

92074151

Fleming Realty
16 E. Walnut
Crown Point
IN 46301

AGREEMENT AND DECLARATION OF
PROPERTY OWNERS ASSOCIATION

92065737

THIS AGREEMENT MADE AND ENTERED INTO this 19th day of April, 1991
by and between PEBBLE BROOKS PROPERTY OWNERS ASSOCIATION, Inc., an
Indiana not for profit corporation, hereinafter referred to as "THE P.O.A.", and
MERCANTILE NATIONAL BANK, not personally, but as Trustee under Trust No.
3711, hereinafter referred to as the "DECLARANT";

WITNESSETH

OCT 15 1992

KEY 23-163-17015

Robert M. Antonio
AUDITOR LAKE COUNTY

WHEREAS, the Declarant is the fee owner of the following described real
estate, to-wit:

Part of the Northwest Quarter of the Northeast Quarter of Section 33,
Township 35 North, Range 8 West of the Second Principal Meridian in
the City of Crown Point, Lake County, Indiana, which part is described as
follows: Commencing at the Northwest corner of said Northwest Quarter
of the Northeast Quarter, thence South 00° 45' 35" East, along the West
line of said Northwest Quarter of the Northeast Quarter, a distance of
419.44 feet to the true point of beginning; thence North 90° 00' 00" East,
along the Southerly line of Pebble Brooks, Phase One, A Planned Unit
Development in Crown Point, Indiana as shown in Plat Book 69, page
39, in the Office of the Recorder of Lake County, Indiana, a distance of
150.88 feet; thence South 69° 54' 19" East, along said Southerly line of
Pebble Brooks, Phase One, a distance of 100.00 feet; thence South 00°
00' 00" East, along said Southerly line of Pebble Brooks, Phase One, a
distance of 100.00 feet; thence South 71° 07' 24" East, along said
Southerly line of Pebble Brooks, Phase One, a distance of 257.38 feet;
thence North 64° 19' 22" East, along said Southerly line of Pebble
Brooks, Phase One, a distance of 200.00 feet; thence South 25° 40' 38"
East, a distance of 262.51 feet, to a point of curve; thence Southeasterly,
on a curve concave to the West and having a radius of 352.57 feet, and
a central angle of 08° 04' 18", an arc distance of 49.67 feet; thence
South 72° 23' 40" West, a distance of 352.57 feet; thence North 80° 57'
25" West, a distance of 206.34 feet; thence South 63° 53' 23" West, a
distance of 100.00 feet; thence North 90° 00' 00" West, a distance of
163.95 feet, to the West line of said Northwest Quarter of the Northeast
Quarter; thence North 00° 45' 35" West, along the West line of said
Northwest Quarter of the Northeast Quarter, a distance of 531.95 feet to
the point of beginning, containing 6.500 acres more or less, better known
as Pebble Brooks Phase Two, as recorded in Plat Book 72 page 36 in the
Office of the Recorder of Lake County, Indiana
hereinafter the "REAL ESTATE".

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STATE OF INDIANA
FILED FOR RECORD

STATE OF INDIANA
TICOR TITLE INSURANCE
Crown Point, Indiana

OCT 15 3 23 PM '92

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WHEREAS, Declarant has received site approval for the

This document is re-recorded to correct the Plat Book
page number.

01005

115-00
106-00
tr

construction of not more than 110 townhome dwellings on said real estate by virtue of PUD approval on August 13, 1990, by the City of Crown Point Plan Commission; and

WHEREAS, the P.O.A. by deed dated June 9th, 1992 from Mercantile National Bank as Trustee Under Trust No. 3711 appended hereto and marked Exhibit "A", obtained ownership of all ponds and common areas in the appended Exhibit "A"; and

WHEREAS, Declarant intends to sell said single family lots to ultimate purchasers for use as single family dwellings; and

WHEREAS, Declarant and the P.O.A. desire each lot owner to achieve membership in the P.O.A., and

WHEREAS, the P.O.A., upon said lot owner's achieving membership in said P.O.A., desires said lot owner to be entitled to all rights and privileges redounding to owners of all numbered lots in the Pebble Brooks project; and

WHEREAS, the P.O.A. desires that certain restrictions be made applicable to each lot;

NOW, THEREFORE, for and in consideration of the mutual covenants contained herein, it is agreed as follows:

I. The P.O.A. hereby approves in principle the 110 lot site plan previously submitted to the P.O.A. and attached hereto as Exhibit "B".

II. Lot purchasers from the Declarant herein who become members of the P.O.A. shall be entitled to the rights and privileges as more fully set out in the following covenants, conditions, restrictions, easements and servitudes. Admission to membership

in the P.O.A. shall be a condition precedent to becoming an owner of a lot in the real estate as set forth hereinafter.

COVENANTS, CONDITIONS,
RESTRICTIONS, EASEMENTS AND SERVITUDES

Declarant herein adopts and establishes the following covenants, conditions, restrictions, easements and servitudes with respect to the real estate:

A. Residential Character of the Development.

(1) In General. Every lot shall be used exclusively for residential purposes. No property shall be erected, placed, or permitted to remain on the real estate, except single family dwellings.

(2) Prohibition of Residential Use of Partially Completed Dwellings. No dwelling on the real estate shall be occupied for residential purposes until it shall have been substantially completed. Whenever the question whether a dwelling shall have been "substantially completed" shall arise under these restrictions, the questions shall be decided by the P.O.A.

B. Provisions Respecting Disposal of Sanitary Sewage, Storm Water, etc.

(1) Storm Drainage. Neither the discharge from any sump pump nor any storm water coming on the real estate shall be allowed to flow into any sanitary sewage facility within the project.

(2) Ditches and Swales Not to be Obstructed. It shall be the duty of every owner of a lot in the Project on which any part of such ditch or swale is situated to keep such part of such ditch or swale continuously unobstructed and in good repair. Furthermore, the Declarant in developing the real estate shall do nothing to cause a substantial or significant increase in drainage onto any adjacent land and declarant agrees that it will construct all necessary ditches and swales necessary to correct or avoid any such increased drainage. Declarant further agrees to convey and to give the P.O.A. all necessary easements in the property to maintain said ditches and swales.

I. Certain Activities Prohibited.

(1) In General. No noxious or offensive activity shall be carried on within the real estate, nor shall anything be done within the real estate that shall be or become an unreasonably annoyance or nuisance to any owner of a lot in the project.

(2) Signs and Sales Promotion. No signs shall be displayed on the real estate without the prior written permission of the P.O.A., excluding promotional signs by the developer and "real estate for sale" signs, not to exceed six (6) square feet.

(3) Disposal of Garbage, Trash and Other Household Refuse. No owner of a lot in the real estate shall burn or permit burning out of doors of garbage, trash and other like

household refuse, nor shall such lot owner accumulate or permit the accumulation out of doors of such refuse, anywhere on the real estate.

(4) Concealment of Clothes Lines, Etc. All outdoor clothes poles, clothes lines and similar equipment shall be prohibited.

C. Ownership, Use and Enjoyment of Streets, Ponds and Pond Amenities.

(1) An easement for the use and enjoyment of areas designated on the subdivision plats as pond and certain private streets and common areas are reserved to the Developer, its successor, the P.O.A. and its successors and assigns; to the persons who are, from time to time, members or associate members of the P.O.A. that is described in more detail in Paragraph D of these restrictions below; to the residents, tenants and occupants of the residential buildings, and all other kinds of residential structures that may be erected within the boundaries of the Project; and to the invitees of all the aforementioned persons.

D. The Pebble Brooks Property Owners Association, Inc.

(1) In General. There has been created, under the laws of the State of Indiana, a not for profit corporation known as the Pebble Brooks Property Owners Association, Inc., which is herein referred to as the "P.O.A." Every person who acquires title to a lot within the real estate shall be a member of the P.O.A. The foregoing provisions requiring the owners of lots within the real estate to be members of the

P.O.A. is not intended to apply to those persons who hold an interest in said lot merely as security for the performance of an obligation to pay money, e.g. mortgagees, land contract vendors or previous contract owners of the real estate, nor any contractor who holds such lot for the purpose of construction of a single family dwelling. However, if such a person should realize upon his security and become the real owner of a lot within the real estate, he will then be subject to all requirements and limitations imposed in these restrictions upon owners of lots within the real estate and on members of the P.O.A., including those provisions with respect to the payment of an annual charge.

(2) Purposes of the P.O.A.

(a) The general purpose of the P.O.A. is that of providing a means whereby the private streets, sidewalks, driveways, common areas, ponds, storm sewers, and drainage easements on the plats thereof, and such other facilities within the Project as may be developed by the P.O.A., may be operated, maintained, repaired and replaced. In furtherance of this purpose, the following declaration is made: if the private streets, sidewalks, driveways, common areas, ponds, storm sewers, and drainage easements within the project are not properly maintained in comparison to their original condition, the then Director of Public Works of the City of Crown Point shall respectively have the power from time to time to

order the P.O.A. to make proper repair of the private streets, sidewalks, driveways, common areas, ponds, storm sewers, and drainage easements situated within the real estate. Failure on the part of the P.O.A. to cause the making of the repairs so ordered within 60 days after receipt of the order shall be actionable by suit in a court of competent jurisdiction brought at the instance of the City to compel the P.O.A. to make such repairs.

(b) An additional purpose of the P.O.A. is that of exterior maintenance as set forth in the Restrictive Covenants. **This Document is the property of the Lake County Recorder!**

(c) An additional purpose of the P.O.A. is that of providing a means for the promulgation and enforcement of all regulations necessary to the governing of the use and enjoyment of the private streets, sidewalks, driveways, common areas, ponds, storm sewers and drainage easements and such other facilities within the Project as may be conveyed to or created by the P.O.A.

(d) An additional purpose of the P.O.A. is that of providing a means for the promulgation and enforcement of all rules and regulations necessary to the governing of the use and enjoyment of the structures located within the development, including but not limited to the creation, modification, and elimination of rules and regulations for conduct, the keeping of animals, the display of signs, noise, nuisance, noxious, activities, and other conduct by the owners

and/or occupants of the structures as it may relate to other persons or effect other persons within the development.

(e) In the event the P.O.A. is required to secure the services of an attorney to enforce any of the provisions of the restrictive covenants, the agreement and declaration of property owners association, and/or the bylaws the association may collect reasonable attorneys fees for such enforcement and any judgment or order issued by a court of competent jurisdiction in favor of the P.O.A. shall include reasonable attorneys fees, costs, and interest at ten percent (10%) and shall be without relief from valuation or appraisement laws.

(3) Power of the P.O.A. to Levy and Collect Charges and Impose Liens.

(a) The P.O.A. shall have all the powers that are set out in its Articles of Incorporation and all other powers that belong to it by operation of law, including but not limited to the power to levy, against every member of the P.O.A., a uniform annual charge of not less than Seventy Dollars (\$70.00) per lot, per month, within the real estate, or such greater amount per lot within the real estate as may be determined by the Board of Directors of the P.O.A. after consideration of current maintenance needs and future needs of the P.O.A., for the purposes set forth in its Articles of Incorporation, Restrictive Covenants, or this Agreement and Declaration; provided, however, that no such charge shall ever be made

against, or be payable by, the Declarant by virtue of ownership of all or part of the real estate or the P.O.A. itself, until the first transfer of any lot. Provided, however, in the event Declarant thereafter becomes the legal or equitable owner of a numbered lot, it shall be obligated to pay the annual charge. Provided further, that in the event Declarant sells lots on contract and repossesses said units due to a default of the lot purchaser, Declarant shall be liable for the annual charge.

(b) Every such charge so made shall be paid monthly by the member to the P.O.A. on or before the 1st day of each month. The Board of Directors of the P.O.A. shall fix the amount of the monthly charge per lot by the first day of January of each year, and written notice of the charge so fixed shall be sent to each member.

(c) If any such charge shall not be paid when due, it shall bear interest from the date of delinquency at the rate of eighteen percent (18%) per annum; the P.O.A. may publish the name of the delinquent member in a list of delinquent members or by any other means of publication; and the P.O.A. may file a notice that it is the owner of a lien to secure payment of the unpaid charge plus costs and reasonable attorneys fees, which lien shall encumber the lot in respect of which the charge shall have been made, and which notice shall be

filed in the office of the recorder of the county in which the lot so encumbered shall lie. Every such lien may be foreclosed by equitable foreclosure at any time within 3 years after the date on which the notice thereof shall have been filed. In addition to remedy of lien foreclosure, the P.O.A. shall have the right to sue for such unpaid charges, interest, costs and reasonable attorneys fees in any court of competent jurisdiction as for a debt owed by the delinquent member or members of the P.O.A. Every person who shall become the owner of the title (legal or equitable) to a lot in the real estate by any means is hereby notified that by the act of acquiring such title, such person shall be conclusively held to have covenanted to pay the P.O.A. all charges that the P.O.A. shall make pursuant to this subparagraph.

(d) The P.O.A. shall, upon demand at any time, furnish a certificate in writing signed by any officer of the P.O.A. certifying that the assessments on a lot have been paid or that certain assessments against said lot remain unpaid, as the case may be. A reasonable charge may be made by the Board of Directors of the P.O.A. for the issuance of these certificates. Said certificates shall be conclusive evidence of payment of any assessment therein stated to have been paid.

(4) Purpose of Assessments. The assessments levied by the

P.O.A. shall be used exclusively for the purpose of promoting the recreation, health, safety, welfare of the members of the P.O.A., and in particular for the improvement and maintenance of the building is set forth in the Restrictive Covenants and the maintenance of the private streets, sidewalks, driveways, common areas, ponds, storm sewers and drainage easements.

