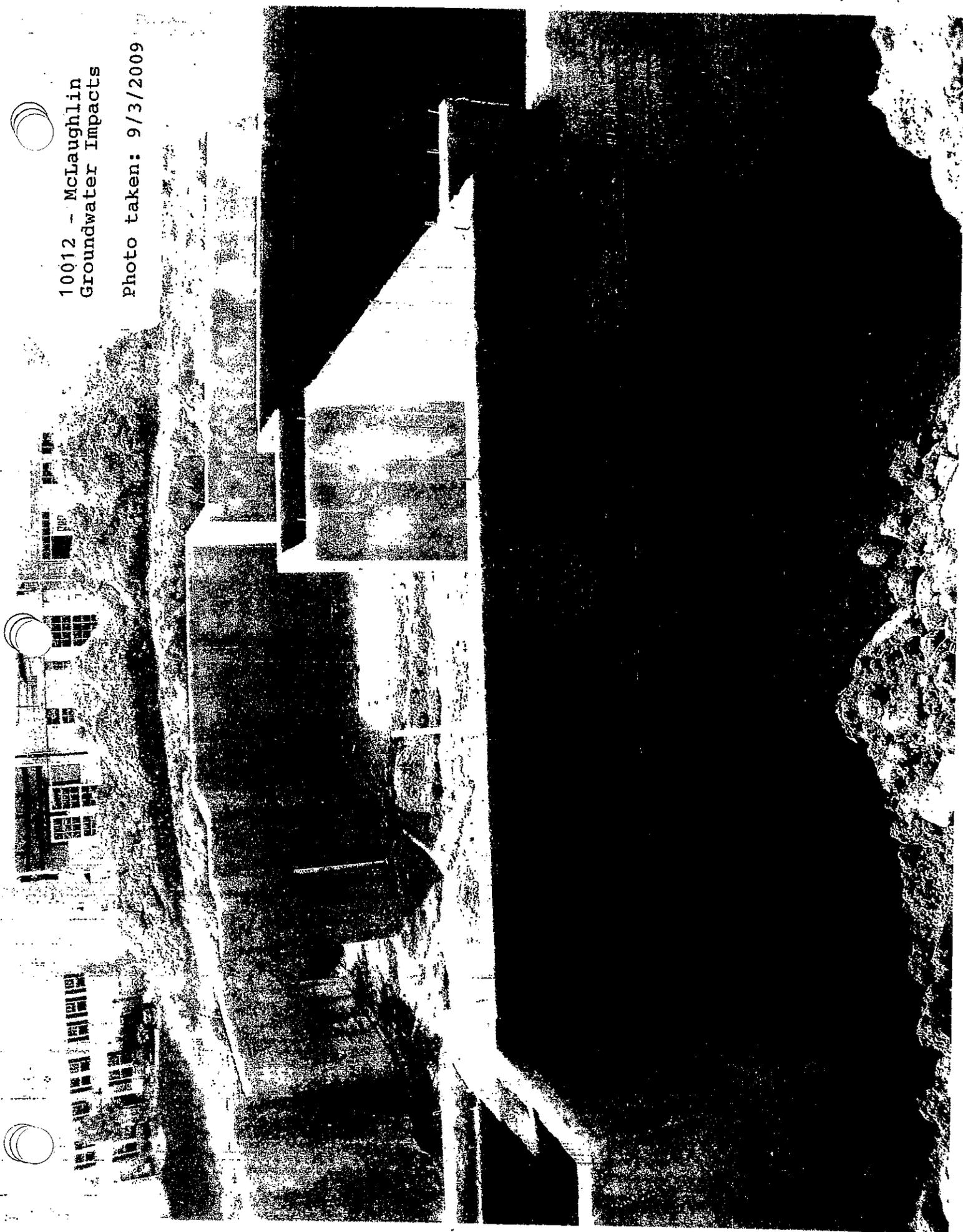
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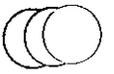




10012 - McLaughlin  
Groundwater Impacts

Photo taken: 9/3/2009



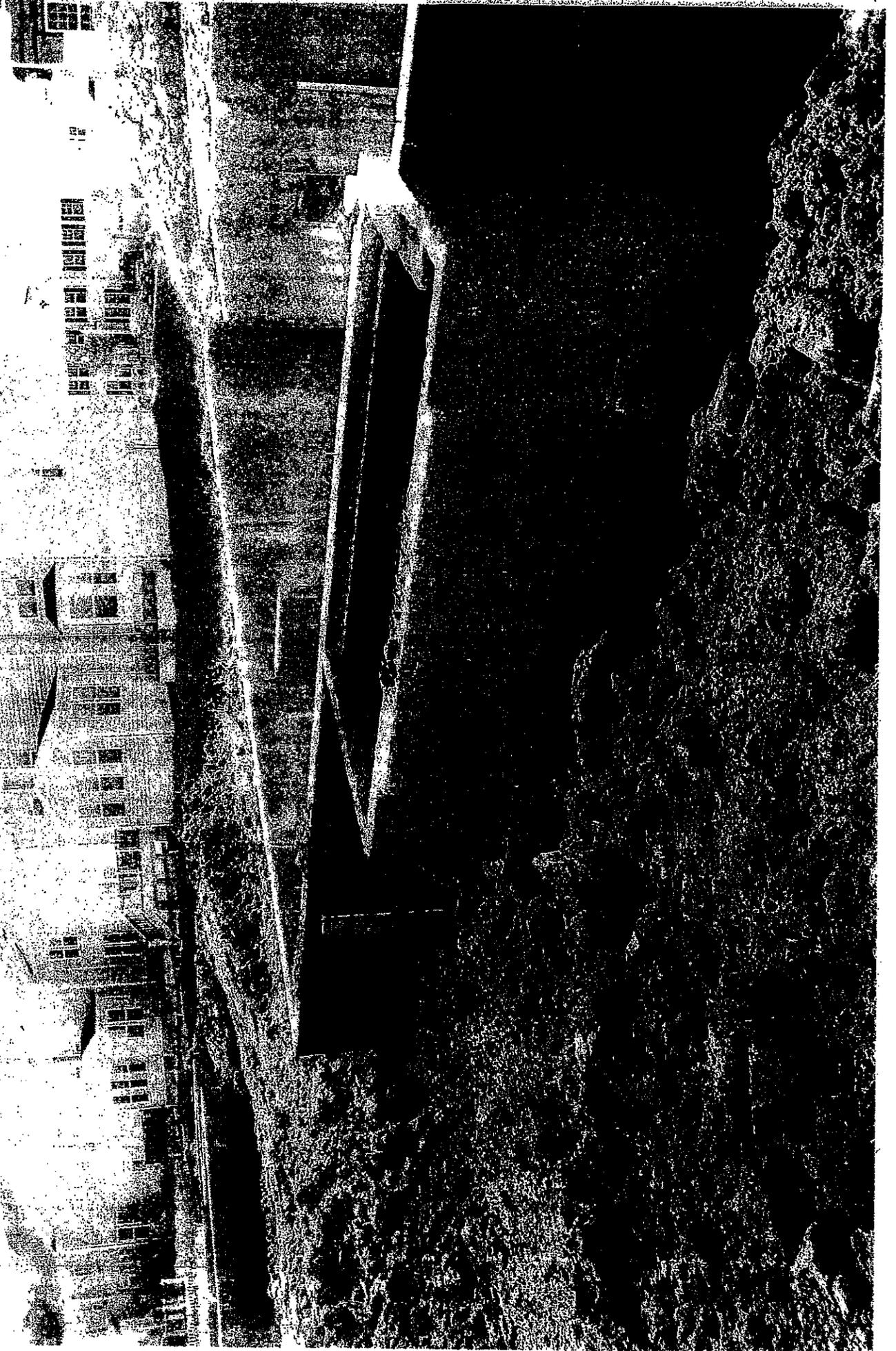


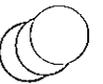
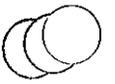
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10012 - McLaughlin  
Groundwater Impacts

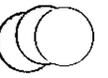
Photo taken: 9/3/2009





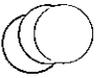
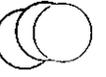
10012 - McLaughlin Groundwater  
Impact  
TP-1 Stockpile (0-5.5 feet)  
Photo Taken: 10/28/2010





10012 - McLaughlin Groundwater  
Impact  
TP-2 Stockpile (0-5 feet)  
Photo Taken: 10/28/2010



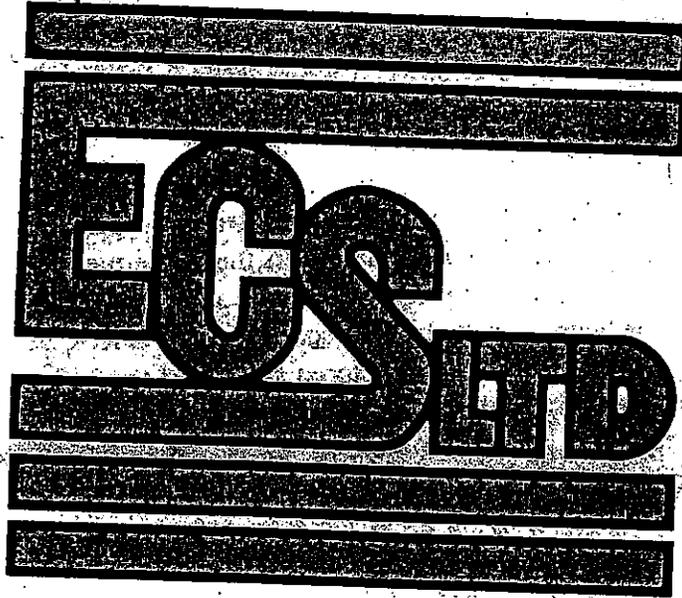


Plan approved for Permit, but  
subject to field approval of  
Construction.

EZ 9.15.10

Plan Reviewer

REPLACES LOST REPORT  
ENGINEERED BACKFILL COSTS REQUIRED



REPORT OF

SUBSURFACE EXPLORATION  
(LOUDOUN COUNTY TYPE II GEOTECHNICAL REPORT)

BROADLANDS SOUTH  
SSECTIONS 60.1, 60.2, 60.3, 62.1, 62.2, 62.3, 62.4,  
LOUDOUN COUNTY, VIRGINIA

FOR

BROADLANDS ASSOCIATES

March 1, 2001

## Groundwater Conditions

Groundwater seepage was observed in 14 of the 60 borings. See the attached logs for specific water depths. In auger drilling operations, water is not introduced into the boreholes, and the groundwater position can often be determined by observing water flowing into or out of the boreholes. Furthermore, visual observation of the soil samples retrieved during the auger drilling exploration can often be used in evaluating the groundwater conditions.

The highest groundwater observations are normally encountered in the late winter and early spring, and our ~~current groundwater observations are expected to be similar to the seasonal minimum water table.~~ Variations in the location of the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, and other factors not immediately apparent at the time of this exploration.

Groundwater on sites with shallow auger refusal depths is generally referred to as a partially perched condition. Specifically, rainfall that enters the site, either directly or from overland flow, begins to percolate through the low to moderately permeable surficial soils. Once the water percolation reaches the bedrock, which is virtually impermeable, it begins to flow at the interface of the rock and the soil and within the fractured surface of the bedrock. This groundwater flow continues ~~downward through the bedrock and may surface to form springs and~~ ~~groundwater flow may be observed in the lower lying areas for extended periods of time without recharge from rainfall.~~ Otherwise, it is related to rainfall, although springs may exist in the lower lying areas for extended periods of time without recharge from rainfall. Therefore, the groundwater conditions at this site are expected to be significantly influenced by surface water runoff and rainfall, especially during high precipitation seasons.

The site is also subject to severe desiccation, during extended dry periods. Therefore, mass earthwork operations undertaken in the Winter and Spring are more likely to encounter difficulties with perched conditions than those operations undertaken in the Summer or Fall. For long term planning purposes, we strongly urge that mass grading operations be undertaken to coincide with better weather periods.

In addition, it would also be highly desirable to pre-shoot any utilities, so that utility channels can act as natural conduits for groundwater flow. This is especially true of gravity type conduits, such as sewer lines. In fact, it may be desirable to ~~pre-shoot any utilities, so that utility channels can act as natural conduits for groundwater flow.~~ ~~Additional comments with regards to groundwater conditions are discussed in subsequent sections of the report.~~ Additional comments with regards to groundwater conditions are discussed in subsequent sections of the report.

### Construction Groundwater Control

The long term continuous groundwater table at the site is well below the depth of auger refusal. However, groundwater conditions encountered at the site are strongly influenced by surface water flow and infiltration. Specifically, water that enters the site migrates downward to the interface of the soil and rock. Once the water reaches the relatively impermeable rock, the water travels laterally, often over large distances. Such perched groundwater conditions will likely be encountered during construction operations.

The degree of fracturing within the rock materials can be increased and altered significantly by blasting operations. ~~Therefore, it is common to have springs develop in~~ areas which were previously dry once initial grading operations have commenced.

~~Excavations performed at this site, especially those in or near existing drainage swales, generally encounter water flowing at the interface of the rock and the soil. These conditions should be anticipated and can be handled through the use of French drains installed on the uphill side of any excavations performed on site. In addition, French drains may need to be installed in areas where springs develop.~~

The perched groundwater conditions are seasonal in nature. While perched groundwater conditions may not be encountered during the summer months, such conditions can occur in the winter and late spring months. ~~perched groundwater conditions are not included in subsequent sections of this report.~~

The surface of the site should be kept properly graded in order to enhance drainage of the surface water away from the proposed areas during the construction phase. We recommend that an attempt be made to enhance the natural drainage without interrupting its pattern.

During our exploration program, we noted no perched conditions at the site. Before and during our exploration there was little precipitation. Therefore the effects of perched water were not evident during our exploration. ~~But during periods of high precipitation, construction activities can be seriously hampered by the problem of perched water.~~

For this reason, it is critically important that planning operations consider construction groundwater control. One of the more cost effective techniques that can be utilized for groundwater control, we believe, is through the prudent utilization of french drains, and in planning utility installations. For example, any utility installation that requires a gravity feed, such as sewer lines, can be effectively converted into "french drains" to help assist in groundwater control.

As a minimum, the gravel bedding of sewer lines can be converted into french drains by encapsulating the gravel bedding stone in an appropriate filter fabric. In this manner, the blasting and trenching operations required to install the sewer help intercept near surface perched water, and channelize the flow. Naturally, these changes in the sewer installation must be coordinated

with the appropriate County authorities for approval. [REDACTED] outlet conditions for these rock drains [REDACTED] Sanitary Sewer Installation is recommended [REDACTED] required to be placed on the [REDACTED]

### Subgrade Preparation

The subgrade preparation should consist of stripping all vegetation, rootmat, topsoil, and any other soft or unsuitable material from the proposed pavement areas. We recommend the earthwork clearing be extended a minimum of 10 feet beyond the pavement limits. Stripping limits should be extended an additional 1 foot for each foot of fill required at the exterior edge of the roadway. After stripping to the desired grade, and prior to fill placement, the stripped surface should be observed by an experienced geotechnical engineer or his authorized representative. Proofrolling using a fully loaded dump truck, having an axle weight of at least 10 tons, may be used at this time to aid in identifying localized soft or unsuitable material which should be removed. Special efforts should be made to identify unsuitable soils. Any soft or unsuitable materials encountered during this proofrolling should be removed and replaced with an approved backfill compacted to the criteria given below in the section entitled "Fill Placement".

The preparation of roadway fill subgrades should be observed on a full-time basis by a representative of the geotechnical engineer to ensure that all unsuitable materials have been removed and that the subgrade is suitable for support of the proposed construction and/or fills.

In some areas, excessively soft and/or wet soils may be encountered for fill subgrades, especially in the winter or early spring months. We recommend the use of a reinforcing geotextile or geogrid where excessively soft materials are encountered that cannot be effectively removed. These materials should be covered by a minimum of 1 foot of select granular materials. This procedure is particularly applicable to fill subgrades within the expanded roadway limits. If necessary, soil bridging lifts may be utilized in accordance with VDOT approved procedures where the depth of fill will be 8 feet or more. The maximum thickness of the soil bridging lift should be 2 feet and the compaction requirements should be achieved in the upper lift of the soil bridging lift prior to commencement of additional fill operations. However, we prefer the use of reinforcing geogrids or geotextiles within pavement areas, where required.

### Fill Placement

Because of the moisture and disturbance sensitive nature of the silt and clay soils at the site, the initial one to two lifts of fill may need to be compacted without vibratory efforts. Vibratory compaction equipment may cause disturbance of the near surface site soils and upward migration

of moisture into the engineered fill soils which could inhibit compaction efforts. After placement of the initial one to two lifts, vibratory compaction can proceed, if appropriate.

Fill materials should consist of an approved material, free of organic matter, debris and rocks greater than 6-inches and have a Liquid Limit and Plasticity Index less than 45 and 22, respectively. Unacceptable fill materials include topsoil, organic materials (OH, OL) and high plasticity silts and clays (CH, MH). Some moderate plasticity soils may be suitable in some instances as discussed previously. All such materials removed during grading operations should be either stockpiled for later use in landscape fills, or placed in approved disposal areas either on site or off site. All other soil materials not excluded above are acceptable for reuse as fill. High plasticity silts and clays may be placed in the lower elevations for the deepest pavement fills, if other areas are not available for placement of these materials. If high plasticity soils are used for controlled fills within pavement areas, it should be recognized that these soils may be difficult to work with. Extended drying periods may be required to dry the soils to a level to permit compaction to the standards outlined in this report.

The on-site borrow soils may have high moisture contents which could require the application of discing or other drying techniques to the soils prior to their use as controlled fill materials. The planning of earthwork operations should recognize and account for these efforts and increased costs.

Fill materials should be placed in lifts not exceeding 8-inches in loose thickness and moisture conditioned to within +/- 2% of the optimum moisture content. Where controlled fill soils will have a total thickness not exceeding 8 feet, the soils should be compacted to a minimum of 95% of the maximum dry density obtained in accordance with VDOT Specification VTM-1, Standard Proctor Method. The expanded limits of the proposed pavement areas should be well defined, including the limits of the fill zones at the time of fill placement. Grade control should be maintained throughout the fill placement operations.

The upper one foot of soil supporting pavements, sidewalks, or gutters should be compacted to a minimum of 100% of the maximum dry density obtained in accordance with VDOT Specification VTM-1, Standard Proctor Method.

All fill operations should be observed on a full-time basis by a qualified soil technician to determine that minimum compaction requirements are being met. A minimum of one compaction test per 2,500 sq. ft area should be tested in each lift placed. The elevation and location of the tests should be clearly identified at the time of fill placement.

Granular soils (Unified Soil Classification System SM or better) should be compacted with a smooth drum vibratory roller or rubber-tire compactor. Cohesive soils should be compacted with a sheepsfoot roller, preferably a Cat 815.

Fill materials shall not be placed on frozen soils. All frozen soils should be removed prior to continuation of fill operations. Borrow fill materials shall not contain frozen materials at the

All materials with plasticity indexes greater than 22 will be unsuitable for floor slab support or as final structural fills, without significant limitations. Some of these limitations have been previously described, and will also be described in greater detail in subsequent sections. Where high plasticity soils are observed at the subgrade, they should be removed to a depth of at least 2 feet below the subgrade of the slab on grade and proposed grades established utilizing engineered fill.

Although building excavations may appear dry at the time of construction, we recommend that all below grade space include perimeter and underslab drain systems to facilitate the removal of any water which may accumulate. Often, water travels in rock fractures in this area, which are not easily detected prior to construction operations. Therefore, we recommend that all below grade space include a perimeter and underdrain system, designed to flow by gravity, where appropriate, or to a suitable sump pit and pump system.

- \* Below grade walls should also be designed with perimeter drain systems. These drain systems
- \* should be exterior to the wall, and should include either granular backfill or manmade drainage materials to remove water from behind the walls. If the walls are properly designed for drainage, they may be constructed as basement walls, with an equivalent design pressure of 60 psf per foot of wall height. High plasticity soils are not acceptable for use as below grade wall backfill. A Residential Below Grade Drainage Detail is enclosed in the Appendix which depicts our recommendations concerning acceptable below grade wall backfill types, design lateral earth pressures, and below grade drainage.

### Radon Design Considerations

The site is in an area of moderate to high radon potential. We recommend that all single family structures, whether at grade or including below grade space, be designed with either active or passive radon degassing systems. In most instances, we believe that a passive system would be appropriate. However, it is strongly urged that all single or multi-family construction be developed with due considerations to removing radon gas from below grade or ground contact grades.

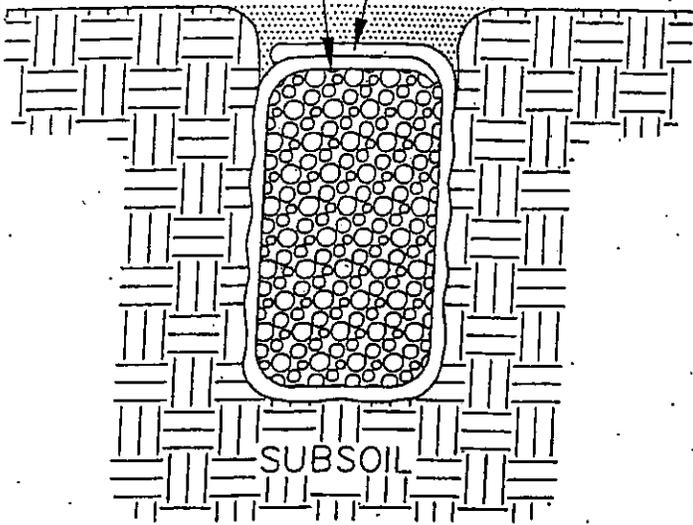
### Exterior Pavements

California Bearing Ratio (CBR) tests were performed for roadway design purposes at this site. A soaked CBR of 11 was obtained from the sample tested. However, considering the presence of various marginal soils at this site, we recommend using a soaked CBR value of 5. If Virginia design standards are utilized in the developing of pavement sections by the Civil Engineer, these soaked laboratory CBR values should be reduced by one-third to arrive at a VDOT design CBR value.

FINAL CONFIGURATION

VDOT #57  
AGGREGATE

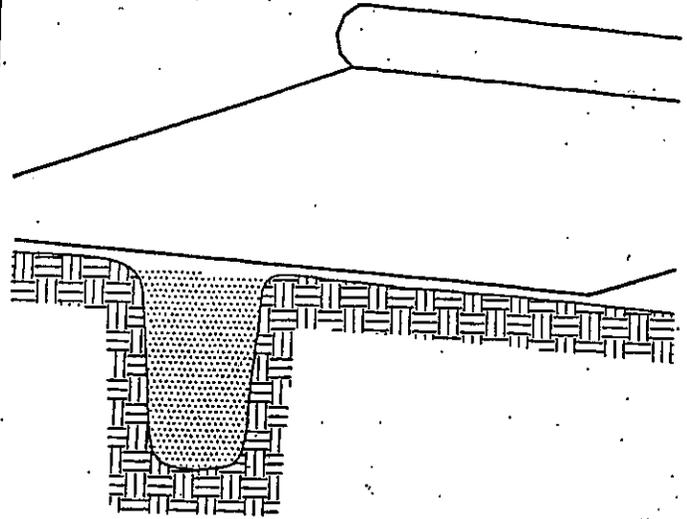
AMOCO 4551  
GEOTEXTILE  
FABRIC



SUBSOIL

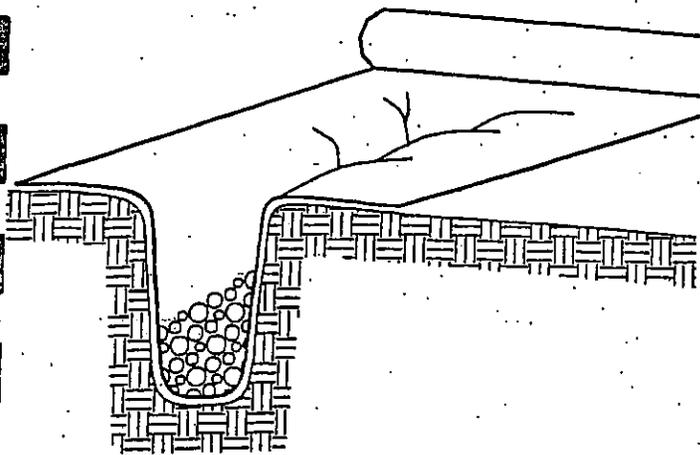
SUBDRAIN USING FILTER FABRIC

STEP 1



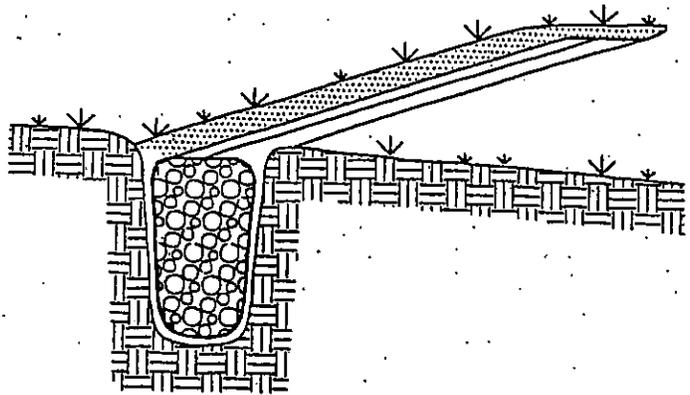
FABRIC IS UNROLLED  
DIRECTLY OVER TRENCH

STEP 2



THE TRENCH IS FILLED WITH AGGREGATE

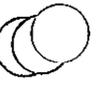
STEP 3



THE FABRIC IS LAPPED CLOSED  
AND COVERED WITH CLAY  
SOIL COMPACTED

DRAIN INSTALLATION PROCEDURE

(NTS)

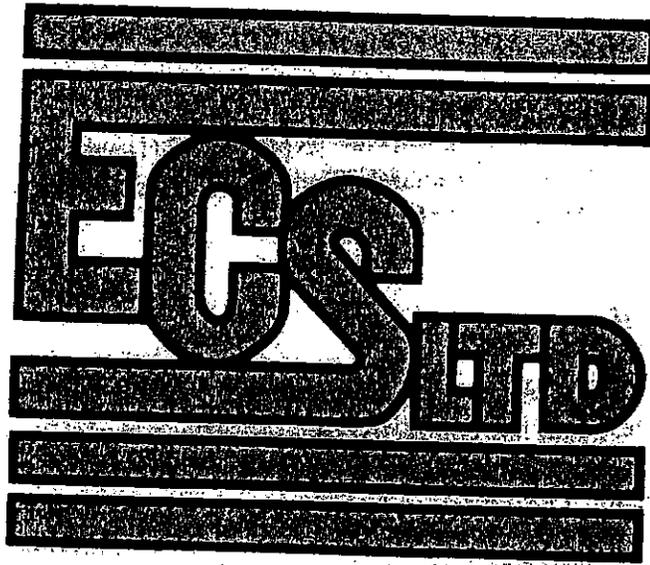


Plan approved for Permit, but  
subject to field approval of  
Construction.

EZ 9.15.10

Plan Reviewer

REPLACES LOST REPORT  
ENGINEERED BACKFILL CERTS REQUIRED



REPORT OF

SUBSURFACE EXPLORATION  
(LOUDOUN COUNTY TYPE II GEOTECHNICAL REPORT)

BROADLANDS SOUTH  
SECTIONS 60.1, 60.2, 60.3, 62.1, 62.2, 62.3, 62.4,  
LOUDOUN COUNTY, VIRGINIA

FOR

BROADLANDS ASSOCIATES

March 1, 2001



ENGINEERING CONSULTING SERVICES, LTD.  
Geotechnical • Construction Materials • Environmental

March 1, 2001

Mr. Bob Woodruff  
Broadlands Associates  
42935 Waxpool Rd.  
Ashburn, Virginia 20148

ECS Job No. 5587-G1

Reference: Report of Subsurface Exploration, (Loudoun County Type II Geotechnical Report), Broadlands South Sections 60.1, 60.2, 60.3, 62.1, 62.2, 62.3, 62.4, Loudoun County, Virginia

Dear Mr. Woodruff:

As authorized by acceptance of proposal No. 13307-GP dated December 1, 2000, Engineering Consulting Services, Ltd. has completed the subsurface exploration for the proposed residential development as referenced above. The exploration consisted of performing 60 soil borings across the entire site. Our report, including the results of our subsurface exploration program, boring logs, subsurface exploration records of previous explorations, and laboratory test data is enclosed along with a Boring Location Diagram. This report is based on Borings B-68 through B-104 and R-38 through R-60 and various borings from previous reports.

Based on the results of our field exploration program, the site appears suited for the proposed development. There are, however, a number of special development considerations that are discussed in detail in the accompanying report. These include discussions regarding the characteristically shallow rock surface, high plasticity and shrink-swell sensitive soils, and a shallow, perched groundwater table.

Although the entire site is within a geologic region that is known as the Triassic Basin, the soils in this area are highly variable. The shallow rock surface and shallow, perched water table will be a factor in development of the site. Also, high plasticity soils will impact a major percentage of the site.

High plasticity soils, and their resulting impact on availability of fill soils, and backfill soils for roadway construction, will increase development costs. Furthermore, the shallow rock surface will also increase costs for utility installations depending upon the depth of excavation.

We have enjoyed the opportunity to be of service to Broadlands Associates. If you have any questions concerning the information and recommendations contained in the accompanying

14026 Thunderbolt Place, Suite 100, Chantilly, Virginia 20151 • (703) 471-8400 • FAX (703) 834-5527

Aberdeen, MD • Atlanta, GA • Austin, TX • Baltimore, MD • Chantilly, VA • Charlotte, NC • Chicago, IL • Cornelia, GA\* • Dallas, TX • Danville, VA\* • Frederick, MD • Fredericksburg, VA  
Greensboro, NC • Greenville, SC • Norfolk, VA • Research Triangle Park, NC • Richmond, VA • Roanoke, VA • Williamsburg, VA • Wilmington, NC • Winchester, VA\*  
\*Testing Services Only

Broadlands Associates  
ECS Job No. 5587-G1  
March 1, 2001  
Page 2

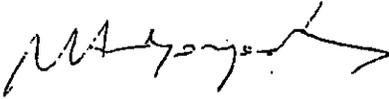
geotechnical report, or if we can be of further assistance to you in the planning phase, or construction phase, please do not hesitate to contact us.

Respectfully,

ENGINEERING CONSULTING SERVICES, LTD.



William D. Friedah, E.I.T.  
Assistant Project Engineer



Manol P. Andonyadis, P.E.  
Principal Engineer



WDF/pp l:/geotech/report/5587G1rse

REPORT

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PROJECT

Subsurface Exploration  
and Geotechnical Engineering Analysis  
Broadlands South 60.1, 60.2, 60.3, 62.1, 62.2, 62.3, 62.4,  
Loudoun County, Virginia

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CLIENT

Broadlands Associates  
42935 Waxpool Rd.  
Ashburn, Virginia 20148

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PROJECT

#5587-G2

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DATE

March 1, 2001

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## OVERVIEW

### Project Description

These sections of the Broadlands site will encompass the remaining residential sections on the southern most portion of the Broadlands Development. The property is located in Loudoun County, Virginia, southwest of Ashburn. The site is the proposed future development of residential housing to the east of the southern extension of Claiborne Parkway, just north of Croson Road. The area is covered with wooded and clear areas.

A Boring Location Diagram is enclosed in the Appendix which depicts the approximate location of the site. This report addressed the development of the east side of the proposed Clairborne Parkway, south of the current intersection of Clairborne Parkway and Waxpool Road. The layout of the borings evaluated is shown on the Boring Location Diagram.

### Scope of Work

The conclusions and recommendations contained in this report are based on field explorations, laboratory tests, and review of available geologic and/or geotechnical data. The borings performed for this exploration were selected by ECS, Ltd. and located in the field through the use of Global Positioning System (GPS). The ground surface elevations at the boring were estimated based on a site plan provided to us by Bowers Associates.

The field exploration included 60 borings. All borings were extended to auger refusal or 20 feet, whichever was first. During the field exploration program, a number of bag samples were obtained for subsequent laboratory testing of bulk soil samples. Additionally, information obtained previous exploration points (by others) was also included in the Appendix.

Where previous exploration points were performed within the roadways, we have included the logs in the Appendix, along with any applicable laboratory test results. The Boring Location Diagram indicates the physical location of each of the borings and . We have also included the Test Pit Location Diagram from the previous Law Engineering report, dated July 21, 1997.

In addition to the traditional geotechnical services that we performed, we also utilized a number of publicly available sources to expand our knowledge of project conditions. These included a review of U.S.G.S. Mapping of Soils in the Culpepper Basin, as well as a review of Soil Conservation Services Soil Mapping. In order to provide a better understanding of soil conditions, and their variations across the site, AutoCAD drafting procedures were utilized to overlay these geotechnical and geologic maps onto site plans. A number of overlay drawings are enclosed in the Appendix, based on this data. This information was then subsequently compared to the field exploration, for clarifications and modifications, as necessary.

## EXPLORATION PROCEDURES

### Subsurface Exploration Procedures

#### Soil Borings

The soil borings were performed with an All Terrain Vehicle (ATV) mounted auger drill rig, which utilized continuous flight, hollow stem augers to advance the boreholes. Drilling fluid was not used in this process. Most of the borings were extended to auger refusal of the drilling equipment, as defined as those materials having a typical minimum penetration value of 50 blows per 2 inches of penetration.

Samples were obtained by means of the split-barrel sampling procedure in accordance with ASTM Specification D-1586. In this procedure, a 2-inch O.D., split-barrel sampler is driven into the soil a distance of 18 inches by a 140-pound hammer falling 30 inches. The number of blow required to drive the sampler through a 12-inch interval is termed the Standard Penetration Test (SPT) value and is indicated for each sample on the boring logs. This value can be used as a qualitative indication of the in-place relative density of cohesionless soils. In a less reliable way, it also indicates the consistency of cohesive soils. This indication is qualitative, since many factors can significantly affect the standard penetration resistance value and prevent a direct correlation between drill crews, drill rigs, drilling procedures, and hammer-rod-sampler assemblies.

A field log of the soils encountered in the borings was maintained by the drill crew. After recovery, each sample was removed from the sampler and visually classified. Representative portions of each sample were then sealed and brought to our laboratory in Chantilly, Virginia for further visual examination and laboratory testing.

#### Laboratory Testing Program

Representative soil samples were selected and tested in our laboratory to check field classifications and to determine pertinent engineering properties. The laboratory testing program included visual classifications, moisture content tests, California Bearing Ratio tests (CBR), Atterberg Limits tests, grain size analysis, and proctor compaction tests using the VTM-1 method. The soil samples will be retained in our laboratory for a period of 60 days, after which, they will be discarded unless other instructions are received as to their disposition. All data obtained from the laboratory tests are included on the respective boring logs and/or on separate sheets in the Appendix.

An experienced soil engineer classified each soil sample on the basis of texture and plasticity in accordance with the Unified Soil Classification System. The group symbols for each soil type

are indicated in parentheses following the soil descriptions on the boring logs. A brief explanation of the Unified System is included with this report. The soil engineer grouped the various soil types into the major zones noted on the boring logs. The stratification lines designating the interfaces between earth materials on the boring logs and profiles are approximate; in situ, the transitions may be gradual.

The CBR tests were performed in general accordance with Virginia Test Method #8 (VTM-8), Virginia Department of Highways and Transportation.

## EXPLORATION RESULTS

### Regional Geology

The site is located in the Triassic Basin, a structural trough just east of the Blue Ridge in Northern Virginia. The basin extends from the Rapidan River near Madison Mills, Virginia northeastward towards the Potomac River and terminates just west of Frederick, Maryland.

The Culpepper Basin was formed by a tectonic plate fault, which resulted in the formation of the Blue Ridge Mountains. In the basin, the down thrust portion of the fault created a large playa sea, which was subsequently filled by erosional deposits from the Blue Ridge chain. Because of the discontinuities in the earth's crust, these highly metamorphosed sedimentary deposits were subsequently intruded by igneous materials penetrating the earth's crust. The subsequent intrusion by igneous materials creates a much more variable geologic profile than would be expected had this area remained sedimentary deposits only. As such, the Culpepper Basin now includes five sedimentary and four crystalline rock types. These materials range from siltstone and sandstone to diabase.

At this particular project site, our geologic overlay indicates that the site should be expected to include both sedimentary deposits as well as igneous deposits. The sedimentary deposits include siltstone as well as thermally metamorphosed sedimentary materials (hornfels). At this particular site, the igneous intrusions are geologically classified as diabase.

Except in the stream valleys, all the soils in this region are derived by the in-place weathering of the underlying parent bedrock. In the stream areas, the near surface natural materials will consist of alluvial deposits that have been more recently formed by the erosion of the nearby residual soils.

Because the residual soils are formed in-place, by weathering of the parent bedrock material, their physical, structural and performance characteristics are directly affected by the chemical composition of the parent rock.

The weathering of the underlying bedrock characteristically produces a shallow but irregular soil profile, dependent upon the landscape position and the local mineralogy within the bedrock. Where high plasticity soils were encountered, the typical weathering profile consists of an upper strata of high plasticity clay or silt, which changes abruptly to gravelly silt and silt, and then to highly weathered parent rock or saprolite. Overall, the depth of soil formation within this geologic terrain is closely related to the surface topography; that is, the thicker soil development generally occurs on the ridges and the lower lying areas, and becomes progressively shallower along side slopes.

### Soil Conditions

In order to depict the soil and rock types encountered at the site, we have overlain geologic mapping information as well as the Loudoun County Soil Survey information onto the site plans, which are enclosed in the Appendix of this report. Specifically, the overlay titled USGS Soil Overlay was taken from the "Loudoun County Soils Map". Furthermore, a Geology Overlay obtained from the Culpeper Basin Geology Overlay is included in the Appendix.

The Soil Survey Overlays were taken by applying AutoCAD procedures to digitize various maps produced by the noted agencies. As in any field mapping situation, there can be discrepancies between field conditions and map conditions, due to a variety of factors including misidentification of soil types, errors in scaling, and problems with regard to "digitizing" the various maps. Therefore, the boundaries depicted on the location diagram should be considered approximate. In addition, it is possible that horizontal sills of the various rock types may exist below surface expressions, creating soil conditions that vary significantly from the surface mapping at depths of just a few feet below the ground surface.

The soil conditions encountered in the soil borings and agreed, in most part, with the mapped soil types. Topsoil was typically observed to depths on the order of 1 to 6 inches. However, in wooded zones, we normally recommend that the topsoil thickness be assumed to be approximately 12 inches, on average, due to the extra volume of soil and topsoil that will be encountered when the tree root bulbs are removed.

In the plowed zones, the plowed materials generally were 12, to as deep as, 18 inches in total thickness. However, these materials should be more properly classified as organically stained, and are expected to have relatively low organic content, generally less than five percent. Although we do not generally like to use this material as structural fills, it can be used, almost without limitation, in deeper fills within roadways, and certainly, for general filling operations.

Auger refusal from our drilling equipment was encountered in 58 of the 60 borings at the site. Auger refusal was defined, for the purposes of this drilling operation, as those materials exhibiting penetration values in excess of 50 blows every 2 inches. In siltstone and sandstone formations, modern drilling equipment can actually advance several feet into the material that would be more properly classified as "rock". Therefore, for consistency in evaluating the estimated top of rock, we selected a predefined relative strength indicator for termination. In the diabase rock areas, often the transition between weathered material and rock is much sharper. Therefore, these borings were often terminated as soon as the relatively fresh rock was encountered, with penetration values well in excess of 50 blows per 2 inches.

From an engineering standpoint, there are three predominant soil groupings at the Broadlands site. For convenience, these groups can be classified as materials with low plasticity indexes which will have few limitations; materials that have moderate plasticity indexes, which will contribute to some site difficulties but otherwise have only some limitations; and those high plasticity materials that have severe limitations for reuse. The near surface soils included all three groups outlined above which have low to severe limitations with regard to soil plasticity.

Generally, materials with few limitations are classified as SC, SP, SM, GM, GC, and GP materials occasionally being encountered. These materials have plasticity indexes below 15. These soils were encountered deeper below the surficial soils. These soil types were encountered in limited amounts in a majority of the borings. However, they were typically found at depths that would require massive stripping and mining operations for them to be used as fill on this site.

The second natural soil type are those materials classified as having moderate difficulties with regard to utilization. These materials typically include ML, CL and CL-ML materials, with occasional materials that are classified as MH. Typically, these materials have plasticity indexes in the range of 10 to 20. For the most part, materials with plasticity indexes in this range will be difficult to utilize as engineered fill, due to their sensitivity, but lack high shrink-swell potential. As such, they can be utilized as fill across the majority of the site, but are generally considered marginal for the final 1 to 2 feet of fill within roadway areas. These soil types were encountered in 21 of the 60 current borings. They were typically found in layers about 2 to 4 feet thick. They were also often found directly over or below the CH soils.

The third predominant soil type is classified as those materials that have severe limitations. These materials are also, occasionally, classified as ML and CL, but are more commonly classified as MH and CH materials. These materials have plasticity indexes well in excess of 25, and present severe limitations with regard to use as structural fill, in roadway areas. When utilized as fill within roadways, these materials should be capped with at least 2 feet of select material and, preferably, 4 feet of select material. These soils are highly sensitive to disturbance caused by moisture and construction equipment, and also present significant shrink-swell potential. These soil types were encountered in 49 of the 60 current borings. They ranged from 1.5 to 8 feet thick but were on average 2 to 3 feet thick. In many of the boring they were covered by less plastic soils 1 to 2 feet thick.

It should also be noted that due to farming operations that were performed in the past in various parts of the site and the use of lime while farming the land, the characteristics of the surficial materials are altered. Therefore, in several boring locations, low plasticity silts were noted close to the surface underlain by the high plasticity clays.

One of the predominant characteristics of this site is a shallow rock surface. Some of the borings performed at the site were extended to auger refusal, as previously defined. Auger refusal was encountered at depths ranging from 3 feet to 18 feet below the existing ground surface. The depths to auger refusal are summarized in the Boring Summary found in the Appendix. This table also includes the ground surface and refusal elevations, as well as the thickness of moderate to high plasticity soils and groundwater depths, at each boring.

### Groundwater Conditions

Groundwater seepage was observed in 14 of the 60 borings. See the attached logs for specific water depths. In auger drilling operations, water is not introduced into the boreholes, and the groundwater position can often be determined by observing water flowing into or out of the boreholes. Furthermore, visual observation of the soil samples retrieved during the auger drilling exploration can often be used in evaluating the groundwater conditions.

The highest groundwater observations are normally encountered in the late winter and early spring, and our current groundwater observations are expected to be near the seasonal minimum water table. Variations in the location of the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, and other factors not immediately apparent at the time of this exploration.

Groundwater on sites with shallow auger refusal depths is generally referred to as a partially perched condition. Specifically, rainfall that enters the site, either directly or from overland flow, begins to percolate through the low to moderately permeable surficial soils. Once the water percolation reaches the bedrock, which is virtually impermeable, it begins to flow at the interface of the rock and the soil and within the fractured surface of the bedrock. This groundwater flow continues downhill, with the water table occasionally surfacing to form as wet springs and intermittent streams. Only in the lowest lying areas and adjacent to existing creeks is a shallow groundwater table in a near continuous condition. Otherwise, it is related to rainfall, although springs may exist in the lower lying areas for extended periods of time without recharge from rainfall. Therefore, the groundwater conditions at this site are expected to be significantly influenced by surface water runoff and rainfall, especially during high precipitation seasons.

The site is also subject to severe desiccation, during extended dry periods. Therefore, mass earthwork operations undertaken in the Winter and Spring are more likely to encounter difficulties with perched conditions than those operations undertaken in the Summer or Fall. For long term planning purposes, we strongly urge that mass grading operations be undertaken to coincide with better weather periods.

In addition, it would also be highly desirable to pre-shoot any utilities, so that utility channels can act as natural conduits for groundwater flow. This is especially true of gravity type conduits, such as sewer lines. In fact, it may be desirable to convert gravity sewer line bedding stone into "french drains" to enhance drainage. The use of french drains along natural drainage swales is also strongly recommended. Additional comments with regards to groundwater conditions are discussed in subsequent sections of the report.

## ANALYSIS AND RECOMMENDATIONS

The recommendations provided in the following sections are formulated to specifically address conditions that will likely be encountered during the residential site development and roadway construction at the Broadlands site. If there are any instances where our recommendations differ from the current VDOT Road and Bridge Specifications or Loudoun County Building Codes, the more stringent criteria will govern.

### Earthwork Operations

As previously discussed, there are a number of rock types at this site, and we have subdivided soil conditions into three predominant types: those with little or no limitations to use (low plasticity), those with moderate limitations for use (low to moderate plasticity soils) and those with severe limitations (high plasticity soils). These soil types are generally a function of the geologic conditions. That is, the areas that are predominantly sandstone or siltstone generally have the better soil conditions. Those areas that are predominantly diabase and where the diabase appears to have thermally impacted the sandstone/siltstone, will have the moderate to high plasticity soils. Each of these soil/rock types have unique properties and require special precautions when dealing with these materials.

In the diabase areas, high plasticity expansive clays and silts can be encountered to depths ranging from 2 to as much as 10 feet below the existing ground surface. Our current exploration encountered a typical range being from 2 to 3 feet below the existing ground surface. These soils are difficult to work with when wet and are not suitable for direct support of spread footing foundations at normal footing depths. The soils encountered below the high plasticity soils are generally a suitable source of borrow soils; although the quantities of these materials may be limited. The bedrock in the diabase areas is extremely hard and normally requires blasting for trench excavations or mass excavation.

Within the thermally altered areas, high plasticity soils may be encountered near the ground surface. However, these materials are often less plastic and have only a low to moderate shrink/swell potential. The soils in the thermally altered areas typically transition quickly to unweathered rock, which has been hardened by the heat and pressure generated by the diabase intrusion. This bedrock is also relatively hard and normally requires blasting for trench excavations or mass excavation.

Within the siltstone/sandstone areas, high plasticity soils are generally not encountered. These materials are generally a relatively good source of borrow materials and suitable for foundation support. The bedrock tends to be softer, laminated, and somewhat rippable; however, blasting is also required if mass excavations are extended more than approximately 2 to 3 feet below the depth of auger refusal to the drilling equipment. Siltstone/sandstone materials were not encountered within the limits of this study.

The sandstone/siltstone and thermally altered rock materials are non-durable in that they break down with mechanical effort, weathering and saturation. Special precautions are necessary when utilizing this material as controlled fill materials. The following sections deal with the issues of high plasticity soils, blasting, and use of non-durable siltstone materials as fill materials.

### High Plasticity Soils

High plasticity silt and clay soils were encountered in at least 48 of the 60 exploration points; therefore, the likelihood of encountering these materials on the site is high. The estimated location of the various soil types are noted on diagrams enclosed in the Appendix. The high plasticity soils encountered on site are generally expansive and change in volume with changes in soil moisture. Severe restrictions on their use apply.

The high plasticity soils often exhibit pumping, especially in the spring months, if utilized as subgrade for fill materials. If the clay soils are excavated and reused as fill materials, these materials can often be difficult to work with and often contain high moisture contents. Extended drying periods are required to reduce the moisture content to a level suitable for placement as fill. Higher earthwork costs should be anticipated when dealing with moving high plasticity soils.

The high plasticity soils may be used in deep fill zones within pavement areas provided that the top of the high plasticity soils is no higher than 2 feet below the subgrade elevation of exterior pavements. If high plasticity soils are utilized in this manner, it should be recognized that some improvement and/or stabilization of the clay materials may be required, possibly including lime or cement stabilization.

If high plasticity soils are encountered at paving subgrades, then they should be undercut a minimum of 2 feet and be replaced with non-expansive structural fill. The purpose of the undercut is to minimize moisture variations within the soils, which could cause volumetric changes in the soils. In addition, the non-expansive soils that replace the undercut materials provides additional confining pressure to resist potential swell of the soils.

During construction operations, it is important that every effort be made to identify the location and extent of high plasticity soils. An experienced geotechnical technician should be utilized to identify high plasticity soils which require undercutting and/or replacement. We anticipate that the total thickness of the high plasticity soils will be on the order of no more than 2 to 6 feet.

It should be noted that although the high plasticity soils likely to be encountered on site are sensitive, some of these soils may prove to be non-expansive. It may be desirable to conduct swell tests on these soils. Where the clay soils are determined to be non-expansive, the special undercut requirements can be eliminated, as long as these soils are not softened or loosened by the construction operations and that such soils are properly identified in the field at the time of construction.

### Blasting Operations

It is likely that with any type of construction at the site, rock excavation operations will be required. In the thermally altered sandstone/siltstone and diabase areas of the site, the maximum depth of excavation is normally approximately the depth of auger refusal. The rock materials in the diabase and thermally altered sandstone/siltstone areas are significantly harder and more indurate.

Blasting operations for installation of sanitary sewer lines, other trenching requirements, or mass excavation are common in this area. Of paramount concern, and a problem of significant potential cost, is that of "overshooting" the rock during site preparation. This is especially true within the sandstone/siltstone areas. Overshooting is less of a problem in the thermally altered sandstone/siltstone and diabase areas.

If excessive charges are set, or if the charge pattern is too close or too deep, the siltstone/sandstone materials will fracture along naturally occurring horizontal bedding planes. When this occurs, the rock develops a relatively high expansion coefficient. As a result, the rock delaminates and expands vertically along the bedding planes in the rock. This expansion can occur below the depth of excavation and can cause significant settlement of foundations or roadway sections which bear on siltstone materials which have been overshot. Once constructed loads are placed on the expanded siltstone materials, then the open fractures tend to close up causing settlement. Therefore, it is strongly recommended that the charge patterns and depths be carefully selected, especially within the sandstone/siltstone areas to avoid overblasting. Where overblasting occurs, the disturbed materials must be removed and be replaced, often at significant cost.

The potential for overblasting should be recognized during both the design and construction phases. We strongly recommend that the geotechnical consultant meet with the grading contractor and any blasting specialists to review shot patterns and blasting procedures at the time of construction to minimize difficulties associated with overblasting. Where blasting is required in the "contact zones" near the diabase and siltstone interface, the presence of boulders can create special problems. Near the siltstone/diabase interface, sharp differential weathering is common due to the thermal fracturing of the rock at the contact face. On the diabase side of the contact, it is very common to encounter boulders in an otherwise soil matrix. Where this occurs in utility lines, blasting is ineffective, as the blast energy is absorbed by the soil and the boulder is moved, not cracked or shattered. In these contact zone areas, the utility contractor may want to incorporate a pre-trenching/pre-shooting program to help deal with this problem.

### Sandstone/Siltstone Materials

The sandstone/siltstone will typically excavate in relatively large, blocky and platy pieces which are difficult to compact for suitable long-term performance. Also, these materials experience

rapid degradation due to weathering over relatively short periods of time, once exposed to air and water conditions. Therefore, these larger pieces of siltstone, which break up as rock-like fragments in the initial excavation, must be compacted with a sufficient compaction energy to substantially break them down into soil size particles during construction.

As mentioned previously the sandstone/siltstone materials were not encountered within the limits of this study. However, sandstone/siltstone materials excavated from other parts of the Broadlands development may be utilized in the section. Nondurable siltstone materials removed in blast and ripping excavations may be used as fill if suitably broken down by mechanical compaction effort. For the purposes of this report, all forms of siltstone/sandstone materials at the site will be considered nondurable. Durability is the term used to describe the ability of a rock or rock-like material to withstand long term chemical or mechanical weathering without size degradation. Any siltstone/sandstone excavated from the site and used as earth fill should have a well-graded grain size distribution with rock and soil particles ranging from clay or silt size particles to a maximum size of 6-inches in diameter with 2-inch-thick siltstone plates. Particles larger than this should be broken by mechanical compaction equipment to achieve the desired grain size distribution, and the samples should have a minimum of 20% passing the #200 sieve and 50% passing the #40 sieve.

Proctor compaction tests should be performed with a minimum of three cycles to model compaction of the siltstone, each cycle showing an increasing mechanical breakdown of the siltstone. The geotechnical engineer should select the most appropriate proctor curve for earthwork compaction purposes.

It should also be recognized that the thermally altered siltstone/sandstone may be excavated for use as fill. This rock type is significantly more resistant to weathering and mechanical breakdown and, therefore, may not readily breakdown to form a fill material having a satisfactory range of particle sizes. These materials would typically fall into the category of rock fill, which consists of rock particles having a high void content between the rock particles. Rock fills utilizing non-durable materials are not suitable for satisfactory long term performance. These rock materials can be blended with other soil types to form a suitable particle size distribution for reuse as engineered fill as outlined above.

Although there is some evidence that the thermally altered siltstone/sandstone may be classified as a durable rock, in a practical sense, it is virtually impossible to visually differentiate between a hornfels (siltstone/sandstone) that is durable and a sample that is not durable. Therefore, we recommend that all rock or rock like materials be considered non-durable, and treated as such. This will mandate that no "rock" fills be placed, and that all fills meet the grain size criteria provided. This requirement will most likely affect utility operations. If the excavated spoil from a utility includes the rock like siltstone/sandstone, it will be necessary to both break this material down to smaller sizes and blend it with soil size materials, to make it a suitable backfill material.

### Construction Groundwater Control

The long term continuous groundwater table at the site is well below the depth of auger refusal. However, groundwater conditions encountered at the site are strongly influenced by surface water flow and infiltration. Specifically, water that enters the site migrates downward to the interface of the soil and rock. Once the water reaches the relatively impermeable rock, the water travels laterally, often over large distances. Such perched groundwater conditions will likely be encountered during construction operations.

The degree of fracturing within the rock materials can be increased and altered significantly by blasting operations. Therefore, it is common to have "springs" develop in areas which were previously dry once initial grading operations have commenced.

Excavations performed at this site, especially those in or near existing drainage swales, generally encounter water flowing at the interface of the rock and the soil. These conditions should be anticipated and can be handled through the use of french drains installed on the uphill side of any excavations performed on-site. In addition, french drains may need to be installed in areas where springs develop.

The perched groundwater conditions are seasonal in nature. While perched groundwater conditions may not be encountered during the summer months, such conditions can occur in the winter and late spring months. Specific recommendations regarding design relative to these perched groundwater conditions are contained in subsequent sections of this report.

The surface of the site should be kept properly graded in order to enhance drainage of the surface water away from the proposed areas during the construction phase. We recommend that an attempt be made to enhance the natural drainage without interrupting its pattern.

During our exploration program, we noted no perched conditions at the site. Before and during our exploration there was little precipitation. Therefore the effects of perched water were not evident during our exploration. But during periods of high precipitation construction efforts can be seriously hampered by the problem of perched water.

For this reason, it is critically important that planning operations consider construction groundwater control. One of the more cost effective techniques that can be utilized for groundwater control, we believe, is through the prudent utilization of french drains, and in planning utility installations. For example, any utility installation that requires a gravity feed, such as sewer lines, can be effectively converted into "french drains" to help assist in groundwater control.

As a minimum, the gravel bedding of sewer lines can be converted into french drains by encapsulating the gravel bedding stone in an appropriate filter fabric. In this manner, the blasting and trenching operations required to install the sewer help intercept near surface perched water, and channelize the flow. Naturally, these changes in the sewer installation must be coordinated

with the appropriate County authorities for approval. Furthermore, it is important that final outlet conditions for these rock drainage systems be considered in design. That is, if the entire sanitary sewer installation is converted to a french drain, for example, the end of run can have severe wetness and water problems. Therefore, intercepting french drains will ultimately be required to "bleed off" the water flow and redirect it into stormwater drain lines, or surface impoundments.

### Subgrade Preparation

The subgrade preparation should consist of stripping all vegetation, rootmat, topsoil, and any other soft or unsuitable material from the proposed pavement areas. We recommend the earthwork clearing be extended a minimum of 10 feet beyond the pavement limits. Stripping limits should be extended an additional 1 foot for each foot of fill required at the exterior edge of the roadway. After stripping to the desired grade, and prior to fill placement, the stripped surface should be observed by an experienced geotechnical engineer or his authorized representative. Proofrolling using a fully loaded dump truck, having an axle weight of at least 10 tons, may be used at this time to aid in identifying localized soft or unsuitable material which should be removed. Special efforts should be made to identify unsuitable soils. Any soft or unsuitable materials encountered during this proofrolling should be removed and replaced with an approved backfill compacted to the criteria given below in the section entitled "Fill Placement".

The preparation of roadway fill subgrades should be observed on a full-time basis by a representative of the geotechnical engineer to ensure that all unsuitable materials have been removed and that the subgrade is suitable for support of the proposed construction and/or fills.

In some areas, excessively soft and/or wet soils may be encountered for fill subgrades, especially in the winter or early spring months. We recommend the use of a reinforcing geotextile or geogrid where excessively soft materials are encountered that cannot be effectively removed. These materials should be covered by a minimum of 1 foot of select granular materials. This procedure is particularly applicable to fill subgrades within the expanded roadway limits. If necessary, soil bridging lifts may be utilized in accordance with VDOT approved procedures where the depth of fill will be 8 feet or more. The maximum thickness of the soil bridging lift should be 2 feet and the compaction requirements should be achieved in the upper lift of the soil bridging lift prior to commencement of additional fill operations. However, we prefer the use of reinforcing geogrids or geotextiles within pavement areas, where required.

### Fill Placement

Because of the moisture and disturbance sensitive nature of the silt and clay soils at the site, the initial one to two lifts of fill may need to be compacted without vibratory efforts. Vibratory compaction equipment may cause disturbance of the near surface site soils and upward migration

of moisture into the engineered fill soils which could inhibit compaction efforts. After placement of the initial one to two lifts, vibratory compaction can proceed, if appropriate.

Fill materials should consist of an approved material, free of organic matter, debris and rocks greater than 6-inches and have a Liquid Limit and Plasticity Index less than 45 and 22, respectively. Unacceptable fill materials include topsoil, organic materials (OH, OL) and high plasticity silts and clays (CH, MH). Some moderate plasticity soils may be suitable in some instances as discussed previously. All such materials removed during grading operations should be either stockpiled for later use in landscape fills, or placed in approved disposal areas either on site or off site. All other soil materials not excluded above are acceptable for reuse as fill. High plasticity silts and clays may be placed in the lower elevations for the deepest pavement fills, if other areas are not available for placement of these materials. If high plasticity soils are used for controlled fills within pavement areas, it should be recognized that these soils may be difficult to work with. Extended drying periods may be required to dry the soils to a level to permit compaction to the standards outlined in this report.

The on-site borrow soils may have high moisture contents which could require the application of ~~discing or other drying techniques to the soils~~ prior to their use as controlled fill materials. The planning of earthwork operations should recognize and account for these efforts and increased costs.

Fill materials should be placed in lifts not exceeding 8-inches in loose thickness and moisture conditioned to within +/- 2% of the optimum moisture content. Where controlled fill soils will have a total thickness not exceeding 8 feet, the soils should be compacted to a minimum of 95% of the maximum dry density obtained in accordance with VDOT Specification VTM-1, Standard Proctor Method. The expanded limits of the proposed pavement areas should be well defined, including the limits of the fill zones at the time of fill placement. Grade control should be maintained throughout the fill placement operations.

The upper one foot of soil supporting pavements, sidewalks, or gutters should be compacted to a minimum of 100% of the maximum dry density obtained in accordance with VDOT Specification VTM-1, Standard Proctor Method.

All fill operations should be observed on a full-time basis by a qualified soil technician to determine that minimum compaction requirements are being met. A minimum of one compaction test per 2,500 sq. ft area should be tested in each lift placed. The elevation and location of the tests should be clearly identified at the time of fill placement.

Granular soils (Unified Soil Classification System SM or better) should be compacted with a smooth drum vibratory roller or rubber-tire compactor. Cohesive soils should be compacted with a sheepsfoot roller, preferably a Cat 815.

Fill materials shall not be placed on frozen soils. All frozen soils should be removed prior to continuation of fill operations. Borrow fill materials shall not contain frozen materials at the

time of placement. All frost-heaved soils should be removed prior to placement of fill, stone, concrete, or asphalt.

Although it is very common in this area to remove and "waste" expansive clay soils, the large area of this site may make such an application practically unsuitable. Under these circumstances, we believe it will be desirable to utilize high plasticity soils as fill. Although we have provided some guidelines where high plasticity soils can be buried in deep fill zones, we are uncertain as to the exact volumetric extent of "deep" fills that will be encountered at the site. For this reason, we are also suggesting that lime stabilization techniques be considered.

