

**MUNICIPALITY OF ANCHORAGE
PLANNING DEPARTMENT
MEMORANDUM**

DATE: February 7, 2011
TO: Planning and Zoning Commission
THROUGH: Angela C. Chambers, AICP, Supervisor
FROM: Alfred Barrett, Senior Planner
APPLICANT: The Petersen Group
REPRESENTATIVE: Lantech Inc.

Case 2011 - 013 Conditional Use for a Planned Unit Development

This case had been scheduled for February 7, but is postponed until March 7, 2011 to allow the applicant time to address some design issues.

*add
public
comments*

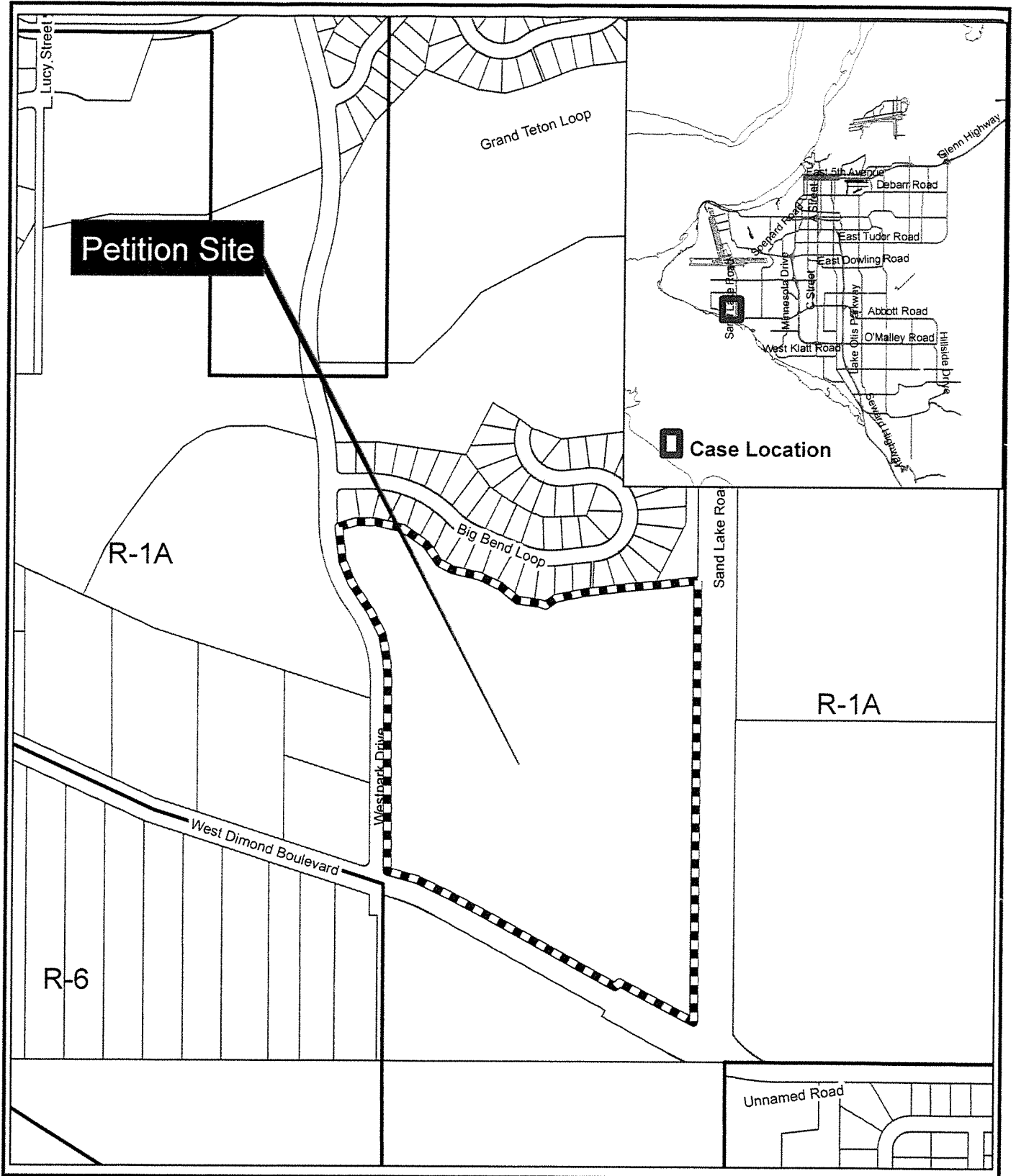
PLANNING DEPARTMENT
PLANNING STAFF ANALYSIS
CONDITIONAL USE

<u>DATE:</u>	February 7 , 2011
<u>CASE NO.:</u>	2011-013