(5) Subordination of Lien for Charges. The lien for the charges provided for herein shall be subordinate to the lien of any mortgage or mortgages. ~~Sale or transfer of any lot shall not affect such lien for charges.~~

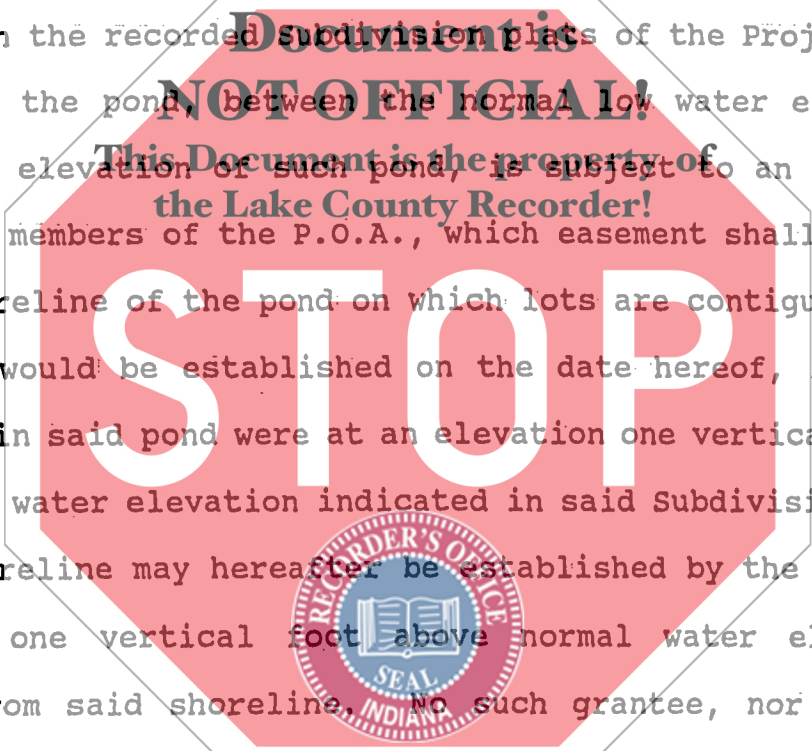
(6) Suspension of Privileges of Membership. The Board of Directors of the P.O.A. shall have the right to suspend the voting rights, if any, of any member or associate member (a) for any period during which any P.O.A. charge, including the fines, if any, assessed under the following paragraph of the restrictions below, owed by the member or associate member remains unpaid; or (b) and during the period of any continued violation of the restrictive covenants for the project, after the existence of the violation shall have been declared by the Board of Directors of the P.O.A.

E. The Declarant hereby covenants for itself, its successor and assigns, that it will convey fee simple title to the private driveways, ponds, and common areas and create easements for drainage and pond access on the subdivision plat, attached hereto as Exhibit "B", to the property Owners Association within one year after their completion. Such conveyances shall be subject to the same easements of use and enjoyment and the same rules and

regulations as are all other areas owned by the P.O.A.

F. Provisions In Respect of Ponds and Lots Contiguous Thereto.

(1). In General. Certain numbered lots in the Project are, as aforesaid, contiguous to common areas that have been established within the boundaries of the Project. The water in and the surface of said pond is, and will be subject to an easement to the P.O.A., its successors and assigns. Such pond is or will be depicted in the recorded subdivision plats of the Project, and the surface of the pond, between the normal low water elevation and high water elevation of such pond, is subject to an easement for use by the members of the P.O.A., which easement shall extend only to the shoreline of the pond on which lots are contiguous, as said shoreline would be established on the date hereof, if the water elevation in said pond were at an elevation one vertical foot above the normal water elevation indicated in said Subdivision plats and as the shoreline may hereafter be established by the water, at an elevation one vertical foot above normal water elevation, by erosion from said shoreline. No such grantee, nor any of such grantee's successors or assigns, shall have any right with respect to the land under said pond, the water therein, or its elevation, use or condition, except for recreational use, and none of said lots shall have any riparian rights, littoral rights or incidents appurtenant; except as by easement to the P.O.A. and provided, further, that title shall not pass by reliction or submergence or changing water elevations. The Subdivision's Developer, its



successors and assigns and the P.O.A. shall have the right at any time to dredge or otherwise remove any accretion or deposit from any of said lots in order that the shoreline of the pond to which the lot is contiguous may be moved toward or to, but not inland beyond, the location of said shoreline as it would exist as of the date hereof if the water elevation in said pond were at an elevation one vertical foot above the normal low water elevation indicated in said Subdivision plats, and title shall pass with such dredging or other removal as by erosion

(2) Reservation of Easement in P.O.A. for Operation of Pond. The P.O.A. reserves to itself and its successors and assigns, such an easement upon, across and through each of said lots contiguous to any of said ponds as is necessary in connection with operating said pond. Without limiting the generality of the immediately preceding sentence, it is declared that neither the P.O.A. nor any successor or assign of the P.O.A. shall be liable for damages caused by ice, erosion, washing or other action of the water.

(3) Reservation of Right in P.O.A. to Change Water Elevations in Pond. The P.O.A. reserves to itself and its successors and assigns, the right to raise and lower the elevation of the lake, but neither the P.O.A. nor any successor assigns of the P.O.A. shall have an easement to raise (by increasing the height of any dam or spillway, or otherwise the high water elevation above that indicated on said Subdivision plats).

(4) The use of internal combustion engines (gasoline, natural

gas, or diesel) is prohibited upon the surface of the pond except for purposes of maintenance.

(5) (a) A lake management plan is attached hereto, made a part hereof, and marked as Exhibit "C". The P.O.A. is encouraged to implement all or a portion of the plan so that the pond quality, and wildlife environment can be sustained.

G. Titles, Etc. The underlined titles preceding the various paragraphs and subparagraphs of the Restriction are for convenience of reference only, and none of them shall be used as an aid to the construction of any provision of the Restrictions. Wherever and whenever applicable, the singular form of any word shall be taken to mean or apply to the plural, and the masculine form shall be taken to mean or apply to the feminine or the neuter.

H. Duration of the Restrictions. The foregoing covenants and restrictions are to run with the land and shall be binding on all parties and all persons claiming under them until January 1, 2010, at which time said covenants and Restrictions shall be automatically extended for successive periods of 10 years, unless changed in whole or in part by vote of those persons who then are the owners of a majority of the total of the lots of the Pebble Brooks Property Owners Association, Inc.

I. Remedies. If any violation of any of the Restrictions shall occur or be threatened, the party to whose benefit the particular Restriction inures may proceed at law to recover damages for, or in equity to prevent the occurrence or continuation of, the violation. The remedies hereby specified are cumulative, and this

specification of them shall not be taken to preclude an aggrieved party's resort to any other remedy at law, in equity, or under any statute. No delay or failure on the part of an aggrieved party to invoke an available remedy in respect of a violation of any of the Restrictions shall be held to be a waiver by that party of (or an estoppel of that party to assert) any right available to him upon the reoccurrence or continuation of said violation or the occurrence of a different violation. Provided, however, the Declarant herein shall have no liability with respect to these restrictions where the violation pertains to a lot which Declarant has conveyed to a lot purchaser. In such an instance, recourse shall be against said lot purchaser. Provided further, no recourse against Declarant herein shall be available pursuant to this agreement in the following instances:

(1) After all of the lots have been conveyed to lot purchasers; or

(2) In the event Declarant herein assigns all of its right, title and interest to a successor or assignee.

In those instances, each of said lot purchasers or said successor assignee, as the case may be, shall be bound by the covenants of this agreement.

J. Severability. Every one of the Restrictions is hereby declared to be independent of and severable from the rest of the Restrictions and of and from every other one of the Restrictions and of and from every combination of the Restrictions. Therefore, if any of the Restrictions shall be held to be invalid or to be

unenforceable or to lack the quality of running with the land, that holding shall be without effect upon the validity, enforceability or "running" quality of any other one of the Restrictions.

K. Assessment Charge Incurred. Notwithstanding anything contained herein to the contrary, no assessments shall become due and payable on any individual lot until said lot shall have been conveyed to a purchaser.

L. General. Upon the recording of this Agreement, which right of recording is hereby granted to the P.O.A. and the Declarant, the P.O.A. hereby waives any objection to the issuance by the City of ~~This Point Plan Commission~~ of building permits with respect to the above described site plan and buildings in connection with the real estate. Furthermore, the P.O.A. hereby agrees upon application by Declarant for a building permit or building permits for a building or buildings as described herein, to issue a building permit or building permits for a building or buildings as hereinabove described or to take such other steps as are necessary to indicated its express consent and permission to initiate construction.

M. Agreement Binding on Successors. Subject to the limitation on personal liability and remedies with respect to Declarant herein on pages 17 and 18, paragraph S, consistent herewith, all covenants and agreements made herein by the P.O.A. shall be binding upon and inure to the benefit of the parties herein, their successors in interest and assigns and all parties claiming by, through or under each of said parties, including lot

owners who purchase.

N. Additional Property

(1) Contemplated Annexation by Declarant. Declarant is the owner in fee simple of the Additional Property. It is the intention of the Declarant to submit the Additional Property, together with other improvements to be constructed thereon, and all drainage easements, rights and appurtenances belonging thereto, to the provisions of this agreement, so that the same will become in all respects part of the development.

(2) Reservation of Option to Expand. Declarant hereby expressly reserves the option at any time within a period of ten (10) years, commencing on the date this Declaration is filed for record, to take the action so contemplated in submitting all or any part of the Additional Property, together other improvements to be built thereon, and all drainage easements, to the provisions of this agreement, to that the same will become, in all respects, part of the P.O.A.

(3) Limitations on Declarant's Option. Unless otherwise specified in this paragraph, there are no limitations on Declarant's option to annex or add the Additional Property to the agreement. The consent of its P.O.A. to annex or add such Additional Property is not required.

(4) Additional Property. Declarant, in its absolute discretion, may annex or add all or any part of the Additional Property in whatever quantity, amount, sequence or order that it may determine. There are no limitations on Declarant as to the

amount of the Additional Property to be added, the sequencing or order of such additions, nor as to the boundaries or size of such additions.

(5) Location and Type of Improvements. Unless otherwise specified in this Article, there are no limitations imposed on Declarant as to the location of any improvements that may be made to any portion of the Additional Property, nor any restrictions as to the type and amount of improvements which must or may be made on the Additional Property by Declarant.

(6) Structures. The structures to be constructed on the Additional Property shall be compatible with the existing structures on the real estate in terms of quality of construction. The structures to be constructed on the Additional Property need not be compatible with the existing structures on the real estate in terms of principal materials used, architectural style, size, elevation, or occupancy.

(7) Limited Common Areas and Facilities. Declarant reserves the right to designate any portion of the Additional Property as Common Areas and Recreational Facilities for the use and enjoyment of any Structures or Units to be constructed thereon.

(8) Reservation of Right to Amend Declaration. Declarant hereby reserves the right to amend this Declaration in such respects as Declarant may deem advisable in order to effectuate the generality of the foregoing, including, but not limited to the specific right to: (a) include any or all of the Additional Property and the improvements which may be constructed

thereon as part of the real estate; (b) include descriptions of buildings constructed on said real estate and to add drawings thereof to the appropriate exhibits hereto; (c) provide that the Owners of lots or units in the buildings will have an interest in the Common Areas and Recreational Facilities of the real estate.

(9) Consent and Approval for Annexation Amendments.

Declarant, on its own behalf as the owner of all lots in the real estate and on behalf of all subsequent lots, hereby consents and approves, and each lot owner and his mortgagees by acceptance of a deed conveying such ownership, or a mortgage encumbering such interest, as the case may be, hereby consents and approves the provisions of this paragraph, including without limiting the generality of the foregoing, the amendment of this Declaration by Declarant, in and all such lot owners and their mortgagees, upon request of Declarant, shall execute and deliver from time to time all such instruments and perform all such acts as may be deemed by Declarant to be necessary or proper to effectuate said provisions.

(10) Power of Attorney, Coupled With an Interest. Each lot owner and his respective mortgagees, by the acceptance of a deed conveying such ownership or a mortgage encumbering such interest, as the case may be, hereby irrevocably appoints Declarant his attorney-in-fact, coupled with an interest, and authorizes, directs and empowers such attorney, at the option of the attorney, in the event that the Declarant exercises the rights reserved above, to add to the real estate additional property, to execute, acknowledge and record for and in the name of such lot owner, an amendment of

this agreement for any purpose and for and in the name of such respective mortgagees, a consent to such amendment.

(11) Indemnification. The P.O.A. shall promptly indemnify the developer and the directors of the P.O.A. in respect to any payments reasonably made and personal liabilities reasonably incurred by them in the ordinary conduct of the business of the P.O.A. , or for the preservation of the P.O.A or its property.

(12) Legal Expenses. Any owner shall pay and discharge all costs, expenses and attorney's fees, which shall be incurred or expended by the P.O.A due to a breach of the restrictive covenants, violation or breach of the by laws, or a violation or breach of this agreement and declaration by the owner. The P.O.A. shall have a first lien on the owner's interest in real estate hereunder, to secure the payment of all money due hereunder, which lien may be foreclosed in equity, and in case of any such foreclosure proceeding, a receiver may be appointed to take possession of said premises under order of court.



IN WITNESS WHEREOF, the parties hereto have set their hands and seals hereunto on the day and year first above written.

"THE P.O.A."

"DECLARANT"

THE PEBBLE BROOKS PROPERTY
OWNERS ASSOCIATION, INC.

MERCANTILE NATIONAL BANK
not personally, but as Trustee
Under Trust No. _____

SEE SIGNATURE PAGE ATTACHED

STATE OF INDIANA)

) SS:

COUNTY OF LAKE)

Before me, a Notary Public in and for said County and State, personally appeared PEBBLE BROOKS PROPERTY OWNERS ASSOCIATION, INC., an Indiana Corporation, by _____ and _____ to me known to be the _____ and _____ of the Corporation, and acknowledged the execution of the foregoing Agreement.

Witness my hand and notarial seal this _____ day of _____ 1992.

My Commission Expires: _____
County of Residence: _____

Document is NOT OFFICIAL!
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STATE OF INDIANA)
COUNTY OF LAKE)

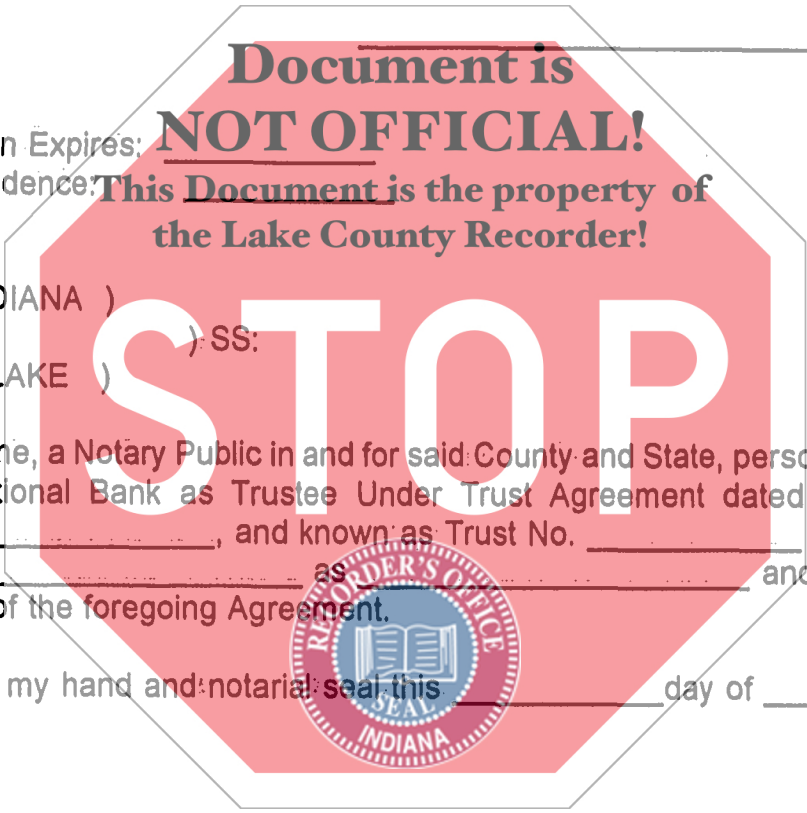
) SS:

Before me, a Notary Public in and for said County and State, personally appeared Mercantile National Bank as Trustee Under Trust Agreement dated _____, and known as Trust No. _____ by _____ as _____ and acknowledged the execution of the foregoing Agreement.