In lime stabilized soils, lime is blended into the expansive clays and silts so that the chemical reaction reduces plasticity characteristics of the soil. The use of lime stabilization as a construction technique is common in some parts of the United States, but is somewhat less common in this area. While there have been some problems with lime stabilization in the region, based on our experiences, it is most likely that these problems are associated with construction procedures, and not with the concept. Therefore, lime stabilization should be strongly considered as a technique for reducing the volume of soil to be removed and classified as "unsuitable". Lime stabilization is especially beneficial on mass earthwork operations, where there is an area where initial lime stabilization operations can begin, and then the stabilized soil can be moved to another area for placement as engineered fill. This in-place stabilization, combined with removal and recompaction, helps to improve blending operations.

It was not part of our scope of services to conduct lime stabilization tests on these soils. However, if lime stabilization is required in the high plasticity areas, we have typically utilized lime stabilization rates on the order of 6 to 8 percent by dry unit weight of soil. However, the actual percentage of lime required should be determined by VDOT Method VTM-11. In those areas where there are moderately plasticity soils, lime stabilization can also be used to improve these materials. In those areas of low to moderate plasticity index materials, lime applications rates are generally expected to be on the order of 4 to 6 percent by dry unit weight of soil. Furthermore, blending lime into the soils reduces the moisture content of the soils which will aid in earthwork operations. It should be noted that lime stabilization of the building pads is not allowed as per Loudoun County, this technique is limited to roadways and parking areas.

On a site of this size, we believe it will be economically feasible to mobilize appropriate blending and disking equipment to the site, so that lime stabilizing operations can be properly conducted. Furthermore, specific laboratory tests should be undertaken, as discussed above, on the various soil types expected to more accurately define both the lime application rates, as well as construction procedures and techniques.

## Building Design

### Foundation Design

Spread footing foundations are recommended. For residential construction, a design bearing pressure of 3,000 pounds per square foot is recommended for foundations supported on either natural materials, or on compacted and controlled engineered fill.

The most severe limitation with regard to residential construction will be with respect to the impact of expansive clays on foundation performance. In those areas where the construction will be at or near existing grade, and where basements will be required, it is quite possible that the majority of the high plasticity soils will be penetrated through normal construction operations. However, if at grade construction is planned, or if the site topography is utilized to allow walkouts, then it is feasible that some residential construction will encounter high plasticity soils at the subgrades. Within residential buildings, and as described in additional detail in subsequent sections of this report, all high plasticity soils must be removed from below the floor slab area to a depth of at least 2 feet. This upper 2 feet should then be replaced with properly compacted and controlled non-plastic soil materials.

Where proposed bottom of footing elevations are found to be resting in or on highly plastic materials, these materials should be removed and the footing be placed on non-expansive natural soils. Alternatively, the bottom of the footing can be placed on highly plastic soils given a minimum of 6 feet of embedment below finished exterior grade. Then the footing can be placed directly on highly plastic soils or engineered fill can be placed and compacted to the desired footing elevation. The footing should be placed a minimum of 2.5 feet below finished exterior grade to provide for frost protection. It is not recommended using granular material for engineered fill in footing excavations. Granular material would provide a reservoir condition which could saturate the highly plastic soils. Low permeability non-plastic soils, or concrete, should be used as engineered fill in backfill for footing excavations.

Settlement of a structure is a function of the compressibility of the natural soils, bearing pressure, column loads, fill depth and elevation of footing with respect to the final ground surface. Single family residences, are expected to encounter only minor settlement less than 1-inch total and  $\frac{1}{4}$  inch differential, on either natural soil or properly compacted and controlled engineered fill.

### Floor Slab and Below Grade Wall Design

For the current exploration; we have identified a multitude of soil types at the site, including those that are suitable, ranging to those that are unsuitable for floor-slab support. Low plasticity soil having a plasticity index of 22 or less, may be utilized for floor slab support without qualification.

All materials with plasticity indexes greater than 22 will be unsuitable for floor slab support or as final structural fills, without significant limitations. Some of these limitations have been previously described, and will also be described in greater detail in subsequent sections. Where high plasticity soils are observed at the subgrade, they should be removed to a depth of at least 2 feet below the subgrade of the slab on grade and proposed grades established utilizing engineered fill.

Although building excavations may appear dry at the time of construction, we recommend that all below grade space include perimeter and underslab drain systems to facilitate the removal of any water which may accumulate. Often, water travels in rock fractures in this area, which are not easily detected prior to construction operations. Therefore, we recommend that all below grade space include a perimeter and underdrain system, designed to flow by gravity, where appropriate, or to a suitable sump pit and pump system.

Below grade walls should also be designed with perimeter drain systems. These drain systems should be exterior to the wall, and should include either granular backfill or manmade drainage materials to remove water from behind the walls. If the walls are properly designed for drainage, they may be constructed as basement walls, with an equivalent design pressure of 60 psf per foot of wall height. High plasticity soils are not acceptable for use as below grade wall backfill. A Residential Below Grade Drainage Detail is enclosed in the Appendix which depicts our recommendations concerning acceptable below grade wall backfill types, design lateral earth pressures, and below grade drainage.

### Radon Design Considerations

The site is in an area of moderate to high radon potential. We recommend that all single family structures, whether at grade or including below grade space, be designed with either active or passive radon degassing systems. In most instances, we believe that a passive system would be appropriate. However, it is strongly urged that all single or multi-family construction be developed with due considerations to removing radon gas from below grade or ground contact grades.

### Exterior Pavements

California Bearing Ratio (CBR) tests were performed for roadway design purposes at this site. A soaked CBR of 11 was obtained from the sample tested. However, considering the presence of various marginal soils at this site, we recommend using a soaked CBR value of 5. If Virginia design standards are utilized in the developing of pavement sections by the Civil Engineer, these soaked laboratory CBR values should be reduced by one-third to arrive at a VDOT design CBR value.

As we have noted, high plasticity soils exist at this site. These soils will exhibit lower CBR values and should not be utilized as pavement subgrade materials unless stabilized through the use of lime or cement stabilization methods. If properly stabilized, it is quite feasible that these materials can develop soaked laboratory CBR values on the order of 10.

Soaked laboratory CBR values in excess of 10 can theoretically be obtained on many of the weathered rock materials encountered on the site; however, the CBR values are influenced by the presence of hard rock particles in the test samples, which eventually breakdown with time, therefore, giving false high CBR values. Therefore, the CBR values that we have recommended are based on expectations of long-term performance of the material.

In some cases, the pavement subgrade may be weathered or unweathered rock materials within cut areas. These materials will have very high CBR values. However, if the pavements are founded directly on weathered or unweathered rock materials, we recommend that an adequate subbase drainage layer be provided. As discussed previously, the upper portions of the rock materials contain fractures which are capable of transmitting water over fairly significant distances. In addition, blasting and earthwork operations can open up fractures to permit the transport of water. The water within these fractures can exit below pavements. If adequate drainage is not provided within the pavement structure, then accelerated deterioration of the pavement structure will occur.

### Sidewalks

Although the performance of sidewalk installations at this site is not a structural concern, the soils in this vicinity are highly frost susceptible, and it is known that a number of other developments in this area have had difficulty with frost heave under sidewalk installations. Therefore, we recommend that sidewalk construction include VDOT sidewalk underdrains where the soil types meet the criteria that require sidewalk underdrains. These underdrains generally consist of a minimum of 4-inches of granular material having a maximum aggregate size of 1.5-inches and no more than 2% passing the #200 Sieve. This granular layer will reduce frost heaving of the exterior sidewalk slabs. In addition, adequate drainage through the use of perforated or porous drain pipe should be provided under the sidewalks, and drainage should be routed to a suitable outlet.

Sidewalk underdrain designs are normally incorporated into the civil drawings, and are typically beyond the scope of a geotechnical report. However, we wanted to bring this condition to your attention. Such installations may be required, and should be appropriately considered during the civil drawing design phase.

### Closing

Overall, the site is suitable for development, provided that it is recognized that development costs will be impacted by the presence of high plasticity soils, shallow rock, and perched water

conditions. In the immediate vicinity of this site (similar geologic formation), the conditions on this site are typical to the region. Therefore, we believe that this site will have development costs that should be "normal to slightly above normal" to the immediate vicinity due to the presence of diabase rock and associated high shrink-swell potential soils in the majority of the site. However, they are likely to be higher than development costs that would be required in the Piedmont and Coastal Plain region, with the notable exception of those Piedmont soils that contain natural occurring asbestos, or marine clay soils. We believe that during construction of this site many of the obstacles found during the development of the North portion of Broadlands, will be found in the South Portion.

The primary factors influencing site development costs will include the presence of high plasticity and potentially expansive clay soils, a shallow rock surface, the potential need for blasting for utilities and/or mass grading operations, and special requirements dealing with the placement of weathered siltstone materials as engineered fill. In addition, the presence of a seasonally perched groundwater table will also contribute to these costs. Please note that site development costs will not be significantly higher than nearby sites within the same geologic region; however, they will be higher than other sites which do not contain these characteristics.

Site development difficulties and costs can be minimized if the amount of cut on site is minimized. For the most part, raising the elevation of the site will minimize the impact of the shallow rock surface, blasting, dealing with high plasticity soils, and will result in the least amount of siltstone materials placed as fill. In addition, difficulties with perched groundwater tables will be minimized.

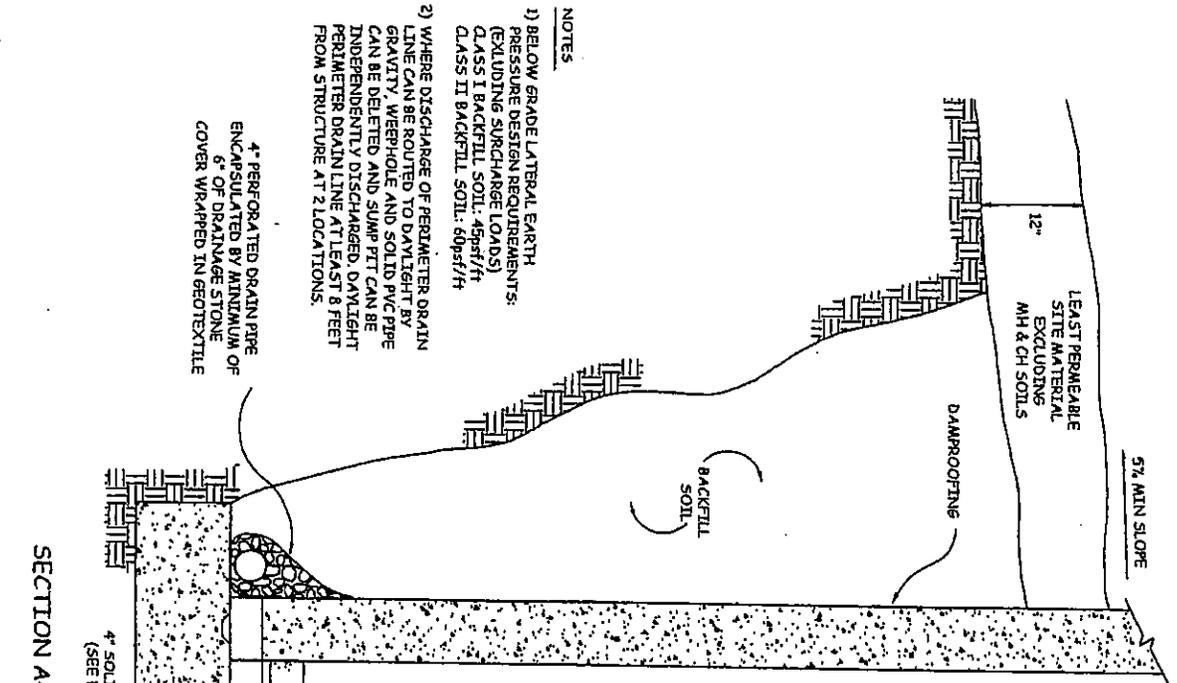
If off site borrow materials are required, consideration should be given to the source of these materials. If the materials are coming from sites which contain high plasticity soils and/or siltstone materials which have been ripped or blasted during excavation, then construction difficulties with these materials will not be avoided.

With the exception of the presence of the high plasticity silt and clay soils and perched water table, the earthwork operations are expected to be relatively straight forward for the surficial soil types. Once rock excavation is required, any attempt to utilize shot rock materials in fill operations should be performed only with caution to minimize the long term subsidence of fill materials. Specific guidelines for use of nondurable siltstone materials in fill masses have been developed in this area and these guidelines should be specifically followed. In earlier sections of this report, we have given particle size and grain size distribution requirements which will help minimize long term performance difficulties with using these materials as fill.

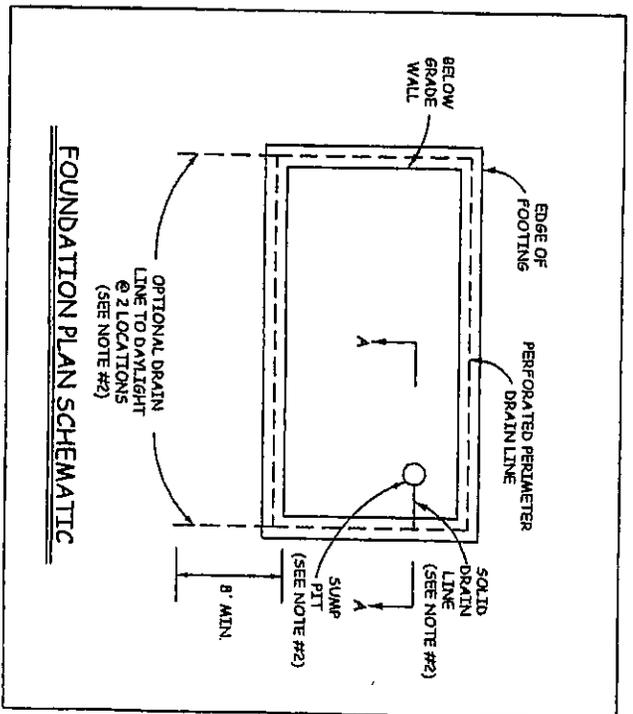
This report has been prepared in order to aid in the evaluation of this site and to assist the Owner and Engineer in the final design of the project. The report scope is limited to the specific project and location described, and the project description represents our understanding of the significant aspects relevant to soil and foundation characteristics.

We have appreciated the opportunity to be of service to Broadlands Associates. If you have any questions with regard to the information and recommendations contained in this report, or if we can be of further assistance to you during development, please do not hesitate to contact us.

# RESIDENTIAL BELOW GRADE DRAINAGE DETAIL (NON-SEVERE GROUNDWATER TABLE) NOT TO SCALE



SECTION A-A



FOUNDATION PLAN SCHEMATIC

**NOTES**

- 1) BELOW GRADE LATERAL EARTH PRESSURE DESIGN REQUIREMENTS: (EXCLUDING SURCHARGE LOADS) CLASS I BACKFILL SOIL: 45psf/ft CLASS II BACKFILL SOIL: 60psf/ft
- 2) WHERE DISCHARGE OF PERIMETER DRAIN LINE CAN BE ROUTED TO DAYLIGHT BY GRAVITY, WEEPHOLE AND SOLID PVC PIPE CAN BE DELETED AND SUMP PIT CAN BE INDEPENDENTLY DISCHARGED. DAYLIGHT PERIMETER DRAIN LINE AT LEAST 8 FEET FROM STRUCTURE AT 2 LOCATIONS.

4" PERFORATED DRAIN PIPE ENCAPSULATED BY MINIMUM OF 6" OF DRAINAGE STONE COVER WRAPPED IN GEOTEXTILE

**DEFINITIONS:**

**DAMP-PROOFING:** SEALING HOLES, RECESSES, JOINTS & PENETRATIONS WITH APPROVED BITUMINOUS MATERIAL, PAINTING WITH PORTLAND CEMENT (3/8 INCH MINIMUM) (ON MASONRY WALLS ONLY), FOLLOWED BY AT LEAST ONE COAT OF APPROVED BITUMINOUS MATERIAL AT THE RECOMMENDED APPLICATION RATE.

**DRAINAGE STONE:** NO. 57 STONE, OR EQUIVALENT

**GEOTEXTILE:** EOS OF 40 TO 70 (MIRAFIT 140N, AMOCO 2016, OR EQUIVALENT)

**BACKFILL SOIL:**  
CLASS I - SM, SP, SW, GM, GP, GW  
CLASS II - ML OR CL W/LL40, PLS

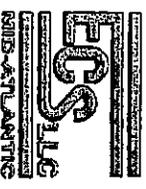
CONCRETE SLAB ON GRADE

4" DRAINAGE STONE

SUMP PIT (PUMP NOT SHOWN FOR CLARITY) (SEE NOTE #2)

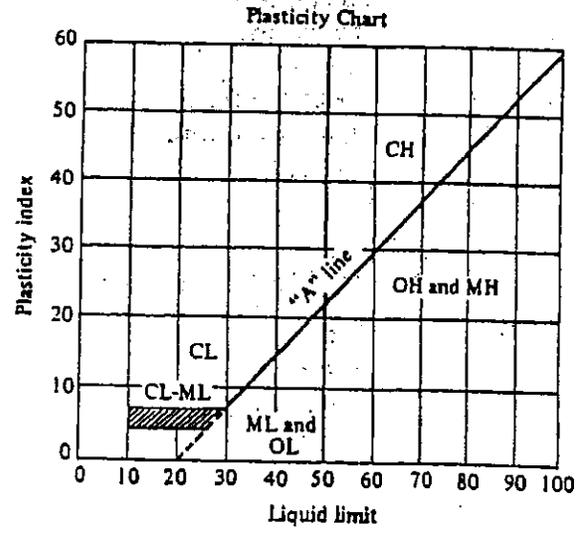
4" SOLID PVC PIPE (SEE NOTE #2)

6" ANNULUS W/ DRAINAGE STONE



# Unified Soil Unified Classification System (ASTM D-2487)

Major Divisions		Group Symbols	Typical Names	Laboratory Classification Criteria		
<b>Coarse-grained soils</b> (More than half of material is larger than No. 200 sieve size)	<b>Gravels</b> (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)		GW	Well-graded gravels, gravel-sand mixtures, little or no fines	
		Gravels with fines (Appreciable amount of fines)		GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	
		Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)		SW	Well-graded sands, gravelly sands, little or no fines
			Sands with fines (Appreciable amount of fines)		SP	Poorly graded sands, gravelly sands, little or no fines
		Silts and clays (Liquid limit less than 50)	Silty gravels, gravel-sand-silt mixtures		GM <sup>a</sup> u	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5 per cent More than 12 per cent 5 to 12 per cent
			Clayey gravels, gravel-sand-clay mixtures		GC	
	<b>Fine-grained soils</b> (More than half material is smaller than No. 200 sieve)	Silty sands, sand-silt mixtures		SM <sup>a</sup> u	Atterberg limits below "A" line or P.I. less than 4 Atterberg limits below "A" line with P.I. greater than 7 Atterberg limits above "A" line or P.I. less than 4 Atterberg limits above "A" line with P.I. greater than 7	
		Clayey sands, sand-clay mixtures		SC		
		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity		ML		
		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays; lean clays		CL		
Silts and clays (Liquid limit greater than 50)	Organic silts and organic silty clays of low plasticity		OL	Above "A" line with P.I. between 4 and 7 are <i>borderline</i> cases requiring use of dual symbols Limits plotting in hatched zone with P.I. between 4 and 7 are <i>borderline</i> cases requiring use of dual symbols		
	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		MH			
	Inorganic clays of high plasticity, fat clays		CH			
Highly organic soils	Organic clays of medium to high plasticity, organic silts		OH			
Peat and other highly organic soils		Pt				



Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg limits; suffix d used when P.I. is 28 or less and the P.I. is 5 or less; the suffix u used when L.L. is greater than 28. Borderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group symbols. For example: GW-GC, well-graded gravel-sand mixture with clay binder.

## REFERENCE NOTES FOR BORING LOGS

### I. Drilling and Sampling Symbols:

SS - Split Spoon Sampler	RB - Rock Bit Drilling
ST - Shelby Tube Sampler	BS - Bulk Sample of Cuttings
RC - Rock Core: NX, BX, AX	PA - Power Auger (no sample)
PM - Pressuremeter	HSA - Hollow Stem Auger
DC - Dutch Cone Penetrometer	WS - Wash Sample

Standard Penetration (Blows/Ft) refers to the blows per foot of a 140 lb. hammer falling 30 inches on a 2 inch O.D. split spoon sampler, as specified in ASTM D-1586. The blow count is commonly referred to as the N-value.

### II. Correlation of Penetration Resistances to Soil Properties:

#### Relative Density-Sands, Silts

<u>SPT-N</u>	<u>Relative Density</u>
0 - 3	Very Loose
4 - 9	Loose
10 - 29	Medium Dense
30 - 49	Dense
50 - 80	Very Dense

#### Consistency of Cohesive Soils

<u>Unconfined Compressive Strength, Op. tsf</u>	<u>Consistency</u>
under 0.25	Very Soft
0.25 - 0.49	Soft
0.50 - 0.99	Firm
1.00 - 1.99	Stiff
2.00 - 3.99	Very Stiff
4.00 - 8.00	Hard
over 8.00	Very Hard

### III. Unified Soil Classification Symbols:

GP - Poorly Graded Gravel	ML - Low Plasticity Silts
GW - Well Graded Gravel	MH - High Plasticity Silts
GM - Silty Gravel	CL - Low Plasticity Clays
GC - Clayey Gravels	CH - High Plasticity Clays
SP - Poorly Graded Sands	OL - Low Plasticity Organics
SW - Well Graded Sands	OH - High Plasticity Organics
SM - Silty Sands	CL-ML - Dual Classification (Typical)
SC - Clayey Sands	

### IV. Water Level Measurement Symbols:

WL - Water Level	BCR - Before Casing Removal
WS - While Sampling	ACR - After Casing Removal
WD - While Drilling	WCI - Wet Cave In
	DCI - Dry Cave In

The water levels are those water levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in a granular soil. In clays and plastic silts, the accurate determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally applied.

**ECS, Ltd.**  
**Chantilly, Virginia**  
**Boring Log Summary**

Project: Broadlands South Final

Project No.: 5587G1

Boring No.	Boring Depth	Surf. Elev. (ft)	Rock Elev. (ft)	Thickness of Clay (ft) <sup>1</sup>
B-68	5.5	340.0	334.5	2.5
B-69	9.0	341.0	332.0	0.0
B-70	6.5	341.0	334.5	2.5
B-71	18.0	345.0	327.0	0.0
B-72	13.0	347.0	334.0	3.0
B-73	13.0	348.0	335.0	3.0
B-74	20.0	345.0	N/A	5.0
B-75	8.5	341.0	332.5	2.5
B-76	6.0	342.0	336.0	5.0
B-77	13.0	345.0	332.0	5.0
B-78	12.5	346.0	333.5	7.5
B-79	7.0	349.0	342.0	7.0
B-80	15.5	350.0	334.5	5.0
B-81	13.0	347.0	334.0	0.0
B-82	15.0	352.0	337.0	5.0
B-83	10.0	350.0	340.0	5.0
B-84	9.0	348.0	339.0	5.0
B-85	13.0	345.0	332.0	5.0
B-86	8.5	344.0	335.5	2.5
B-87	13.5	350.0	336.5	6.0
B-88	13.0	353.0	340.0	0.0
B-89	17.5	353.0	335.5	4.5
B-90	11.0	350.0	339.0	8.0
B-91	6.0	346.0	340.0	5.0
B-92	12.5	347.0	334.5	8.5
B-93	13.5	351.0	337.5	8.5
B-94	13.0	353.0	340.0	0.0
B-95	17.0	355.0	338.0	2.5
B-96	16.5	351.0	334.5	2.5
B-97	5.0	360.0	355.0	2.5
B-98	7.0	354.0	347.0	2.0
B-99	6.5	358.0	351.5	2.0
B-100	8.0	357.0	349.0	2.0
B-101	18.0	364.0	346.0	2.0
B-102	6.5	360.0	353.5	5.0
B-103	5.0	382.0	377.0	0.0
B-104	6.5	363.0	356.5	2.5
R-38	5.5	340.0	334.5	2.5
R-39	17.0	343.0	326.0	0.0
R-40	20.0	343.0	N/A	0.0
R-41	13.0	345.0	332.0	7.0
R-42	8.5	349.0	340.5	5.0
R-43	17.0	351.0	334.0	5.0
R-44	17.0	354.0	337.0	4.0

NOTE: 1: Includes CH Materials Only  
 N/A - Borings not taken to refusal

**ECS, Ltd.**  
**Chantilly, Virginia**  
**Boring Log Summary**

Project: Broadlands South Final

Project No.: 5587G1

Boring No.	Boring Depth	Surf. Elev. (ft)	Rock Elev. (ft)	Thickness of Clay (ft)
R-45	14.0	351.0	337.0	5.0
R-46	16.0	342.0	326.0	2.5
R-47	7.5	348.0	340.5	2.5
R-48	13.0	357.0	344.0	0.0
R-49	6.5	353.0	346.5	0.0
R-50	7.5	355.0	347.5	5.0
R-51	7.0	354.0	347.0	4.5
R-52	7.5	355.0	347.5	2.5
R-53	17.0	360.0	343.0	6.0
R-54	13.0	356.0	343.0	2.5
R-55	18.0	361.0	343.0	2.0
R-56	13.0	362.0	349.0	5.0
R-57	7.5	366.0	358.5	0.0
R-58	7.5	376.0	368.5	0.0
R-59	6.0	362.0	356.0	2.5
R-60	16.0	359.0	343.0	2.5

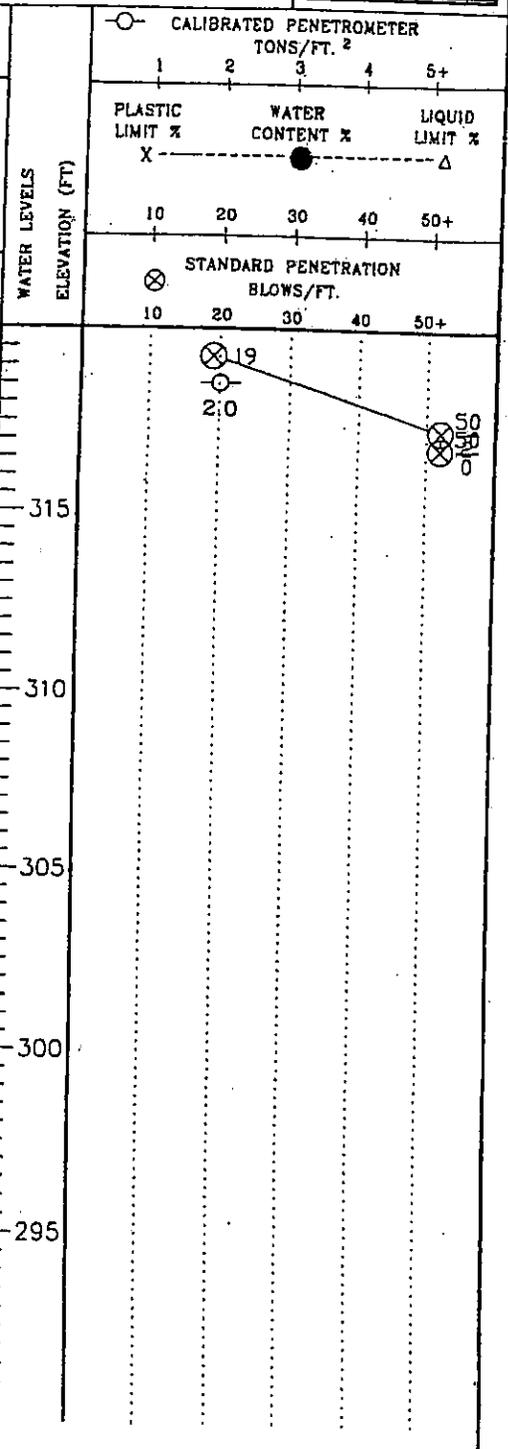
NOTE: 1: Includes CH Materials Only  
N/A - Borings not taken to refusal

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-36A</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		



SITE LOCATION  
**ASHBURN, VA**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
0					SURFACE ELEVATION <b>320</b>
0	1	SS	18	0	Silty CLAY, Brown, Moist, Stiff, (CL)
2	2	SS	2	0	Weathered Hornfels, Brownish Gray, Moist, Extremely Dense, (WR)
3	3	SS	0	0	
5	AUGER REFUSAL @ 3.0'				



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇WL DRY	WS DR (D)	BORING STARTED	01/11/01	TOPSOIL DEPTH 1"
∇WL(AB) DRY	∇WL(AC) DRY	BORING COMPLETED	01/11/01	CAVE IN DEPTH ● 1.5'
∇WL		RIG CME750 FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

DEPTH (FT.)	VISUAL SOIL DESCRIPTION	ELEV. (FT.)	NOTES	W LEVEL
	TOPSOIL/ROOTMAT...			
1.00	Orange gray DECOMPOSED HORNFELS ROCK sampled as orange gray silt, little gravel, trace fine sand, clay		WATER NOTES: No ground water was detected at time of excavation.	
1.90	REFUSAL ON HORNFELS AT 1.9 FEET ON 6/25/97.  EXCAVATION INFORMATION: Excavated by: Hazel Construction Backhoe Operator: D. Rollison Method of Excavation: CAT 416 Backhoe Recorded by: J. Squerciadi  Note: Test pit backfilled and compacted by tamping with backhoe bucket and/or rolling with rubber tires.			

**REMARKS:**

Orientation of Test Pit: North to South

TEST PIT RECORD	
TEST PIT NUMBER	TP-34
DATE EXCAVATED	June 24, 1997
PROJECT NUMBER	20310-7-1679
PROJECT	Broadlands South Borrow Study
PAGE 1 OF 1	Loudoun County, Virginia
 <b>LAW ENGINEERING &amp; ENVIRONMENTAL SERVICES</b>	

DEPTH (FT.)	VISUAL SOIL DESCRIPTION	ELEV. (FT.)	NOTES	WATER LEVEL
0.50	TOPSOIL/ROOTMAT			
	POSSIBLE FILL - sampled as reddish orange brown silty clay with some large gray boulders, trace roots, fine sand		Gray boulders, outcrops visible at surface-disturbed area. Tree limb found in layer. Operator suspects old pond was filled in this area.	
3.00	Stiff gray CLAY(CH), some silt, trace roots		Trace organics possible at approx. 3.0' depth. WATER NOTES: Perched water filling hole was detected at 3.0' depth.	▽
6.00	Dark brown fine to coarse silty SAND(SM), some decomposed diabase rock, trace gray clay			
8.50	REFUSAL ON DIABASE ROCK, AT 8.5 FEET ON 6/25/97.  EXCAVATION INFORMATION: Excavated by: Hazel Construction Backhoe Operator: D. Rollison Method of Excavation: CAT 416 Backhoe Recorded by: J. Squerciati  Note: Test pit backfilled and compacted by tamping with backhoe bucket and/or rolling with rubber tires.			

**REMARKS:**

Orientation of Test Pit: East to West

TEST PIT RECORD	
TEST PIT NUMBER	TP-39
DATE EXCAVATED	June 25, 1997
PROJECT NUMBER	20310-7-1679
PROJECT	Broadlands South Borrow Study Loudoun County, Virginia
PAGE 1 OF 1	
 <b>LAW ENGINEERING &amp; ENVIRONMENTAL SERVICES</b>	

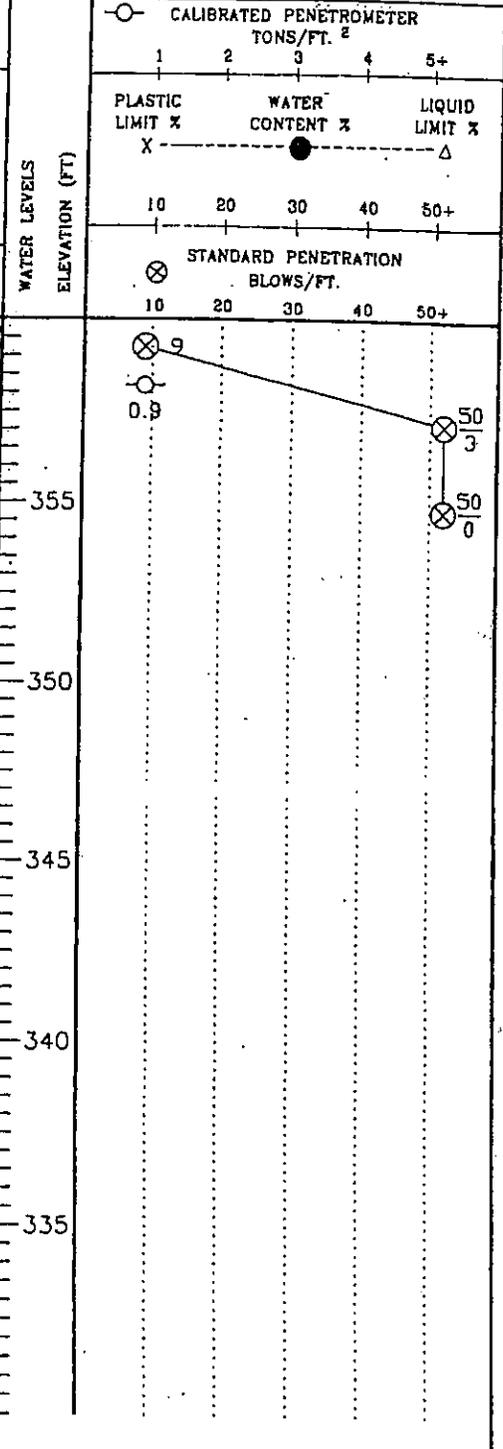
APPENDIX

Unified Soil Classification System  
Reference Notes For Boring Logs  
Boring Log Summary  
Boring Logs B-68 Through B-104 and R-38 Through R-60  
Test Pit Logs (Law Engineering)  
Test Pit Location Map (Law Engineering)  
Laboratory Test Results  
French Drain Installation Diagram  
Boring Location Diagram  
USGS Soils Map Overlay/Geology Overlay

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-97</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>360</b>	
0	1	SS	18	10	CLAY, Trace Fine Sand, Brown, Moist, Medium Stiff, (CH)	
	2	SS	9	1	Medium to Highly Weathered DIABASE, Brown, Moist, Extremely Dense, (SP/WR)	
5	3	SS	0	0	AUGER REFUSAL @ 5.0'	
10						
15						
20						
25						
30						

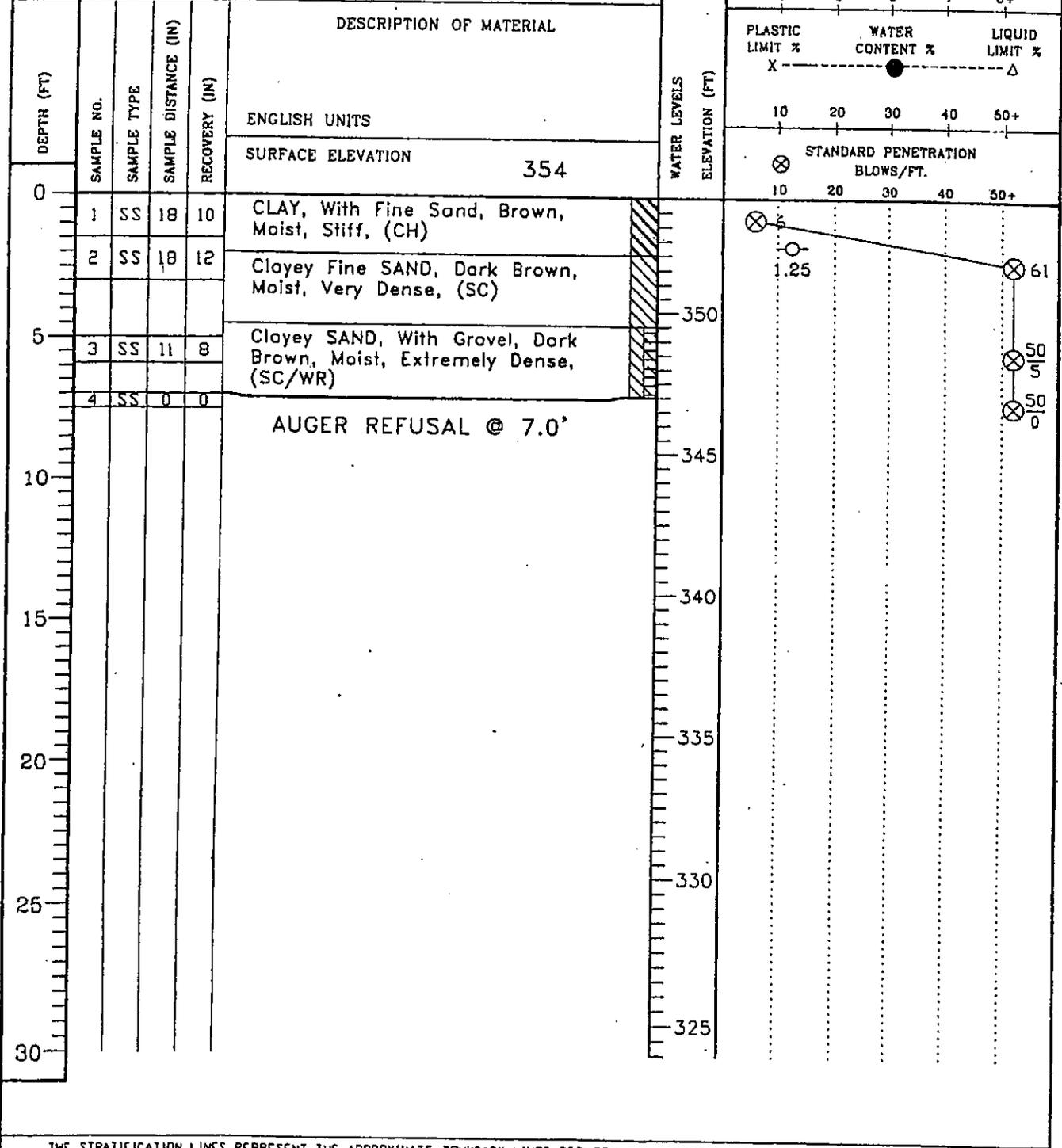


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	01-25-01	TOPSOIL DEPTH 1"
▽ WL (AB) DRY	▽ WL (AC)	BORING COMPLETED	01-25-01	CAVE IN DEPTH ● 4.5'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-98</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

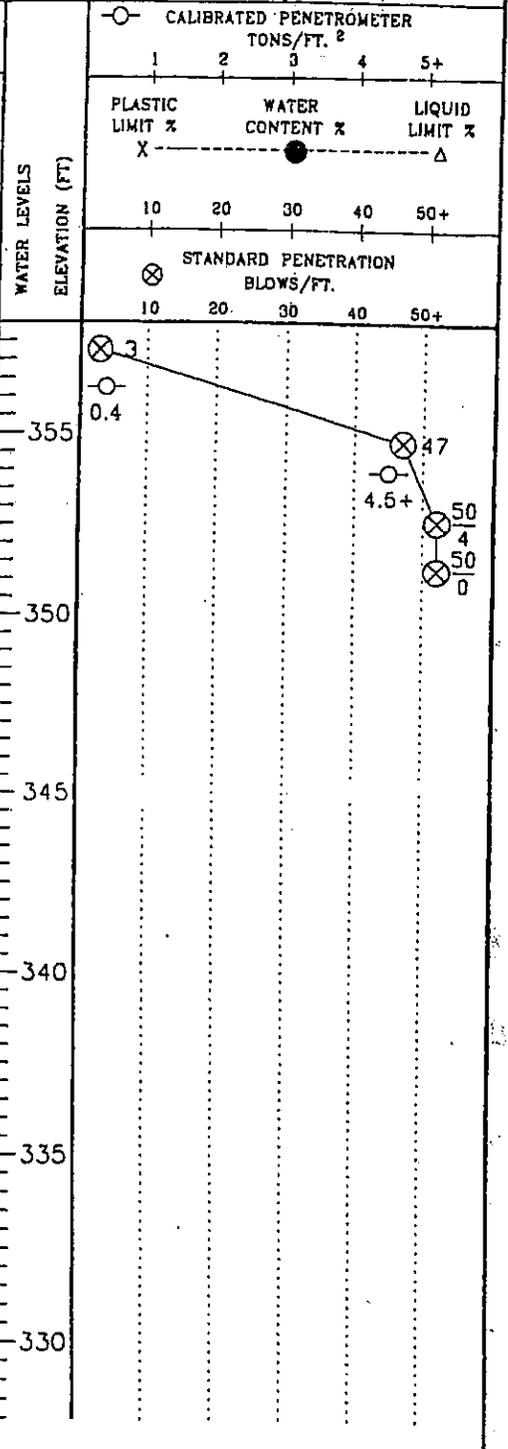
∇ WL DRY	WS OR (D)	BORING STARTED	<b>01-25-01</b>	TOPSOIL DEPTH <b>2"</b>
∇ WL (AB) DRY	∇ WL (AC)	BORING COMPLETED	<b>01-25-01</b>	CAVE IN DEPTH ● <b>4.5'</b>
∇ WL		RIG <b>CME75</b>	FOREMAN <b>D&amp;S</b>	DRILLING METHOD <b>HOLLOW STEM AUGER</b>

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-99</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		



SITE LOCATION  
**ASHBURN, VA.**

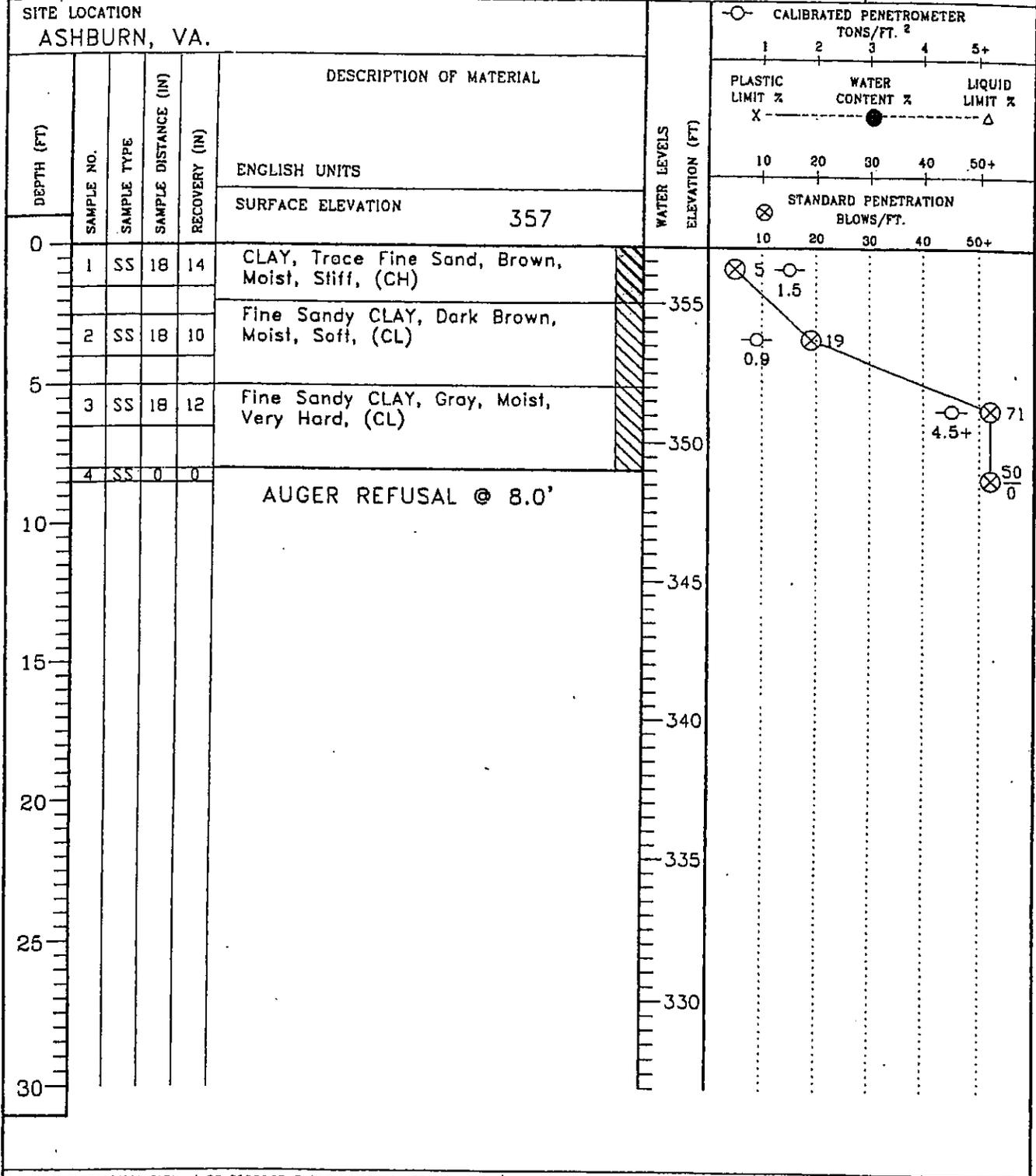
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION <b>358</b>
0	1	SS	18	6	CLAY, Dark Greenish Brown, Moist, Soft, (CH)
	2	SS	18	12	CLAY, With Fine Sand, Dark Greenish Brown, Moist, Hard, (CL)
5	3	SS	10	3	Saprolitic Clayey SAND, Dark Greenish Brown, Moist, Extremely Dense, (SC/WR)
	4	SS	0	0	
					AUGER REFUSAL @ 6.5'



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED	01-26-01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED	01-26-01	CAVE IN DEPTH • 5.0'
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT TERRABROOK	JOB # 5587G	BORING # B-100	SHEET 1 OF 1	<b>ECS</b> LTD
PROJECT NAME BROADLANDS SOUTH	ARCHITECT-ENGINEER BOWERS			



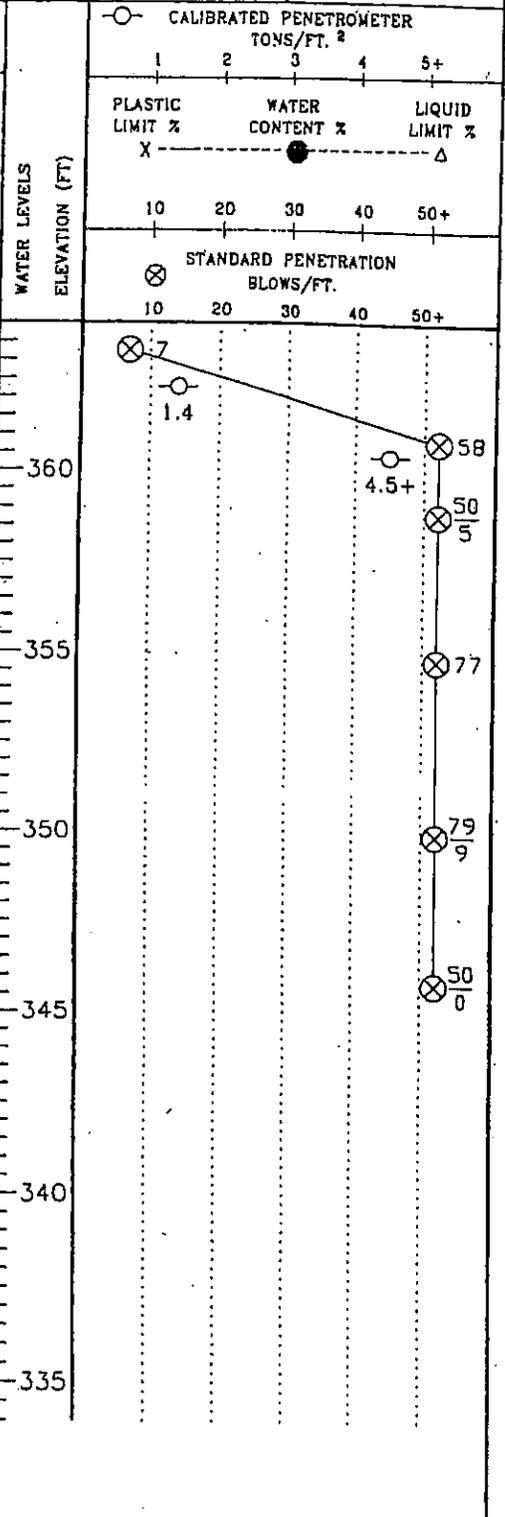
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED 01-24-01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED 01-24-01	CAVE IN DEPTH ● 6.5'
∇ WL		RIG CME75 FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-101</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>364</b>	
0	1	SS	18	12	CLAY, Trace Sand, Greenish Brown, Moist, Stiff, (CH)	
	2	SS	18	14	CLAY, With Sand, Dark Greenish Brown, Moist, Hard, (CL)	
5	3	SS	5	3	Saprolitic SAND, With Clay, Trace Fragments, Dark Brown, Moist, Extremely Dense, (SC/WR)	
10	4	SS	18	10		
15	5	SS	15	6		
20	6	SS	0	0	AUGER REFUSAL @ 18.0'	



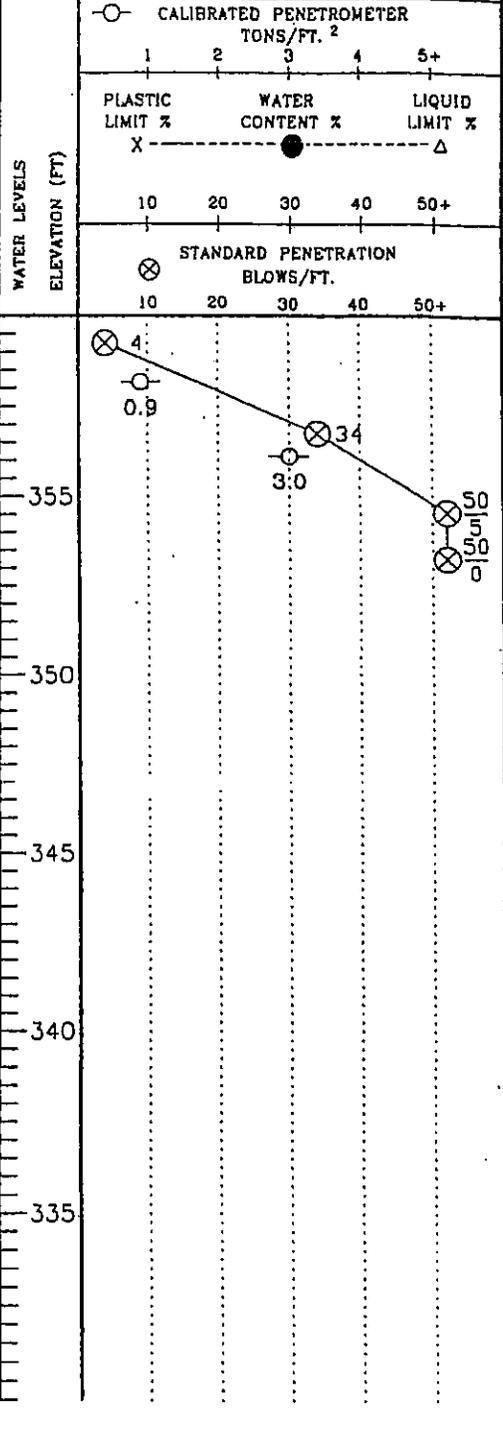
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇WL DRY	WS OR (D)	BORING STARTED	01-24-01	TOPSOIL DEPTH 2"
∇WL(AB) DRY	∇WL(AC)	BORING COMPLETED	01-24-01	CAVE IN DEPTH ● 15.5'
∇WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-102</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

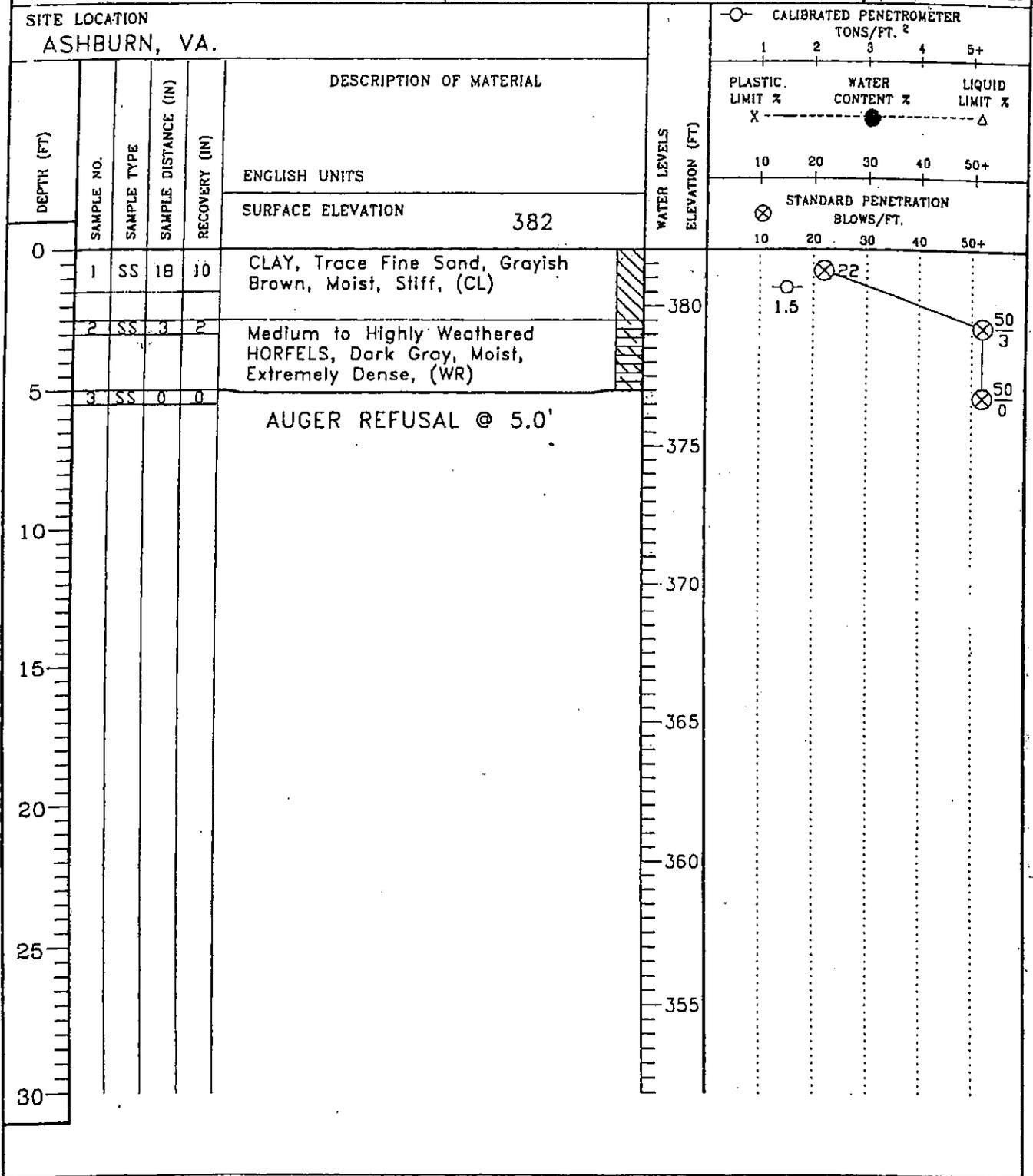
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION <b>360</b>
0	1	SS	18	12	CLAY, Trace Fine Sand, Dark Tannish Brown, Moist, Medium Stiff, (CH)
	2	SS	18	12	CLAY, Dark Brown, Moist, Very Stiff, (CH)
5	3	SS	11	6	Saprolitic Clayey Fine SAND, Dark Brown, Moist, Extremely Dense, (SC/WR)
	4	SS	0	0	
					AUGER REFUSAL @ 6.5'



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇WL DRY	WS OR (D)	BORING STARTED	01-24-01	TOPSOIL DEPTH 2"
∇WL(AB) DRY	∇WL(AC)	BORING COMPLETED	01-24-01	CAVE IN DEPTH • 4.0'
∇WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT TERRABROOK	JOB # 5587G	BORING # B-103	SHEET 1 OF 1	<b>ECS LTD</b>
PROJECT NAME BROADLANDS SOUTH	ARCHITECT-ENGINEER BOWERS			

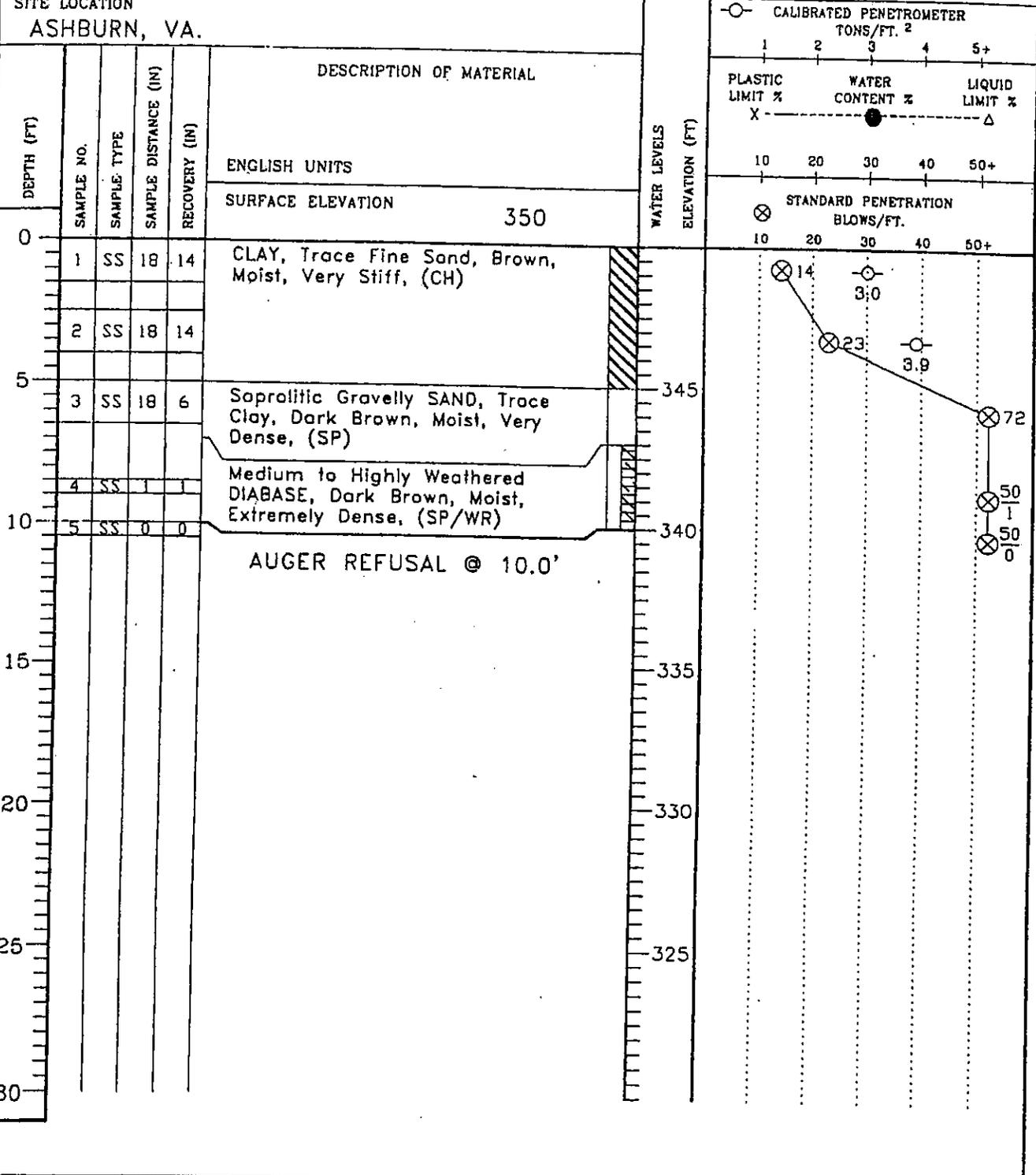


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (RD)	BORING STARTED	01-24-01	TOPSOIL DEPTH 1"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED	01-24-01	CAVE IN DEPTH ●
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER



CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-83</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		
SITE LOCATION <b>ASHBURN, VA.</b>			



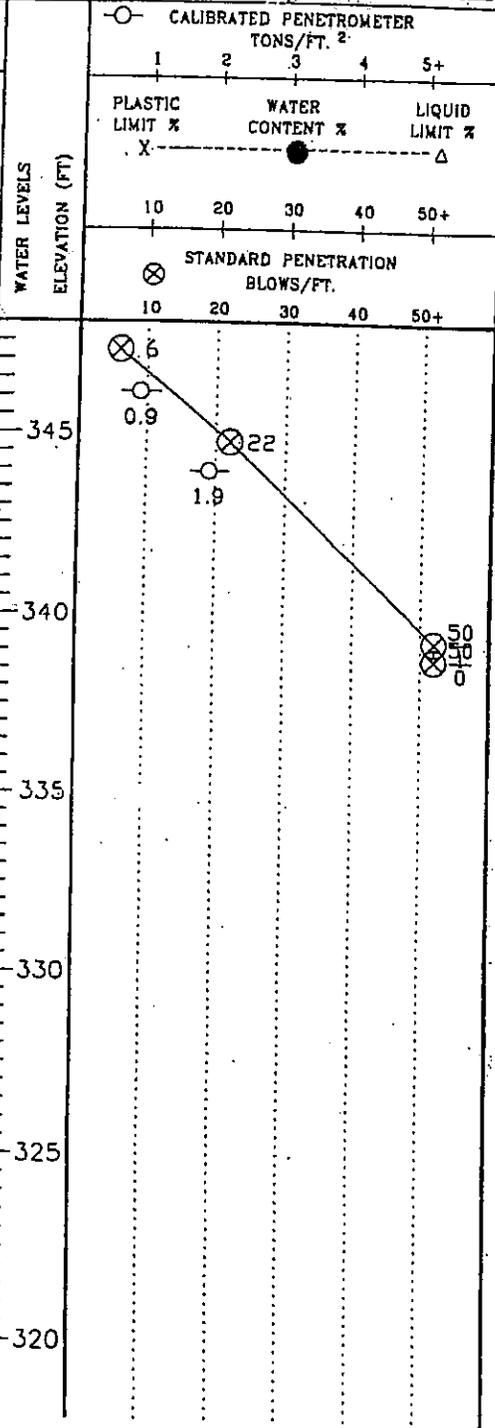
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED	01-18-01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED	01-18-01	CAVE IN DEPTH • 8.0' (8.0' • 2HRS)
∇ WL DRY @ 2HRS		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-84</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION <b>348</b>
0	1	SS	18	6	CLAY, Trace Fine Sand, Brown, Moist, Medium Stiff, (CH)
	2	SS	18	14	CLAY, Trace Fine Sand, Dark Brown, Moist, Stiff, (CH)
5					Saprolitic Gravelly SAND, Dark Brown, Moist, Very Dense to Extremely Dense, (SP/WR)
10					AUGER REFUSAL @ 9.0'



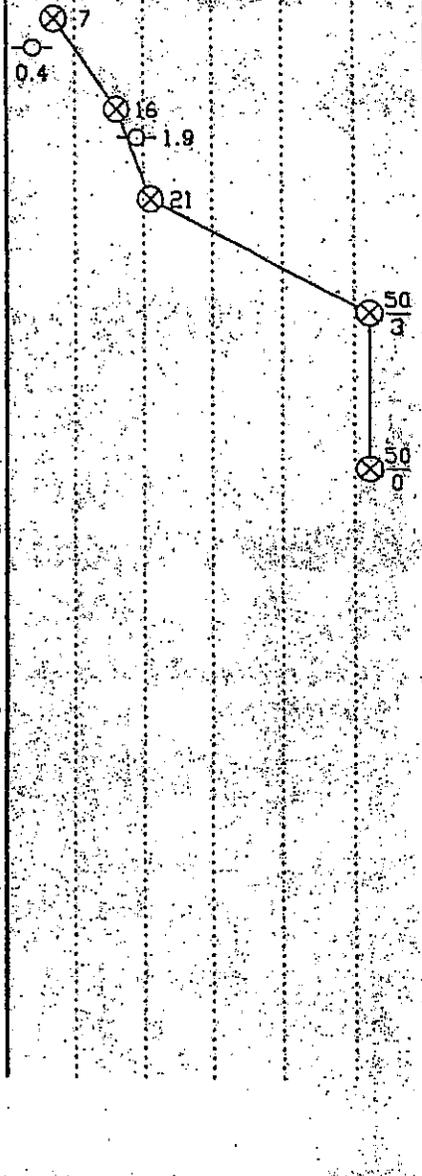
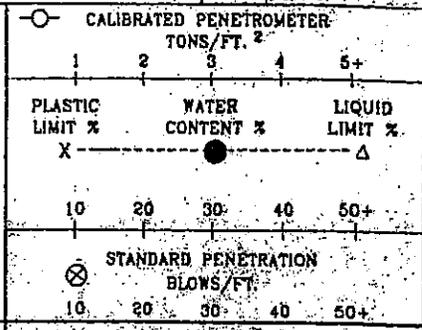
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR <input checked="" type="radio"/> WD	BORING STARTED	<b>01-18-01</b>
▽ WL(AB) DRY	▽ WL(AC)	BORING COMPLETED	<b>01-18-01</b>
▽ WL		RIG <b>CME75</b> FOREMAN <b>D&amp;S</b>	DRILLING METHOD <b>HOLLOW STEM AUGER</b>
		CAVE IN DEPTH ● <b>7.0'</b>	

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-85</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)	CALIBRATED PENETROMETER TONS/FT.²		
							1	2	3
					ENGLISH UNITS				
					SURFACE ELEVATION	345			
0	1	SS	18	0	CLAY, Trace Fine Sand, Brown, Moist, Soft, (CH)				
	2	SS	18	10	CLAY, Trace Fine Sand, Dark Brown, Moist, Silty, (CH)				
5	3	SS	18	6	Clayey Fine SAND, Dark Brown, Moist, Medium Dense, (SC)	340			
	4	SS	9	6	Saprolitic Gravelly SAND, Trace Clay, Dark Brown, Moist, Extremely Dense, (SP/WR)	335			
10	5	SS	0	0	AUGER REFUSAL @ 13.0'	330			
15						325			
20						320			
25									
30									



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL.

