Ordinance No. 122738

Council Bill No. 116248

AN ORDINANCE relating to environmentally critical areas, amending Sections 22.802.020, 23.47A.012, 23.47A.013, 23.54.020, 25.09.015, 25.09.020, 25.09.030, 25.09.055, and 25.09.520, and adding a new Section 25.09.110 of the Seattle Municipal Code to designate and regulate Peat Settlement-prone Geologic Hazard Areas.

Related Legislation File: _____

Date Introduced and Referred: 6-16-08	To: (committee): Environment, Emergency Management and Utilities
Date Re-referred:	To: (committee):
Date Re-referred:	To: (committee):
Date of Final Action: 7-14-08	Date Presented to Mayor: 7-15-08
Date Signed by Mayor: 7.23.08	Date Returned to City Clerk: 7.23.08
Published by Title Only _____ Published in Full Text ✓20	Date Vetoed by Mayor:
Date Veto Published:	Date Passed Over Veto:
Date Veto Sustained:	Date Returned Without Signature:

The City of Seattle – Legislative Department

Council Bill/Ordinance sponsored by: Richard Conlin

Committee Action:

Date	Recommendation	Vote
7/8/08	yes to amendment	3-0 Conlin, Mosher, Burgess
(E3)	3-0 as amended	yes - Conlin, Mosher, Burgess

This file is complete and ready for presentation to Full Council. RC 7/8/08

Full Council Action:

Date	Decision	Vote
7-14-08	Passed	8-0 (Excused: Clark)

Brennon Staley/bes
DPD – Peat Settlement-prone ECA - ORD.doc
July 8, 2008
Version #3 (As Amended in Committee on 7.8.08)

ORDINANCE 122738

AN ORDINANCE relating to environmentally critical areas, amending Sections 22.802.020, 23.47A.012, 23.47A.013, 23.54.020, 25.09.015, 25.09.020, 25.09.030, 25.09.055, and 25.09.520, and adding a new Section 25.09.110 of the Seattle Municipal Code to designate and regulate Peat Settlement-prone Geologic Hazard Areas.

WHEREAS, peat-rich soils are prone to settlement, and therefore, development in areas underlain by, or in the vicinity of peat-rich soils may impact nearby parcels, and

WHEREAS, the Department of Planning and Development (DPD) has followed the Guidelines adopted by the Washington State Department of Community Trade and Economic Development, and in consideration of the Growth Management Act, as set out in the Best Available Science Report for Peat Settlement-prone Areas, attached as Exhibit B; and

WHEREAS, DPD has prepared regulations for development in areas with peat-rich soils in consideration of the public interest, and has met with affected communities in and around mapped peat deposits. NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Subsection A of Section 22.802.020 of the Seattle Municipal Code, which Section was last amended by Ordinance 119965, is amended as follows:

22.802.020 Drainage control review and application requirements.

A. Thresholds for Drainage Control Review. Drainage control review and approval shall be required for any of the following:

1. Standard drainage control review and approval shall be required for the following:

a. Any land disturbing activity encompassing an area of seven hundred fifty (750) square feet or more;

b. Applications for either a master use permit or building permit that includes the cumulative addition of seven hundred fifty (750) square feet or more of land disturbing activity and new and replaced impervious surface;

c. Applications for which a grading permit or approval is required;

d. Applications for street use permits for the cumulative addition of seven hundred fifty (750) square feet or more of new and replaced impervious surface and land disturbing activity after the effective date of the ordinance codified in this subtitle;

e. City public works project or construction contracts, including contracts for day labor and other public works purchasing agreements, for the cumulative addition of seven hundred fifty (750) square feet or more of new and replaced impervious surface and land disturbing activity to the site after the effective date of the ordinance codified in this subtitle, except for projects in a City-owned right-of-way and except for work performed for the operation and maintenance of park lands under the control or jurisdiction of the Department of Parks and Recreation;

f. Permit approvals and contracts that include any new or replaced impervious surface on a site deemed a potentially hazardous location, as specified in Section 22.800.050; ~~(or)~~

g. Permit approvals that include any new impervious surface in a Category I peat settlement-prone area delineated pursuant to Section 25.09.020; or

((g))h. Whenever an exception to a requirement set forth in this subtitle or in a rule promulgated under this subtitle is desired, whether or not review and approval would otherwise be required, including but not limited to, alteration of natural drainage patterns or the obstruction of watercourses.

2. Large project drainage control review and approval shall be required for projects that include:

a. Five thousand (5,000) square feet or more of new or replaced impervious surface; or

b. One (1) acre or more of land disturbing activity.

3. The City may, by interagency agreement signed by the Directors of SPU and ((~~DCLU~~))DPD, waive the drainage and erosion control permit and document requirements for property owned by public entities, when discharges for the property do not enter the public drainage control system or the public combined sewer system. Whether or not they are required to obtain permits or submit documents, public entities are subject to the substantive requirements of this subtitle, unless exceptions are granted as set forth in Section 22.808.010.

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Section 2. Subsection A of section 23.47A.012 of the Seattle Municipal Code, which Section was last amended by Ordinance 122311, is amended as follows:

23.47A.012 Structure height.

A. Maximum Height. The height limit for structures in NC zones or C zones is thirty (30) feet, forty (40) feet, sixty-five (65) feet, eighty-five (85) feet, one hundred twenty-five (125) feet, or one hundred sixty (160) feet, as designated on the Official Land Use Map, Chapter 23.32. Structures may not exceed the applicable height limit, except as otherwise provided in this section. Within the South Lake Union Urban Center, any modifications or exceptions to maximum structure height are allowed solely according to the provisions of the Seattle Mixed Zone, subsections 23.48.010 B1-3, D and E, and not according to the provisions of this section.

1. In zones with a thirty (30) foot or forty (40) foot mapped height limit, except in the South Lake Union Urban Center:

a. the height of a structure may exceed the otherwise applicable limit by up to four (4) feet, subject to subsection A1c of this section, provided the following conditions are met:

(1) Either

(a) A floor-to-floor height of thirteen (13) feet or more is provided for nonresidential uses at street level; or

(b) A residential use is located on a street-level, street facing facade, and the first floor of the structure at or above grade is at least four (4) feet above sidewalk grade; and

(2) The additional height allowed for the structure will not allow an additional story beyond the number that could be built under the otherwise applicable height limit.

b. The height of a structure may exceed the otherwise applicable limit by up to seven (7) feet, subject to subsection A1c of this section, provided all of the following conditions are met:

(1) Residential and multipurpose retail sales uses are located in the same structure;

(2) The total gross floor area of at least one (1) multi-purpose retail sales use exceeds twelve thousand (12,000) square feet;

(3) A floor-to-floor height of sixteen (16) feet or more is provided for the multi-purpose retail sales use at street level;

(4) The additional height allowed for the structure will not allow an additional story beyond the number that could be built under the otherwise applicable height limit if a sixteen (16) foot floor-to-floor height were not provided at street level; and

(5) The structure is not allowed additional height under subsection A1a of this section.

c. The Director shall reduce or deny the additional structure height permitted by this subsection A1 if the additional height otherwise would significantly block views from neighboring residential structures of any of the following: Mount Rainier, the Olympic and Cascade Mountains, the downtown skyline, Green Lake, Puget Sound, Lake Washington, Lake Union and the Ship Canal.

2. For any lot within the designated areas shown on Map 23.47A.012 A, the maximum structure height in NC zones or C zones with a forty (40) foot height limit may be increased to sixty-five (65) feet, provided that all portions of the structure above forty (40) feet contain only residential uses, and provided that no additional height is allowed under subsection A1 of this section.

3. Monorail transit facilities may exceed the height limit of the zone according to the provisions of Section 23.80.004 or Section 15.54.020.

4. Within the South Lake Union Urban Center, maximum structure height shall be determined according to the provisions of the Seattle Mixed Zone, Section 23.48.010.

5. Within the Station Area Overlay District within the University District Northwest Urban Center Village, maximum structure height may be increased to one hundred twenty-five (125) feet when all of the following are met:

a. The lot is within two (2) blocks of a planned or existing light rail station;

b. The proposed use of the lot is functionally related to other office development, permitted prior to 1971, to have over five hundred thousand (500,000) square feet of gross floor area to be occupied by a single entity;

c. A transportation management plan for the life of the use includes incentives for light rail and other transit use by the employees of the office use;

d. The development shall provide street level amenities for pedestrians and shall be designed to promote pedestrian interest, safety, and comfort through features such as landscaping, lighting and transparent facades, as determined by the Director; and

e. This subsection can be used only once per functionally related development.

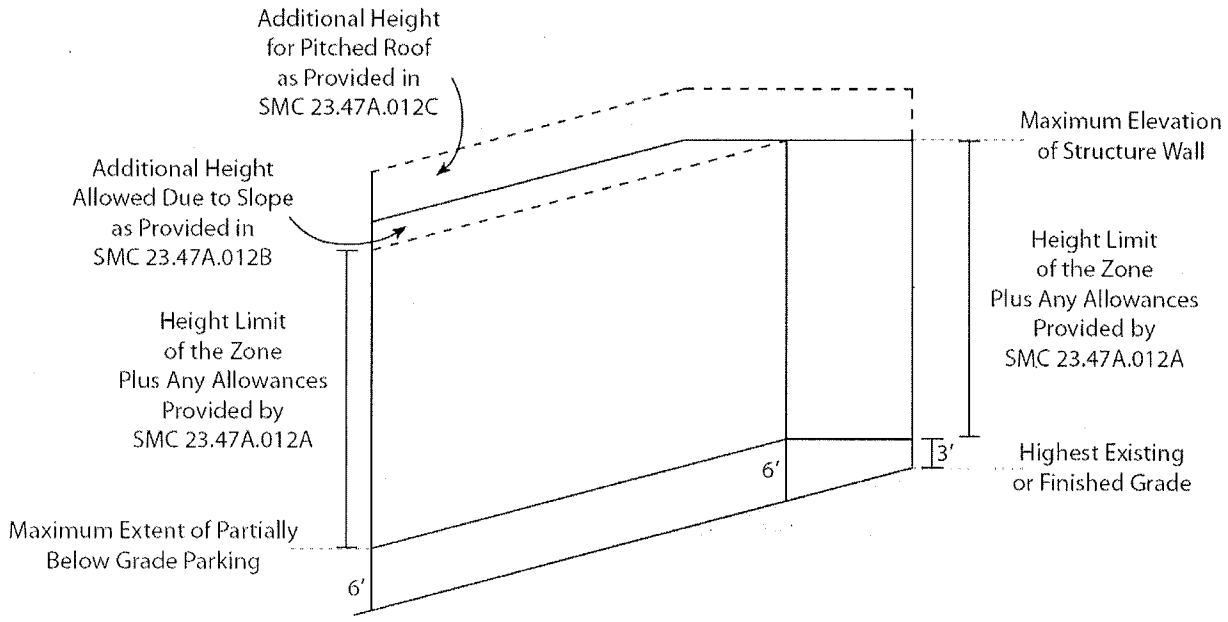
6. On a lot containing a peat settlement-prone environmentally critical area, the height of a structure may exceed the otherwise applicable height limit and the other height allowances provided by this section by up to three (3) feet. In addition, three (3) more feet of height may be allowed for any wall of a structure on a sloped lot, provided that on the uphill side(s) of the structure, the maximum elevation of the structure height shall be no greater than the height allowed by the first sentence of this subsection A6 (Exhibit 23.47A.012 A). The Director may apply the allowances in this subsection A6 only if the following conditions are met:

a. The Director finds that locating a story of parking underground is infeasible due to physical site conditions such as a high water table;

b. The Director finds that the additional height allowed for the structure is necessary to accommodate parking located partially below grade that extends no more that six (6) feet above existing or finished grade and no more than three (3) feet above the highest existing or finished grade along the structure footprint, whichever is lower, as measured to the finished floor level above; and

c. Other than the additional story of parking allowed pursuant to this subsection A6, the additional height allowed for the structure by this subsection A6 will not allow an additional story beyond the number of stories that could be built under the otherwise applicable height limit.

Exhibit 23.47A.012A
Height Allowance on Lots Containing Peat Settlement-Prone Areas



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Section 3. Subsections A and D of section 23.47A.013 of the Seattle Municipal Code, which Section was last amended by Ordinance 122311, is amended as follows:

23.47A.013 Floor area ratio.

A. Floor area ratio (FAR) limits apply to all structures and lots in all NC zones and C zones.

1. All gross floor area not exempt under subsection D of this Section is counted against the maximum gross floor area allowed by the permitted FAR.

2. When there are multiple structures on a lot, the highest FAR limit applicable to any structure on the lot applies to the combined non-exempt gross floor area of all structures on the lot, subject to subsection A4 of this section.

3. Above-grade parking within or covered by a structure or portion of a structure must be included in gross floor area calculations, except as provided in subsection D6.

4. When a lot is in more than one zone, the FAR limit for each zone applies to the portion of the lot located in that zone.

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D. The following floor area is exempt from calculation of gross floor area subject to FAR limits:

1. All gross floor area below existing or finished grade, whichever is lower;

2. Gross floor area of a transit station, including all floor area open to the general public during normal hours of station operation but excluding retail or service establishments to which public access is limited to customers or clients, even where such establishments are primarily intended to serve transit riders;

3. Within the South Lake Union Urban Center, gross floor area occupied by mechanical equipment located on the roof of a structure;

4. Within the South Lake Union Urban Center, mechanical equipment that is accessory to a research and development laboratory, up to fifteen (15) percent of the gross floor area of a structure. The allowance is calculated on the gross floor area of the structure after all space exempt under this subsection is deducted; and

5. Within the First Hill Urban Center Village, on lots zoned NC3, with a one hundred and sixty (160) foot height limit, all gross floor area occupied by a residential use.

6. On a lot containing a peat settlement-prone environmentally critical area, above-grade parking within or covered by a structure or portion of a structure where the Director

finds that locating a story of parking below grade is infeasible due to physical site conditions such as a high water table, if either:

a. the above-grade parking extends no more that six (6) feet above existing or finished grade and no more than three (3) feet above the highest existing or finished grade along the structure footprint, whichever is lower, as measured to the finished floor level or roof above, as depicted in Exhibit 23.47A.012A; or

b. all of the following conditions are met:

(1) no above-grade parking is exempted by subsection D6a

(2) the parking is accessory to a residential use on the lot;

(3) total parking on the lot does not exceed 1 space for each residential dwelling unit plus the number of spaces required by this Code for non-residential uses; and

(4) the amount of gross floor area exempted by this subsection D6b does not exceed twenty-five (25) percent of the area of the lot in zones with a height limit less than sixty-five (65) feet, or fifty (50) percent of the area of the lot in zones with a height limit sixty-five (65) feet or greater.

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Section 4. Section 23.54.020 of the Seattle Municipal Code, which section was last amended by Ordinance 122311, is amended to add a new subsection K as follows:

23.54.020 Parking quantity exceptions.

The parking quantity exceptions set forth in this section apply in all zones except downtown zones, which are regulated by Section 23.49.019, and Major Institution zones, which are regulated by Section 23.54.016.

* * *

K. Peat Settlement-prone Environmentally Critical Areas. Except in Single-family, Residential Small Lot, and Lowrise zones, the Director may reduce or waive the minimum accessory off-street parking requirements to the minimum extent necessary to offset underground parking potential lost to limitations set forth in Section 25.09.110 on development below the annual high static groundwater level in peat settlement-prone areas. In making any such reduction or waiver, the Director will assess area parking needs. The Director may require a survey of on- and off-street parking availability. The Director may take into account the level of transit service in the immediate area; the probable relative importance of walk-in traffic; proposals by the applicant to encourage carpooling or transit use by employees; hours of operation; and any other factor or factors considered relevant in determining parking impact.

Section 5. Subsection A of Section 25.09.015 of the Seattle Municipal Code, which Section was last amended by Ordinance 122370, is amended as follows:

25.09.015 Application of chapter

A. This chapter applies to any development, as defined in Section 25.09.520, or platting carried out by any person on publicly or privately owned parcels containing an environmentally critical area or buffer, except that parcels that are solely within seismic or volcanic hazards areas, as defined in Sections 25.09.020.A.((~~5~~))6 and 25.09.020.A.((~~6~~))7, and that are not liquefaction-prone areas are subject only to Sections 25.09.010, 25.09.017.A, B, C and F, 25.09.020, and 25.09.030.

Section 6. Section 25.09.020 of the Seattle Municipal Code, which Section was last amended by Ordinance 122370, is amended as follows:

25.09.020 Environmentally critical areas definitions.

The following are environmentally critical areas designated by this chapter: geologic hazard areas, steep slope areas, flood-prone areas, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills.

A. Geologic Hazard Areas and Steep Slope Areas.

1. Geologic hazard areas are liquefaction-prone areas, landslide-prone areas, peat settlement-prone areas, seismic hazards areas and volcanic hazard areas described in subsections 2, 3, 5, ((~~and~~)) 6, and 7. Landslide-prone areas include steep slope areas. Steep slope areas that are regulated for additional erosion hazards are described in subsection 4.

2. Liquefaction-prone Areas. Liquefaction-prone areas are areas typically underlain by cohesionless soils of low density, usually in association with a shallow groundwater table, that lose substantial strength during earthquakes.

3. Landslide-prone Areas. The following are landslide-prone areas:

a. Known landslide areas identified by documented history, or areas that have shown significant movement during the last ten thousand (10,000) years or are underlain by mass wastage debris deposited during this period; or

b. Potential landslide areas:

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 2000 and 2003)

(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or backtilted trees.

(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.

(4) Setbacks at the top of very steep slopes or bluffs, depending on soil conditions.

(5) Slopes with an incline of forty (40) percent or more within a vertical elevation change of at least ten feet (10').

For the purpose of this definition, a slope is measured by establishing its toe and top and averaging the inclination over at least ten feet (10') of elevation difference.

Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25').

(6) Areas that would be covered under one of subsections (2) to (5), but where the topography has been previously modified through the provision of retaining walls or non-engineered cut and fill operations;

(7) Any slope area potentially unstable as a result of rapid stream incision or stream bank erosion.

4. Steep Slope Areas. Steep slope areas are areas with a slope described in subsection A3b(5) above; provided that when such a slope is on a parcel in a Downtown zone or highrise zone, the area is designated only as a landslide prone area.

5. Peat Settlement-prone Areas.

a. Peat settlement-prone areas, which consist of Category I and Category II peat settlement-prone areas, are delineated on Maps A1 through A26, Peat Settlement-prone Area Boundaries Maps, codified at the end of this chapter.

b. The Director may, at the request of the owner of a parcel larger than 50,000 square feet, provide a parcel-specific delineation of the peat settlement-prone area boundary on that parcel. Where a parcel-specific delineation conflicts with the Peat Settlement-prone Area Boundaries Maps, the parcel-specific delineation shall apply. The parcel-specific delineation is based on the location of the relevant bog or bogs identified in *City of Seattle Identified Bogs* (Troost 2007) plus a buffer of 50 feet for Category I peat settlement-prone areas or a buffer of 25 feet for Category II peat settlement-prone areas.

((~~5~~))6. Seismic Hazard Areas. In addition to liquefaction-prone areas described in subsection 2 above, seismic hazard areas are the following:

a. Areas of the City subject to ground shaking from seismic hazards that are addressed by the Building Code (SMC Title 22).

b. The Seattle Fault zone as delineated in Troost et al., 2005, *The geologic map of Seattle, a progress report, U.S. Geological Survey, Open-file report 2005-1252* or as the Director determines is more accurately mapped by the U.S. Geological Survey, as set out in a Director's Rule.

c. For tsunamis the waterbody of Lake Washington and for tsunamis and tsunami inundation, the water body and land area as shown in Walsh, et al., 2003, *Tsunami hazard map of the Elliott Bay area, Seattle, Washington: Modeled tsunami inundation from a Seattle Fault earthquake, Washington State Department of Natural Resources and National Oceanic and Atmospheric Administration. Washington Division of Geology and Earth Resources Open File Report 2003-14*, or as the Director determines are more accurately mapped by the National Oceanic and Atmospheric Administration, the U.S. Geological Survey or the Washington State Department of Natural Resources, as set out in a Director's Rule.

d. The shoreline and upland areas surrounding Lake Washington are classified as an unknown risk from tsunamis under WAC 365-190-080 (4)(b)(iii).

e. For seiches, the waterbodies of Elliot Bay, Lake Union and Lake Washington.

f. The shoreline and upland areas surrounding the waterbodies in subsection (e) are classified as an unknown risk from seiches under WAC 365-190-080 (4)(b)(iii)

((~~6~~))7. Volcanic Hazard Areas. Volcanic hazard areas are areas subject to inundation by lahars or related flooding resulting from volcanic activity on Mount Rainier, as delineated by the U.S. Geological Survey in Hoblitt, et.al, 1998, *Volcano Hazards from Mount Rainier, Washington, Revised 1998: U.S. Geological Survey Open-File Report 98-428*, or as the Director determines are more accurately mapped by the U.S. Geological Survey, as set out in a Director's Rule.

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Section 7. Section 25.09.030 of the Seattle Municipal Code, which Section was last amended by Ordinance 122370, is amended as follows:

25.09.030 Location of environmentally critical areas and buffers.

A. Environmentally critical areas are defined in Section 25.09.020, and buffers are described in Sections 25.09.160, 25.09.180, and 25.09.200B. Environmentally critical areas are mapped whenever possible. Except for the maps adopted as designations for geologically hazardous areas in subsections 25.09.020.A.5 ((~~and~~)), 6, and 7, these maps are advisory. The Director may update or amend the maps by Director's Rule.

B. The Director shall determine whether a parcel contains an environmentally critical area or buffer before other provisions of this chapter are applied. In determining whether a parcel contains an environmentally critical area or buffer, the Director may consider the environmentally critical areas maps, site surveys, topographic maps, technical environmental analysis, and any other information the Director determines necessary. In determining whether development is subject to regulation under Section 25.09.110, the Director may consider only

whether the development will occur within an area delineated pursuant to subsection 25.09.020 A5.

Section 8. Subsection A of Section 25.09.055 of the Seattle Municipal Code, which Section was last amended by Ordinance 122050, is amended as follows:

25.09.055 Small project waiver.

A. The Director may approve new accessory structures or additions to existing structures in the environmentally critical areas and buffers listed in subsection A2, provided that no construction occurs over or in a water course, water body, or wetland, when the applicant demonstrates the proposal meets the following criteria:

1. The new accessory structure or addition to an existing structure is on a lot that has been in existence as a legal building site prior to October 31, 1992.

2. The development does not exceed one hundred and fifty (150) square feet in riparian management areas or in wetland buffers, three hundred (300) square feet in steep slope areas or buffers, or seven hundred fifty (750) square feet in landslide-prone (except steep slope), liquefaction-prone, flood-prone, and abandoned land fill areas, all calculated cumulatively from October 31, 1992. When the new accessory structure or addition to an existing structure is on a lot that is or has been held in common ownership with a contiguous lot and the lots are or have been used for a single principal use or for a principal use and accessory use, the limitation applies to the entire site.

3. It is not possible to build the accessory structure or addition to an existing structure for the intended purpose out of the environmentally critical area or buffer.

4. The location of the accessory structure or addition to an existing structure keeps impact on the environmentally critical area and buffer to a minimum.

5. In landslide-prone areas the Director may require a soils report prepared by a qualified geotechnical engineer or geologist licensed by the State of Washington demonstrates that it is safe to construct the new accessory structure or the addition to an existing structure.

* * *

Section 9. A new Section 25.09.110 of the Seattle Municipal Code, is adopted to read as follows:

25.09.110 Development standards for peat settlement-prone areas.

A. The general development standards set out in Section 25.09.060 do not apply to peat settlement-prone areas.

B. A geotechnical study detailing the location of the annual high static groundwater level is required for development in peat settlement-prone areas that involve excavation more than thirty (30) inches below the existing grade.

C. No development shall occur within a peat settlement-prone area below the annual high static groundwater level except to the minimum extent the Director deems necessary to allow the following:

1. Structural components required under Title 22, Subtitle I and IA, the Building Code and Residential Code;

2. Utility lines, including but not limited to drainage and sanitary side sewers and stormwater conveyance facilities, but excluding groundwater collection systems;

3. Geotechnical testing;

4. Maintenance, repair, renovation, or structural alteration of an existing structure if that activity, even though it might involve construction activity below the annual high static groundwater level, does not increase the extent of the structure below the annual high static groundwater level;

5. Aquatic habitat restoration;

6. Infiltration facilities or other development designed primarily to encourage recharge or infiltration of water to the groundwater;

7. Replacement of contaminated soils with other soils or fills when the applicant demonstrates to the satisfaction of the Director that the removal will not increase the likelihood of settlement on off-site parcels;

8. Public utility facilities designed to provide drinking water, control flooding or protect against sanitary or combined sewer overflow when the applicant demonstrates to the satisfaction of the Director that the facilities have been designed to avoid or minimize to the maximum extent practicable impacts to the groundwater regime; or

9. Elevator pits necessary to meet accessibility standards required by City law.

D. Groundwater collection systems are prohibited in peat settlement-prone area unless otherwise required by law.

E. Development in a Category I peat settlement-prone area shall not increase the total impervious surface on the site unless the Director approves using an infiltration facility or soil amendments that offset the lost infiltration function. The Director may waive this requirement to the extent offsetting the lost infiltration function would adversely affect a landslide-prone area or steep slope area.

F. For construction activity in a peat settlement-prone area, the Director may require additional construction practices, methods, and restrictions that limit temporary groundwater de-watering.

G. In a peat settlement-prone area, land-disturbing activities with the potential to modify the groundwater regime are limited to the minimum reasonably necessary for development. Surface drainage systems or substantial earth modifications shall be professionally designed to prevent maintenance problems and adverse impacts to off-site parcels.

H. In addition to requiring the information provided pursuant to Section 25.09.330 and to Director's Rules, the Director may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. Third-party review requires the applicant's geotechnical and/or additional technical studies to be reviewed by an independent third party, paid for by the applicant but hired by the Director. Third-party review shall be conducted by a qualified engineering consultant.

I. The Director may waive compliance with some or all of the requirements of subsections B - G for a project in a Category II peat settlement-prone area to the extent the applicant demonstrates to the satisfaction of the Director that the project has been designed to avoid adverse impacts to off-site parcels from peat settlement. Such impacts include but are not limited to any adverse, off-site effect resulting from temporary dewatering during construction, groundwater inflow due to normal operation and maintenance of underground structures, groundwater inflow due to potential future leaks that could occur in underground structures, and reduced impervious surface. Projects qualifying for a waiver under this subsection may include but are not limited to the following:

1. Projects involving concurrent removal of all peat contained in an entire peat settlement-prone area;

2. Concurrent development or redevelopment of the entire peat settlement-prone area that is designed to minimize modification of the groundwater table and avoid impacts of future settlement through design of new structures; or

3. Projects that are designed to minimize modification of the groundwater regime and that avoid potential adverse, off-site settlement impacts by retrofitting existing structures on off-site parcels within the entire peat settlement-prone area.