Witness my hand and notarial seal this _____ day of _____ 1992.

My Commission Expires: _____
County of Residence: _____

This Instrument Prepared By: MICHAEL L. MUENICH
Attorney at Law
3235 - 45th Street
Highland, Indiana 46322
219/924-2640



It is expressly understood and agreed by and between the parties hereto, anything herein to the contrary notwithstanding, that each and all of the representations, covenants, undertakings and agreements herein made on the part of the Trustee while in form purporting to be and the representations, covenants, undertakings and agreements of said Trustee are nevertheless each and every one of them, made and intended not as personal representations, covenants, undertakings and agreements by the Trustee or for the purpose or with the intention of binding said Trustee personally, but this instrument is executed and delivered by said Trustee not in its own right, but solely in the exercise of the powers conferred upon it as such Trustee; and that no personal liability or personal responsibility is assumed by nor shall at any time be asserted or enforceable against the Trust Company on account of this instrument or on account of any representation, covenant, undertaking, or agreement of the said Trustee in this instrument contained, either expressed or implied, all such personal liability, responsibility, and release. This Document is the property of the Lake County Recorder!



Agreement and Declaration
of Property Owner's Association
Mercantile National Bank
Land Trust No. 3711

THIS INSTRUMENT is executed by the undersigned Trustee, not personally, but solely as Trustee under the terms of that certain agreement dated the 15th day of JUNE 19 78, creating Trust No. 3711; and it is expressly understood and agreed by the parties hereto, anything herein to the contrary notwithstanding, that each and all of the covenants, undertakings, representations and agreements herein made are made and intend, not as personal covenants, undertakings, representations and agreements of the Trustee, individually, or for the purpose of binding it personally, but this instrument is executed and delivered by the MERCANTILE NATIONAL BANK OF INDIANA, AS TRUSTEE, solely in the exercise of the powers conferred upon it as such Trustee under said agreement and no personal liability or personal responsibility is assumed by, nor shall at any time be asserted or enforced against the MERCANTILE NATIONAL BANK OF INDIANA, on account hereof, or on account of any covenant, undertaking representation or agreement herein contained, either expressed or implied, all such personal liability, if any, being hereby expressly waived and released by the parties hereto or holder hereof, and by all persons claiming by or through or under said parties or holder hereof.

IN WITNESS WHEREOF, said MERCANTILE NATIONAL BANK OF INDIANA, has caused its name to be signed to these presents by an Asst. V. P. and Trust Officer and its corporate seal to be hereunto affixed and attested by its Trust Account Representative the day and year first above written.

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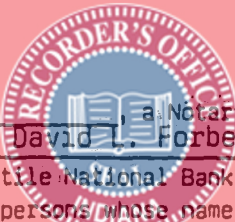
MERCANTILE NATIONAL BANK OF INDIANA, AS TRUSTEE AFORESAID
AND NOT PERSONALLY

BY: David L. Forbes
David L. Forbes, Asst. V. P. and Trust Officer

ATTEST:

William J. Jones
William J. Jones, Trust
Account Representative
STATE OF INDIANA)

) SS:
COUNTY OF LAKE)
I, Arlene Banta



a Notary Public in and for said County in the State aforesaid, DO HEREBY CERTIFY, that David L. Forbes and William J. Jones, of the Mercantile National Bank of Indiana, a National Banking Association, personally known to me to be the same persons whose names are subscribed to the foregoing instrument as such Asst. V. P. and Trust Officer and Trust Account Representative, respectively, appeared before me this day in person and acknowledged that they signed and delivered the said instrument as their own free and voluntary acts, and as the free and voluntary act of said national banking association, as Trustee, for the uses and purposes therein set forth; and the said Trust Account Representative did also then and there acknowledge that he, as custodian of the corporate seal of said national banking association, did affix the said corporate seal of said national banking association to said instrument as his own free and voluntary act, and as the free and voluntary act of said national banking association, as Trustee, for the uses and purposes therein set forth.

GIVEN under my hand and Notarial Seal this 2nd day of September, 19 92.

Arlene Banta
Arlene Banta NOTARY PUBLIC

MY COMMISSION EXPIRES: 4/16/96
RESIDENT OF Lake COUNTY

7/17/92. A deed
216 E. Joliet
Crown Pt, IN 46307

Fleming Realty
216 E. Joliet
Crown Point
IN 46307

92041495

This Indenture Witnesseth, that MERCANTILE NATIONAL BANK OF INDIANA, as Trustee,
under the provision of a Trust Agreement dated June 15, 1978, and known
as Trust Number 3711, does hereby grant, bargain, sell and convey to:

PEBBLE BROOKS PROPERTY OWNERS ASSOCIATION, INC.
A NOT FOR PROFIT INDIANA CORPORATION

ROBERT
JUN 29 9 38 AM '78
72

of Lake County, State of Indiana, for and in consideration of the sum
TEN AND NO/100 Dollars,

and other good and valuable consideration, the receipt of which is hereby acknowledged, the following described real
estate in Lake County, State of Indiana, to-wit:

OUT LOTS A, B, C, D AND E IN PHASE TWO PEBBLE BROOKS, A PLANNED
UNIT DEVELOPMENT IN CROWN POINT, INDIANA, AS SHOWN IN PLAT BOOK
72, PAGE 36 IN THE OFFICE OF THE RECORDER OF LAKE COUNTY,
INDIANA.

#23-163-11, 12, 13, 14, 15

SUBJECT TO THE FOLLOWING RESTRICTIONS:

EASEMENTS AND RESTRICTIONS OF RECORD, UNPAID REAL ESTATE TAXES
AND AGREEMENT AND DECLARATION OF PROPERTY OWNERS ASSOCIATION AND
RESTRICTIVE COVENANTS.



64-69-005871

TITLE INSURANCE
Crown Point, Indiana

Street Address: _____
Mail Tax Statements To: _____

This Deed is executed pursuant to, and in the exercise of, the power and authority granted to and vested in the
said Trustee by the terms of said Deed or Deeds in Trust delivered to the said Trustee in pursuance of the Trust
Agreement above mentioned, and subject to all restrictions of record.

IN WITNESS WHEREOF, the said MERCANTILE NATIONAL BANK OF INDIANA, as Trustee, a Corporation,
has caused this Deed to be signed by its Assistant Vice President/Trust Officer, and
attested by its Trust Account Representative, and its corporate seal to be hereunto affixed
this 9th day of June, 1992.

MERCANTILE NATIONAL BANK OF INDIANA
as Trustee

ATTEST:
William J. Jones
William J. Jones,
Trust Account Representative
STATE OF Indiana, COUNTY OF Lake:

By *David L. Forbes*
David L. Forbes, Assistant VP/
and Trust Officer

Before me, a Notary Public, in and for said County and State, this 9th day of June
1992, personally appeared David L. Forbes, Assistant Vice President/
and Trust Officer and William J. Jones, Trust
Account Representative of MERCANTILE NATIONAL BANK OF INDIANA, who
acknowledged the execution of the foregoing instrument as the free and voluntary act of said corporation, and as their
free and voluntary act, acting for such corporation, as Trustee.

GIVEN under my hand and notarial seal this 9th day of June, 1992

My Commission Expires:
12/25/94

Mary Pittrell
Mary Pittrell
Notary Public

County of Residence: Lake

read Per Chris at Joliet:
6/22/92 216 E. Joliet.

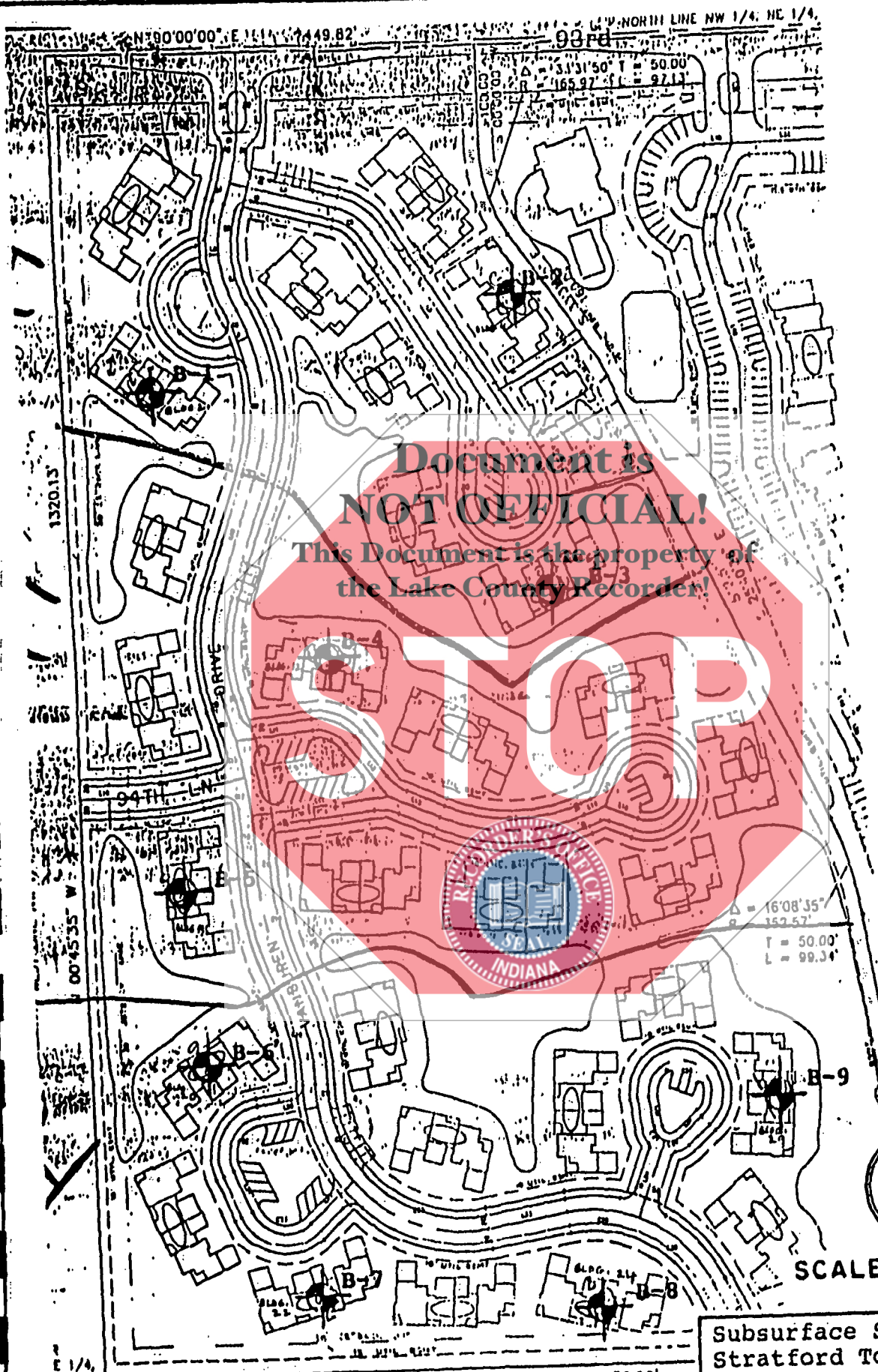
This instrument was prepared by David L. Forbes, Member,
Indiana Bar Assn.

MNR 741
Cr. Ind.
46307

Exhibit A

01184

700
to



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STOP



SCALE: Not To Scale

Subsurface Soil Exploration
Stratford Townhomes
93rd Avenue
Crown Point, Indiana

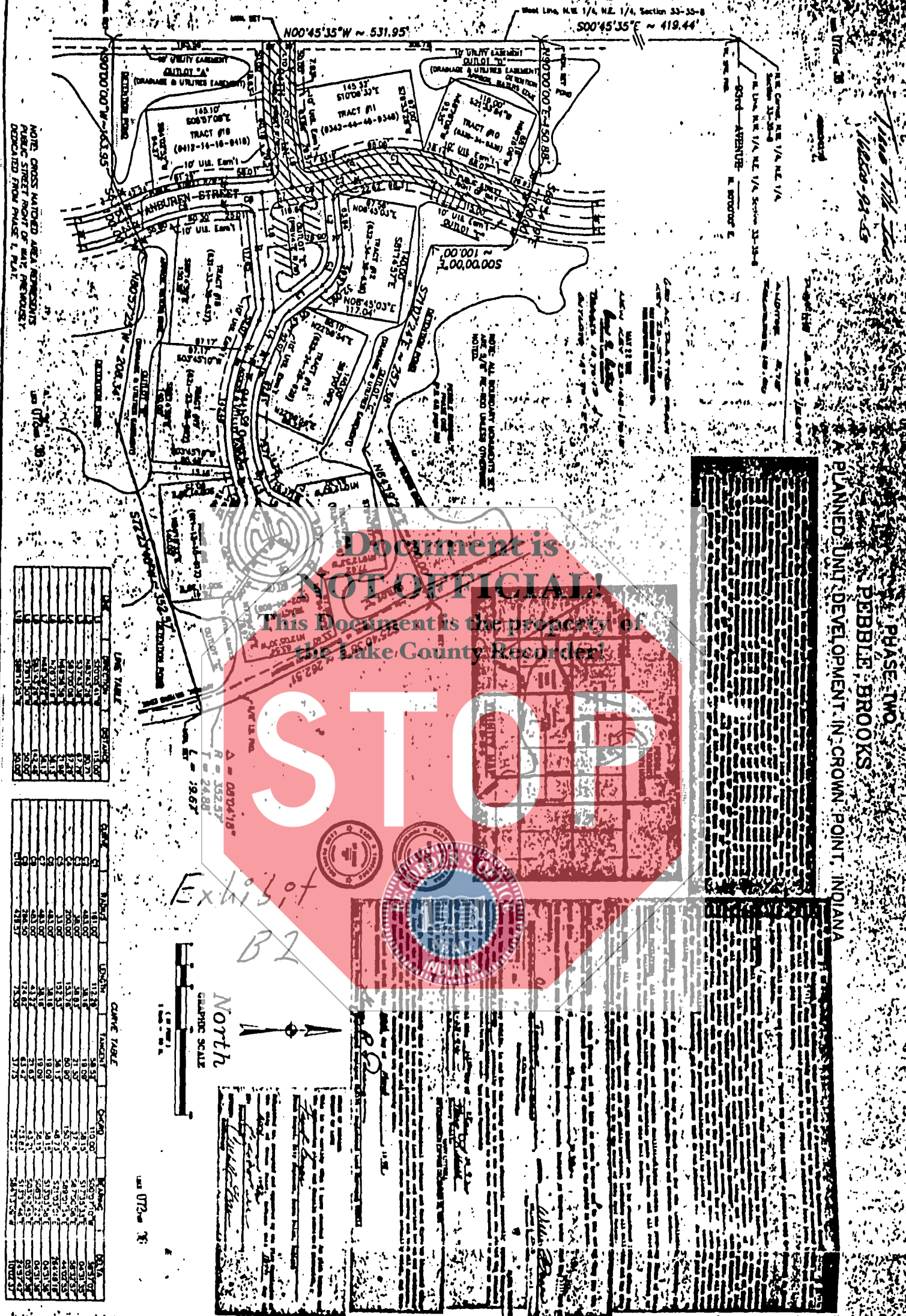
FILE 1374 DATE 8-27-90

EXHIBIT B1

E 1/4
S-8

S 89°58'14" W

873.0.1'