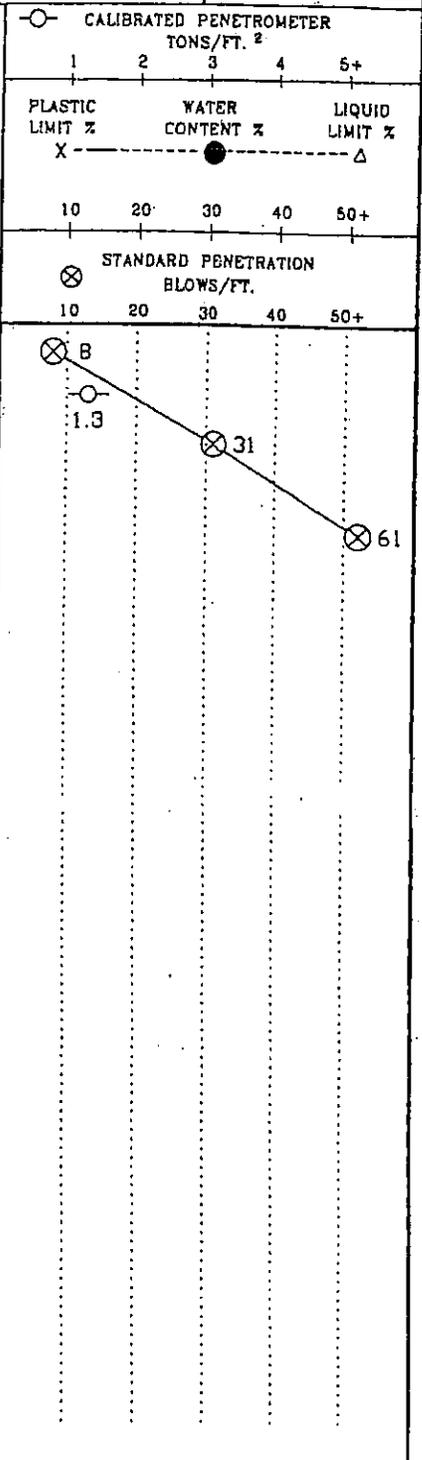
▽WL DRY	WS OR WD	BORING STARTED	01-18-01	TOPSOIL DEPTH 2"
▽WL(AB) 8.0'	▽WL(AC)	BORING COMPLETED	01-18-01	CAVE IN DEPTH ● 10.0' (9.5' ● 1HR)
▽WL 7.5' @ 1HR		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-86</b>	SHBET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		



SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION <b>344</b>
0	1	SS	18	6	CLAY, Trace Fine Sand, Brown, Moist, Stiff, (CH)
2	2	SS	18	8	Clayey Fine SAND, Greenish Brown, Moist, Dense, (SC)
5	3	SS	18	5	SAND, With Clay, Dark Brown, Moist, Very Dense, (SP)
					AUGER REFUSAL @ 8.5'

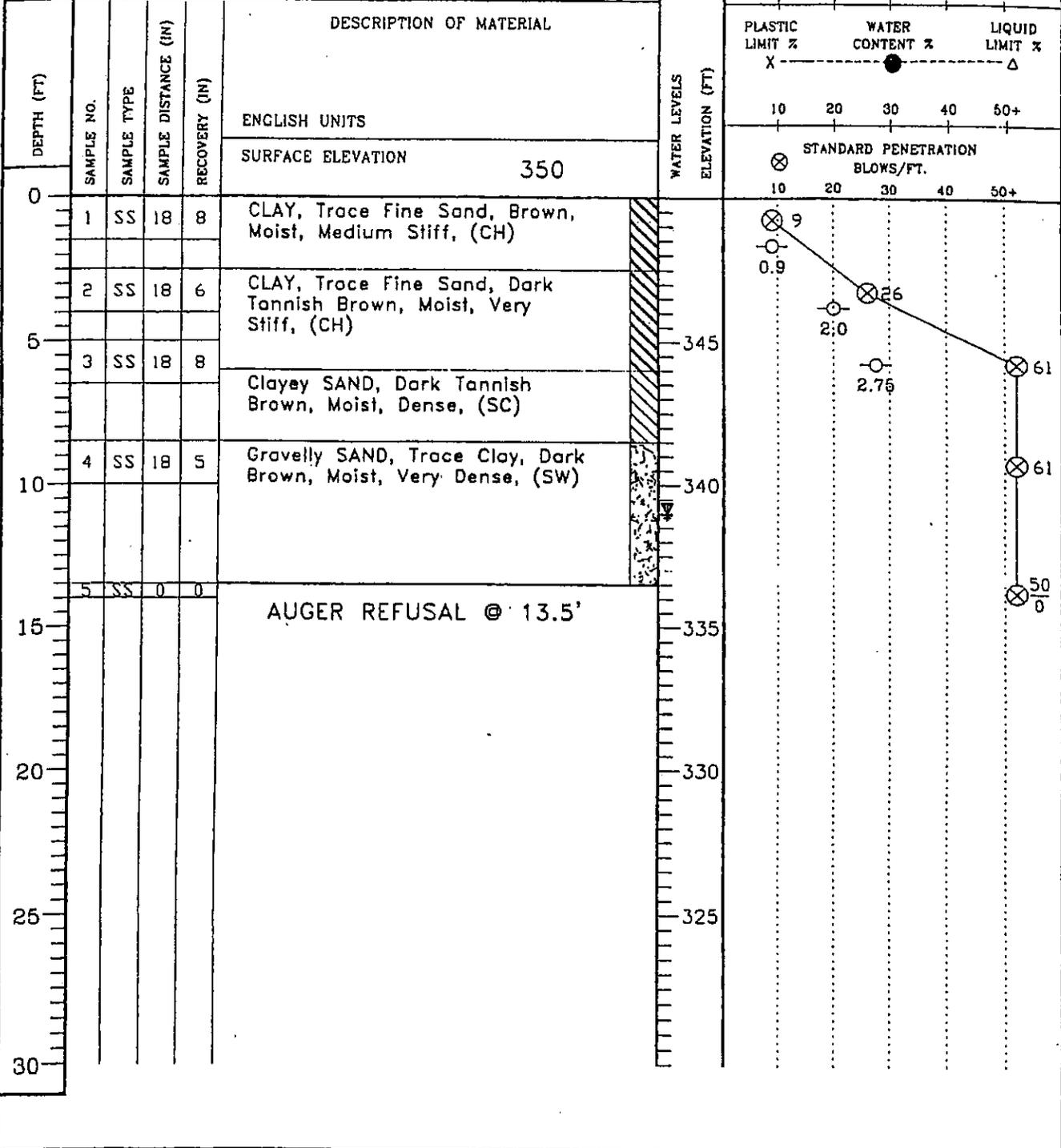


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	01-23-01	TOPSOIL DEPTH 2"
▽ WL (AB) DRY	▽ WL (AC)	BORING COMPLETED	01-23-01	CAVE IN DEPTH @ 6.0'
▽ WL		RIG CME75 FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-87</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (WD)	BORING STARTED	01-18-01	TOPSOIL DEPTH 2"
∇ WL(AB) 11.0'	∇ WL(AC)	BORING COMPLETED	01-18-01	CAVE IN DEPTH ● 12.0'
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-90</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

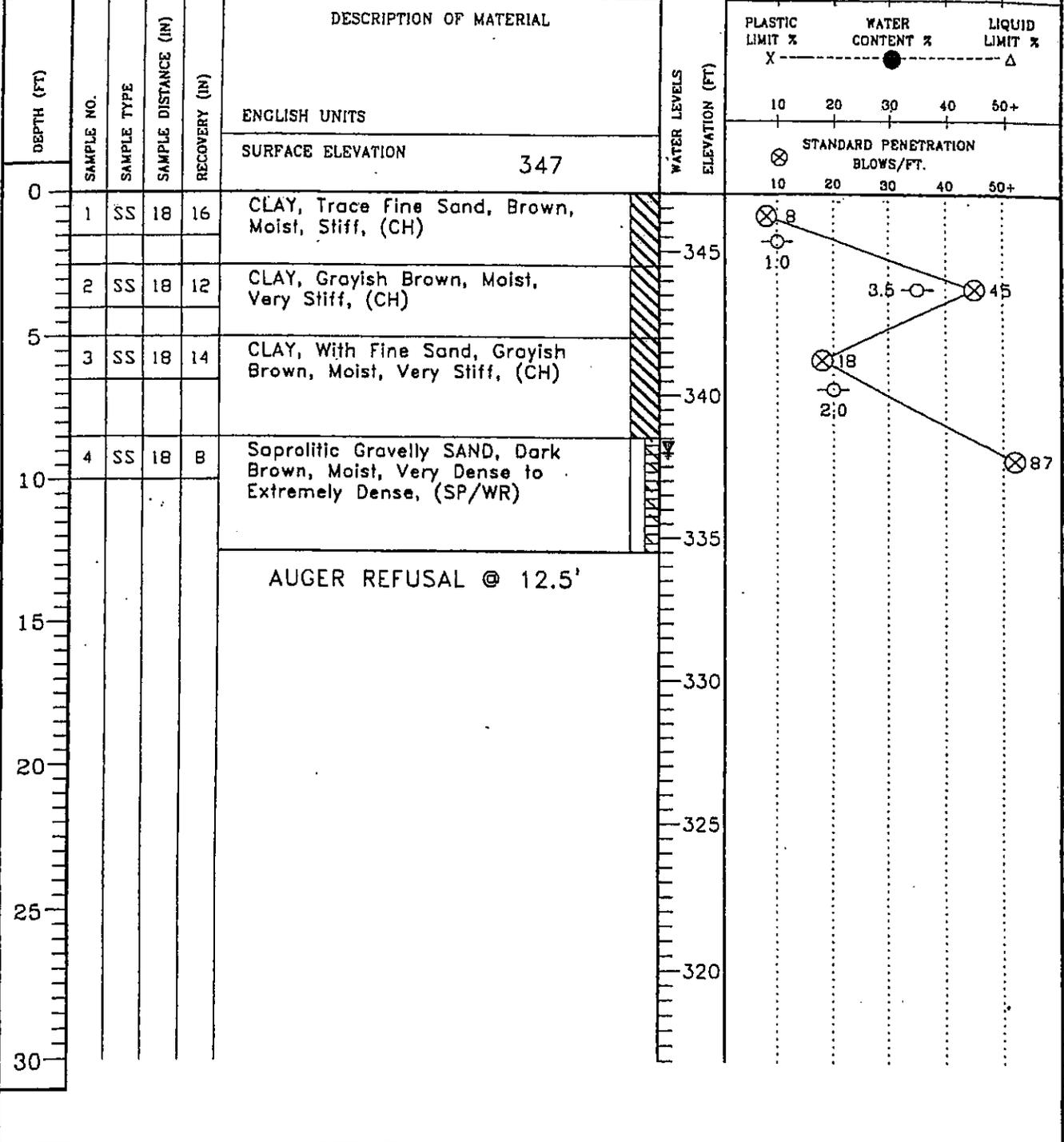
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)	CALIBRATED PENETROMETER TONS/FT. 2				
							1	2	3	4	5+
ENGLISH UNITS							PLASTIC LIMIT % X				
SURFACE ELEVATION <b>350</b>							WATER CONTENT % ●				
							LIQUID LIMIT % △				
							STANDARD PENETRATION BLOWS/FT.				
							10	20	30	40	50+
0	1	SS	18	10	CLAY, Trace Fine Sand, Brown, Moist, Slim, (CH)		10				
	2	SS	18	8			1.2				
5	3	SS	18	12	Fine Sandy CLAY, Dark Greenish Brown, Moist, Very Stiff, (CH)	345	1.0				
	4	SS	15	8	Saprolitic Gravelly SAND, Dark Brown, Moist, Extremely Dense, (WR)	340					
	5	SS	0	0	AUGER REFUSAL @ 11.0'						
10											
15											
20											
25											
30											

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

WS OR (D) DRY	BORING STARTED	01-23-01	TOPSOIL DEPTH 2"
WL(AB) DRY	BORING COMPLETED	01-23-01	CAVE IN DEPTH ● 8.5'
WL	RIG CME75 FOREMAN D&S		DRILLING METHOD HOLLOW-STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-92</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**



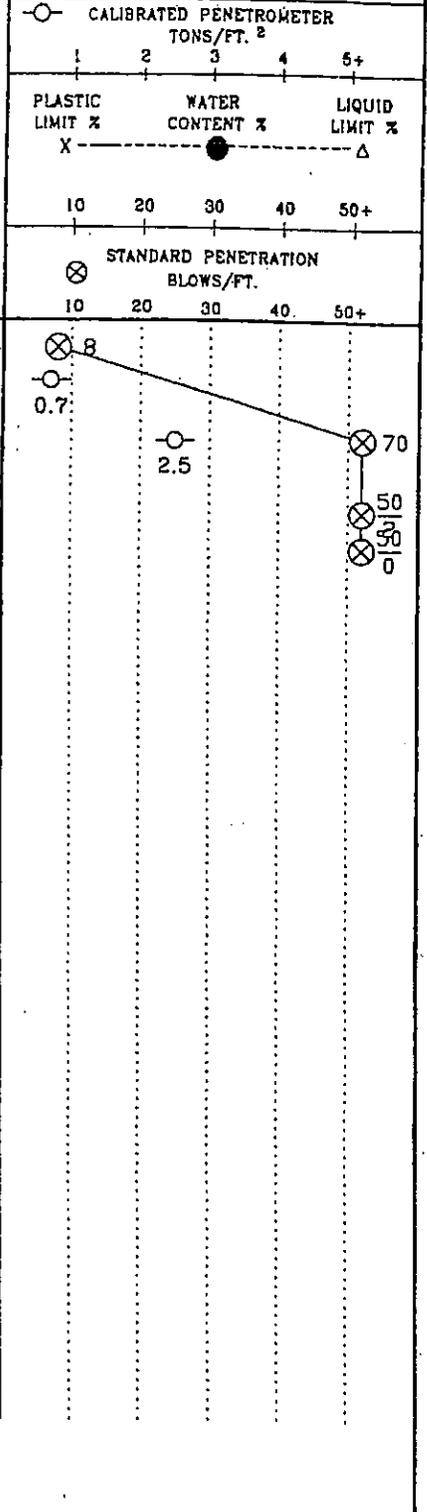
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	<b>01-23-01</b>	TOPSOIL DEPTH 1"
▽ WL(AB) 9.0'	▽ WL(AC)	BORING COMPLETED	<b>01-23-01</b>	CAVE IN DEPTH ● 10.0'
▽ WL		RIG CME75 FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-91</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

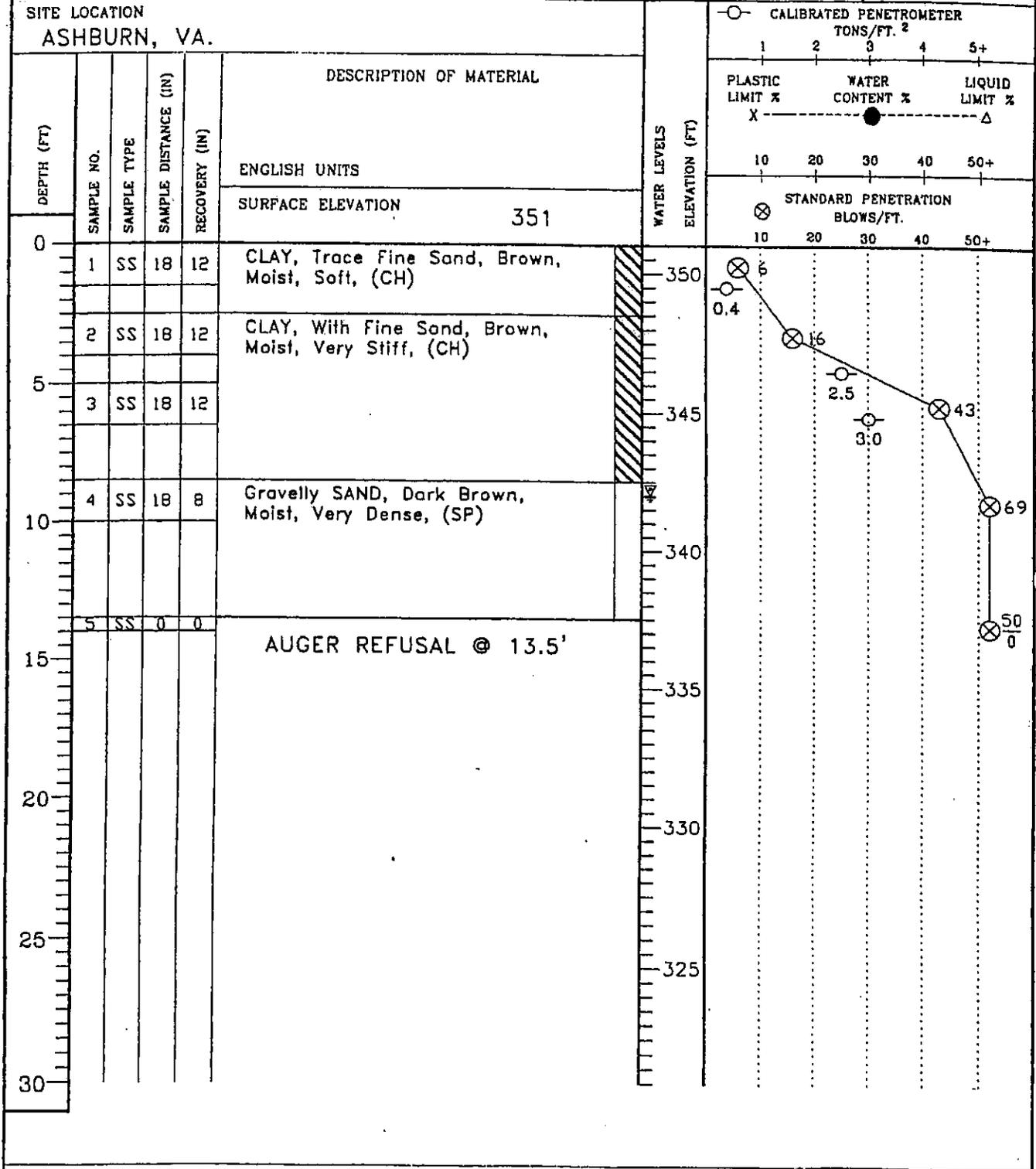
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>346</b>	
0	1	SS	18	10	CLAY, Trace Fine Sand, Brown, Moist, Medium Stiff, (CH)	345
	2	SS	18	12	CLAY, With Fine Sand, Grayish Brown, Moist, Very Stiff, (CH)	
5	3	SS	2	1	SAND, With Gravel, Dark Brown, Moist, Extremely Dense, (WR)	340
	4	SS	0	0		
					AUGER REFUSAL @ 6.0'	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	01-23-01	TOPSOIL DEPTH 2"
▽ WL(AB) DRY	▽ WL(AC)	BORING COMPLETED	01-23-01	CAVE IN DEPTH ● 5.0'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-93</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			



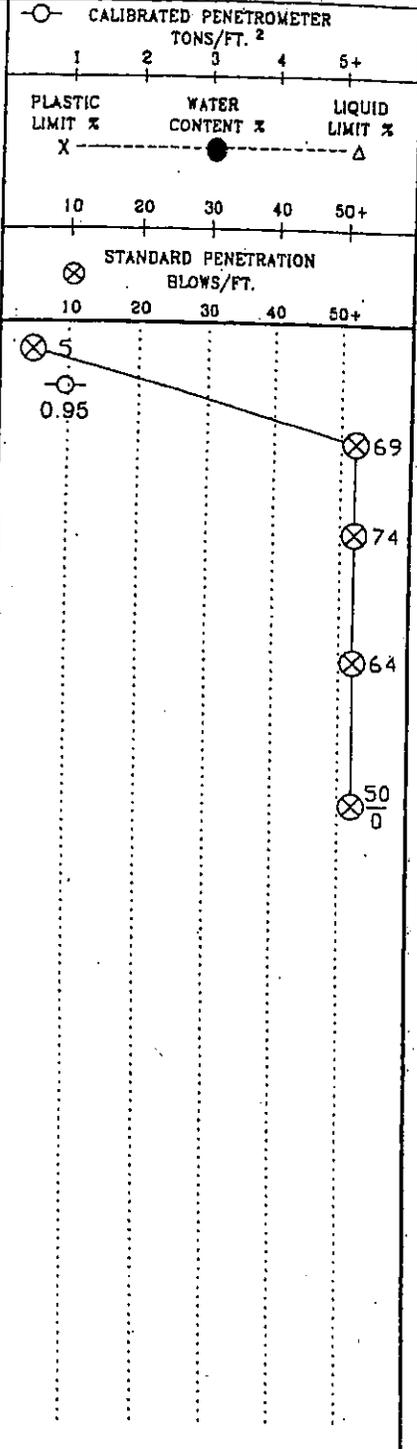
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED	01-22-01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED	01-22-01	CAVE IN DEPTH • 10.5' (10.5' • 1HR)
∇ WL 9.0' @ 1HR		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-94</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					SURFACE ELEVATION <b>353</b>	
0	1	SS	18	6	CLAY, Trace Sand, Dark Brown, Moist, Medium Stiff, (CL)	
	2	SS	18	8	Clayey Fine SAND, Light Brown, Moist, Very Dense, (SC)	350
5	3	SS	18	8	Saprolitic Gravelly SAND, With Clay, Dark Brown, Moist, Very Dense, (SP)	345
10	4	SS	18	6		340
15	5	SS	0	0	AUGER REFUSAL @ 13.0'	335
20						330
25						325
30						

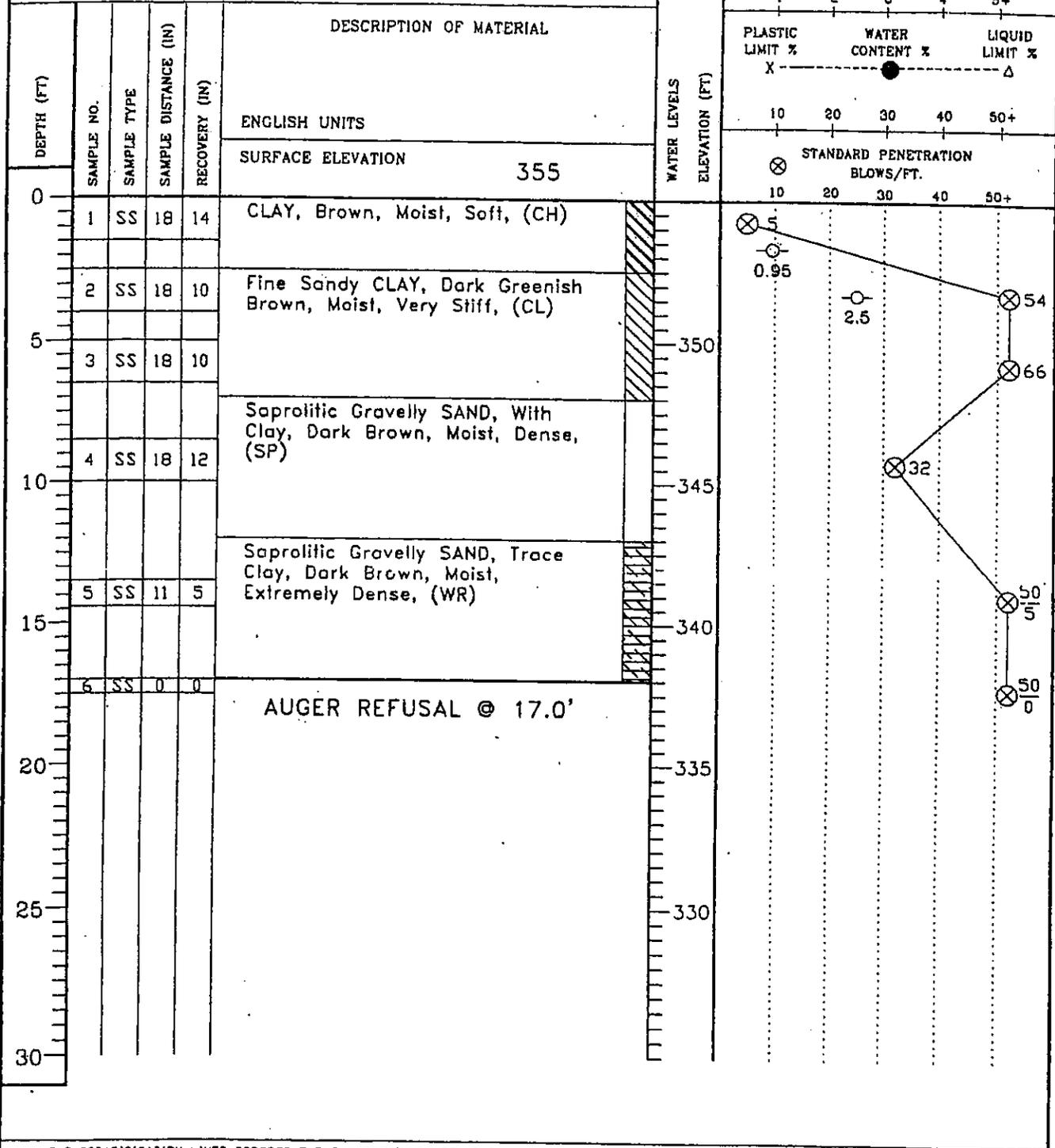


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL.

∇ WL DRY	WS OR (WD)	BORING STARTED	01-23-01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED	01-23-01	CAVE IN DEPTH ● 10.0'
∇ WL		RIG CME75 FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

CLIENT TERRABROOK	JOB # 5587G	BORING # B-95	SHEET 1 OF 1	<b>ECS LTD</b>
PROJECT NAME BROADLANDS SOUTH	ARCHITECT-ENGINEER BOWERS			

SITE LOCATION  
ASHBURN, VA.

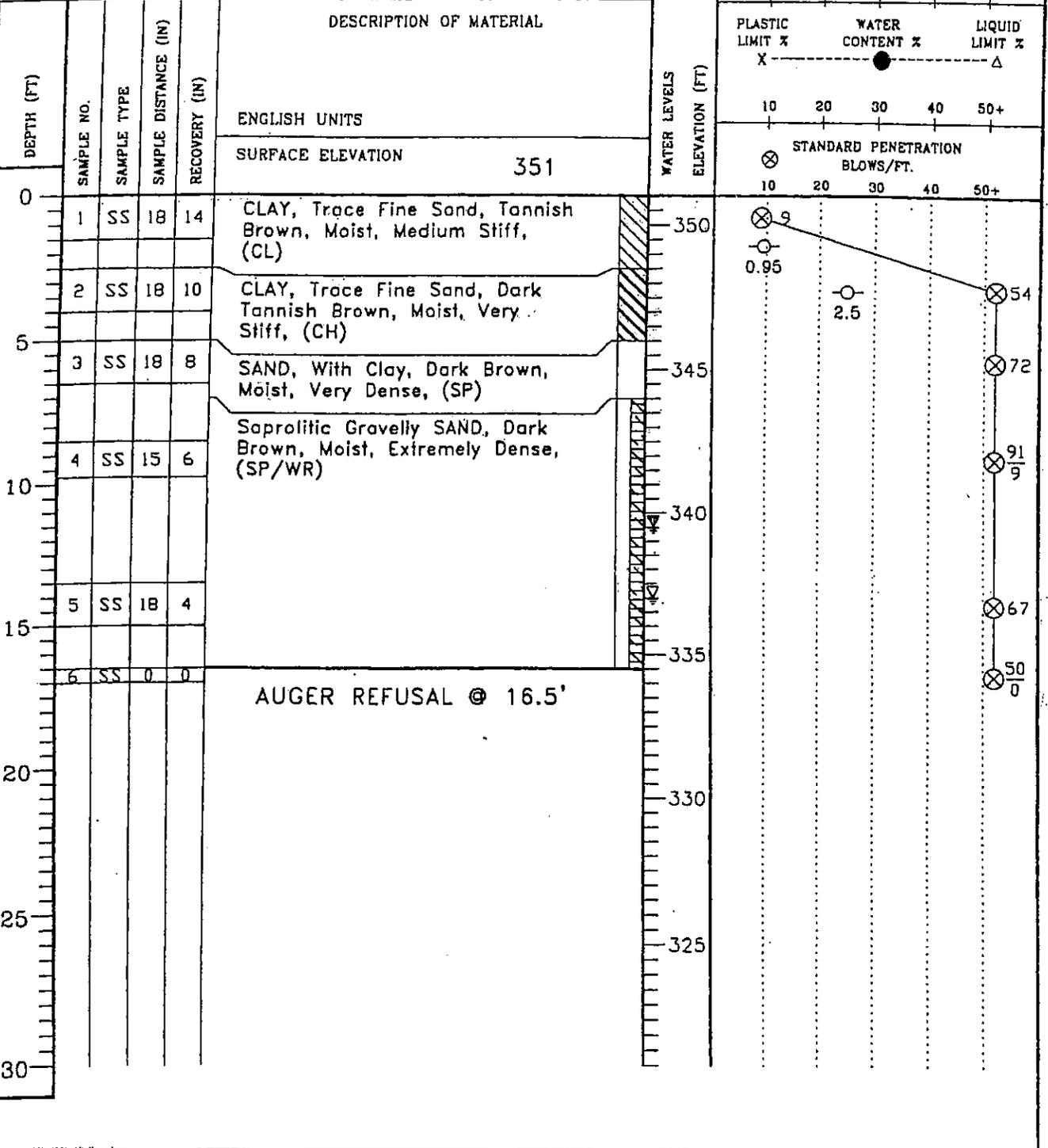


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED	01-24-01	TOPSOIL DEPTH 1"
∇ WL (AB) DRY	∇ WL (AC)	BORING COMPLETED	01-24-01	CAVE IN DEPTH • 14.5'
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-96</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 14.0'	WS OR (D)	BORING STARTED 01-23-01	TOPSOIL DEPTH 1"
▽WL(AB) 11.5'    ▽WL(AC)		BORING COMPLETED 01-23-01	CAVE IN DEPTH ● 14.5'
▽WL		RIG CME75 FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER



CLIENT  
TERRABROOK

JOB #  
5587G

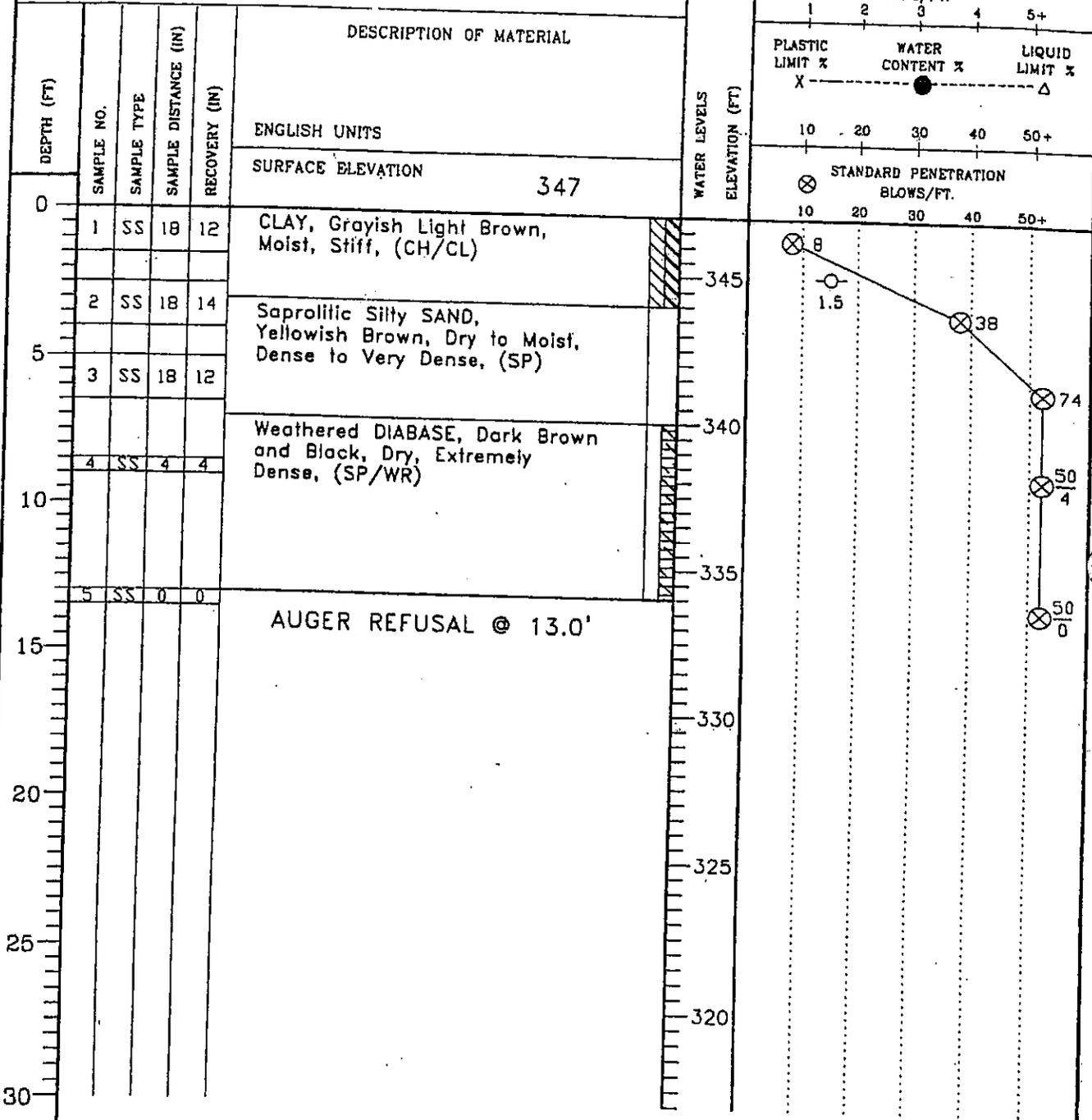
BORING #  
B-72

SHEET  
1 OF 1

PROJECT NAME  
BROADLANDS SOUTH

ARCHITECT-ENGINEER  
BOWERS

SITE LOCATION  
ASHBURN, VA.



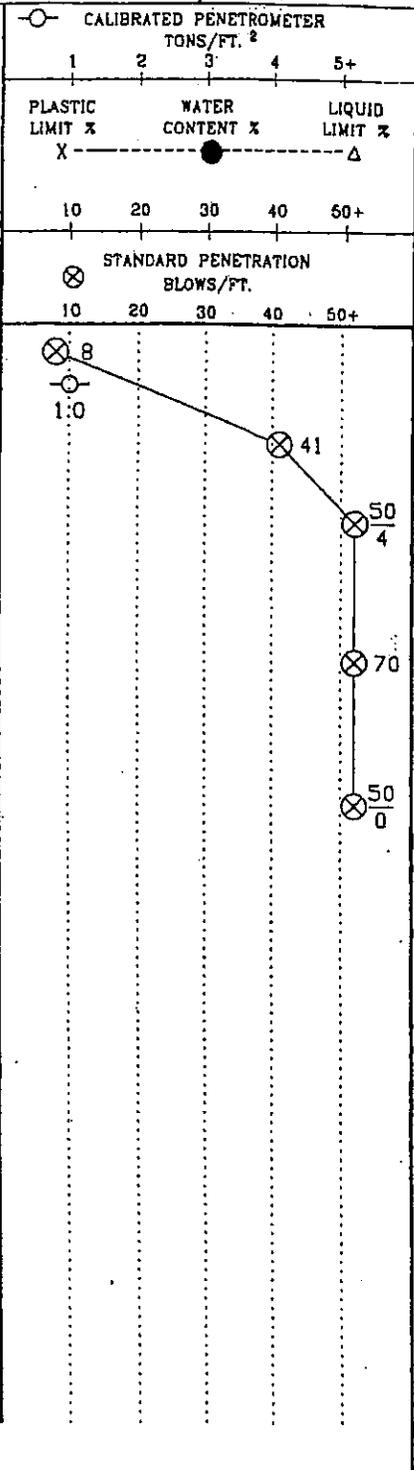
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	01-16-01	TOPSOIL DEPTH 4"
▽ WL(AB) DRY	▽ WL(AC)	BORING COMPLETED	01-16-01	CAVE IN DEPTH ● 10.0'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM-AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-73</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>348</b>	
0	1	SS	18	12	CLAY, Trace Fine Sand, Light Brown, Moist, Stiff, (CH)	345
5	2	SS	18	12	Saprolitic Silty Fine SAND, Light to Dark Brown and Black, Moist, Very Dense to Extremely Dense, (SP)	345
5	3	SS	10	10		340
10	4	SS	18	14		340
15	5	SS	0	0	AUGER REFUSAL @ 13.0'	335
20						330
25						325
30						320



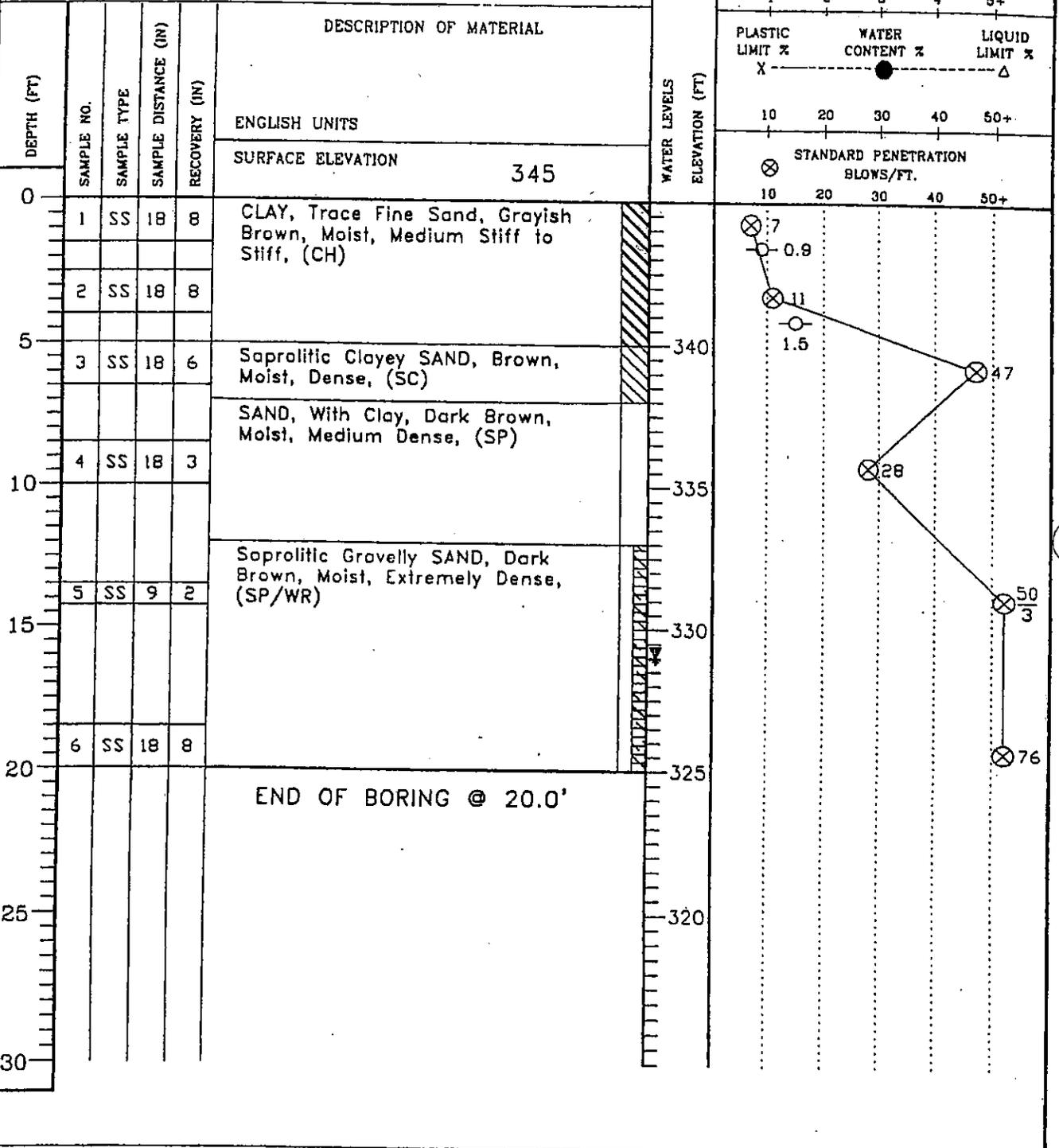
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL.

∇ WL DRY	WS OR (KD)	BORING STARTED	01-16-01	TOPSOIL DEPTH 4"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED	01-16-01	CAVE IN DEPTH ● 10.1'
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER



CLIENT TERRABROOK	JOB # 5587G	BORING # B-74	SHEET 1 OF 1
PROJECT NAME BROADLANDS SOUTH	ARCHITECT-ENGINEER BOWERS		

SITE LOCATION  
ASHBURN, VA.



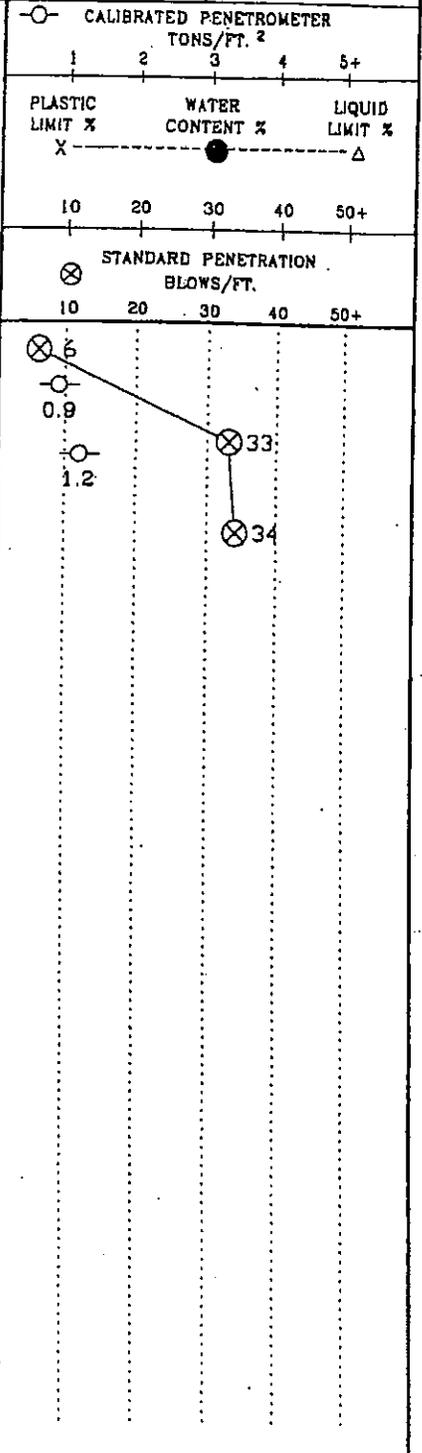
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	01-17-01	TOPSOIL DEPTH 2"
▽ WL (AB) 16.0'	▽ WL (AC)	BORING COMPLETED	01-17-01	CAVE IN DEPTH ● 18.0'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-75</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>341</b>	
0	1	SS	18	10	CLAY, Trace Fine Sand, Brown, Moist, Medium Stiff, (CH)	340
	2	SS	18	0	CLAY, Trace Gravel and Fine Sand, Grayish Brown, Moist, Stiff, (CH)	
5	3	SS	18	0	Clayey SAND, Dark Brown, Moist, Dense, (SC)	335
10					AUGER REFUSAL @ 8.5'	330
15						325
20						320
25						315
30						



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

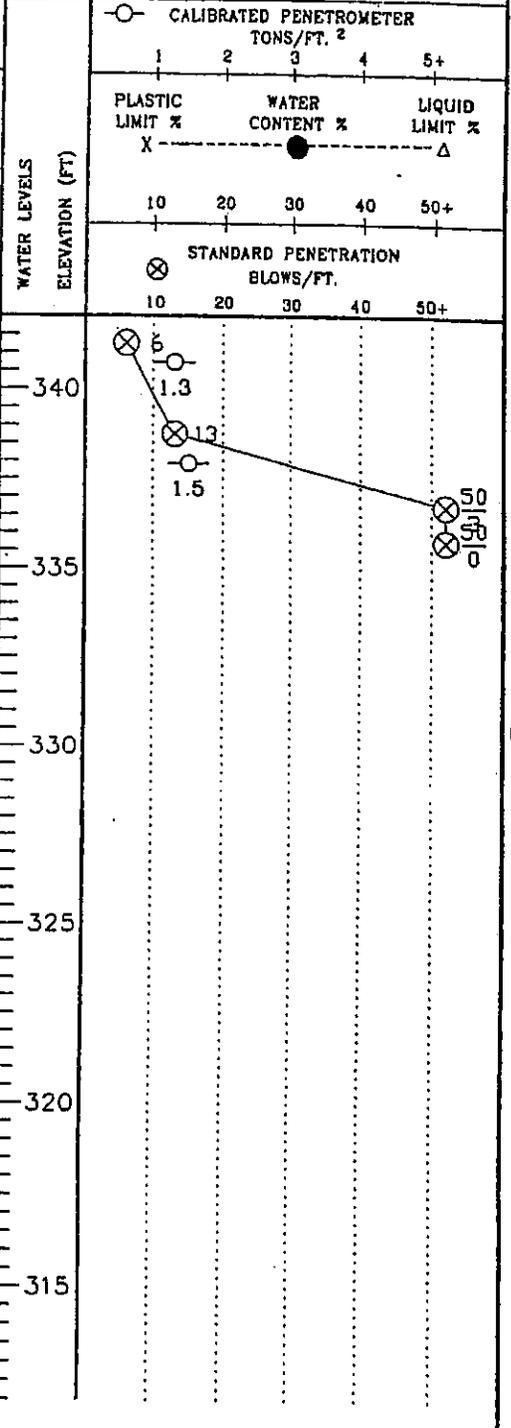
∇ WL DRY	WS OR (D)	BORING STARTED	01-17-01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED	01-17-01	CAVE IN DEPTH ● 7.0'
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-76</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		



SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION <b>342</b>
0	1	SS	18	10	CLAY, Grayish to Greenish Brown, Moist, Stiff, (CH)
	2	SS	18	12	
5	3	SS	3	0	Weathered DIABASE, Gray, Dry to Moist, Extremely Dense, (SP/WR)
	4	SS	0	0	
					AUGER REFUSAL @ 6.0'



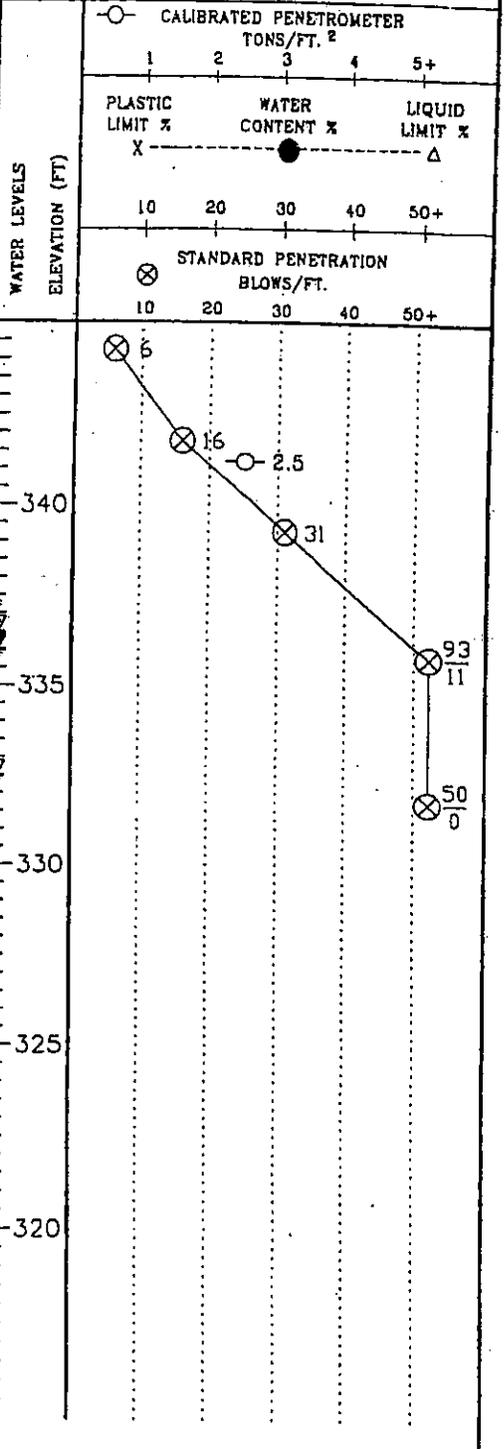
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	01-17-01	TOPSOIL DEPTH 1"
▽ WL(AB) DRY	▽ WL(AC)	BORING COMPLETED	01-17-01	CAVE IN DEPTH • 4.0'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-77</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION <b>345</b>
0	1	SS	18	6	CLAY, Grayish Dark Brown, Moist, Stiff to Very Stiff, (CH)
	2	SS	18	4	
5	3	SS	18	12	Clayey Fine SAND, Greenish to Yellowish Brown, Moist, Dense, (SC)
10	4	SS	17	8	Highly Weathered DIABASE, Dry to Moist, Extremely Dense, (GP/SP)
15	5	SS	0	0	AUGER REFUSAL @ 13.0'
20					
25					
30					



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

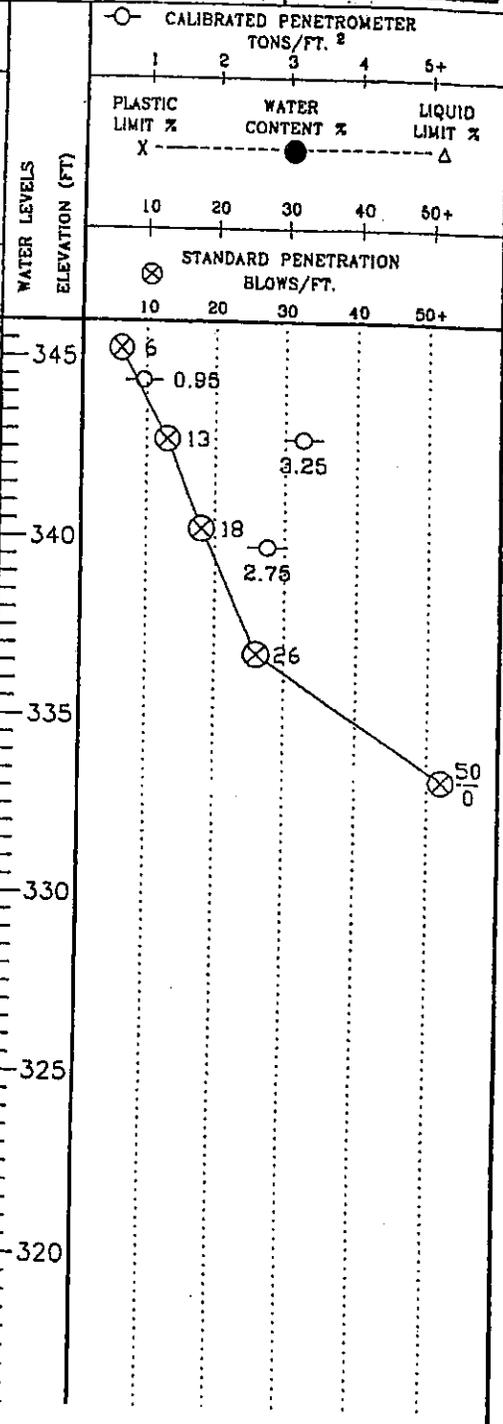
∇WL 12.5'	WS OR (D)	BORING STARTED 01-22-01	TOPSOIL DEPTH 2"
∇WL(AB) 9.0'	∇WL(AC)	BORING COMPLETED 01-22-01	CAVE IN DEPTH • 11.0' (11.0' • 1HR)
∇WL 8.5' @ 1HR		RIG CME75 FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER



CLIENT TERRABROOK	JOB # 5587G	BORING # B-78	SHEET 1 OF 1
PROJECT NAME BROADLANDS SOUTH	ARCHITECT-ENGINEER BOWERS		

SITE LOCATION  
ASHBURN, VA.

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	
					ENGLISH UNITS	SURFACE ELEVATION
0	1	SS	18	18	CLAY, Tannish Brown, Moist, Medium Stiff, (CH)	346
	2	SS	18	10	CLAY, Trace Fine Sand, Dark Greenish Brown, Moist, Very Stiff, (CH)	
5	3	SS	18	12		
	4	SS	18	16	Gravelly SAND, With Clay, Dark Brown, Moist, Medium Dense, (SW)	
10	5	SS	0	0	AUGER REFUSAL @ 12.5'	



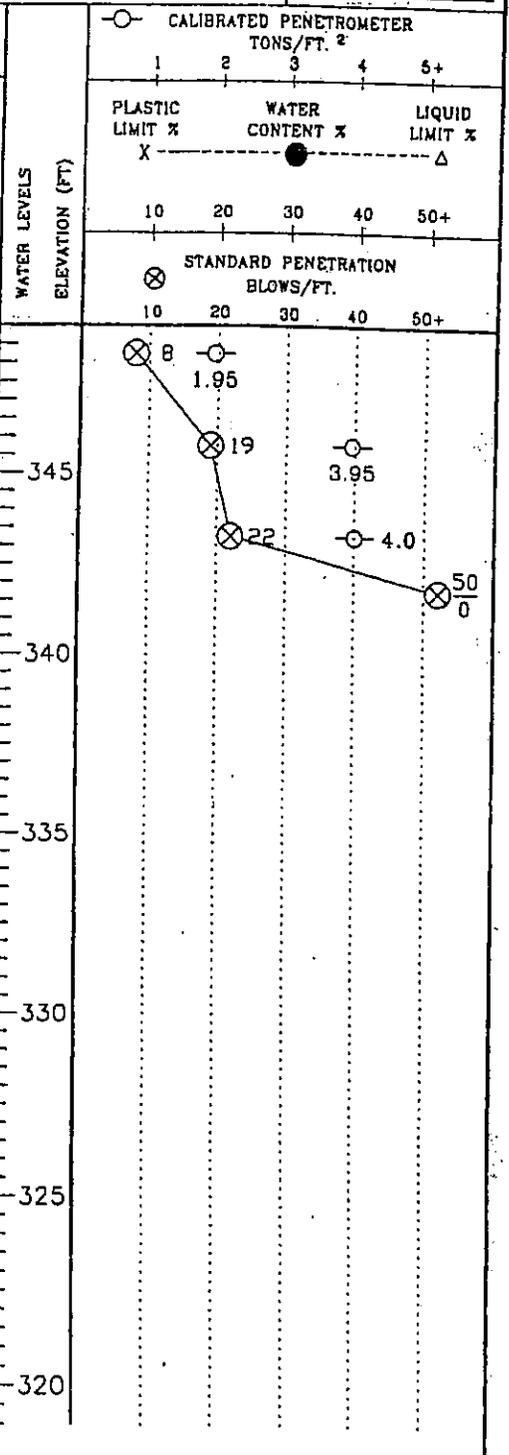
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED 01-17-01	TOPSOIL DEPTH 2"
▽ WL(AB) DRY	▽ WL(AC)	BORING COMPLETED 01-17-01	CAVE IN DEPTH • 11.5' (11.5' • 1HR)
▽ WL		RIG CME75 FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-79</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
SURFACE ELEVATION <b>349</b>						
0	1	SS	18	14	CLAY, Trace Fine Sand, Tannish Brown, Moist, Stiff, (CH)	
	2	SS	18	8	CLAY, Trace Fine Sand, Dark Greenish Brown, Moist, Very Stiff to Hard, (CH)	345
5	3	SS	18	12		
	4	SS	0	0		
AUGER REFUSAL @ 7.0'						340
10						
15						
20						
25						
30						



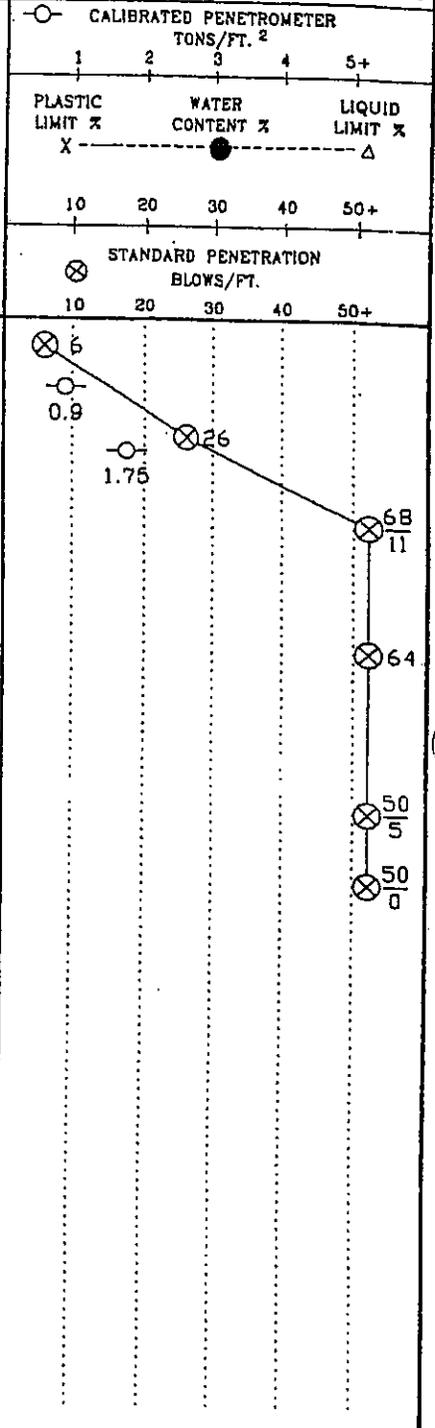
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL.