<u>APPLICANT:</u>	The Petersen Group, represented by Lantech, Inc.
<u>REQUEST:</u>	Final Conditional Use for a Residential Planned Unit Development (PUD) in the R-1A District in accordance with AMC 21.50.020 and 21.50.130 A., B. and C.
<u>LOCATION:</u>	Tract 1 Kincaid Estates
<u>SITE ADDRESS:</u>	9101 Westpark Drive
<u>COMMUNITY COUNCIL:</u>	Sand Lake
<u>TAX NUMBER:</u>	011-291-21

ATTACHMENTS:

1. Zoning & Location Maps
2. Departmental Comments
3. Application
4. Posting Affidavit
5. Historical Information




2011-013

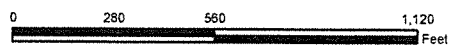


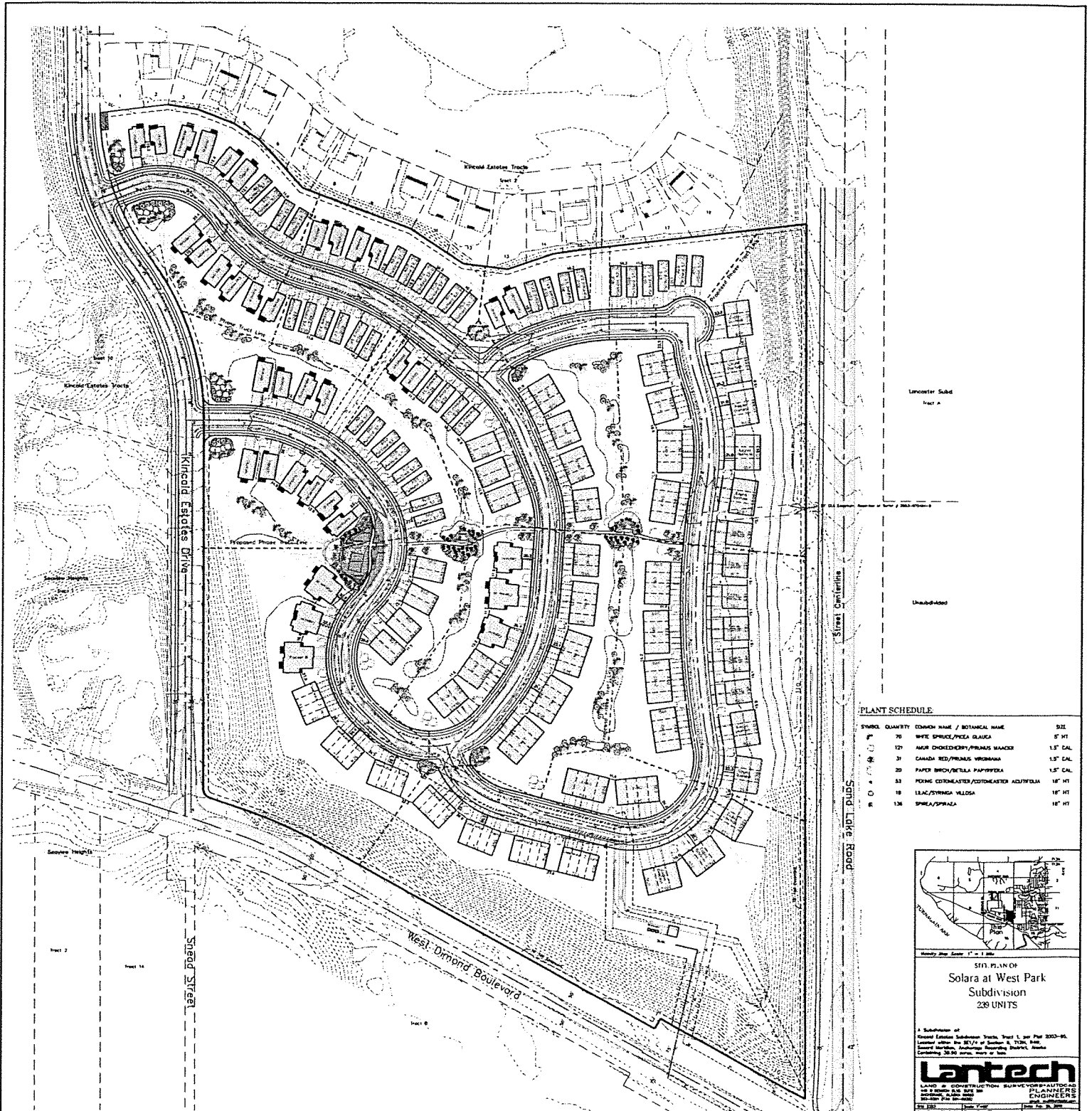
Municipality of Anchorage
Planning Department