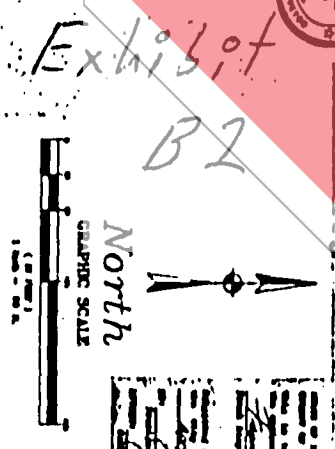
PHASE TWO
 PEBBLE BROOKS
 PLANNED UNIT DEVELOPMENT IN CROWN POINT, INDIANA

LINE TABLE

LINE	BEARING	LENGTH
1	N 89° 04' 18" W	117.00
2	S 89° 04' 18" E	117.00
3	N 00° 45' 35" W	531.95
4	S 00° 45' 35" E	419.44
5	N 00° 45' 35" W	531.95
6	S 00° 45' 35" E	419.44
7	N 00° 45' 35" W	531.95
8	S 00° 45' 35" E	419.44
9	N 00° 45' 35" W	531.95
10	S 00° 45' 35" E	419.44
11	N 00° 45' 35" W	531.95
12	S 00° 45' 35" E	419.44
13	N 00° 45' 35" W	531.95
14	S 00° 45' 35" E	419.44
15	N 00° 45' 35" W	531.95
16	S 00° 45' 35" E	419.44
17	N 00° 45' 35" W	531.95
18	S 00° 45' 35" E	419.44
19	N 00° 45' 35" W	531.95
20	S 00° 45' 35" E	419.44
21	N 00° 45' 35" W	531.95
22	S 00° 45' 35" E	419.44
23	N 00° 45' 35" W	531.95
24	S 00° 45' 35" E	419.44
25	N 00° 45' 35" W	531.95
26	S 00° 45' 35" E	419.44
27	N 00° 45' 35" W	531.95
28	S 00° 45' 35" E	419.44
29	N 00° 45' 35" W	531.95
30	S 00° 45' 35" E	419.44
31	N 00° 45' 35" W	531.95
32	S 00° 45' 35" E	419.44
33	N 00° 45' 35" W	531.95
34	S 00° 45' 35" E	419.44
35	N 00° 45' 35" W	531.95
36	S 00° 45' 35" E	419.44
37	N 00° 45' 35" W	531.95
38	S 00° 45' 35" E	419.44
39	N 00° 45' 35" W	531.95
40	S 00° 45' 35" E	419.44
41	N 00° 45' 35" W	531.95
42	S 00° 45' 35" E	419.44
43	N 00° 45' 35" W	531.95
44	S 00° 45' 35" E	419.44
45	N 00° 45' 35" W	531.95
46	S 00° 45' 35" E	419.44
47	N 00° 45' 35" W	531.95
48	S 00° 45' 35" E	419.44
49	N 00° 45' 35" W	531.95
50	S 00° 45' 35" E	419.44
51	N 00° 45' 35" W	531.95
52	S 00° 45' 35" E	419.44
53	N 00° 45' 35" W	531.95
54	S 00° 45' 35" E	419.44
55	N 00° 45' 35" W	531.95
56	S 00° 45' 35" E	419.44
57	N 00° 45' 35" W	531.95
58	S 00° 45' 35" E	419.44
59	N 00° 45' 35" W	531.95
60	S 00° 45' 35" E	419.44
61	N 00° 45' 35" W	531.95
62	S 00° 45' 35" E	419.44
63	N 00° 45' 35" W	531.95
64	S 00° 45' 35" E	419.44
65	N 00° 45' 35" W	531.95
66	S 00° 45' 35" E	419.44
67	N 00° 45' 35" W	531.95
68	S 00° 45' 35" E	419.44
69	N 00° 45' 35" W	531.95
70	S 00° 45' 35" E	419.44
71	N 00° 45' 35" W	531.95
72	S 00° 45' 35" E	419.44
73	N 00° 45' 35" W	531.95
74	S 00° 45' 35" E	419.44
75	N 00° 45' 35" W	531.95
76	S 00° 45' 35" E	419.44
77	N 00° 45' 35" W	531.95
78	S 00° 45' 35" E	419.44
79	N 00° 45' 35" W	531.95
80	S 00° 45' 35" E	419.44
81	N 00° 45' 35" W	531.95
82	S 00° 45' 35" E	419.44
83	N 00° 45' 35" W	531.95
84	S 00° 45' 35" E	419.44
85	N 00° 45' 35" W	531.95
86	S 00° 45' 35" E	419.44
87	N 00° 45' 35" W	531.95
88	S 00° 45' 35" E	419.44
89	N 00° 45' 35" W	531.95
90	S 00° 45' 35" E	419.44
91	N 00° 45' 35" W	531.95
92	S 00° 45' 35" E	419.44
93	N 00° 45' 35" W	531.95
94	S 00° 45' 35" E	419.44
95	N 00° 45' 35" W	531.95
96	S 00° 45' 35" E	419.44
97	N 00° 45' 35" W	531.95
98	S 00° 45' 35" E	419.44
99	N 00° 45' 35" W	531.95
100	S 00° 45' 35" E	419.44

CURVE TABLE

STATION	CHORD BEARING	CHORD LENGTH	TANGENT	CHORD	BEARING	STATION
1	N 89° 04' 18" W	117.00	38.53	110.00	S 00° 45' 35" E	11
2	S 89° 04' 18" E	117.00	38.53	110.00	N 00° 45' 35" W	21
3	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	31
4	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	41
5	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	51
6	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	61
7	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	71
8	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	81
9	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	91
10	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	101
11	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	111
12	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	121
13	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	131
14	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	141
15	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	151
16	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	161
17	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	171
18	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	181
19	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	191
20	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	201
21	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	211
22	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	221
23	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	231
24	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	241
25	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	251
26	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	261
27	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	271
28	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	281
29	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	291
30	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	301
31	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	311
32	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	321
33	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	331
34	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	341
35	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	351
36	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	361
37	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	371
38	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	381
39	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	391
40	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	401
41	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	411
42	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	421
43	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	431
44	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	441
45	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	451
46	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	461
47	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	471
48	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	481
49	N 00° 45' 35" W	531.95	161.00	517.95	S 00° 45' 35" E	491
50	S 00° 45' 35" E	419.44	129.00	488.44	N 00° 45' 35" W	501



Scale 1" = 100'
 North

LAKE MANAGEMENT PLAN

1.0 GENERAL

This report presents pond management techniques which should be employed by the Pebble Brooks Property Owners Association to make informed decisions regarding water quality of the proposed pond areas. The project location is illustrated on Exhibit "D".

While enhancing biological qualities of the ecosystem, the pond areas will serve as a stormwater retention facility and recreational facility. The pond will store flood waters while restricting outflow to match pre-development discharge rates.

2.0 PROJECT BACKGROUND

2.1 Lake Characteristics

The proposed pond configurations are illustrated on Exhibit "C". The ponds will have a surface area of approximately 3.31 acres. Generally, the edges of the pond will slope down to a bottom at a 33:1V ratio at the dam and a 5H:1V around the remainder of the lake. The main part of each pond are approximately 6 to 8 feet deep. The ponds will normally store 10 acre-feet of water at the normal water surface elevations¹, and will impound an additional 3.64 acre-feet during the 100-year flood event.

Runoff from the 50 acre watershed will enter the ponds through overland flow channels and via storm sewers from the Pebble Brooks development. The normal pond levels will be controlled by a 10-inch pipe to be constructed on the northeast side of the northeast pond. The ponds will discharge water to the south, and will ultimately be transported to the Beaver Dam Ditch.

2.2 Watershed

The total watershed tributary to the pond is approximately 50 acres. The Pebble Brooks Development covers the entire watershed. The remaining acres in the watershed are partially developed at this time.

¹ The north large pond has a normal water elevation (NW) of 706; the north small pond has a NW of 707.6; the south large pond has a NW of 707.5; and the south small pond has a NW of 707.8.

3.0 ENVIRONMENT

3.1 Climate and Weather

The climate of northwestern Indiana is controlled by continental air masses, although the presence of pond Michigan exerts a moderating influence. The National Weather Service station at O'Hare Airport, approximately 60 miles northwest of Oak Meadows, reports an average annual precipitation of 35.4 inches. About 30% of this occurs as snowfall. Average monthly temperatures extremes are 73° and 20°F, which occur in July and January, respectively. The annual mean temperature is 49°F.

3.2 Topography

The site consists of moderately sloping terrain from south to north. The average slope of the pond complex is approximately 1% or less.

3.3 Soils

Soils data are available from boring logs obtained for the Pebble Brooks project. In general, the boring logs, Exhibit "E", indicate a medium stiff to hard black, brown, and gray silty clay throughout most of the site. The soil consultants for this project, report minimum groundwater levels. The proposed ponds will have a normal water surface elevation between 706 and 707.8. Selected soil boring logs and a location map are provided in Exhibit "E". The U.S. Soil Conservation Service classifies soil types into hydrologic groups according to the ease with which water infiltrates the soil. Based upon this characteristic, the soils are placed into four soil groups: Group A: representing well-drained soils with a high infiltration capacity, Group B: representing moderate to high infiltration capacity, Group C: representing moderate to low infiltration capacity, and Group D: comprised of poorly-drained soils with very low or no infiltration capacity.

The majority of the Pebble Brooks Development site consists of Group D soils. A large portion of the rainfall in these area will drain as stormwater runoff.

4.0 WATER QUALITY PARAMETERS

Poor water quality in a manmade or natural pond can generally be observed or identified by odors, algae, pond scum, or weed growth. Although the appearance of a body of water offers a subjective measure of water quality, it offers no clues to preventative management. To adequately identify the water quality characteristics of a lake, it is necessary to conduct a diagnostic study to identify nutrient sources and concentrations. A detailed

description of this program is provided in paragraph 5.3. A complete understanding of the annual nutrient and hydrologic budgets for the pond system are needed to determine the loadings being received by the lake, and to identify how the biological, biochemical and physical characteristics of the pond are responding to these factors. The sources and impacts of the nutrients need to be determined to identify the approximate pond management techniques that should be implemented.

The following parameters are used to measure water quality. A brief discussion of possible problem sources, problems associated with each, adverse impacts and potential resultant water quality degradation is also provided. The biological, biochemical and physicochemical characteristics of water quality are all interrelated and the impacts on one another may cause a variety of undesirable pond conditions.

Turbidity - This means a measurement of the physical characteristics of the water column that refers to a depth of penetration of light. High turbidity readings are a result of suspended materials in the water, such as clay, silt, algae, dissolved solids or other suspended solids. Turbidity impacts the growth of algae and aquatic vegetation, as well as fish and other aquatic life. Generally, very turbid water conditions will limit light penetration, thereby limiting plant growth, however, the lack of oxygen production from plant life causes decomposition of materials and die-off; thus causing odors and displeasing visual water observations.

Nutrients - Nutrients are required for growth of plant and animal life. Phosphorus, nitrogen and potassium are generally the nutrients considered most important for water quality.

Phosphorus - Phosphorus is required for plant growth. For this reason, it is commonly found in fertilizers. Phosphorus is a highly mobile nutrient which is capable of becoming available for plant uptake under many forms. Ortho phosphorus is the most readily usable form and is easily released from decaying vegetation or resolubilized from sediments. Therefore, once it enters the ecosystem it is difficult to remove. High phosphorus levels are the most common cause of algae and aquatic weed growth, and often result in rapid growth or "algae bloom". Phosphate components are generally the limiting nitrification factor for plant growth. The availability and uptake capacity of plants is greatly influenced by calcium components such as alkalinity and hardness. Increased calcium component concentrations will exponentially increase phosphate availability and plant uptake, causing rapid increased in plant growth.

Nitrogen - Nitrogen compounds are required for plant growth. This element occurs naturally in the atmosphere. Common

sources of high nitrogen levels in ponds include fertilizer, septic tank wastewater systems, and the feces of animals and birds. High nitrogen levels also contribute to algae and aquatic weed growth. Plants utilize various forms of nitrogen compounds including ammonia (NH₃), organic nitrogen (Org-N) and nitrate-nitrite. (NO₃/NO₂) The nitrification/denitrification cycle is a direct correlation of the various aspects of the food chain. Nitrogen compounds provide the nutrients necessary for lush plant growth and highly influence growth rates. High concentrations of nitrogen compounds greatly impact the oxygen concentrations of the water due to biological and biochemical demands of decomposing organic materials, or oxidation of chemical processed involved in plant and animal growth.

pH - pH is a measure of acidity/alkalinity of pond water. Water with a pH of less than 7.0 is acidic; greater than 7.0 is alkaline. The range of acceptable pH values for pond water is 6.0 to 9.0. pH values outside this range severely impact the growth of fish, wildlife, and vegetation. Organisms are generally tolerant to a very narrow range of pH, with the more undesirable organisms more tolerant in acid/base fluctuations and extremes.

Dissolved Oxygen (DO) - A moderate to high concentration of free oxygen gas in the water is necessary to support all forms of aquatic life. Low DO levels will result in changes in the biological and chemical activities in the water and sediment which may result in plant/animal stress, causing a die-off or ecosystem upsets. Most desirable aquatic organisms require a minimum of 50-60% saturation levels of DO to survive. Low DO levels generally are conducive to growth of anaerobic bacteria rather than the aerobic form thus decreasing the natural decay of materials. Anaerobic decomposition produces methane, hydrogen sulfide and other obnoxious gases. In addition, this process encourages the resolubilization of phosphates from bottom sediments, thus increasing nutrient levels in the water column. The major factors which influence the DO in the water are temperature, turbidity, water movement/mixing, biologic oxygen demand, chemical oxygen demand and the overall ecological balance of the pond ecosystem. Therefore, the change of one or more of these factors can alter the environmental function of the pond causing algae blooms/die-off, obnoxious odors and/or ecosystem unbalance.