∇ WL DRY	WS OR (D)	BORING STARTED	01-17-01	TOPSOIL DEPTH 1"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED	01-17-01	CAVE IN DEPTH • 5.0' (5.0' • 1HR)
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-80</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>350</b>	
0	1	SS	18	8	CLAY, Trace Fine Sand, Brown, Moist, Medium Stiff, (CH)	
	2	SS	18	3	CLAY, Brown, Moist, Stiff, (CH)	
5	3	SS	17	16	Clayey Fine SAND, Dark Tannish Brown, Moist, Very Dense, (SC)	345
10	4	SS	18	6	Saprolitic Gravelly SAND, Trace Clay, Dark Brown, Extremely Dense, (SP/WR)	340
	5	SS	5	2		
15	6	SS	0	0		335
					AUGER REFUSAL @ 15.5'	
20						330
25						325
30						



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

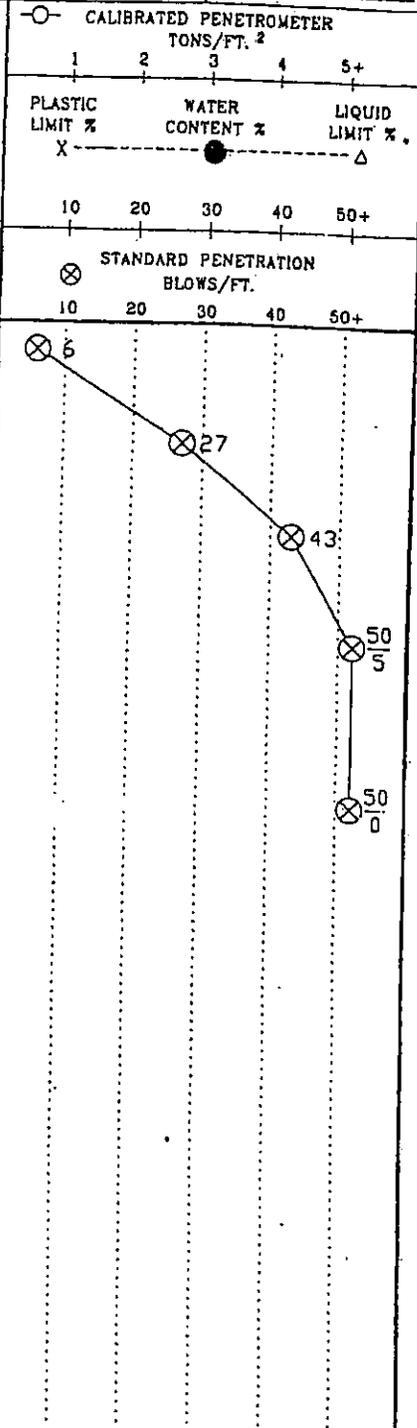
▽ WL DRY	WS OR (D)	BORING STARTED 01-18-01	TOPSOIL DEPTH 2"
▽ WL(AB) DRY	▽ WL(AC)	BORING COMPLETED 01-18-01	CAVE IN DEPTH ● 13.0'
▽ WL		RIG CME75 FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-81</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		



SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>347</b>	
0	1	SS	18	6	SILT, Trace Clay, Dark Gray, Moist, Loose, (ML)	345
	2	SS	18	10	Clayey SAND, Yellowish Dark Green, Moist, Medium Dense to Dense, (SC/CH)	
5	3	SS	18	10		340
	4	SS	5	3	Weathered DIABASE, Dark Brown to Black, Dry to Moist, (GM/WR)	
10						335
	5	SS	0	0	AUGER REFUSAL @ 13.0'	
15						330
20						325
25						320
30						

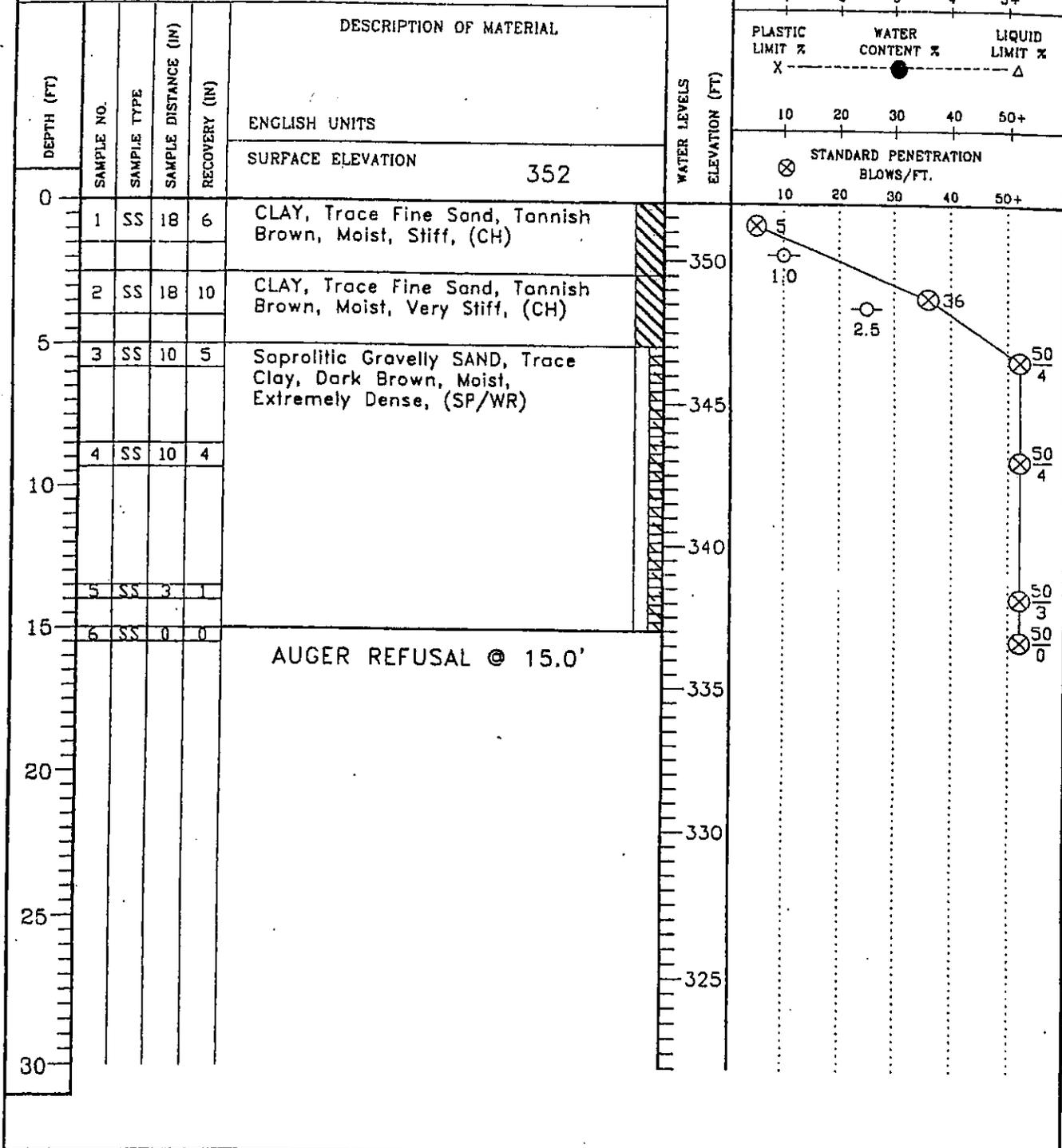


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL 9.0'	WS OR (D)	BORING STARTED	01-18-01	TOPSOIL DEPTH 2"
▽ WL(AB) 6.5'	▽ WL(AC)	BORING COMPLETED	01-18-01	CAVE IN DEPTH @ 9.5'
▽ WL 8.5' @ 1HR		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-82</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		

SITE LOCATION  
**ASHBURN, VA.**



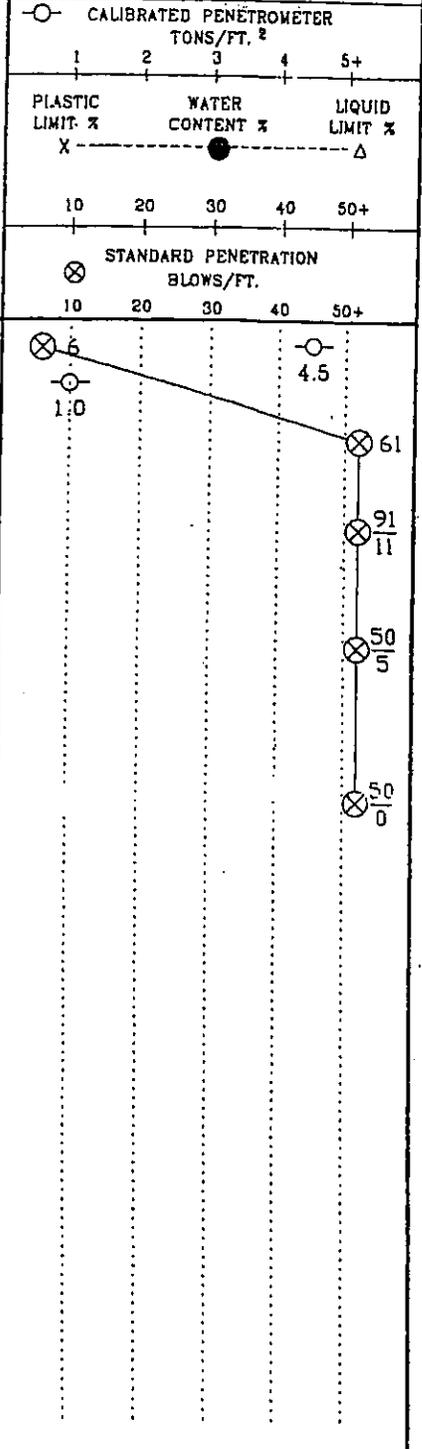
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	01-18-01	TOPSOIL DEPTH 2.5"
▽ WL(AB) DRY    ▽ WL(AC)		BORING COMPLETED	01-18-01	CAVE IN DEPTH ● 12.0'
▽ WL		RIG CME75    FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-56</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>362</b>	
0	1	SS	18	14	CLAY, Trace Fine Sand, Brown, Moist, Stiff, (CH)	360
	2	SS	18	8	CLAY, Trace Fine Sand, Dark Brown, Moist, Hard, (CH)	
5	3	SS	17	10	SAND, Trace Clay, Dark Brown, Moist, Extremely Dense, (WR)	355
	4	SS	11	4		350
10						
	5	SS	0	0		
15					AUGER REFUSAL @ 13.0'	345
20						340
25						335
30						



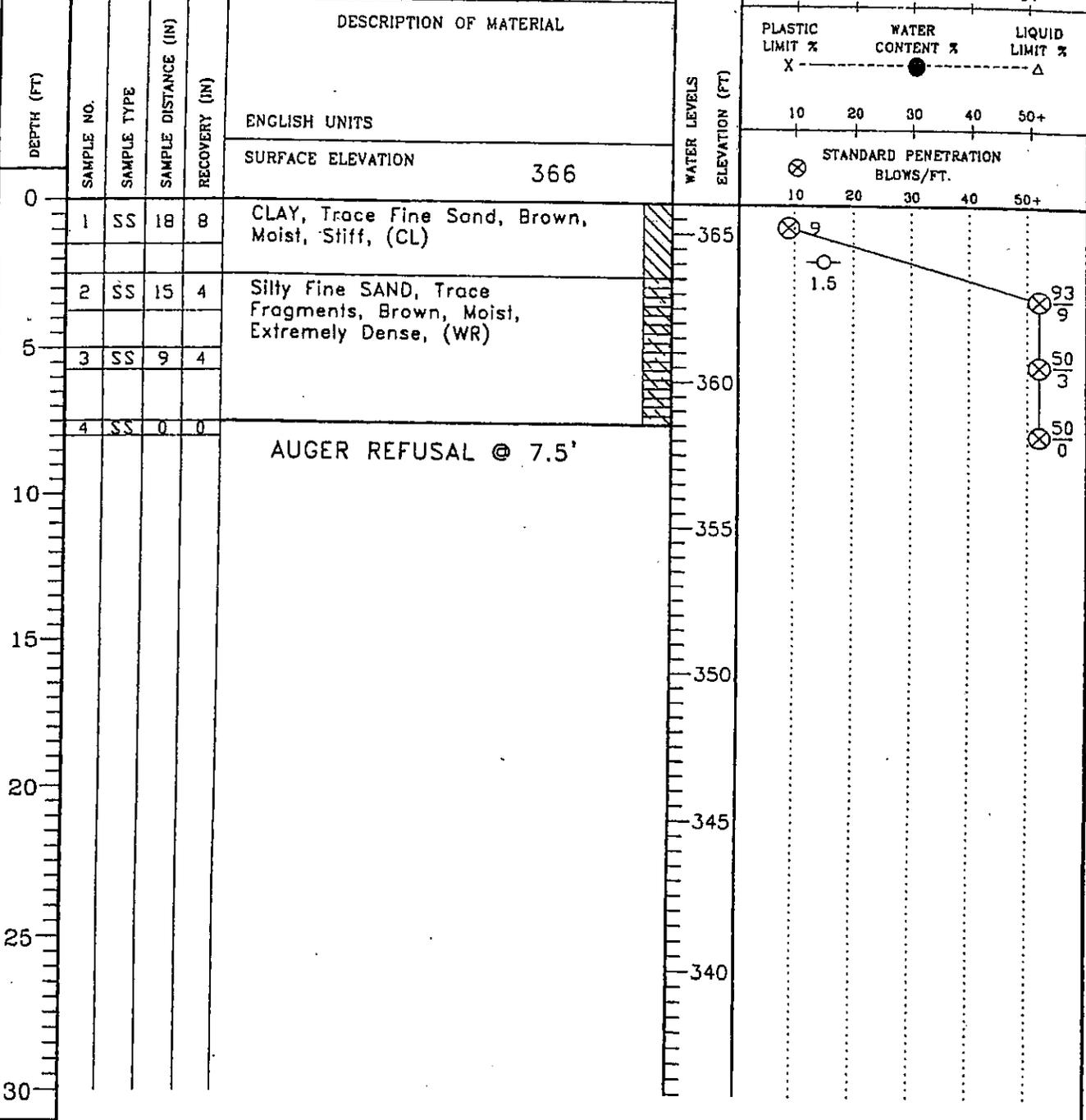
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY-LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED	01/24/01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC) DRY	BORING COMPLETED	01/24/01	CAVE IN DEPTH ● 10.5'
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER



CLIENT TERRABROOK	JOB # 5587-G	BORING # R-57	SHEET 1 OF 1
PROJECT NAME BROADLANDS SOUTH	ARCHITECT-ENGINEER BOWERS		

SITE LOCATION  
ASHBURN, VA



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

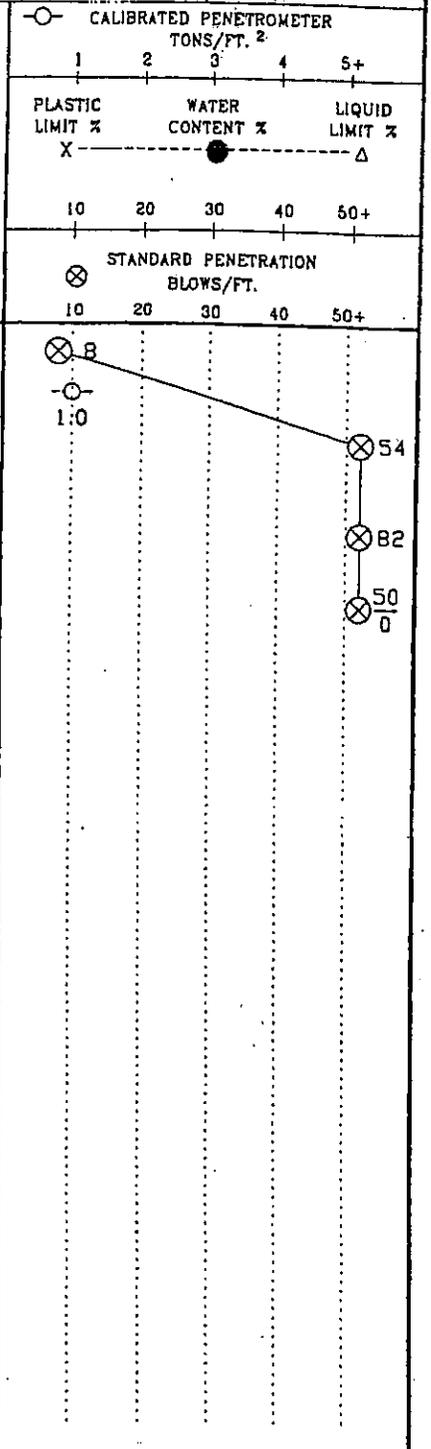
▽ WL DRY	WS OR (D)	BORING STARTED	01/24/01	TOPSOIL DEPTH 2"
▽ WL(AB) DRY	▽ WL(AC) DRY	BORING COMPLETED	01/24/01	CAVE IN DEPTH ● 5.5'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-58</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		



SITE LOCATION  
**ASHBURN, VA**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION	376
0	1	SS	18	14	CLAY, Trace Fine Sand, Brown, Moist, Stiff, (CL)	375
	2	SS	18	4	Fine Sandy CLAY, With Silt, Gray, Moist, Hard, (CL)	
5	3	SS	18	10	Saprolitic SILT, With Fine Sand, Gray, Moist, Very Dense, (ML)	370
	4	SS	0	0	AUGER REFUSAL @ 7.5'	
10						365
15						360
20						355
25						350
30						

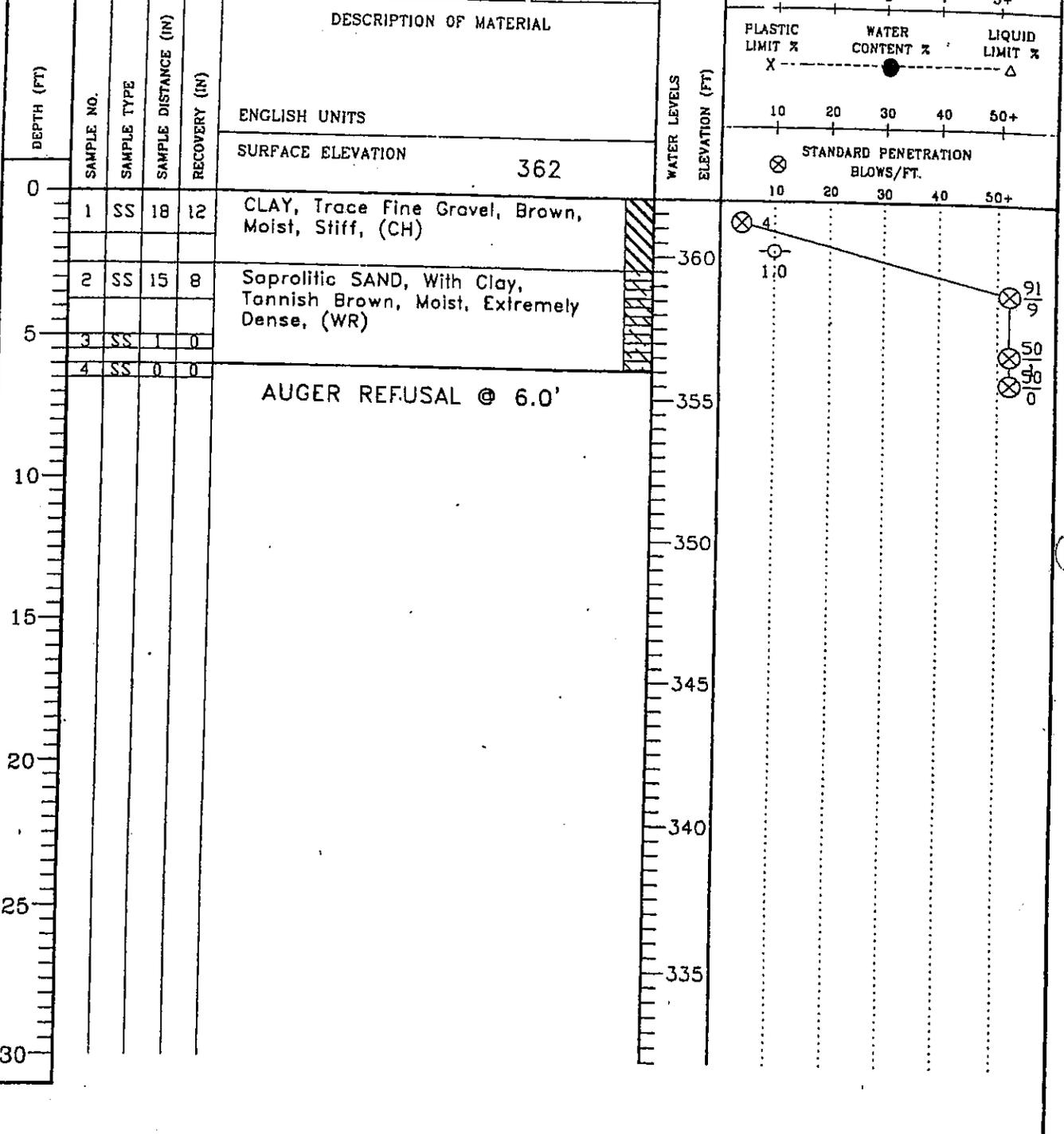


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL DRY	WS OR (D)	BORING STARTED	01/24/01	TOPSOIL DEPTH 2"
▽WL(AB) DRY	▽WL(AC) DRY	BORING COMPLETED	01/24/01	CAVE IN DEPTH • 4.5'
▽WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-59</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL DRY	WS OR (W)	BORING STARTED	01/24/01	TOPSOIL DEPTH 2"
▽WL(AB) DRY	▽WL(AC) DRY	BORING COMPLETED	01/24/01	CAVE IN DEPTH ● 4.0'
▽WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

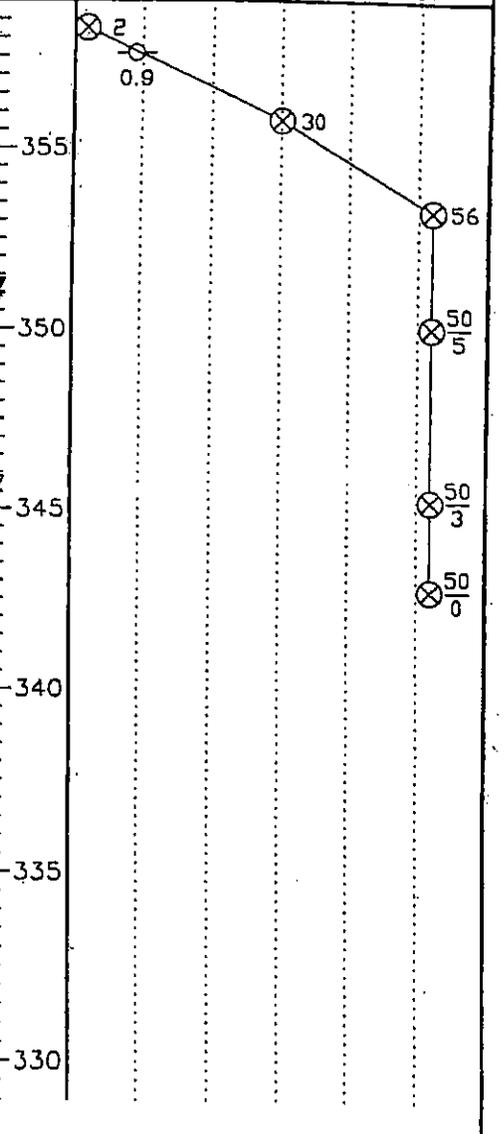
CLIENT <b>TERRABROOK</b>	JOB # 5587-G	BORING # R-60	SHEET 1 OF 1	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION	359

○ CALIBRATED PENETROMETER TONS/FT.²				
1	2	3	4	5+
PLASTIC LIMIT %		WATER CONTENT %		LIQUID LIMIT %
X	●			Δ
10	20	30	40	50+
⊗ STANDARD PENETRATION BLOWS/FT.				
10	20	30	40	50+

0	1	SS	18	14	CLAY, Trace Fine Sand, Brown, Moist, Soft, (CH)	
	2	SS	18	10	Fine SAND, Trace Clay, Dark Brown, Moist, Dense, (SP)	355
5	3	SS	18	12		
	4	SS	11	0	Medium to Highly Weathered DIABASE, Dark Brown, Moist, Extremely Dense, (WR)	350
10						
	5	SS	3	1		345
15						
	6	SS	0	0		
20	AUGER REFUSAL @ 16.0'					340
						335
25						
30						330



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL.

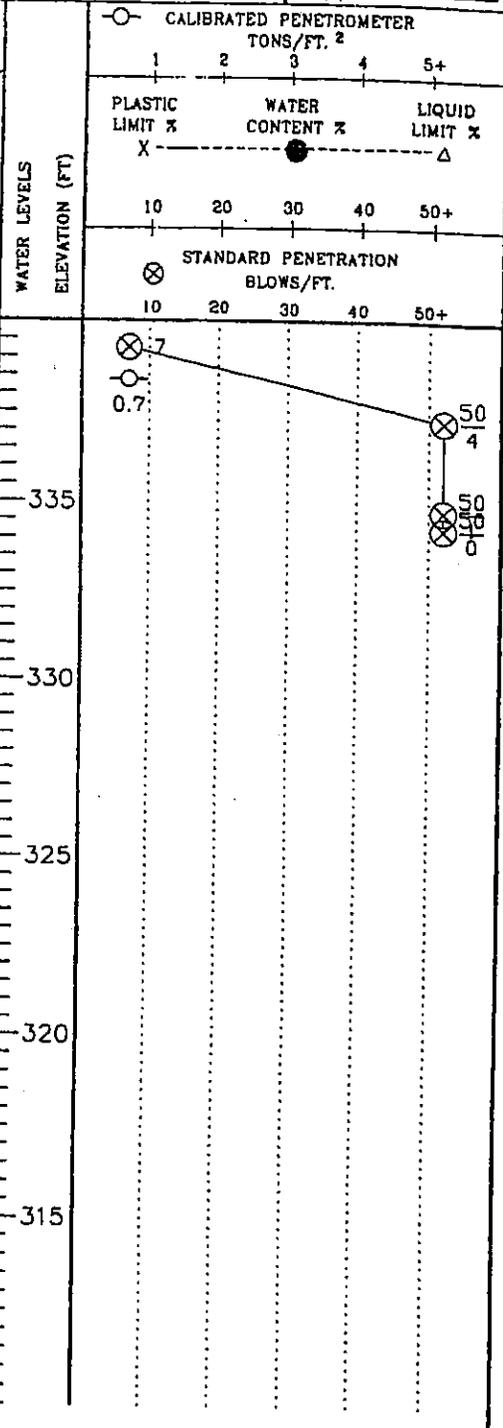
▽ WL 13.5'	WS OR (KD)	BORING STARTED	01/25/01	TOPSOIL DEPTH 1"
▽ WL(AB)	▽ WL(AC) 8.0'	BORING COMPLETED	01/25/01	CAVE IN DEPTH ● 11.0'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER



CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-68</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION <b>340</b>
0	1	SS	18	6	CLAY, Trace Fine Sand, Brown, Moist, Medium Stiff, (CH)
	2	SS	4	2	Saprolitic Gravelly SAND, Dark Brown, Moist, Extremely Dense, (SP/WR)
5	3	SS	1	0	AUGER REFUSAL @ 5.5'
	4	SS	0	0	



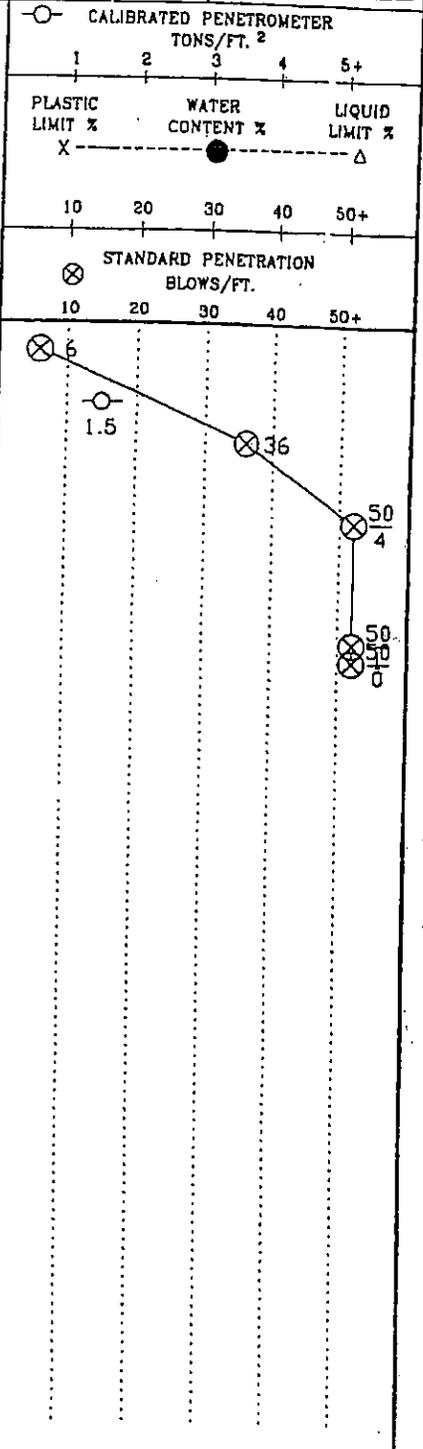
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED	01-22-01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC)	BORING COMPLETED	01-22-01	CAVE IN DEPTH ● 3.5'
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-69</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
SURFACE ELEVATION						341
0	1	SS	18	6	CLAY, With Fine Sand, Brown, Moist, Stiff, (CL)	340
	2	SS	18	6	Clayey SAND, Dark Brown, Moist, Dense, (SC)	
5	3	SS	10	4	Saprolitic Gravelly SAND, Dark Brown, Moist, Extremely Dense, (SP/WR)	335
	4	SS	0	0		
	5	SS	0	0		
10	AUGER REFUSAL @ 9.0'					330
15						325
20						320
25						315
30						



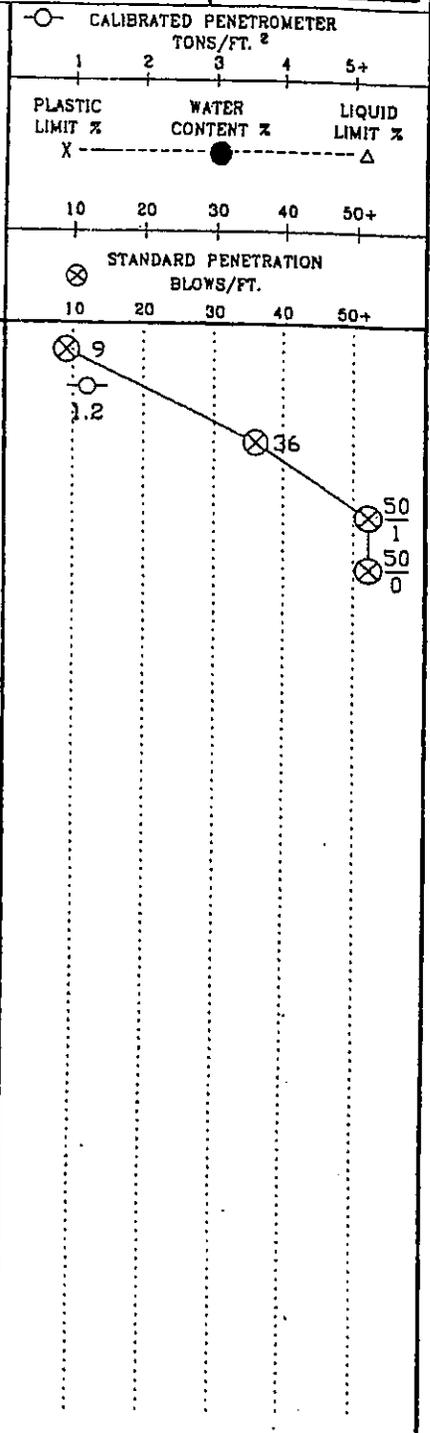
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (WD)	BORING STARTED	01-17-01	TOPSOIL DEPTH 2"
▽ WL(AB) DRY	▽ WL(AC)	BORING COMPLETED	01-17-01	CAVE IN DEPTH ● 7.0'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-70</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>341</b>	
0	1	SS	18	10	CLAY, Trace Fine Sand, Brown, Moist, Stiff, (CH)	340
	2	SS	18	8	Clayey Fine SAND, Brown, Moist, Dense, (SC)	
5	3	SS	7	2	Saprolitic Gravelly SAND, Dark Brown, Moist, Extremely Dense, (SP/WR)	335
	4	SS	0	0		
					AUGER REFUSAL @ 6.5'	



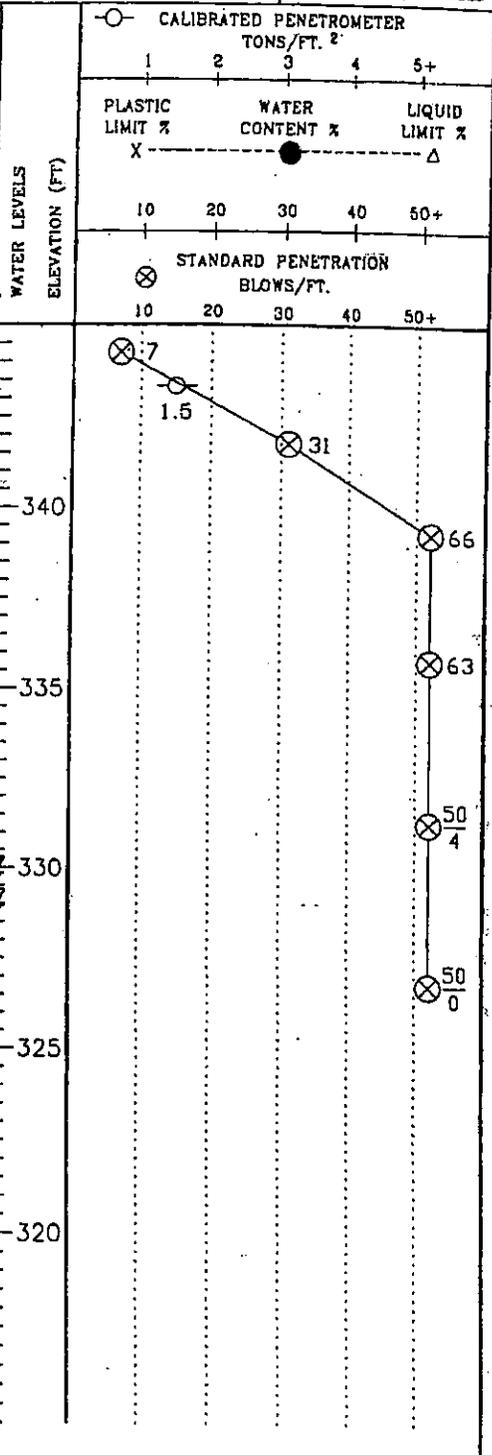
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES (IN-SITU THE TRANSITION MAY BE GRADUAL)

▽ WL DRY	WS OR (D)	BORING STARTED <b>01-17-01</b>	TOPSOIL DEPTH <b>1"</b>
▽ WL (AB) DRY	▽ WL (AC)	BORING COMPLETED <b>01-17-01</b>	CAVE IN DEPTH ● <b>4.5'</b>
▽ WL		RIG <b>CME75</b> FOREMAN <b>D&amp;S</b>	DRILLING METHOD <b>HOLLOW STEM AUGER</b>

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-71</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
SURFACE ELEVATION <b>345</b>						
0	1	SS	18	12	Silty CLAY, Grayish Brown, Moist, Stiff, (CL-ML)	
	2	SS	18	12	Silty Fine SAND, Orangish Brown, Moist, Dense to Very Dense, (SP/SM)	
5	3	SS	18	12		
	4	SS	18	14	Highly Weathered DIABASE, Trace Fragments, Dry to Moist, Very Dense to Extremely Dense, (SP)	
10						
	5	SS	4	4		
15					AUGER REFUSAL @ 18.0'	
	6	SS	0	0		
20						
25						
30						



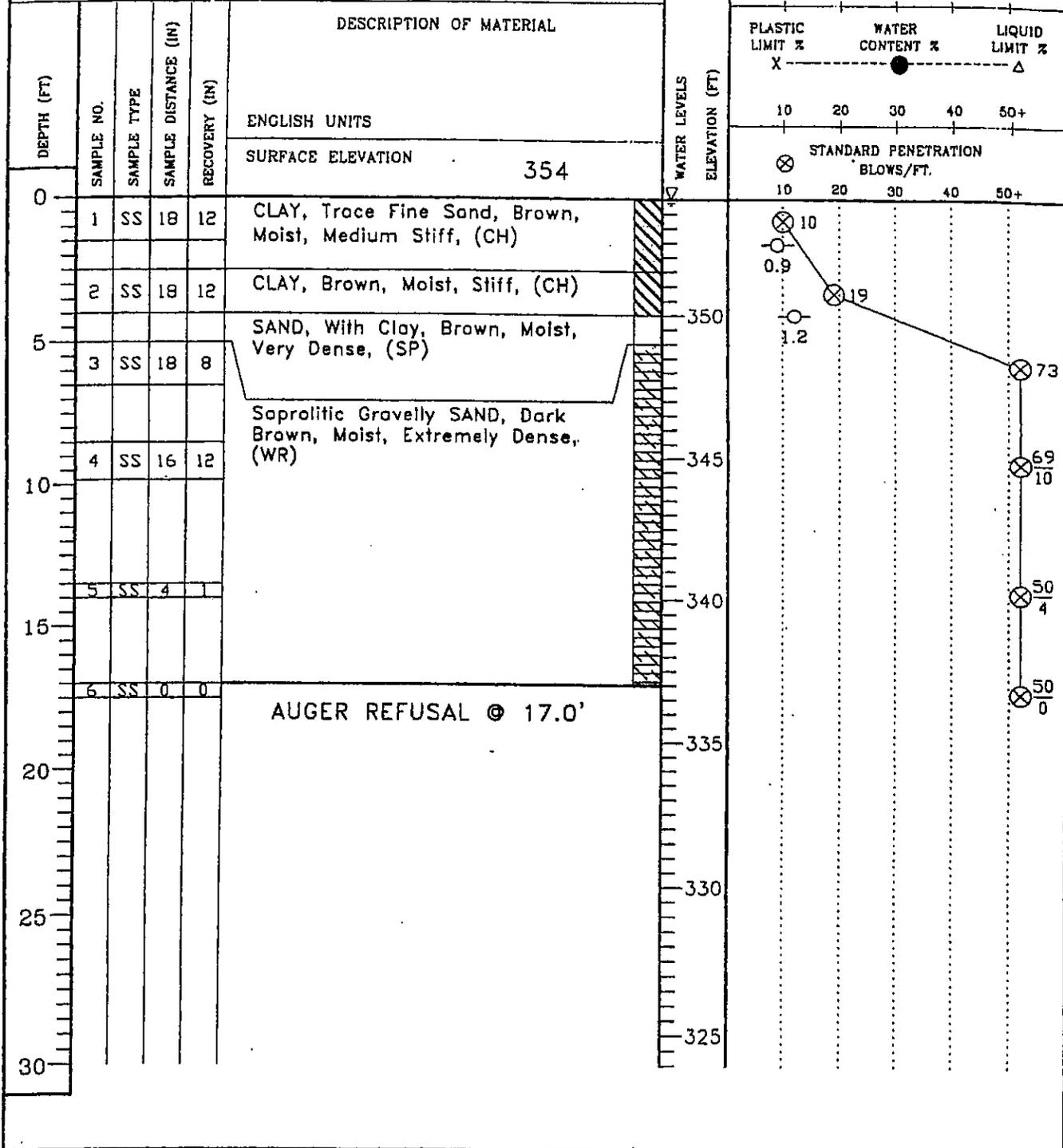
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 16.0'	WS OR (D)	BORING STARTED 01-16-01	TOPSOIL DEPTH 4"
▽WL(AB) 15.1'    ▽WL(AC)		BORING COMPLETED 01-16-01	CAVE IN DEPTH @ 16.2'
▽WL		RIG CME75    FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-44</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		



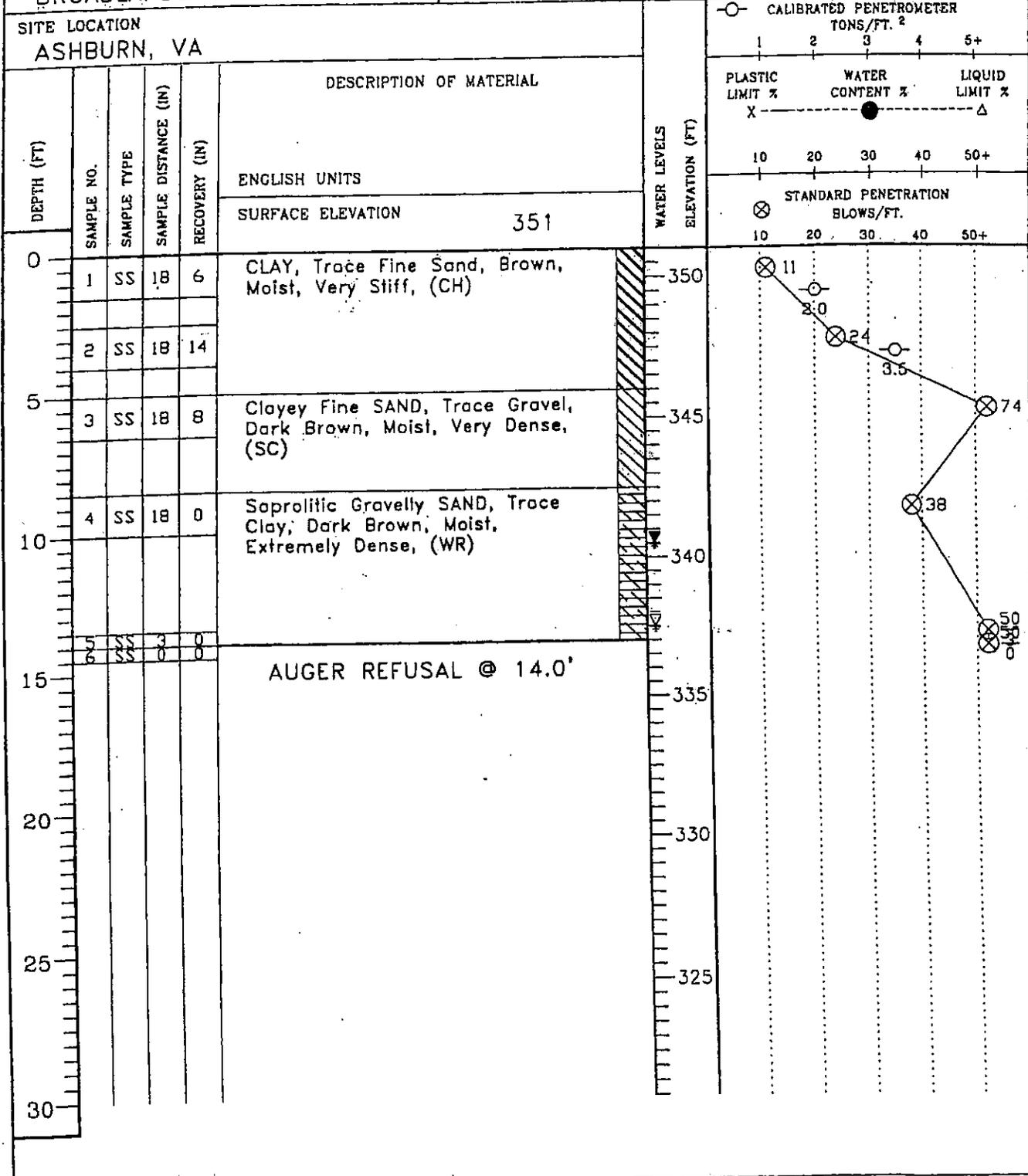
SITE LOCATION  
**ASHBURN, VA**



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇WL DRY	WS OR (D)	BORING STARTED	01/22/01	TOPSOIL DEPTH 2"
∇WL(AB) DRY	∇WL(AC) DRY	BORING COMPLETED	01/22/01	CAVE IN DEPTH ● 13.5'
∇WL		RIG CME-750 FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-45</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

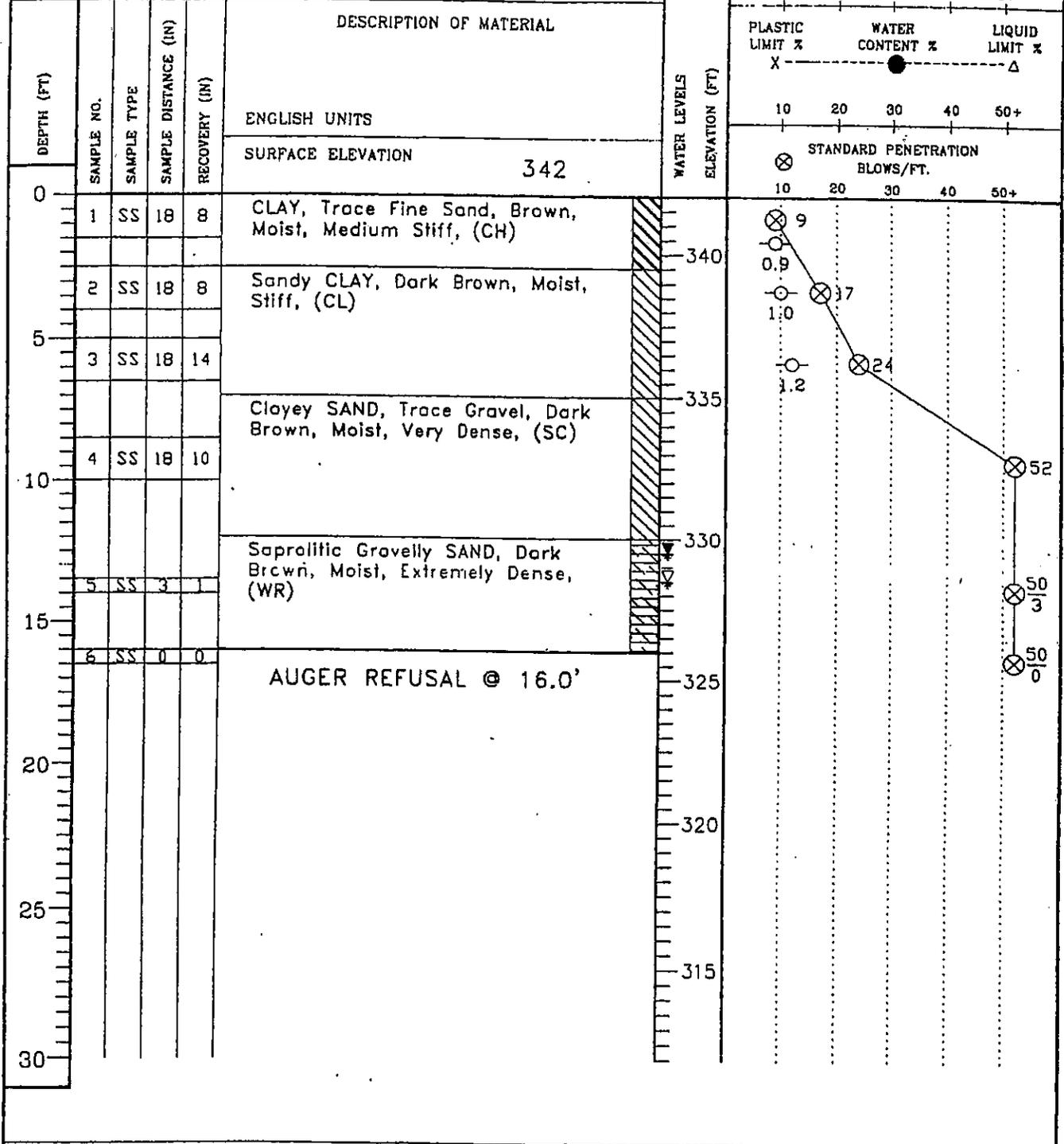


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 13.5	WS OR (D)	BORING STARTED 01/18/01	TOPSOIL DEPTH 1"
▽WL(AB)	▽WL(AC) 10.5	BORING COMPLETED 01/18/01	CAVE IN DEPTH ● 12.0'
▽WL		RIG CME-750 COREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-46</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

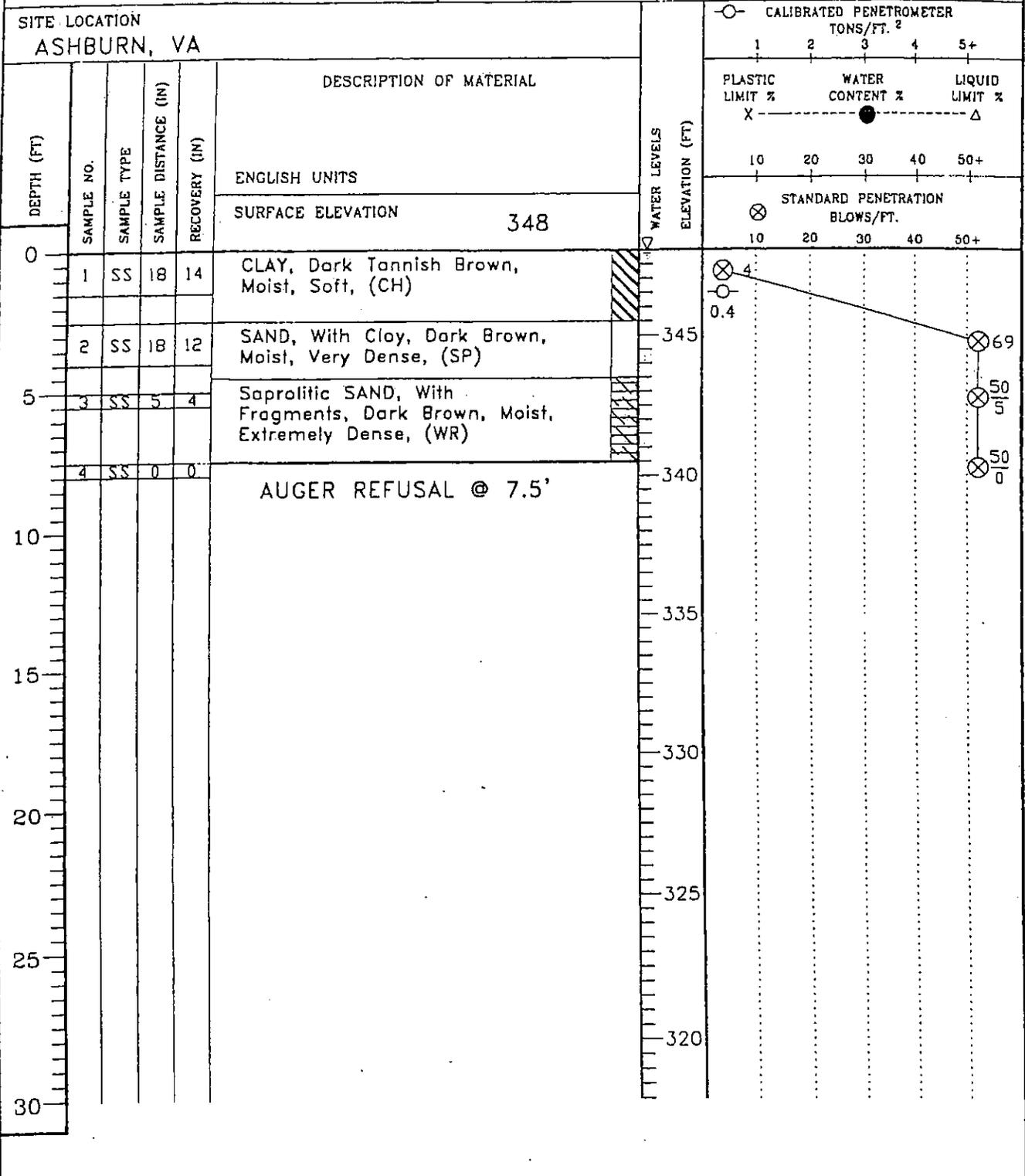
SITE LOCATION  
**ASHBURN, VA**



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL 13.5	WS OR (D)	BORING STARTED	01/23/01	TOPSOIL DEPTH 2"
▽ WL (AB)	▽ WL (AC) 12.5	BORING COMPLETED	01/23/01	CAVE IN DEPTH ● 13.5'
▽ WL		RIG CME750 FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

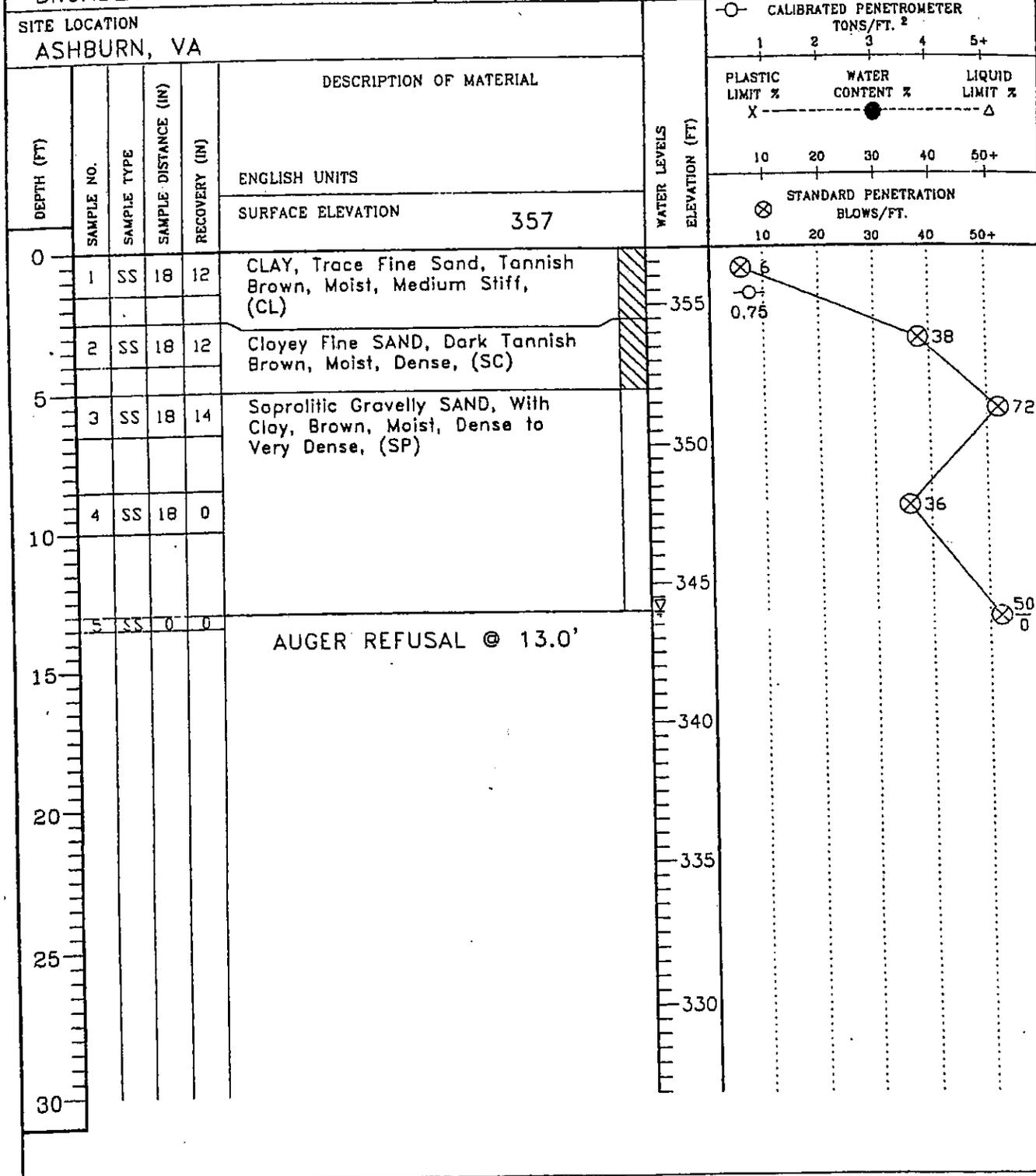
CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-47</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (WD)	BORING STARTED	01/25/01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC) DRY	BORING COMPLETED	01/25/01	CAVE IN DEPTH @ 5.5'
∇ WL		RIG CME750 FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-48</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

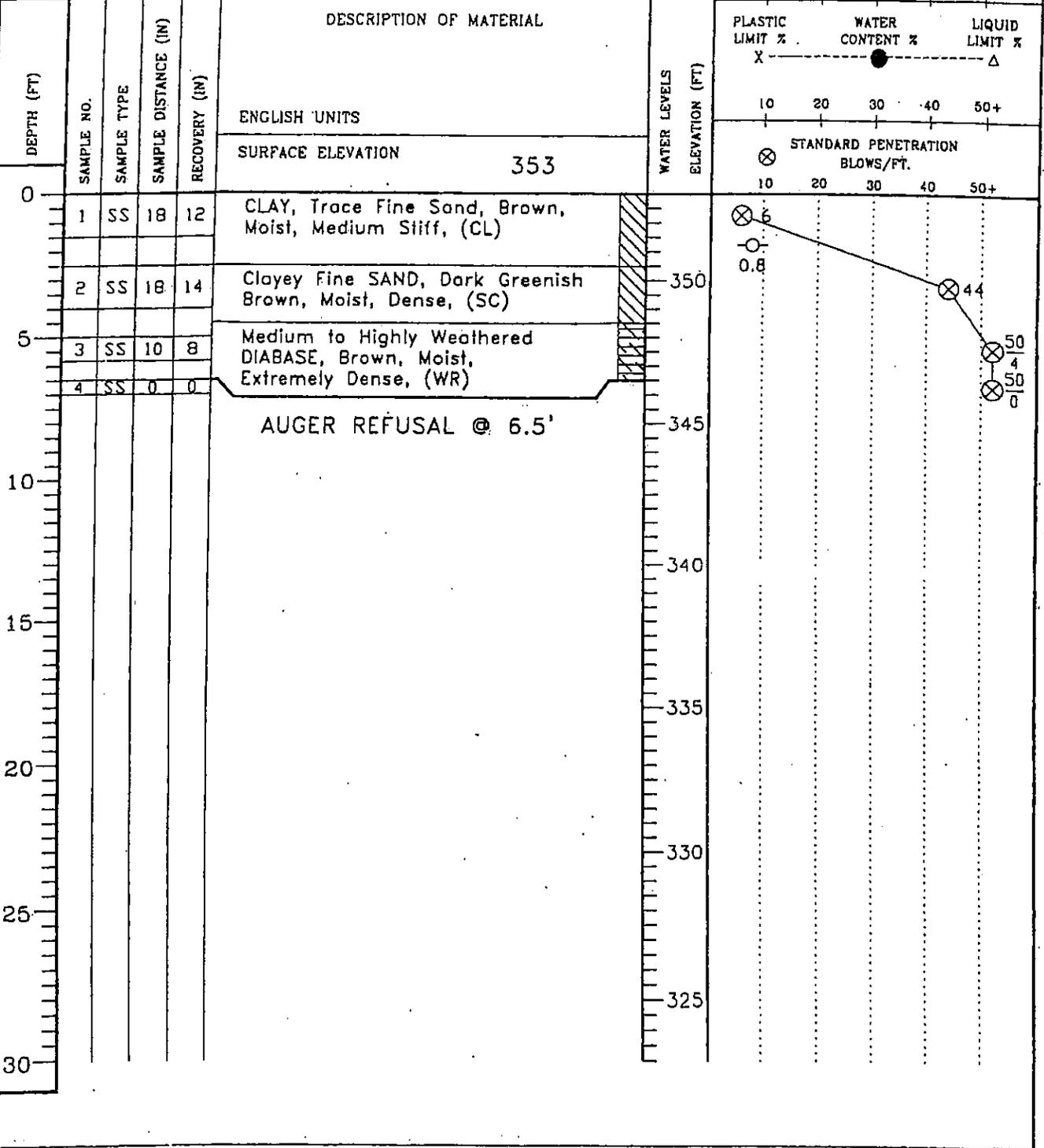


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL 13.0'	WS OR (D)	BORING STARTED	01/25/01	TOPSOIL DEPTH 1"
▽ WL(AB) DRY	▽ WL(AC) DRY	BORING COMPLETED	01/25/01	CAVE IN DEPTH ● 10.0'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-49</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**