J. Standards for height and floor area ratio may be modified on lots containing a peat settlement-prone environmentally critical area as provided in 23.47A.012 and 23.47A.013.

K. Nothing in this section (including but not limited to subsection I) limits the authority of the Director pursuant to other applicable codes or regulations (including but not limited to Title 22, Subtitles I and IA, the Building Code and Residential Code) to require additional studies or impose additional conditions to address project-related risks arising in peat settlement-prone areas.

Section 10. Section 25.09.520 of the Seattle Municipal Code, which Section was last amended by Ordinance 122050, is amended as follows:

25.09.520 Definitions.

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"Annual high static groundwater level" means the highest elevation where the soil is saturated with the main body of groundwater during any part of the year.

***

"Contaminated soils" is defined in Section 21.36.012, Solid Waste Code.

***

"Groundwater regime" means the amount, distribution, and seasonal variation of water below the surface of the land.

***

"Infiltration facility" is defined in Section 22.801.100, Stormwater, Grading and Drainage Control Code.

***

"Utility lines" means pipes, cables or other linear conveyance systems used to transport power,

water, gas, oil, wastewater or similar items.

***

Section 11. The provisions of this ordinance are declared to be separate and severable. The invalidity of any particular provision shall not affect the validity of any other provision.

Section 12. This ordinance shall take effect and be in force thirty (30) days from and after its approval by the Mayor, but if not approved and returned by the Mayor within ten (10) days after presentation, it shall take effect as provided by Municipal Code Section 1.04.020.

Passed by the City Council the 14th day of July, 2008, and signed by me in open session in authentication of its passage this 14th day of July, 2008.

President _____ of the City Council

Approved by me this 23rd day of July, 2008.

Gregory J. Nickels, Mayor

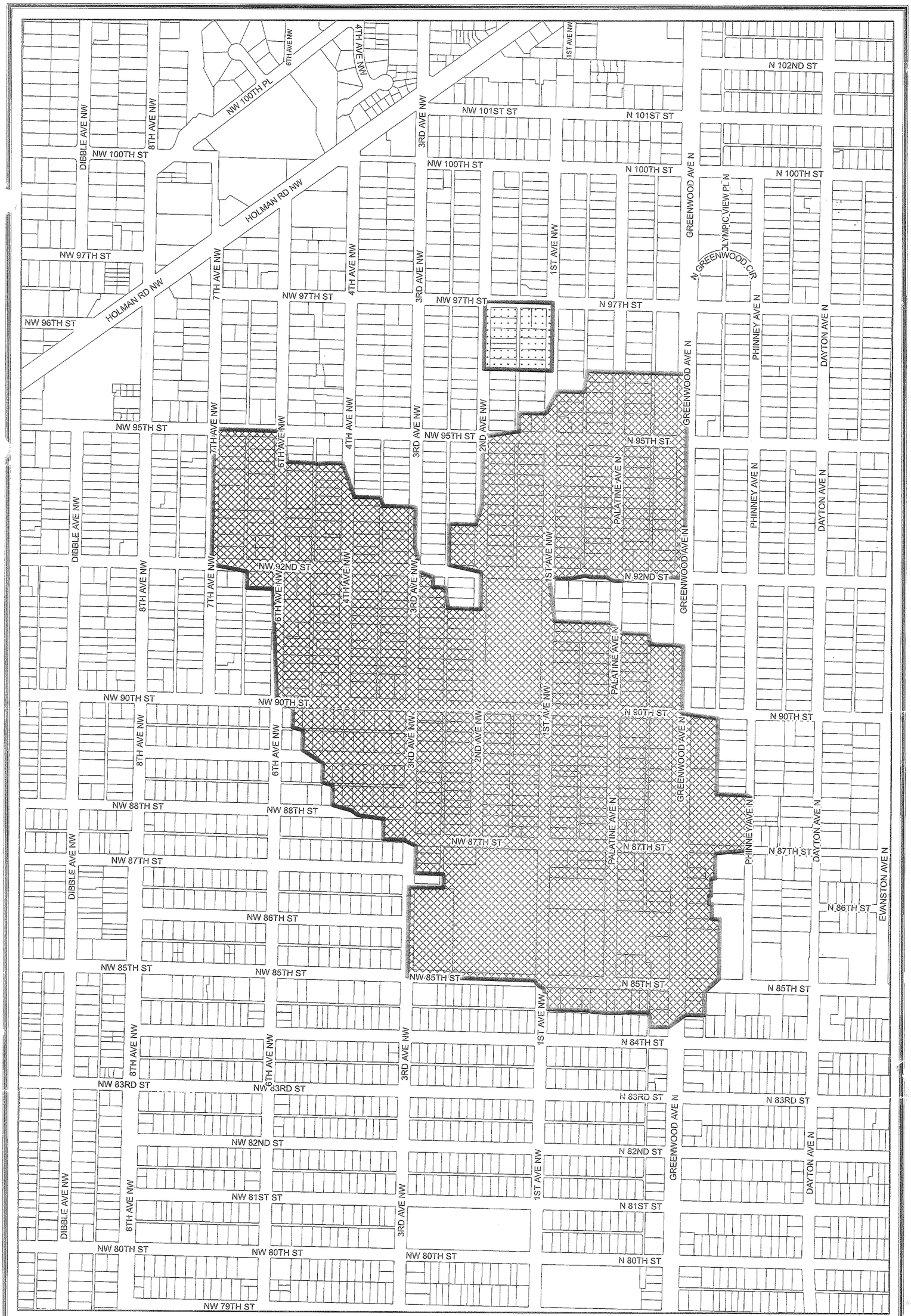
Filed by me this 23 day of July, 2008.

City Clerk

(Seal)

Exhibit A: Peat Settlement-prone Areas Boundaries Maps A1 – A26

Exhibit B: Best Available Science Report for Peat Settlement-prone Areas



Peat Settlement-prone Area Boundaries Maps Map A 1

Legend

Peat Settlement-Prone Area

- Category I
- Category II

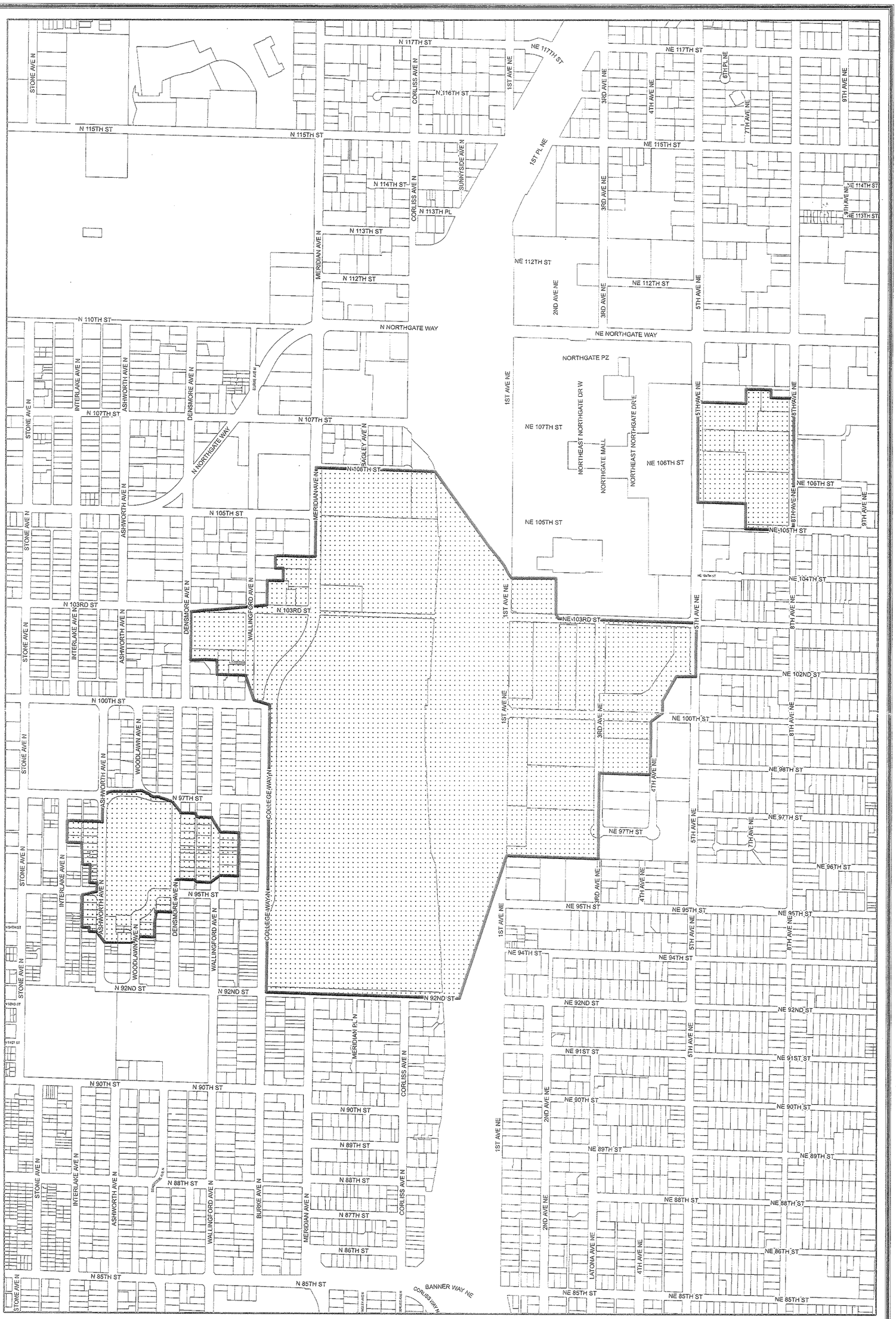
N

No warranties of any sort, including accuracy, fitness, or merchantability accompany this product.

Prepared September 13, 2007 by DPD-GIS

0 325 650 1,300 Feet

Exhibit A



Peat Settlement-prone Area Boundaries Maps Map A 2

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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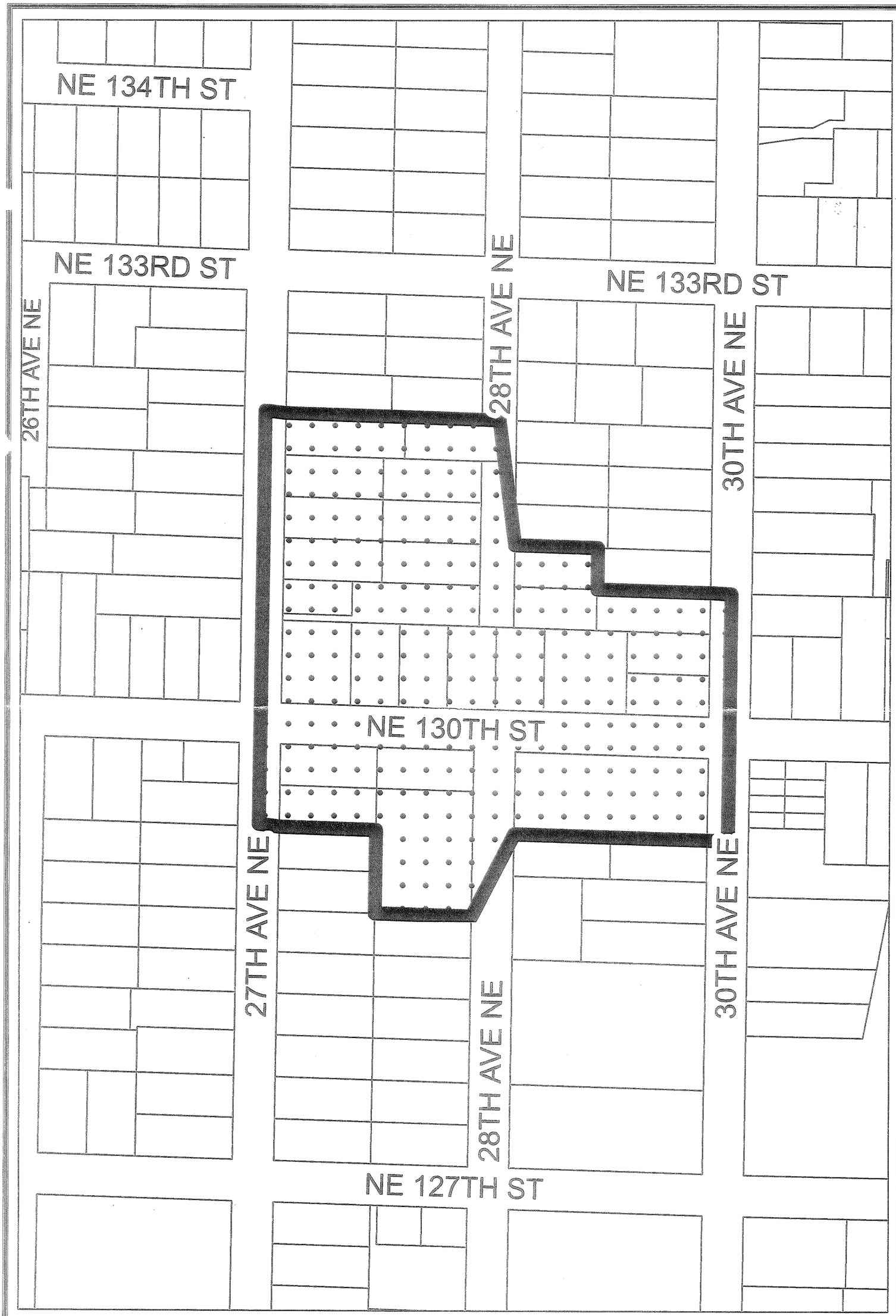
0 335 670 1,340 Feet



Peat Settlement-prone Area Boundaries Maps Map A 3

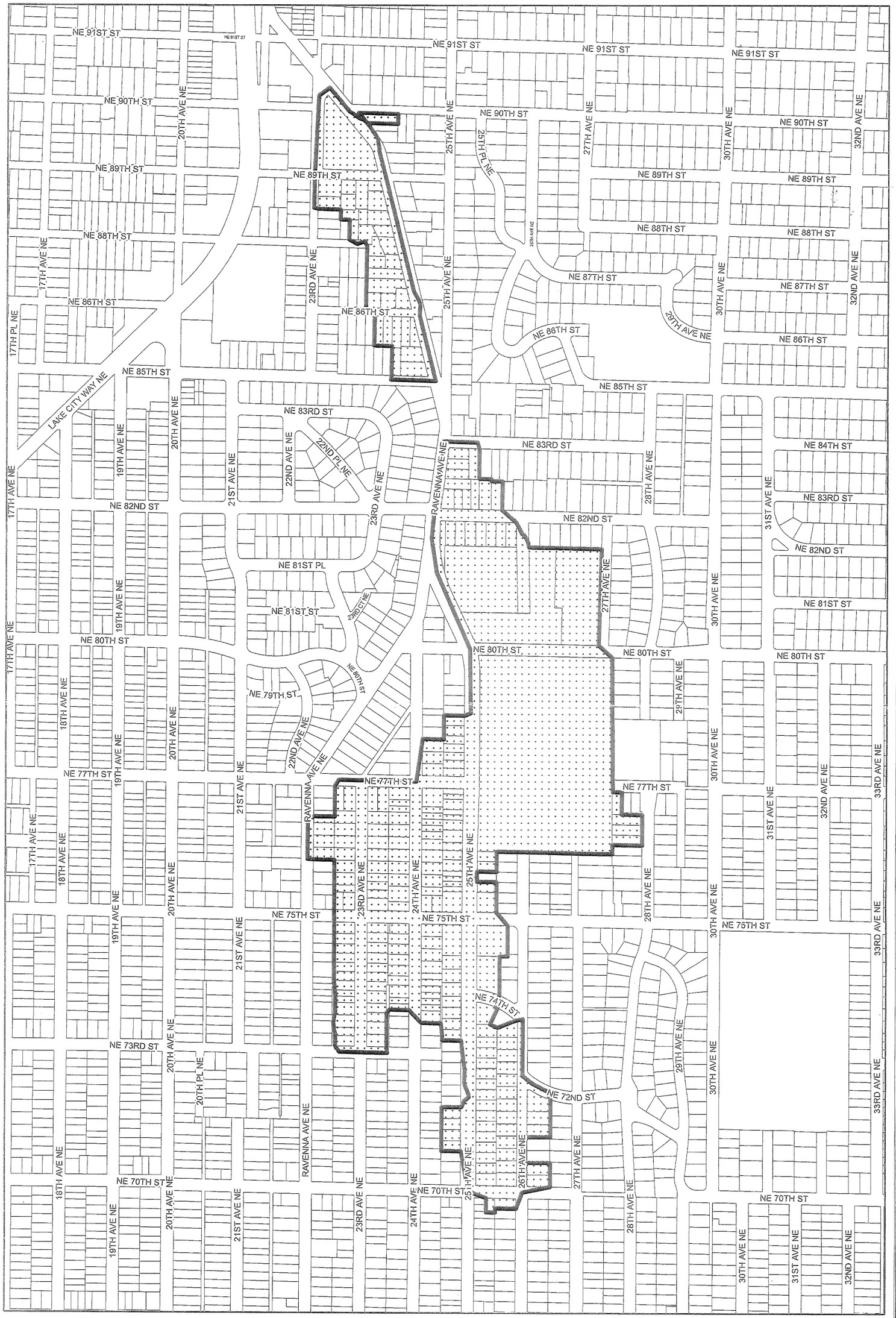
Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

0 80 160 320 Feet



Peat Settlement-prone Area Boundaries Maps
Map A 4

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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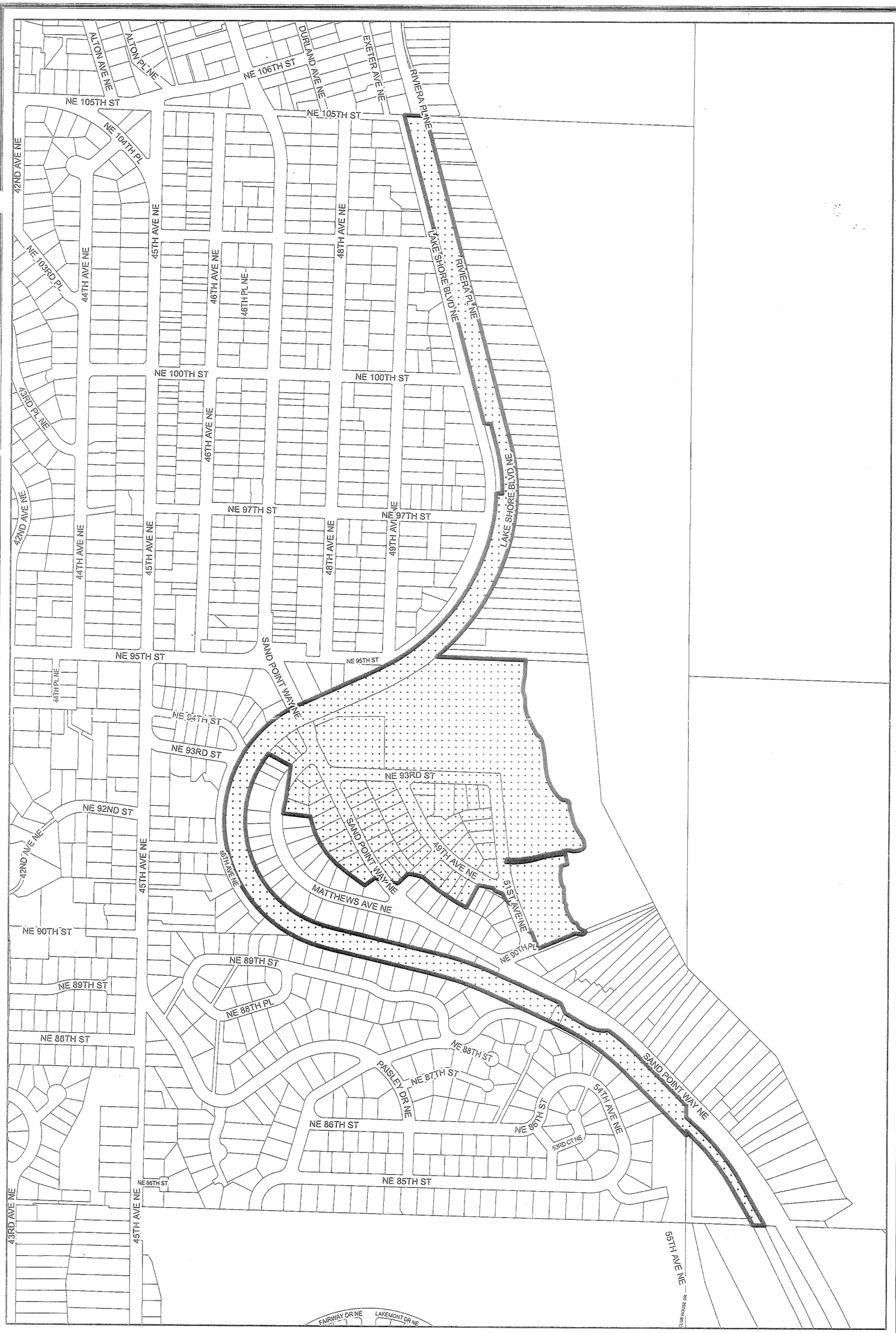
Prepared Setember 13, 2007 by DPD-GIS

0 280 560 1,120 Feet



Peat Settlement-prone Area Boundaries Maps Map A 5

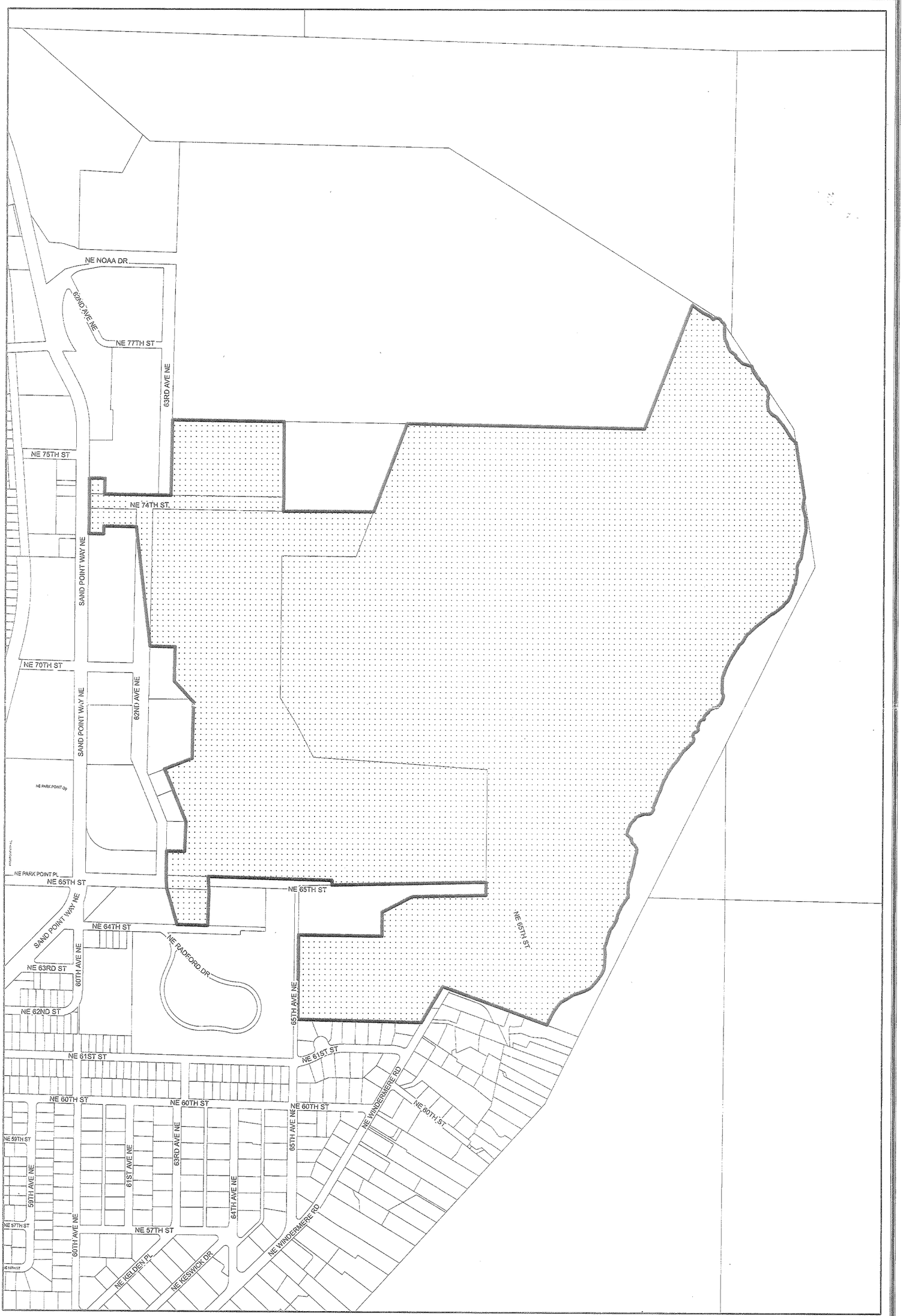
Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