Biologic Oxygen Demand (BOD) - The natural process of decay involves bacteria which require oxygen to live. All water bodies contain small amounts of decaying material from dead algae, plants, animal and bird feces, etc. Oxygen is consumed during the decomposition of such matter.

Chemical Oxygen Demand (COD) - When substances such as petroleum products, sediments and heavy metals are added to water, a chemical reaction takes place which draws dissolved oxygen from the water. This results in lower oxygen levels. Oxygen utilization by chemical activity is termed Chemical Oxygen Demand. A substantial source of COD is stormwater runoff from streets, parking lots, lawns, and other detritus entering the water.

Temperature - The biological communities of a pond are very sensitive to temperature and each species has a tolerance zone within which it can function. The overall biochemical and physiochemical activities are directly related to water temperature. Dissolved oxygen levels are extremely dependent upon the water temperature. Colder water has a greater capacity to carry dissolved oxygen. The warmer the water, the lower DO concentrations, thus less available oxygen for chemical and biological demands.

Conductivity - Specific conductivity is an electrical measurement of dissolved ions in the water. High conductivity readings may indicate high concentrations of dissolved solids or nutrients. Conductivity testing is most useful in identifying the limits of contamination or in tracing the source of contaminated water. Specific conductance is also used as an indication of ecological change of water in a long term monitoring program.

Coliform Bacteria - An indicator bacteria such as "E.coli", is commonly associated with human and animal waste. Therefore, measurement of these organisms will determine if pollutants such as sewage are entering the water. Although the "E.coli" is not harmful, it usually indicates the presence of other, more harmful bacteria. This test is performed on water bodies where swimming or other body - water contact is desired.

Retention Time - The length of time between when a given volume of water enters a pond and when it leaves the lake. Since factors which affect water quality act over time, a body of water with a long retention time will generally have poorer quality (higher temperature, lower DO and higher nutrient levels) than one with shorter retention time. In addition, the retention time or period directly correlates with the reactive time for nutrient utilization by organisms. Therefore, a long retention time with excessive nutrient content will cause the most serious biological growth such as algae blooms.

5.0 STUDY EVALUATIONS

Several engineering evaluations were performed to identify conditions in and around the pond which will effect the long-term water quality. To begin, a water balance was performed to identify the source and amount of water entering the lake, and the amount leaving the pond through evaporation, exfiltration into the ground, and runoff throughout outlet structures. Finally, a water quality monitoring and analysis program has been developed to provide guidance in terms of activities required to maintain a reasonable water quality in the lakes.

5.1 Water Balance

The hydrologic cycle involves the movement of water through the ecosystem, from rainfall to runoff to evaporation and back to rainfall. A water balance study evaluates the watershed area tributary to the pond and provides estimates of the quantity of water which will move through the pond system over time. The analysis is called a water balance (or a water budget) because the flow of water into the pond areas must balance with the flow of water leaving the lake.

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Water entering the Pebble Brooks pond will arrive in the following forms: a) rainfall which falls directly on the pond surface, b) surface stormwater runoff from the watershed, and c) water brought to the pond by the developments storm water sewer system. Water may leave the pond by way of the outflow structure, evaporation, and seepage exfiltration through the pond bottom. The purpose of the water balance is to estimate the quantities of each of these components, and to evaluate the effect of each on the future pond water quality. The retention time, or the length of time a given water particle remains in the lake, can also be estimated from water balance results.

Monthly average rainfall data were obtained from the National Weather Service for the O'Hare weather station. Runoff and outflow estimates were obtained from the hydrologic analysis performed as part of storm water system design input.

The results indicate that approximately 125 acre-feet of water enter the ponds during the average year. Of this amount, 12 acre-feet, or 10%, is lost due to evaporation and the remainder exists the system through the discharge pipe. Retention time was calculated by estimating pond volume using the proposed pond construction plan provided by Intercon Engineering. The average inflow rate for the pond was calculated using the water balance results. Dividing the pond volume by the inflow rate yields average retention time. The estimated average retention time of the proposed pond system is approximately 1.5 months.

5.2 Sediment and Soil Erosion Analysis

Man-made influences within the watershed tributary to the new pond

creates the likelihood for sediment-laden stormwater to enter the Lake. The proposed construction sequent will result in the development being partially complete before the pond is completed. Long term sediment rates will depend upon erosion protection measures through the watershed. Sediment load expected in the pond may require removal on average once every 5 to 15 years. The amount of sediment to be removed is difficult to approximate and will depend upon the watershed management practices employed by the surrounding property owners.

5.3 Water Quality Monitoring

It is recommended that a water quality monitoring program be instituted once the pond is filled with water. This program will involve the collection of water samples and the performance of analytic laboratory testing to identify the chemistry of water during different seasons. An engineering analysis should be performed after each water monitoring event and a recommendation be provided relative to watershed management practices, pond level controls, and water treatment requirements to maintain a pond system with a reasonable water quality. Typical costs required to implement the water quality monitoring program and engineering evaluation summarized herein range from \$1,000 to \$2,000 per year. Engineering analyses to be performed will consider the results of analytical testing, and will include recommendations for treatment of the pond where necessary. Any water quality monitoring program that the Pebble Brooks Property Owners Association initiates should address and include the following:

5.3.1 In-Lake Sampling

A. Water Chemistry

1. Sample Locations - Water samples to be collected at the two separate locations throughout the lake.
2. Depth Distribution - An integrated sample to be collected from a depth of 0 to 2 meters. Additional samples to be taken every 4 feet to within 2 feet of the pond bottom.
3. Frequency and Duration - The in-lake sampling should be conducted at quarterly intervals throughout the year. Samples to be obtained in April, June, August, and October.
4. Analysis - All samples to be analyzed for Total phosphorus, organic phosphorus, NO₃/NO₂, NH₃, organic nitrogen, and alkalinity.

B. In-Lake Physical Properties - Dissolved oxygen, temperature, specific conductivity, pH, and color, readings should be measured for each water chemistry sample. Samples to be

collected at the same frequency and depth as described above.

C. Biological Properties

1. Chlorophyll "a"

- a. An integrated sample from 0 to 2 meters is to be collected from each location.
- b. Sampling to be conducted monthly from May through October.

2. Macrophyte Study - Estimation of the standing crop of macrophytes in the littoral zone should be made during the study. Determination of species composition, distribution, density, frequency of occurrence and depth of growth of submergent, floating or emergent aquatic macrophytes will be completed. One survey should be conducted in late June prior to any chemical control.

3. Phytoplankton

- a. One sample is to be collected from each of the two chosen sampling locations.
- b. Samples are to be collected and analyzed monthly from May through August.

4. Zooplankton - Samples are to be collected at the location and frequency described in paragraph "3" above.

5.3.2 Hydrologic and Nutrient Budgets

A. Flow Monitoring

1. The inlets and storm sewer drains located around the pond perimeter be monitored and sampled in the first year following completion of the pond construction. Samples should also be obtained from the pond outlet to evaluate the efficiency of the lake.
2. The above samples should be analyzed for the following parameters: total phosphorus, organic phosphorus, TKN, NH₃, NO₃/NO₂, alkalinity, total solids, suspended solids, specific conductivity, pH, and temperature.

B. Water Level Monitoring - The pond level should be monitored periodically. Staff gage readings should be obtained and recorded in a pond Management Data file.

6.0 MANAGEMENT ALTERNATIVES

Management alternatives may be classified into two groups: 1) maintenance practices and, 2) physical improvements. Following is a description of several practices and improvements which are often implemented to remediate poor water quality. Specific recommendations are presented in Section 7.0.

6.1 Maintenance Practices

Fertilizer Control - Careful application of fertilizer will allow good grass growth while minimizing nutrient input to the lake. Apply a 10-0-10 fertilizer compound (nitrogen, phosphorus, potassium ratios, respectively) a maximum of four times during the growing season. Do not exceed an application rate of one pound nitrogen per 1,000 square feet of lawn area. Do not fertilize the banks of the pond shoreline. Do not apply fertilizer immediately before or after heavy rainfall. Lightly soak fertilizer immediately after application.

Nutrient Removal - Remove sources of nutrients within the pond where possible. Clean accumulated debris such as leaves and branches from "dead spots" on the windward sides and corners of lakes. Skim off any observed floating accumulations. Aquatic plants remove nutrients from the water, so allow them to grow when possible. Establish area where weed growth can be encouraged, especially near areas of stormwater inflow. If weed control is necessary, remove the weeds from the pond manually instead of applying herbicides.

Reduce Other Nutrient Sources - Do not allow car-washing in areas that runoff directly into the lakes. (Detergents are a nutrient source). Rake leaves and remove them from the watershed or mulch onto yards.

Sediment Control - Sweep paved surfaces once per month. Review development plans for new construction within the watershed and demand effective sediment and erosion controls. Maintain healthy vegetative ground cover within the watershed.

6.2 Physical Improvements

Groundwater Flow Augmentation - A base flow of good quality water can be created by pumping from the underlying aquifer. Groundwater has a high DO capacity due to its low temperature, and is relatively free of nutrients and oxygen demand. Augmenting inflow to the pond will reduce retention time and "flush nutrient-laden" water from the lake, if necessary. A state permit is required to install a groundwater well in excess of 70 gallons per minute.

7.0 RECOMMENDATIONS

Several pond management practices and improvements have already been included in the design of the proposed pond at the Pebble Brooks development. It is recommended that the Pebble Brooks Property Owners Association implement the following management practices:

Request periodic street sweeping of streets by the City of Crown Point.

Manual removal (rather than chemical treatment) of aquatic plants only when plant growth poses a nuisance. Periodic harvesting to maintain a healthy pond would be acceptable.

Do not apply lawn fertilizer within 20 feet of pond shore.

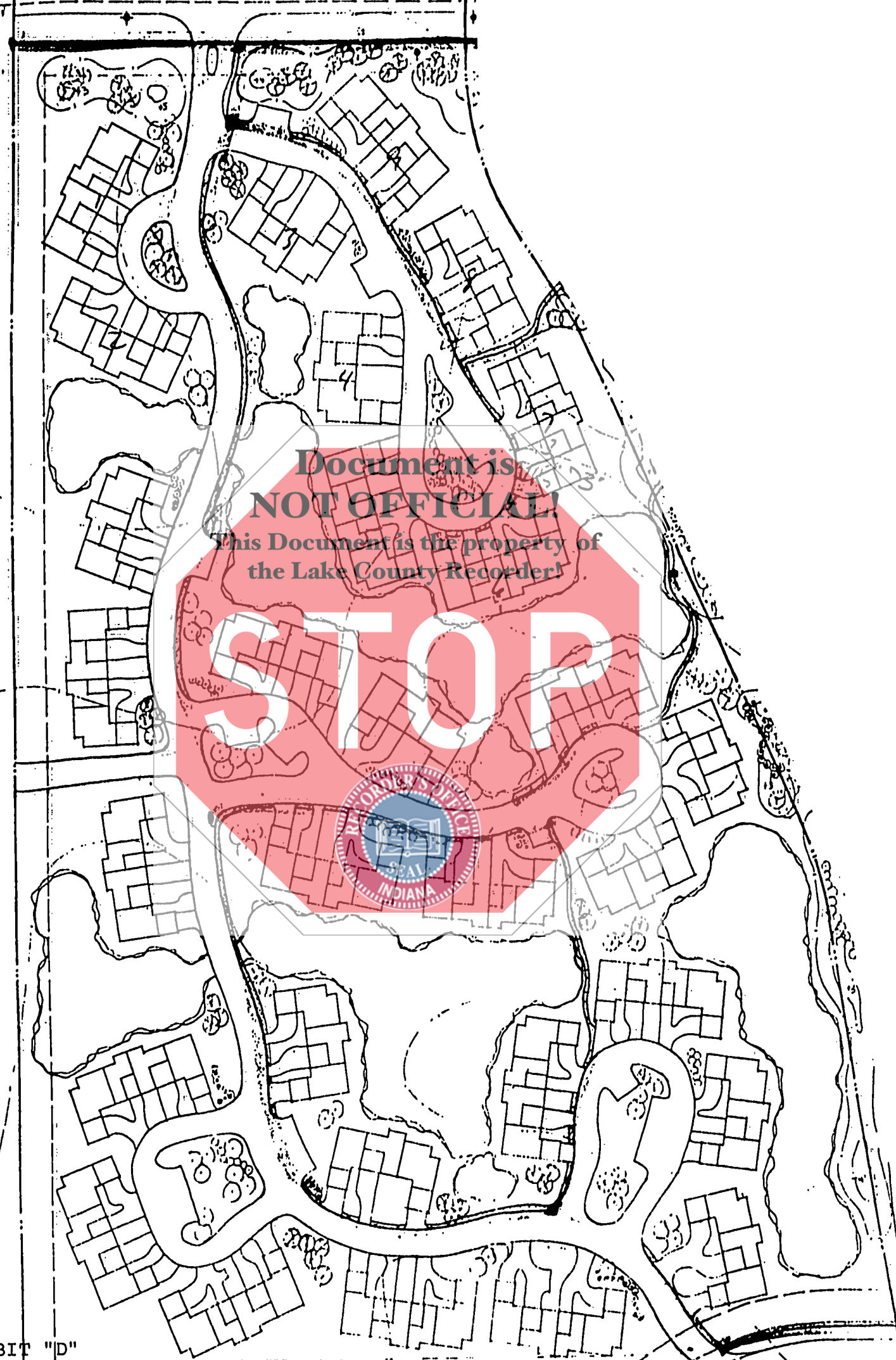
Remove leaves and debris which accumulate in pond "dead spots".

Long term monitoring as described in Section 5.3

Most of the watershed is currently developed, but vacant. However, future developments may occur and dwelling construction will occur. The residents around this pond should have a vested interest in construction activities on adjacent properties since the potential soil erosion may impact the lake. When construction on adjacent properties is proposed, concerns about pond water quality should be communicated to the lot owner to ensure that a plan is properly implemented.