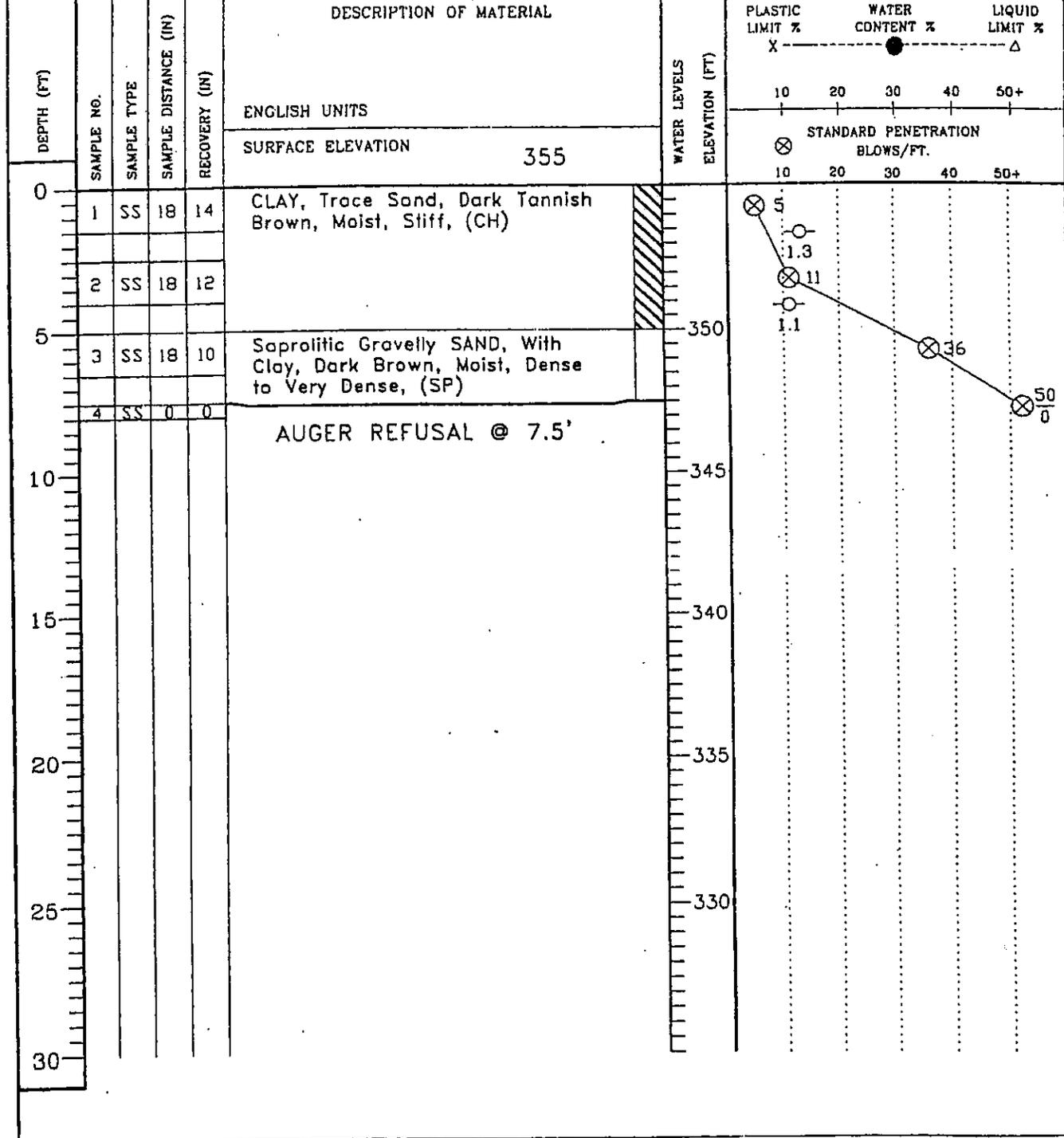


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED	01/25/01	TOPSOIL DEPTH 1"
∇ WL(AB) DRY	∇ WL(AC) DRY	BORING COMPLETED	01/25/01	CAVE IN DEPTH • 5.5'
∇ WL		RIG-CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-50</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**



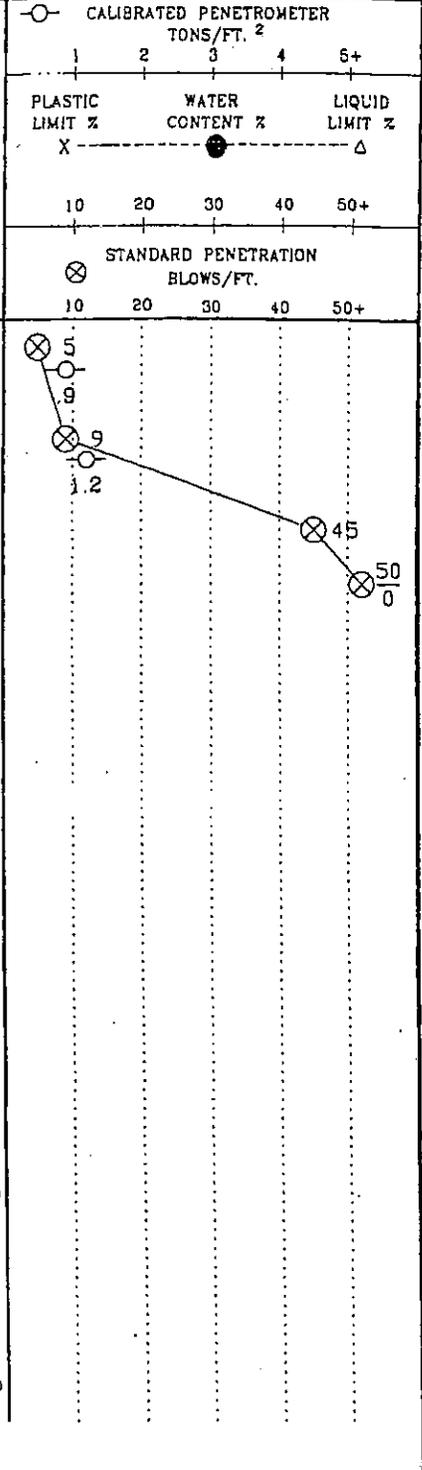
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR <b>WD</b>	BORING STARTED	<b>01/24/01</b>	TOPSOIL DEPTH <b>1"</b>
▽ WL(AB) DRY	▽ WL(AC) DRY	BORING COMPLETED	<b>01/24/01</b>	CAVE IN DEPTH ● <b>6.5'</b>
▽ WL		RIG <b>CME75</b>	FOREMAN <b>D&amp;S</b>	DRILLING METHOD <b>HOLLOW STEM AUGER</b>

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-51</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**

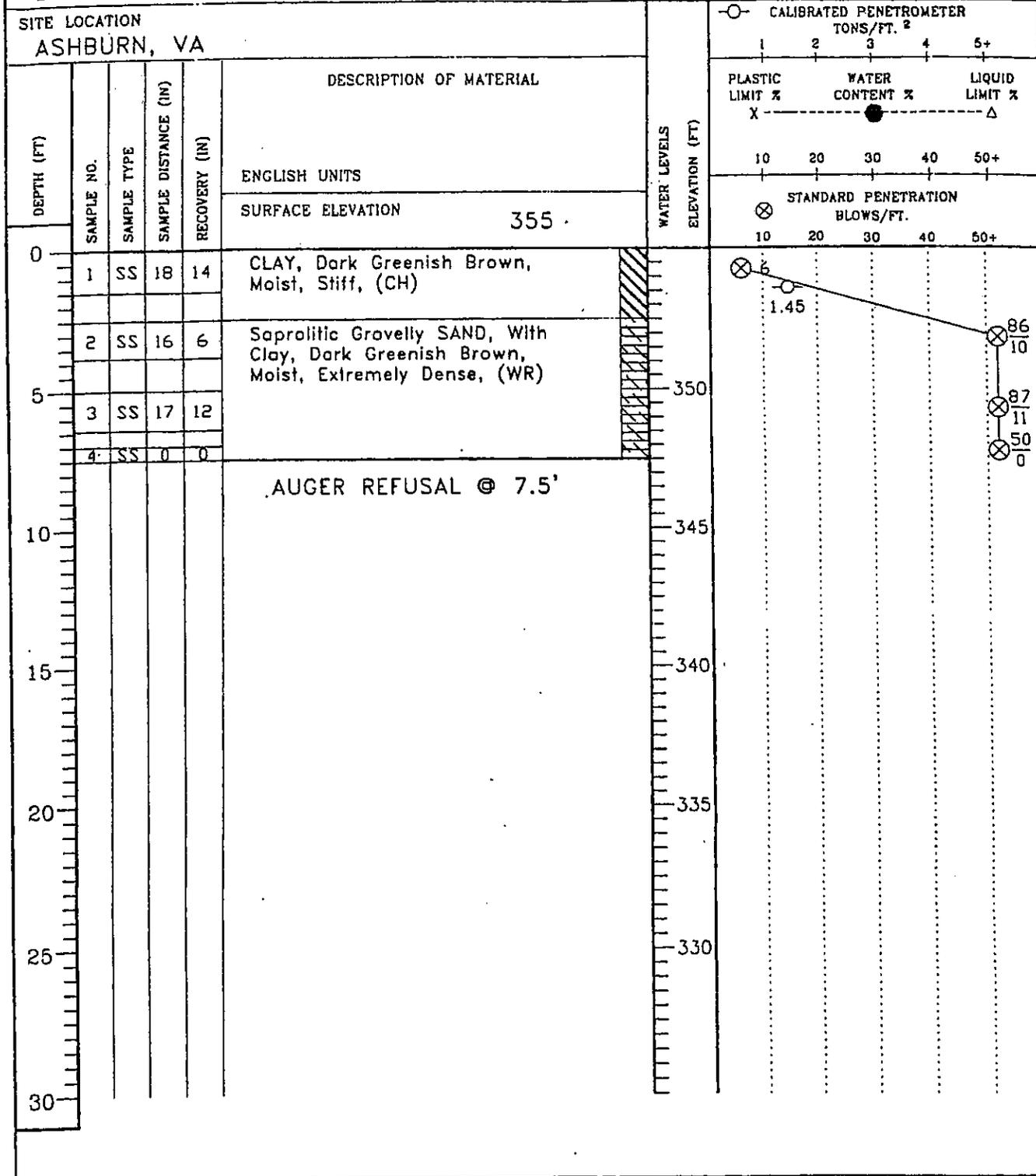
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL		WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS		
					SURFACE ELEVATION <b>354</b>		
0	1	SS	18	16	CLAY, Trace Fine Sand, Brown, Moist, Medium Stiff to Stiff, (CH)		
	2	SS	18	12			
5	3	SS	18	10	Clayey SAND, Trace Fragments, Dark Brown, Moist, Dense, (SC)		
	4	SS	0	0			
					AUGER REFUSAL @ 7.0'		



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED	01/24/01	TOPSOIL DEPTH 1"
∇ WL(AB) DRY	∇ WL(AC) DRY	BORING COMPLETED	01/24/01	CAVE IN DEPTH @ 5.0'
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

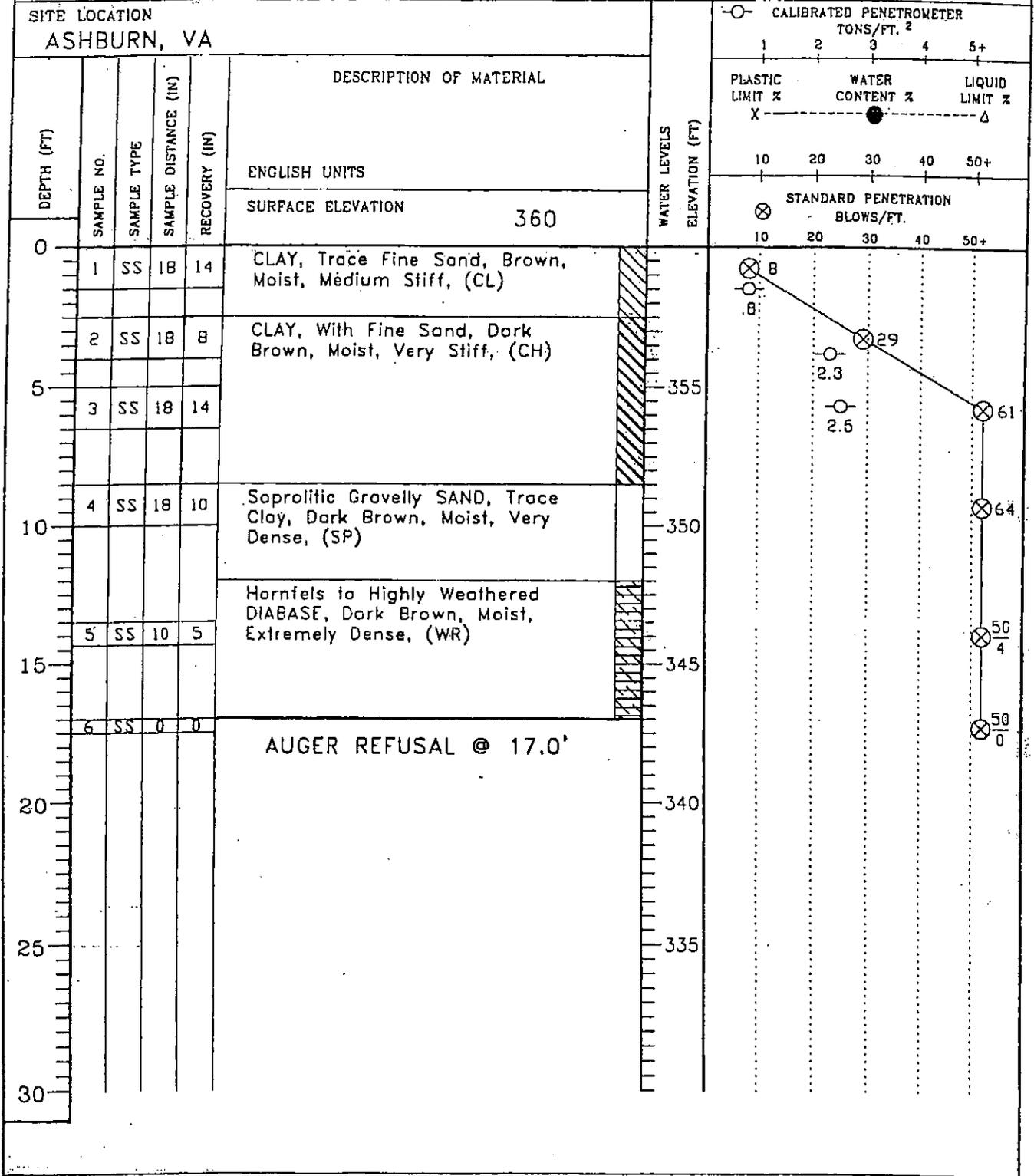
CLIENT TERRABROOK	JOB # 5587-G	BORING # R-52	SHEET 1 OF 1	
PROJECT NAME BROADLANDS SOUTH	ARCHITECT-ENGINEER BOWERS			



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (D)	BORING STARTED	01/26/01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC) DRY	BORING COMPLETED	01/26/01	CAVE IN DEPTH ● 5.5'
∇ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-53</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	01/25/01	TOPSOIL DEPTH 1"
▽ WL(AB) DRY	▽ WL(AC) DRY	BORING COMPLETED	01/25/01	CAVE IN DEPTH ● 12.0'
▽ WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-54</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)	CALIBRATED PENETROMETER TONS/FT.²							
							1	2	3	4	5+			
ENGLISH UNITS							PLASTIC LIMIT % X-----●-----Δ							
SURFACE ELEVATION <b>356</b>							10 20 30 40 50+							
STANDARD PENETRATION BLOWS/FT.							⊗ 10 20 30 40 50+							
0	1	SS	18	10	CLAY, Trace Fine Sand, Brown, Moist, Soft, (CH)	355	⊗ 4							
	2	SS	18	10	Fine SAND, With Clay, Dark Brown, Moist, Dense, (SP)									
5	3	SS	9	9	Fine SAND, With Clay, Trace Gravel, Dark Brown, Moist, Very Dense, (SP)	350								
	4	SS	18	14	SAND, With Clay, Dark Brown, Moist, Dense, (SP)									
10														
	5	SS	0	0										
15	AUGER REFUSAL @ 13.0'													
20														
25														
30														

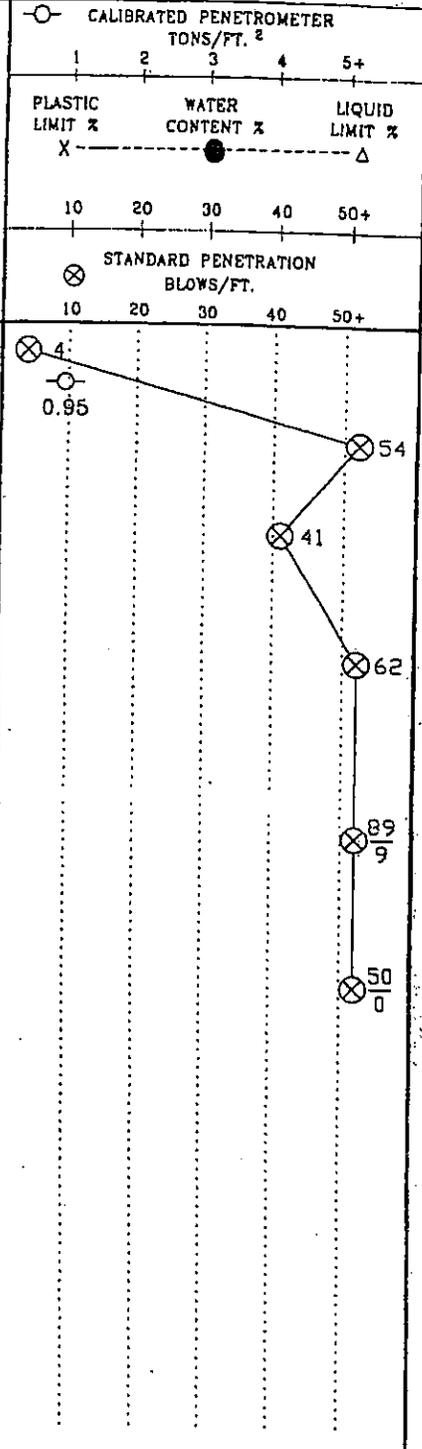
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL DRY	WS OR (D)	BORING STARTED	01/24/01	TOPSOIL DEPTH 2"
▽WL(AB) DRY	▽WL(AC) DRY	BORING COMPLETED	01/24/01	CAVE IN DEPTH ● 10.5'
▽WL		RIG CME75 FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

CLIENT TERRABROOK	JOB # 5587-G	BORING # R-55	SHEET 1 OF 1	<b>ECS LTD</b>
PROJECT NAME BROADLANDS SOUTH	ARCHITECT-ENGINEER BOWERS			

SITE LOCATION  
ASHBURN, VA

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL		WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS		
					SURFACE ELEVATION 361		
0	1	SS	18	14	CLAY, Dark Greenish Brown, Moist, Medium Stiff, (CH)		360
	2	SS	18	12	Clayey Fine SAND, Brown, Moist, Dense to Very Dense, (SM)		
5	3	SS	18	10			355
	4	SS	18	8			
10							350
	5	SS	15	8	Saprotitic Clayey Fine SAND, Dark Brown, Moist, Extremely Dense, (WR)		
15							345
	6	SS	0	0	AUGER REFUSAL @ 18.0'		
20							340
25							335
30							

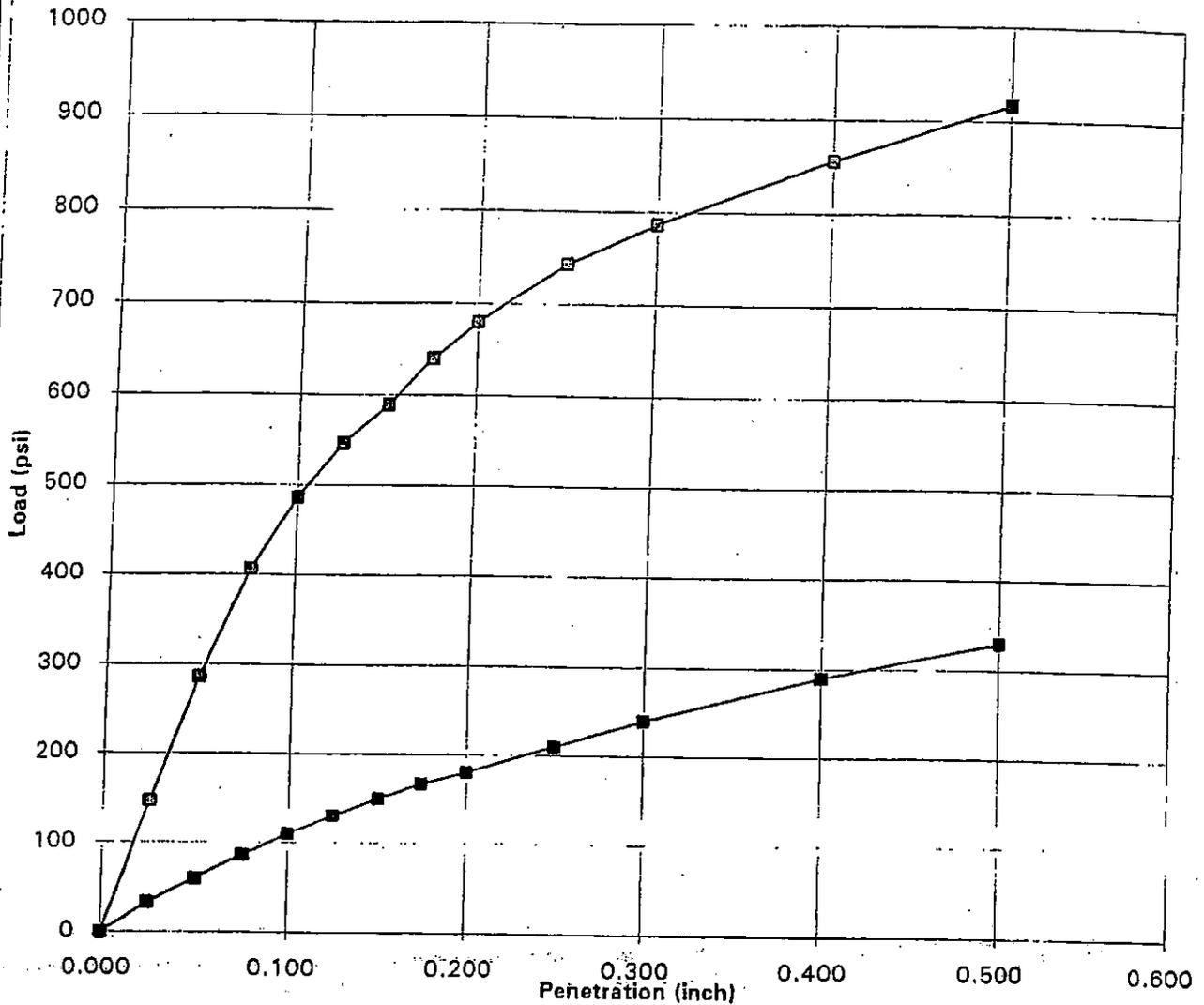


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

∇ WL DRY	WS OR (WD)	BORING STARTED 01/26/01	TOPSOIL DEPTH 2"
∇ WL(AB) DRY	∇ WL(AC) DRY	BORING COMPLETED 01/26/01	CAVE IN DEPTH • 15.0'
∇ WL		RIG. CME75 FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER



### VTM-8 CBR Penetration

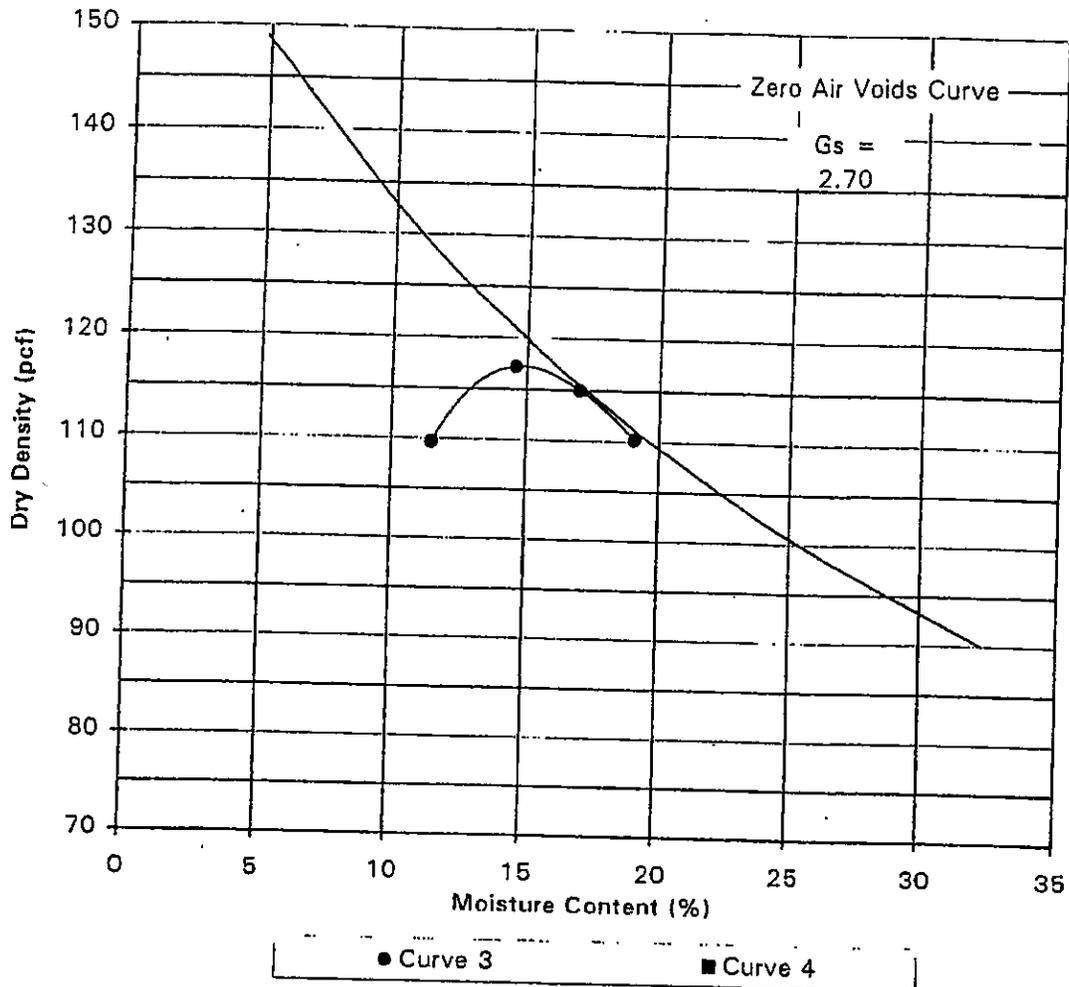


Sample No.: Bulk	Street: R-6 Bulk 1-9
Description: Sandy Lean Clay L/Olive Brown	Station No.: R-48
Classification: CL	Remark:

Property	Value		Unsoaked	Soaked
Maximum Dry Density (pcf)	117.2			
Opt. Moisture Content (%)	14.8	Corrected CBR @ 0.1"	48.7	11.0
Natural Moisture Content	15.9	Corrected CBR @ 0.15"	30.3	9.0
Liquid Limit (LL)	34	Corrected CBR @ 0.2"	19.3	7.0
Plastic Limit (PL)		Dry Density as Molded	119.7	119.7
Plasticity Index (PI)	34	Molded Moisture Content	15.0	15.0
Liquidity Index (LI)		Percent of Maximum Density	102.1	102.1
Percent Retained 3/4" Sieve	0.0	Moisture Content +/- Opt	0.2	0.2
Percent Retained No. 4 Sieve	0.0	Percent (%) Swell		1.6
Percent Passing No. 200 Sieve	53.0			

**Project:** Broadlands South  
**Project No.:** 5587G  
**Date:** 2/16/01

**Engineering Consulting Services, Ltd.**  
 Chantilly, Virginia  
 California Bearing Ratio Curves

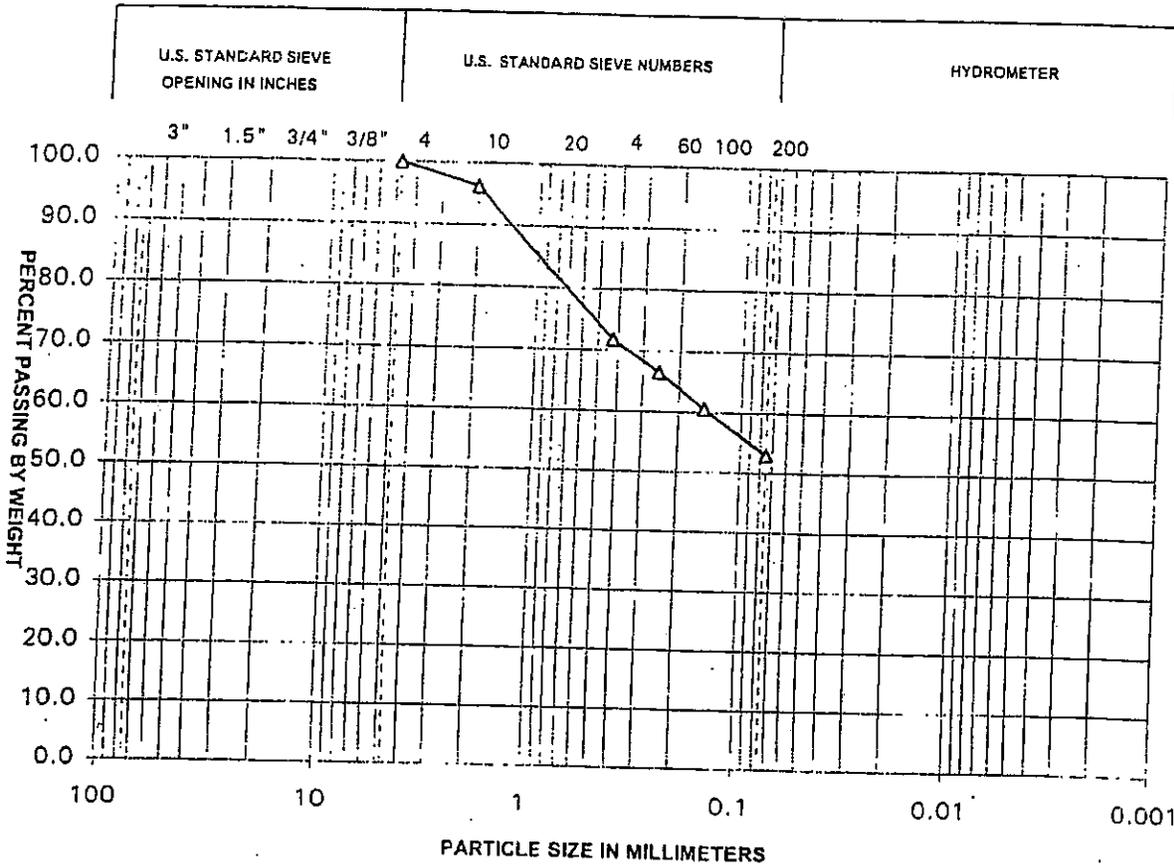


Curve Number	3		
Sample No.	Bulk		
Street	R-48 Bulk		
Station	R-48		
Description	Sandy Lean Clay L/Olive Brown		
Classification	CL		
Liquid Limit (LL)	34		
Plastic Limit (PL)	17		
Plasticity Index (PI)	17		
Percent Passing No.200	53.0		
Percent Retained on No. 4	0.0		
Percent Retained on No. 3/4			
Test Method			
Maximum Density as Tested	117.2		
Optimum Moisture as Tested	14.8		
Corr. Max Density (pcf)			
Corr. Optimum Moisture (%)			

Project: Broadlands South  
 Project No.: 5587G  
 Date: 02/28/01

Engineering Consulting Services, Ltd  
 Chantilly, Virginia  
 Moisture Density Relationship Curve

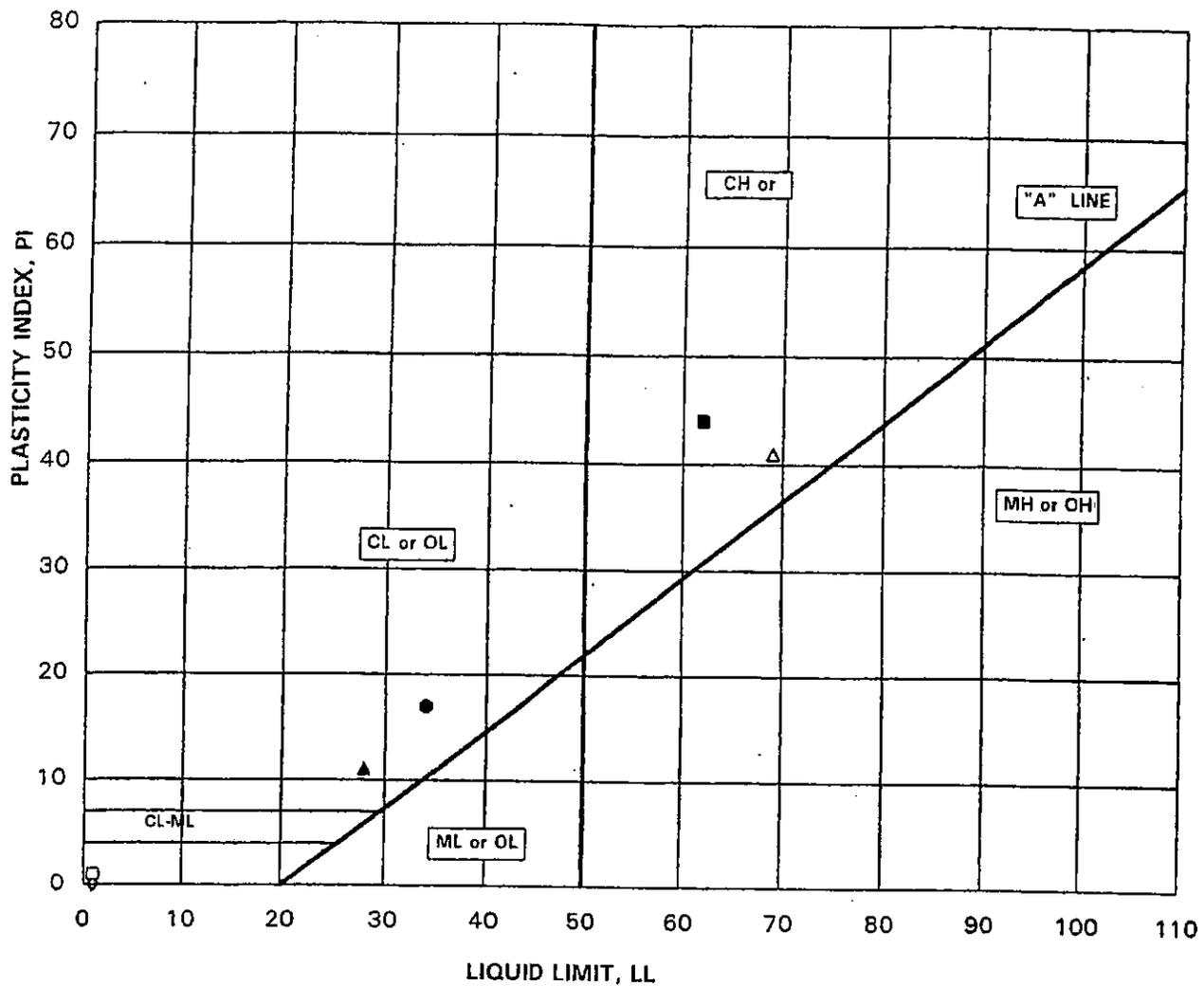
COBBLE	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Boring/ Sample No.	Depth (feet)	Symbol	LL	PI	Description
R48 / Ba		△	34	19	Sandy Lean Clay(CL)/Olive Brown
		■			
		▲			

Project: Broadlands South  
 Project No.: 5587G1  
 Date: 2/28/01

Engineering Consulting Services, Ltd  
 Chantilly, Virginia  
 Grain Size Analysis



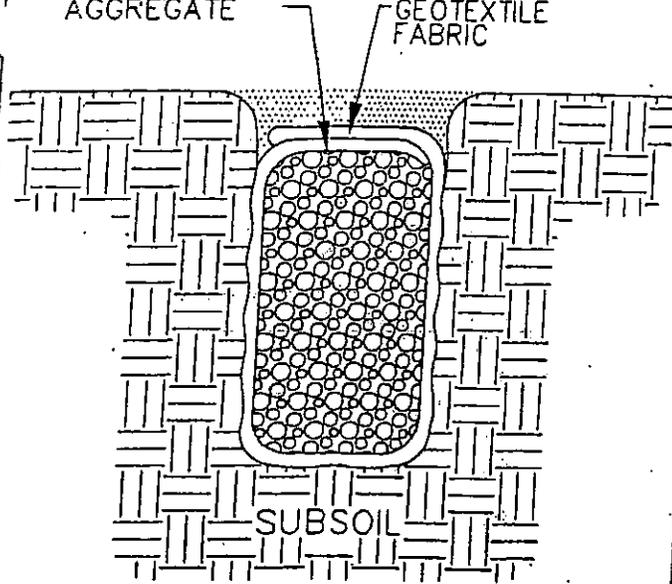
BORING/ SAMPLE No.	DEPTH (feet)	TEST SYMBOL	DESCRIPTION	WATER CONTENT (%)	LL	PL	PI
B-83 / S-2	2.5-4	□	Fat Clay(CH)Olive	24.9	62	18	44
B-93 / S-2	2.5-4	■	Fat Clay w/Sand(CH)Olive	26.4	69	28	41
R-42 / S-1	0-1.5	△	Lean Clay w/Sand(CL)L/Olive Yellow	20.4	28	17	11
R-48 / Bag	5-13	▲	Sandy Lean Clay(CL)L/Olive Brown	15.9	34	17	17
		X					
		○					
		●					
/		◇			-	-	-
/		◆			-	-	-
/		+			-	-	-
		X					

Project:	Broadlands South	Engineering Consulting Services Ltd.
Project No.:	5587G	Chantilly, Virginia
Date:	Feb 16, 2001	Plasticity Chart

FINAL CONFIGURATION

VDOT #57  
AGGREGATE

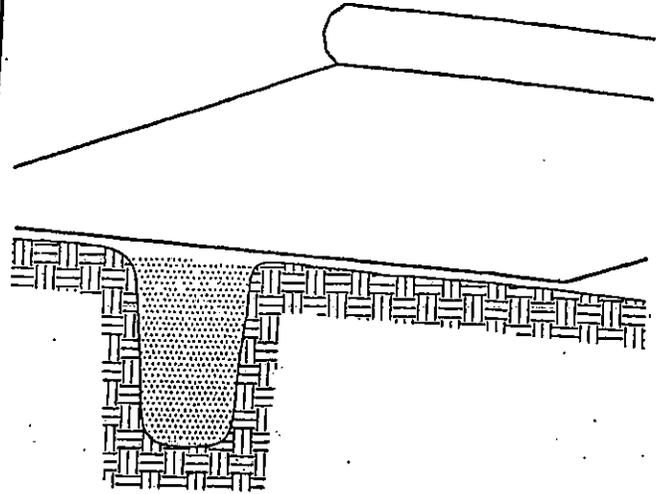
AMOCO 4551  
GEOTEXTILE  
FABRIC



SUBSOIL

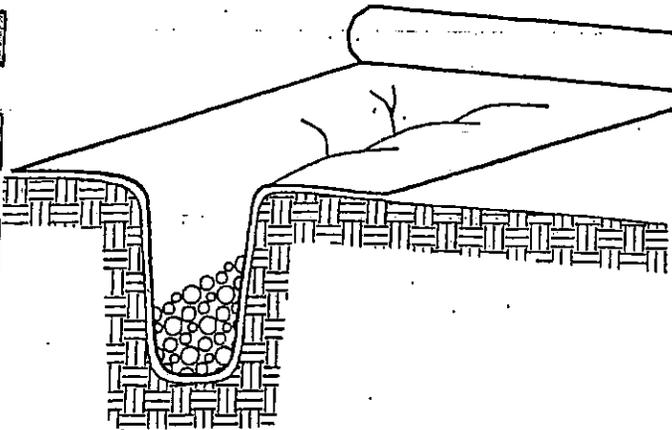
SUBDRAIN USING FILTER FABRIC

STEP 1



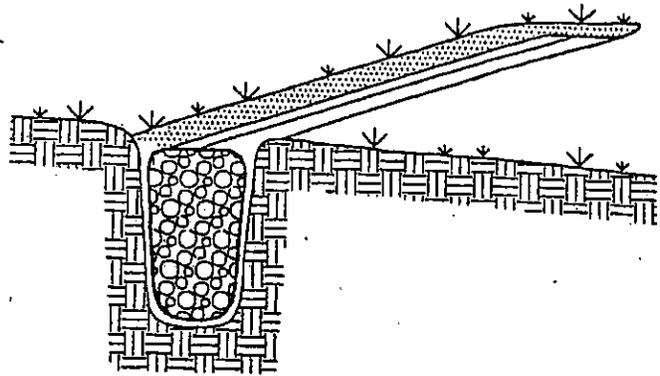
FABRIC IS UNROLLED  
DIRECTLY OVER TRENCH

STEP 2



THE TRENCH IS FILLED WITH AGGREGATE

STEP 3



THE FABRIC IS LAPPED CLOSED  
AND COVERED WITH CLAY  
SOIL COMPACTED

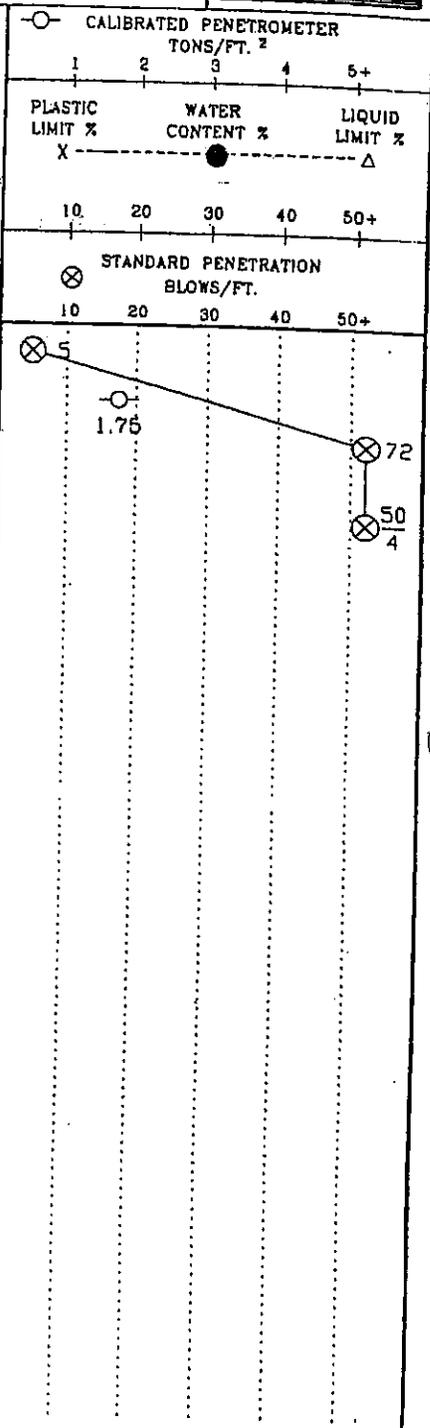
DRAIN INSTALLATION PROCEDURE

(NTS)

CLIENT <b>TERRABROOK</b>	JOB # <b>5587G</b>	BORING # <b>B-104</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA.**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
0					SURFACE ELEVATION <b>363</b>	
1	1	SS	18	14	CLAY, Grayish Brown, Moist, Stiff, (CH)	
2	2	SS	18	10	Clayey Fine SAND, Gray, Moist, Very Dense, (SC)	360
5	3	SS	10	3	Medium to Highly Weathered HORNFELS, Gray, Moist, Extremely Dense, (WR)	
					AUGER REFUSAL @ 6.5'	355
10						350
15						345
20						340
25						335
30						



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

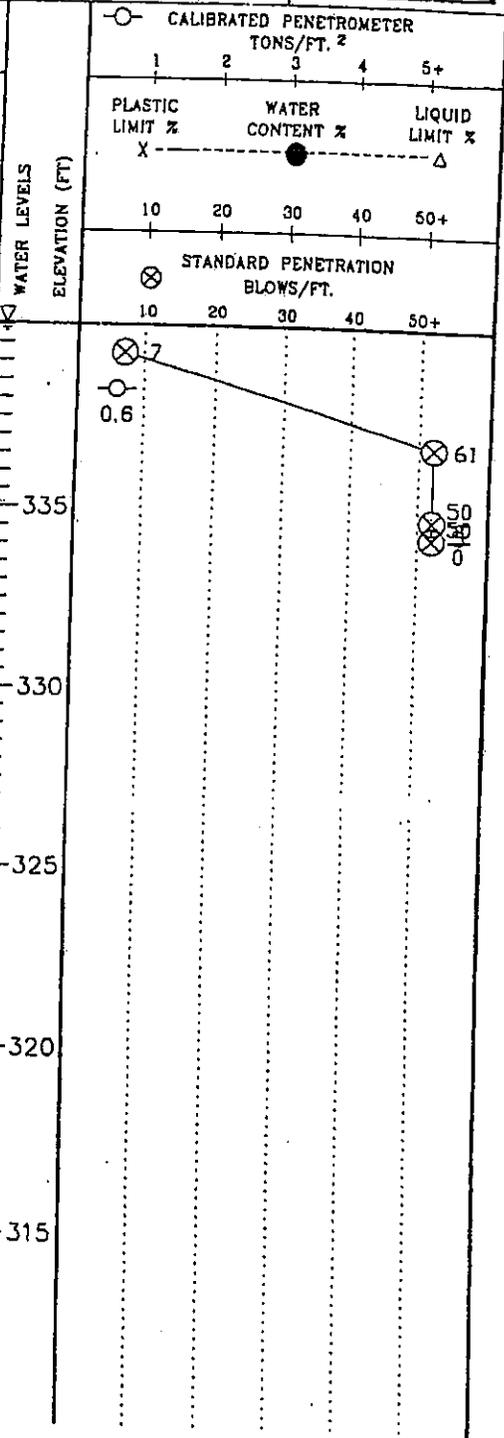
▽WL DRY	WS OR (D)	BORING STARTED	01-26-01	TOPSOIL DEPTH 1"
▽WL(AB) DRY	▽WL(AC)	BORING COMPLETED	01-26-01	CAVE IN DEPTH ● 4.0'
▽WL		RIG CME75	FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-38</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		



SITE LOCATION  
**ASHBURN, VA**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION <b>340</b>
0	1	SS	18	12	CLAY, Trace Fine Sand, Brown, Moist, Medium Stiff, (CH)
	2	SS	18	10	Fine SAND, With Clay, Dark Brown, Moist, Very Dense, (SP)
5	3	SS	5	2	Saprolitic Gravelly SAND, Dark Brown, Moist, Extremely Dense, (WR)
	4	SS	0	0	
					<b>AUGER REFUSAL @ 5.5'</b>



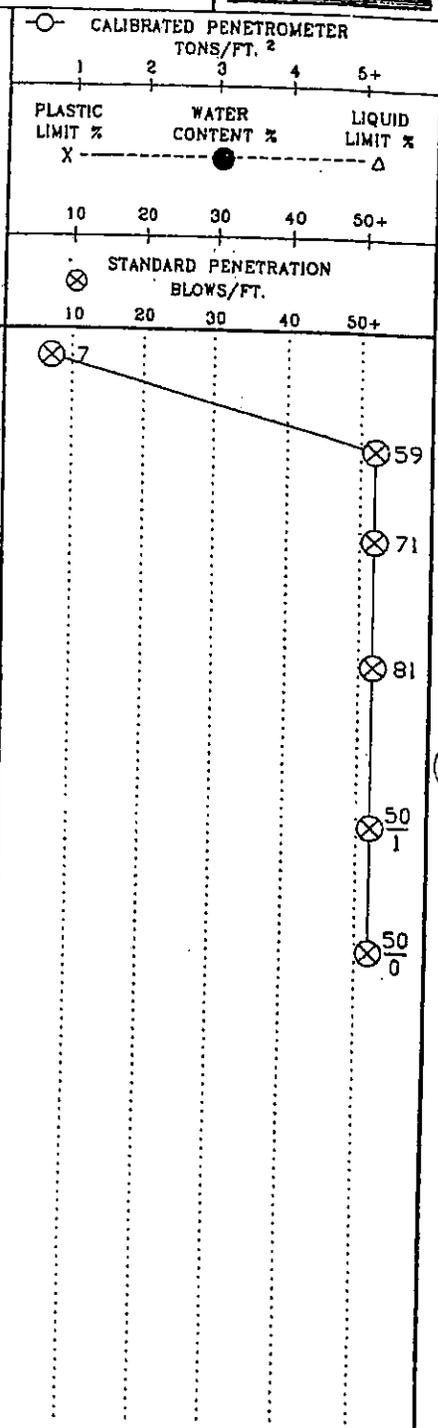
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

WATER LEVEL (WL) DRY	WS OR (TD)	BORING STARTED <b>01/22/01</b>	TOPSOIL DEPTH <b>0"</b>
WATER LEVEL (WL) (AB) DRY	WATER LEVEL (WL) (AC) DRY	BORING COMPLETED <b>01/22/01</b>	CAVE IN DEPTH <b>3.5'</b>
WATER LEVEL (WL)	RIG. <b>CME750</b>	FOREMAN <b>D&amp;S</b>	DRILLING METHOD <b>HOLLOW STEM AUGER</b>

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-39</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
					SURFACE ELEVATION <b>343</b>	
0	1	SS	18	6	SILT, With Clay, Trace Roots, Light to Dark Gray, Moist, Loose, (ML-CL) [Strong Solvent Odor]	
	2	SS	18	8	Saprolitic Silty SAND, Yellowish Light to Dark Brown, Moist, Very Dense to Extremely Dense, (SM)	340
5	3	SS	18	6		335
	4	SS	18	8		330
10	5	SS	1	0		325
15	6	SS	0	0		320
20						AUGER REFUSAL @ 17.0'



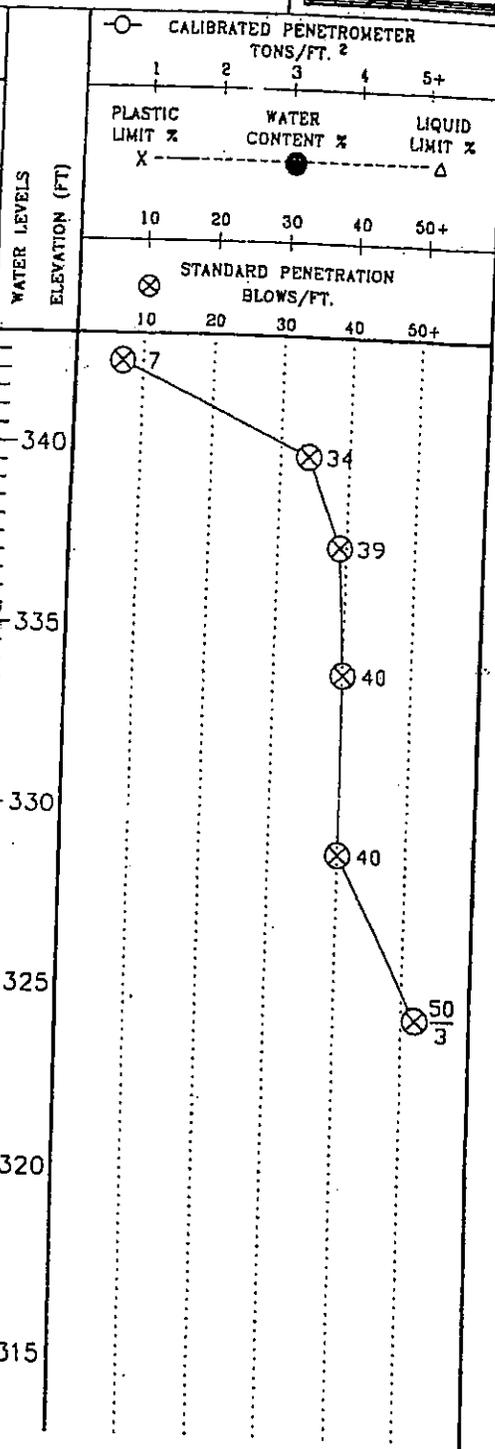
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL 13.5'	WS OR (D)	BORING STARTED 01-11-01	TOPSOIL DEPTH 2"
▽ WL(AB) 11.0'    ▽ WL(AC)		BORING COMPLETED 01-11-01	CAVE IN DEPTH • 12.0'
▽ WL		RIG CME75    FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-40</b>	SHEET <b>1 OF 1</b>	<b>ECS LTD</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION <b>343</b>
0	1	SS	18	6	SILT, Trace Clay, Yellowish Brown, Moist, Loose to Dense, (ML)
	2	SS	18	8	
	3	SS	18	10	
5					
	4	SS	18	6	Highly Saprolitic Silty SAND, Trace Clay and Fragments, Orangish to Greenish Brown, Moist, Dense to Extremely Dense, (SM)
10					
	5	SS	18	10	
15					
	6	SS	3	3	
20	END OF BORING @ 20.0'				
25					
30					



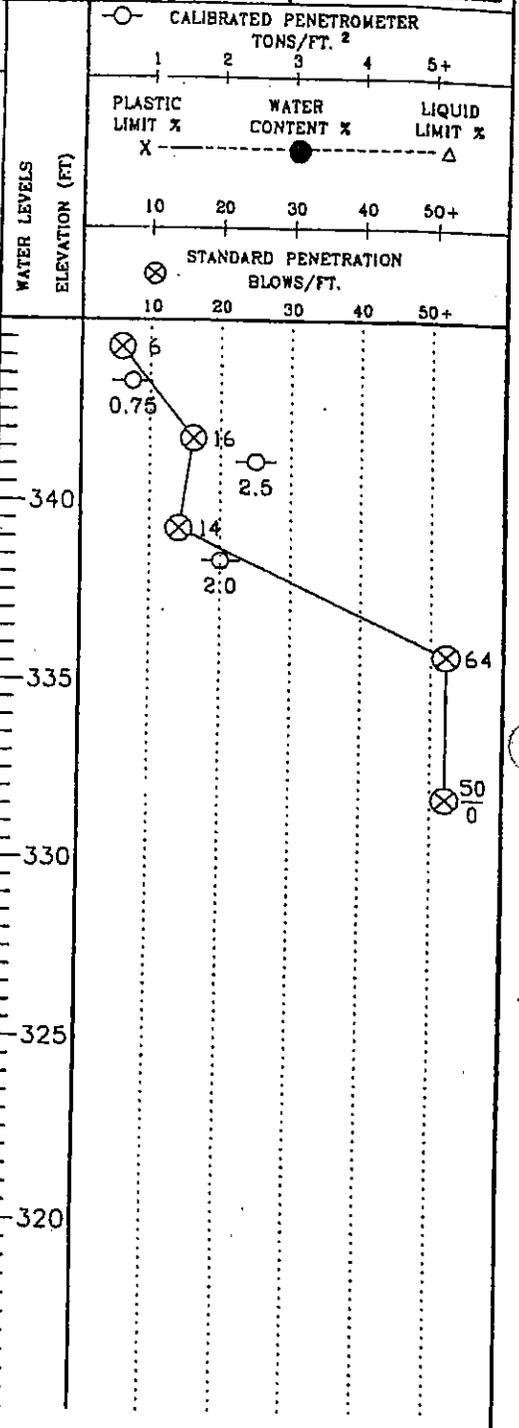
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 18.5'	WS OR (D)	BORING STARTED	01-22-01	TOPSOIL DEPTH 2"
▽WL(AB) 8.0'	▽WL(AC)	BORING COMPLETED	01-22-01	CAVE IN DEPTH • 16.0'
▽WL	RIG CME75	FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER

CLIENT TERRABROOK	JOB # 5587-G	BORING # R-41	SHEET 1 OF 1	<b>ECS LTD</b>
PROJECT NAME BROADLANDS SOUTH	ARCHITECT-ENGINEER BOWERS			

SITE LOCATION  
ASHBURN, VA

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL
					ENGLISH UNITS
					SURFACE ELEVATION 345
0	1	SS	18	14	CLAY, Trace Sand, Tannish Brown, Moist, Medium Stiff, (CH)
	2	SS	18	10	CLAY, Trace Sand, Dark Greenish Brown, Moist, Very Stiff, (CH)
5	3	SS	18	16	Sandy CLAY, Dark Greenish Brown, Moist, Very Stiff, (CH)
	4	SS	18	10	Gravelly SAND, Trace Clay, Dark Brown, Moist, Very Dense, (SW)
10	5	SS	0	0	
15	AUGER REFUSAL @ 13.0'				
20					
25					
30					



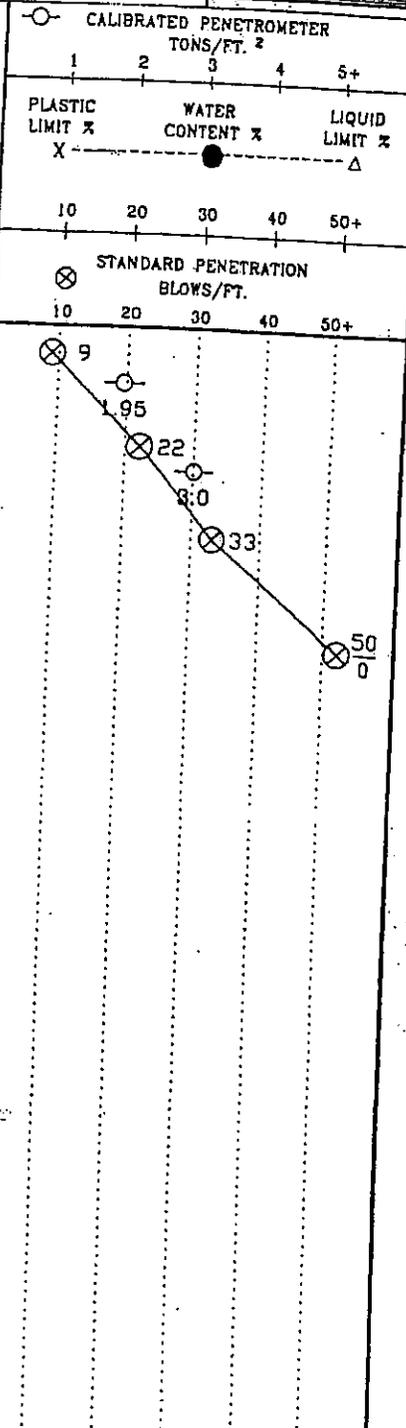
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL	WS OR (D)	BORING STARTED 01/17/01	TOPSOIL DEPTH 2"
▽ WL(AB)	▽ WL(AC)	BORING COMPLETED 01/17/01	CAVE IN DEPTH @ 9.5'
▽ WL		RIG CME750 FOREMAN D&S	DRILLING METHOD HOLLOW STEM AUGER

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-42</b>	SHEET <b>1 OF 1</b>
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>		
SITE LOCATION <b>ASHBURN, VA</b>			



DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)
					ENGLISH UNITS	
0					SURFACE ELEVATION <b>349</b>	
1	1	SS	18	12	CLAY, Tannish Brown, Moist, Stiff, (CL)	
2	2	SS	18	12	CLAY, Dark Greenish Brown, Moist, Very Stiff, (CH)	
3	3	SS	18	10	Saprolitic Clayey SAND, With Gravel, Dark Greenish Brown, Moist, Dense, (SC)	
4	4	SS	0	0		
10					AUGER REFUSAL @ 8.5'	

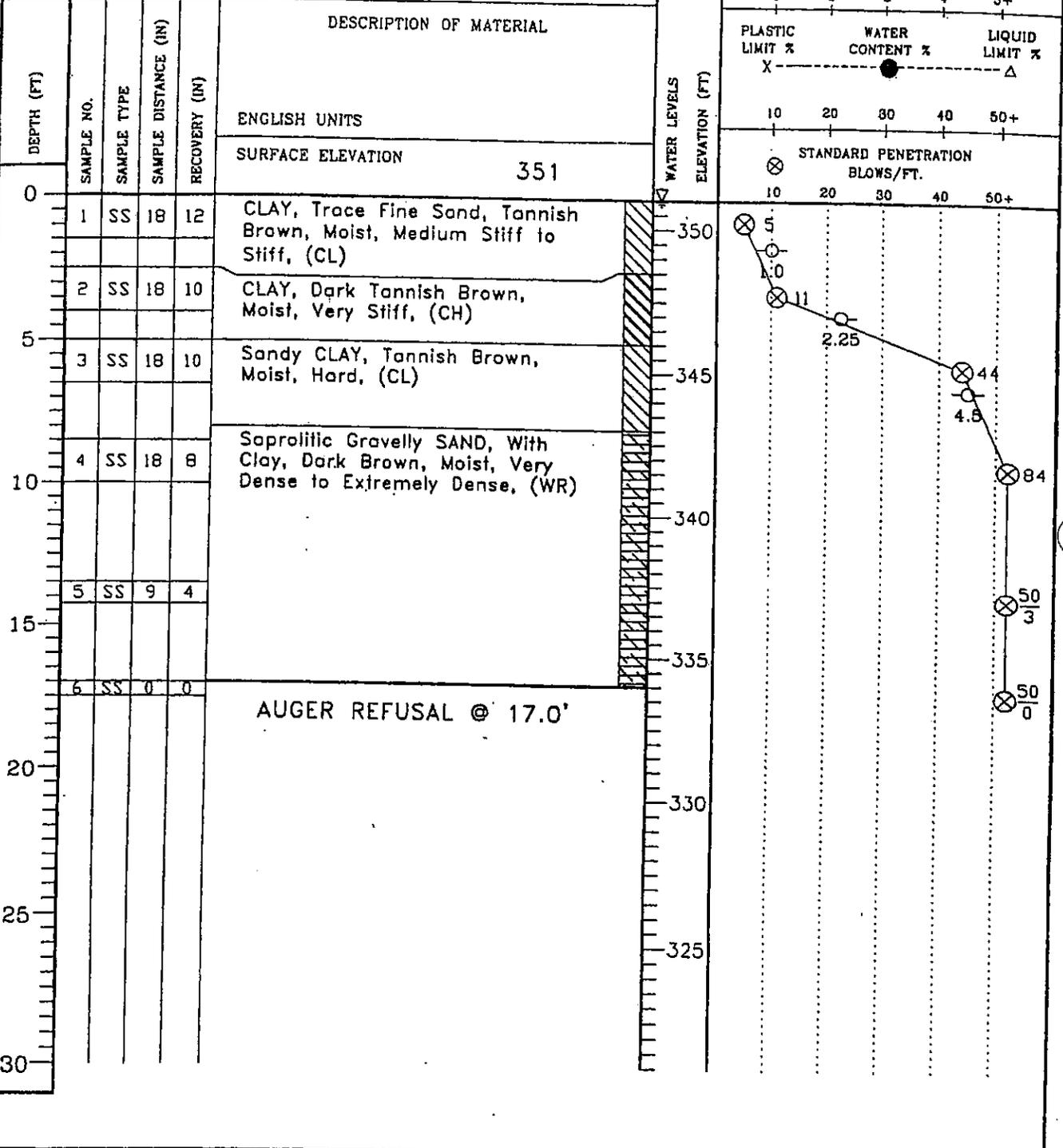


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED <b>01/17/01</b>	TOPSOIL DEPTH <b>2"</b>
▽ WL(AB) DRY	▽ WL(AC) DRY	BORING COMPLETED <b>01/17/01</b>	CAVE IN DEPTH <b>6.5' (6.5 @ 1HR)</b>
▽ WL		RIG <b>CME750 FOREMAN D&amp;S</b>	DRILLING METHOD <b>HOLLOW-STEM AUGER</b>

CLIENT <b>TERRABROOK</b>	JOB # <b>5587-G</b>	BORING # <b>R-43</b>	SHEET <b>1 OF 1</b>	
PROJECT NAME <b>BROADLANDS SOUTH</b>	ARCHITECT-ENGINEER <b>BOWERS</b>			

SITE LOCATION  
**ASHBURN, VA**



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL DRY	WS OR (D)	BORING STARTED	01/17/01	TOPSOIL DEPTH 0"
▽ WL(AB) DRY	▽ WL(AC) DRY	BORING COMPLETED	01/17/01	CAVE IN DEPTH • 12.0'
▽ WL		RIG CME750 FOREMAN D&S		DRILLING METHOD HOLLOW STEM AUGER



January 18, 2011

Mr. Roy Kane  
Van Metre Homes  
44675 Cape Court  
Suite 171  
Ashburn, Virginia 20147

ECS Project No. 01:6934-T2

Reference: Lateral Earth Pressure Review for Basement Walls, 42975 Park Creek Drive,  
Broadlands Section 62.2, Ashburn, Loudoun County, Virginia

Dear Mr. Kane:

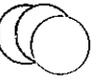
We are in receipt of a letter from Clendenin Consulting and Remediation Group (Clendenin) dated October 28, 2010, whereby the preparer of the letter alleges that the basement walls of the subject residence were backfilled with soils that: A) do not meet the requirements of the geotechnical report issued by ECS, and B) exert lateral pressures that are higher than the walls were designed for. The purpose of this letter is to address these comments from Clendenin.