0 280 560 1,120 Feet



Peat Settlement-prone Area Boundaries Maps Map A 6

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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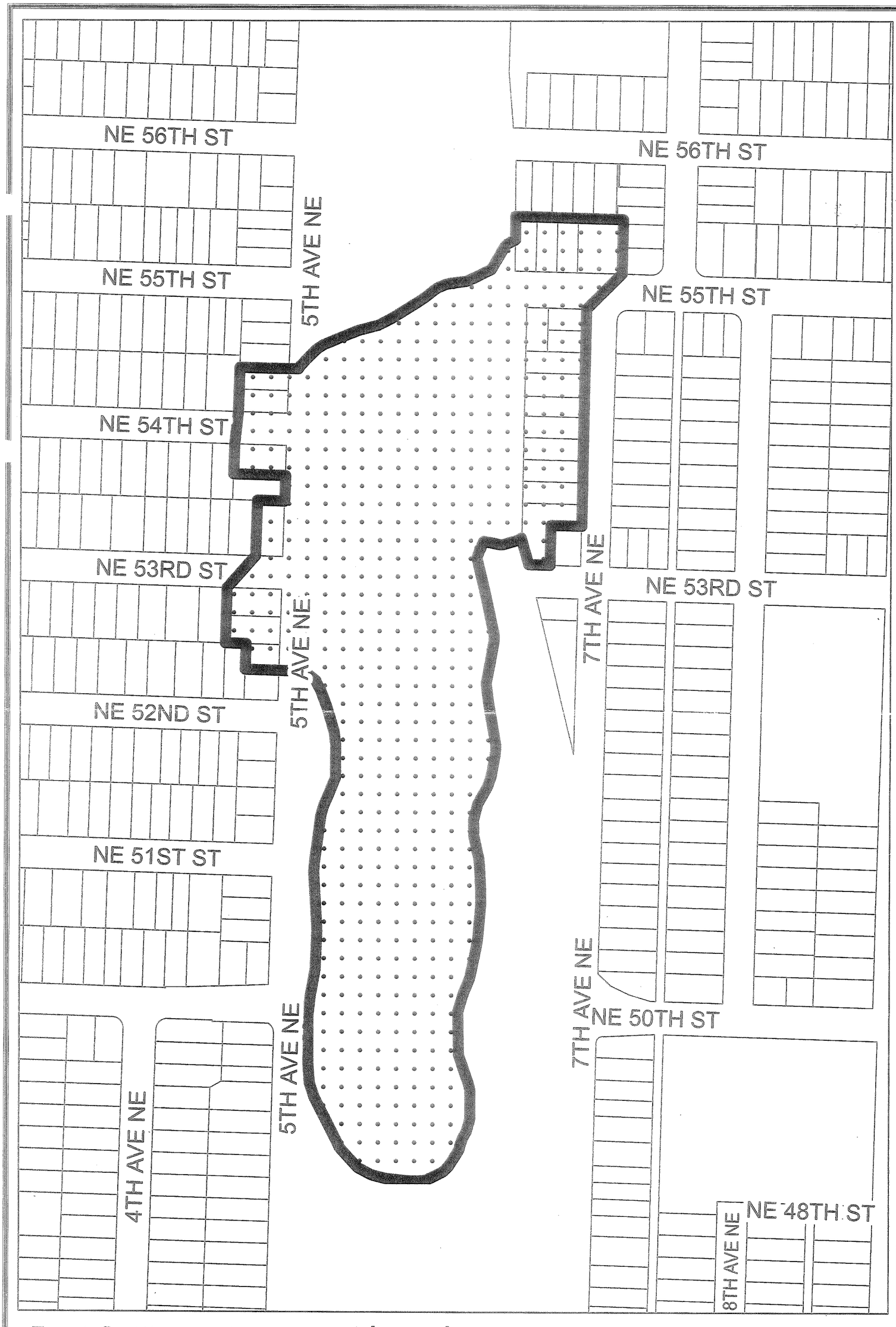
Prepared September 13, 2007 by DPD-GIS

0 362.5 725 1,450 Feet



Peat Settlement-prone Area Boundaries Maps Map A 7

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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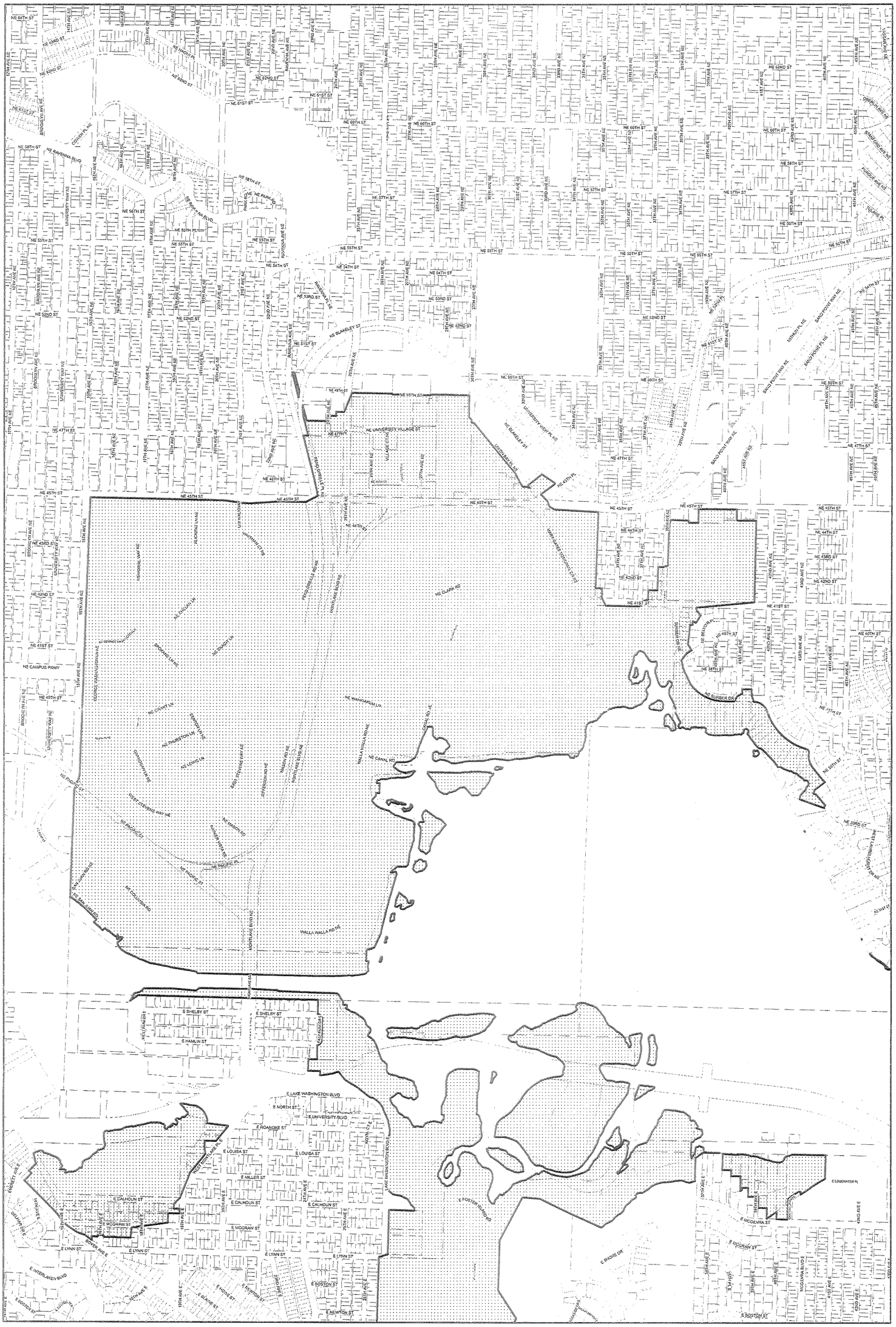
Prepared September 13, 2007 by DPD-GIS

0 110 220 440 Feet



Peat Settlement-prone Area Boundaries Maps Map A 8

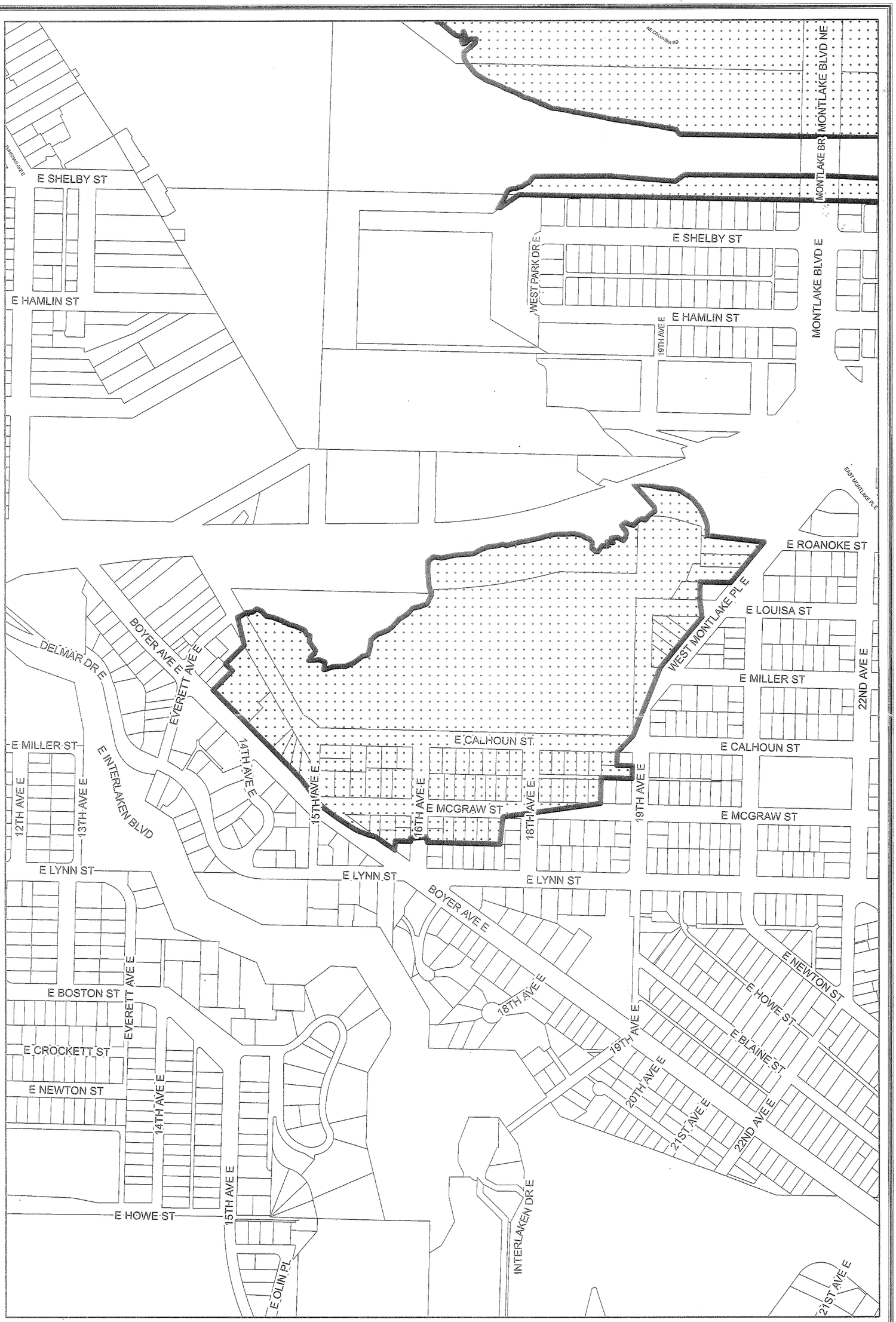
Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

0 650 1,300 2,600 Feet



Peat Settlement-prone Area Boundaries Maps
Map A 9

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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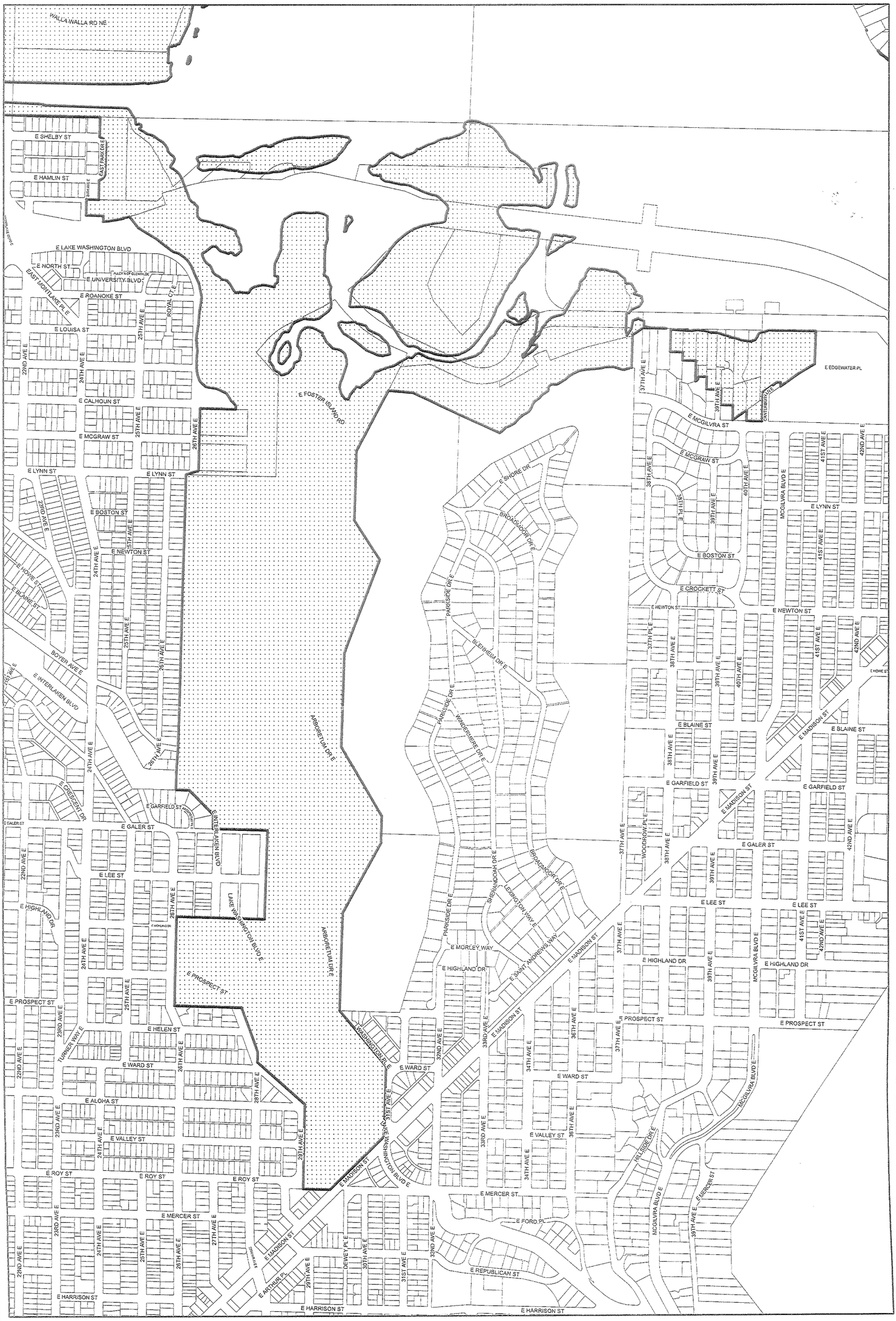
0 240 480 960 Feet



Peat Settlement-prone Area Boundaries Maps Map A10

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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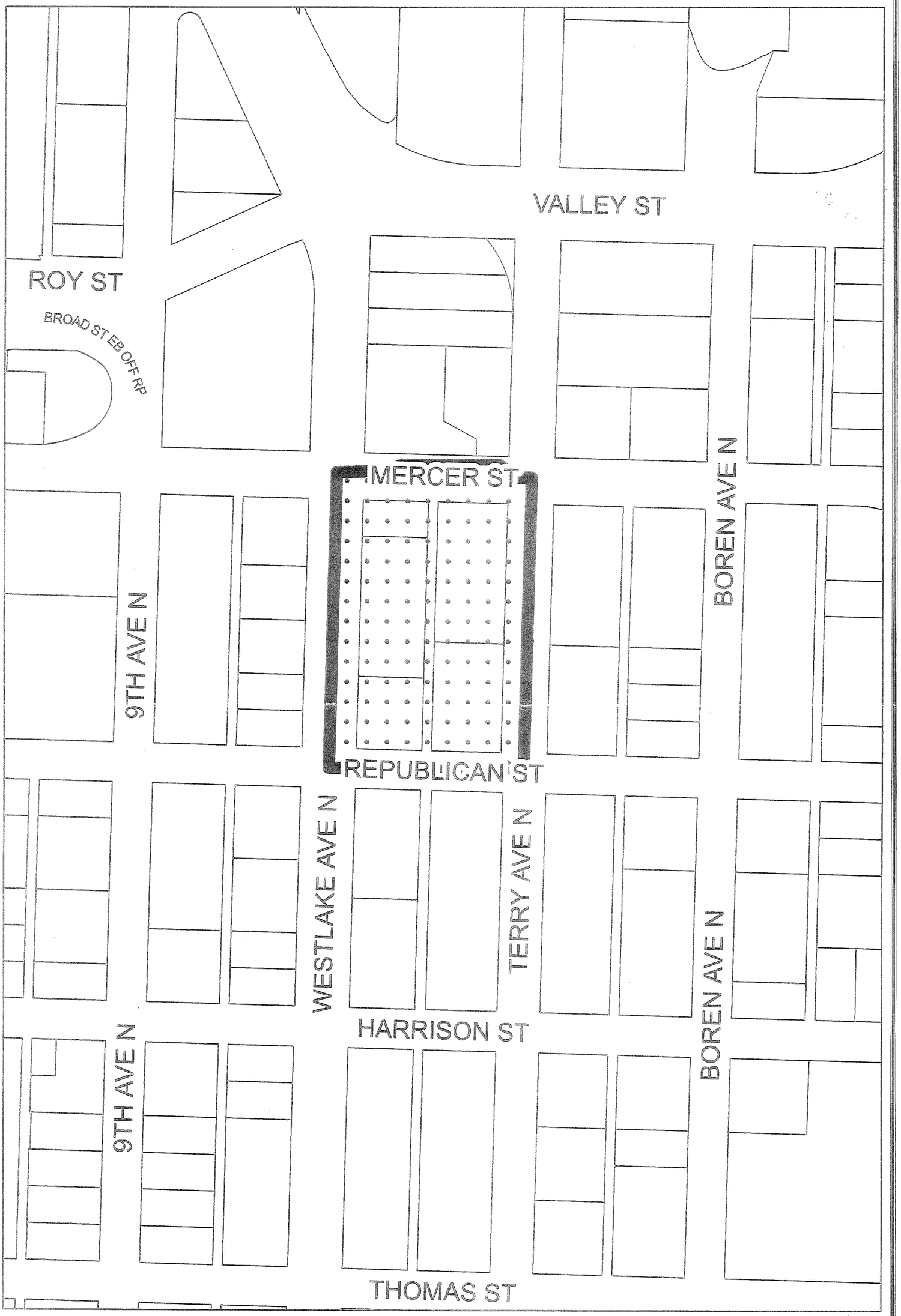
Prepared September 13, 2007 by DPD-GIS

0 500 1,000 2,000 Feet



Peat Settlement-prone Area Boundaries Maps Map A11

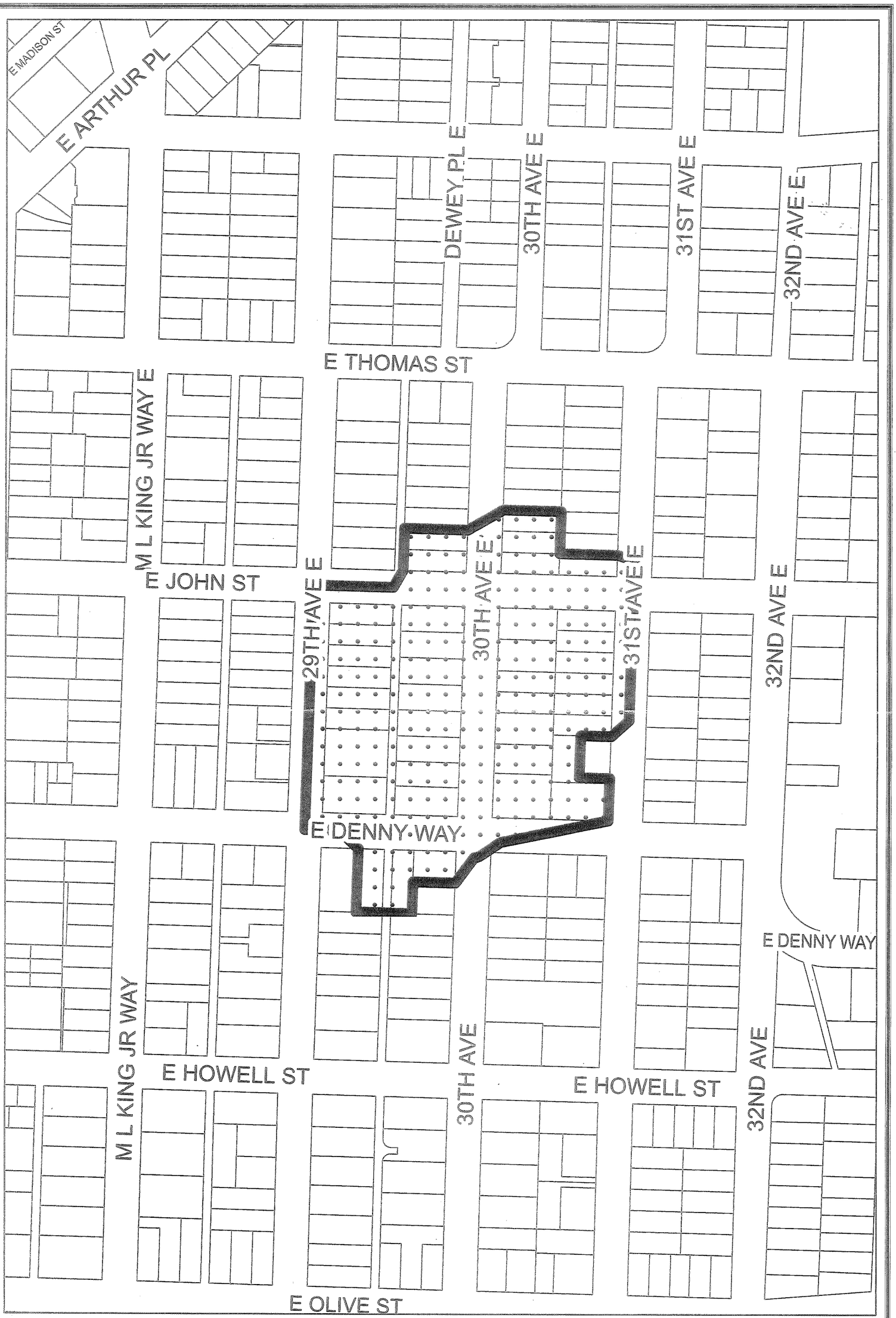
Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

0 110 220 440 Feet



Peat Settlement-prone Area Boundaries Maps Map A12

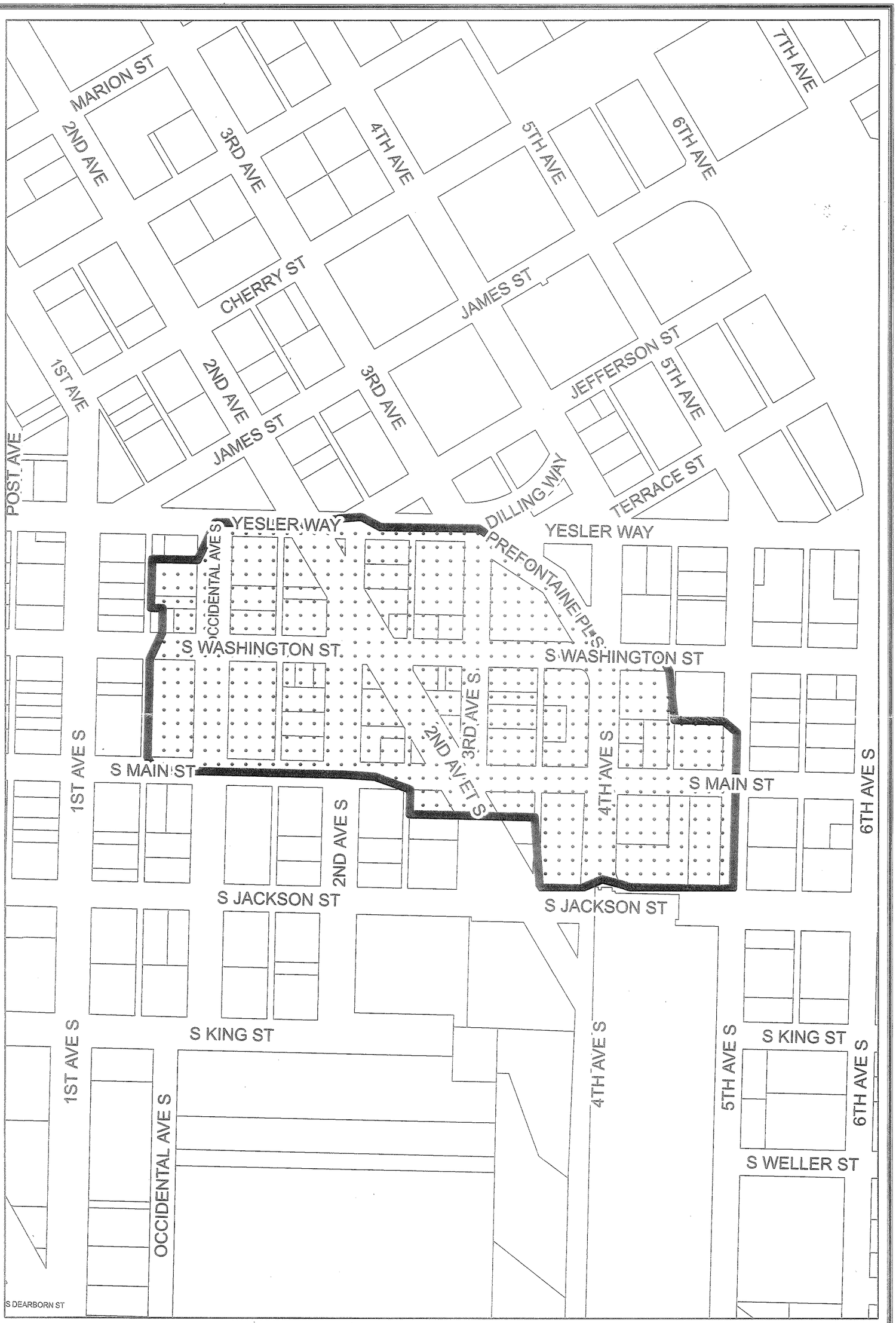
Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