The Pebble Brooks Property Owners Association should be aware that physical improvements may be necessary after completion of the proposed development to improve water quality and water balance, and reduce sediment accumulations within the lake. The following are physical improvements which would enhance the quality of the pond system:

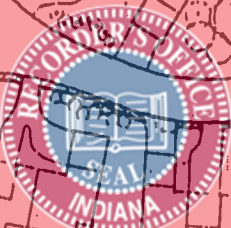
1. Groundwater Wells - The quality of the pond can be improved by augmenting the pond inflow with groundwater wells. Wells with sufficient flow rates can reduce the pond retention time and offset water stagnation which may occur during dry weather months. The water quality of the pond should be monitored during dry weather months. The water quality of the pond should be monitored for one year and the necessity for flow augmentation wells should be determined at that time. If it is determined that groundwater wells should be utilized to improve water quality, a state permit would be required for well installation in excess of 70 g.p.m.



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K&S

Testing and Engineering Inc.

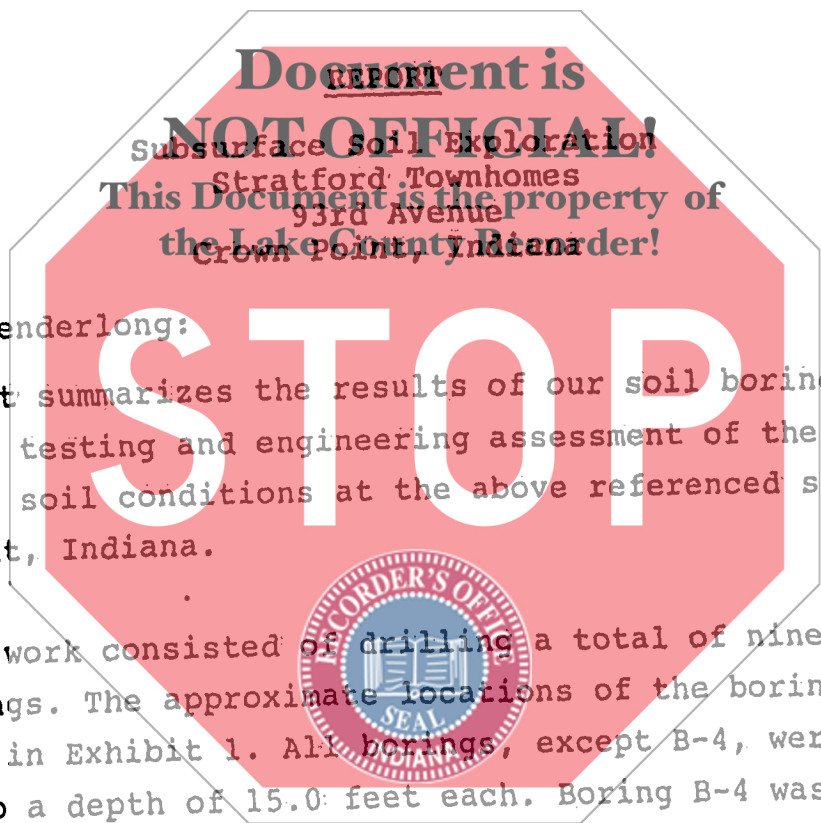
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August 27, 1990

File No. 1374

Pebble Brook, Inc.
150 South 725 West
Hebron, IN 46341

Attn: Mr. Tim Henderlong



Dear Mr. Henderlong:

This report summarizes the results of our soil borings, laboratory testing and engineering assessment of the subsurface soil conditions at the above referenced site in Crown Point, Indiana.

Our field work consisted of drilling a total of nine (9) soil borings. The approximate locations of the borings are indicated in Exhibit 1. All borings, except B-4, were drilled to a depth of 15.0 feet each. Boring B-4 was drilled 20.0 feet deep. The borings were drilled using a truck mounted drill rig, D-50. Soil sampling in the borings was performed in accordance with American Society for Testing and Materials (ASTM) Standards D1586, "Penetration Test and Split-Barrel Sampling of Soils". Observation for groundwater was made during and at the completion of drilling and the information was recorded.

EXHIBIT "E"

Soil samples recovered during drilling were tested in the laboratory to determine the natural moisture content and unconfined compressive strength. Visual description of soil samples was performed in the laboratory to verify the field descriptions. The field logs, as required, were edited and the typed final logs were prepared as presented in Exhibits 2 through 10. Along with the soil description, the boring logs also indicate the Standard Penetration Blow Count Data (SPT-N value), laboratory test results and groundwater information.

Based on the laboratory test results and boring logs information, the subsurface soil conditions to the depth of exploration at the boring locations drilled may be described as follows:

● The borings were drilled through topsoil varying from 7.0 to 24.0 inches. The topsoil consists of black silty clay, trace roots. Beneath the topsoil and extending in depths of 3.0 to 3.5 feet, Borings B-3, B-5, B-8 and B-9 encountered brown and dark brown or black and dark brown silty clays. Beneath the dark colored soils in Borings B-3, B-5, B-8 and B-9 and beneath the topsoil in the remaining borings, we primarily encountered stiff to hard brown or brown, trace gray silty clay. The brown clayey soils extended to a depth of 8.0 feet in Borings B-1, B-7 and B-9, to a depth of 8.5 feet in B-4 and 9.0 feet in B-5. In the remaining borings, the brown clayey soils extended to a depth of 11.0 feet. Underlying the brown clays, the borings primarily encountered stiff to hard brownish gray or gray silty clay to their respective drilling depths in each boring.

Observation for groundwater was made during and at the completion of drilling. As shown in the boring logs, no groundwater was encountered in the borings except in B-2 where groundwater was encountered at a depth of 7.0 feet.

CONCLUSIONS/RECOMMENDATIONS

Based on the review of laboratory test results and boring logs information, the conclusions and recommendations are as follows:

The existing topsoil and the dark brown and black soils encountered below the topsoil in a few borings are considered not suitable for supporting the foundation loads. It is recommended that these soils should be excavated and removed from the building and structural areas. After excavation and removal of the unsuitable soils, the excavated areas should be observed by our Geotechnical Engineer. The purpose of this observation is to identify any other unsuitable soils requiring excavation and removal. The difference in elevation between the undercut excavation depth and the proposed building grade should be backfilled using controlled compacted fill. The new fill should be placed in 6.0 inch lifts and each lift should be compacted to 95.0 percent density with reference to Modified Proctor, ASTM D1557.

The existing natural brown or gray clays beneath the dark colored soils are considered suitable for supporting the anticipated structural loads.

It is recommended that the footings should be founded at a depth of 4.0 feet below the final grade to protect against frost condition.

The footings founded on the natural clays or on controlled compacted fill can be designed for an allowable bearing pressure of 2000 PSF.

Finally, it is recommended that the earthwork and foundation construction work should be monitored by our Geotechnical Engineering staff. The purpose of this monitoring is to verify the bearing pressures, check compaction percentages and also to identify any unsuitable soil requiring further excavation and removal.

We appreciate the opportunity to be of service to you. If you have any questions regarding this report, please call our office.



Very truly yours,
K & S Testing and Engineering, Inc.

Dibakar Sundi
Dibakar Sundi, P.E.
Project Engineer

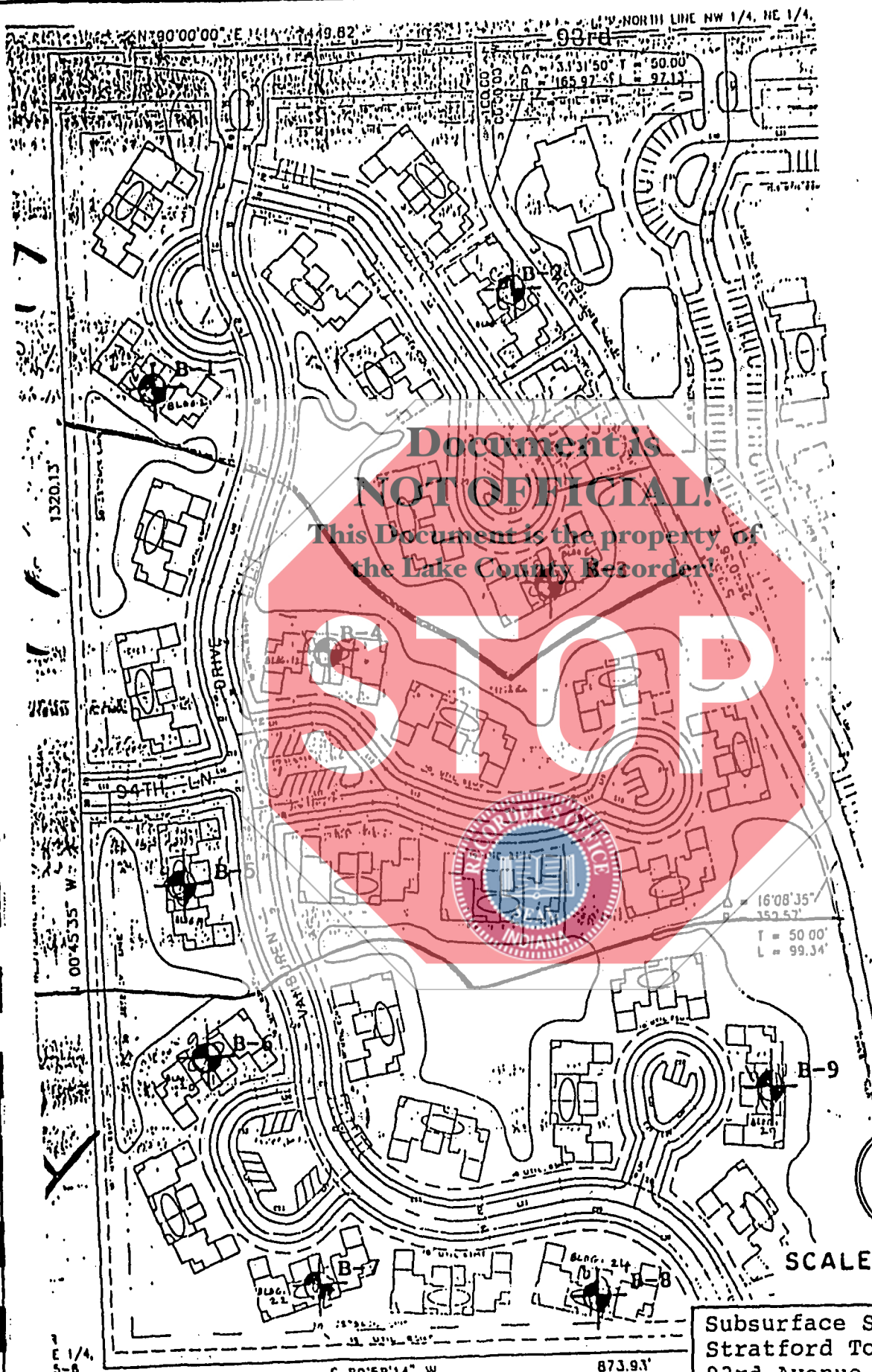
Petar Kostur
Petar Kostur, P.G.
President

SRD:DS:PK/vaj

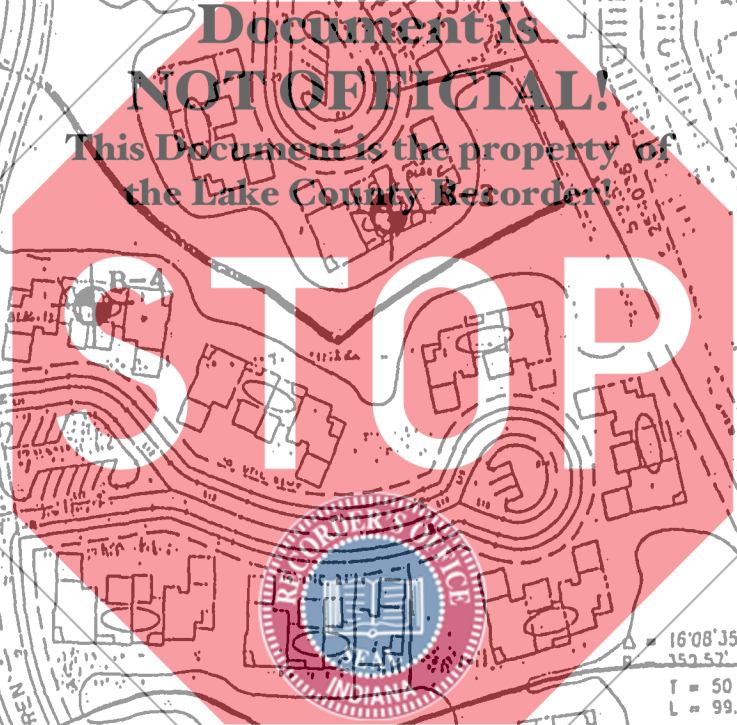
File No. 1374

K & S Testing and Engineering Inc.
97.16 Kennedy Ave. Highland, Indiana Phone: (219) 924-5231

BORING LOCATIONS



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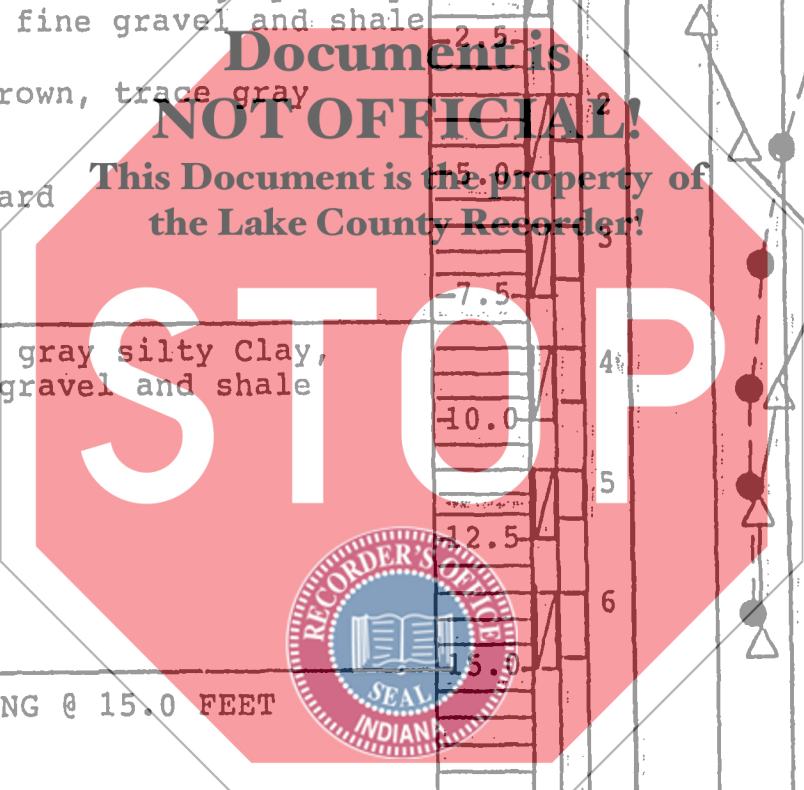
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Subsurface Soil Exploration
 Stratford Townhomes
 93rd Avenue
 Crown Point, Indiana