Date: December 21, 2010

Flood Limits

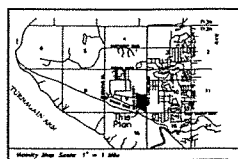
-  100 Year
-  500 Year
-  Floodway





PLANT SCHEDULE

SYMBOL	QUANTITY	COMMON NAME / BOTANICAL NAME	SIZE
19		WIDE SPREAD/PIZZA PLANT	5' HT
17		HIGH DROOPED/FRANCOIS WAXGEL	1.5' CAL
31		CANADA RED/FRANCOIS WAXGEL	1.5' CAL
20		PAPER BIRCH/BETULA PAPPYFERA	1.5' CAL
33		HOANG CERMESTER/STOMATESTER ADZITVELLA	18" HT
18		LLAC/STYRAGA VILLOSA	18" HT
124		SPREA/SPRALA	18" HT



SITE PLAN OF
Solara at West Park
Subdivision
238 UNITS

A Subdivision of
 Kincaid Estates Subdivision, Sheet 1, per Plat 2003-05,
 Located within the SE/4 of Section 8, T28N, R10E,
 Central Hardship, Antelope Resource District, Adams
 County, Colorado, containing 30.00 acres, more or less.

Lantech
 LAND & CONSTRUCTION SURVEYORS & PLANNERS
 ENGINEERS

200 200 1000 1000
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RECOMMENDATION SUMMARY: approval with conditions

SITE:

Acres:	39.9 acres; 1,738,044 square feet.
Vegetation:	Some natural, mature vegetation along the south and east property lines
Zoning:	R-1A
Topography:	Slopes on east, west and south perimeter. Floor of pit is relatively level.
Existing Use:	Vacant, closed gravel pit
Soils:	Public Utilities Available Low to moderate ground failure susceptibility

COMPREHENSIVE PLAN:

Anchorage 2020 Anchorage Bowl Comprehensive Plan. West Anchorage Planning Area – to address issues of mutual concern between the International Airport and the surrounding area.

Anchorage Bowl Comprehensive Development Plan 1982 indicates the area as low to medium density residential: 3 - 6 dwelling units per acre (DUA). A PUD in the R-1A district allows a maximum of 6 dua.

Zoning and platting actions in 2003-2004 approved Tract 1 for approximately 113 single family lots, or 2.8 dua. The current application is for 239 dwelling units, equivalent to 5.99 dua. Existing densities on other Kincaid Estates tracts are 2 to 3 dua.

A PUD allows this type of density increase in exchange for a conditional use and site plan which reflect creative use of the land, imaginative architectural design, consolidation of usable open space, mixing of residential densities and housing types, enhancing the surrounding environment, maintaining population densities that are consistent with available public services and the comprehensive plan, etc. It is for the Planning Commission to determine that these standards have been addressed in exchange for the density increase, see section 21.50.130 A. below.

The changes in density proposed by this PUD will not require an update to the TIA because the overall density in Kincaid Estates has been reduced. Tracts 8 and 9 have been recombined for an elementary and middle school, Tract 7 has been purchased by the Municipality for a park, Tract 10 is likely to remain undeveloped due to a pond on the site, and is now owned by the Municipality. The removal of these tracts from Kincaid Estates has removed approximately 120 dwelling units from the TIA (and other) impacts. Once the schools are built, some impacts will be added back in.

SURROUNDING AREA:

	<u>NORTH</u>	<u>EAST</u>	<u>SOUTH</u>	<u>WEST</u>
Zoning:	R-1A	R-1A	R-1A	R-1A
Land Use:	Single Family	Vacant	Vacant	Single family and vacant

PROPERTY HISTORY:

March 24, 1972	Zoning	Rezoning R-1A
December 31, 1999	Plat	Various tracts created.
July 7, 2003	Conditional use permit	Wastewater lift station approved on Lot 20
July 31, 2003	Plat 2003-095	Kincaid Estates Subdivision, Tracts 1 through 10 created. (The current configuration.)