0 125 250 500 Feet



Peat Settlement-prone Area Boundaries Maps Map A13

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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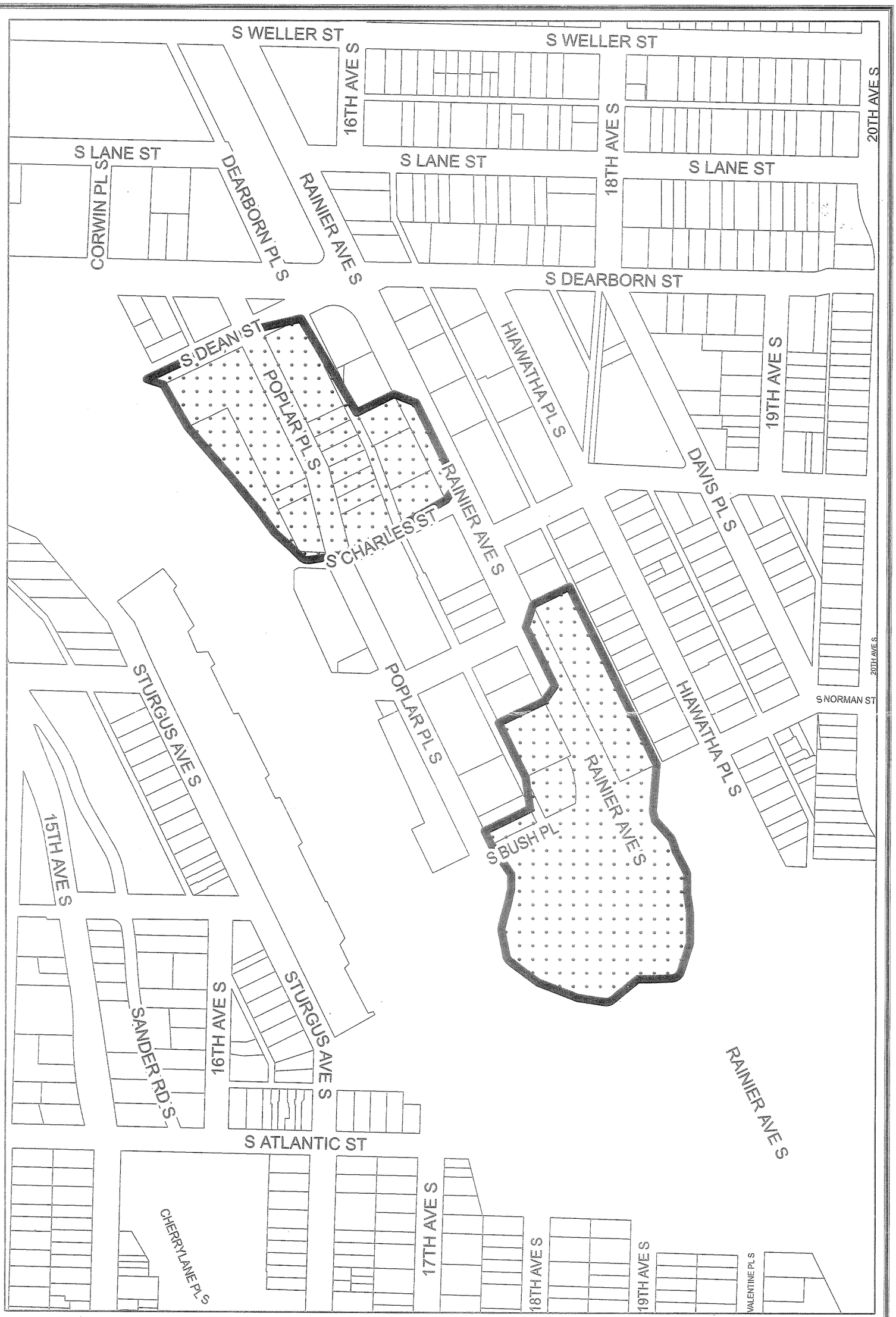
Prepared Setember 13, 2007 by DPD-GIS

0 165 330 660 Feet



Peat Settlement-prone Area Boundaries Maps Map A14

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

0 170 340 680 Feet

Peat Settlement-prone Area Boundaries Maps Map A15

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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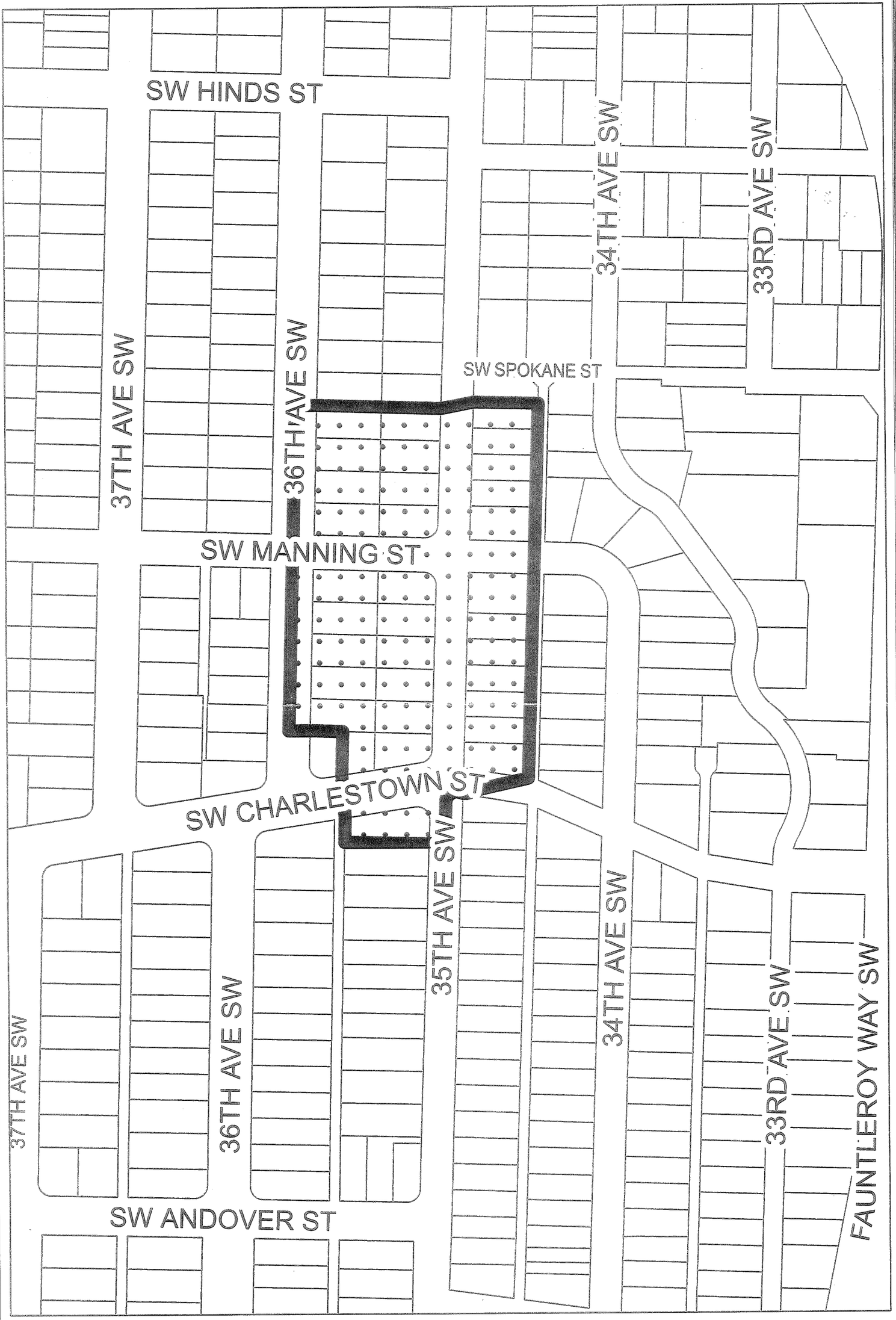
Prepared Setember 13, 2007 by DPD-GIS

0 100 200 400 Fee



Peat Settlement-prone Area Boundaries Maps Map A16

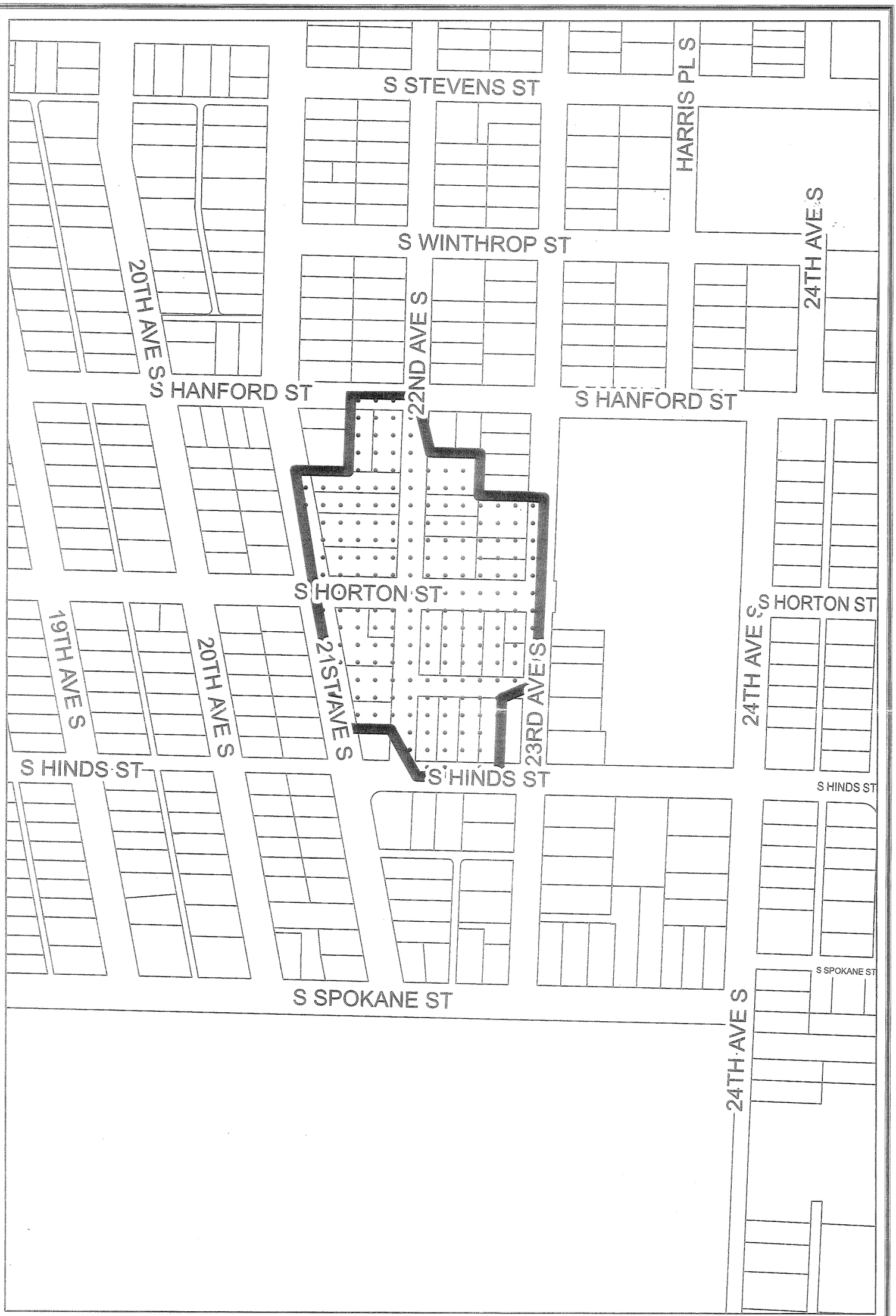
Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

0 110 220 440 Feet



Peat Settlement-prone Area Boundaries Maps
Map A17

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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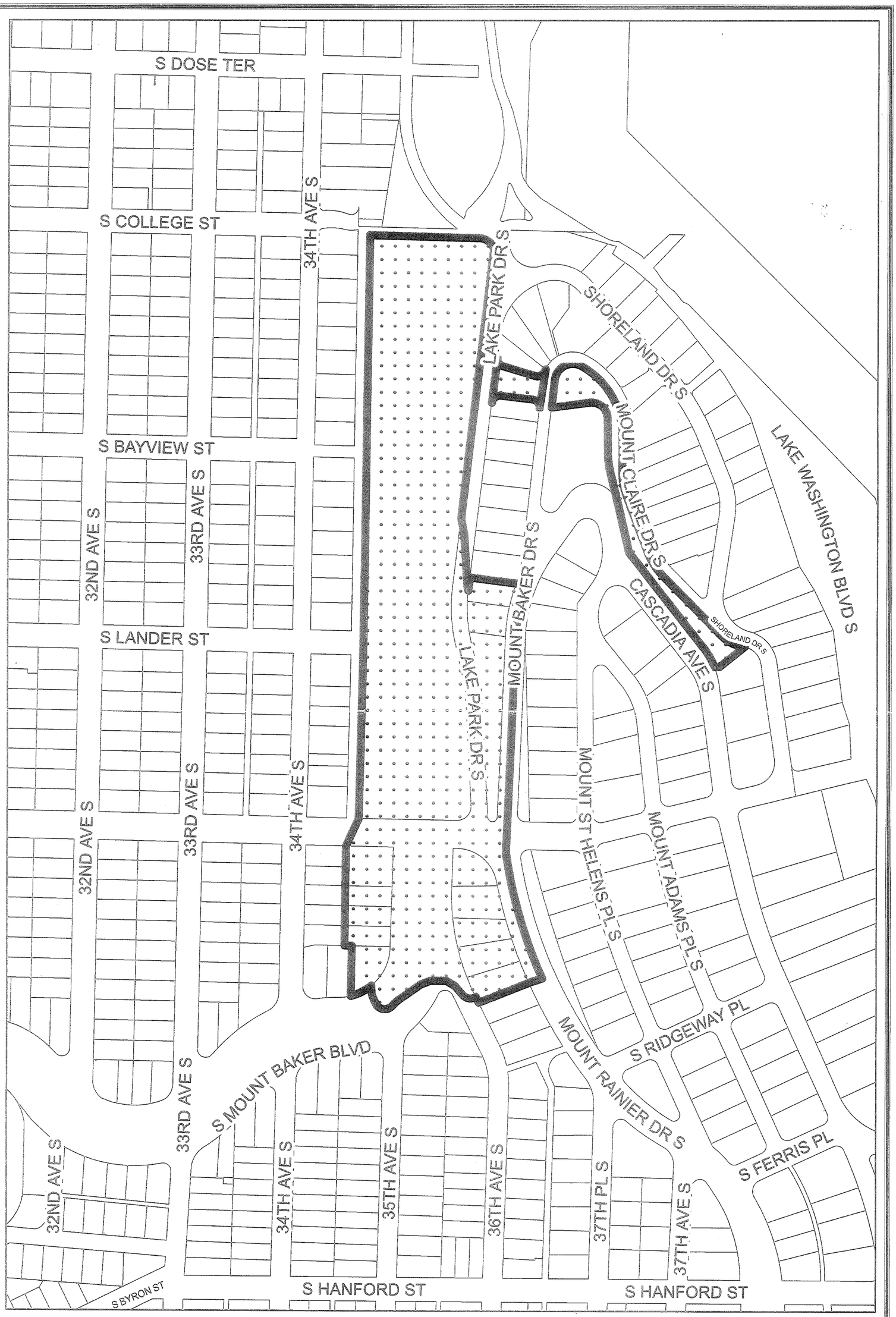
Prepared September 13, 2007 by DPD-GIS

0 135 270 540 Feet



Peat Settlement-prone Area Boundaries Maps Map A18

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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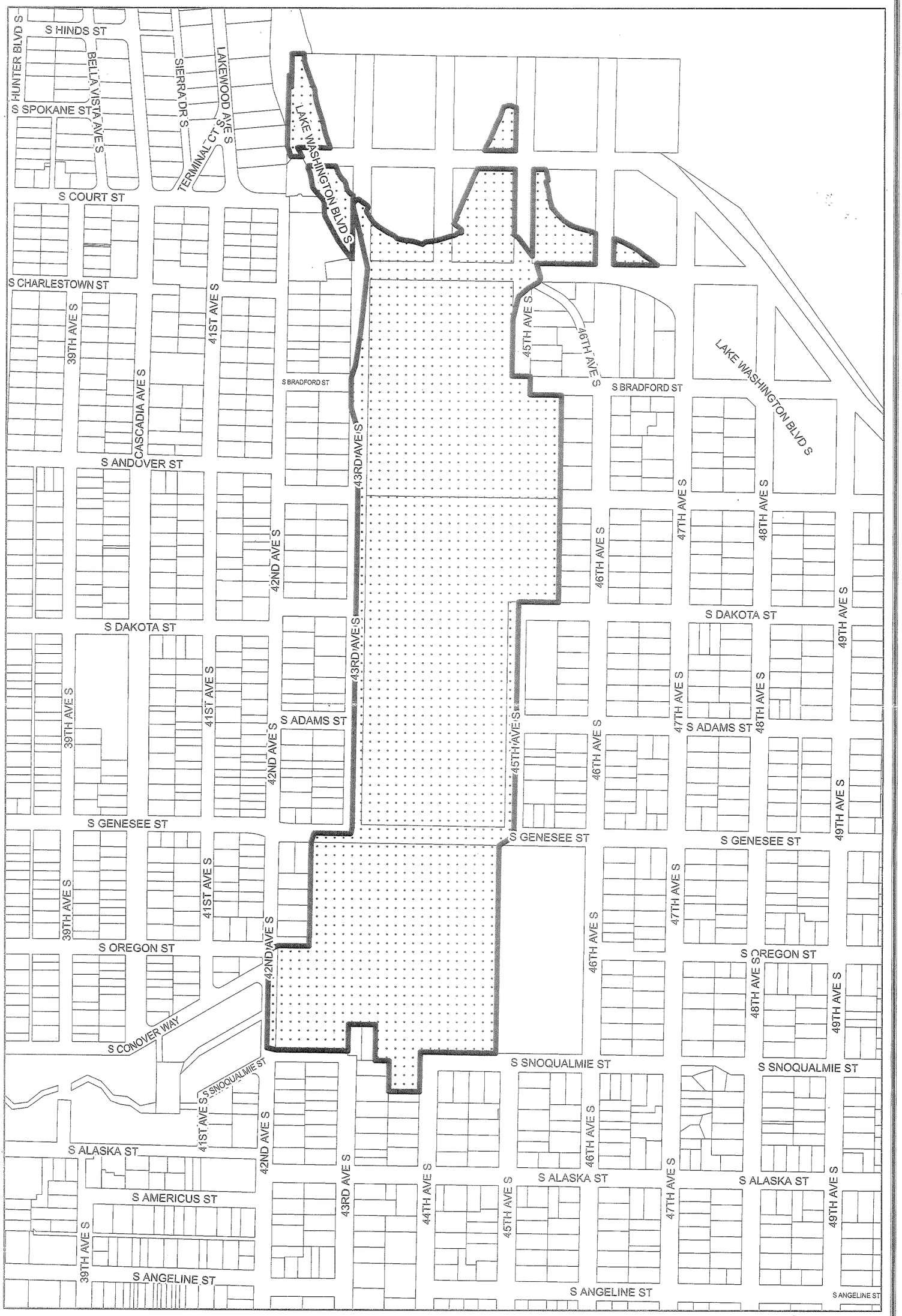
Prepared September 13, 2007 by DPD-GIS

0 180 360 720 Feet



Peat Settlement-prone Area Boundaries Maps Map A19

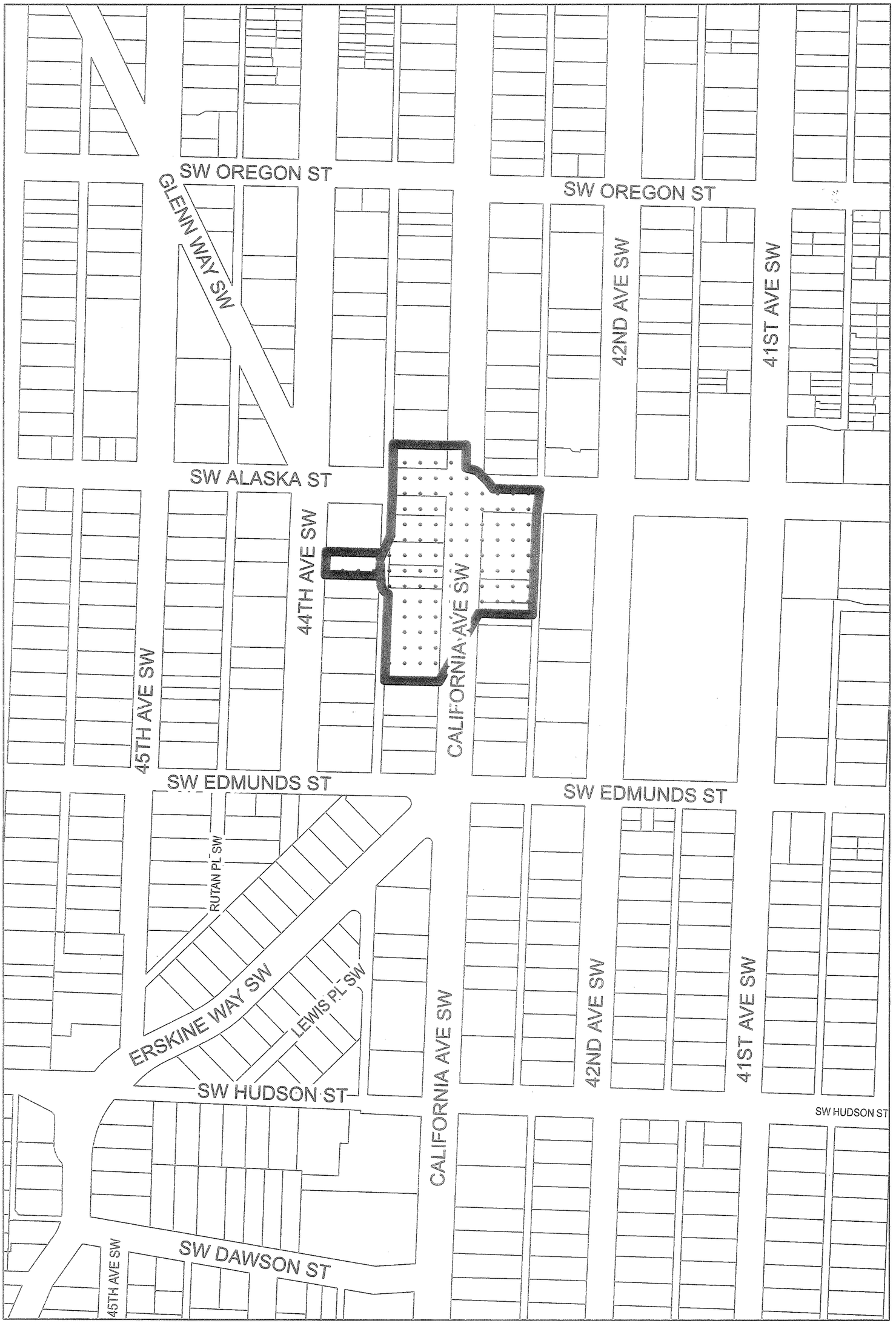
Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

0 180 360 720 Feet



Peat Settlement-prone Area Boundaries Maps Map A20

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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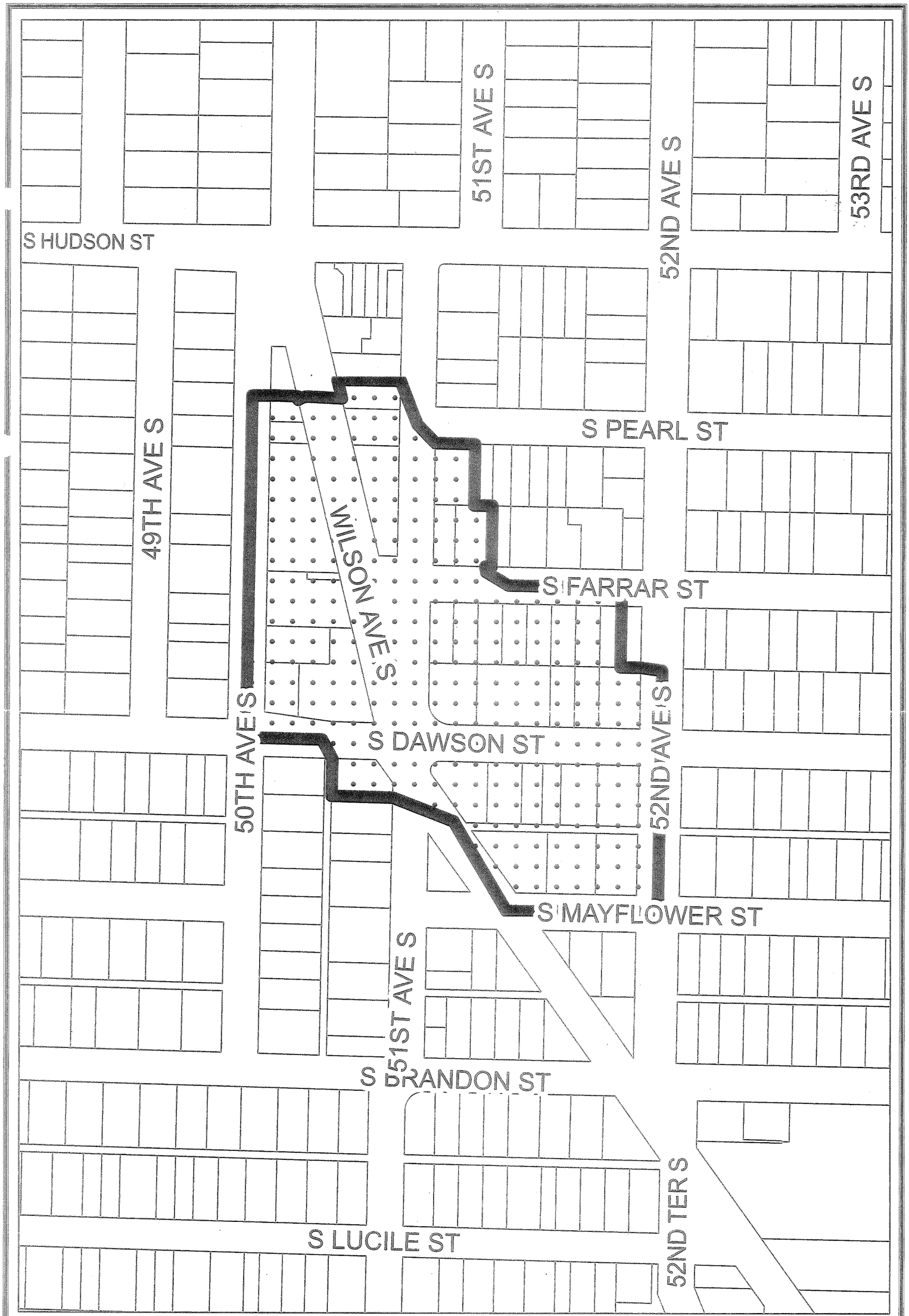
Prepared September 13, 2007 by DPD-GIS