Please reference our previous letter dated December 8, 2010 whereby we stated that the soil materials used as basement wall backfill were consistent with those recommended in our report. Further, walls backfilled with these soil materials should be designed structurally to resist a fluid equivalent lateral earth pressure of 60 pcf as is stated in our original geotechnical report.

ECS performed the inspection of the basement wall formwork for this residence during construction (please see the attached Residential Inspection Certification dated September 24, 2009). ECS documented the minimum wall width to be 8-inches. Please note that we have instructed our third party inspectors to identify the minimum basement wall width, if more than one thickness is specified for a basement plan. For this project, two wall thicknesses are required; an 8-inch wall thickness for areaway and porch walls and a 10-inch wall thickness for the main below-grade building walls. Since the approved plans indicate 10-inch thick building walls, we have no reason to believe that they were not constructed to this dimension as the inspector noted no discrepancies in his report.

One other note regarding the Residential Inspection Certification form is worth mentioning. The concrete contractor was reported on our certification as Green Village Concrete, when in fact it was Stonewall Concrete. We apologize for this clerical error.

ECS received a letter from Alliance Structural Engineers (the structural engineer of record) dated January 12, 2011 regarding the basement walls. Alliance confirmed that 8-inch or 10-inch



Van Metre Homes  
ECS Job No. 01:6934-T2  
January 18, 2011  
Page 2

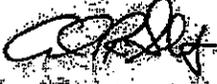
thick concrete walls, reinforced per the plans, will be sufficiently thick to resist the 60 pcf lateral earth pressure. We have attached these letters for convenience.

In summary, the walls were backfilled with soils that met the requirements of the geotechnical report, and the walls are adequately designed to resist the soil pressures. There does not appear to be a correlation between the soils materials observed during test pitting of the wall backfill and the alleged high frequency of sump pumping claimed by the property owner.

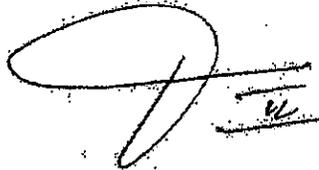
We appreciate the opportunity to be of continued service to Van Metre on this project. If you have any questions regarding information contained in this letter, please do not hesitate to contact the undersigned.

Respectfully,

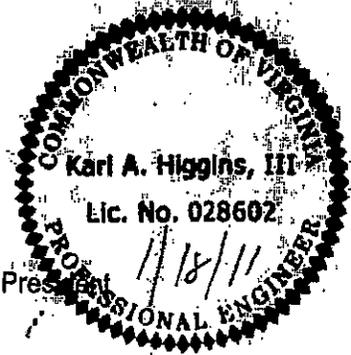
ECS Mid-Atlantic, LLC



Andrew R. Shontz, P.G.  
Senior Engineering Geologist



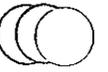
Karl A. Higgins, III, P.E.  
Principal Engineer/Vice President



Attachments: Residential Lot Certification  
Alliance Structural Engineers Letters dated January 12, 2011

cc: Mr. Tom Marable - Van Metre Homes  
Mr. Brian Davidson - Van Metre Homes

ARS\tyk\fieldservice\le-projects\6901-7000\6934-t2\6934-t2\_1r1r.2011.doc





**ECS Mid-Atlantic, LLC**  
 14026 Thunderbolt Place, Suite 100  
 Chantilly, Virginia 20151 Phone: 703 471-8400

**RESIDENTIAL INSPECTION CERTIFICATION**

**Project / Site Data**

Builder: Virginia Residential Construction, Inc. Project / Subdivision: Broadlands Section: 62  
 Lot#: 11-2 Map ID: LC 30 F 6 Building Permit# B90137020100 Concrete Contractor: Green Village  
 Permit Address: 42975 Park Creek Dr.

Jurisdiction: Loudoun County

Inspection Type:	Result	Date	Time	Temp	Tech	Soil*	Inspection Type:	Result	Date	Time	Temp	Tech	Soil*
Footings (Record # of Piers):	APP (R)						Slopes # of Locations:	APP (R)					
7 Subgrade	X	08/25/08	2:30p	80F	RMH	I	1	X	08/21/08	8:00a	60F	RMH	G
7 Piers	X	08/25/08	2:30p	80F	RMH	I	Arway Slabs / Walls	X	08/11/08	7:30a	70F	RMH	G
Deck Footings (Record # of Piers):							Wet-Plain Concrete						
Other Footings (Deck):							Wet-Reinforced Concr.	X	08/28/08	1:00p	80F	RMH	I
Basement Slab Ground Supported	X	08/11/08	7:30a	70F	RMH	I	Waterproofing / Drainage Mech. X Grav.	X	08/02/08	4:00p	80F	RMH	I
Basement Slab Structural							Damprooting / Drainage Mech. Grav.						
Garage Slab Ground Supported							Backfill	X	08/02/08	4:00p	80F	RMH	I
Garage Slab Structural	X	08/11/08	7:30a	70F	RMH	G	Hearths Inspected						
Other: #1 ***							Other: #2 ***						

\*Soil Conditions: (A) Compacted Fill (B) Seasonal High Water Table (C) Expansive Clay (D) Karst Topography (E) Perched Water (F) Shallow Rocks (G) Uncontrolled Fill (H) Other (Well/Sepic, Green Stone, Evidence of Chemical Contaminant) (I) Non-Problem Soil

\*\* Other Inspection Descriptions:

Are erosion / siltation controls installed as required by the approved site plan?  Yes  No

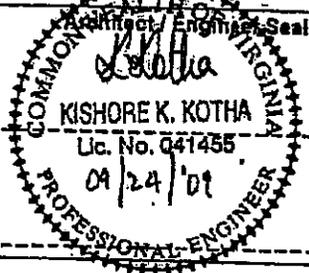
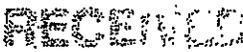
Certification Statement:

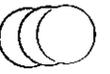
I hereby certify that I am approved to inspect the above elements of residential dwellings in the LOUDOUN COUNTY jurisdiction; that I have read the Virginia Uniform Statewide Building Code, and I am thoroughly familiar with the provisions contained therein.

I further hereby certify that the installation observed at the location described above is installed in accordance with the approved plans and the Virginia Statewide Uniform Building Code

I further hereby certify that I have reviewed the approved Geotechnical Report, if applicable, and have determined the work, which is the subject of this document, to be consistent with the county approved report. I further acknowledge that I have reviewed all fill placements and compaction reports, which are applicable to the scope of this document.

Concrete and backfill placements were not observed/performed as part of our residential inspection services.

Signature:  Date: _____	Comments: *** Other inspections may be authorized by the Building Official prior to conducting the inspections.
	1# _____ 2# _____  OCT -1 2009 Building & Development Loudoun County, VA



January 10, 2011

Mr. Chris Fox  
44675 Cape Court, Suite 171  
Ashburn, VA 20147

Re: Typical 10" Foundation Wall Design for EFP=60 PCF  
Loudoun County, VA

ASE Project No.: 08-0259

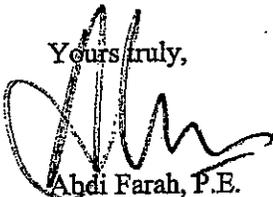
Dear Mr. Fox:

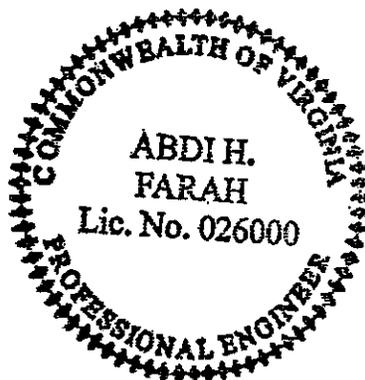
As per your request we have reviewed the adequacy of the typical 10" foundation wall for the Equivalent Fluid Pressure of 60 PCF.

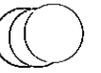
As it is proven by the attached calculation and detail, the 10" thick foundation wall with #4 vertical rebar at 16" O.C. and with #4 horizontal rebar at 24" O.C. is adequate to support the 60 PCF lateral load.

Please do not hesitate to contact the undersigned if you have any questions regarding the above.

Yours truly,

  
Abdi Farah, P.E.





Alliance Structural Engineers  
 company title block here.

CALCULATION DOCUMENT FOR TYPICAL 10" BASEMENT

Retain Pro 9 © 1989 - 2010 Ver: 9.18 \$145  
 Registration #: RP-1181735 RP9.18  
 Licensed to: Alliance Structural Engineers

Restrained Retaining Wall Design

Code: IBC 2006

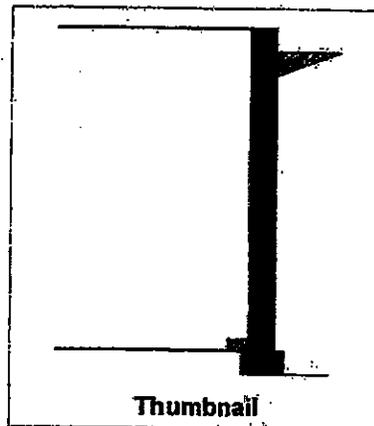
This Wall in File: c:\users\administrator\desktop\iv-basemei

Criteria

Retained Height = 8.33 ft  
 Wall height above soil = 0.67 ft  
 Total Wall Height = 9.00 ft  
 Top Support Height = 9.00 ft  
 Slope Behind Wal = 0.00 : 1  
 Height of Soil over Toe = 4.00 in  
 Water height over heel = 0.0 ft

Soil Data

Allow Soil Bearing = 2,000.0 psf  
 Equivalent Fluid Pressure Method  
 Heel Active Pressure = 60.0 psf/ft  
 Toe Active Pressure = 60.0 psf/ft  
 Passive Pressure = 220.0 psf/ft  
 Soil Density = 110.00 pcf  
 Footing Soil Friction = 0.400  
 Soil height to ignore for passive pressure = 12.00 in



Surcharge Loads

Surcharge Over Heel = 0.0 psf  
 >>> Used To Resist Sliding & Overturning  
 Surcharge Over Toe = 0.0 psf  
 Used for Sliding & Overturning

Axial Load Applied to Stem

Axial Dead Load = 650.0 lbs  
 Axial Live Load = 750.0 lbs  
 Axial Load Eccentricity = 0.0 in

Earth Pressure Seismic Load

Stem Weight Seismic Load

Uniform Lateral Load Applied to Stem

Lateral Load = 0.0 psf/ft  
 ...Height to Top = 0.00 ft  
 ...Height to Bottom = 0.00 ft  
 The above lateral load has been increased by a factor of 1.00

Wind on Exposed Stem = 0.0 psf

$K_h$  Soil Density Multiplier = 0.200 g

$F_p / W_p$  Weight Multiplier = 0.000 g

Adjacent Footing Load

Adjacent Footing Load = 0.0 lbs  
 Footing Width = 0.00 ft  
 Eccentricity = 0.00 in  
 Wall to Ftg CL Dist = 0.00 ft  
 Footing Type = Line Load  
 Base Above/Below Soil at Back of Wall = 0.0 ft  
 Poisson's Ratio = 0.300

Added seismic per unit area = 0.0 psf

Added seismic per unit area = 0.0 psf

Design Summary

Total Bearing Load = 2,996 lbs  
 ...resultant ecc. = 0.66 in  
 Soil Pressure @ Toe = 1,997 psf OK  
 Soil Pressure @ Heel = 1,997 psf OK  
 Allowable = 2,000 psf  
 Soil Pressure Less Than Allowable  
 ACI Factored @ Toe = 2,026 psf  
 ACI Factored @ Heel = 3,167 psf  
 Footing Shear @ Toe = 12.1 psi OK  
 Footing Shear @ Heel = 11.3 psi OK  
 Allowable = 82.2 psi  
 Reaction at Top = 642.2 lbs  
 Reaction at Bottom = 1,782.7 lbs

Sliding Calc Slab Resists All Sliding!  
 Lateral Sliding Force = 1,782.7 lbs

Load Factors

Building Code IBC 2006  
 Dead Load 1.200  
 Live Load 1.600  
 Earth, H 1.600  
 Wind, W 1.600  
 Seismic, E 1.000

Concrete Stem Construction

Thickness = 10.00 in  $F_y$  = 60,000 psi  
 Wall Weight = 125.0 psf  $f_c$  = 3,000 psi  
 Stem is FREE to rotate at top of footing

	@ Top Support	Mmax Between Top & Base	@ Base of Wall
Design Height Above Ftg	Stem OK 9.00 ft	Stem OK 3.69 ft	Stem OK 0.00 ft
Rebar Size	# 4	# 4	# 4
Rebar Spacing	16.00 in	16.00 in	16.00 in
Rebar Placed at	Center	Edge	Center
Rebar Depth 'd'	5.00 in	7.50 in	5.00 in
Design Data			
$f_b / F_b + f_a / F_a$	0.000	0.777	0.000
Mu...Actual	0.0 ft-#	3,857.7 ft-#	0.0 ft-#
Mn * Phi...Allowable	3,275.4 ft-#	4,962.9 ft-#	3,275.4 ft-#
Shear Force @ this height	1,027.5 lbs		2,297.8 lbs
Shear...Actual	17.18 psi		38.30 psi
Shear...Allowable	82.16 psi		82.16 psi
Rebar Lap Required	17.09 in	17.09 in	
Hooked embedment into footing			7.67 in

Other Acceptable Sizes & Spacings:

Toe: None Spec'd -or- Not req'd,  $M_u < S * F_r$   
 Heel: None Spec'd -or- Not req'd,  $M_u < S * F_r$   
 Key: Slab Resists Sliding -or- Slab Resists Sliding - No Force on



ASE

Alliance Structural Engineers  
company title block here:

Title : 42975 PARK CREEK DR. BROADLANDS \ Page:  
Job # : ...New... Design: VALENTI Date: JAN 6, 2011  
Description...

CALCULATION DOCUMENT FOR TYPICAL 10" BASEMENT

This Wall in File: c:\users\administrator\desktop\lv-baseme

Retain Pro 9 © 1989 - 2010 Ver: 9.18 8145  
Registration #: RP-1181735 RP9.18  
Licensed to: Alliance Structural Engineers

### Restrained Retaining Wall Design

Code: IBC 2006

#### Footing Strengths & Dimensions

Toe Width = 0.33 ft  
Heel Width = 1.17  
Total Footing Width = 1.50  
Footing Thickness = 8.00 in  
Key Width = 12.00 in  
Key Depth = 0.00 in  
Key Distance from Toe = 2.00 ft  
fc = 3,000 psi Fy = 60,000 psi  
Footing Concrete Density = 150.00 pcf  
Min. As % = 0.0018  
Cover @ Top = 3.00 in @ Btm = 3.00 in

#### Footing Design Results

	Toe	Heel
Factored Pressure	2,026	3,167 psf
Mu' : Upward	115	174 ft-#
Mu' : Downward	9	69 ft-#
Mu: Design	106	-105 ft-#
Actual 1-Way Shear	12.15	11.34 psf
Allow 1-Way Shear	82.16	82.16 psf

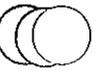
#### Summary of Forces on Footing : Slab RESISTS sliding, stem is PINNED at footing

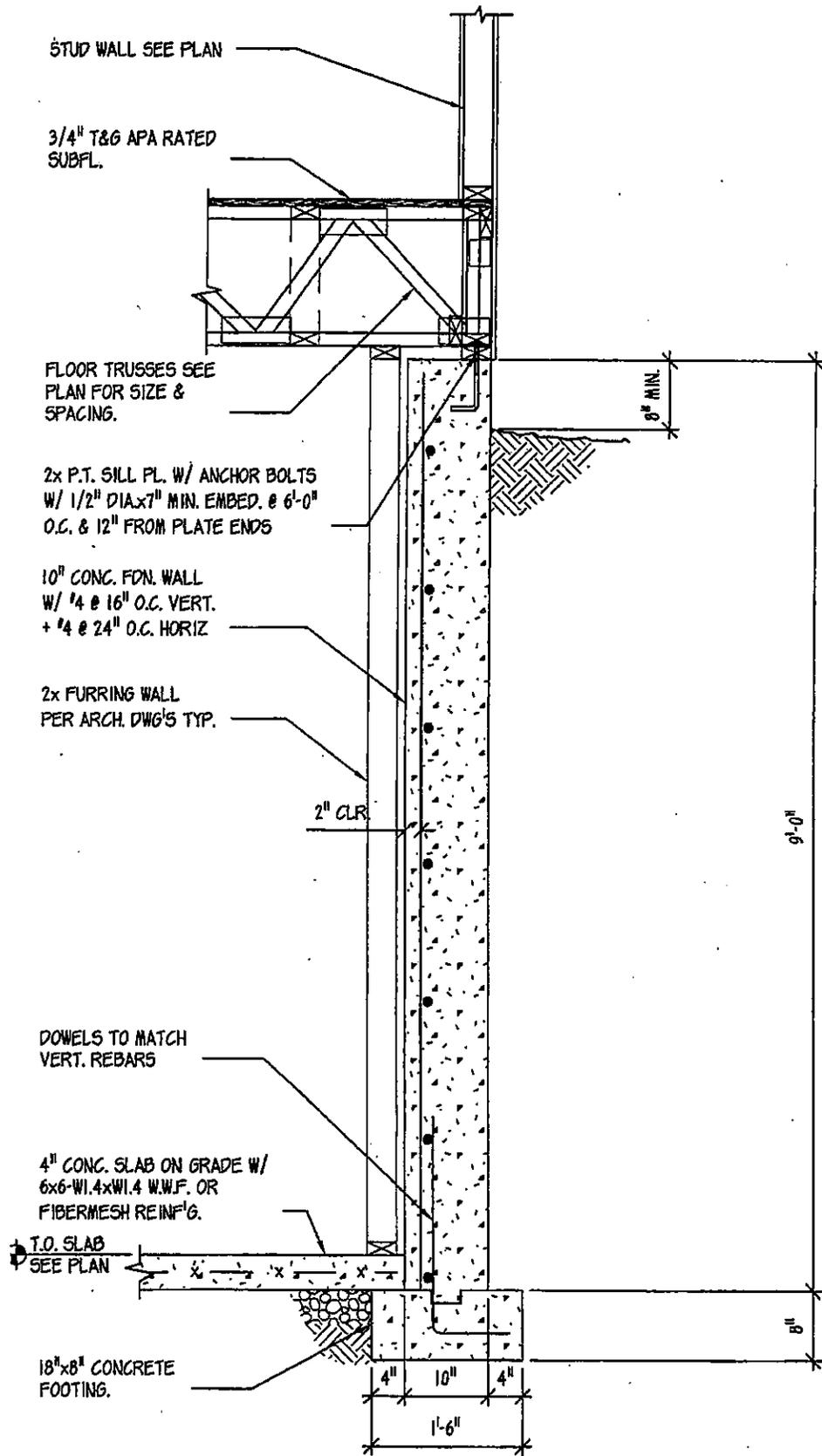
##### Forces acting on footing soil pressure

(taking moments about front of footing to find eccentricity)

Surcharge Over Heel	=	lbs	ft	ft-#
Axial Dead Load on Stem	=	1,400.0 lbs	0.75 ft	1,045.3 ft-#
Soil Over Toe	=	12.1 lbs	0.17 ft	2.0 ft-#
Adjacent Footing Load	=	lbs	ft	ft-#
Surcharge Over Toe	=	lbs	ft	ft-#
Stem Weight	=	1,125.0 lbs	0.75 ft	840.0 ft-#
Soil Over Heel	=	308.5 lbs	1.33 ft	410.8 ft-#
Footing Weight	=	150.0 lbs	0.75 ft	113.0 ft-#
Total Vertical Force	=	2,995.6 lbs	Moment =	2,411.1 ft-#
Net Mom. at Stem/Ftg Interface	=			-154.4 ft-#
Allow. Mom. @ Stem/Ftg Interface	=			2,047.1 ft-#
Allow. Mom. Exceeds Applied Mom.?	=			Yes
Therefore Uniform Soil Pressure	=			1,997.1 psf

DESIGNER NOTES:





SOIL BRG = 2000 PSF, EFP = 60 PCF

SCALE: 3/4" = 1'-0"

# SECTION

FOUNDATION WALL W/ SIDING  
@ SIDES & REAR  
VM#S003



January 12, 2011

Mr. Chris Fox  
44675 Cape Court, Suite 171  
Ashburn, VA 20147

Re: 8" Foundation Wall Design for EFP=60 PCF  
Loudoun County, VA

ASE Project No.: 08-0259

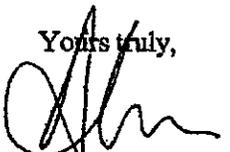
Dear Mr. Fox:

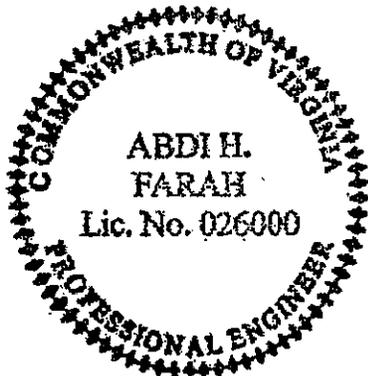
As per your request we have reviewed the adequacy of the 8" foundation wall for the Equivalent Fluid Pressure of 60 PCF.

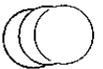
As it is proven by the attached calculation, the 8" thick foundation wall, 9' in height with a maximum backfill of 8', with #4 vertical rebar at 16" O.C. placed at 1.5" away from the interior side of the wall, and with #4 horizontal rebar at 24" O.C. is adequate to support the 60 PCF lateral load.

Please do not hesitate to contact the undersigned if you have any questions regarding the above.

Yours truly,

  
Abdi Farah, P.E.





Retain Pro 9.0 1989 - 2010 Ver: 9.18 8145  
Registration #: RP-1181735 RP9.18  
Licensed to: Alliance Structural Engineers

### Restrained Retaining Wall Design

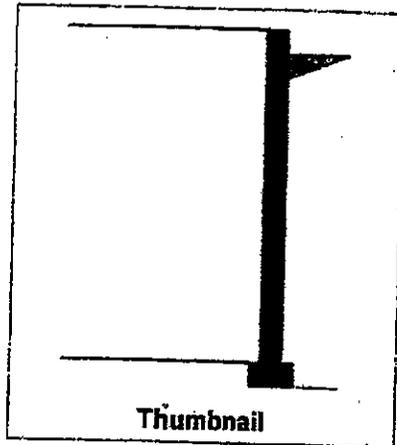
Code: IBC 2006

#### Criteria

Retained Height = 8.33 ft  
Wall height above soil = 0.67 ft  
Total Wall Height = 9.00 ft  
  
Top Support Height = 9.00 ft  
Slope Behind Wal = 0.00 : 1  
Height of Soil over Toe = 0.00 in  
Water height over heel = 0.0 ft

#### Soil Data

Allow Soil Bearing = 2,000.0 psf  
Equivalent Fluid Pressure Method  
Heel Active Pressure = 60.0 psf/ft  
Toe Active Pressure = 60.0 psf/ft  
Passive Pressure = 220.0 psf/ft  
Soil Density = 110.00 pcf  
Footing||Soil Frictior = 0.400  
Soil height to ignore for passive pressure = 12.00 in



#### Surcharge Loads

Surcharge Over Heel = 0.0 psf  
>>>Used To Resist Sliding & Overturning  
Surcharge Over Toe = 0.0 psf  
Used for Sliding & Overturning

#### Axial Load Applied to Stem

Axial Dead Load = 0.0 lbs  
Axial Live Load = 0.0 lbs  
Axial Load Eccentricity = 0.0 in

#### Earth Pressure Seismic Load

#### Stem Weight Seismic Load

#### Uniform Lateral Load Applied to Stem

Lateral Load = 0.0 #/ft  
...Height to Top = 0.00 ft  
...Height to Bottom = 0.00 ft  
The above lateral load has been increased by a factor of 1.00

Wind on Exposed Stem = 0.0 psf

#### Adjacent Footing Load

Adjacent Footing Load = 0.0 lbs  
Footing Width = 0.00 ft  
Eccentricity = 0.00 in  
Wall to Ftg CL Dist = 0.00 ft  
Footing Type = Line Load  
Base Above/Below Soil at Back of Wall = 0.0 ft  
Poisson's Ratio = 0.300

$K_h$  Soil Density Multiplier = 0.200 g Added seismic per unit area = 0.0 psf  
 $F_p / W_p$  Weight Multiplier = 0.000 g Added seismic per unit area = 0.0 psf

#### Design Summary

Total Bearing Load = 1,432 lbs  
...resultant ecc. = 1.74 in  
  
Soil Pressure @ Toe = 955 psf OK  
Soil Pressure @ Heel = 955 psf OK  
Allowable = 2,000 psf  
Soil Pressure Less Than Allowable  
ACI Factored @ Toe = 482 psf  
ACI Factored @ Heel = 1,809 psf  
Footing Shear @ Toe = 4.2 psi OK  
Footing Shear @ Heel = 3.1 psi OK  
Allowable = 82.2 psi  
Reaction at Top = 642.2 lbs  
Reaction at Bottom = 1,786.0 lbs

#### Concrete Stem Construction

Thickness = 8.00 in  $F_y$  = 60,000 psi  
Wall Weight = 100.0 psf  $f_c$  = 3,000 psi  
Stem is FREE to rotate at top of footing

	@ Top Support	Mmax Between Top & Base	@ Base of Wall
Design Height Above Ftg	Stem OK = 9.00 ft	Stem OK = 3.69 ft	Stem OK = 0.00 ft
Rebar Size	# 4	# 4	# 4
Rebar Spacing	16.00 in	16.00 in	16.00 in
Rebar Placed at	Edge	Edge	Edge
Rebar Depth 'd'	6.00 in	6.00 in	6.00 in

Design Data	@ Top Support	Mmax Between Top & Base	@ Base of Wall
$f_b / F_b + f_a / F_a$	0.000	0.977	0.000
Mu...Actual	0.0 ft-#	3,858.1 ft-#	0.0 ft-#
Mn * Phi...Allowable	3,950.4 ft-#	3,950.4 ft-#	3,950.4 ft-#
Shear Force @ this height	1,027.6 lbs		2,303.1 lbs
Shear...Actual	14.27 psi		31.99 psi
Shear...Allowable	82.16 psi		82.16 psi
Rebar Lap Required	17.09 in	17.09 in	
Hooked embedment into footing			7.67 in

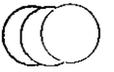
#### Other Acceptable Sizes & Spacings:

Toe: None Spec'd -or- Not req'd,  $M_u < S * F_r$   
Heel: None Spec'd -or- Not req'd,  $M_u < S * F_r$   
Key: Slab Resists Sliding -or- Slab Resists Sliding - No Force on

Sliding Calcs Slab Resists All Sliding!  
Lateral Sliding Force = 1,786.0 lbs

#### Load Factors

Building Code = IBC 2006  
Dead Load = 1.200  
Live Load = 1.600  
Earth, H = 1.600  
Wind, W = 1.600  
Seismic, E = 1.000



### Restrained Retaining Wall Design

#### Footing Strengths & Dimensions

Toe Width	=	0.42 ft
Heel Width	=	1.08
Total Footing Width	=	1.50
Footing Thickness	=	8.00 in
Key Width	=	12.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	2.00 ft
$f_c$	=	3,000 psi
$F_y$	=	60,000 psi
Footing Concrete Density	=	150.00 pcf
Min. As %	=	0.0018
Cover @ Top	=	3.00 in
@ Btm.	=	3.00 in

#### Footing Design Results

	Toe	Heel
Factored Pressure	= 482	1,809 psf
$M_u'$ : Upward	= 53	146 ft-#
$M_u'$ : Downward	= 10	106 ft-#
$M_u$ : Design	= 42	-40 ft-#
Actual 1-Way Shear	= 4.22	3.12 psi
Allow 1-Way Shear	= 82.16	82.16 psi

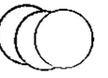
### Summary of Forces on Footing : Slab RESISTS sliding, stem is PINNED at footing

#### Forces acting on footing soil pressure

(taking moments about front of footing to find eccentricity)

Surcharge Over Heel	=	lbs	ft	ft-#
Axial Dead Load on Stem	=	lbs	ft	ft-#
Soil Over Toe	=	lbs	ft	ft-#
Adjacent Footing Load	=	lbs	ft	ft-#
Surcharge Over Toe	=	lbs	ft	ft-#
Stem Weight	=	900.0 lbs	0.75 ft	675.0 ft-#
Soil Over Heel	=	381.8 lbs	1.29 ft	493.1 ft-#
Footing Weight	=	150.0 lbs	0.75 ft	113.0 ft-#
<b>Total Vertical Force</b>	=	<b>1,431.8 lbs</b>	<b>Moment =</b>	<b>1,281.1 ft-#</b>
<b>Net Mom. at Stem/Ftg Interface</b>	=			<b>-207.3 ft-#</b>
<b>Allow. Mom. @ Stem/Ftg Interface</b>	=			<b>2,459.0 ft-#</b>
<b>Allow. Mom. Exceeds Applied Mom.?</b>	=			<b>Yes</b>
<b>Therefore Uniform Soil Pressure</b>	=			<b>954.5 psf</b>

#### DESIGNER NOTES:



COMMONWEALTH OF VIRGINIA  
COUNTY OF LOUDOUN  
BOARD OF BUILDING & FIRE CODE APPEALS  
APPLICATION FOR APPEAL

(Please type or print in black ink)

NAME OF THE APPELLANT: Frank and Karen McLaughlin

NATURE OF THE APPEAL: The rescission of the Notice of Violation issued on December 1, 2010; the determination by the Building Code Official that the soil used as backfill material against our foundation walls is suitable, and that the foundation walls are adequately designed to withstand pressure from the soil; and the failure to enforce the building code regarding the absence of interior perimeter and underslab drain systems.

DATE OF DECISION, DETERMINATION OR NOTICE OF VIOLATION WHICH IS THE SUBJECT OF THE APPEAL: Notice of Violation: December 1, 2010; letter rescinding Notice of Violation: February 8, 2011.

HOW IS THE APPELLANT AN AGGRIEVED PERSON: We are the owners of the structure at issue and the code violations affect our house.

PROVIDE THE FOLLOWING INFORMATION:

ADDRESS/LOCATION OF STRUCTURE: 42975 Park Creek Drive, Broadlands, Virginia 20148

MCPI# (PIN): 1573079190000 TAX MAP DESCRIPTION: \_\_\_\_\_

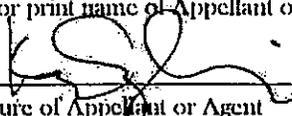
NAME OF THE BUILDING/STRUCTURE OWNER: Frank and Karen McLaughlin

ADDRESS OF THE BUILDING/STRUCTURE OWNER: 42975 Park Creek Drive, Broadlands, Virginia 20148

*The undersigned has or has not (circle one) the authority to allow and does or does not (circle one) authorize Loudoun County staff representatives on official business to enter on the subject property and into the aforementioned building or structure as necessary to process the application.*

Karen McLaughlin

Type or print name of Appellant or Agent

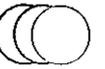
  
Signature of Appellant or Agent

Telephone Number (703) 729-2365 \_\_\_\_\_  
Home Work Cellular

DO NOT WRITE IN THIS SPACE

Date Application Received: \_\_\_\_\_ Recipient: \_\_\_\_\_

Date of Application Received Clerk to the BBCA: \_\_\_\_\_



**Resolution of the  
Loudoun County Board of Building and Fire Code Appeals  
Appeal No. 01/2011-McLaughlin Residence**

**WHEREAS**, the Loudoun County Board of Building and Fire Code Appeals is duly appointed to resolve disputes arising from enforcement of the Building and/or Fire Code, and

**WHEREAS**, an appeal has been filed by Frank and Karen McLaughlin and brought to the attention of the Board of Building and Fire Code Appeals, and

**WHEREAS**, a hearing has been held to consider the aforementioned appeal, and

**WHEREAS**, Frank and Karen McLaughlin appeal:

- the rescission of the Notice of Violation issued by the Building Official
- the determination by the Building Official that the soil used as backfill material against the foundation wall is suitable
- the Building Official's determination that the foundation walls are adequately designed to withstand pressure from the soil
- the Building Official failed to enforce the building code regarding the absence of interior perimeter and underslab drain systems.

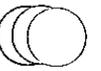
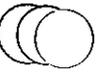
**WHEREAS**, the Board has fully deliberated this matter, now, therefore be it

**RESOLVED THAT**, in the matter of, Appeal No. 01/2011 – McLaughlin Residence

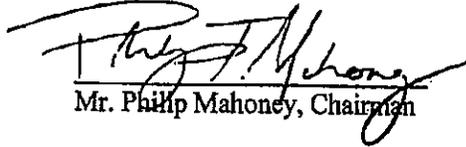
- The Building Official has the authority to rescind the Notice of Violation
- The Building Official's determination the soil used as backfill material against the foundation wall is suitable is acceptable.
- The Building Official's determination the foundation walls are adequately designed to withstand pressure from the soil is acceptable.
- The Building Official's failure to enforce the building code regarding absence of interior perimeter and underslab drain systems is unfounded.

**THEREFORE**, the Board of Building Code Appeals finds, by a vote of 6-0, the Building Code Official:

- had the authority to rescind the Notice of Violation as the builder came into compliance with the requirement set forth in the Notice of Violation
- received documentation from a Virginia Certified Registered Professional Engineer, as allowed per Section 111 of the Virginia Uniform Statewide Building Code, is suitable as backfill. Therefore, the appeal of determination the soil used as backfill material against the foundation wall is suitable is unfounded
- received documentation from a Virginia Certified Registered Professional Engineer, as allowed per Section 111 of the Virginia Uniform Statewide Building Code, indicating the foundation walls were designed to resist the pressure of the soils found on the property. Therefore, the appeal of the determination the foundation walls are adequately designed to withstand pressure from the soil is unfounded.
- applied the 2006 Virginia Uniform Statewide Building Code appropriately in that the drainage system installed around the exterior perimeter of the foundation meets the minimum requirements set forth in the 2006 Virginia Uniform Statewide Building Code. The appeal of the Building Code Official's failure to enforce the building code regarding absence of interior perimeter and underslab drain systems is unfounded.



Any person who was a party to the appeal may appeal to the State Review Board by submitting an application to such Board within 21 calendar days upon receipt by certified mail of this resolution. Application forms are available from the Office for the State Review Board, 501 North Second Street, Richmond Virginia 23219, (804) 371-7150.

  
Mr. Philip Mahoney, Chairman

4-14-2011  
Date



May 11, 2011  
10012.L11

Frank & Karen McLaughlin  
42975 Park Creek Drive  
Broadlands, VA 20148

Subject: Soil Classification Test Results  
Below Grade Wall Backfill  
42975 Park Creek Drive  
Broadlands, VA 20148

Dear Ms. McLaughlin:

Following is a summary of soil classification test results on soil samples collected by CCRG from the test pits excavated adjacent to the below grade walls of subject residence. I observed the test pit excavation on October 28, 2010.

Sample No.	Depth (ft)	Liquid Limit	Plasticity Index	USCS Symbol
TP-1/Bulk	2.5-5.5	42	19	CL
TP-2/Bulk	0.0-5.0	44	21	CL
TP-1/Jar	0.0-2.5	47	24	CL
TP-2/Jar	1.0-2.0	80	53	CH

Details of laboratory test results are attached with the plasticity chart.

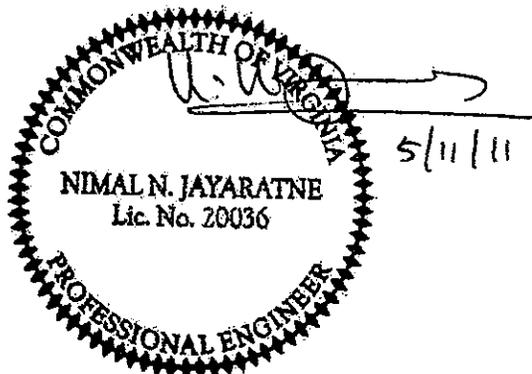
Please call us at (703) 771-8816 if you have any questions.

Sincerely,

CLENDENIN CONSULTING & REMEDIATION GROUP



Nimal N. Jayaratne, PhD, PE  
Project Engineer



Attachment: Laboratory test results

# STANDARD PROCTOR TEST REPORT

DATE OF REPORT: 11-3-10  
 PROJECT: McLaughlin Groundwater Impacts  
 PROJECT NO: 10012

DESCRIPTION OF SOIL: Brown sandy lean CLAY with rock  
 SAMPLE NO.: TP-1 (2.5-5.5') - Bulk

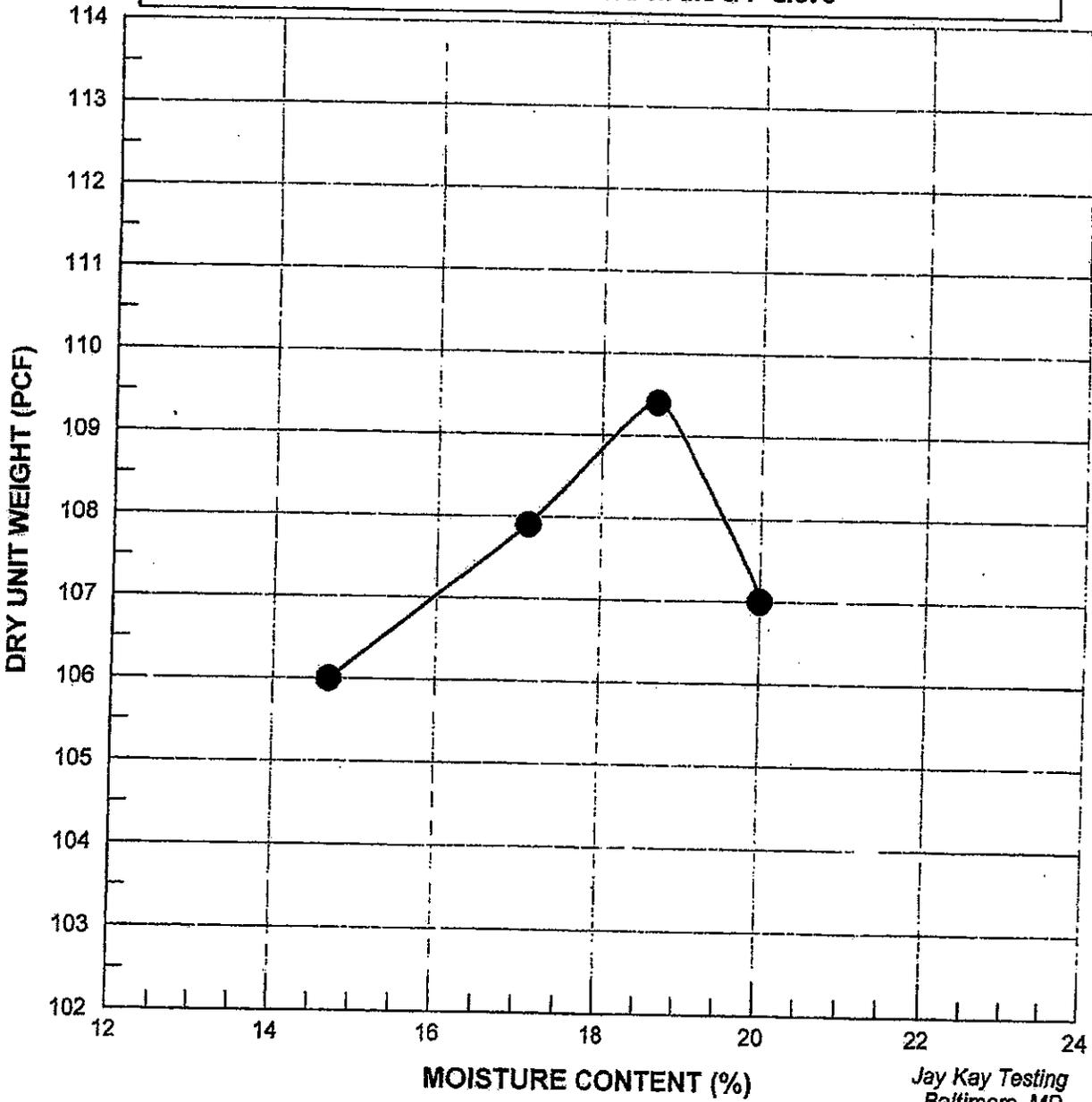
LIQUID LIMIT: 42      PLASTIC LIMIT: 23      PLASTICITY INDEX: 19  
 PERCENT PASSING # 200: 50.3 %      USCS: CL      AASHTO: A-7-6  
 TEST PROCEDURE USED: AASHTO T-99 C

---

**TEST RESULTS:**

	Uncorrected	** Corrected
<i>Maximum Dry Unit Weight =</i>	<b>109.4 PCF</b>	<b>115.7 PCF</b>
<i>Optimum Moisture Content =</i>	<b>18.7 %</b>	<b>15.9 %</b>

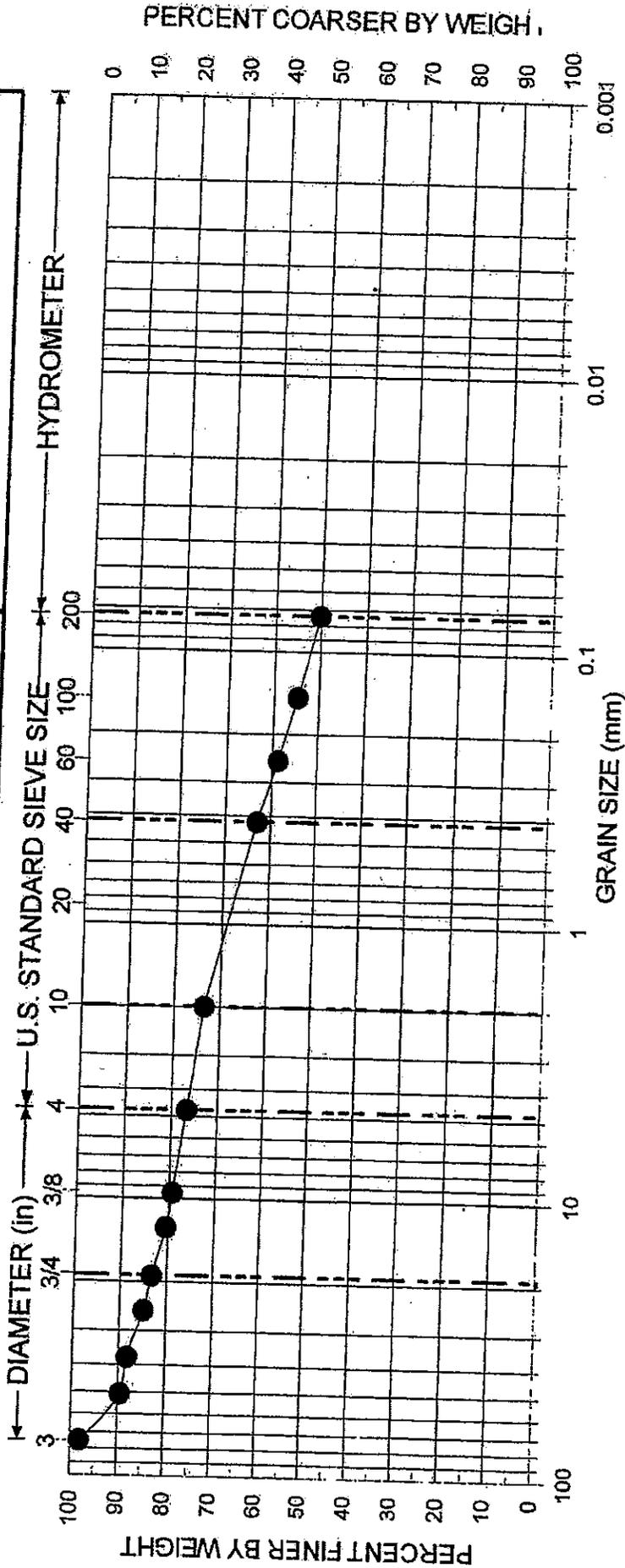
\*\* Corrected for 16.6 % retained on the 3/4" sieve



Jay Kay Testing  
 Baltimore, MD

**PROJECT NAME: McLaughlin Groundwater Impacts**  
**PROJECT NUMBER: 10012**

<b>GRAVEL</b>		<b>SAND</b>			<b>SILT OR CLAY</b>	
COARSE	FINE	COARSE	MEDIUM	FINE		



<b>GRADATION ANALYSIS</b> AASHTO T-88		TESTED BY: JMK CHECKED BY: RD		DATE: 11-3-10 SHEET: 1 of 2		
		<b>JAY KAY TESTING</b> Baltimore, Maryland				
		SOIL DESCRIPTION				
		Brown sandy lean CLAY with rock (CL) [A-7-6]				
BORING NUMBER	SAMPLE NUMBER	DEPTH (ft.)	MC (%)	LL	PL	PI
• TP-1	Bulk	2.5-5.5	---	42	23	19

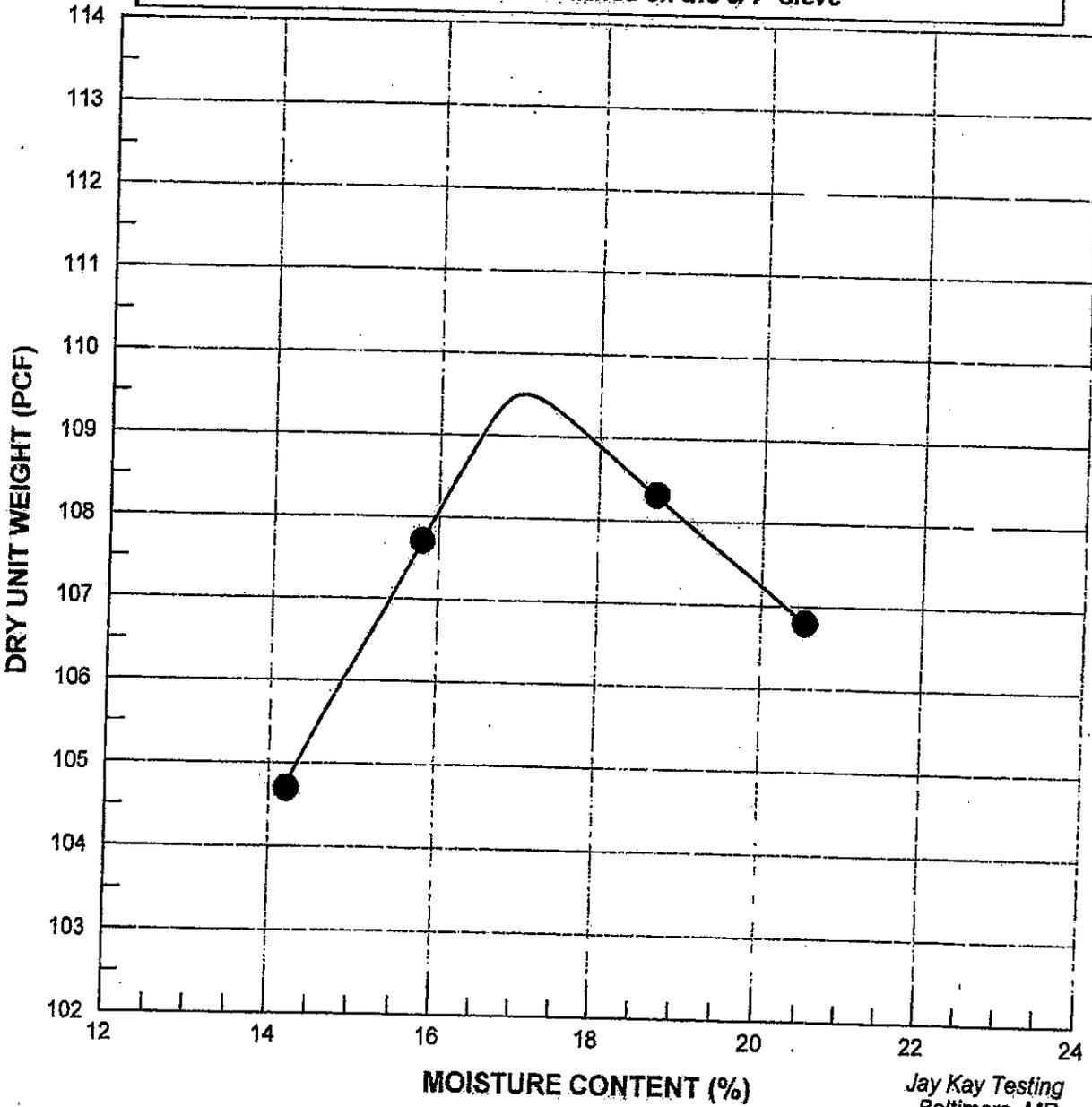
# STANDARD PROCTOR TEST REPORT

DATE OF REPORT: 11-3-10  
 PROJECT: McLaughlin Groundwater Impacts  
 PROJECT NO: 10012

DESCRIPTION OF SOIL: Brown rocky lean CLAY with sand  
 SAMPLE NO.: TP-2 ( 0-5.0' ) - Bulk

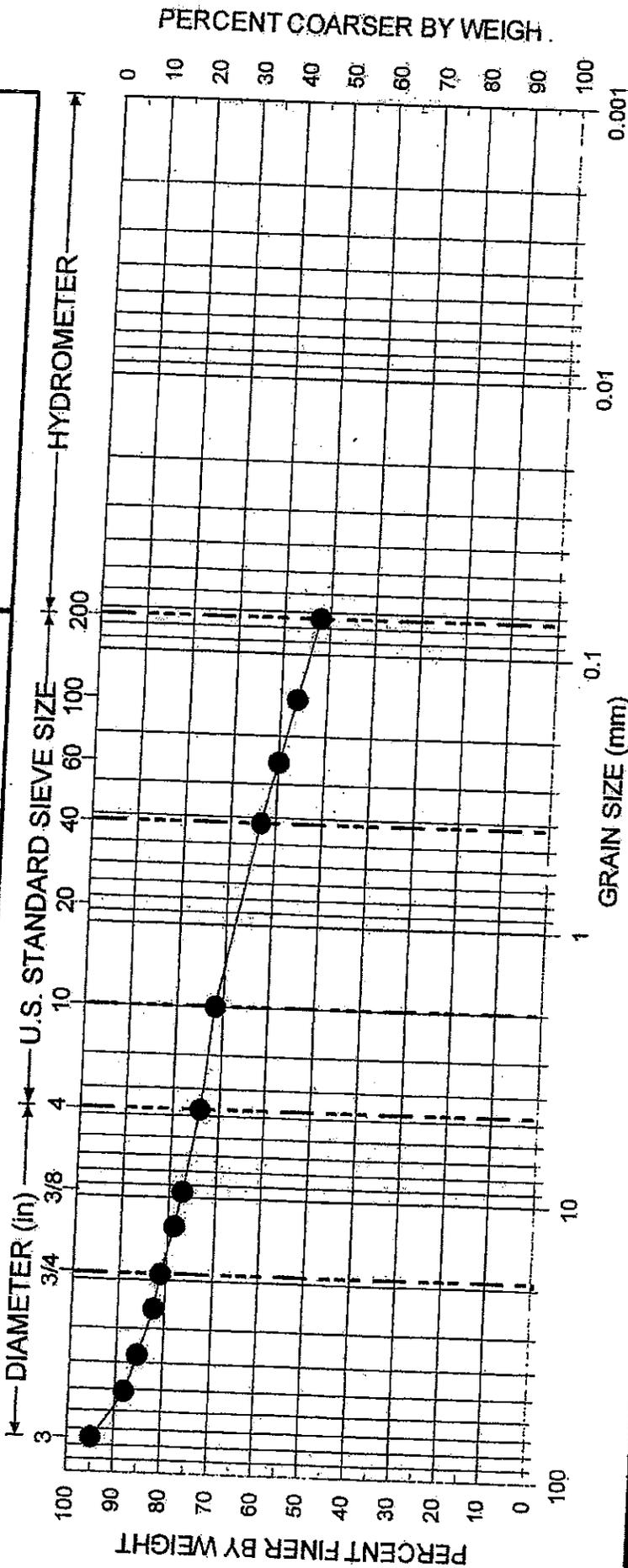
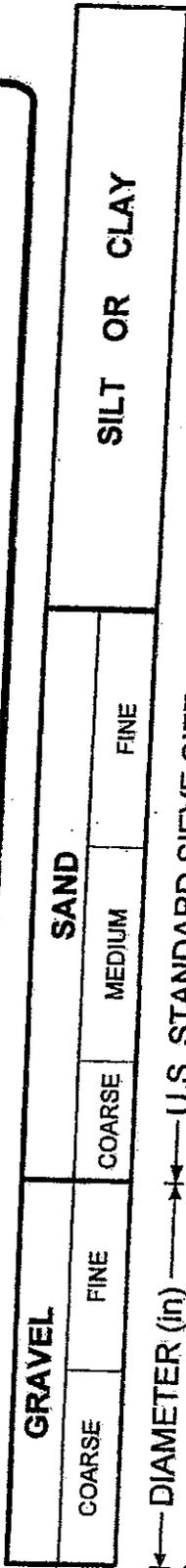
LIQUID LIMIT: 44      PLASTIC LIMIT: 23      PLASTICITY INDEX: 21  
 PERCENT PASSING # 200: 52.1 %      USCS: CL      AASHTO: A-7-6  
 TEST PROCEDURE USED: AASHTO T-99 C

TEST RESULTS:	Uncorrected	** Corrected
Maximum Dry Unit Weight =	109.5 PCF	116.6 PCF
Optimum Moisture Content =	17.0 %	14.2 %
** Corrected for 18.7 % retained on the 3/4" sieve		



Jay Kay Testing  
Baltimore, MD

**PROJECT NAME: McLaughlin Groundwater Impacts**  
**PROJECT NUMBER: 10012**



**GRADATION ANALYSIS**  
**AASHTO T-88**

TESTED BY: JMK  
 CHECKED BY: RD  
 DATE: 11-3-10  
 SHEET: 2 of 2

**JAY KAY TESTING**  
 Baltimore, Maryland

SOIL DESCRIPTION

Brown rocky lean CLAY  
 with sand (CL) [A-7-6]

BORING KEY NUMBER	SAMPLE NUMBER	DEPTH (ft.)	MC (%)	LL	PL	PI
● TP-2	Bulk	0-5.0	—	44	23	21

**SUMMARY OF LABORATORY TESTING**

**MCLAUGHLIN GROUNDWATER IMPACT**

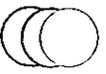
**RECEIVED**

NOV 16 2010

**CLDENIN CONSULTING &  
REMEDATION GROUP**

Boring Number	Sample Number	Depth (ft.)	ATTERBERG LIMITS		
			Liquid Limit	Plastic Limit	Plasticity Index
TP-1	Jar	0-2.5	47	23	24
TP-2	Jar	1.0-2.0	80	27	53

Jay Kay Testing  
Baltimore, MD  
11/13/2010



# Plasticity Chart McLaughlin Groundwater Impacts

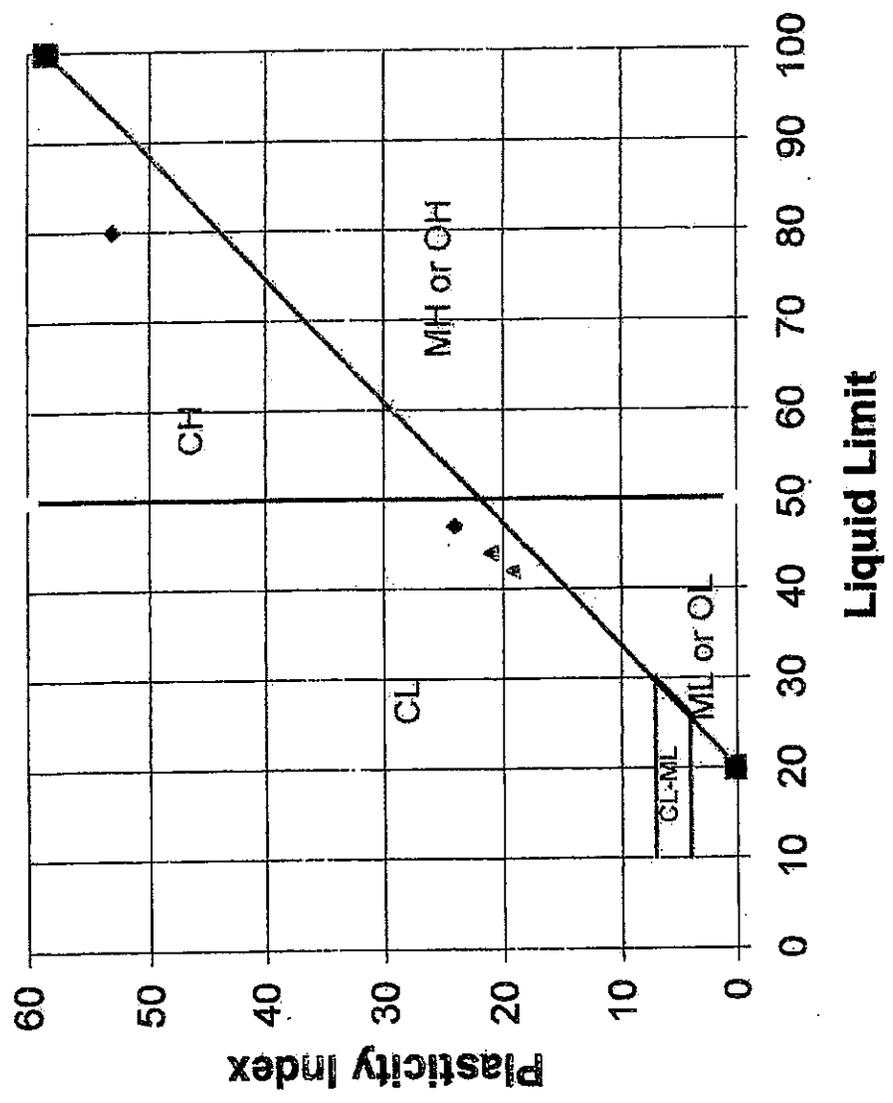
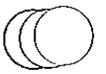
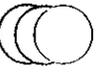
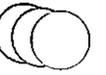


Figure 1



**ADDITIONAL DOCUMENTS  
SUBMITTED BY VAN METRE HOMES**





March 18, 2016

**BY EMAIL AND  
FEDERAL EXPRESS**

Alan McMahan, MPA, C.B.O.  
Senior Construction Inspector II and  
Secretary – State Building Code Technical Review Board  
Department of Housing & Community Development  
Division of Building & Fire Regulation  
State Building Code Office  
600 East Main Street, Suite 300  
Richmond, Virginia 23219  
Email: alan.mcmahan@dhdcd.virginia.gov

*Re: Notice of Hearing – Appeal of Frank & Karen McLaughlin  
Appeal No. 11-3*

Dear Mr. McMahan:

This letter follows-up on the March 16, 2016 letter of Juan M. Estrada, General Counsel for the Van Metre Companies, to you with respect to the above-referenced Notice of Hearing and Appeal.