Applicable Zoning Regulations:

AMC 21.35.020.B	<i>“Planned Unit Development is a conditional use granted by the planning and zoning commission for a use or combination of uses, the plan for which may not conform to the regulations established in any one or more zoning districts with respect to lot size, bulk, type of use, density, lot coverage, height or required opening space.”</i>
AMC 21.40.030 R-1A	Single family residential district

AMC 21.50.130 subsections A., B. and C.	Conditional Use Standards, Residential Planned Unit Developments
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DESCRIPTION AND PROPOSAL:

This proposal is a conditional use for a planned unit development to exceed the density normally allowed in the R-1A zoning district. Approximately four units per acre could be built under R-1A, but the PUD allows up to six units per acre.

The property is a closed gravel pit, it is zoned R-1A which allows single family type construction. The floor of the gravel pit is level, but the walls of the pit on the south, west, and east sides are sloped. Slope on the south and west boundaries, West Dimond Boulevard and WestPark Drive, respectively, exceeds 20 percent in some areas. Slope on the east side, Sand Lake Boulevard, is not as extreme, as low as 7 to 8 percent in one location.

There is existing mature vegetation along the south and east property lines, it will be preserved. Municipal water and sewer facilities are on site and will be extended to the dwelling units. Internal streets will be privately owned. Snow storage and removal will be the responsibility of the homeowners association. This development is proposing five phases of construction through 2021.

In 2003-2004, when Kincaid Estates was subdivided into Tracts 1 through 10, Tract 1 was approved for 113 single family lots. This application request is to allow a total of 239 dwelling units, on Tract 1: 53 single family units, 47 duplexes, 8 triplexes, and 17 four-plexes.

The applicant is proposing to develop a residential Planned Unit Development (PUD) which offers him several advantages:

- 1) a density increase, up to 6 du/a from the previously approved 2.8 du/a,
- 2) no need to replat,
- 3) development not restricted to single family units, a variety of housing types and styles will be permitted. Single family, duplex, triplex, and four-plex units are proposed,
- 4) avoids the need for some traffic related variances.

The intent of a residential PUD is to allow greater flexibility in the mix of design and creative use of the land that is not normally able to be achieved under a general residential zoning district. The design is also

recognized to be site specific, by consolidating usable open space and natural features, while enhancing the surrounding environment and maintaining population densities and lot coverage that are consistent with the comprehensive plan.

A PUD is not a rezoning. It allows a design and density not normally allowed in the underlying zoning district, and may look similar to a rezoning, but in reality it is a type of conditional use. In the case of a residential PUD, the Assembly, in the creation of the PUD standards, determined it is an appropriate method to allow creative and unique development, while providing for consolidation of open space, a mixing of compatible housing types, and providing for an efficient use of the land. In exchange for these considerations, the applicant is given a density increase above what is allowed in the zoning district, but is still maintaining the density range allowances of the Comprehensive Plan.

The density called for in the comprehensive plan is three to six dwelling units per acre. The R-1A zoning district allows approximately four du/a. This PUD request is for 5.99 du/a; 239 dwelling units on 40 acres.

This proposal, as common with residential PUD's, will be a common interest community under the State Uniform Common Interest Ownership Act, sharing area maintenance costs, snow removal, etc. Residential PUD's require private and common open space; maintenance of these spaces will be coordinated through the common interest community declaration.

The intent of this request is for final conditional use approval of the PUD. It includes density, general building pad locations and pad sizes, internal drive locations, open space/landscaping/vegetation retention, and grading. Building locations, streets and driveways, open space, and landscaping are somewhat general as this is a large project area to be developed over at least a ten year time period. The Planning Department recommends administrative approval through the Planning Department for the following:

- Final building designs in accordance with the guidance of the approved generalized architectural design requirements,
- Minor adjustments to pad locations to ensure required separation of structures and final siting of private open space in the PUD,
- Minor adjustments to the exact locations of the existing vegetation to remain, to allow for dwelling unit constructions and required site improvements, with the intent to retain as much existing vegetation as possible,

- Final approval of the landscape plan, internal to the property and adjacent to road right of way, per Title 21 requirements.

Should the Department find that any changes are not minor, the item would be brought back to the Commission as either a minor or major amendment to the conditional use.

Final approval of drainage and utility plans will occur through Building Safety and Project Management and Engineering through permitting review. Streets and driveways will be privately owned and maintained and will be reviewed by Traffic Engineering.

COMMUNITY COMMENTS

On January 14, 2011, one hundred twenty-three (123) public hearing notices (PHN) were mailed. As of the date this report is written, many notices in opposition have been returned. The site was properly posted and there was adequate noticing provided.