0 110 220 440 Feet



Peat Settlement-prone Area Boundaries Maps Map A21

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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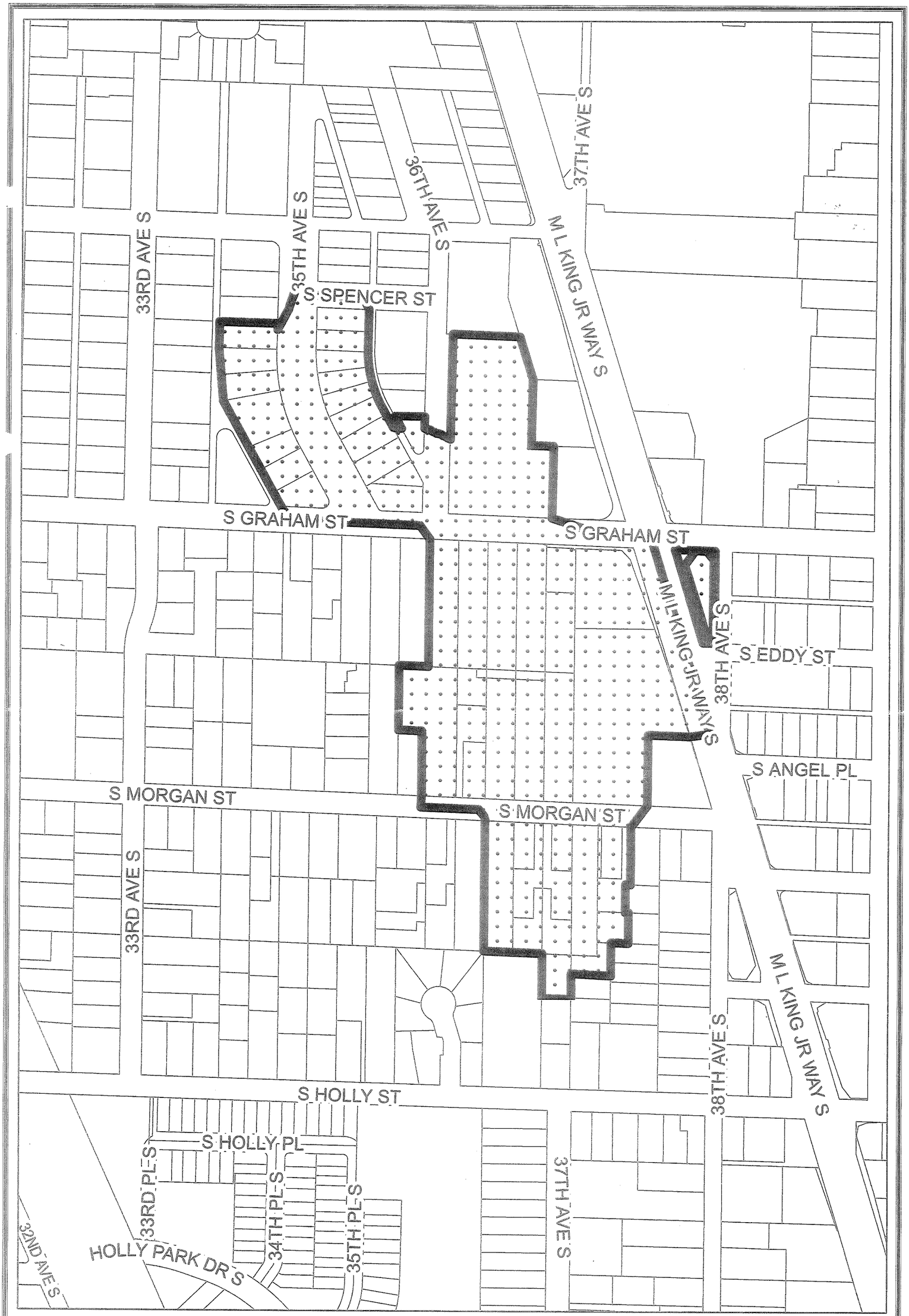
0 85 170 340 Feet



Peat Settlement-prone Area Boundaries Maps Map A22

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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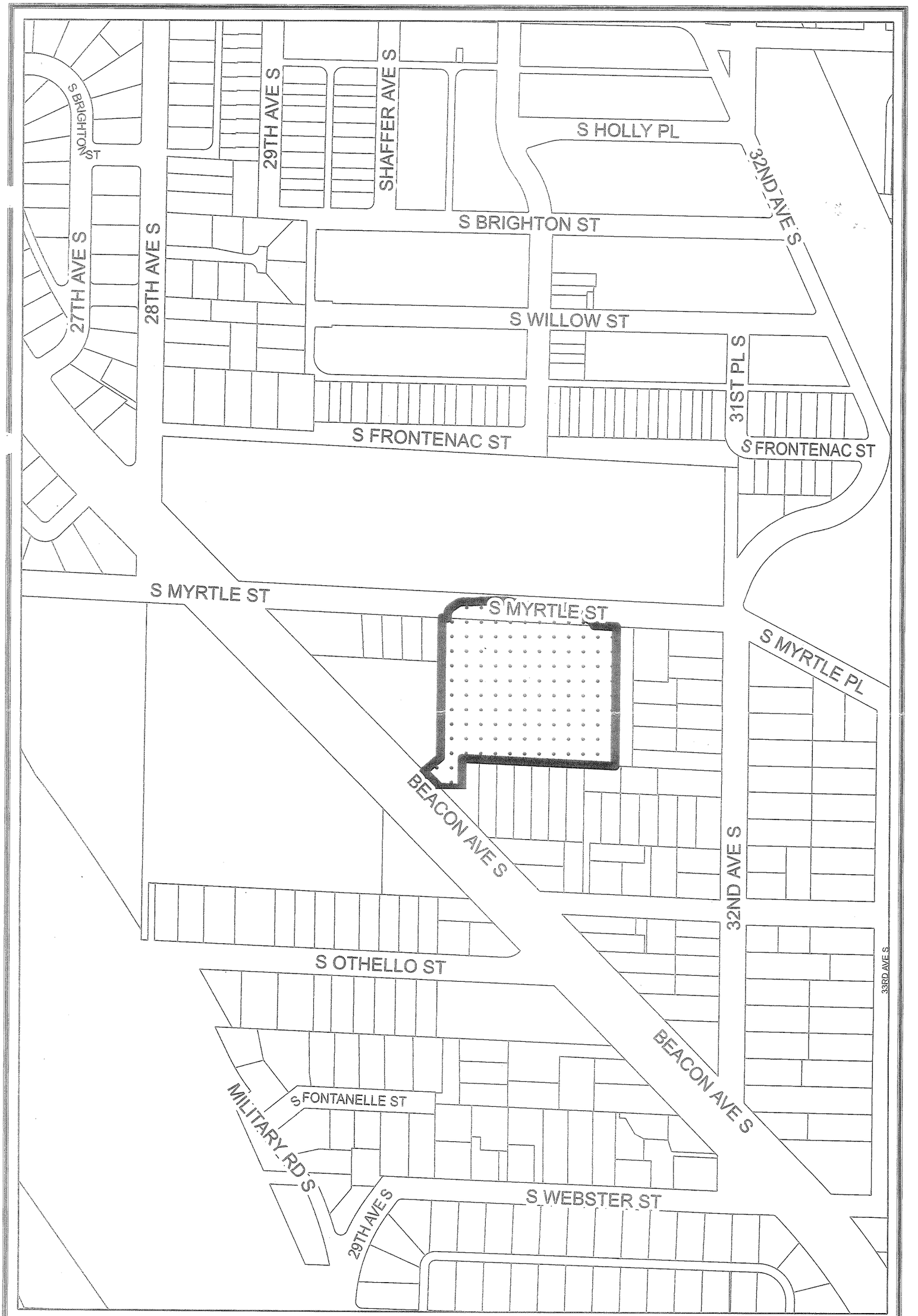
Prepared September 13, 2007 by DPD-GIS

0 120 240 480 Feet



Peat Settlement-prone Area Boundaries Maps Map A23

Legend

Peat Settlement-Prone Area

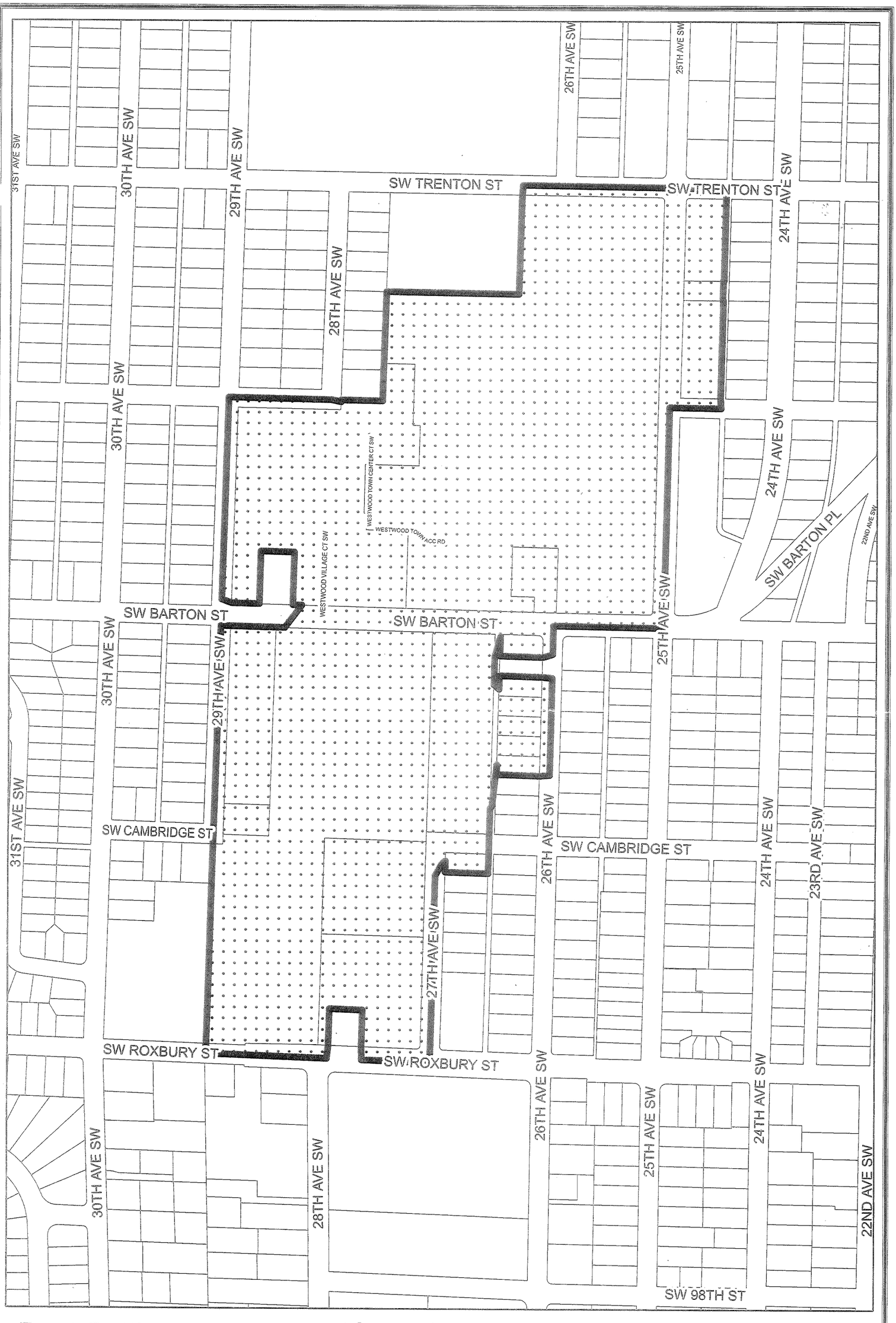
- Category I
- Category II

N

No warranties of any sort, including accuracy, fitness, or merchantability accompany this product.

Prepared September 13, 2007 by DPD-GIS

0 120 240 480 Feet



Peat Settlement-prone Area Boundaries Maps Map A24

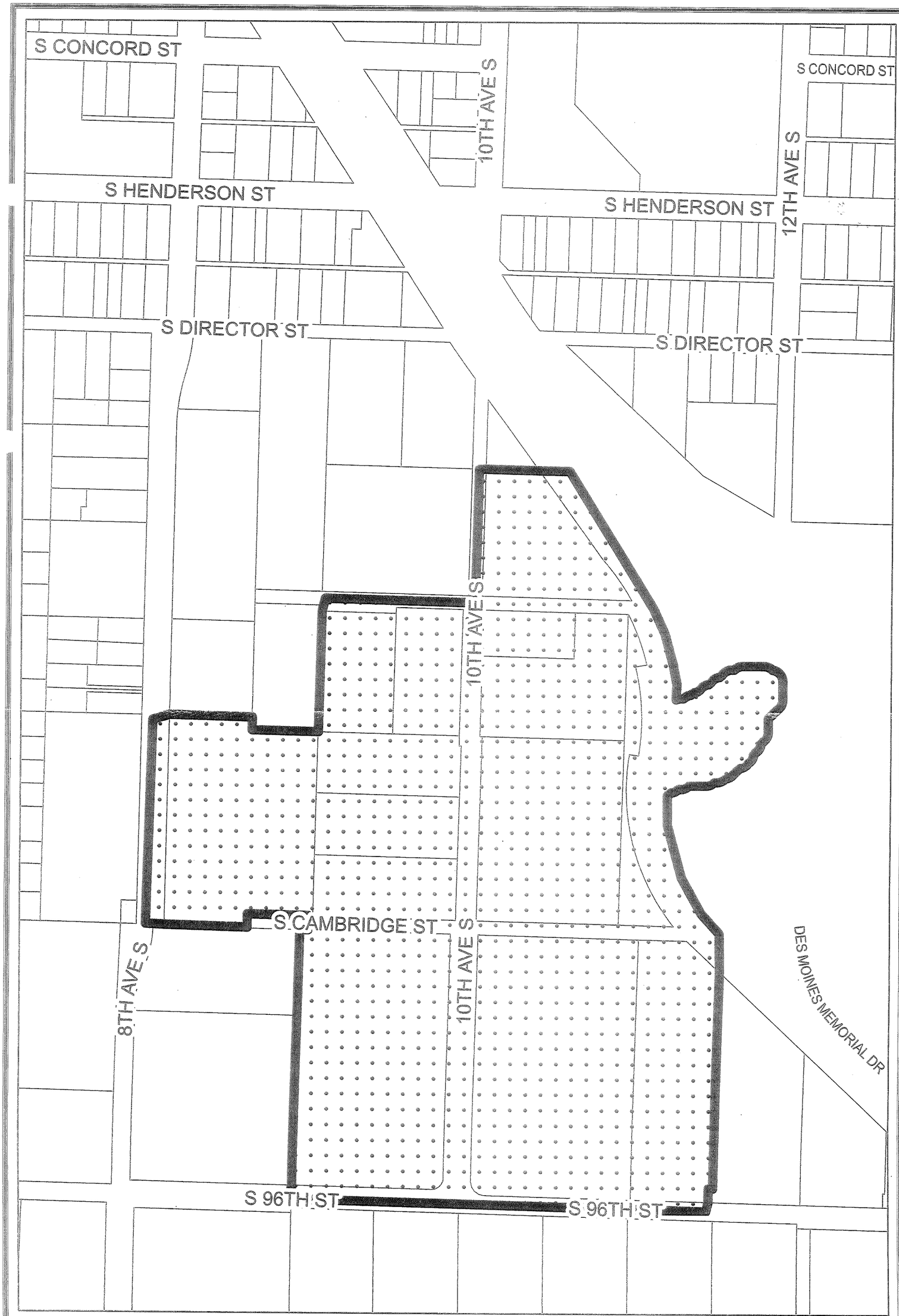
Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

0 160 320 640 Feet



Peat Settlement-prone Area Boundaries Maps Map A25

Legend

Peat Settlement-Prone Area

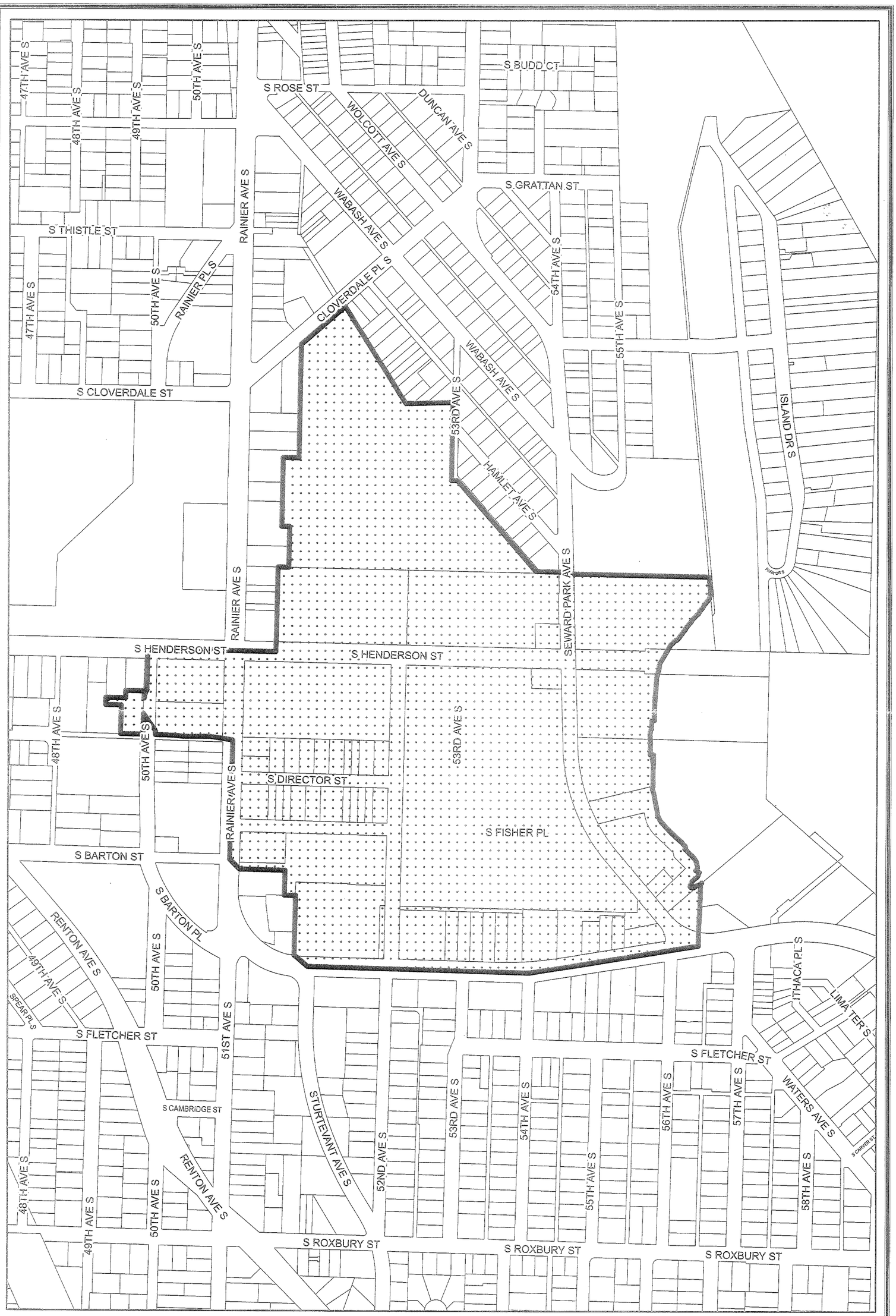
- Category I
- Category II

N

No warranties of any sort, including accuracy, fitness, or merchantability accompany this product.

Prepared September 13, 2007 by DPD-GIS

0 115 230 460 Feet



Peat Settlement-prone Area Boundaries Maps Map A26

Legend

Peat Settlement-Prone Area

- Category I
- Category II

N

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Prepared September 13, 2007 by DPD-GIS

0 215 430 860 Feet

Best Available Science Report For Peat Settlement-prone Geological Hazard Areas

The report was prepared by Brennon Staley, MUP in Urban Planning, and reviewed by Susan Chang, Ph.D. in Civil Engineering, P.E.

Overview

Peat is an accumulation of partially decayed organic plant material that typically forms in wetland where lack of oxygen and acidic conditions inhibit complete decay. Unconsolidated peat deposits are generally characterized by a fibrous structure exhibiting weak compressive strength and high void ratios (i.e., containing significant void space).

Peat deposits are subject to settlement when loaded with additional weight or when groundwater levels are lowered. Lowering of the groundwater level reduces the buoyancy of overlying soils, thus increasing the pressure on the peat deposit and potentially resulting in compression. Settlement can occur where new fill or structures load soil or where groundwater levels are lowered due to sump pumps, temporary construction dewatering withdrawals, or other drainage projects. Because settlement can be induced by lowering of the groundwater table as well as by direct loading of the soil, settlement of peat deposits can occur a significant distance from the originating development activity because water withdrawals can influence the water table off-site.

Seattle Context

In the City of Seattle, peat deposits have typically formed in topographical basins created during the most recent glacial retreat and in the nearshore areas of lakes, the floodplains of the Duwamish River, depressions along modern streams, and marine estuaries. The lowering of Lake Washington by nine feet in 1916 also exposed significant areas of former lake bottom that contain peat deposits. As the City developed, these boggy areas were often filled to reclaim marshy areas considered to be a nuisance due to standing water and odors as well as to provide more developable land. Consequently, some of the many peat deposits have been buried and now support development throughout the City.

Urban development in these areas has led to further alterations which have impacted the peat deposits and their settlement potential. Drainage projects were initiated in some areas of the City to drain wet areas and redirect stream flows. Installation of storm drains and sewer systems, sump pumps, and impervious surface have reduced the amount of groundwater recharge through diversion of stormwater and groundwater inflow. Regrading projects and

public utilities may also have changed water flow directions and created new flow corridors where granular fill has created new pathways of increased permeability. Together, these modifications have led to significant cumulative impacts where altered hydrology has created new equilibrium states, as well as acute impacts where individual development projects adversely affected nearby properties.

Mechanics of Peat Settlement

The magnitude of settlement occurring in a particular location is based on a number of factors including:

- Geotechnical characteristics of the peat
- Thickness of the peat deposit
- Existing pressure on the peat
- Change in pressure on the peat
- Historic loading of the peat

These relationships can be expressed in the following equation:

$$\text{Expected Total Settlement} = s_t = s_i + s_c + s_s$$

where s_i = immediate settlement
s_c = primary consolidation
s_s = secondary compression.

Immediate settlement is only of concern during fill or structure loading. Because these concerns are adequately addressed by existing building code standards, they are not a topic for this paper, which remains focused on potential off-site impacts.

Primary consolidation is a time-dependent settlement process that occurs in saturated fine-grained soils that have low permeability. The settlement is due to water slowly being forced from the void spaces of the soil due to increases in load on the soil. For soils such as peat and other highly organic soils with high natural water content and high void ratios, primary consolidation settlements can be large.

Primary consolidation is made up of a recompression component (settlement due to loading up to the maximum past pressure experienced by the peat) and a virgin compression component (settlement due to loading greater than the maximum past pressure experienced by the peat). Primary consolidation can be estimated with parameters from laboratory testing using the following equation (Holtz and Kovacs, 1981):

$$s_c = C_r * \frac{H}{1+e_o} * \log\left(\frac{p_p'}{p_o'}\right) + C_c * \frac{H}{1+e_o} * \log\left(\frac{p_f'}{p_p'}\right)$$

where s_c = primary consolidation
C_r = recompression index
C_c = compression index
H = thickness of the peat
e_o = initial void ratio (volume of voids divided by volume of solids)
p_o' = initial effective stress on the peat
p_p' = maximum past pressure on the peat
p_f' = final effective stress on the peat

Primary consolidation settlement can take several months to complete.

Secondary compression is a continuation of the volume change that starts during primary consolidation, but it occurs at a much slower rate. It constitutes a major part of the total settlement of peats and other highly organic soils, and it may continue for an indefinite time period, creating a continuing hazard. Secondary compression can be estimated with parameters from laboratory testing and the following equation:

$$s_s = C_\alpha * \frac{H}{1+e_p} * [\Delta \log(t)]$$

where s_s = secondary compression
C_α = secondary compression index
H = thickness of the peat
e_p = void ratio at end of primary consolidation
t = time period being considered for design

Once consolidation has occurred, peat deposits will never return to their original state, although minimal rebound is possible if weight is removed or the water level increases.

Estimates of the expected settlement due to groundwater table drawdown derived from the preceding formulas are included in Tables 1 and 2. The settlement estimates were based upon the following with the understanding that peat settlement properties can be highly variable:

(1) consolidation parameters from the WSDOT Geotechnical Design Manual of $C_{c\varepsilon} = C_c/(1+e_o) = 0.4$ and $C_{\alpha\varepsilon} = 0.06 * C_{c\varepsilon}$
(2) initial water table at 2 feet below the ground surface drawn down to 7 feet below the ground surface

Table 1: Estimated primary settlement (in inches) expected due to groundwater table drawdown from 2 feet below surface to 7 feet below surface.

Depth to top of peat deposit (ft)	Vertical Thickness of Peat Deposit			
	2 ft thickness	3 ft thickness	5 ft thickness	10 ft thickness
0	0	½	1½	11
5	2	3	5	9
10	1½	2	3½	6½
20	1	1	2	4

Table 2: Estimated total settlement (in inches) expected due to groundwater table drawdown from 2 feet below surface to 7 feet below surface.

Depth to top of peat deposit (ft)	Vertical Thickness of Peat Deposit			
	2 ft thickness	3 ft thickness	5 ft thickness	10 ft thickness
0	0	½	4	16
5	3	4½	7½	14
10	2½	3½	6	11
20	2	2½	4½	9

Effects of Settlement

The impacts of settlement can be significant, particularly where differential settlement occurs due to a peat deposit having variable thickness, groundwater flow directions, slopes, differential loading, or previous compressions. Common damages from settlement include uneven or cracked foundations, cracks in the interior finishes, sticking windows and doors, broken underground utilities, and uneven sidewalks and roads. These problems may cause existing structures to become more prone to damage during earthquakes. Flooding may also occur both as pipes break and settlement lowers the elevation of yards and structures, creating ponding, or even lowering areas below the water table. Because settlement occurs gradually, the impacts of additional loading or groundwater withdrawals may appear gradually after an initial modification.

Historic Settlement in Seattle

Evidence of gradual settlement has been found in many localized areas of Seattle. Areas in Greenwood, the most studied area of peat-rich soils, have been experiencing documented settlement of roads and structures as far back as 1958 (Shannon & Wilson 2004). Union Bay, one of the deepest known peat deposits in Washington State, has also experienced significant recorded settlement (Montlake Landfill Work Group, 1999).

In 2001, sections of the Greenwood neighborhood began to experience unexpected acute settlement. Developed on the location of historic wetlands, substantial subsurface peat deposits have been found under portions of

Greenwood including part of the Greenwood business district and the residential area north and west of NW 85th Street and Greenwood Avenue North. This area, commonly referred to as the "Greenwood Bog," constitutes a topographical depression bordered by Phinney Ridge to the east and Crown Hill and Blue Ridge to the west. Lowered groundwater levels resulting from development along Greenwood Avenue North appear to be a cause of this settlement, although insufficient data exists to pinpoint an exact source (Shannon & Wilson, 2004).

Data for assessing the effects of settlement in other parts of the City is not readily available.

Peat Studies in Seattle

A number of relevant studies have been conducted in Seattle that have added to the knowledge of peat and peat settlement occurring within the City including the Map of Organic-Rich Deposits developed by GeoMapNW (Troost, 2006) and the Shannon & Wilson Greenwood Subsurface Characterization Study (2004).

The Map of Organic-Rich Deposits (GeoMapNW 2006) project compiled and analyzed boring logs submitted to the City of Seattle in conjunction with permit applications between 1914 and 2006. 33,270 reports were compiled and analyzed to identify subsurface deposits of peat greater than one foot in thickness. These results were then extrapolated based on historic geomorphology and hydrology to estimate the extent of peat deposits as well as other organic-rich geologic units, including wetland, lake, tideflat, and Vashon recessional lake deposits.

Follow-up work completed in June 2007 refined the earlier map and identified discrete bogs. This 2007 map, City of Seattle Identified Bogs, dated June 19, 2007, relied on 34,909 data points. The map shows both discrete bogs and individual borings/data points that indicate a presence of peat in the subsurface. This analysis summarized each of the peat deposits based on four factors that indicate potential risk due to settlement: thickness of peat, depth to peat, depth to groundwater level, and location of groundwater level in relation to peat. This characterization provides a critical resource for determining where much of the City's peat settlement hazards exist. The map relies on available borehole data, geologic mapping, and geologic interpretation.