***Request for Continuance***

As an initial matter, Van Metre Homes at Broadlands, L.L.C. ("Van Metre") restates its request for a continuance of the Hearing, presently scheduled for March 22, 2016, to a date in May 2016. As set forth in Mr. Estrada's letter, the continuance will provide Van Metre with a reasonable period of time to respond to the information submitted to the State Building Code Technical Review Board (the "Review Board") in connection with the Appeal, and also the opportunity to present key witnesses Andrew Shontz, P.G. and/or Karl Higgins, P.E. of ECS Mid-Atlantic, LLC ("ECS") and possibly Abdi Farah, P.E. of Alliance Structural Engineers, Inc. ("Alliance"). As previously advised, Van Metre was provided the information on Wednesday, March 9, and was only provided two days to submit a response to the information, and thirteen days prior notice of the Hearing. In addition, Messrs. Shontz and Higgins will be out of the state or out of the country next week and unavailable to participate in the Hearing.

Van Metre Homes • 24600 Millstream Drive • Suite 400 • Stone Ridge, VA 20105 • P: 703.348.5800

[www.VanMetreHomes.com](http://www.VanMetreHomes.com)

Van Metre respectfully submits that proceeding with the Hearing on March 22 will prejudice Van Metre in this matter, including the inability to present key witnesses. Continuance of the Hearing for a temporary period, however, will not prejudice the other parties to this matter, and will provide the Review Board with the opportunity to receive additional relevant and important information for the Appeal.

*Position Statement*

Since receiving the information, Van Metre has endeavored to review the information and communicate with Messrs. Shontz, Higgins and Farah. In the event that Van Metre's requested continuance is not granted, (a) Van Metre reserves all rights with respect thereto, including all appeal and objection rights, and (b) Van Metre respectfully requests that the March 16, 2016 letter of Mr. Estrada, this letter and the following enclosed documents are admitted to the record for the Appeal and considered by the Review Board:

- Combined Declaration of Karl A. Higgins and Andrew R. Shontz dated March 17, 2016, in response to the first Suggested Issue for Resolution by the Review Board in the Review Board Staff Document, and certain statements contained in Clendenin Consulting & Remediation Group's McLaughlin Report to Board dated February 12, 2016 (the "CC&RG McLaughlin Report").
- Declaration of Abdi H. Farah dated March 18, 2016, in response to the second Suggested Issue for Resolution by the Review Board in the Review Board Staff Document.
- July 10, 2013 letter from Loudoun County, Department of Building and Development to Broadlands Associates, L.L.P. (which is part of the Van Metre Companies) advising of the release of the performance agreement and associated bond for certain improvements in Section 62, because the bonded improvements were complete and found acceptable by Loudoun County. This letter is a supplement to the May 16, 2011 letter from Loudoun County, Department of Building and Development, which was submitted with the CC&RG McLaughlin Report.

This matter began six years ago with the McLaughlins' concern about the frequent operation of the sump pump in the basement of their home located at 42975 Park Creek Drive, Broadlands, Virginia (the "Home"). The McLaughlins were concerned of potential flooding of their basement if the sump pump were to fail. Van Metre Homes customer care personnel visited the Home to inspect the foundation drainage system and confirmed that the water drainage system for the Home, including the sump pump, was operating properly. Notwithstanding this, in the spirit of good customer service and in an effort to allay the McLaughlins' concern, Van Metre offered to perform certain measures, at its cost, to alleviate the frequent operation of the sump pump. As these additional measures were not required of Van Metre, the offer was contingent upon the McLaughlins signing a limited release and waiver. The McLaughlins declined this offer. Importantly, since the

Alan McMahon, MPA, C.B.O.

March 18, 2016

Page 3

McLaughlins purchase of the Home in 2009, the McLaughlins have not reported to Van Metre any flooding in the Home.

Following the involvement of CC&RG, the McLaughlin's concerns expanded to whether a foundation drainage system was actually installed, and whether the water drainage system for the Home was installed pursuant to approved plans and applicable building codes, and then later to a concern that the basement walls were not backfilled or designed properly. Based on documents submitted by the McLaughlins to the Loudoun County, Department of Building and Development, including an October 28, 2010 report from CC&RG that stated a concern of a "very high risk of drainage problems that could result in structural problems in the near future", Christopher Thompson, Building Operations Manager for the department, issued the December 1, 2010 Notice of Violation. Importantly, since the McLaughlins purchase of the Home in 2009, the McLaughlins have not reported to Van Metre any structural problems with the Home or evidence of the same. The basement wall soil backfill and structural concerns were unfounded and later rebutted by Van Metre's consultants (as documented herein).

In response to the Notice of Violation, Roy Kane, then Director of Customer Care for Van Metre Homes, by letter dated December 17, 2010, provided to Mr. Thompson and the McLaughlins documentation evidencing the absence of any building code violations and validating the removal of the Notice of Violation. This documentation, which is part of the record before the Review Board, included (a) a detail of the foundation drainage system for the Home, (b) a December 8, 2010 letter from Messrs. Shontz and Higgins of ECS detailing their laboratory test results of samples of backfill collected from test pits conducted by CC&RG adjacent to the Home's basement below grade walls, and (c) January 10, 2011 and January 12, 2011 letters from Mr. Farah of Alliance detailing his review of the basement walls for the Home. Based on their testing, Messrs. Shontz and Higgins concluded that the materials used to backfill below grade walls "were suitable based on the criteria established in the approved geotechnical report dated March 1, 2001 (ECS Project No. 5587-G1)" (the "ECS Geotechnical Report"). Based on his analysis, Mr. Farah determined that the basement walls were designed to support the design pressures in ECS Geotechnical Report.

Mr. Thompson rescinded the Notice of Violation by letter dated February 8, 2011. The McLaughlins appealed the same to the Loudoun County Board of Building and Fire Code Appeals (the "Local Appeals Board"). Following a hearing involving all parties and a review of relevant documentation, including those referenced in the paragraph above, the Local Appeals Board found unanimously that Mr. Thompson had authority to rescind the Notice of Violation, and that he had sufficient basis to support his decisions that the backfill material against the foundation of the Home was suitable, that the Home's foundation walls were designed to resist the pressure of soils found on the property, and that the drainage system installed around the exterior perimeter of the foundation met minimum code requirements.

Van Metre respectfully submits that the record before the Review Board clearly supports Mr. Thompson's decision to rescind the Notice of Violation and the decisions stated in his February 8, 2011 letter, and the unanimous finding in favor of Mr. Thompson by the Local Appeals

Alan McMahan, MPA, C.B.O.  
March 18, 2016  
Page 4

Board with respect thereto. Accordingly, the Review Board also should find in favor of Mr. Thompson with respect to the issues in the Appeal.

Sincerely,



Tom Marable  
Vice President – Land Development  
for Van Metre Homes

Enclosures

cc (by email):

Brian Davidson  
Juan Estrada, Esq.  
Karl Higgins, Chief Engineer / S.V.P. (ECS)  
Andrew Shontz, Principal Geologist (ECS)  
Frank McLaughlin  
Karen McLaughlin  
Chris Thompson

COMMONWEALTH OF VIRGINIA  
Department of Housing and Community Development  
State Building Code Technical Review Board

IN RE: Appeal of Frank & Karen  
McLaughlin

Appeal No. 11-3

COMBINED DECLARATION OF KARL A. HIGGINS AND ANDREW R. SHONTZ

We, Karl A. Higgins, III, P.E. and Andrew R. Shontz, P.G. of ECS Mid-Atlantic, LLC (ECS) state the following based upon our personal knowledge:

1. The soils used to backfill the basement walls of the McLaughlin Residence (42975 Park Creek Drive, Ashburn, Virginia 20148) meet the requirements of the original geotechnical report prepared by ECS dated March 1, 2001 (ref. ECS Document 5587-G1). Highly plastic soils were not used as backfill. This fact was confirmed by supplemental testing completed by ECS in our letter report dated December 8, 2010.

2. Karl Higgins and Andrew Shontz of ECS were present onsite October 28, 2010 whereby representatives of Clendenin Consulting and Remediation Group (CCRG) conducted test pits adjacent to the residence's basement below grade walls. Samples of the backfill were collected by both CCRG and ECS. In our professional judgment based on our personal observations, the representative from CCRG did not collect representative samples of the excavated soil for subsequent laboratory testing. Rather, it appeared that the CCRG representative only selected the fines portion of the soil matrix (i.e., the gravel and sand portions of the soil which affect plasticity were omitted). Karl Higgins asked the CCRG representative if he was a licensed professional engineer or geologist, and he responded no.

3. There is a sketch on ECS letterhead entitled "Residential Below Grade Drainage Detail" that is referenced by CCRG as being a component of our original report dated March 1, 2001. This sketch was not included in this report as has been confirmed by our review of official report copies and our original document. Any reference to the presence of this sketch in our official county approved documents is false.

4. CCRG references IBC 2006 as the guiding building code at the time the work was permitted which is not correct. The type of construction instead falls under IRC (the International Residential Code) which was adopted by Virginia Uniform Statewide Building Code with some modifications. This code allows the use of Lean CLAY (CL) as backfill for basement walls. Our laboratory testing conducted in our December 8, 2010 confirms allowable soils were used as backfill.

 3/17/16

Karl A. Higgins, III, P.E.  
Virginia Professional License #028602

 3/17/16

Andrew R. Shontz, P.G.  
Virginia Professional License #1589

In accordance with Virginia Code § 8.01-4.3, we hereby certify under penalty of perjury that the foregoing is true and correct to the best of our knowledge, information and belief.

Dated: March 17, 2016

COMMONWEALTH OF VIRGINIA  
Department of Housing and Community Development  
State Building Code Technical Review Board

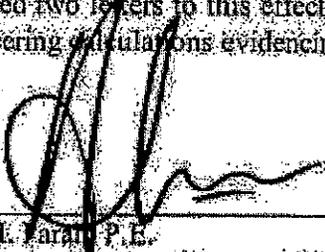
IN RE: Appeal of Frank & Karen  
McLaughlin

Appeal No. 11-3

DECLARATION OF ABDI H. FARAH

I, Abdi H. Farah, P.E. of Alliance Structural Engineers, Inc. (Alliance), state the following based upon our personal knowledge:

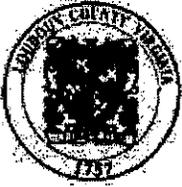
The subject basement walls for the McLaughlin Residence (42975 Park Creek Drive, Ashburn, Virginia 20148) were designed to support the design pressures in the original geotechnical report prepared by ECS dated March 1, 2001 (ref. ECS Document 5587-G1). I prepared two letters to this effect dated January 10, 2011, and January 12, 2011, which include engineering calculations evidencing the same.



Abdi H. Farah P.E.  
Virginia Professional License #026000

In accordance with Virginia Code § 8.01-4.3, I hereby certify under penalty of perjury that the foregoing is true and correct to the best of our knowledge, information and belief.

Dated: March 18, 2016



**Loudoun County, Virginia**

www.loudoun.gov

**Department of Building and Development**

1 Harrison Street, S.E., P.O. Box 7000, Leesburg, VA 20177-7000

(703) 777-0220

FAX Numbers: Permits (703) 771-5522 Engineering (703) 737-8993 Zoning Administration (703) 771-5215

July 10, 2013

**BROADLANDS ASSOCIATES L.L.P.**  
24600 MILLSTREAM DRIVE, SUITE 400  
STONE RIDGE, VA 20105

**RE: RELEASE OF THE PERFORMANCE AGREEMENT AND THE ASSOCIATED  
SURETY NO. 104797354 FOR BROADLANDS SOUTH, SECTION 62, BLOCKS 1, 2, 3  
& 4 (PUBLIC ROAD IMPROVEMENTS). (CPAP-2005-0085)**

Dear Sir or Madam:

This is to advise you that Surety No. 104797354 issued to BROADLANDS ASSOCIATES LLP, by the TRAVELERS CASUALTY & SURETY CO, in the amount of \$681,000.00, posted to the Loudoun County Board of Supervisors to guarantee the construction of public improvements at the project known as BROADLANDS SOUTH, SECTION 62, BLOCKS 1, 2, 3 & 4 (PUBLIC ROAD IMPROVEMENTS) is hereby released.

The release of Corporate Surety Bond No. 104797354 was approved by the Board of Supervisors because the improvements are complete and found to be acceptable by Loudoun County.

Enclosed is the original surety Bond No. 104797354.

Very truly yours,

Terrance D. Wharton  
Director

cc: Bond Project File

Receipt of the above referenced Bond is hereby acknowledged on behalf of:

Date

Signature

**OPTION A**

**COUNTY OF LOUDOUN  
PERFORMANCE BOND**

<p><b>BOND NO.</b> 104797354</p>	<p><b>DATE BOND EXECUTED:</b> December 5, 2006</p>						
<p><b>PRINCIPAL(S)/CO-PRINCIPAL(S)</b> <u>Legal Name(s), Status, and Business Address(es) and Telephone Number(s)</u></p> <p>Broadlands Associates, L.L.P., a Virginia Limited Liability Company 5252 Lyngate Court Burke, VA 22015 Attn: President (703) 425-2600</p> <p>(Hereinafter "Principal" whether one or more than one)</p>	<p><b>TYPE OF ORGANIZATION:</b> (Check One)</p> <p><input type="checkbox"/> Individual</p> <p><input type="checkbox"/> Partnership</p> <p><input type="checkbox"/> Limited Liability Company</p> <p><input type="checkbox"/> Corporation</p> <p><input checked="" type="checkbox"/> Other (Specify) <u>Limited Liability Partnership</u></p> <p><b>STATE OF INCORPORATION OR ORGANIZATION:</b> Virginia</p>						
<p><b>SURETY(IES)</b> <u>Name(s) and Business Address(es) and Telephone Number(s)</u></p> <p>Travelers Casualty and Surety Company of America One Tower Square Hartford, CT 06183 (860) 277-1561 A.M. Best No. 03609 A.M. Best F.S.C. XV A.M. Best Rating: A+</p> <p>Hereinafter "Surety" whether one or more than one</p>	<p><b>SUM OF BOND</b> One Million Five Hundred Fifty Nine Thousand and 00/100</p> <table border="1"> <thead> <tr> <th>Million(s)</th> <th>Thousand(s)</th> <th>Hundred(s)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>539</td> <td>000</td> </tr> </tbody> </table> <p><b>DATE OF AGREEMENT:</b> December 5, 2006 <b>PLAN NAME:</b> Broadlands South, Section 62, Blocks 1, 2, 3 &amp; 4 <b>PLAN NO.:</b> CPAP - 2005-0085 [STPL _____]</p> <p>and any and all revisions of such plans however numbered or designated.</p>	Million(s)	Thousand(s)	Hundred(s)	1	539	000
Million(s)	Thousand(s)	Hundred(s)					
1	539	000					

**RELEASED**  
DATE 6/19/2013 (15)

\*(Public Road Improvements)

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety hereto recite and declare that:

1. We are held and firmly bound to the obligee Board of Supervisors of Loudoun County, Virginia (hereinafter called "County"), in the sum written above in lawful money of the United States of America, to be paid to the County, its successors or assigns, for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by this Bond.

2. The condition of this Bond is that if the Principal shall in every respect discharge its

obligations under the Agreement identified above, which Agreement is incorporated herein by reference, then this Bond shall be void; otherwise, this Bond shall remain in full force and effect until discharged in accordance with its terms.

3. Surety expressly WAIVES any right to receive notice, review, approve any revisions to the plans, profiles, and specification referred to in the Agreement and no such revision shall in any way affect the obligation of the Surety under this Bond.

4. Surety shall be deemed to consent to any extension of time granted to Principal to permit performance of the obligations of the Agreement, whether or not Surety receives notice of such extension of time, and the liability of Surety under this Bond shall not be discharged or affected by any such extension of time.

5. If Principal defaults in the performance of all or any part of the obligations specified in the Agreement or abandons the work, the County, through its Director of Building and Development or other agent, shall give written notice of same to the Principal and Surety. In the event of such default and notice, the Surety shall have either of the following options:

(A) Within 21 days of receipt of the default notice, Surety shall pay over the full face value sum of the Bond to the County or such lesser sum as the Director of Building and Development may determine in his sole discretion, and thereafter be relieved of further liability under this Bond. If this option is selected by Surety, then the County will take over or relet all or any part of the work required by the Agreement but not completed, and will complete the same to the extent of available sums. The cost and expenses of completing the work shall include all items set forth in paragraph 6(B) of this Bond as the measure of damages. If these funds are not enough to complete the work, then the County may proceed against the Principal for any difference. If there are any funds left which are not necessary for completion of the work, then the County will remit this excess to Surety after work is completed.

(B) Within 21 days of receipt of the default notice, Surety shall give written notice to the County that it will assume the Agreement and the obligations of the Principal and shall complete the Agreement according to its terms and provisions within 180 days of said notice or such other term as may be approved by County and thereafter be relieved of further liability under the terms of this Bond. In the event that Surety elects this option and then fails to faithfully perform all or any part of the work or should it unnecessarily delay completion of all or any part of the work, then the County may proceed as provided in paragraph 6 of this Bond.

(C) As used in this bond, completion of the work specifically includes performance of every obligation of the Principal under the Agreement.

6. Should Surety fail to elect either option in paragraph 5, above, within 21 days of receipt of default notice, or upon election of either option should then fail to perform, in either such event, then the County may:

(A) Take over or relet all or any part of the work not completed and complete the same for the account and at the expense of the Principal and Surety, who shall be jointly and severally liable to the County for the costs incurred in completion, including all items set forth in paragraph 6(B) of this Bond as the measure of damages chargeable against Principal and Surety for their breach; or

(B) Bring suit, action, or proceeding to enforce the provisions of this Bond. In the event that any such suit, action, or proceeding is brought by the County, it is expressly agreed and understood that, regardless of when the breach of the underlying Agreement occurs, or the breach of the obligations of this Bond, the measure of damages recoverable shall be computed as the costs of completion or correction, or both, of the work required by the Agreement (1) at the time the work is actually completed and/or corrected to local and state approval and acceptance or (2) at the time of final judgment of a Court of competent jurisdiction; it is further expressly agreed and understood that the measure of damages shall include expenses attributable, but not limited, to administrative costs, litigation costs, attorney's fees, maintenance, deterioration, inflation, and any cost increases arising from delay occasioned by litigation, action, or proceedings necessary to enforce the provisions of this Bond, and delays by Surety under paragraph 5(B) of this Bond.

7. Nothing in this Bond shall be construed as creating an obligation upon the County to pay for the completion or correction of the work guaranteed under the provisions of this Bond.

8. By signatures hereto the principal and the Surety do hereby expressly WAIVE any objection that they, or either of them, might interpose to the authority of the County to require each and every provision of the foregoing Bond.

[REMAINDER OF THIS PAGE PURPOSELY BLANK. SIGNATURE PAGES TO FOLLOW]

Bond No. 104797354

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed, under seal, as of the day and year on the date set forth above.

PRINCIPAL(S)

TYPED, PRINTED NAME:

Broadlands Associates, L.L.P., a Virginia limited liability partnership  
By: Broadlands Investment Company, L.L.C., a Virginia limited liability company, Managing Partner  
By: Van Metre Broadlands Manager, Inc., a Virginia corporation, Manager

SIGNATURE: Kenneth Ryan (SEAL)

NAME AND TITLE: Kenneth Ryan  
(Typed) Executive Vice President

SIGNATURE: \_\_\_\_\_ (SEAL)

NAME AND TITLE: \_\_\_\_\_  
(Typed) \_\_\_\_\_

STATE OF Vir  
COUNTY OF \_\_\_\_\_, to wit:

I, Carrie A. Piazza a Notary Public in and for the State and County aforesaid, do hereby certify that Kenneth Ryan and \_\_\_\_\_ as Executive Vice President and \_\_\_\_\_, respectively of Van Metre Broadlands Manager, Inc. the manager of Broadlands Investment Company, L.L.C. managing partner of Broadlands Associates, L.L.P., whose names are signed to the foregoing, this day personally appeared before me in my State and County aforesaid and acknowledged their signatures affixed above, and the Corporate Seal as the genuine seal of the said corporation.

Given under my hand the 7<sup>th</sup> day of December, 2006.

Carrie A. Piazza  
Notary Public

My Commission Expires: April 30, 2009

**CORPORATE SURETY**

NAME, ADDRESS  
AND TELEPHONE NUMBER:

STATE OF INCORPORATION: Connecticut

Travelers Casualty and Surety  
Company of America  
One Tower Square  
Hartford, CT 06183  
(860) 277-1561

LIABILITY LIMIT: \$70,774,000.00

SIGNATURES:	1. <u>Jessica LaRoque</u> (SEAL)	2. _____ (SEAL)
NAME(S) AND	1. <u>Jessica LaRoque</u>	2. _____
TITLE(S):	_____	_____
(Typed)	<u>Attorney-In-Fact</u>	_____
	_____	_____

STATE OF Maryland  
COUNTY OF Anne Arundel, to-wit:

I, Brenda L. Patterson, a Notary Public in and for the State and County aforesaid, do hereby certify that Jessica LaRoque and \_\_\_\_\_ as Attorney-In-Fact and \_\_\_\_\_ respectively of the Travelers Casualty and Surety Company of America, whose names are signed to the foregoing, this day personally appeared before me in my State and County aforesaid and acknowledged their signatures affixed above, and the Corporate Seal as the genuine seal of the said corporation.

Given under my hand the 5<sup>th</sup> day of December, 2006.

Brenda L. Patterson  
Brenda L. Patterson, Notary Public

My Commission Expires: January 1, 2009

Bond No. 104797354

Countersigned by Virginia Resident Agent [unless current certificate of good standing and certificate to transact surety business in Virginia has been approved by the County Attorney]:

Signature:   
Name, Title, Business Address  
and Telephone Number:  
(Typed)

Peter B. Knudsen, Producer

4530 Walney Road, Suite 200

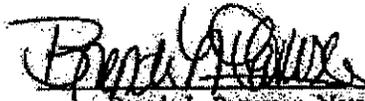
Chantilly, VA 20151

(703) 397-0977

STATE OF: Maryland

COUNTY OF: Anne Arundel

The foregoing signature was acknowledged before me this 5<sup>th</sup> day of December, 2006, by  
Peter B. Knudsen on behalf of the corporation.

  
Brenda L. Patterson, Notary Public

My Commission Expires: January 1, 2009

LOUDOUN COUNTY FORMS DISK #1 SURETY BOND  
October, 1997 Edition  
Rev. 104



POWER OF ATTORNEY

Farmington Casualty Company  
Fidelity and Guaranty Insurance Company  
Fidelity and Guaranty Insurance Underwriters, Inc.  
Seaboard Surety Company  
St. Paul Fire and Marine Insurance Company

St. Paul Guardian Insurance Company  
St. Paul Mercury Insurance Company  
Travelers Casualty and Surety Company  
Travelers Casualty and Surety Company of America  
United States Fidelity and Guaranty Company

Attorney-In-Fact No. 215734

Certificate No. 000333554

KNOW ALL MEN BY THESE PRESENTS That Seaboard Surety Company is a corporation duly organized under the laws of the State of New York, that St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company and St. Paul Mercury Insurance Company are corporations duly organized under the laws of the State of Minnesota, that Farmington Casualty Company, Travelers Casualty and Surety Company and Travelers Casualty and Surety Company of America are corporations duly organized under the laws of the State of Connecticut, that United States Fidelity and Guaranty Company is a corporation duly organized under the laws of the State of Maryland, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc. is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, continue and appoint

William G. Frisky, Brenda L. Patterson, John R. Muba II, Jeri L. Russell, Jessica LaRoque, Eugene Long, and Mallory L. Murrow

of the City of Lanham State of Maryland, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be herein affixed, this 21st day of April, 2006.

Farmington Casualty Company  
Fidelity and Guaranty Insurance Company  
Fidelity and Guaranty Insurance Underwriters, Inc.  
Seaboard Surety Company  
St. Paul Fire and Marine Insurance Company

St. Paul Guardian Insurance Company  
St. Paul Mercury Insurance Company  
Travelers Casualty and Surety Company  
Travelers Casualty and Surety Company of America  
United States Fidelity and Guaranty Company



State of Connecticut  
City of Hartford is:

George W. Thompson  
George W. Thompson, Senior Vice President

On this the 21st day of April, 2006, before me personally appeared George W. Thompson, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., Seaboard Surety Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal:  
My Commission expires the 30th day of June, 2006.



Marie C. Tetrault  
Marie C. Tetrault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., Seaboard Surety Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

**RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents in set for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking; and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

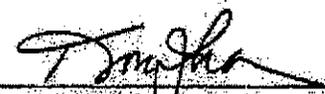
**FURTHER RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

**FURTHER RESOLVED**, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary, or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

**FURTHER RESOLVED**, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile in any power of attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or undertaking to which it is attached.

I, Kari M. Johanson, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., Seaboard Surety Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 5th day of December, 20 06

  
Kari M. Johanson, Assistant Secretary



To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at [www.stpaultravelersbond.com](http://www.stpaultravelersbond.com). Please refer to the Attorney In-Fact number, the above-named individuals and the details of the bond to which the power is attached.

VIRGINIA:

BEFORE THE  
VIRGINIA MANUFACTURED HOUSING BOARD

IN RE: Catherine Rowson; Appeal No. 15-16

CONTENTS

<u>Section</u>	<u>Page No.</u>
DHCD Staff Document	214
Combined Documents	216



VIRGINIA:

BEFORE THE  
STATE BUILDING CODE TECHNICAL REVIEW BOARD (REVIEW BOARD)

IN RE: Appeal of Catherine Rowson  
Appeal No. 15-16

REVIEW BOARD STAFF DOCUMENT

Suggested Statement of Case History and Pertinent Facts

1. In May of 2015, the City of Chesapeake's Department of Development and Permits (local building department), the agency responsible for the enforcement of Part III of the Virginia Uniform Statewide Building Code (the Virginia Maintenance Code or VMC), conducted an inspection of property located at 720 Mullen Road, owned by Catherine Rowson (Rowson).
2. In June of 2015, as a result of the inspection, the local building department issued a Notice of Unsafe Structure (Demolition) to Rowson for the house and the detached garage located on the property. The Notice included the May 2015 inspection report which cited violations of VMC Section 105 (Unsafe Structures or Structures Unfit for Human Occupancy). The local building department posted the notice on the front of the house and sent a copy of the notice to Rowson by certified mail.
3. On June 26, 2015, Rowson filed an appeal to the City of Chesapeake's Local Board of Building Code Appeals (local appeals board) which heard the appeal on September 26, 2015 and ruled to deny the appeal.
4. In September of 2015, Rowson further appealed to the Review Board.





5. Review Board staff corresponded with the parties permitting an opportunity to submit additional documents and then drafted this staff document based upon a review of the appeal documents. This staff document was then distributed to the parties and timeframes were established for the submittal of objections; corrections or additions to the staff document; the submittal of additional documents for the record; and written arguments to be included in the record of the appeal prepared for the hearing before the Review Board.

Suggested Issue for Resolution by the Review Board

1. Whether to overturn both the decision of the local building department that the house and the detached garage needs to be demolished, and the upholding of that decision by the local appeals board.





**REVIEW BOARD APPEALS 15-16**

**COMBINED DOCUMENTS  
SUBMITTED BY BOTH PARTIES**



Department of Development & Permits  
Code Compliance Division  
308 Cedar Road  
Post Office Box 15225  
Chesapeake, Virginia 23328-5225  
Tel. (757) 382-6378  
Fax. (757) 382-8793

## MEMORANDUM

TO: Jan L. Proctor  
CITY ATTORNEY

FROM: Michele Throckmorton  
ACTING CHIEF CODE COMPLIANCE INSPECTOR

DATE: May 22, 2015

SUBJECT: TITLE SEARCH REQUEST-DEMOLITION  
720 Mullen Road Road  
Parcel Number 0364001000930

A structure on the above referenced property has been inspected and posted as unsafe. The Code Official has determined that the structure should be demolished. Part III, Section 105.4 of the Virginia Uniform Statewide Building Code requires the locality to notify the owners of the unsafe building (City Code Section 14-35).

I am hereby requesting that a title search be conducted to determine all owners and lienholders. Any contact information for lienholders would be greatly appreciated.

Please list all owners and any possible lienholders on provided sheet pursuant to Section 14-35 (b) that requires notice to the last known address of the owner and lienholders.

Thank you in advance for your assistance in this matter. If there is any additional information required, please do not hesitate to contact me at extension 6227.

Michele Throckmorton  
Attachments

*"The City of Chesapeake adheres to the principles of equal employment opportunity.  
This policy extends to all programs and services supported by the City."*



Owners and possible lienholders identified in Title Search (Please list)



**MEMORANDUM**

TO: Michele Throckmorton, Senior Code Compliance Inspector  
Department of Development and Permits

FROM: Leonard L. Brown, Jr.  
Assistant City Attorney

DATE: June 8, 2015

RE: Title Search Request  
720 Mullen Road  
Parcel #: 00364001000930

Per your request for an updated title search on the above styled parcel, please note the following:

1. The property is currently owned by Catherine L. Rowson; and
2. The Deed of Trust was noted at Deed Book 4128 page 495 (see attached); and
3. A outstanding judgment was noted against Catherine L. Rowson at Judgment Book 1000 page 255 (see attached); and
4. Taxes are outstanding in the amount of \$1,129.50 (see attached).

If there are additional concerns in this regard, please advise.

LLBJr/dsh

Enclosures



DEED OF TRUST  
DJ 4128, page 495

Catherine L. Rowson – Owner

Peter S. Lade – Trustee  
700 Newtown Road  
Norfolk, VA 23502

Summit Federal Credit Union – Noteholder  
150 Kingley Lane  
Norfolk, VA 23505

Judgment – (JB 1103, page 466)

Americredit Financial Services, Inc. (Plaintiff)  
c/o M. Richard Epps, P.C.  
605 Lynnhaven Parkway, Suite 200  
Virginia Beach, VA 23452  
(Catherine Rowson, Defendant)

Amount of Judgment - \$10,690.85



RX004M01  
MMANOLI

CITY OF CHESAPEAKE - RE AND SW TAX ACCOUNTING  
PAGE 1 TAXES AND FEES DUE - VIEW 1

06/02/2015  
08:26:53

CTL - 0364001000930  
NAME - ROWSON CATHERINE L  
MAIL - 720 MULLEN RD  
DR - CHESAPEAKE VA 23320-6730

PRINTER ID-  
RTN MAIL ==TAX RELIEF==  
YEAR - 2014  
PGT - 40  
== DSO AVAIL ==

PROP - 720 MULLEN ROAD  
LEGAL- 93 MAINS CREEK PK  
LOAN - TXP

LAND USE- 000

WNT-	YR	BILLNO	Q	TYPE	DUE(MDY)	TAX-DUE	PEN-DUE	INT-DUE	TOTAL-DUE
	14	062073	1		09/30/13	114.30	11.43	21.99	147.72
	14	062073	2		12/31/13	147.68	14.77	24.36	186.81
	14	062073	3		03/31/14	147.68	14.77	20.30	182.75
	15	062158	1		09/30/14	177.22	17.72	14.61	209.55
	15	062158	2		12/31/14	157.02	15.70	8.63	181.35
	15	062158	4						
	15	034642	1	SWFEE					

PRESS F8 FOR ADDITIONAL DATA

1-HLP|2-MNU|3-EXT|4-RESET OPTS|5-COLL|6-OPTIONS|7-PRV|8-NXT|9-HIS|10-OWN  
11-LOG|12-NOTE|15-PRT EZPAY|ENT-VIEW|SEL-BILL \* INDICATES BILL W/ CR-BAL XFR



Development and Permits  
Code Compliance Division  
306 Cedar Road  
P.O. Box 15225  
Chesapeake, Virginia 23328-5225  
(757) 382-6378  
Fax (757) 382-6793

**NOTICE OF UNSAFE STRUCTURE**  
**(DEMOLITION)**

June 17, 2015

**CERTIFIED: 7011 3500 0001 3199 8598**

Catherine L. Rowson  
720 Mullen Road  
Chesapeake, VA 23320-6730

Reference: Demolition of 720 Mullen Road (House & Detached Garage)  
Tax Parcel 0364001000930

Dear Property Owner(s):

Pursuant to the Virginia Uniform Statewide Building Code (USBC), Part III, Section 105 and Section 14-35 of the Chesapeake City Code, the structure located at 720 Mullen Road and described as Parcel St Hwy 170 46.93 AC, has been declared unsafe and a public nuisance by the Code Official.

The defects which make this building (house & detached garage) unsafe and a public nuisance are listed on the enclosed inspection report. There may be concealed damage not included in the report. Any work performed to correct these defects must meet the minimum standards of the Virginia Uniform Statewide Building Code and the Chesapeake Zoning Ordinance. Plans must be submitted within thirty (30) days for approval prior to the issuance of a building permit or any work being done on the building.

Part III, Section 105.4 of the USBC requires that you declare immediately upon receipt, to the Code Official, acceptance or rejection of the terms of this notice.



Demolition  
720 Mullen Road (House & Detached Garage)  
Page Two  
June 17, 2015

You are herewith notified that repair and correction of these defects must be started and a fixed completion date agreed upon, or the unsafe building must be demolished within thirty (30) days from the date of this notice.

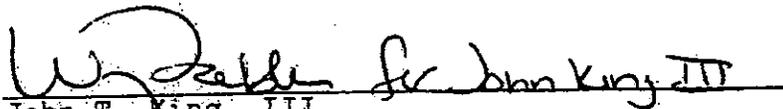
If demolition of the building is contemplated, a demolition permit must be issued before the work is commenced. It shall remain the property owner's responsibility to pay any fees for discontinuance of utility services (water and sewer).

Failure to comply with the above within the stated time shall result in the Code Official having the structure demolished. Any personal items remaining on the premises shall be removed and disposed of. Any expense incurred by the City of Chesapeake in having the unsafe building demolished and the debris removed from the premises shall be charged to the owner and collected in the manner provided by law. The cost shall include a \$150.00 administration fee and the cost of advertising notices as required by Section 14-35 of the Chesapeake City Code.

The owner, agent or person in control of the property has the right to appeal the decision of the Code Official. Should you desire to appeal, execute the furnished appeal form and return same to this office within fourteen (14) days of the date of this notice. A fee of \$25.00 must accompany the application. You will be notified of the time, date and place of the meeting of the Board of Appeals.

Should you agree that demolition is the proper solution and desire the City to have the property cleared at your expense, you may minimize the expense by completing the enclosed work authorization form. It must be notarized and returned promptly to this office.

Respectfully,

  
John T. King, III  
Code Official

Enclosures



**CITY OF CHESAPEAKE  
DEVELOPMENT & PERMITS  
CODE COMPLIANCE DIVISION**

**INSPECTION REPORT**

306 Cedar Road, City Hall 2nd Floor  
Mon-Fri 8:00 am-5:00 p.m.  
Phone: 757-382-6378 Fax: 757-382-6793  
Email: develop-permits@cityofchesapeake.net

Legal #  Property Address

Occupancy Type  Tenant Name

Owner Name/Address

Type of Inspection  Date of Inspection  Temporary CA

Violation(s) must be corrected within  Name of Inspector

NOTE MAKE ALL NECESSARY REPAIRS CHECKED BELOW - EXPLANATION BELOW CHECKLIST

EXTERIOR	INTERIOR	PLUMBING/FIXTURES	EQUIPMENT
<input type="checkbox"/> 301.3 Vacant Structure	<input type="checkbox"/> 305.1 General	<input type="checkbox"/> 502 Required Facilities	<input type="checkbox"/> 602 Heating & Cooling Supply
<input type="checkbox"/> 302 Exterior Areas	<input type="checkbox"/> 305.2 Structural members	<input type="checkbox"/> 502.1 Water closet	<input type="checkbox"/> 603.1 Mechanical Appliances
<input type="checkbox"/> 302.5 Rodent Harborage	<input type="checkbox"/> 305.3 Interior surfaces	<input type="checkbox"/> 502.1 Bathtub/shower	<input type="checkbox"/> 603.2 Chimney/Vent Connection
<input type="checkbox"/> 302.7 Accessory Structures	<input type="checkbox"/> 305.4 Stairs/walking surfaces	<input type="checkbox"/> 502.1 Lavatory	<input type="checkbox"/> 603.3 Clearances
<input type="checkbox"/> 303 Pools/Enclosures	<input type="checkbox"/> 305.5 Handrails/guardrails	<input type="checkbox"/> 502.1 Kitchen sink	<input type="checkbox"/> 603.4 Controls
<input type="checkbox"/> 304.2 Protective Treatment	<input type="checkbox"/> 305.6 Interior Doors	<input type="checkbox"/> 503 Toilet Rooms	<input type="checkbox"/> 603.5 Combustion Air
<input type="checkbox"/> 62-2 Weeds/Debris	<input type="checkbox"/> 305.7 Carbon Monoxide Alarms	<input type="checkbox"/> 504.1 Fixture maintenance	<input type="checkbox"/>
<input type="checkbox"/> 304.3 Street Numbers	<input type="checkbox"/> 308.1 Interior Rubbish	<input type="checkbox"/> 505.1 Fixture connections	<input type="checkbox"/>
<input type="checkbox"/> 304.4 Structural Members	<input type="checkbox"/> 309 Pest Elimination	<input type="checkbox"/> 505.2 Contamination	<b>ELECTRICAL</b>
<input type="checkbox"/> 304.5 Foundation Walls	<input type="checkbox"/> 402 Light	<input type="checkbox"/> 505.3 Supply	<input type="checkbox"/> 604.1 Facilities Required
<input type="checkbox"/> 304.6 Exterior Walls	<input type="checkbox"/> 403 Ventilation	<input type="checkbox"/> 505.4 Water heating	<input type="checkbox"/> 604.3 System Hazards
<input type="checkbox"/> 304.7 Roofs/Drainage	<input type="checkbox"/> 404 Occupancy Limitations	<input type="checkbox"/> 506.1 Sewer Connection	<input type="checkbox"/> 605.1 Installation
<input type="checkbox"/> 304.10 Stairs/decks/balconies	<input type="checkbox"/> 702 Means of egress	<input type="checkbox"/> 506.2 Sewage maintenance	<input type="checkbox"/> 605.2 Receptacles
<input type="checkbox"/> 304.13 Window/door frame	<input type="checkbox"/> 702.3 Locked doors	<input type="checkbox"/> 507.1 Storm Drainage	<input type="checkbox"/> 605.3 Lighting Fixtures
<input type="checkbox"/> 304.13.1 Glazing	<input type="checkbox"/> 704 Smoke detector	<input type="checkbox"/>	<input type="checkbox"/> 607.1 Duct System
<input type="checkbox"/> 304.13.2 Openable window	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 607.4 Cooling Supply
<input type="checkbox"/> 304.14 Insect Screens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 606 Elevators
<input type="checkbox"/> 304.15 Doors			
<input type="checkbox"/> 46.131.1 Graffiti			
<input checked="" type="checkbox"/> 105 Unsafe/Unfit Structure	Comments	<p>105 Unsafe/Unfit Structure. This structure has been determined to be an unsafe structure, and the condition constitutes such a hazard that it should be razed or removed.</p> <p>* Demolish unsafe structure within 30 days of this notice, or provide a structural engineers report stating that the structure is repairable and obtain required permits and begin repairs.</p>	
<input type="checkbox"/> 62-7 Unightly Accumulation			
<input type="checkbox"/> 14-8 Derelict			
<input type="checkbox"/> 14-4 Dangerous Building			
<input type="checkbox"/>			

Section 14-118: Any person aggrieved by any determination or decision of the director of the Department of Development & Permits made pursuant to Chapter 14 of the City Code shall have the right to appeal such determination or decision within fourteen (14) days to the Local Board of Building Code Appeals. Exception- Appeals for Dangerous Buildings must be made to the Director of development and Permits Visit website to fill out your application: [http://www.cityofchesapeake.net/Assets/forms/departments/development\\_permits/Board+of+Building+Code+Appeals+Application.pdf](http://www.cityofchesapeake.net/Assets/forms/departments/development_permits/Board+of+Building+Code+Appeals+Application.pdf)



# Inspections Report for Unsafe Structures

SR # 15-00101754 Hazardous Structure# \_\_\_\_\_

Owner Catherine Rowson Phone \_\_\_\_\_

Agent \_\_\_\_\_ Phone \_\_\_\_\_

Address 720 Mullens Rd

Legal Description 93 Mains Creek PK

**Description of Building:**

Size of Building 55X 30 # of Stories 0 NC  
 # of Rooms 7 Bath 1 Block \_\_\_\_\_ Frame  Other Brick Exterior  
 Building Connected To: City Water  Sewer  Septic Tank \_\_\_\_\_ Gas \_\_\_\_\_ Electric   
 Building Is: Vacant \_\_\_\_\_ Occupied  Commercial \_\_\_\_\_ Abandoned \_\_\_\_\_  
 Has Building: Collapsed \_\_\_\_\_ Partially Collapsed  Burned \_\_\_\_\_ Partially Burned \_\_\_\_\_  
 Recommendation is for: Repair \_\_\_\_\_ Demolish \_\_\_\_\_ Other \_\_\_\_\_  
 Deteriorated More Than: 75%  50% \_\_\_\_\_ Other \_\_\_\_\_

**Additional Remarks:**

ITEMS	CONDITION	Good - G Fair - F Hazardous - H Poor - P
Foundation	P	
Sills	H	
Floor Joist	H	<u>FLR Joist collapse in Hall, Bath, Dining, Rmt Klt.</u>
Flooring	P/H	
Ext. Walls	F	
Int. Walls	P/H	<u>CRACKED DUE TO FLOORS COLLAPSEING</u>
Bearing Walls	P	
Ceiling	H	<u>Plaster Falling in Living Room -</u>
Ceiling Joist	F	
Rafters	F	
Roofing	P	<u>Need to be Replaced in 2 years -</u>
Chimney	F	
Ext. Stairs	F	
Int. Stairs	N/A	
Porches	H	<u>Ceiling Plaster no door</u>
Steps	F	



Is the Building a Structural Hazard? Yes Fire Hazard? Yes Health Hazard? Yes -

Accessory Buildings Rear masonry Garage - Roof Rotted -

Inspections Performed: Richard L. Burkard Jr. / Phil J. Kelly 15-12-15  
Inspector Name (Print) Inspector Signature Date

Approved: [Signature] 5/14/15  
Code Official Date

**Report Details:**

The Floors have collapsed in Hallway, and are collapsing  
in Dining Room, Kitchen, Bathroom and Bedroom, Toilet does not work.  
Bath Shower Full of clothes - Owner is a holder, 3 Bedrooms Full of stuff,  
owner sleeps in Living Room. House is in a Flood zone, Cost of AC pairs most likely  
Exceed 50% - Interior walls all cracking due to Floors collapsing. in front  
Grade is lower Against the Home. Backyard is Back graded to House -



Development and Permits  
Code Compliance Division  
306 Cedar Road  
P.O. Box 15225  
Chesapeake, Virginia 23328-5225  
(757) 382-6378  
Fax (757) 382-6793

**NOTICE OF UNSAFE STRUCTURE**  
**(DEMOLITION)**

June 17, 2015

**CERTIFIED: 7011 3500 0001 3199 8604**

Peter S. Lade, Trustee  
700 Newtown Road  
Norfolk, VA 23502

Reference: Demolition of 720 Mullen Road (House & Detached Garage)  
Tax Parcel 0364001000930

Dear Trustee(s):

Pursuant to the Virginia Uniform Statewide Building Code (USBC), Part III, Section 105 and Section 14-35 of the Chesapeake City Code, the structure located at 720 Mullen Road and described as Parcel St Hwy 170 46.93 AC, has been declared unsafe and a public nuisance by the Code Official.

The defects which make this building (house & detached garage) unsafe and a public nuisance are listed on the enclosed inspection report. There may be concealed damage not included in the report. Any work performed to correct these defects must meet the minimum standards of the Virginia Uniform Statewide Building Code and the Chesapeake Zoning Ordinance. Plans must be submitted within thirty (30) days for approval prior to the issuance of a building permit or any work being done on the building.

Part III, Section 105.4 of the USBC requires that you declare immediately upon receipt, to the Code Official, acceptance or rejection of the terms of this notice.



Development and Permits  
Code Compliance Division  
306 Cedar Road  
P.O. Box 15225  
Chesapeake, Virginia 23328-5225  
(757) 382-6378  
Fax (757) 382-6793

**NOTICE OF UNSAFE STRUCTURE**  
**(DEMOLITION)**

June 17, 2015

**CERTIFIED: 7011 3500 0001 3199 8611**

Summit Federal Credit Union, Noteholder  
150 Kingley Lane  
Norfolk, VA 23505

Reference: Demolition of 720 Mullen Road (House & Detached Garage)  
Tax Parcel 0364001000930

Dear Noteholder(s):

Pursuant to the Virginia Uniform Statewide Building Code (USBC), Part III, Section 105 and Section 14-35 of the Chesapeake City Code, the structure located at 720 Mullen Road and described as Parcel St Hwy 170 46.93 AC, has been declared unsafe and a public nuisance by the Code Official.

The defects which make this building (house & detached garage) unsafe and a public nuisance are listed on the enclosed inspection report. There may be concealed damage not included in the report. Any work performed to correct these defects must meet the minimum standards of the Virginia Uniform Statewide Building Code and the Chesapeake Zoning Ordinance. Plans must be submitted within thirty (30) days for approval prior to the issuance of a building permit or any work being done on the building.

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Development and Permits  
Code Compliance Division  
306 Cedar Road  
P.O. Box 15225  
Chesapeake, Virginia 23328-5225  
(757) 382-6378  
Fax (757) 382-6793

**NOTICE OF UNSAFE STRUCTURE**  
**(DEMOLITION)**

June 17, 2015

**CERTIFIED: 7011 3500 0001 3199 8628**

Americredit Financial Services, Inc.  
C/O M. Richard Epps, P.C.  
605 Lynnhaven Parkway, Suite 200  
Virginia Beach, VA 23452

Reference: Demolition of 720 Mullen Road (House & Detached Garage)  
Tax Parcel 0364001000930

Dear Interested Party(s):

Pursuant to the Virginia Uniform Statewide Building Code (USBC), Part III, Section 105 and Section 14-35 of the Chesapeake City Code, the structure located at 720 Mullen Road and described as Parcel St Hwy 170 46.93 AC, has been declared unsafe and a public nuisance by the Code Official.

The defects which make this building (house & detached garage) unsafe and a public nuisance are listed on the enclosed inspection report. There may be concealed damage not included in the report. Any work performed to correct these defects must meet the minimum standards of the Virginia Uniform Statewide Building Code and the Chesapeake Zoning Ordinance. Plans must be submitted within thirty (30) days for approval prior to the issuance of a building permit or any work being done on the building.

Part III, Section 105.4 of the USBC requires that you declare immediately upon receipt, to the Code Official, acceptance or rejection of the terms of this notice.



*11/15/14 original + copy  
Posted on Property*

Development and Permits  
Code Compliance Division  
306 Cedar Road  
P.O. Box 15225  
Chesapeake, Virginia 23328-5225  
(757) 382-6378  
Fax (757) 382-6793

**NOTICE OF UNSAFE STRUCTURE**  
**(DEMOLITION)**

June 17, 2015

**CERTIFIED: 7011 3500 0001 3199 8635**

Karlous D. Rowson  
720 Mullen Road  
Chesapeake, VA 23320

Reference: Demolition of 720 Mullen Road (House & Detached Garage)  
Tax Parcel 0364001000930

Dear Interested Party(s):

Pursuant to the Virginia Uniform Statewide Building Code (USBC), Part III, Section 105 and Section 14-35 of the Chesapeake City Code, the structure located at 720 Mullen Road and described as Parcel St Hwy 170 46.93 AC, has been declared unsafe and a public nuisance by the Code Official.

The defects which make this building (house & detached garage) unsafe and a public nuisance are listed on the enclosed inspection report. There may be concealed damage not included in the report. Any work performed to correct these defects must meet the minimum standards of the Virginia Uniform Statewide Building Code and the Chesapeake Zoning Ordinance. Plans must be submitted within thirty (30) days for approval prior to the issuance of a building permit or any work being done on the building.

Part III, Section 105.4 of the USBC requires that you declare immediately upon receipt, to the Code Official, acceptance or rejection of the terms of this notice.



DEMOLITION AUTHORIZATION FORM

TO: Code Official  
Department of Development and Permits  
P.O. Box 15225  
Chesapeake, Virginia 23328

Property Identification Number: 0364001000930

Sir:

As the person responsible for the structure (house & detached garage) located at 720 Mullen Road, I hereby authorize the City to have the building demolished and all debris removed from the premises.

It is understood that expenses incurred by the City in conjunction with this request shall be charged to the landowner and collected in the manner provided by law.

\_\_\_\_\_  
Signature

Current Mailing Address

\_\_\_\_\_  
\_\_\_\_\_

Phone Number

\_\_\_\_\_

Duly subscribed to before me this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_



# Procedures/Checklist for UNSAFE BUILDING

## Demolitions

Address: 720 Mullen Rd SR #: 15-00101754

Structure(s) to be demolished (Primary/Accessory): Bath

Indicate any accessory structures to be included with Primary, if there is a fence indicate if shared with any adjoining properties \_\_\_\_\_

If Primary, what year was structure built (see mainframe)? 1967

If Accessory, indicate which structures? detached garage

Are structure(s) Commercial or Residential: Residential

### Important Notes:

\*\* Be sure to update CSR for each activity completed and save a copy of all documents and pictures to the corresponding service request.

If at any time the property owner obtains demolition or repair permit, the *permit alert* shall be updated with the notes and any further activity with this checklist stops until the property owner has complied or fails to repair/demolish within extension time given and Code Official or Code Compliance Supervisor has approved to proceed.

\*\* *Permit alerts* shall stay active on parcel until service request has been cleared/closed. Remember to put permit alerts back on after permit processing.

\*\* Code Compliance Supervisor is to issue all demolition permits for property no matter who is obtaining the permit. If renovation/repair has been pre-approved by the Code Official, the permit applicant will obtain permit through normal counter process.

\*\* This area of enforcement is included within the Property Maintenance portion of the Uniform Statewide Building Code, Part III, Section 129.0 adopted by City Code section 14-35. The procedural steps are as follows, once your assigned section is completed, file must be given to the next assigned person to complete their steps:

\*\* Unless there is a specific task assignment, there will be abbreviations of the person who is to complete each task at the beginning of each task. Abbreviations are as follows; *CCI- Code Compliance Inspector/ CCS- Code Compliance Supervisor/ OS- Office Specialist*



Initial steps required for the legal notification process of Unsafe Building designation per City Code Section 14-35

1. DOB CCI- The inspector requests that the structure be inspected by a building official or his agent. A demolition inspection report is completed and returned to the inspector.  
(requirement of City Code section 14-35 b.)  
Date requested: 5-12-15 Date received: 5-12-15
2. DOB CCI- Post a copy of the NOV and an "Unsafe Structure" notice (If one has not already been posted) on the front of the structure and an "Unsafe Structure" notice at each entrance. Take photographs of the structure with the posted NOV and notice visible in at least one photo.  
(requirement of City Code section 14-35 b.)  
Date completed: 5-21-15
3. DOB CCI- Take photographs of the structure documenting "unsafe" conditions listed in the building inspector's report.  
Date completed: 5-12-15
4. DOB CCI- Verify what utilities are present on the structure, note in service request, and take photographs of the outdoor utility equipment for supervisor's task to make disconnect request later in process.  
 Electricity  Gas  Fuel/Kerosene Tank (Mark applicable)  
Date completed: 5-12-15
5. DOB CCI- Check the Real Estate file and print the property ownership information and attach to this check list.  
(requirement of City Code section 14-35 b.)  
Date completed: 5-12-15
6. DOB CCI- Submit this checklist, completed demolition inspection report, NOV and photographs to the Code Compliance Supervisor. [REDACTED]  
Date completed: 5-22-15
7. CCS Place permit alert on parcel and document permit alert number. Permit alert shall read as the following:  
Added by AR 5/13/15  

THIS LOCATION HAS BEEN DESIGNATED AS HAVING AN UNSAFE/DANGEROUS STRUCTURE, SR# 00-00000000. NO PERMITS OF ANY KIND ARE TO BE ISSUED WITHOUT PRIOR APPROVAL FROM J. KING OR DOG SUPERVISOR. IF DEMOLITION PERMIT IS OBTAINED BY CONTRACTOR FOR CITY, THE CONTRACTOR MUST HAVE COPY OF SIGNED CONTRACT THROUGH CHERYL BAXTER OR DOG SUPERVISOR WITH THEIR APPLICATION. CHECK MAINFRAME TO CONFIRM NO OTHER DEMOLITION OR ALTERATION FOR REPAIR PERMITS HAVE RECENTLY BEEN OBTAINED, PERMIT FOR REPAIR WILL REQUIRE STRUCTURAL ENGINEERS REPORT. PERMIT WILL BE VALID FOR 14 DAYS UNLESS OTHERWISE INSTRUCTED BY J. KING - INITIALS AND DATE

Permit Alert # X1090 Date completed: \_\_\_\_\_
8. MOT CCS- Send cover letter (attaching copy of real estate file) to the City Attorney's office requesting a title search to be completed. (requirement of City Code section 14-35 b.)  
Date requested: 5/22/15 Date received: 6/9/15
9. MOT CCS- Once title search has been received from City Attorney's Office, look through documents and deeds system to ensure all possible lienholders, property owners and/or deed assignments have been identified in the documents. After review and printing out additional lienholders and deed assignments not identified in title search, give title search documents with checklist to Office Specialist (OS) to produce letters as required. (requirement of City Code section 14-35 b.)



WJB 10. OS- Create label for yellow file folder containing the above contents.

WJB 11. OS- Create the Notice of Demolition letter(s) for all parties identified in title search. Each notice shall contain a copy of NOV and "Public Notice" document. (requirement of City Code section 14-35 b.)  
Date completed: 6-16-15  
Give letters and checklist to Code Compliance Supervisor (CCS) for approval signoff.

WJB 12. OS- Send the "Notice of Demolition of Structure" and cover letter to the Clerk of the Circuit Court for recordation. (requirement of City Code section 14-35 d.)  
Date completed: 6-16-15

❖ Code Compliance Supervisor and Building Code Official John King have reviewed title search documents, corresponding letters and found that all owners have been sufficiently identified for notification.

Approved by Code Compliance Supervisor/date W. King 6/17/15

Approved by Building Code Official/date W. King 6/17/15 (Give checklist back to Office Specialist (OS) for completion of next steps)

JB 13. OS- Each notice shall be mailed certified and first class with additional notice(s) prepared for posting on the property. (requirement of City Code section 14-35 b.)  
Date notices were mailed 6-17-15  
Give checklist to the Inspector for next step along with copy of letter(s) for the inspector to post on the structure. Place file in cabinet across from desk labeled Demo and Board Up.

WJB 14. CCI- Post copy of Notice of Demolition letter(s) on the structure and photograph same. Attach copy of picture to service request labeled as "Posted Notice Letter Picture" with date of posting and print one out for file. After completing this step, place checklist in Code Compliance Supervisor's inbox with printed picture labeled with address and date. (requirement of City Code section 14-35 b.)  
Date completed: 6-22-15

15. CCS- After the 30 days from the date of certified mailing, check the following requirements to proceed;  

- Certified receipts have been returned signed or unsigned.
- An appeal has not been received.
- A permit for demolition or renovation/repair has not been issued for structure.
- An extension has not been granted to the property owner.
- Mainframe reflects no change in property ownership.

(requirement of City Code section 14-35 d.)  
Give checklist to Office Specialist (OS) for completion of next steps once the 30 days has expired.

16. OS- Check the real estate file again to be sure the owner has not changed. Place an ad in the Chesapeake Clipper and place a copy of the ad in the file. (requirement of City Code section 14-35 d.)  
Date completed: \_\_\_\_\_  
\*\*If ownership changes on the real estate file throughout this process, the new owner must be notified and given time to resolve the violation.

17. OS- Change Inspector's re-inspect date in CSR to reflect 2 weeks out from date of first advertisement publication. (requirement of City Code section 14-35 d.)  
Place all necessary documents in file, attach to service request and give file and checklist to the Code Compliance supervisor for completion of next steps.