FILE 1374 DATE 8-27-90

EXHIBIT 2

CLIENT Pebble Brook, Inc.		LOG OF BORING NUMBER B-1	
SITE LOCATION 93rd Avenue Crown Point, Indiana		PROJECT NAME Stratford Townhomes	
BORING STARTED: 8-10-90	RIG D-50	FILE NUMBER 1374	⊕ CALIBRATED PENETROMETER, TONS/FT. ²
BORING COMPLETED: 8-10-90	FOREMAN L. Mills		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT. ²
STRATA DEPTH (FT.)	SURFACE ELEVATION	DEPTH (FT.)	1 2 3 4 5
	DESCRIPTION OF MATERIAL		● WATER CONTENT PERCENT 10 20 30 40 50
			△ STANDARD PENETRATION, BLOWS/FT. 10 20 30 40 50
0.67	Black silty Clay, trace roots (Topsoil)	1	
	Very stiff, brown and gray silty Clay, trace fine gravel and shale	2	
3.5	Grades to brown, trace gray	3	
5.5	Grades to hard	4	
8.0	Very stiff, gray silty Clay, trace fine gravel and shale	5	
		6	
15.0	END OF BORING @ 15.0 FEET		

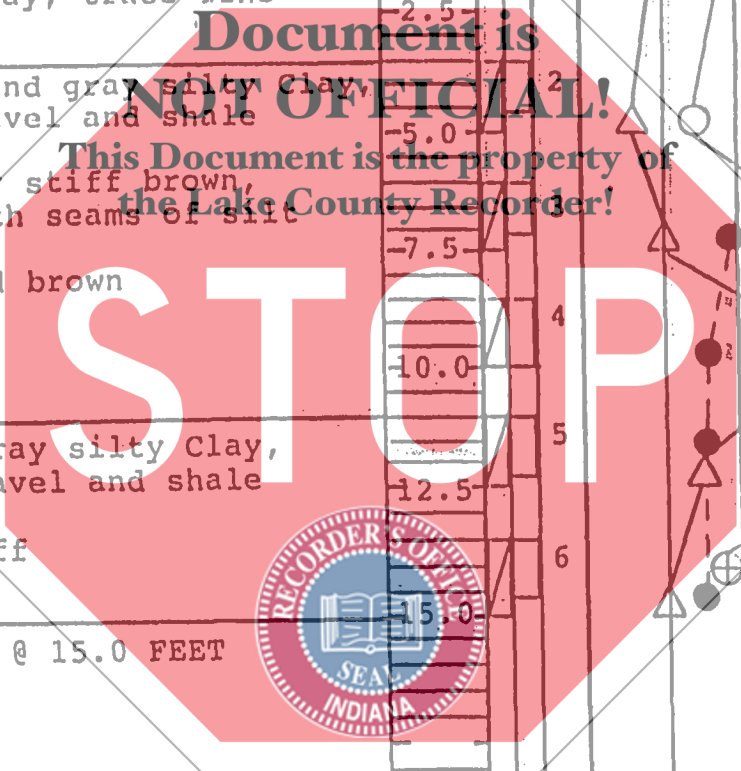


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 9715 KENNEDY AVENUE
 HIGHLAND, INDIANA 46322
 TELEPHONE: (219) 924-5231

▼ WATER LEVEL WHILE DRILLING **None**
 ▼ WATER LEVEL **Dry At Completion**


SPLIT SPOON
 SHELBY TUBE
 AUGER
 ROCK CORE
 +PL - PLASTIC LIMIT
 +LL - LIQUID LIMIT
 fu - UNIT DRY WEIGHT

CLIENT Pebble Brook, Inc.				LOG OF BORING NUMBER B-2			
SITE LOCATION 93rd Avenue Crown Point, Indiana				PROJECT NAME Stratford Townhomes			
BORING STARTED: 8-10-90		RIG D-50		FILE NUMBER 1374		<input checked="" type="checkbox"/> CALIBRATED PENETROMETER, TONS/FT. ² <input type="checkbox"/> UNCONFINED COMPRESSIVE STRENGTH, TONS/FT. ²	
BORING COMPLETED: 8-10-90		FOREMAN L. Mills				1 2 3 4 5 <input type="checkbox"/> WATER CONTENT PERCENT 10 20 30 40 50 <input type="checkbox"/> STANDARD PENETRATION, BLOWS/FT. 10 20 30 40 50	
STRATA DEPTH (FT.)	SURFACE ELEVATION			DEPTH (FT.)	SAMPLE NUMBER		
	DESCRIPTION OF MATERIAL						
0.67	Black silty Clay, trace roots (topsoil)				1		
	Stiff, brown and gray, trace black silty Clay, trace fine gravel			-2.5-			
3.5	Stiff, brown and gray silty Clay, trace fine gravel and shale			-5.0-	2		
6.0	Grades to very stiff brown, trace gray with seams of silt			-7.5-			
8.0	Grades to hard brown			-10.0-	4		
11.0	Very stiff, gray silty Clay, trace fine gravel and shale			-12.5-	5		
13.5	Grades to stiff			-15.0-	6		
15.0	END OF BORING @ 15.0 FEET						12.3



WATER LEVEL WHILE DRILLING **7.0 Feet**
 WATER LEVEL **Caved and Dry At 11.7 Feet At Completion**

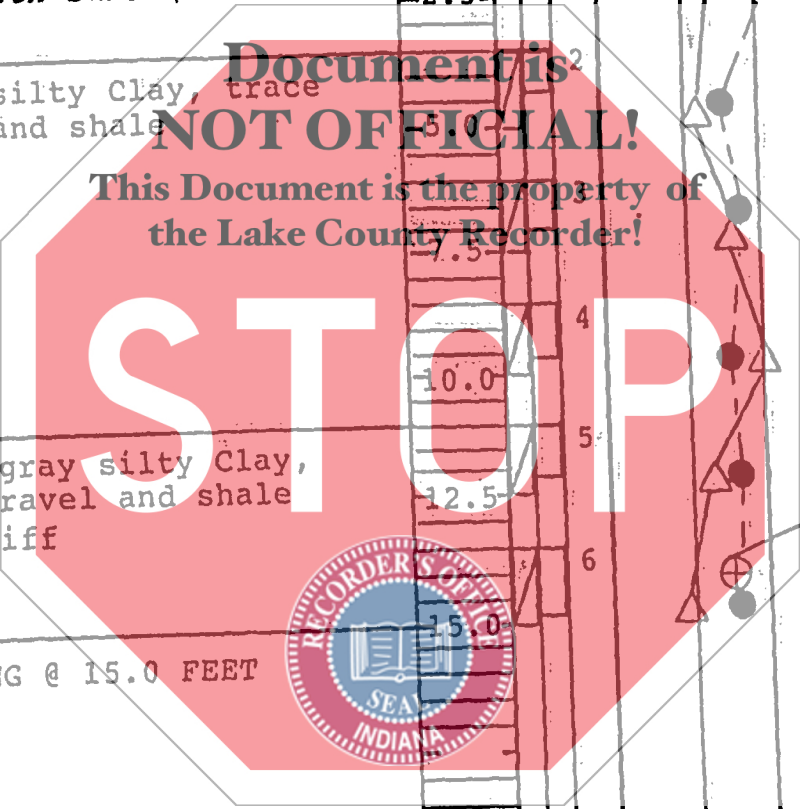
SPLIT SPOON SHELBY TUBE AUGER ROCK CORE
 +PL - PLASTIC LIMIT +LL - LIQUID LIMIT *fc* - UNIT DRY WEIGHT




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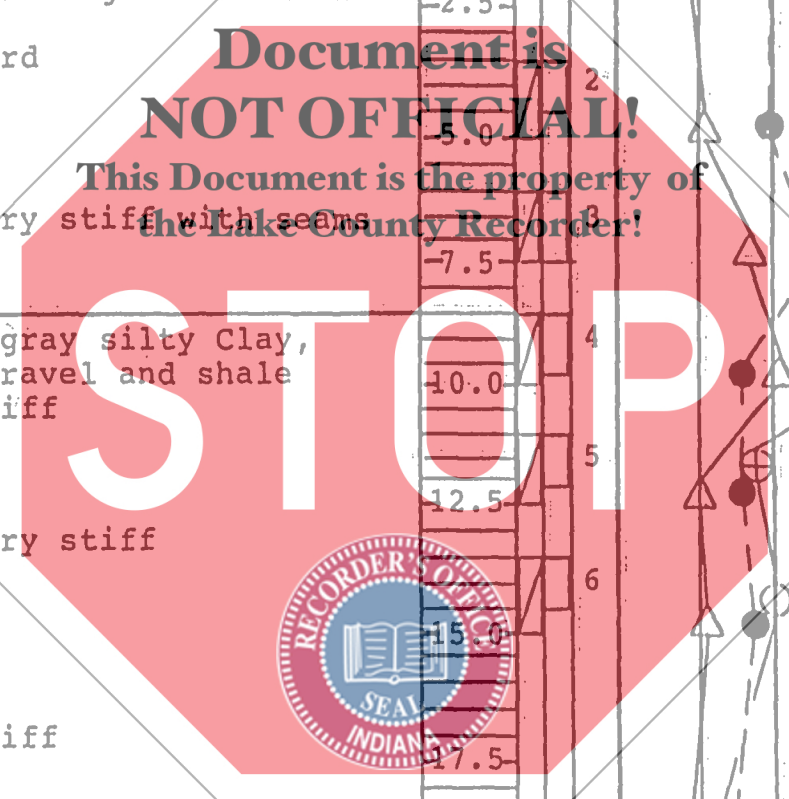
CLIENT Pebble Brook, Inc.		LOG OF BORING NUMBER B-3	
SITE LOCATION 93rd Avenue Crown Point, Indiana		PROJECT NAME Stratford Townhomes	
BOILING STARTED 8-10-90	RIG D-50	FILE NUMBER 1374	⊕ CALIBRATED PENETROMETER, TONS/FT'
BOILING COMPLETED 8-10-90	FOREMAN L. Mills		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT'
STRATA DEPTH (FT.)	SURFACE ELEVATION	SAMPLE	1 2 3 4 5
	DESCRIPTION OF MATERIAL	DEPTH (FT.)	● WATER CONTENT PERCENT 10 20 30 40 50
		TYPE RECOVERY NUMBER	△ STANDARD PENETRATION, BLOWS/FT. 10 20 30 40 50
0.8	Black silty Clay, trace roots (Topsoil)	1 ¹	
	Very stiff, brown and dark brown silty Clay with sand	2.5	
3.5	Hard, brown silty Clay, trace fine gravel and shale	5.0	
		7.5	
11.0	Very stiff, gray silty Clay, trace fine gravel and shale	10.0	
13.0	Grades to stiff	12.5	
15.0	END OF BORING @ 15.0 FEET	15.0	



▼ WATER LEVEL WHILE DRILLING **None**
 ▼ WATER LEVEL **Dry At Completion**
 SPLIT SPOON
 SHELBY TUBE
 AUGER
 ROCK CORE
 +PL - PLASTIC LIMIT
 +LL - LIQUID LIMIT
 fc - UNIT DRY WEIGHT


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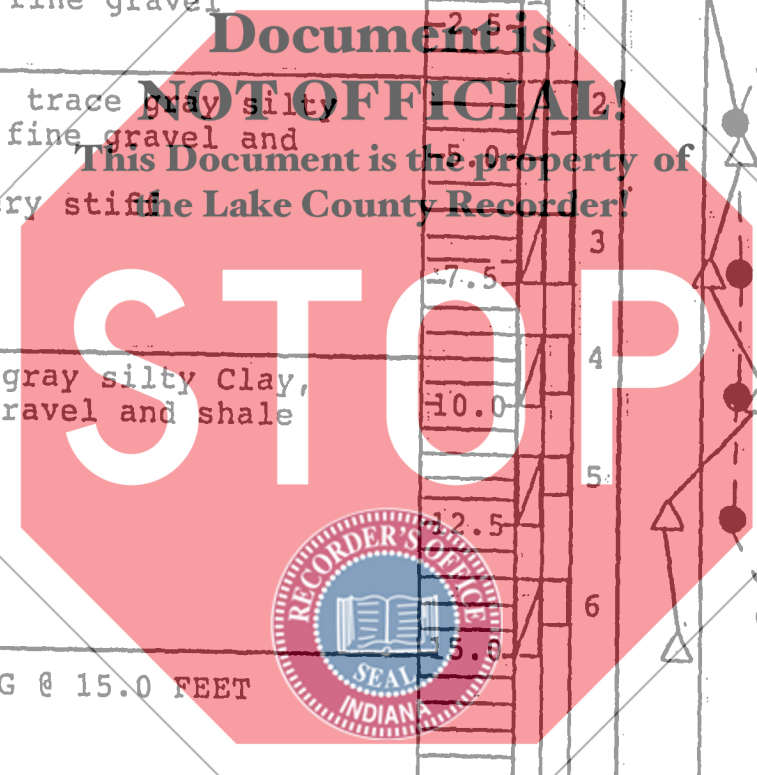
CLIENT Pebble Brook, Inc.		LOG OF BORING NUMBER B-4	
SITE LOCATION 93rd Avenue Crown Point, Indiana		PROJECT NAME Stratford Townhomes	
BORING STARTED 8-10-90	RIG D-50	FILE NUMBER 1374	⊕ CALIBRATED PENETROMETER, TONS/FT. ²
BORING COMPLETED 8-10-90	FOREMAN L. Mills		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT. ²
STRATA DEPTH (FT.)	SURFACE ELEVATION	DEPTH (FT.)	SAMPLE 1 2 3 4 5
	DESCRIPTION OF MATERIAL		● WATER CONTENT PERCENT 10 20 30 40 50
		RECOVERY NUMBER	△ STANDARD PENETRATION, BLOWS/FT. 10 20 30 40 50
0.8	Black silty Clay, trace roots (Topsoil)	1	
	Very stiff, brown and gray silty Clay, trace fine gravel and shale		
3.5	Grades to hard	2	
6.5	Grades to very stiff with seams of Silt	3	
8.5	Very stiff, gray silty Clay, trace fine gravel and shale	4	
10.5	Grades to stiff	5	
13.0	Grades to very stiff	6	
17.0	Grades to stiff		
20.0	END OF BORING @ 20.0 FEET	7	



▼ WATER LEVEL WHILE DRILLING	None
▼ WATER LEVEL	Caved and Dry At 16.3 Feet At Completion
<input checked="" type="checkbox"/> SPLIT SPOON	<input type="checkbox"/> SHELBY TUBE
<input type="checkbox"/> PL - PLASTIC LIMIT	<input type="checkbox"/> LL - LIQUID LIMIT
<input type="checkbox"/> AUGER	<input checked="" type="checkbox"/> ROCK CORE
	fu - UNIT DRY WEIGHT