Another important study of peat settlement within Seattle is the Greenwood Subsurface Characterization Study (Shannon & Wilson, 2004). This study was commissioned by Seattle Public Utilities in response to acute settlement occurring in the neighborhood to determine underlying geologic conditions. The study developed a map that delineates the former peat bog area and

identifies the depth and thickness of the peat throughout the area. Shannon & Wilson also tested the peat to determine the potential to re-introduce water into the substrata and placed monitoring devices in several locations for a long-term assessment of groundwater flows and levels in the area. The study concluded that settlement in the neighborhood was "likely the result of groundwater removal" occurring due to multiple factors including construction of impervious surface, diversion of stormwater, installation of the 1970s storm drain system, natural groundwater fluctuations, climate change, construction dewatering and permanent drainage systems in subsurface structures. Shannon & Wilson warned that the "continued groundwater removal and the removal of groundwater from other locations within the study area could contribute to additional or new settlement, and should be avoided where settlement could impact structures, utilities, roadways and other improvements." (Shannon & Wilson, 2004)

Implications for Regulation

Development in areas containing peat deposits can result in settlement where new structures or fill compress underlying peat soils or where modification of the groundwater table increases the effective pressure on underlying peat soils.

To avoid negative impacts from development, it is necessary to ensure both that new structures are designed to prevent or accommodate settlement and that they do not cause settlement off-site through modification of the groundwater table. Regulations should specifically seek to minimize modification of the existing groundwater regime because any modification of existing groundwater regime that removes or redirects groundwater even for a short period may lead to local groundwater depressions resulting in settlement. Alternatively, modifications of the groundwater table that increase groundwater levels, although they would not lead to settlement, may also be undesirable as they can not significantly reverse previous settlement activity and may lead to flooding.

Determination of areas that should be included in potential regulations should consider all the variables impacting settlement potential discussed earlier, including geotechnical characteristics of the peat, peat thickness, existing pressure on the peat, potential changes in pressure on the peat (including groundwater levels), and historic loading of the peat. Within regulated areas, protections should be applied even where geotechnical explorations fail to reveal peat deposits on the site of a proposed development because peat deposits may be present on nearby parcels.

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Technical Review Committee

Steve Erickson; Frosty Hollow Ecological Restoration
Steve Greene; HWA Geosciences
Thomas Kinney; HWA Geosciences
Kathy Troost; University of Washington, GeoMapNW
Mark Varljen; SCS Engineers

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Version #1

Form revised December 9, 2004

FISCAL NOTE FOR NON-CAPITAL PROJECTS

Department:	Contact Person/Phone:	DOF Analyst/Phone:
Legislative	Ketil Freeman 4-8178	NA

Legislation Title:

AN ORDINANCE relating to environmentally critical areas, amending Sections 22.802.020, 23.47A.012, 23.47A.013, 23.54.020, 25.09.015, 25.09.020, 25.09.030, 25.09.055, and 25.09.520, and adding a new Section 25.09.110 of the Seattle Municipal Code to designate and regulate Peat Settlement-prone Geologic Hazard Areas.

- **Summary of the Legislation:**

The legislation would amend the Environmentally Critical Area and Stormwater, Grading and Drainage Control Codes to create a peat settlement-prone area designation. These amendments include mapping of peat settlement-prone areas as well as development standards for subsurface development and stormwater management that would mitigate settlement impacts of new development in areas of or near peat-rich soils.

This legislation would result in a small increase in the number of permit applications and in the length of time necessary to review permit applications for development in Peat Settlement-prone Areas. Staff analysis estimated the total staff time necessary to implement this legislation is approximately 150 hours per year, although this time would be spread across multiple review locations. In the near-term, it is believed that existing staff and fees are sufficient to cover the additional review time anticipated to result from this legislation. In the long-term, DPD will monitor the impact that ongoing legislative actions have on permit volumes and review, taking care to assess the implications of multiple minor increases in review time and the cumulative impact they have on permit review turnaround goals. To the extent that this analysis results in the need for additional staff or other resources, it will be addressed through the annual budget process.

This legislation is a substitute for Council Bill (C.B.) 116167, which was introduced on March 24, 2008. After hearing public testimony at a public hearing, considering public comment, and committee discussion, the Environment Emergency Management and Utilities Committee recommended amending C.B. 116167. Proposed amendments include:

- Adding a provision in 23.47A.013 to allow a limited FAR exemption for above-ground parking in commercial zones where a high water table prevents underground parking,
- Adding a provision in 23.47A.012 to allow additional height to accommodate areas of partially submerged parking that extends no more than 5 feet above finished or existing grade where a high water table prevents a full story of submerged parking,

- Changing two code section references in 25.09.015, and
- Adding an exemption in 25.09.110 to specifically allow elevator pits below the groundwater table where required to meet accessibility requirements.

These amendments require changes to sections of the Land Use not proposed to be modified by C.B. 116167. Consequently, this necessitates introduction of a new bill with a new title.

- **Background:**

Peat-rich soils are highly compressible and are prone to settlement when compacted by new structures and fill or when the groundwater table is lowered. Although the existing building code is sufficient to ensure that new development meets the structural requirements for development in peat soils, development in or near peat-rich soils can also affect nearby parcels through modification of the groundwater regime. These amendments would identify areas where development could enhance settlement hazards and would provide development standards for subsurface development and stormwater management to limit modification of the groundwater regime that might cause settlement on nearby parcels.

- *Please check one of the following:*

__X__ **This legislation does not have any financial implications.** (*Stop here and delete the remainder of this document prior to saving and printing.)*

Attachment A: Director's Report and Recommendation

Director's Report and Recommendation

Peat Settlement-prone Areas

January 2008

Introduction

The Department of Planning and Development (DPD) is proposing amendments to the Environmentally Critical Area (ECA) and Stormwater, Grading and Drainage Control Ordinances to create a peat settlement-prone ECA designation and development regulations for this designation. The amendments would limit the off-site settlement impacts of new development in or near peat-rich soils.

Peat-rich soils are highly compressible and are prone to settlement when compacted by new structures and fill or when the groundwater table is lowered. The groundwater table may be lowered by the use of water pumps to keep basements dry, the preparation of a site for excavation, or the addition of impervious surface that prevents water from soaking into soils (redirecting the water to a public storm drain).

A peat settlement-prone ECA designation would identify sites where development could have the potential to cause settlement hazards and would provide development standards and stormwater management requirements to prevent new development from causing settlement impacts on nearby parcels.

Background and Analysis

Peat is an accumulation of decaying organic plant material that typically forms in wetland environments where acid conditions inhibited it from decaying fully. The structure of unconsolidated peat soils is characterized by a fibrous structure exhibiting weak compressive strength and high void ratios (i.e., containing significant void space). These properties can result in a significant reduction in volume when peat soils are subject to compression.

In the City, these deposits have typically formed in low lying areas, such as valleys, and in the nearshore areas of lakes and the floodplains of the Duwamish River. As the City has developed, these areas have often been filled to remove marshy areas considered to be a nuisance and to create more developable land. Consequently, significant peat deposits have been buried and now support development throughout the city. Evidence of gradual settlement has been found in many localized areas of Seattle. Areas in Greenwood, the most studied areas of peat-rich soils, have been experiencing documented settlement of roads and structures as far back as 1958. Settlement has also been documented by geotechnical reports in Union Bay, the Ravenna peat area around Dahl Playground, and a section of the Licton Springs neighborhood. Although

data on settlement in other parts of the city is lacking, visual inspections of other areas within the city suggest that some settlement has occurred in other areas containing peat deposits.

In 2001, sections of the Greenwood neighborhood experienced settlement that elicited significant concern. Subsurface peat deposits have been found over portions of Greenwood, the location of historic wetlands, including part of the Greenwood business district and the residential area north and west of about NW 85th Street and Greenwood Avenue North. This area, commonly referred to as the "Greenwood Bog," constitutes a topographical depression bordered by Phinney Ridge to the east and Crown Hill and Blue Ridge to the west. Recent settlement appears to be resulting primarily from multiple developments occurring along Greenwood Avenue North.

Development in areas of high peat content can lead to settlement when the weight of new structures and related fill compresses the thickness of the peat layer. In addition, lowering the groundwater level reduces the ability of the peat to withstand the weight of overlying structures and soil, causing settlement. This condition occurs as the buoying effect of the water on overlying soils is effectively removed and water-saturated voids within the peat are emptied. Decomposition, which occurs very slowly in saturated peat soils, may speed-up in the absence of water, causing additional settlement. Thus, settlement potential in peat deposits due to development and other activities can pose a potential hazard to public safety and property.

Settlement in peat occurs in two stages:

1) The first stage - primary consolidation occurs when water and air are forced out of the soil. This stage usually represents the majority of the settlement and often goes to completion within a couple of months; and
2) The second stage - secondary consolidation occurs as the solid itself is compressed. This stage may continue for an indefinite time period, creating a continuing hazard. Once secondary consolidation has occurred, peat deposits will not return to their original state, although minimal rebound is possible if weight is removed or the water level increased.

The result of settlement can vary due to different thicknesses of peat, water pathways, slopes, and previous compressions. Common damages from settlement include uneven or cracking foundations, broken underground utilities, and buckled sidewalks and roads. These problems may cause existing structures to become more prone to damage during earthquakes. Flooding may also occur as pipes break and settlement lowers the elevation of yards and structures to create local ponding areas.

New development must be properly designed to minimize settlement and accommodate any settlement that may occur over the life of a structure due to the weight of the structure itself as well as potential changes to the groundwater regime

In response to settlement in the Greenwood area, Seattle Public Utilities (SPU) commissioned Shannon & Wilson, Inc. (S&W) in 2003 to undertake a study of the Greenwood area to determine existing geologic conditions. During the study, S&W developed a map that delineates the former peat bog area and identifies the variable depth and thickness of the peat. S&W also tested the peat for the ability to re-introduce water into the substrata and placed monitoring devices in several locations for a longer-term assessment of groundwater flows and levels in the area. Complete geologic and hydrologic conditions are described in the S&W Greenwood Subsurface Characterization Study (April 2004).

Based on the results of the study, DPD issued an interim policy requiring new projects subject to the State Environmental Policy Act (SEPA) to show how their design will result in no net loss of the groundwater. In addition, SPU increased maintenance of certain areas, cleaning out perforated catch basins to re-introduce water into the substrata. Opportunities for other water re-introduction features in other components of the utility were also investigated.

In addition, a Technical Review Committee consisting of local geologists, hydrologists, and geotechnical engineers was formed by DPD to investigate the hazard posed by peat deposits throughout the city and help develop policy and regulations for safe development and maintenance activities in these areas. Through this effort, a number of critical findings were produced that are discussed in the Best Available Science Report for Peat Settlement-prone Geological Hazard Areas (BAS Report), attached as Appendix A. First, the technical review concluded that existing peat deposits constitute a potentially significant hazard. Second, the Committee suggested that the City's policy should strive to ensure that new development is designed to both withstand potential on-site settlement as well as prevent off-site impacts.

In order to reduce or eliminate off-site impacts, the Committee identified no alteration of the existing groundwater regime as the preferred goal. This goal was supported by the understanding that, although the lowering of the groundwater table could incur settlement, seeking to increase groundwater levels above existing levels could result in flooding. Additionally, attempts to increase the water table would have minimal benefit because primary settlement is likely complete in areas that have already been developed throughout the city. The recommended policy changes are discussed below.

Proposed Recommendations

Peat Settlement-prone Areas (PSPAs) constitute a potential significant hazard that warrants regulation through the ECA Code. Although the existing building code is sufficient to ensure that new development meets the structural requirements for development in peat soils, development in or near peat-rich soils can also affect nearby parcels through modification of the groundwater regime. Therefore, DPD is recommending that a peat settlement-prone area designation be added under the

Geologic Hazard Area section of the ECA Code including development regulations for these areas.

Delineation of Peat Settlement-prone Areas. PSPAs are shown on the *Peat Settlement-prone Area Boundaries Maps* in Appendix B of this report. These maps show the extent of all parcels within areas of known or suspected peat deposits and a specified "buffer" distance within which new development may pose a settlement hazard.

Peat Settlement-prone Area Boundaries Maps are based on data presented in the *City of Seattle Identified Bogs* report (Troost 2007). This report analyzed soil samples (boring logs) taken at 34,909 data points to map and characterize peat deposits throughout the City of Seattle. This analysis characterizes each of the peat deposits based on five factors identified in the Best Available Science Report for Peat Settlement-prone Geological Hazard Areas as indicators of potential risk due to settlement:

1) Thickness of peat;
2) Continuity of peat;
3) Depth to peat;
4) Depth to groundwater level; and
5) Location of groundwater level in relation to peat.

DPD then applied threshold criteria based on the five factors outlined above to determine which of the areas delineated and characterized in the *City of Seattle Identified Bogs* report were prone to a level of settlement that warrants regulation. The following threshold criteria were developed based on City staff and consultant professional experience and Technical Review Committee feedback. DPD has included in the recommended peat settlement prone area designation only identified areas meeting all of these criteria:

1. The bog contains a continuous peat deposit with a typical vertical thickness of three feet or greater;

2. Recorded groundwater levels are in or above the peat deposit (which indicates that further modification of the groundwater regime could cause settlement); and

3. The peat deposit is not located such that groundwater communication with an adjacent waterbody would prevent lowering of the groundwater table. Large peat deposits where groundwater communication might not fully prevent against settlement were considered to meet this criterion.

DPD recommends excluding historic bogs that, due to significant excavation, no longer meet the above criteria.

PSPAs are proposed to be differentiated into Category I and II areas. Category I PSPAs include those areas in which fundamental geologic conditions (depth and

thickness of peat deposit), potential for future development, and evidence of past settlement indicate a significant hazard potential exists. The Greenwood area is the only area that is proposed to be designated Category I due to substantial subsurface peat deposits, potential for continuing development, and evidence of acute settlement occurring in the neighborhood. Category II bog areas are all bog areas that are not Category I bog areas.

A buffer area is included in the proposed PSPAs in recognition of the fact that development on areas outside of, but nearby areas with peat deposits, may result in settlement impacts (due to groundwater changes). A 50-foot buffer is proposed for Category I PSPAs and a 25-foot buffer would apply to Category II areas. These buffer distances would be comparable to buffers applied to wetland, riparian corridor, and shoreline ECAs. In total, the proposed amendment would designate 79 acres of Category I and 1316 acres of Category II areas.

Development Standards. Within PSPAs, the following standards would be applied to all new development. These regulations are intended to mitigate potential settlement impacts by avoiding modification of the groundwater regime.

The following provisions would apply within <u>all</u> PSPAs:

- A geotechnical report would be required for any development involving excavation with a soil depth of 30 or more inches. The report must identify the annual (high static) groundwater level.
- New development below the annual groundwater level would be prohibited excluding certain outright exceptions (such as geologic testing, pilings, or utility connections) and other activities where it can be demonstrated by the applicant that development can occur without settlement impacts.
- The Director would have the authority to require mitigating measures and waive or modify certain development standards. For example, parking requirements may be reduced to the minimum extent necessary when underground parking would not be allowed, except in single-family, residential small lot, and low-rise zones.

In addition to the provisions above, the following would apply within <u>Category I areas:</u>

- All permit approvals that include any new impervious surface will be required to undergo drainage review under the Stormwater, Grading and Drainage Control Code (regardless of meeting the existing thresholds for the SGDC Code).
- An increase of total impervious surface on a site will be allowed only if an infiltration facility or soil amendment project designed according to best management practices is implemented to offset lost infiltration function. Replaced or reconfigured impervious surface, as well as pervious surfaces, will not have to be offset.

Development in a PSPA is only subject to the general development standards of the ECA Code relating to tree protections, erosion control, and other site management practices where required because of the presence of other ECA designations on the site.

Small project waivers, which allow minor development projects in ECAs where they might otherwise be prohibited, would not be allowed for development in PSPAs.

Applicants with parcels 50,000 square feet or larger may further delineate the boundary of a PSPA on their parcel (and therefore the extent of the parcel subject to PSPA development standards). This delineation will be based on *City of Seattle Identified Bogs* report and any additional information required by the Director.

Summary

The proposed amendments to the Environmentally Critical Area (ECA) and Stormwater, Grading and Drainage Control Ordinances would create a Peat Settlement-Prone Area (PSPA) designation and apply development regulations for new development within these areas. The amendments are intended to allow for appropriate development within a PSPA while mitigating the off-site settlement impacts.

Brennon Staley/bes
DPD – Peat Settlement-prone ECA - ORD.doc
June 10, 2008
Version #2

ORDINANCE _____

AN ORDINANCE relating to environmentally critical areas, amending Sections 22.802.020, 23.47A.012, 23.47A.013, 23.54.020, 25.09.015, 25.09.020, 25.09.030, 25.09.055, and 25.09.520, and adding a new Section 25.09.110 of the Seattle Municipal Code to designate and regulate Peat Settlement-prone Geologic Hazard Areas.

WHEREAS, peat-rich soils are prone to settlement, and therefore, development in areas underlain by, or in the vicinity of peat-rich soils may impact nearby parcels, and

WHEREAS, the Department of Planning and Development (DPD) has followed the Guidelines adopted by the Washington State Department of Community Trade and Economic Development, and in consideration of the Growth Management Act, as set out in the Best Available Science Report for Peat Settlement-prone Areas, attached as Exhibit B; and

WHEREAS, DPD has prepared regulations for development in areas with peat-rich soils in consideration of the public interest, and has met with affected communities in and around mapped peat deposits. NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Subsection A of Section 22.802.020 of the Seattle Municipal Code, which Section was last amended by Ordinance 119965, is amended as follows:

22.802.020 Drainage control review and application requirements.

A. Thresholds for Drainage Control Review. Drainage control review and approval shall be required for any of the following:

1. Standard drainage control review and approval shall be required for the following:

a. Any land disturbing activity encompassing an area of seven hundred fifty (750) square feet or more;

b. Applications for either a master use permit or building permit that includes the cumulative addition of seven hundred fifty (750) square feet or more of land disturbing activity and new and replaced impervious surface;

c. Applications for which a grading permit or approval is required;

d. Applications for street use permits for the cumulative addition of seven hundred fifty (750) square feet or more of new and replaced impervious surface and land disturbing activity after the effective date of the ordinance codified in this subtitle;

e. City public works project or construction contracts, including contracts for day labor and other public works purchasing agreements, for the cumulative addition of seven hundred fifty (750) square feet or more of new and replaced impervious surface and land disturbing activity to the site after the effective date of the ordinance codified in this subtitle, except for projects in a City-owned right-of-way and except for work performed for the operation and maintenance of park lands under the control or jurisdiction of the Department of Parks and Recreation;

f. Permit approvals and contracts that include any new or replaced impervious surface on a site deemed a potentially hazardous location, as specified in Section 22.800.050; ~~(or)~~

g. Permit approvals that include any new impervious surface in a Category I peat settlement-prone area delineated pursuant to Section 25.09.020; or

((g))h. Whenever an exception to a requirement set forth in this subtitle or in a rule promulgated under this subtitle is desired, whether or not review and approval would otherwise be required, including but not limited to, alteration of natural drainage patterns or the obstruction of watercourses.

2. Large project drainage control review and approval shall be required for projects that include:

a. Five thousand (5,000) square feet or more of new or replaced impervious surface; or

b. One (1) acre or more of land disturbing activity.

3. The City may, by interagency agreement signed by the Directors of SPU and ((~~DCLU~~))DPD, waive the drainage and erosion control permit and document requirements for property owned by public entities, when discharges for the property do not enter the public drainage control system or the public combined sewer system. Whether or not they are required to obtain permits or submit documents, public entities are subject to the substantive requirements of this subtitle, unless exceptions are granted as set forth in Section 22.808.010.

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Section 2. Subsection A of section 23.47A.012 of the Seattle Municipal Code, which Section was last amended by Ordinance 122311, is amended as follows:

23.47A.012 Structure height.

A. Maximum Height. The height limit for structures in NC zones or C zones is thirty (30) feet, forty (40) feet, sixty-five (65) feet, eighty-five (85) feet, one hundred twenty-five (125) feet, or one hundred sixty (160) feet, as designated on the Official Land Use Map, Chapter 23.32. Structures may not exceed the applicable height limit, except as otherwise provided in this section. Within the South Lake Union Urban Center, any modifications or exceptions to maximum structure height are allowed solely according to the provisions of the Seattle Mixed Zone, subsections 23.48.010 B1-3, D and E, and not according to the provisions of this section.

1. In zones with a thirty (30) foot or forty (40) foot mapped height limit, except in the South Lake Union Urban Center:

a. the height of a structure may exceed the otherwise applicable limit by up to four (4) feet, subject to subsection A1c of this section, provided the following conditions are met:

(1) Either

(a) A floor-to-floor height of thirteen (13) feet or more is provided for nonresidential uses at street level; or

(b) A residential use is located on a street-level, street facing facade, and the first floor of the structure at or above grade is at least four (4) feet above sidewalk grade; and

(2) The additional height allowed for the structure will not allow an additional story beyond the number that could be built under the otherwise applicable height limit.

b. The height of a structure may exceed the otherwise applicable limit by up to seven (7) feet, subject to subsection A1c of this section, provided all of the following conditions are met:

(1) Residential and multipurpose retail sales uses are located in the same structure;

(2) The total gross floor area of at least one (1) multi-purpose retail sales use exceeds twelve thousand (12,000) square feet;

(3) A floor-to-floor height of sixteen (16) feet or more is provided for the multi-purpose retail sales use at street level;

(4) The additional height allowed for the structure will not allow an additional story beyond the number that could be built under the otherwise applicable height limit if a sixteen (16) foot floor-to-floor height were not provided at street level; and

(5) The structure is not allowed additional height under subsection A1a of this section.

c. The Director shall reduce or deny the additional structure height permitted by this subsection A1 if the additional height otherwise would significantly block views from neighboring residential structures of any of the following: Mount Rainier, the Olympic and Cascade Mountains, the downtown skyline, Green Lake, Puget Sound, Lake Washington, Lake Union and the Ship Canal.

2. For any lot within the designated areas shown on Map 23.47A.012 A, the maximum structure height in NC zones or C zones with a forty (40) foot height limit may be increased to sixty-five (65) feet, provided that all portions of the structure above forty (40) feet contain only residential uses, and provided that no additional height is allowed under subsection A1 of this section.

3. Monorail transit facilities may exceed the height limit of the zone according to the provisions of Section 23.80.004 or Section 15.54.020.

4. Within the South Lake Union Urban Center, maximum structure height shall be determined according to the provisions of the Seattle Mixed Zone, Section 23.48.010.

5. Within the Station Area Overlay District within the University District Northwest Urban Center Village, maximum structure height may be increased to one hundred twenty-five (125) feet when all of the following are met:

a. The lot is within two (2) blocks of a planned or existing light rail station;

b. The proposed use of the lot is functionally related to other office development, permitted prior to 1971, to have over five hundred thousand (500,000) square feet of gross floor area to be occupied by a single entity;

c. A transportation management plan for the life of the use includes incentives for light rail and other transit use by the employees of the office use;

d. The development shall provide street level amenities for pedestrians and shall be designed to promote pedestrian interest, safety, and comfort through features such as landscaping, lighting and transparent facades, as determined by the Director; and

e. This subsection can be used only once per functionally related development.

6. On a lot containing a peat settlement-prone environmentally critical area, the height of a structure may exceed the otherwise applicable limit by up to five (5) feet, in addition to other exceedances allowed in this section, provided the following conditions are met:

a. The Director finds that locating a story of parking below grade is infeasible due to physical site conditions such as a high water table;

b. The Director finds that the additional height allowed for the structure is necessary to accommodate parking located partially below grade that extends no more that five (5) feet above existing or finished grade, whichever is lower, as measured to the finished floor level or roof above; and

c. The additional height allowed for the structure will not allow an additional story beyond the number of stories that could be built under the otherwise applicable height limit with a single story of underground parking.

***

Section 3. Subsections A and D of section 23.47A.013 of the Seattle Municipal Code, which Section was last amended by Ordinance 122311, is amended as follows:

23.47A.013 Floor area ratio.

A. Floor area ratio (FAR) limits apply to all structures and lots in all NC zones and C zones.

1. All gross floor area not exempt under subsection D of this Section is counted against the maximum gross floor area allowed by the permitted FAR.

2. When there are multiple structures on a lot, the highest FAR limit applicable to any structure on the lot applies to the combined non-exempt gross floor area of all structures on the lot, subject to subsection A4 of this section.

3. Above-grade parking within or covered by a structure or portion of a structure must be included in gross floor area calculations, except as provided in subsection D6.

4. When a lot is in more than one zone, the FAR limit for each zone applies to the portion of the lot located in that zone.

***

D. The following floor area is exempt from calculation of gross floor area subject to FAR limits:

1. All gross floor area below existing or finished grade, whichever is lower;

2. Gross floor area of a transit station, including all floor area open to the general public during normal hours of station operation but excluding retail or service establishments to which public access is limited to customers or clients, even where such establishments are primarily intended to serve transit riders;

3. Within the South Lake Union Urban Center, gross floor area occupied by mechanical equipment located on the roof of a structure;

4. Within the South Lake Union Urban Center, mechanical equipment that is accessory to a research and development laboratory, up to fifteen (15) percent of the gross floor area of a structure. The allowance is calculated on the gross floor area of the structure after all space exempt under this subsection is deducted; and

5. Within the First Hill Urban Center Village, on lots zoned NC3, with a one hundred and sixty (160) foot height limit, all gross floor area occupied by a residential use.

6. On a lot containing a peat settlement-prone environmentally critical area, above-grade parking within or covered by a structure or portion of a structure where the Director finds that locating a story of parking below grade is infeasible due to physical site conditions such as a high water table, if either:

a. the above-grade parking extends no more that five (5) feet above existing or finished grade, whichever is lower, as measured to the finished floor level or roof above; or

b. all of the following conditions are met:

(1) no above-grade parking is exempted by subsection D6a

(2) the parking is accessory to a residential use on the lot;

(3) total parking on the lot does not exceed 1 space for each residential dwelling unit plus the number of spaces required by this Code for non-residential uses; and

(4) the amount of gross floor area exempted by this subsection D6b does not exceed twenty-five (25) percent of the area of the lot in zones with a height limit less than sixty-five (65) feet, or fifty (50) percent of the area of the lot in zones with a height limit sixty-five (65) feet or greater.

***

Section 4. Section 23.54.020 of the Seattle Municipal Code, which section was last amended by Ordinance 122311, is amended to add a new subsection K as follows:

23.54.020 Parking quantity exceptions.

The parking quantity exceptions set forth in this section apply in all zones except downtown zones, which are regulated by Section 23.49.019, and Major Institution zones, which are regulated by Section 23.54.016.