Development and Permits  
Code Compliance Division  
306 Cedar Road  
P.O. Box 15225  
Chesapeake, Virginia 23328-5225  
(757) 382-6378  
Fax (757) 382-6793

## PUBLIC NOTICE

---

Please note that Section 38-8 of the Chesapeake City Code requires a rodent inspection prior to issuance of demolition permits.

This is a result of an ordinance adopted to abate rat infestation, which states that a building shall be free of rats or similar rodents prior to demolition. Should an inspection reveal the presence of rats/rodents, the site must be treated as required by the Department of Development & Permits. When it is determined the building is in compliance, the Department of Development & Permits will approve the issuance of a demolition permit.

For additional information concerning this amendment, please contact the Code Compliance Section of the Department of Development & Permits by phoning (757) 382-6378.



7011 3500 0001 3199 8198

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**  
*(Domestic Mail Only; No Insurance Coverage Provided)*  
For delivery information visit our website at www.usps.com

700 *700 Newtown Road - CUBE*

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$



Sent To: **Summit Federal Credit Union**  
Noteholder  
150 Kingley Lane  
Norfolk, Virginia 23505

7011 3500 0001 3199 8298

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**  
*(Domestic Mail Only; No Insurance Coverage Provided)*  
For delivery information visit our website at www.usps.com

700 *700 Newtown Road - CUBE*

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$



Sent To: **Americredit Financial Services Inc.**  
C/O M. Richard Epps PC  
605 Lynnhaven Parkway  
Suite 200  
Virginia Beach, Virginia 23452

7011 3500 0001 3199 8098

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**  
*(Domestic Mail Only; No Insurance Coverage Provided)*  
For delivery information visit our website at www.usps.com

700 *700 Newtown Road - CUBE*

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$



Sent To: **Peter S. Lade**  
Trustee  
700 Newtown Road  
Norfolk, Virginia 23502



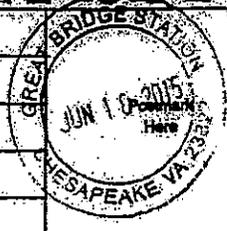
U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**

*(Comes to Mail Only; No Insurance Coverage Provided)*  
 For Delivery Information visit our website at [www.usps.com](http://www.usps.com)

7011 3500 0001 3199 8635

**720 Mullen Road L CUBE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
<b>Total Postage &amp; Fees</b>	<b>\$</b>



Send To: **Karlous D. Rowson**  
 Street or PO: **720 Mullen Road**  
 City, St: **Chesapeake, Virginia 23320**

PS Form 3811, July 2013

**State of Maryland - Prince Georges - 720 Mullen Road 23320**

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
**Karlous D. Rowson**  
**720 Mullen Road**  
**Chesapeake, Virginia 23320**

2. Article Number (Transfer from service label) **7011 3500 0001 3199 8635**

3. Service Type:  
 Certified Mail®  
 Registered®  
 Insured Mail®  
 Priority Mail Express®  
 Return Receipt for Merchandise  
 Collect on Delivery

4. Restricted Delivery? (Extra Fee)  Yes

5. Date of Delivery **6/23/15**

6. Agent  Address

PS Form 3811, July 2013 Domestic Return Receipt



**U.S. Postal Service  
CERTIFIED MAIL, RECEIPT**

*(Domestic Mail Only; No Insurance Coverage Provided)*

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**720 MULLEN ROAD - USBE**

7011 3500 0001 3199 8598

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark: GREAT BRIDGE STATION, JUN 18 2013, CHESAPEAKE VA 231

To: Catherine L. Rowson  
720 Mullen Road  
Chesapeake, Virginia 23320-6730

Instructions

*Sheet of Development - Purists - 720 Mullen Road*

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Catherine L. Rowson  
720 Mullen Road  
Chesapeake, Virginia 23320-6730

**RECIPIENT: COMPLETE THIS SECTION ON DELIVERY**

A. Signature: *Catherine Rowson*  Known  Not Known

B. Received by Printed Name: *Catherine Rowson*

C. Date of Delivery: *6/18/13*

D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type

Certified Mail®  Priority Mail Express™

Registered  Return Receipt for Merchandise

Insured Mail  Collect on Delivery

4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number: *7011 3500 0001 3199 8598*

PS Form 3811, July 2013 Domestic Return Receipt





City of Chesapeake • Department of Develo  
P.O. Box 15225 • Chesapeake, Virginia 23328

7011 3500 0001 3199 8604

Hasler  
06/18/2015  
US POSTAGE



FIRST-CL  
\$06  
ZIP  
011D1

Peter S. Lade  
Trustee  
700 Newtown Road  
Norfolk, Virginia 23502

'NIXIE 231 DE 1999 0005/23/15

RETURN TO SENDER  
INSUFFICIENT ADDRESS  
UNABLE TO FORWARD

29502#394# C014  
2322205225

BC: 23328522525 \*0992-06834-18-42  
011D1







Department of Development and Permits  
Attention: John T. King, III  
Post Office Box 15225  
Chesapeake, Virginia 23328

Reference: 720 Mullen Road (House & Detached Garage) - 0364001000930

Dear Sir:

I herewith appeal the decision of the Code Official on the above-referenced property. The grounds for appeal are:

The Property Maintenance Code has been misapplied to my property. Please explain below.

The Code Official has erroneously refused to grant a modification to the provisions of the Property Maintenance Code covering the manner of maintenance or use of the materials to be used in the maintenance or repair of that building or structure. Please explain below.

Additional Comments/Explanations:

*I think my house can be fixed. I was told by a contractor that it can be fixed and a company to fix it.*  
I, or my agent, will appear before the Board of Building Code Appeals when notified of the time and place. Enclosed is my application fee of \$25.00 payable to the City of Chesapeake, Virginia.

Owner

Other

Catherine J. Rowson  
Signature

\_\_\_\_\_  
Date

720 Mullen Rd  
Chesapeake Va 23328  
Address

757-547-8648  
Contact Phone Number



City of Chesapeake  
Development and Permits  
306 Cedar Road  
Chesapeake, VA 23328  
(757)382-6018

Receipt # 074240

06/26/2015

Received of

ROWSON HARRY WILLIAM JR ET AL  
813 MULLEN RD  
CHESAPEAKE VA 233206538

Customer # 12586

The amount \$25.00 in payment for the following:

01 CODE APPEALS T 0129320 00 720 MULLIN ROAD - PROP MAINT 25.00

AMOUNT DUE: \$25.00

Tender

CHECK

7647

25.00

AMOUNT PAID: \$25.00

Received By: GCARTWR  
Paid Date: 06/26/2015  
Time: 12:39 PM

To schedule an inspection, call 382-2489.  
Call before 3:00 PM for next day's schedule.  
Fire inspections: call 382-2489.



## 720 Mullen Ave - Summary

720 Mullen Road is an existing Residential structure with an out structure. Real Estate records indicates it was built in 1967. The main structure is approximately 1792 square feet and the out structure is about 600 square feet. The lot is approximately 11761 square feet which is .270 of an acre. This lot is located in a flood zone AE Flood Zone with Base Flood Elevation of 8'. With 1.5' added, equals 9.5' Finished Floor Elevation Required. Current Approximate Elevation 4'. Finished Floor Elevation would need to be raised 5.5'. The zoning on this lot is R10S and the legal parcel is 93 Mains Creek PK. The current property assessment by Real Estate for the house and out structure is \$96,900 and the property is valued at \$65,000. The current owner is Catherine L Rowson.

Dating back to 2007 the address has been cited for Debris, No Utilities and inoperable vehicle. I was called by adult protective services as they received a call about an adult living in a hoarding situation. They were told the floors were collapsing and there were no working bathrooms. I met with the APS worker on our first attempt and the homeowner was not home. The residents who were home denied us access. APS contacted the homeowner at work who set an appointment to meet us at the location. I returned on May 12, 2015 for the appointment to inspect the house. I returned with APS worker Hood, Building Inspector Rick Burkard and the police. We found the home to be uninhabitable for occupancy and posted the home. APS worker spoke with the occupants to see if they could assist with placement. There were seven adults living in the home.

Our inspection revealed no working bathroom in the house. Several areas of the floors had collapsed. The house is cluttered and we were unable to get to the two bedrooms on the right side of the home. The hallway has 2x4's braced to the walls that you need to walk on to get to the bathroom. The kitchen floor has a large piece of wood covering the floor underneath. The sunroom had been converted to living space. The bathroom had sewerage running under the home. Beside the structural hazard, a health hazard was also noted by us all.

The building inspect report indicated the house is 75% deteriorated. The floor joist are collapsed in the hall, bathroom, kitchen and dining room. The sills, floor joist, flooring, ceiling joist, rafters, and interior walls were all noted to be in a hazardous state. The rest of the building is noted to be in poor to fair condition. The building inspect report was done by Richard Burkard on May 12, 2015 and signed by John King on the same date. Demolition was recommend due to the structural, fire and health hazard of the home.

Notification letters dated June 17, 2015 identifying the violation of VUSBC section 105 and City Code section 14-35, were sent certified to property owner and other parties identified in the required title search. A sealed copy of each of these letters were posted on the property by Inspector Butler on June 22, 2015. The legal ad will be published on July 20, 2015.



On June 26, 2015 an appeal was filed by the home owner on the decision to demolish the structure. The Board of Building Code Appeals will hear the appeal on July 15, 2015 at 5:30 pm at the South Norfolk Public Library.



TIME 08:05:19

TAX ID # ASSESSMENT SUMMARY

PARCEL - 0364001000930  
BORO - 42 RATE .01050

USER DBUTLER

OWNER - ROWSON CATHERINE L

PROJECT -

PROPERTY - 720 MULLEN ROAD

LEGAL - 93 MAINS CREEK PK

OWNER CD - D/C  
GEN TRACT - 20904  
STAT AREA - 88020  
ZONING - R10S

PURCHASE DATE 05/25/89 PURCHASE AMOUNT -  
DEED BOOK REF. 2483 DEED PAGE REF. 377  
MAP BOOK REF. 48 MAP PAGE REF. 44

TAX ID # STATUS EXISTING SINCE UNKNOWN

CREATED FROM TAX ID 000000000000

SPECIAL PROGRAMS 1- 2014 TAX RELIEF PARTICIPANT 2-

NC- 220E PT- RI  
STATE CLS- 001

ASSESSMENT VALUES

	LAND	IMPROVEMENT	TOTAL
PREVIOUS TAX YEAR	65,000	105,800	170,800
CURRENT TAX YEAR	65,000	96,900	161,900
ADJ CUR TAX YEAR			
FUTURE TAX YEAR	65,000	96,900	161,900

SCREEN OPTIONS

OPT'S 1 FW; 2 BW; 3 NAM; 4 ST; 5 OWNERS; 6 TAX; 7 MADD; 8 IMPV DESC; 10 LAND  
9 HELP; 12 OTHER OPTIONS MENU OPTION. PA2 EXIT REAL07M



REAL ESTATE IMPROVEMENT SCREEN

PARCEL -

11

RECTO1Mp

NUMBER OF FAMILIES- 1  
CLASS- 2  
REMODELED- NO  
PARTY WALL-  
FUNCTIONAL ADJUSTMENT-

CONVERSIONS- 0  
YEAR BUILT- 1967  
CONDITION- FAIR

NUMBER OF STORIES- 1  
BUILDING ADJUSTMENT-  
PHYSICAL ADJUSTMENT- 30

MARKET ADJUSTMENT- 95

FOUNDATION- BRICK WALLS  
EXTERIOR WALLS- FACE BRICK  
ROOF- ASPHALT SHINGLES

EXTERIOR

BASEMENT- NONE  
ATT- NO  
DORMERS- 00

TOTAL ROOMS- 6  
BATH- 02 FULL  
INSULATION- FULL

BEDROOMS- 3  
TILE- YES  
SFLA- 1797

INTERIOR

DESIGN- HIP

LAYOUT- FAIR  
BUILT-INS- YES  
CONDITION- FAIR  
FIREPLACE- YES 1  
BASE SQUARE FEET- 1792  
A/C

FLOOR-  
1ST HARDWOOD  
2ND  
3RD

FINISH  
PLASTER ELECTRIC

HEATING

HIT \*\*\*\*\*  
\* ENTER \* TO SEE THE REST OF THE BUILDING  
\*\*\*\*\*  
OPTION'S ENT SCR. 2, 1 FWD, 2 BWD, 3 SKETCH, 4 SQ. FT. OPTION - PA2 EXIT



CITY OF CHESAPEAKE ASSESSORS OFFICE  
LAND FILE INQUIRY

PARCEL - 0364001000930  
IMPROVED

CURRENT OWNER  
PROPERTY ADDR  
LEGAL

ROWSON CATHERINE L  
720 MULLEN ROAD  
93 MAINS CREEK PK

LD USE/ELDERLY  
DISTRICT  
EMPT TYPE  
STATE CODE  
NGHD CODE  
LAND FACTOR

000 LOCATION  
42 NGH TREND  
00 TOPO... LEVEL  
001 UTILITIES - C WATER/SEWER  
220E  
100

STR. IMPR  
DRAINAGE  
SOIL

TOTAL ACREAGE - .270  
TOTAL SQ. FOOTAGE - 11761

DIMENSIONS - 89.69 XIRRG

TY	UNITS	PRC	TOTAL	ADJ1	ADJ2	ASSESS	ZONE
9	1.000	65000	65000			65000	R10S

TOT OPTION'S 1.000  
1 FORWARD, 2 BACKWARD .... OPTION -

65000  
PA2 EXIT REAL08Mp



Michael W. Schooley, P.E., PC

Structural Engineer

505 South Independence Blvd, Suite 102, Virginia Beach, VA 23452

(757) 222-1021 Phone (757) 962-5468 Fax

MWSchooley@smallpotatoeseng.com

July 22, 2015

Catherine L Rowson  
720 Mullen Road  
Chesapeake, VA 23320  
(757) 285-1576

Re: Engineer's Review of Structural Condition of Residence at 720 Mullen Road

Dear Catherine,

At your request we conducted a site visit to the residence at 720 Mullen Road located in the Great Bridge section of the city of Chesapeake, Virginia on July 21, 2015. The purpose of our site visit was to make a structural assessment for repairs required to restore the house to a habitable structural condition. Our review consisted of visual observations made around the perimeter of the residence, in the interior of the residence, in the attic, and in the crawl space. Our review was limited to the concern stated above. Our review was cursory and was limited to those structural elements that could be viewed. We did not perform any material or environmental testing or include any testing apparatus in our investigation

The residence at 720 Mullen Road is a small ranch, style house originally constructed circa 1960. The house is constructed with a Light wood frame over a crawlspace. At left elevation side of the rear elevation there is a small enclosed patio. There is an attached garage that has been sealed to create additional living space. At the center of the rear elevation projecting outward into the backyard is a small addition. The house has a low pitch gable roof with the ridge running from right to left of the house with a perpendicular rear projecting gable at the left elevation side of the rear elevation. The house is clad with brick veneer and the roof is covered with asphalt shingles. There are concerns regarding the structural and safety condition of the house and it has been condemned by the City of Chesapeake. The structural deterioration and subsequent repairs needed to restore this house to a habitable condition are the concern of this letter

Our review around the perimeter of the residence did not reveal any indication of structural distress related to the foundations and perimeter framed walls. We noted that the chimney at the left elevation side of the house is slightly separated from the wall and leaning out towards the yard, no more than 1 inch. There is some sagging in the roof and unevenness which does not appear to have adequate ventilation.

On a review of the interior of the residence we observed significant debris and belongings throughout the residence as well as an odor that could possibly be from mold and broken sanitary plumbing. There is considerable sagging in the floor between piers in the front room and at the rear elevation, in what is the kitchen and dining room, the floor at the rear right corner has collapsed into the crawlspace. The hallway leading towards the rooms on the right elevation appears to have under gone some repair, however the framing for the new floor is just laid over the original floor and frame and is covered with unsecured plywood. The bathroom at center of the hallway at the rear elevation is unusable. The toilet is of its mounts, the plumbing is broken and the floor has rotted in several locations. Throughout the entire house there are several walls and sections of ceiling displaying signs of distress, indicated by large cracks in the plaster and sagging drywall.



Our review of the attic revealed that the roof is framed with 2x6 ceiling joists and 2x6 rafters spaced 16" on center. Our review did not reveal any significant distress to the roof framing or to the plywood sheathing. We observed that the attic framing is in relatively good condition and there is no indication that there are leaks in the roof. We were unable to investigate the crawl space thoroughly due to an accumulation of what appeared to be raw sewage at the only access points available to enter. What we could review in the crawl space revealed that the crawlspace was below the perimeter finished grade. We were able to observe that the framing for the 1<sup>st</sup> floor is 2x8 joists at 16" on the center spacing supported at the front and rear elevation walls and on a central pier and girder line. Additional observations in the crawlspace were unable to be made due to obstructions preventing further investigation.

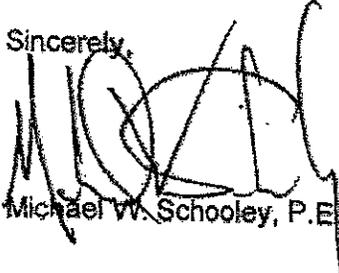
Based on our review and analysis of our findings we are sure that the house is not in a safe or habitable condition. It will be necessary to make substantial repairs to the 1<sup>st</sup> floor framing. Indeed, we feel the 1<sup>st</sup> floor framing should be reconstructed, including the 1<sup>st</sup> floor sheathing, and the 1<sup>st</sup> floor joists. The condition of the foundation cannot be verified until the sewage and water can be cleaned out to allow proper inspection. It is our belief however, that the foundation is probably in fair condition and that it is the deterioration of the floor framing that has caused the collapses observed in the interior floor. The framed walls in some sections of the home appear to be in good condition with most of the distress caused by a lack of support from the floor. However in other sections the floor joists and support have been missing for so long that the walls have begun to lose some of their integrity. The roof is in fair condition only reflecting some of the damage and movement of the supporting walls and the age of the shingles, which we were informed was approximately twenty years old. The poor ventilation has contributed greatly to the deterioration in the roofing.

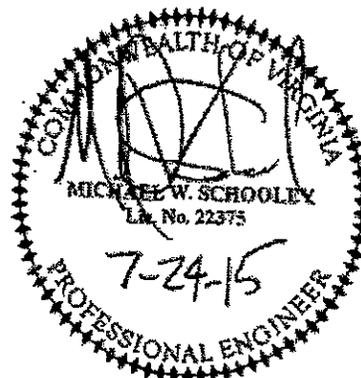
In order to repair this house first the accumulated water and sewage will need to be removed from the crawlspace and we suggest tests be performed to determine whether the mold requires specific cleanup. (The prevalence of certain molds in the area could require respirators during the removal process) Once that is complete a proper assessment of the foundation can be made. Then the 1<sup>st</sup> floor walls will need to be supported independently from the floor platform making necessary framing repairs where needed. The floor platform will be cut out, removed completely and reconstructed with new triple 2x8 central girder, new 2x8 floor joists, and a new 3/4" tongue and groove floor sheathing. The material making up the ceiling will need to be replaced with new drywall, to ensure that is secure and the ceiling mounted fixtures can be mounted and operated properly. The roof shingles and any boards that are damaged or rotten should be replaced, but is not an immediate concern so long as it is not leaking. A continuous ridge vent and eave vents should be provided to insure adequate attic ventilation. The plumbing will also need to be repaired.

We estimate the cost for the structural repair to be approximately \$30,000 including \$5,000 for environmental remediation, if you carefully shop the job. Other repairs required to make the house habitable will cost an additional \$10,000. With the repairs done as described in this letter, the house should be restored to a structural habitable condition.

Please contact us with any questions.

Sincerely,

  
Michael W. Schooley, P.E.





# RID -A - PEST CORP.

1525 AZALEA GARDEN RD  
 NORFOLK, VA.  
 23502

Phone: 757-857-6215  
 Fax: 757-321-4028  
 E-mail: [RIDAPESTCORP@CS.COM](mailto:RIDAPESTCORP@CS.COM)

## PROPOSAL

Date: AUGUST 072015  
 Customer ID: N/A

MS CATHERINE ROWSON  
 720 MULLEN DR  
 CHESAPEAKE VA.

Date		DESCRIPTION				
8/7/2015		TERMITE AND STRUCTURAL INSPECTION				
		AT ABOVE ADDRESS THE FOLLOWING WAS OBSERVED				
	1	STRUCTURAL DAMAGE TO MAIN SUPPORT BEAMS AT				
		BATHROOM AND HALL AREA/CAUSING SEVERE WALL				
		SUPPORT AND CEILING DAMAGE.				
	2	VERY DIFFICULT TO DETERMINE ALL AREAS OF				
		STRUCTURAL DAMAGE DUE TO ACCUMULATION OF FURNITURE AND BELONGINGS				
		THROUGHOUT RESIDENCE. SOME FLOORING APPEARS TO BE IN NEED OF				
		REPLACEMENT.				
	3	EVIDENCE OF TERMITE AND MOISTURE DAMAGE CAN BE SEEN FROM OPEN				
		AREAS OF FLOORING.				
	4	PRIOR TO ANY REPAIRS IT IS NECESSARY TO HAVE WATER LINES CHECKED				
		FOR LEAKS ( POSSIBLE SEWAGE PIPE BROKEN )				

PAGE 1 OF 2



Department of Development & Permits  
306 Cedar Road  
Post Office Box 15225  
Chesapeake, Virginia 23328-5225  
Tel. (757) 382-6018, 6890, 8424  
Fax. (757) 382-8448

**LOCAL BOARD OF BUILDING CODE APPEALS RULING  
APPEAL CASE NUMBER 04-15**

WHEREAS, the local Board of Building Code Appeals is duly appointed to resolve disputes arising out of enforcement of the Virginia Uniform Statewide Building Code (USBC); and

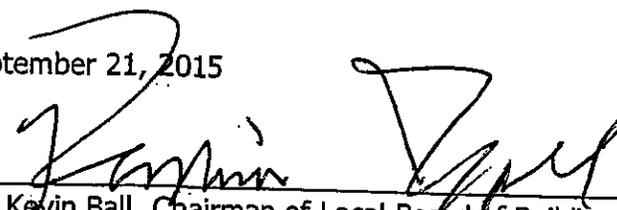
WHEREAS, appeal 04-15 was filed June 26, 2015 by Catherine L. Rowson, the owners of the property located at 720 Mullen Road located in the City of Chesapeake, Virginia and brought to the attention of the board of appeals; and

WHEREAS, a re-hearing was held on Sept 16, 2015 to consider the aforementioned appeal; and

WHEREAS, the board has deliberated the matter, now therefore, be it resolved in the matter of Appeal No. 04-15, Catherine L. Rowson vs. Department of Development and Permits, the appeal is hereby denied. According to the facts presented, The Board finds the City of Chesapeake is justified in their action.

Date: September 21, 2015

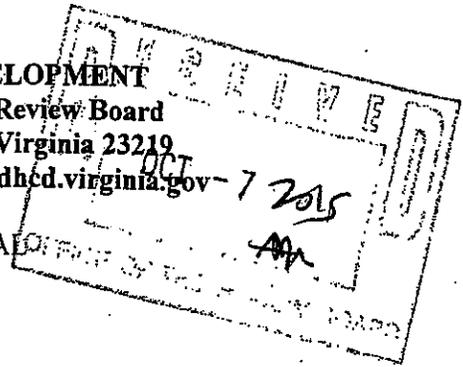
Signature

  
\_\_\_\_\_  
Kevin Ball, Chairman of Local Board of Building Code Appeals

*"The City of Chesapeake adheres to the principles of equal employment opportunity.  
This policy extends to all programs and services supported by the City."*



COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
State Building Codes Office and Office of the State Technical Review Board  
Main Street Centre, 600 E. Main Street, Suite 300, Richmond, Virginia 23219  
Tel: (804) 371-7150, Fax: (804) 371-7092, Email: alan.mcmahan@dhd.virginia.gov



APPLICATION FOR ADMINISTRATIVE APPEAL

Regulation Serving as Basis of Appeal (check one):

- Uniform Statewide Building Code
- Statewide Fire Prevention Code
- Industrialized Building Safety Regulations
- Amusement Device Regulations

Appealing Party Information (name, address, telephone number and email address):

Opposing Party Information (name, address, telephone number and email address of all other parties):

Additional Information (to be submitted with this application)

- Copy of enforcement decision being appealed
- Copy of record and decision of local government appeals board (if applicable and available)
- Statement of specific relief sought

CERTIFICATE OF SERVICE

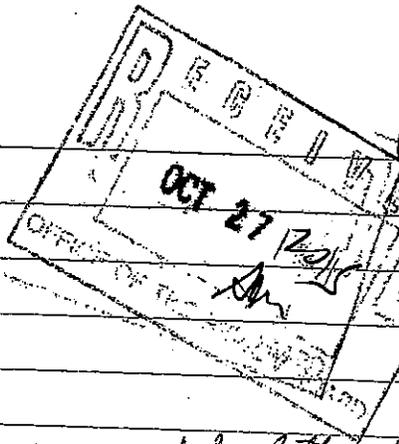
I hereby certify that on the 26 day of 9, 2015, a completed copy of this application, including the additional information required above, was either mailed, hand delivered, emailed or sent by facsimile to the Office of the State Technical Review Board and to all opposing parties listed.

**Note:** This application must be received by the Office of the State Technical Review Board within five (5) working days of the date on the above certificate of service for that date to be considered as the filing date of the appeal. If not received within five (5) working days, the date this application is actually received by the Office of the Review Board will be considered to be the filing date.

Signature of Applicant: Catherine L Rowson

Name of Applicant: Catherine L Rowson  
(please print or type)





Catherine L Rawson

720 Mullen Rd

Chesapeake Va 23320

h 257-547-8028

Cell 257-285-1576

Commonwealth of Va.  
Department of  
Housing & Community Development  
State Building Code Technical Review Board

Dear Sir -

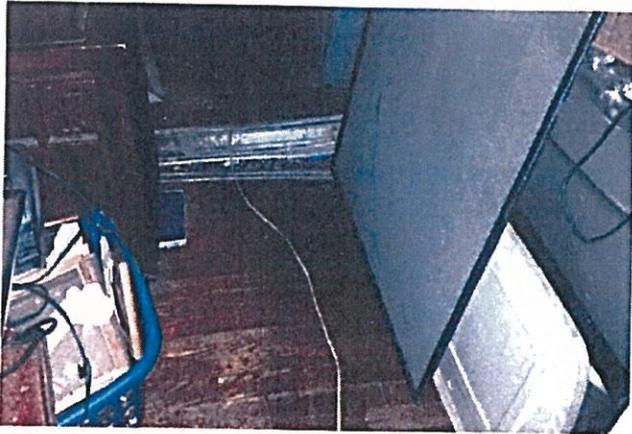
I am sending you a copy of the  
paper that Chesapeake put on my  
house the day put me out of  
it.

I am asking you to give permission  
to ~~fix~~ fix my house so I can live  
in it. Chesapeake says I can't fix  
it.

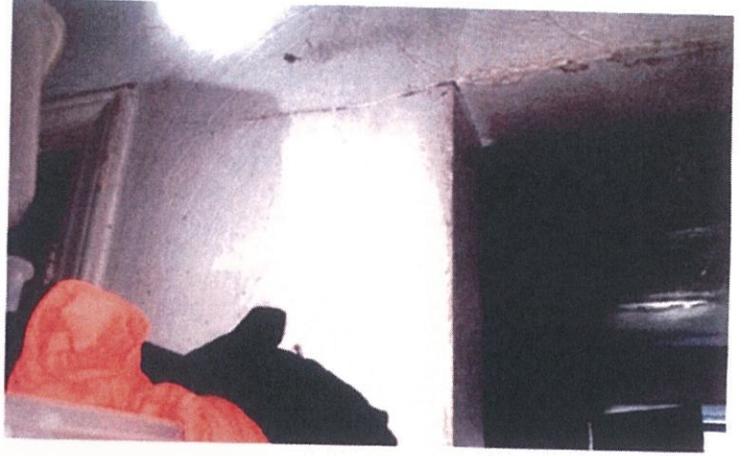
I sent you a copy of the Engineer's  
report saying that it could be fix for  
about \$30,000.

Catherine Rawson

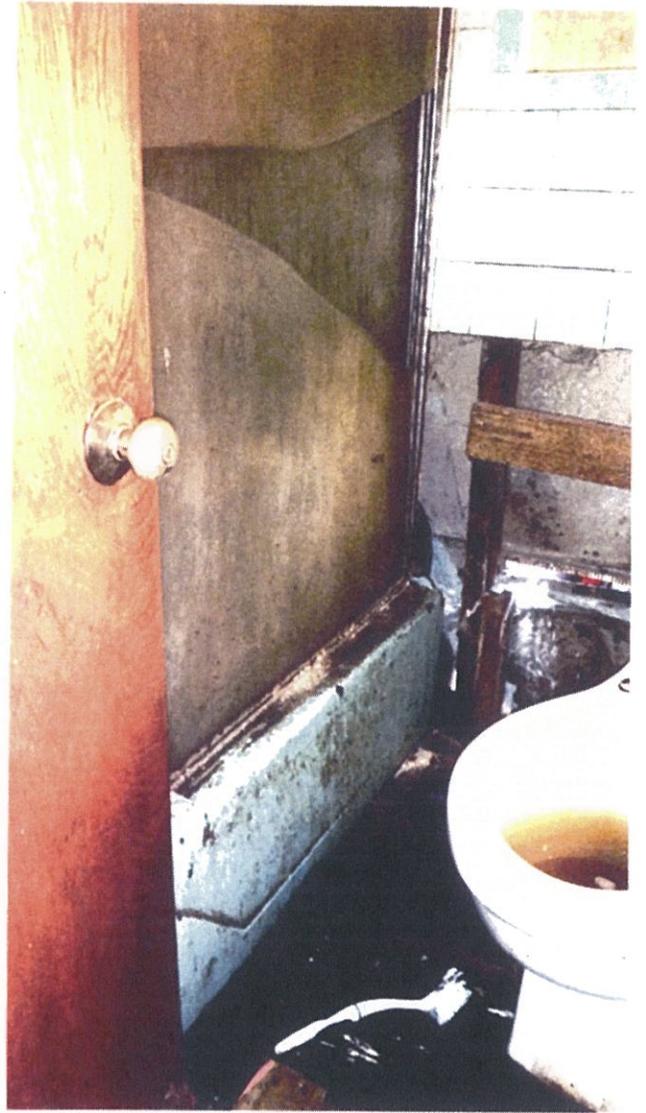
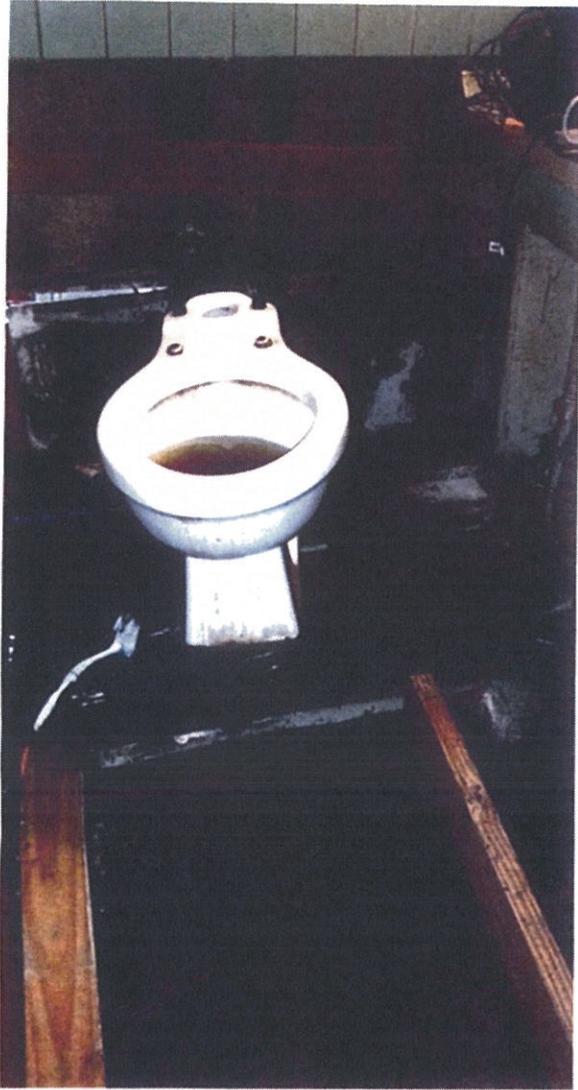


























DATE 12/09/19  
TIME 12:18:24  
USER DBUTLER

CITY OF CHESAPEAKE  
TAX ID # ASSESSMENT SUMMARY

PARCEL - 0364001000930  
BORO - 42 RATE .01050

OWNER - ROWSON CATHERINE L  
PROJECT -  
PROPERTY - 720 MULLEN ROAD  
LEGAL - 93 MAINS CREEK PK

OWNER CD - D/C  
GEN TRACT - 20904  
STAT AREA - 88020  
ZONING - RT0S

CHASE DATE 05/25/89 PURCHASE AMOUNT -  
DEED BOOK REF. 2483 DEED PAGE REF. 377  
MAP BOOK REF. 48 MAP PAGE REF. 44

TAX ID # STATUS EXISTING SINCE UNKNOWN NC- 220E PT- RI  
CREATED FROM TAX ID 000000000000 STATE CLS- 001  
SPECIAL PROGRAMS 1- 2014 TAX RELIEF PARTICIPANT 2-

ASSESSMENT VALUES

	LAND	IMPROVEMENT	TOTAL
PREVIOUS TAX YEAR	65,000	105,800	170,800
CURRENT TAX YEAR	65,000	96,900	161,900
ADJ CUR TAX YEAR			
FUTURE TAX YEAR	65,000	96,900	161,900

SCREEN OPTIONS

OPT S 1 FW; 2 BW; 3 NAM; 4 ST; 5 OWNERS; 6 TAX; 7 MADD; 8 IMPV DESC; 10 LAND  
9 HELP; 12 OTHER OPTIONS MENU OPTION. PA2 EXIT REAL07M



NUMBER OF FAMILIES- 1  
 CLASS- 2  
 REMODELED- NO  
 PARTY WALL-  
 FUNCTIONAL ADJUSTMENT-

CONVERSIONS- 0  
 YEAR BUILT- 1967  
 CONDITION- FAIR

NUMBER OF STORIES- 1  
 BUILDING ADJUSTMENT-  
 PHYSICAL ADJUSTMENT- 30

MARKET ADJUSTMENT- 95

FOUNDATION- BRICK WALLS  
 EXTERIOR WALLS- FACE BRICK  
 ROOF- ASPHALT SHINGLES

EXTERIOR

BASEMENT- NONE  
 ATT- NO  
 DORMERS- 00

DESIGN- HIP

TOTAL ROOMS- 6  
 BATH- 02 FULL  
 INSULATION- FULL

BEDROOMS- 3  
 TILE- YES  
 SFLA- 1797

INTERIOR

LAYOUT- FAIR  
 BUILT-INS- YES  
 CONDITION- FAIR  
 FIREPLACE- YES 1  
 BASE SQUARE FEET- 1792

FLOOR-  
 1ST HARDWOOD  
 2ND  
 3RD

FINISH  
 PLASTER ELECTRIC

HEATING

A/C

\*\*\*\*\*  
 IT \* ENTER \* TO SEE THE REST OF THE BUILDING  
 \*\*\*\*\*  
 OPTION'S ENT SCR. 2, 1 FWD, 2 BWD, 3 SKETCH, 4 SQ. FT. OPTION - PA2 EXIT



CURRENT OWNER ---  
PROPERTY ADDR ---  
LEGAL ---

ROWSON CATHERINE L  
720 MULLEN ROAD  
93 MAINS CREEK PK

LD USE/ELDERLY ---  
DISTRICT ---  
IPT TYPE ---  
STATE CODE ---  
NGHD CODE ---  
LAND FACTOR ---

000 LOCATION -  
42 NGH TREND -  
00 TOPO..... - LEVEL  
001  
220E UTILITIES - C WATER/SEWER  
100

STR. IMPR -  
-  
DRAINAGE -  
SOIL..... -

TOTAL ACREAGE - .270  
TOTAL SQ. FOOTAGE - 11761

DIMENSIONS - 89.69 XIRRG

TY	UNITS	PRC	TOTAL	ADJ1	ADJ2	ASSESS	ZONE
9	1.000	65000	65000			65000	R10S

TOT 1.000  
OPTION' S

1 FORWARD, 2 BACKWARD .... OPTION - \_

65000  
PA2 EXIT REAL08Mp



1103 BK 1103PG0466  
0466

ABSTRACT OF JUDGMENT

CASE NUMBER: GV06016973-00

CHESAPEAKE GENERAL DISTRICT COURT

PLAINTIFF(S)

V

DEFENDANT(S)

AMERICREDIT FINANCIAL SERVICES INC  
C/O H RICHARD EPPS PC  
605 LYNNHAVEN PKWY STE 200  
VA BEACH, VA 23452 498-5199

NO SSN  
NO DOB

CATHERINE ROWSON  
726 MULLEN RD  
CHES., VA, 23320

2738  
NO DOB

KARLOUS D. ROWSON  
726 MULLEN RD  
CHES., VA, 23320

7172  
NO DOB

BOOK PAGE  
PAVE W. MITCHELL/CLERK  
07 MAR 30 AM 8:56  
CLERK  
03078  
CIR CT RECORDED  
CHESAPEAKE VA VIRGINIA

THIS IS TO CERTIFY THAT A JUDGMENT WAS RENDERED IN THIS COURT IN FAVOR OF:

PLAINTIFF(S) AGAINST DEFENDANT(S) CONTAINING THE FOLLOWING TERMS:

DATE OF JUDGMENT: 03/05/07

AMOUNT OF JUDGMENT: \$10,670.85

OTHER AMOUNT: \$0.00

HOUSTEAD EXEMPTION WAIVED: ( ) YES ( ) NO ( ) CANNOT BE DEMANDED

ALTERNATE VALUE OF SPECIFIC PROPERTY AWARDED: N/A

INTEREST: 16.95 % FROM 122403

COSTS: \$27.00 ATTORNEY'S FEES: 2672.71

ATTORNEY: H RICHARD EPPS

OTHER AWARDED:

I CERTIFY THE ABOVE TO BE A TRUE ABSTRACT OF A JUDGMENT RENDERED IN THIS COURT

MAR 2 9 2007

DATE

*[Signature]*  
CLERK ( ) JUDGE

FORM DC-445 4/90 (03/08/07)

PAGE: 25

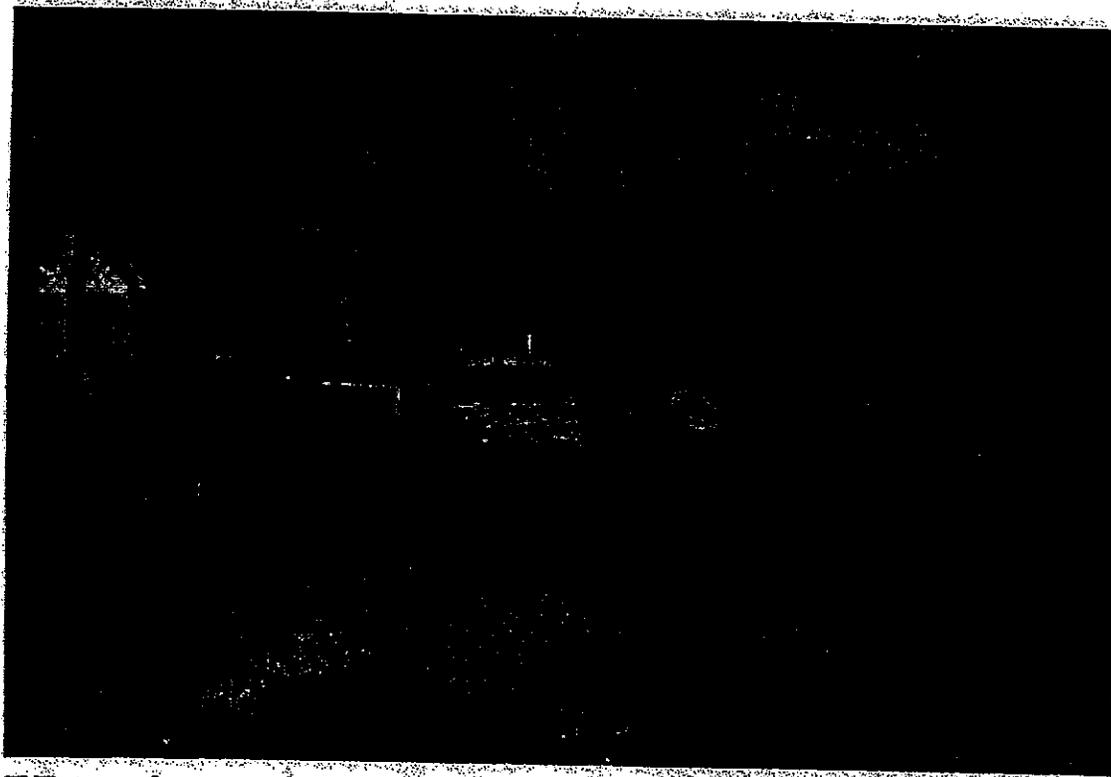


720 Mullen Road  
Chesapeake, VA

**RECEIVED**  
DEC 17 2015  
BY: R. Potts

# Appeal Package

04-15



Hearing date July 15, 2015

5:30pm



VIRGINIA:

BEFORE THE  
VIRGINIA MANUFACTURED HOUSING BOARD

IN RE: Peppermill Homes, Appeal No. 15-19

CONTENTS

<u>Section</u>	<u>Page No.</u>
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Combined Documents	268



VIRGINIA:

BEFORE THE  
STATE BUILDING CODE TECHNICAL REVIEW BOARD (REVIEW BOARD)

IN RE: Appeal of the Peppermill Homes, LLC  
Appeal No. 15-19

REVIEW BOARD STAFF DOCUMENT

1. In 2014, Peppermill Homes, LLC (Peppermill Homes) acquired a building permit to construct a single-family dwelling on property it owned at 316 S. Hope Street in Hampton. The permit was issued under the 2009 edition of the Virginia Uniform Statewide Building Code (USBC) by the City of Hampton's Community Development Department (local code department), the agency responsible for the enforcement of the USBC. The local building department issued a certificate of occupancy for the property in February of 2015 and the current owners of the property, Lewisandro and Alyssa Solorio, took occupancy about March of 2015.
2. On July 13, 2015, in response to a complaint, the local code department conducted an inspection of property.
3. On July 28, 2015, as a result of the inspection, the local code department issued a notice of violation to Peppermill Homes for violations of VCC Sections 109.2 (*Site Plan*) and R401.2 (*Drainage*) concerning grading and surface drainage on the property.
4. On August 26, 2015, Southern Chesapeake Realty, acting on behalf of Peppermill Homes, filed an appeal of the notice to the City of Hampton's Building Code Board of Appeals.
5. On September 23, 2015, the local appeals board conducted a hearing on Peppermill Homes' appeal and ruled to uphold the local code department's notice of violation on





both violations, VCC Sections 109.2 and R401.2. The decision was signed on November 3, 2015 and then delivered to Peppermill Homes.

6. Subsequently, Peppermill Homes further appealed to the Review Board.

7. This staff document was drafted and distributed to the parties and timeframes were established for the submittal of objections; corrections or additions to the staff document; the submittal of additional documents for the record; and written arguments to be included in the record of the appeal prepared for the hearing before the Review Board.

Suggested Issue for Resolution by the Review Board

1. Whether to overturn the decision of the local appeals board and hold that a violation of VCC Section 109.2 (*Site Plan*) exists.



2. Whether to overturn the decision of the local appeals board and hold that a violation of VCC Section R401.2 (*Drainage*) exists.





**REVIEW BOARD APPEAL 15-19**

**COMBINED DOCUMENTS  
SUBMITTED BY BOTH PARTIES**







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B14-00566

<b>NEW SFD</b>	Alert	Par.
	Status	Issued (Revoke)   (Void)   (Set Temp CO)
316 S HOPE ST 12001474	Issue Date	10/6/2014
316 S HOPE ST	Expiration Date	6/4/2015
Building	Finalized Date	
	Cancelled/Voiced Date	
	Occ Added	
Yes		
FLDR/DIGIT		
	Project Coordinator	
	# Review Cycles	3
	Days on Hold	39
	Days Until Authorized	63

**Applicant Details**

PEPPERMILL HOMES LLC	Owner Name	PEPPERMILL HOMES LLC
RICKY ZIPP JR	Owner Address	209 W OCEANVIEW AVE STE 202 NORFOLK, VA 23503
	Owner Phone Number	(757) 343-4909

**Permits Plus Applicant Information**

	Historical Owner	
	Historical Agent	

**Residential/Commercial**

Residential	Use Group	R-5 - Single Family Residence
Single Family Dwelling		

**Work Details**

New	Code Book	VRC
Building	Code Edition	2009



# HAMPTON VA

## CERTIFICATE of USE and OCCUPANCY CITY OF HAMPTON, VIRGINIA

*This Certificate issued pursuant to the requirements of the City of Hampton, Community Development Department, certifying that at the time of issuance this structure was in compliance with the Uniform Statewide Building Code and Zoning Ordinances regulating building construction or use. This Certificate is issued for the following address:*

### 316 S HOPE ST

Owner/Tenant: OCCUPANT  
Address: 316 S HOPE ST  
HAMPTON, VA 23663

Contractor: RICKY ZIPP JR  
Address: 3608 MARINER AVE  
PORTSMOUTH, VA 23703

Building Permit #: B14-00566  
Permit Issued Under: 2009

Date Permit Issued: October 6, 2014  
Edition of the VRC Code

Use: Single Family Dwelling  
Type Construction: 5B

Use Group: R-5 - Single Family Residence  
Zoning District: R-8

Was Sprinkler System Provided: NO  
Was Sprinkler System Required: NO

Elevation Certificate Required: NO  
Capacity Certificate Required: NO

Special Conditions - New SFD

Shirley Virginia  
Building Official - Date 2/6/15

This certificate must be posted and permanently maintained in a conspicuous place at or close to entrance of the building or structure referred to above.

Community Development Department  
22 Lynch Street, 3<sup>rd</sup> floor | Hampton, Virginia 23663  
www.hampton.gov | Hampton: 311; 757.727.4311



# HAMPTON VA

Received  
7/30/15

July 28, 2015

Peppermill Homes LLC  
Gregory Montero (Registered Agent)  
575 Lynnhaven Parkway / Suite 200  
Virginia Beach, VA 23452

## NOTICE of VIOLATION

Re: 316 S. Hope St.  
Hampton, VA

Violations of the 2012 Virginia Residential Code (VRC) Part I of the Uniform Statewide Building Code (USBC) have been identified at the above referenced property as a result of an inspection on July 13, 2015. The specific sections are as follows:

1. R109.2 Site Plan The site plan shall also show.....the established street grade and proposed finished grades. *(Submit survey plat indicating the final grade is in compliance with section R401.3)*
2. R401.3 Drainage Surface drainage shall be diverted to a storm water conveyance or other approved point of collection that does not create hazard to the dwelling. *(Implement corrective measures to direct storm water runoff into a storm water conveyance or other approved point of collection to prevent runoff from migrating to adjoining properties)*

To abate the violations you must take corrective action and obtain the necessary re-inspection.

**You may appeal this decision in writing per the 2012 VRC Section R119.5 (Right to Appeal) within thirty (30) days to the Local Board of Building Code Appeals (LBBCA).**

Community Development Department  
22 Lincoln Street, 3<sup>rd</sup> floor | Hampton, Virginia 23669  
www.hampton.gov | Hampton's 311 757.727-8311



Failure to abate the violation or file a written appeal to the LBBCA within thirty (30) days may result in this office taking legal action.

Please contact me at (757) 727.6268 or [cmcerlean@hampton.gov](mailto:cmcerlean@hampton.gov) with any questions you may have regarding this matter.

Respectfully,



Edwin (Chip) McErean  
Inspection Services manager

Cc: Steven Shapiro, Deputy Director/Building Official



#1

RECEIVED

AUG 26 2015

BY: \_\_\_\_\_



**CITY OF HAMPTON  
BUILDING CODE BOARD OF APPEALS  
REQUEST FOR APPEAL**

Office Use Only:

Case Number \_\_\_\_\_

Date Rec'd 8-26-15

\$50.00 Application Fee to be paid in the Land Development Services Division,  
22 Lincoln St., 3<sup>rd</sup> floor, Hampton City Hall. 757-728-2444.

**INFORMATION REQUIRED FOR ALL REQUESTS FOR APPEAL:**

DATE: 8-26-15

**PROPERTY ADDRESS:**

STREET 316 S. Hope St.

CITY & STATE Hampton, VA

REASON FOR APPEAL (attach Building Official's decision or modification form)

All work was completed and inspected in accordance with approved Building & Site plans

**PROPERTY OWNER (S):**

NAME Lewisandro Alyssa Solorto

PHONE 757-912-8841

STREET 316 S. Hope St.

EMAIL lewisandro@gmail.com

CITY & STATE Hampton, VA

**APPLICANT (if different from owner):**

NAME Southern Chesapeake Realty

PHONE 757-480-8942

STREET 209 W. Ocean View Ave #202

EMAIL NicolescaH@gmail.com

CITY & STATE Norfolk, VA 23503

APPLICANT'S SIGNATURE Nicole Pagan

DATE SUBMITTED 8-26-15



**CITY OF HAMPTON, VIRGINIA**  
**BUILDING CODE BOARD OF APPEALS**

**RESOLUTION**

WHEREAS, the City of Hampton Board of Building Code Appeals is duly appointed to resolve disputes arising out of enforcement of the Virginia Uniform Statewide Building Code; and

WHEREAS, an appeal has been filed and brought to the attention of the Board; and

WHEREAS, hearings were held to consider the aforementioned appeal on September 23, 2015

WHEREAS, the Board has fully deliberated this matter, now therefore be it

RESOLVED, that in the matter of

APPEAL No. 02-15

In Re: City of Hampton v. Mike Veraldi, Peppermill Homes LLC

The appeal is hereby denied and the Building Official's decision is upheld for the reasons stated below:

The Building Code Board of Appeals finds that the petitioner did violate 2012 Virginia Residential Code – section R109.2, which requires that a site plan be submitted that indicates that the final grade is in accordance with section R401.3. This section, R401.3 requires that all storm water runoff be directed into a storm water conveyance or other approved point of collection, to prevent runoff from migrating to adjoining properties.

Date Nov. 3<sup>rd</sup>, 2015

Signature Herman S. Dorsey  
Herman S. Dorsey

*"Any person who was a party to the appeal may appeal to the State Review Board by submitting an application to such Board within 21 calendar days upon receipt by certified mail of this resolution. Application forms are available from the Office of the State Review Board, 600 East Main Street, Richmond, Virginia 23219, (804) 371-7150".*



COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
State Building Codes Office and Office of the State Technical Review Board  
Main Street Centre, 600 E. Main Street, Suite 300, Richmond, Virginia 23219  
Tel: (804) 371-7150, Fax: (804) 371-7092, Email: alan.mcmahan@dhcd.virginia.gov

APPLICATION FOR ADMINISTRATIVE APPEAL

Regulation Serving as Basis of Appeal (check one):

Uniform Statewide Building Code

Statewide Fire Prevention Code

Industrialized Building Safety Regulations

Amusement Device Regulations

Appealing Party Information (name, address, telephone number and email address):

Peppermill Homes, LLC  
209 W Ocean View Ave, Norfolk, VA 23503  
757-480-8942 [abrent65@gmail.com](mailto:abrent65@gmail.com) or [mikeveraldi@gmail.com](mailto:mikeveraldi@gmail.com)

Opposing Party Information (name, address, telephone number and email address of all other parties):

City of Hampton, Community Development Department,  
22 Lincoln St, 3rd Floor, Hampton, VA 23669 Attn Edwin McErlean  
757-727-6268 [cmcerlean@hampton.gov](mailto:cmcerlean@hampton.gov)

Additional Information (to be submitted with this application)

- Copy of enforcement decision being appealed
- Copy of record and decision of local government appeals board (if applicable and available)
- Statement of specific relief sought

CERTIFICATE OF SERVICE

I hereby certify that on the 30th day of November, 2015, a completed copy of this application, including the additional information required above, was either mailed hand delivered, emailed or sent by facsimile to the Office of the State Technical Review Board and to all opposing parties listed.

Note: This application must be received by the Office of the State Technical Review Board within five (5) working days of the date on the above certificate of service for that date to be considered as the filing date of the appeal. If not received within five (5) working days, the date this application is actually received by the Office of the Review Board will be considered to be the filing date.

Signature of Applicant: Michael Veraldi, Manager, Peppermill Homes, LLC

Name of Applicant: Michael Veraldi, Manager, Peppermill Homes, LLC  
(please print or type)



COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
State Building Codes Office and Office of the State Technical Review Board  
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Signature of Applicant: Michael Veraldi, Manager, Peppermill Homes, LLC

Name of Applicant: Michael Veraldi, Manager, Peppermill Homes, LLC  
(please print or type)



# STATEMENT OF SPECIFIC RELIEF SOUGHT

Peppermill Homes, LLC request that you review a Notice of Violation and the findings of the Local Government Appeals Board regarding that notice. The reasons for this request are as follows:

- 1) First specific section cited is R109.2 – Site Plan - We constructed the house with an approved site plan, approval issued by the Opposing Party.
- 2) Second specific section cited is our 401.3 – Drainage – the section specifically requires drainage diverted in order to not create a hazard to the dwelling. It does not mention a requirement regarding run off migration to adjoining properties.
- 3) The notice of violation is for a violation of 2012 Virginia residential code. The construction documents, the construction itself, the issuance of a certificate of occupancy, and the inspection resulting in the Notice of Violation all occurred before the date that the 2012 code became mandatory.
- 4) The findings of the Local Government Appeals Board added an individual to the violation, the Manager of Peppermill Homes, LLC. The original violation listed only the entity.

For these reasons, we are requesting an administrative appeal to the findings of the Local Government Appeals Board.

Thank you for your consideration in this matter.

Sincerely,



Michael J Veraldi  
Manager, Peppermill Homes LLC





Rouss City Hall  
 15 North Cameron Street  
 Winchester, VA 22601

Telephone: (540) 667-1815  
 FAX: (540) 722-3618  
 TDD: (540) 722-0782  
 Website: www.winchesterva.gov

**FAX MESSAGE COVER SHEET**

TO: Ofc. of the State Building Code Technical Review Board  
 FROM: Victoria Palmerton CBO  
 DEPT: Zoning and Inspections  
 DATE: 4/18/16 TIME SENT: \_\_\_\_\_  
 SUBJECT: Code interpretation  
 NOTES: \_\_\_\_\_

A TOTAL OF 2 PAGES INCLUDING THIS COVER SHEET WERE FAXED TO YOU.

PROBLEMS WITH FAX: CALL PLANNING, ZONING & INSPECTIONS  
 AT (540) 667-1815, EXTENSION 1418

CITY OF WINCHESTER FAX NUMBER: (540) 722-3618



**REQUEST FOR INTERPRETATION**

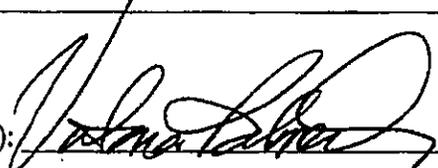
TO: OFFICE OF THE STATE BUILDING CODE TECHNICAL REVIEW BOARD  
VIRGINIA DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT  
Main Street Centre  
600 E. Main Street, Suite 300  
Richmond, Virginia 23219-1321  
Tel: (804) 371-7150 Fax: (804) 371-7092

FROM: Victoria Palmerton, C BO, Building Official City of Winchester, VA

Phone: 540-667-2152

Code: 2012 VUSBC: Virginia Residential Code

Section(s): Table N1102.1.1, Climate zone 4 except marine/ Slab R-value and depth

Submitted by (signature): 

Date: 4/18/2016

Victoria Palmerton, CBO

**QUESTION(S):**

A local builder interprets the code section above to mean that only walk-out portions of basements and basement walls with less than 2' of backfill require the R-10 insulation at the slab.

VBCOA instruction has presented this section as any slab where the interior will have heated space provide the R-10 for 2'-0" either horizontal or vertical from the footer.

I appreciate your review of this matter. The plan set will be a master plan and it's imperative to establish the requirement prior to the subdivision.

Thank you.



**N1101.12.4 (R303.1.4) Insulation product rating.** The thermal resistance (*R*-value) of insulation shall be determined in accordance with the U.S. Federal Trade Commission *R*-value rule (CFR Title 16, Part 460) in units of  $h \times ft^2 \times ^\circ F/Btu$  at a mean temperature of 75°F (24°C).

**N1101.13 (R303.2) Installation.** All materials, systems and equipment shall be installed in accordance with the manufacturer's installation instructions and this code.

**N1101.13.1 (R303.2.1) Protection of exposed foundation insulation.** Insulation applied to the exterior of basement walls, crawlspace walls and the perimeter of slab-on-grade floors shall have a rigid, opaque and weather-resistant protective covering to prevent the degradation of the insulation's thermal performance. The protective covering shall cover the exposed exterior insulation and extend a minimum of 6 inches (153 mm) below grade.

**N1101.14 (R303.3) Maintenance information.** Maintenance instructions shall be furnished for equipment and systems that require preventive maintenance. Required regular maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label shall include the title or publication number for the operation and maintenance manual for that particular model and type of product.

**N1101.15 (R401.2) Compliance.** Projects shall comply with Sections identified as "mandatory" and with either sections

identified as "prescriptive" or the performance approach in Section N1105.

**N1101.16 (R401.3) Certificate (Mandatory).** (Section deleted).

## SECTION N1102 BUILDING THERMAL ENVELOPE

**N1102.1 (R402.1) General (Prescriptive).** The *building thermal envelope* shall meet the requirements of Sections N1102.1.1 through N1102.1.4.

**N1102.1.1 (R402.1.1) Insulation and fenestration criteria.** The *building thermal envelope* shall meet the requirements of Table N1102.1.1 based on the climate zone specified in Section N1101.10.

**N1102.1.2 (R402.1.2) *R*-value computation.** Insulation material used in layers, such as framing cavity insulation and insulating sheathing, shall be summed to compute the component *R*-value. The manufacturer's settled *R*-value shall be used for blown insulation. Computed *R*-values shall not include an *R*-value for other building materials or air films.

**N1102.1.3 (R402.1.3) *U*-factor alternative.** An assembly with a *U*-factor equal to or less than that specified in Table N1102.1.3 shall be permitted as an alternative to the *R*-value in Table N1102.1.1.

TABLE N1102.1.1 (R402.1.1)  
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT<sup>a</sup>

CLIMATE ZONE	FENESTRATION U-FACTOR <sup>b</sup>	SKYLIGHT <sup>b</sup> U-FACTOR	GLAZED FENESTRATION SHGC <sup>b, c</sup>	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE <sup>e</sup>	FLOOR R-VALUE	BASEMENT <sup>d</sup> WALL R-VALUE	SLAB <sup>f</sup> R-VALUE & DEPTH	CRAWL SPACE <sup>g</sup> WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13 + 5 <sup>h</sup>	8/13	19	5/13 <sup>i</sup>	0	5/13
4 except Marine	0.35	0.55	0.40	38	15 or 13 + 1 <sup>h</sup>	8/13	19	10/13	10.2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13 + 5 <sup>h</sup>	13/17	30 <sup>g</sup>	15/19	10.2 ft	15/19
6	0.32	0.55	NR	49	20 + 5 or 13 + 10 <sup>h</sup>	15/20	30 <sup>g</sup>	15/19	10.4 ft	15/19
7 and 8	0.32	0.55	NR	49	20 + 5 or 13 + 10 <sup>h</sup>	19/21	38 <sup>g</sup>	15/19	10.4 ft	15/19

<sup>a</sup> For SI: 1 foot = 304.8 mm.

<sup>b</sup> *R*-values are minimums. *U*-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed *R*-value of the insulation shall not be less than the *R*-value specified in the table.

<sup>c</sup> The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

<sup>d</sup> **Exception:** Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

<sup>e</sup> "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.

<sup>f</sup> "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

<sup>g</sup> R-5 shall be added to the required slab edge *R*-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zones 1 through 3 for heated slabs.

<sup>h</sup> There are no SHGC requirements in the Marine Zone.

<sup>i</sup> Basement wall insulation is not required in warm-humid locations as defined by Figure N1101.10 and Table N1101.10.

<sup>j</sup> Or insulation sufficient to fill the framing cavity. R-19 minimum.

<sup>k</sup> First value is cavity insulation, second is continuous insulation or insulated siding, so "13 + 5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 percent or less of the exterior, continuous insulation *R*-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used - to maintain a consistent total sheathing thickness.

<sup>l</sup> The second *R*-value applies when more than half the insulation is on the interior of the mass wall.