 **K & S TESTING AND ENGINEERING INC.**
 9715 KENNEDY AVENUE
 HIGHLAND, INDIANA 46322
 TELEPHONE: (219) 924-5231

CLIENT Pebble Brook, Inc.		LOG OF BORING NUMBER B-5	
SITE LOCATION 93rd Avenue Crown Point, Indiana		PROJECT NAME Stratford Townhomes	
BORING STARTED 8-11-90	RIG D-50	FILE NUMBER 1374	⊕ CALIBRATED PENETROMETER, TONS/FT. ○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT.
BORING COMPLETED 8-11-90	FOREMAN L. Mills		● WATER CONTENT PERCENT △ STANDARD PENETRATION, BLOWS/FT.
STRATA DEPTH (FT.)	SURFACE ELEVATION	DEPTH (FT.)	SAMPLE RECOVERY NUMBER
	DESCRIPTION OF MATERIAL		
0.8	Black, silty Clay, trace roots (topsoil)		1
3.5	Hard, brown and dark brown silty Clay, trace fine gravel		
6.0	Hard, brown, trace gray silty Clay, trace fine gravel and shale		
9.0	Grades to very stiff		
15.0	Very stiff, gray silty Clay, trace fine gravel and shale		
	END OF BORING @ 15.0 FEET		



WATER LEVEL WHILE DRILLING None
 WATER LEVEL Dry At Completion
 SPLIT SPOON SHELBY TUBE AUGER ROCK CORE
 +PL - PLASTIC LIMIT +LL - LIQUID LIMIT *fu* - UNIT DRY WEIGHT



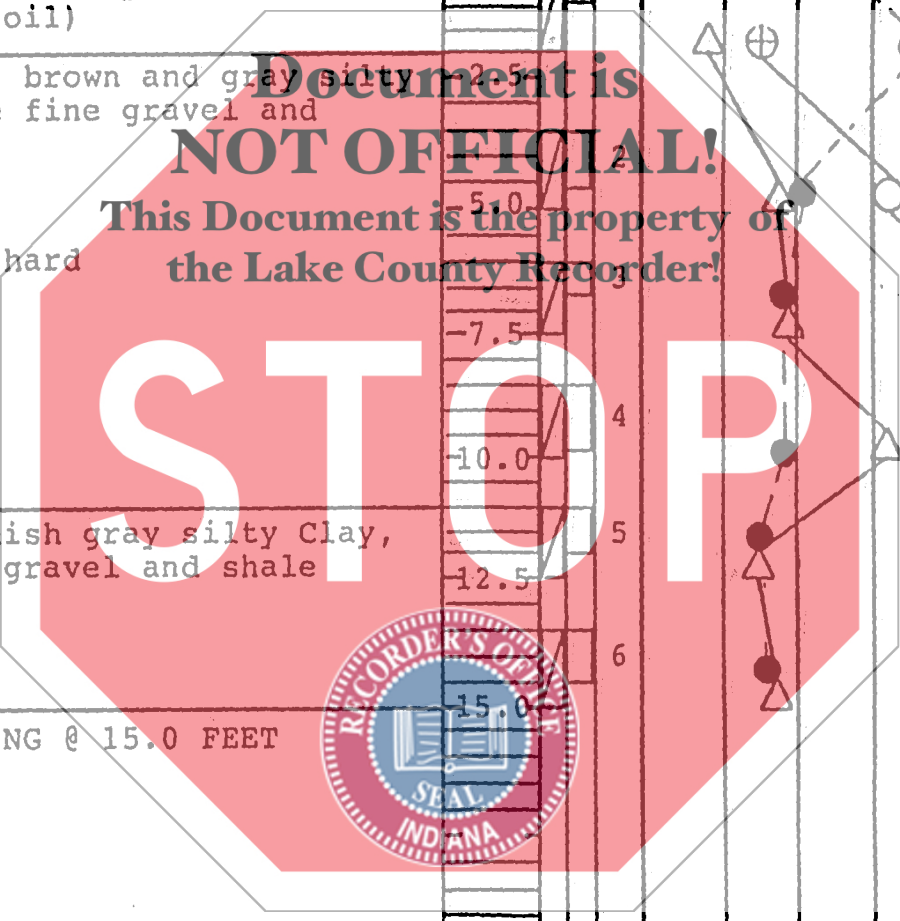

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EXHIBIT 7

CLIENT Pebble Brook, Inc.		LOG OF BORING NUMBER B-6	
SITE LOCATION 93rd Avenue Crown Point, Indiana		PROJECT NAME Stratford Townhomes	
BORING STARTED 8-11-90	RIG D-50	FILE NUMBER 1374	⊕ CALIBRATED PENETROMETER, TONS/FT' ○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT'
BORING COMPLETED 8-11-90	FOREMAN L. Mills		● WATER CONTENT PERCENT △ STANDARD PENETRATION, BLOWS/FT.
STRATA DEPTH (FT.)	SURFACE ELEVATION	DEPTH (FT.)	SAMPLE NUMBER
	DESCRIPTION OF MATERIAL	TYPE RECOVERY	
2.0	Stiff, black silty Clay, trace roots (Topsoil)		1
2.5	Very stiff, brown and gray silty Clay, trace fine gravel and shale		2
6.0	Grades to hard		3
11.0	Hard, brownish gray silty Clay, trace fine gravel and shale		4
15.0	END OF BORING @ 15.0 FEET		5
			6


▼ WATER LEVEL WHILE DRILLING None ▼ WATER LEVEL Dry At Completion	 K & S TESTING AND ENGINEERING INC. 9715 KENNEDY AVENUE HIGHLAND, INDIANA 46322 TELEPHONE: (219) 924-5231
<input checked="" type="checkbox"/> SPLIT SPOON <input checked="" type="checkbox"/> SHELBY TUBE <input type="checkbox"/> AUGER <input checked="" type="checkbox"/> ROCK CORE +PL - PLASTIC LIMIT +LL - LIQUID LIMIT <i>fc</i> - UNIT DRY WEIGHT	



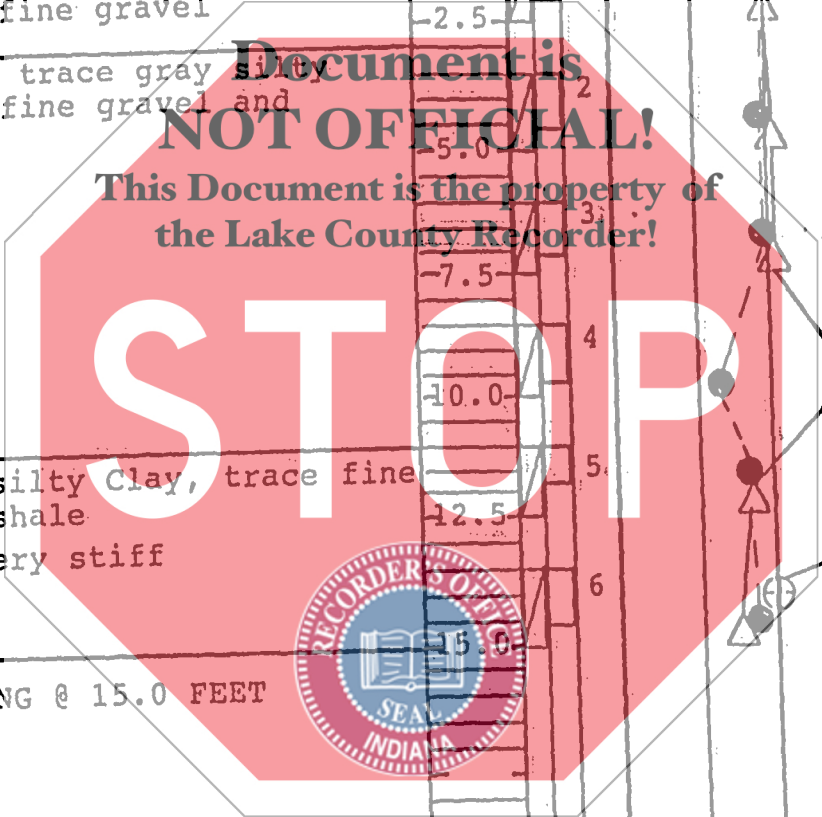
CLIENT Pebble Brook, Inc.		LOG OF BORING NUMBER B-7	
SITE LOCATION 93rd Avenue Crown Point, Indiana		PROJECT NAME Stratford Townhomes	
BORING STARTED 8-11-90	RIG D-50	FILE NUMBER 1374	⊕ CALIBRATED PENETROMETER, TONS/FT. ²
BORING COMPLETED 8-11-90	FOREMAN L. Mills		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT. ²
STRATA DEPTH (FT.)	SURFACE ELEVATION	DEPTH (FT.)	1 2 3 4 5
	DESCRIPTION OF MATERIAL		● WATER CONTENT PERCENT 10 20 30 40 50
		RECOVERY NUMBER	△ STANDARD PENETRATION, BLOWS/FT. 10 20 30 40 50
0.6	Black silty Clay, trace roots (Topsoil)	1	
	Very stiff, brown and gray silty Clay, trace fine gravel and shale	2	
		3	
6.0	Grades to hard	4	
8.0	Grades to brownish gray	5	
11.0	Very stiff, gray silty Clay, trace fine gravel and shale	6	
15.0	END OF BORING @ 15.0 FEET		




WATER LEVEL WHILE DRILLING **None**
 WATER LEVEL **Dry At Completion**
 SPLIT SPOON SHELBY TUBE AUGER ROCK CORE
 +PL - PLASTIC LIMIT +LL - LIQUID LIMIT *fc* - UNIT DRY WEIGHT


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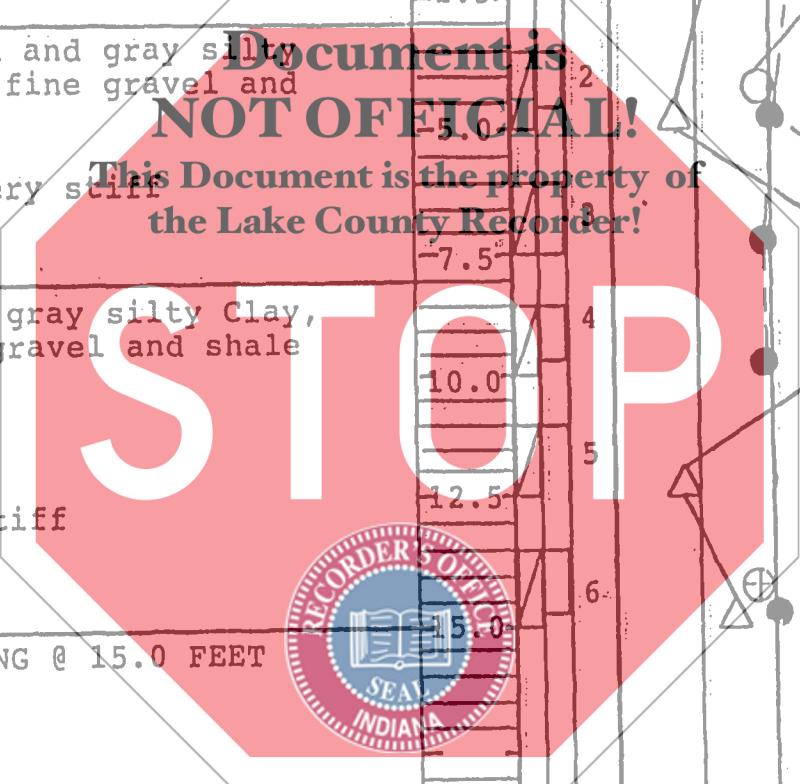
CLIENT Pebble Brook, Inc.		LOG OF BORING NUMBER B-8	
SITE LOCATION 93rd Avenue Crown Point, Indiana		PROJECT NAME Stratford Townhomes	
BORING STARTED 8-11-90	RIG D-50	FILE NUMBER 1374	<input checked="" type="checkbox"/> CALIBRATED PENETROMETER, TONS/FT. <input type="checkbox"/> UNCONFINED COMPRESSIVE STRENGTH, TONS/FT. <input type="checkbox"/> WATER CONTENT PERCENT <input type="checkbox"/> STANDARD PENETRATION, BLOWS/FT.
BORING COMPLETED 8-11-90	FOREMAN L. Mills		
STRATA DEPTH (FT.)	SURFACE ELEVATION	DEPTH (FT.)	SAMPLE NUMBER
	DESCRIPTION OF MATERIAL		
0.8	Black silty Clay, trace roots (Topsoil)		
3.0	Hard, brown and dark brown silty Clay, trace fine gravel	-2.5	1
	Hard, brown, trace gray silty Clay, trace fine gravel and shale	-5.0	2
		-7.5	3
		-10.0	4
11.0	Hard, gray silty Clay, trace fine gravel and shale	-12.5	5
13.0	Grades to very stiff		6
15.0	END OF BORING @ 15.0 FEET		




WATER LEVEL WHILE DRILLING None
 WATER LEVEL Dry At Completion
 SPLIT SPOON SHELBY TUBE AUGER ROCK CORE
 +PL - PLASTIC LIMIT +LL - LIQUID LIMIT *fc* - UNIT DRY WEIGHT


K & S TESTING AND ENGINEERING INC.
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 HIGHLAND, INDIANA 46322
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CLIENT Pebble Brook, Inc.		LOG OF BORING NUMBER B-9	
SITE LOCATION 93rd Avenue Crown Point, Indiana		PROJECT NAME Stratford Townhomes	
BORING STARTED 8-11-90	RIG D-50	FILE NUMBER 1374	⊕ CALIBRATED PENETROMETER, TONS/FT. ○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT.
BORING COMPLETED 8-11-90	FOREMAN L. Mills		● WATER CONTENT PERCENT △ STANDARD PENETRATION, BLOWS/FT.
STRATA DEPTH (FT.)	SURFACE ELEVATION	DEPTH (FT.)	SAMPLE NUMBER
	DESCRIPTION OF MATERIAL		
0.8	Black silty Clay, trace roots (Topsoil)		1
	Very stiff, black and dark brown silty Clay, trace fine gravel	2.5	
3.0	Stiff, brown and gray silty Clay, trace fine gravel and shale	5.0	2
6.0	Grades to very stiff	7.5	
8.0	Very stiff, gray silty Clay, trace fine gravel and shale	10.0	4
13.0	Grades to stiff	12.5	
15.0	END OF BORING @ 15.0 FEET	15.0	6



WATER LEVEL WHILE DRILLING **None**
 WATER LEVEL **Caved and Wet At 11.9 Feet At Completion**
 SPLIT SPOON SHELBY TUBE AUGER ROCK CORE
 +PL - PLASTIC LIMIT +LL - LIQUID LIMIT *fc* - UNIT DRY WEIGHT


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