* * *

K. Peat Settlement-prone Environmentally Critical Areas. Except in Single-family, Residential Small Lot, and Lowrise zones, the Director may reduce or waive the minimum accessory off-street parking requirements to the minimum extent necessary to offset underground parking potential lost to limitations set forth in Section 25.09.110 on development below the annual high static groundwater level in peat settlement-prone areas. In making any such reduction or waiver, the Director will assess area parking needs. The Director may require a survey of on- and off-street parking availability. The Director may take into account the level of

transit service in the immediate area; the probable relative importance of walk-in traffic; proposals by the applicant to encourage carpooling or transit use by employees; hours of operation; and any other factor or factors considered relevant in determining parking impact.

Section 5. Subsection A of Section 25.09.015 of the Seattle Municipal Code, which Section was last amended by Ordinance 122370, is amended as follows:

25.09.015 Application of chapter

A. This chapter applies to any development, as defined in Section 25.09.520, or platting carried out by any person on publicly or privately owned parcels containing an environmentally critical area or buffer, except that parcels that are solely within seismic or volcanic hazards areas, as defined in Sections 25.09.020.A.((~~5~~))6 and 25.09.020.A.((~~6~~))7, and that are not liquefaction-prone areas are subject only to Sections 25.09.010, 25.09.017.A, B, C and F, 25.09.020, and 25.09.030.

Section 6. Section 25.09.020 of the Seattle Municipal Code, which Section was last amended by Ordinance 122370, is amended as follows:

25.09.020 Environmentally critical areas definitions.

The following are environmentally critical areas designated by this chapter: geologic hazard areas, steep slope areas, flood-prone areas, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills.

A. Geologic Hazard Areas and Steep Slope Areas.

1. Geologic hazard areas are liquefaction-prone areas, landslide-prone areas, peat settlement-prone areas, seismic hazards areas and volcanic hazard areas described in subsections 2, 3, 5, ((~~and~~)) 6, and 7. Landslide-prone areas include steep slope areas. Steep slope areas that are regulated for additional erosion hazards are described in subsection 4.

2. Liquefaction-prone Areas. Liquefaction-prone areas are areas typically underlain by cohesionless soils of low density, usually in association with a shallow groundwater table, that lose substantial strength during earthquakes.

3. Landslide-prone Areas. The following are landslide-prone areas:

a. Known landslide areas identified by documented history, or areas that have shown significant movement during the last ten thousand (10,000) years or are underlain by mass wastage debris deposited during this period; or

b. Potential landslide areas:

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 2000 and 2003)

(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or backtilted trees.

(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.

(4) Setbacks at the top of very steep slopes or bluffs, depending on soil conditions.

(5) Slopes with an incline of forty (40) percent or more within a vertical elevation change of at least ten feet (10').

For the purpose of this definition, a slope is measured by establishing its toe and top and averaging the inclination over at least ten feet (10') of elevation difference.

Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at

forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25').

(6) Areas that would be covered under one of subsections (2) to (5), but where the topography has been previously modified through the provision of retaining walls or non-engineered cut and fill operations;

(7) Any slope area potentially unstable as a result of rapid stream incision or stream bank erosion.

4. Steep Slope Areas. Steep slope areas are areas with a slope described in subsection A3b(5) above; provided that when such a slope is on a parcel in a Downtown zone or highrise zone, the area is designated only as a landslide prone area.

5. Peat Settlement-prone Areas.

a. Peat settlement-prone areas, which consist of Category I and Category II peat settlement-prone areas, are delineated on Maps A1 through A26, Peat Settlement-prone Area Boundaries Maps, codified at the end of this chapter.

b. The Director may, at the request of the owner of a parcel larger than 50,000 square feet, provide a parcel-specific delineation of the peat settlement-prone area boundary on that parcel. Where a parcel-specific delineation conflicts with the Peat Settlement-prone Area Boundaries Maps, the parcel-specific delineation shall apply. The parcel-specific delineation is based on the location of the relevant bog or bogs identified in *City of Seattle*

Identified Bogs (Troost 2007) plus a buffer of 50 feet for Category I peat settlement-prone areas or a buffer of 25 feet for Category II peat settlement-prone areas.

((~~5~~))6. Seismic Hazard Areas. In addition to liquefaction-prone areas described in subsection 2 above, seismic hazard areas are the following:

a. Areas of the City subject to ground shaking from seismic hazards that are addressed by the Building Code (SMC Title 22).

b. The Seattle Fault zone as delineated in Troost et al., 2005, *The geologic map of Seattle, a progress report, U.S. Geological Survey, Open-file report 2005-1252* or as the Director determines is more accurately mapped by the U.S. Geological Survey, as set out in a Director's Rule.

c. For tsunamis the waterbody of Lake Washington and for tsunamis and tsunami inundation, the water body and land area as shown in Walsh, et al., 2003, *Tsunami hazard map of the Elliott Bay area, Seattle, Washington: Modeled tsunami inundation from a Seattle Fault earthquake, Washington State Department of Natural Resources and National Oceanic and Atmospheric Administration. Washington Division of Geology and Earth Resources Open File Report 2003-14*, or as the Director determines are more accurately mapped by the National Oceanic and Atmospheric Administration, the U.S. Geological Survey or the Washington State Department of Natural Resources, as set out in a Director's Rule.

d. The shoreline and upland areas surrounding Lake Washington are classified as an unknown risk from tsunamis under WAC 365-190-080 (4)(b)(iii).

e. For seiches, the waterbodies of Elliot Bay, Lake Union and Lake Washington.

f. The shoreline and upland areas surrounding the waterbodies in subsection (e) are classified as an unknown risk from seiches under WAC 365-190-080 (4)(b)(iii)

((~~6~~))7. Volcanic Hazard Areas. Volcanic hazard areas are areas subject to inundation by lahars or related flooding resulting from volcanic activity on Mount Rainier, as delineated by the U.S. Geological Survey in Hoblitt, et.al, 1998, *Volcano Hazards from Mount Rainier, Washington, Revised 1998: U.S. Geological Survey Open-File Report 98-428*, or as the Director determines are more accurately mapped by the U.S. Geological Survey, as set out in a Director's Rule.

***

Section 7. Section 25.09.030 of the Seattle Municipal Code, which Section was last amended by Ordinance 122370, is amended as follows:

25.09.030 Location of environmentally critical areas and buffers.

A. Environmentally critical areas are defined in Section 25.09.020, and buffers are described in Sections 25.09.160, 25.09.180, and 25.09.200B. Environmentally critical areas are mapped whenever possible. Except for the maps adopted as designations for geologically hazardous areas in subsections 25.09.020.A.5 ((~~and~~)), 6, and 7, these maps are advisory. The Director may update or amend the maps by Director's Rule.

B. The Director shall determine whether a parcel contains an environmentally critical area or buffer before other provisions of this chapter are applied. In determining whether a parcel contains an environmentally critical area or buffer, the Director may consider the environmentally critical areas maps, site surveys, topographic maps, technical environmental analysis, and any other information the Director determines necessary. In determining whether development is subject to regulation under Section 25.09.110, the Director may consider only whether the development will occur within an area delineated pursuant to subsection 25.09.020 A5.

Section 8. Subsection A of Section 25.09.055 of the Seattle Municipal Code, which Section was last amended by Ordinance 122050, is amended as follows:

25.09.055 Small project waiver.

A. The Director may approve new accessory structures or additions to existing structures in the environmentally critical areas and buffers listed in subsection A2, provided that no construction occurs over or in a water course, water body, or wetland, when the applicant demonstrates the proposal meets the following criteria:

1. The new accessory structure or addition to an existing structure is on a lot that has been in existence as a legal building site prior to October 31, 1992.

2. The development does not exceed one hundred and fifty (150) square feet in riparian management areas or in wetland buffers, three hundred (300) square feet in steep slope areas or buffers, or seven hundred fifty (750) square feet in landslide-prone (except steep slope), liquefaction-prone, flood-prone, and abandoned land fill areas, all calculated cumulatively from October 31, 1992. When the new accessory structure or addition to an existing structure is on a lot that is or has been held in common ownership with a contiguous lot and the lots are or have been used for a single principal use or for a principal use and accessory use, the limitation applies to the entire site.

3. It is not possible to build the accessory structure or addition to an existing structure for the intended purpose out of the environmentally critical area or buffer.

4. The location of the accessory structure or addition to an existing structure keeps impact on the environmentally critical area and buffer to a minimum.

5. In landslide-prone areas the Director may require a soils report prepared by a qualified geotechnical engineer or geologist licensed by the State of Washington demonstrates that it is safe to construct the new accessory structure or the addition to an existing structure.

* * *

Section 9. A new Section 25.09.110 of the Seattle Municipal Code, is adopted to read as follows:

25.09.110 Development standards for peat settlement-prone areas.

A. The general development standards set out in Section 25.09.060 do not apply to peat settlement-prone areas.

B. A geotechnical study detailing the location of the annual high static groundwater level is required for development in peat settlement-prone areas that involve excavation more than thirty (30) inches below the existing grade.

C. No development shall occur within a peat settlement-prone area below the annual high static groundwater level except to the minimum extent the Director deems necessary to allow the following:

1. Structural components required under Title 22, Subtitle I and IA, the Building Code and Residential Code;

2. Utility lines, including but not limited to drainage and sanitary side sewers and stormwater conveyance facilities, but excluding groundwater collection systems;

3. Geotechnical testing;

4. Maintenance, repair, renovation, or structural alteration of an existing structure if that activity, even though it might involve construction activity below the annual high static groundwater level, does not increase the extent of the structure below the annual high static groundwater level;

5. Aquatic habitat restoration;

6. Infiltration facilities or other development designed primarily to encourage recharge or infiltration of water to the groundwater;

7. Replacement of contaminated soils with other soils or fills when the applicant demonstrates to the satisfaction of the Director that the removal will not increase the likelihood of settlement on off-site parcels;

8. Public utility facilities designed to provide drinking water, control flooding or protect against sanitary or combined sewer overflow when the applicant demonstrates to the satisfaction of the Director that the facilities have been designed to avoid or minimize to the maximum extent practicable impacts to the groundwater regime; or

9. Elevator pits necessary to meet accessibility standards required by City law.

D. Groundwater collection systems are prohibited in peat settlement-prone area unless otherwise required by law.

E. Development in a Category I peat settlement-prone area shall not increase the total impervious surface on the site unless the Director approves using an infiltration facility or soil amendments that offset the lost infiltration function. The Director may waive this requirement to the extent offsetting the lost infiltration function would adversely affect a landslide-prone area or steep slope area.

F. For construction activity in a peat settlement-prone area, the Director may require additional construction practices, methods, and restrictions that limit temporary groundwater de-watering.

G. In a peat settlement-prone area, land-disturbing activities with the potential to modify the groundwater regime are limited to the minimum reasonably necessary for development. Surface drainage systems or substantial earth modifications shall be professionally designed to prevent maintenance problems and adverse impacts to off-site parcels.

H. In addition to requiring the information provided pursuant to Section 25.09.330 and to Director's Rules, the Director may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. Third-party

review requires the applicant's geotechnical and/or additional technical studies to be reviewed by an independent third party, paid for by the applicant but hired by the Director. Third-party review shall be conducted by a qualified engineering consultant.

I. The Director may waive compliance with some or all of the requirements of subsections B - G for a project in a Category II peat settlement-prone area to the extent the applicant demonstrates to the satisfaction of the Director that the project has been designed to avoid adverse impacts to off-site parcels from peat settlement. Such impacts include but are not limited to any adverse, off-site effect resulting from temporary dewatering during construction, groundwater inflow due to normal operation and maintenance of underground structures, groundwater inflow due to potential future leaks that could occur in underground structures, and reduced impervious surface. Projects qualifying for a waiver under this subsection may include but are not limited to the following:

1. Projects involving concurrent removal of all peat contained in an entire peat settlement-prone area;

2. Concurrent development or redevelopment of the entire peat settlement-prone area that is designed to minimize modification of the groundwater table and avoid impacts of future settlement through design of new structures; or

3. Projects that are designed to minimize modification of the groundwater regime and that avoid potential adverse, off-site settlement impacts by retrofitting existing structures on off-site parcels within the entire peat settlement-prone area.

J. Standards for height and floor area ratio may be modified on lots containing a peat settlement-prone environmentally critical area as provided in 23.47A.012 and 23.47A.013.

K. Nothing in this section (including but not limited to subsection I) limits the authority of the Director pursuant to other applicable codes or regulations (including but not limited to Title 22, Subtitles I and IA, the Building Code and Residential Code) to require additional

studies or impose additional conditions to address project-related risks arising in peat settlement-prone areas.

Section 10. Section 25.09.520 of the Seattle Municipal Code, which Section was last amended by Ordinance 122050, is amended as follows:

25.09.520 Definitions.

***

"Annual high static groundwater level" means the highest elevation where the soil is saturated with the main body of groundwater during any part of the year.

***

"Contaminated soils" is defined in Section 21.36.012, Solid Waste Code.

***

"Groundwater regime" means the amount, distribution, and seasonal variation of water below the surface of the land.

***

"Infiltration facility" is defined in Section 22.801.100, Stormwater, Grading and Drainage Control Code.

***

"Utility lines" means pipes, cables or other linear conveyance systems used to transport power,

water, gas, oil, wastewater or similar items.

***

Section 11. The provisions of this ordinance are declared to be separate and severable. The invalidity of any particular provision shall not affect the validity of any other provision.

Section 12. This ordinance shall take effect and be in force thirty (30) days from and after its approval by the Mayor, but if not approved and returned by the Mayor within ten (10) days after presentation, it shall take effect as provided by Municipal Code Section 1.04.020.

Passed by the City Council the ____ day of _____, 2008, and signed by me in open session in authentication of its passage this _____ day of _____, 2008.

_____
President _____of the City Council

Approved by me this ____ day of _____, 2008.

_____
Gregory J. Nickels, Mayor

Filed by me this ____ day of _____, 2008.

_____
City Clerk

(Seal)

Exhibit A: Peat Settlement-prone Areas Boundaries Maps A1 – A26

Exhibit B: Best Available Science Report for Peat Settlement-prone Areas

STATE OF WASHINGTON – KING COUNTY

--ss.

227275 No.
CITY OF SEATTLE,CLERKS OFFICE

Affidavit of Publication

The undersigned, on oath states that he is an authorized representative of The Daily Journal of Commerce, a daily newspaper, which newspaper is a legal newspaper of general circulation and it is now and has been for more than six months prior to the date of publication hereinafter referred to, published in the English language continuously as a daily newspaper in Seattle, King County, Washington, and it is now and during all of said time was printed in an office maintained at the aforesaid place of publication of this newspaper. The Daily Journal of Commerce was on the 12th day of June, 1941, approved as a legal newspaper by the Superior Court of King County.

The notice in the exact form annexed, was published in regular issues of The Daily Journal of Commerce, which was regularly distributed to its subscribers during the below stated period. The annexed notice, a

CT:122738 ORDINANCE

was published on

07/30/08

The amount of the fee charged for the foregoing publication is the sum of $2,204.33, which amount has been paid in full.

JENNIFER A. PATZER NOTARY PUBLIC COMMISSION EXPIRES JULY 24, 2011 STATE OF WASHINGTON

Subscribed and sworn to before me on

07/30/08

Notary public for the State of Washington,
residing in Seattle

Affidavit of Publication

ORDINANCE 122738

AN ORDINANCE relating to environmentally critical areas, amending Sections 22.802.020, 23.47A.012, 23.47A.013, 23.54.020, 25.09.015, 25.09.020, 25.09.030, 25.09.055, and 25.09.520, and adding a new Section 25.09.110 of the Seattle Municipal Code to designate and regulate Peat Settlement-prone Geologic Hazard Areas.

WHEREAS, peat-rich soils are prone to settlement, and therefore, development in areas underlain by, or in the vicinity of peat-rich soils may impact nearby parcels, and

WHEREAS, the Department of Planning and Development (DPD) has followed the Guidelines adopted by the Washington State Department of Community Trade and Economic Development, and in consideration of the Growth Management Act, as set out in the Best Available Science Report for Peat Settlement-prone Areas, attached as Exhibit B; and

WHEREAS, DPD has prepared regulations for development in areas with peat-rich soils in consideration of the public interest, and has met with affected communities in and around mapped peat deposits. NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Subsection A of Section 22.802.020 of the Seattle Municipal Code, which Section was last amended by Ordinance 119965, is amended as follows:

22.802.020 Drainage control review and application requirements.

A. Thresholds for Drainage Control Review. Drainage control review and approval shall be required for any of the following:

1. Standard drainage control review and approval shall be required for the following:

a. Any land disturbing activity encompassing an area of seven hundred fifty (750) square feet or more;

b. Applications for either a master use permit or building permit that includes the cumulative addition of seven hundred fifty (750) square feet or more of land disturbing activity and new and replaced impervious surface;

c. Applications for which a grading permit or approval is required;

d. Applications for street use permits for the cumulative addition of seven hundred fifty (750) square feet or more of new and replaced impervious surface and land disturbing activity after the effective date of the ordinance codified in this subtitle;

e. City public works project or construction contracts, including contracts for day labor and other public works purchasing agreements, for the cumulative addition of seven hundred fifty (750) square feet or more of new and replaced impervious surface and land disturbing activity to the site after the effective date of the ordinance codified in this subtitle, except for projects in a City-owned right-of-way and except for work performed for the operation and maintenance of park lands under the control or jurisdiction of the Department of Parks and Recreation;

f. Permit approvals and contracts that include any new or replaced impervious surface on a site deemed a potentially hazardous location, as specified in Section 22.800.050; ~~(or)~~

g. Permit approvals that include any new impervious surface in a Category I peat settlement-prone area delineated pursuant to Section 25.09.020; or

((g))h. Whenever an exception to a requirement set forth in this subtitle or in a rule promulgated under this subtitle is desired, whether or not review and approval would otherwise be required, including but not limited to, alteration of natural drainage patterns or the obstruction of watercourses.

2. Large project drainage control review and approval shall be required for projects that include:

a. Five thousand (5,000) square feet or more of new or replaced impervious surface; or

b. One (1) acre or more of land disturbing activity.

3. The City may, by interagency agreement signed by the Directors of SPU and

3. Monorail transit facilities may exceed the height limit of the zone according to the provisions of Section 23.80.004 or Section 15.54.020.

4. Within the South Lake Union Urban Center, maximum structure height shall be determined according to the provisions of the Seattle Mixed Zone, Section 23.48.010.

5. Within the Station Area Overlay District within the University District Northwest Urban Center Village, maximum structure height may be increased to one hundred twenty-five (125) feet when all of the following are met:

a. The lot is within two (2) blocks of a planned or existing light rail station;

b. The proposed use of the lot is functionally related to other office development, permitted prior to 1971, to have over five hundred thousand (500,000) square feet of gross floor area to be occupied by a single entity;

c. A transportation management plan for the life of the use includes incentives for light rail and other transit use by the employees of the office use;

d. The development shall provide street level amenities for pedestrians and shall be designed to promote pedestrian interest, safety, and comfort through features such as landscaping, lighting and transparent facades, as determined by the Director; and

e. This subsection can be used only once per functionally related development.

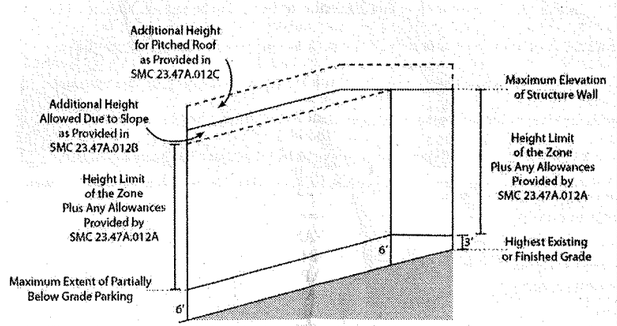
6. On a lot containing a peat settlement-prone environmentally critical area, the height of a structure may exceed the otherwise applicable height limit and the other height allowances provided by this section by up to three (3) feet. In addition, three (3) more feet of height may be allowed for any wall of a structure on a sloped lot, provided that on the uphill side(s) of the structure, the maximum elevation of the structure height shall be no greater than the height allowed by the first sentence of this subsection A6 (Exhibit 23.47A.012 A). The Director may apply the allowances in this subsection A6 only if the following conditions are met:

a. The Director finds that locating a story of parking underground is infeasible due to physical site conditions such as a high water table;

b. The Director finds that the additional height allowed for the structure is necessary to accommodate parking located partially below grade that extends no more that six (6) feet above existing or finished grade and no more than three (3) feet above the highest existing or finished grade along the structure footprint, whichever is lower, as measured to the finished floor level above; and

c. Other than the additional story of parking allowed pursuant to this subsection A6, the additional height allowed for the structure by this subsection A6 will not allow an additional story beyond the number of stories that could be built under the otherwise applicable height limit.

Exhibit 23.47A.012A
Height Allowance on Lots Containing Peat Settlement-Prone Areas



The parking quantity exceptions set forth in this section apply in all zones except downtown zones, which are regulated by Section 23.49.019, and Major Institution zones, which are regulated by Section 23.54.016.

* * *

K. Peat Settlement-prone Environmentally Critical Areas. Except in Single-family, Residential Small Lot, and Lowrise zones, the Director may reduce or waive the minimum accessory off-street parking requirements to the minimum extent necessary to offset underground parking potential lost to limitations set forth in Section 25.09.110 on development below the annual high static groundwater level in peat settlement-prone areas. In making any such reduction or waiver, the Director will assess area parking needs. The Director may require a survey of on- and off-street parking availability. The Director may take into account the level of transit service in the immediate area; the probable relative importance of walk-in traffic; proposals by the applicant to encourage carpooling or transit use by employees; hours of operation; and any other factor or factors considered relevant in determining parking impact.

Section 5. Subsection A of Section 25.09.015 of the Seattle Municipal Code, which Section was last amended by Ordinance 122370, is amended as follows:

25.09.015 Application of chapter

A. This chapter applies to any development, as defined in Section 25.09.520, or platting carried out by any person on publicly or privately owned parcels containing an environmentally critical area or buffer, except that parcels that are solely within seismic or volcanic hazards areas, as defined in Sections 25.09.020.A.((5))6 and 25.09.020.A.((6))7, and that are not liquefaction-prone areas are subject only to Sections 25.09.010, 25.09.017.A, B, C and F, 25.09.020, and 25.09.030.

Section 6. Section 25.09.020 of the Seattle Municipal Code, which Section was last amended by Ordinance 122370, is amended as follows:

25.09.020 Environmentally critical areas definitions.

The following are environmentally critical areas designated by this chapter: geologic hazard areas, steep slope areas, flood-prone areas, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills.

A. Geologic Hazard Areas and Steep Slope Areas.

1. Geologic hazard areas are liquefaction-prone areas, landslide-prone areas, peat settlement-prone areas, seismic hazards areas and volcanic hazard areas described in subsections 2, 3, 5, ((and)) 6, and 7. Landslide-prone areas include steep slope areas. Steep slope areas that are regulated for additional erosion hazards are described in subsection 4.

2. Liquefaction-prone Areas. Liquefaction-prone areas are areas typically underlain by cohesionless soils of low density, usually in association with a shallow groundwater table, that lose substantial strength during earthquakes.

3. Landslide-prone Areas. The following are landslide-prone areas:

a. Known landslide areas identified by documented history, or areas that have shown significant movement during the last ten thousand (10,000) years or are underlain by mass wastage debris deposited during this period; or

b. Potential landslide areas:

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 2000 and 2003)

(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or backtilted trees.

(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.

(4) Setbacks at the top of very steep slopes or bluffs, depending on

((~~DCLU~~))DPD, waive the drainage and erosion control permit and document requirements for property owned by public entities, when discharges for the property do not enter the public drainage control system or the public combined sewer system. Whether or not they are required to obtain permits or submit documents, public entities are subject to the substantive requirements of this subtitle, unless exceptions are granted as set forth in Section 22.808.010.

***

Section 2. Subsection A of section 23.47A.012 of the Seattle Municipal Code, which Section was last amended by Ordinance 122311, is amended as follows:

23.47A.012 Structure height.

A. Maximum Height. The height limit for structures in NC zones or C zones is thirty (30) feet, forty (40) feet, sixty-five (65) feet, eighty-five (85) feet, one hundred twenty-five (125) feet, or one hundred sixty (160) feet, as designated on the Official Land Use Map, Chapter 23.32. Structures may not exceed the applicable height limit, except as otherwise provided in this section. Within the South Lake Union Urban Center, any modifications or exceptions to maximum structure height are allowed solely according to the provisions of the Seattle Mixed Zone, subsections 23.48.010 B1-3, D and E, and not according to the provisions of this section.

1. In zones with a thirty (30) foot or forty (40) foot mapped height limit, except in the South Lake Union Urban Center:

a. the height of a structure may exceed the otherwise applicable limit by up to four (4) feet, subject to subsection A1c of this section, provided the following conditions are met:

(1) Either

(a) A floor-to-floor height of thirteen (13) feet or more is provided for nonresidential uses at street level; or

(b) A residential use is located on a street-level, street facing facade, and the first floor of the structure at or above grade is at least four (4) feet above sidewalk grade; and

(2) The additional height allowed for the structure will not allow an additional story beyond the number that could be built under the otherwise applicable height limit.

b. The height of a structure may exceed the otherwise applicable limit by up to seven (7) feet, subject to subsection A1c of this section, provided all of the following conditions are met:

(1) Residential and multipurpose retail sales uses are located in the same structure;

(2) The total gross floor area of at least one (1) multi-purpose retail sales use exceeds twelve thousand (12,000) square feet;

(3) A floor-to-floor height of sixteen (16) feet or more is provided for the multi-purpose retail sales use at street level;

(4) The additional height allowed for the structure will not allow an additional story beyond the number that could be built under the otherwise applicable height limit if a sixteen (16) foot floor-to-floor height were not provided at street level; and

(5) The structure is not allowed additional height under subsection A1a of this section.

c. The Director shall reduce or deny the additional structure height permitted by this subsection A1 if the additional height otherwise would significantly block views from neighboring residential structures of any of the following: Mount Rainier, the Olympic and Cascade Mountains, the downtown skyline, Green Lake, Puget Sound, Lake Washington, Lake Union and the Ship Canal.

2. For any lot within the designated areas shown on Map 23.47A.012 A, the maximum structure height in NC zones or C zones with a forty (40) foot height limit may be increased to sixty-five (65) feet, provided that all portions of the structure above forty (40) feet contain only residential uses, and provided that no additional height is allowed under subsection A1 of this section.

***

Section 3. Subsections A and D of section 23.47A.013 of the Seattle Municipal Code, which Section was last amended by Ordinance 122311, is amended as follows:

23.47A.013 Floor area ratio.

A. Floor area ratio (FAR) limits apply to all structures and lots in all NC zones and C zones.

1. All gross floor area not exempt under subsection D of this Section is counted against the maximum gross floor area allowed by the permitted FAR.

2. When there are multiple structures on a lot, the highest FAR limit applicable to any structure on the lot applies to the combined non-exempt gross floor area of all structures on the lot, subject to subsection A4 of this section.

3. Above-grade parking within or covered by a structure or portion of a structure must be included in gross floor area calculations, except as provided in subsection D6.

4. When a lot is in more than one zone, the FAR limit for each zone applies to the portion of the lot located in that zone.

***

D. The following floor area is exempt from calculation of gross floor area subject to FAR limits:

1. All gross floor area below existing or finished grade, whichever is lower;

2. Gross floor area of a transit station, including all floor area open to the general public during normal hours of station operation but excluding retail or service establishments to which public access is limited to customers or clients, even where such establishments are primarily intended to serve transit riders;

3. Within the South Lake Union Urban Center, gross floor area occupied by mechanical equipment located on the roof of a structure;

4. Within the South Lake Union Urban Center, mechanical equipment that is accessory to a research and development laboratory, up to fifteen (15) percent of the gross floor area of a structure. The allowance is calculated on the gross floor area of the structure after all space exempt under this subsection is deducted; and

5. Within the First Hill Urban Center Village, on lots zoned NC3, with a one hundred and sixty (160) foot height limit, all gross floor area occupied by a residential use.

6. On a lot containing a peat settlement-prone environmentally critical area, above-grade parking within or covered by a structure or portion of a structure where the Director finds that locating a story of parking below grade is infeasible due to physical site conditions such as a high water table, if either:

a. the above-grade parking extends no more that six (6) feet above existing or finished grade and no more than three (3) feet above the highest existing or finished grade along the structure footprint, whichever is lower, as measured to the finished floor level or roof above, as depicted in Exhibit 23.47A.012A; or

b. all of the following conditions are met:

(1) no above-grade parking is exempted by subsection D6a

(2) the parking is accessory to a residential use on the lot;

(3) total parking on the lot does not exceed 1 space for each residential dwelling unit plus the number of spaces required by this Code for non-residential uses; and

(4) the amount of gross floor area exempted by this subsection D6b does not exceed twenty-five (25) percent of the area of the lot in zones with a height limit less than sixty-five (65) feet, or fifty (50) percent of the area of the lot in zones with a height limit sixty-five (65) feet or greater.

***

Section 4. Section 23.54.020 of the Seattle Municipal Code, which section was last amended by Ordinance 122311, is amended to add a new subsection K as follows:

23.54.020 Parking quantity exceptions.

soil conditions.

(5) Slopes with an incline of forty (40) percent or more within a vertical elevation change of at least ten feet (10').

For the purpose of this definition, a slope is measured by establishing its toe and top and averaging the inclination over at least ten feet (10') of elevation difference.

Also for the purpose of this definition:

(a) The "toe" of a slope means a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "toe" of a slope is the lower-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25'); and

(b) The "top" of a slope is a distinct topographic break in slope that separates slopes inclined at less than forty percent (40%) from slopes inclined at forty percent (40%) or more. Where no distinct break exists, the "top" of a slope is the upper-most limit of the area where the ground surface drops ten feet (10') or more vertically within a horizontal distance of twenty-five feet (25').

(6) Areas that would be covered under one of subsections (2) to (5), but where the topography has been previously modified through the provision of retaining walls or non-engineered cut and fill operations;

(7) Any slope area potentially unstable as a result of rapid stream incision or stream bank erosion.

4. Steep Slope Areas. Steep slope areas are areas with a slope described in subsection A3b(5) above; provided that when such a slope is on a parcel in a Downtown zone or highrise zone, the area is designated only as a landslide prone area.

5. Peat Settlement-prone Areas.

a. Peat settlement-prone areas, which consist of Category I and Category II peat settlement-prone areas, are delineated on Maps A1 through A26, Peat Settlement-prone Area Boundaries Maps, ~~c~~ [illegible] of the owner of a parcel larger than 50,000 square feet, provide a parcel-specific delineation of the peat settlement-prone area boundary on that parcel. Where a parcel-specific delineation conflicts with the Peat Settlement-prone Area Boundaries Maps, the parcel-specific delineation shall apply. The parcel-specific delineation is based on the location of the relevant bog or bogs identified in *City of Seattle Identified Bogs* (Troost 2007) plus a buffer of 50 feet for Category I peat settlement-prone areas or a buffer of 25 feet for Category II peat settlement-prone areas.

((~~5~~))6. Seismic Hazard Areas. In addition to liquefaction-prone areas described in subsection 2 above, seismic hazard areas are the following:

a. Areas of the City subject to ground shaking from seismic hazards that are addressed by the Building Code (SMC Title 22).

b. The Seattle Fault zone as delineated in Troost et al., 2005, *The geologic map of Seattle, a progress report, U.S. Geological Survey, Open-file report 2005-1252* or as the Director determines is more accurately mapped by the U.S. Geological Survey, as set out in a Director's Rule.

c. For tsunamis the waterbody of Lake Washington and for tsunamis and tsunami inundation, the water body and land area as shown in Walsh, et al., 2003, *Tsunami hazard map of the Elliott Bay area, Seattle, Washington: Modeled tsunami inundation from a Seattle Fault earthquake, Washington State Department of Natural Resources and National Oceanic and Atmospheric Administration. Washington Division of Geology and Earth Resources Open File Report 2003-14*, or as the Director determines are more accurately mapped by the National Oceanic and Atmospheric Administration, the U.S. Geological Survey or the Washington State Department of Natural Resources, as set out in a Director's Rule.

d. The shoreline and upland areas surrounding Lake Washington are classified as an unknown risk from tsunamis under WAC 365-190-080 (4)(b)(iii).

e. For seiches, the waterbodies of Elliot Bay, Lake Union and Lake Washington.

f. The shoreline and upland areas surrounding the waterbodies in subsection (e) are classified as an unknown risk from seiches under WAC 365-190-080 (4)(b)(iii)

((6))7. Volcanic Hazard Areas. Volcanic hazard areas are areas subject to inundation by lahars or related flooding resulting from volcanic activity on Mount Rainier, as delineated by the U.S. Geological Survey in Hoblitt, et.al, 1998, *Volcano Hazards from Mount Rainier, Washington, Revised 1998: U.S. Geological Survey Open-File Report 98-428*, or as the Director determines are more accurately mapped by the U.S. Geological Survey, as set out in a Director's Rule.

***

Section 7. Section 25.09.030 of the Seattle Municipal Code, which Section was last amended by Ordinance 122370, is amended as follows:

25.09.030 Location of environmentally critical areas and buffers.

A. Environmentally critical areas are defined in Section 25.09.020, and buffers are described in Sections 25.09.160, 25.09.180, and 25.09.200B. Environmentally critical areas are mapped whenever possible. Except for the maps adopted as designations for geologically hazardous areas in subsections 25.09.020.A.5 ((~~and~~)), 6, and 7, these maps are advisory. The Director may update or amend the maps by Director's Rule.

B. The Director shall determine whether a parcel contains an environmentally critical area or buffer before other provisions of this chapter are applied. In determining whether a parcel contains an environmentally critical area or buffer, the Director may consider the environmentally critical areas maps, site surveys, topographic maps, technical environmental analysis, and any other information the Director determines necessary. In determining whether development is subject to regulation under Section 25.09.110, the Director may consider only whether the development will occur within an area delineated pursuant to subsection 25.09.020 A5.

Section 8. Subsection A of Section 25.09.055 of the Seattle Municipal Code, which Section was last amended by Ordinance 122050, is amended as follows:

25.09.055 Small project waiver.

A. The Director may approve new accessory structures or additions to existing structures in the environmentally critical areas and buffers listed in subsection A2, provided that no construction occurs over or in a water course, water body, or wetland, when the applicant demonstrates the proposal meets the following criteria:

1. The new accessory structure or addition to an existing structure is on a lot that has been in existence as a legal building site prior to October 31, 1992.

2. The development does not exceed one hundred and fifty (150) square feet in riparian management areas or in wetland buffers, three hundred (300) square feet in steep slope areas or buffers, or seven hundred fifty (750) square feet in landslide-prone (except steep slope), liquefaction-prone, flood-prone, and abandoned land fill areas, all calculated cumulatively from October 31, 1992. When the new accessory structure or addition to an existing structure is on a lot that is or has been held in common ownership with a contiguous lot and the lots are or have been used for a single principal use or for a principal use and accessory use, the limitation applies to the entire site.

3. It is not possible to build the accessory structure or addition to an existing structure for the intended purpose out of the environmentally critical area or buffer.

4. The location of the accessory structure or addition to an existing structure keeps impact on the environmentally critical area and buffer to a minimum.

5. In landslide-prone areas the Director may require a soils report prepared by a qualified geotechnical engineer or geologist licensed by the State of Washington demonstrates that it is safe to construct the new accessory structure or the addition to an existing structure. applicant demonstrates to the satisfaction of the Director that the project has been designed to avoid adverse impacts to off-site parcels from peat settlement. Such impacts include but are not limited to any adverse, off-site effect resulting from temporary dewatering during construction, groundwater inflow due to normal operation and maintenance of underground structures, groundwater inflow due to potential future leaks that could occur in underground structures, and reduced impervious surface. Projects qualifying for a waiver under this subsection may include but are not limited to the following:

1. Projects involving concurrent removal of all peat contained in an entire peat settlement-prone area;

2. Concurrent development or redevelopment of the entire peat settlement-prone area that is designed to minimize modification of the groundwater table and avoid impacts of future settlement through design of new structures; or

3. Projects that are designed to minimize modification of the groundwater regime and that avoid potential adverse, off-site settlement impacts by retrofitting existing structures on off-site parcels within the entire peat settlement-prone area.

J. Standards for height and floor area ratio may be modified on lots containing a peat settlement-prone environmentally critical area as provided in 23.47A.012 and 23.47A.013.

K. Nothing in this section (including but not limited to subsection I) limits the authority of the Director pursuant to other applicable codes or regulations (including but not limited to Title 22, Subtitles I and IA, the Building Code and Residential Code) to require additional studies or impose additional conditions to address project-related risks arising in peat settlement-prone areas.

Section 10. Section 25.09.520 of the Seattle Municipal Code, which Section was last amended by Ordinance 122050, is amended as follows:

25.09.520 Definitions.

***

"Annual high static groundwater level" means the highest elevation where the soil is saturated with the main body of groundwater during any part of the year.

***

"Contaminated soils" is defined in Section 21.36.012, Solid Waste Code.

***

"Groundwater regime" means the amount, distribution, and seasonal variation of water below the surface of the land.

***

"Infiltration facility" is defined in Section 22.801.100, Stormwater, Grading and Drainage Control Code.

***

"Utility lines" means pipes, cables or other linear conveyance systems used to transport power, water, gas, oil, wastewater or similar items.

***

Section 11. The provisions of this ordinance are declared to be separate and severable. The invalidity of any particular provision shall not affect the validity of any other provision.

Section 12. This ordinance shall take effect and be in force thirty (30) days from and after its approval by the Mayor, but if not approved and returned by the Mayor within ten (10) days after presentation, it shall take effect as provided by Municipal Code Section 1.04.020.

Passed by the City Council the 14th day of July, 2008, and signed by me in open session in authentication of its passage this 14th day of July, 2008.

RICHARD CONLIN,

Prseident of the City Council.

Approved by me this 23rd day of July, 2008.

GREGORY J. NICKELS,

Mayor.

Filed by me this 23rd day of July, 2008.

TRUSTEE SALE FILINGS

USING THIS SECTION

This section is a great resource for people looking for a good deal on a property and provides excellent business leads for mortgage companies and real estate attorneys.

The name of the property owner is listed in bold, followed by a contact address. 'Address' indicates the address of the disputed property. Financial information includes the assessed value of the property, the principal amount on the mortgage and how far back in arrears the property owner is.

Each record concludes with the names of the beneficiary (loan holder), the trustee (the attorney handling the foreclosure), the auditor's filing number, Tax ID number and Deed of Trust number. When applicable, the trustee<0x2019>s internal trustee sales number is also included.

A database of trustee sales dating from 1992 is available to online subscribers on the DJC's Web site.

Visit **http://www.djc.com.**

KING COUNTY

Igor Kozlov ; 2022 Lincoln Pl NE, Renton, WA 98056

Prop. Info: L29, Westchester Kennydale ; 2022 Lincoln Pl NE ; Renton WA, 98056, 3 bedrooms, 3 baths, built in 2005.
Financial Info: Assessed: $506,000, Principal: $477,899, Arrears: $24,891, Lot size 4,803, Total living area 2,380.
Filing Info: Auditor: 20080715001806, Tax# 9290860290, DOT# 20060614002226.
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Northwest Trustee Service 425-586-1900 T/S# 777726489 .
Sale: October 17th, 10 am, 3535 Factoria Blvd SE, Bellevue.

Ranjit Khangura ; 21702 42nd Pl S, 65, Kent, WA 98032

Prop. Info: Unit65, The Landings at Riverview ; 21702 42nd Pl S, 65; Kent WA, 98032, 4 bedrooms, 3 baths, built in 2000.
Financial Info: Assessed: $327,000, Principal: $183,019, Arrears: $13,516, Total living area 1,797.
Filing Info: Auditor: 20080715001803, Tax# 4180160290, DOT# 20000731001934.
Beneficiary: ABN AMRO Mortgage .
Trustee: Northwest Trustee Service 425-586-1900 T/S# 730123798 .
Sale: October 17th, 10 am, 3535 Factoria Blvd SE, Bellevue.

Ofelia Juardo ; 7721 NE 133rd Pl, Kirkland, WA 98034

Prop. Info: L1, Bar G ; 7721 NE 133rd Pl ; Kirkland WA, 98034, 4 bedrooms, 4 baths, built in 2006.
Financial Info: Assessed: $658,000, Principal: $968,360, Payments: $6,887, Arrears: $34,439, Lot size 9,750, Total living area 1,700.
Filing Info: Auditor: 20080715001809, Tax# 0518000010, DOT# 20070709000755.
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Karen L Gibbon 425-212-3277

Sale: October 17th, 10 am, King County Administration Building.

Miguel A Diaz Flores ; 19614 208th Ave SE, Renton, WA 98058

Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Karen L Gibbon 425-212-3277

Sale: October 17th, 10 am, King County Administration Building.

Donnavie Dacouel ; 4517 222nd St, 18, Kent, WA 98032

Prop. Info: Unit18, The Crossings at Riverview ; 4517 222nd St, 18 ; Kent WA, 98032, 4 bedrooms, 3 baths, built in 2003.
Financial Info: Assessed: $334,000, Principal: $304,000, Payments: $1,887, Arrears: $10,233, Total living area 1,763.
Filing Info: Auditor: 20080715001773, Tax# 1853100230, DOT# 20070123000429.
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Karen L Gibbon 425-212-3277

Sale: October 17th, 10 am, King County Administration Building.

DISCONTINUANCES OF TRUSTEE SALE FILINGS

Wesley A Davis ; 19707 SE Wax Rd, Maple Valley, WA 98038

Prop. Info: 19707 SE Wax Rd ; Maple Valley WA, 98038, 3 bedrooms, 1 bath, built in 1958.
Discontinued: July 1st, Aud. No. 20080715001206, Orig. Aud No. 20080328001798.

Charles E Young ; 16035 Mink Rd, Woodinville, WA 98077

Prop. Info: 16035 Mink Rd ; Woodinville WA, 98077, 3 bedrooms, 3 baths, built in 1976.
Discontinued: July 8th, Aud. No. 20080715001291, Orig. Aud No. 20071214001723.

Maria M Mina ; 1905 20th St NE, Auburn, WA 98002

Prop. Info: L63, Green River Gardens2 ; 1905 20th St NE ; Auburn WA, 98002, 5 bedrooms, 3 baths, built in 1970.
Discontinued: July 9th, Aud. No. 20080715001294, Orig. Aud No. 20080425001536.

Toni L Kohler ; 15210 Macadam Rd S, E306, Tukwila, WA 98188

Prop. Info: UnitE306, Southcenter View ; 15210 Macadam Rd S, E306; Tukwila WA, 98188, 2 bedrooms, 2 baths, built in 1978.
Discontinued: July 10th, Aud. No. 20080715001295, Orig. Aud No. 20080114001041.

Chun H Liang ; 5004 30th Ave S, Seattle, WA 98108

Prop. Info: 5004 30th Ave S ; Seattle WA, 98108, 3 bedrooms, 1 bath, built in 1977.
Discontinued: July 10th, Aud. No. 20080715001290, Orig. Aud No. 20080411000963.

PIERCE COUNTY

Hector Vargas ; 1022 98th St Ct E, Tacoma, WA 98445

Prop. Info: 1022 98th St Ct E ; Tacoma WA, 98445, 3 bedrooms, 1.7 baths, built in 1998.
Financial Info: Assessed: $197,300, Principal: $188,154, Arrears: $9,098, Lot size 13,600, Total living area 996.
Filing Info: Auditor: 200807110140, Tax# 0319036020, DOT# 200703210904 .
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Northwest Trustee Service 425-586-1900 T/S# 702316770 .
Sale: October 10th, 10 am, County-City Building .

James Sodano ; 5010 101st Ave Ct NW,

* * *

Section 9. A new Section 25.09.110 of the Seattle Municipal Code, is adopted to read as follows:

25.09.110 Development standards for peat settlement-prone areas.

A. The general development standards set out in Section 25.09.060 do not apply to peat settlement-prone areas.

B. A geotechnical study detailing the location of the annual high static groundwater level is required for development in peat settlement-prone areas that involve excavation more than thirty (30) inches below the existing grade.

C. No development shall occur within a peat settlement-prone area below the annual high static groundwater level except to the minimum extent the Director deems necessary to allow the following:

1. Structural components required under Title 22, Subtitle I and IA, the Building Code and Residential Code;

2. Utility lines, including but not limited to drainage and sanitary side sewers and stormwater conveyance facilities, but excluding groundwater collection systems;

3. Geotechnical testing;

4. Maintenance, repair, renovation, or structural alteration of an existing structure if that activity, even though it might involve construction activity below the annual high static groundwater level, does not increase the extent of the structure below the annual high static groundwater level;

5. Aquatic habitat restoration;

6. Infiltration facilities or other development designed primarily to encourage recharge or infiltration of water to the groundwater;

7. Replacement of contaminated soils with other soils or fills when the applicant demonstrates to the satisfaction of the Director that the removal will not increase the likelihood of settlement on off-site parcels;

8. Public utility facilities designed to provide drinking water, control flooding or protect against sanitary or combined sewer overflow when the applicant demonstrates to the satisfaction of the Director that the facilities have been designed to avoid or minimize to the maximum extent practicable impacts to the groundwater regime; or

9. Elevator pits necessary to meet accessibility standards required by City law.

D. Groundwater collection systems are prohibited in peat settlement-prone area unless otherwise required by law.

E. Development in a Category I peat settlement-prone area shall not increase the total impervious surface on the site unless the Director approves using an infiltration facility or soil amendments that offset the lost infiltration function. The Director may waive this requirement to the extent offsetting the lost infiltration function would adversely affect a landslide-prone area or steep slope area.

F. For construction activity in a peat settlement-prone area, the Director may require additional construction practices, methods, and restrictions that limit temporary groundwater de-watering.

G. In a peat settlement-prone area, land-disturbing activities with the potential to modify the groundwater regime are limited to the minimum reasonably necessary for development. Surface drainage systems or substantial earth modifications shall be professionally designed to prevent maintenance problems and adverse impacts to off-site parcels.

H. In addition to requiring the information provided pursuant to Section 25.09.330 and to Director's Rules, the Director may require third-party review when the professional opinions of the applicant's representative and the Department's reviewers cannot be reconciled. Third-party review requires the applicant's geotechnical and/or additional technical studies to be reviewed by an independent third party, paid for by the applicant but hired by the Director. Third-party review shall be conducted by a qualified engineering consultant.

I. The Director may waive compliance with some or all of the requirements of subsections B - G for a project in a Category II peat settlement-prone area to the extent the

(Seal) JUDITH E. PIPPIN,
City Clerk.

Exhibit A: Peat Settlement -prone Areas Boundaries Maps A1-A26

Exhibit B: Best Available Science Report for Peat Settlement-prome Areas.

Prop. Info: 19614 208th Ave SE ; Renton WA, 98058, 4 bedrooms, 1 bath, built in 1938.
Financial Info: Assessed: $517,000, Principal: $359,804, Arrears: $17,937, Total living area 1,440.
Filing Info: Auditor: 20080715001894, Tax# 0522069032, DOT# 20070123000690.
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: LandAmerica Default Srvs (714) 573-1965 T/S# 039002795 .
Sale: October 17th, 10 am, King County Administration Building.

Hommala Uppasai ; 22831 120th Ave SE, Kent, WA 98031

Prop. Info: 22831 120th Ave SE ; Kent WA, 98031, 3 bedrooms, 3 baths, built in 1990.
Financial Info: Assessed: $308,000, Principal: $280,000, Arrears: $10,351, Lot size 8,400, Total living area 2,090.
Filing Info: Auditor: 20080715001897, Tax# 3529200220, DOT# 20070202001935.
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: LandAmerica Default Srvs (714) 573-1965 T/S# 039002748 .
Sale: October 17th, 10 am, King County Administration Building.

Esteban Dominguez Medina ; 27244 117th Ave SE, Kent, WA 98030

Prop. Info: L27, Derbyshire4 ; 27244 117th Ave SE ; Kent WA, 98030, 3 bedrooms, 1 bath, built in 1962.
Financial Info: Assessed: $198,000, Principal: $194,161, Payments: $1,782, Arrears: $13,749, Lot size 11,340, Total living area 1,060.
Filing Info: Auditor: 20080715001899, Tax# 2005600270, DOT# 20061003002238.
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: TD Escrow Srv Co (800) 843-0260 T/S# F361344WA .
Sale: October 17th, 10 am, King County Administration Building.

Ernie Atwill ; 19315 135th Ave SE, Renton, WA 98058

Prop. Info: 19315 135th Ave SE ; Renton WA, 98058, 3 bedrooms, 3 baths, built in 1985.
Financial Info: Assessed: $289,000, Principal: $342,742, Arrears: $18,866, Lot size 8,335, Total living area 1,820.
Filing Info: Auditor: 20080715001301, Tax# 2459500280, DOT# 20070612002320.
Beneficiary: Washington Mutual .
Trustee: Quailty Loan Srvs Corp 619-645-7711 T/S# WA08170645CM .
Sale: October 17th, 10 am, King County Administration Building.

Le X Anderle ; 220 23rd Ave, Seattle, WA 98122

Prop. Info: 220 23rd Ave ; Seattle WA, 98122, 2 bedrooms, 1 bath, built in 1905.
Financial Info: Assessed: $325,000, Principal: $359,844, Arrears: $18,354, Lot size 4,740, Total living area 1,640.
Filing Info: Auditor: 20080715001302, Tax# 0007600044, DOT# 20070427001600.
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Quailty Loan Srvs Corp 619-645-7711 T/S# WA08169941CM .
Sale: October 17th, 10 am, King County Administration Building.

Ramona Hernandez ; 15412 110th Pl NE, Bothell, WA 98011

Prop. Info: L40, Carlyle ; 15412 110th Pl NE ; Bothell WA, 98011, 3 bedrooms, 1 bath, built in 1976.
Financial Info: Assessed: $328,000, Principal: $383,816, Payments: $3,219, Arrears: $2,156, Lot size 9,500, Total living area 1,090.
Filing Info: Auditor: 20080715001770, Tax# 1387300400, DOT# 20070514002352.

Gig Harbor, WA 98335

Prop. Info: L14, Kopachuck Ridge Estates2; 5010 101st Ave Ct NW ; Gig Harbor WA, 98335, 3 bedrooms, 2.2 baths, built in 1988.
Financial Info: Assessed: $424,100, Principal: $594,957, Arrears: $29,446, Lot size 20,729, Total living area 1,950.
Filing Info: Auditor: 200807110142, Tax# 4991320140, DOT# 200801170122 .
Beneficiary: JPMorgan Chase Bank .
Trustee: Northwest Trustee Service 425-586-1900 T/S# 7104282213 .
Sale: October 10th, 10 am, County-City Building .

Freddie L Washington ; 8720 203rd St E, Spanaway, WA 98387

Prop. Info: 8720 203rd St E ; Spanaway WA, 98387, 4 bedrooms, 2.7 baths, built in 1997.
Financial Info: Assessed: $240,500, Principal: $229,796, Arrears: $12,050, Lot size 9,867, Total living area 1,835.
Filing Info: Auditor: 200807110143, Tax# 6021930630, DOT# 200703281274 .
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Northwest Trustee Service 425-586-1900 T/S# 726125211 .
Sale: October 10th, 10 am, County-City Building .

Saundra D Lee ; 3201 Pacific Ave, 307, Tacoma, WA 98418

Prop. Info: Unit307, Pacific Tower ; 3201 Pacific Ave, 307 ; Tacoma WA, 98418, built in 2002.
Financial Info: Assessed: $262,800, Principal: $234,532, Arrears: $7,710, Total living area 1,810.
Filing Info: Auditor: 200807110144, Tax# 9004610220, DOT# 200607311513 .
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Northwest Trustee Service 425-586-1900 T/S# 726125218 .
Sale: October 10th, 10 am, County-City Building .

Wesley McMillan ; 4513 Tacoma Ave S, Tacoma, WA 98418

Prop. Info: 4513 Tacoma Ave S ; Tacoma WA, 98418, 3 bedrooms, 1 bath, built in 1963.
Financial Info: Assessed: $190,900, Principal: $168,718, Arrears: $6,597, Lot size 7,200, Total living area 1,068.
Filing Info: Auditor: 200807110145, Tax# 7470033450, DOT# 200608040682 .
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Northwest Trustee Service 425-586-1900 T/S# 726125179 .
Sale: October 10th, 10 am, County-City Building .

Jung R Buyn ; 4837 Pacific Ave, Tacoma, WA 98408

Prop. Info: L19-20, B8, Park Addition to Eatonville ; 4837 Pacific Ave ; Tacoma WA, 98408, 2 bedrooms, 1 bath, built in 1925.
Financial Info: Assessed: $164,800, Principal: $150,792, Arrears: $6,522, Lot size 6,250, Total living area 1,024.
Filing Info: Auditor: 200807110146, Tax# 6805000790, DOT# 200603020336 .
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Northwest Trustee Service 425-586-1900 T/S# 726125168 .
Sale: October 10th, 10 am, County-City Building .

John P Dodge ; 1420 S Washington St, Tacoma, WA 98405

Prop. Info: L9-10, B10, McMillan's Addition to Tacoma ; 1420 S Washington St ; Tacoma WA, 98405, 2 bedrooms, 1 bath, built in 1910.
Financial Info: Assessed: $207,900, Principal: $153,892, Arrears: $3,362, Lot size 6,000, Total living area 1,652.
Filing Info: Auditor: 200807110139, Tax# 5690000490, DOT# 200708020846 .
Beneficiary: Mortgage Electronic Registration Systems.
Trustee: Northwest Trustee Service 425-