FINDINGS:

The staff has reviewed and evaluated the proposed residential PUD in accordance with the general conditional use standards of AMC 21.50.020, and the specific conditional use standards for residential PUD's as set forth in AMC 21.50.130. A. and B., PUD General Provisions, and C. Residential PUD's.

AMC 21.50.020

- A. Furtheres the goals and policies of the Comprehensive Development Plan and conforms to the Comprehensive Development Plan in the manner required by Chapter 21.05.

Complies. The petition site is located in an area identified in the Comprehensive Plan as low to medium density, 3 to 6 DUA. The applicant is proposing 5.99 dua. The property is within the West Anchorage Planning Area which essentially means airport related issues need to be considered. In this case, Tract 1, as is most of Kincaid Estates Subdivision, is in line with the airport north-south runway and there are noise concerns. This will be further discussed under 21.50.130 C.

Comprehensive plan policies 3, 7, 8, 11, 12, 16, 45, 49, 50, and 55 are applicable to this development.

Conforms to the Standards for that use in this title and regulations promulgated under this title:

AMC 21.50.130. A., B. and C.: Specific conditional use standards for Residential Planned Unit Development follow.

AMC 21.50.130 A. Conditional use standards--Planned unit developments.

Intent. A planned unit development (PUD) is intended to allow flexibility in the zoning ordinance and to achieve the creation of a more desirable environment than would be possible through a strict application of the zoning ordinance.

The Planning and Zoning Commission shall evaluate the proposed planned unit development in accordance with the following criteria:

1. Creative use of the land, imaginative architectural design, a consolidation of usable open space and recreation areas and the preservation of natural features.
2. The mixing of compatible land uses, residential densities and housing types within the neighborhood.
3. The efficiency of the configuration of utilities, vehicular circulation and parking facilities.
4. Enhancing the surrounding environment.
5. Maintaining population densities and lot coverage that are consistent with available public services and the comprehensive plan.

Partially Complies.

Criteria 3 and 5 appear to be met.

Number 1 appears to be partially met.

The layout of the dwelling units generally resembles a standard subdivision along curvilinear streets, not the pods or clustering of units usually associated with a PUD.

Areas of usable open space, interior to the development, are broken up by berms with greater than 20 percent slope. Although the total percentage of open space area is met, the standard is only partially met because the open space cannot be considered consolidated and contiguous when interrupted by areas of slope exceeding 20 percent.

Number 2 appears to be partially met.

There is some mixing of density and housing types, but generally the project transitions from single family to duplex, to triplex, to four-plex from the entrances at the northwest moving to the southeast. The subject property will also have several duplexes along the north property line and they will be adjacent to the single family subdivision on Tract 2.

Number 4, discussing the benefit to the surrounding environment has not been fully addressed. It should be noted that the existing slopes on the property, some in excess of 20 percent, are stable and contain mature natural vegetation. Those slopes will be preserved.

AMC 21.50.130 B. General Provisions for Residential PUD's

1. The minimum lot size shall be 5 acres for PUD's located entirely in zoning districts R-1, R-1A, R-2D, R-2A, R-5, R-5A, R-6, R-7, R-8 or R-9.

Complies. Petition site is R-1A and is 39.9 acres.

2. Grading plan. Building design and site development which involve excessive grading for the placement of structures, parking areas, driveways and roadways shall be depicted on a site plan and shall be described in the written documents.

Generally Complies. Information was provided with the application, and will be required and reviewed by Project Management and Engineering with the building permit. This is a former gravel pit, grading will be required to maintain positive drainage throughout the site. Existing drainage is generally toward the center of the property, largely due to the previous use as a gravel excavation site. The existing slopes along the west, south and east property lines will remain. Slope on the east side will be increased in some areas.

Snow storage areas are shown on the phasing plan. Snow storage cannot be in areas of required parking or required landscaping, and storage areas need to be a minimum of eight feet by eight feet. Some snow storage areas shown on the plan may not be 100 percent accessible as they are behind large mailbox clusters. The

applicant should commit to a snow hauling plan as well, if on site snow storage is to be temporary, or if 20 percent snow storage area cannot be accommodated on site.

3. Traffic Access. Major internal streets which are intended to serve a planned unit development shall be functionally connected to existing or proposed streets to provide adequate ingress and egress.

Complies. A formal Traffic Impact Analysis (TIA) was completed for the entire Kincaid Estates development area, Tracts 1 through 10. Additional traffic lanes, for turning and deceleration, were built at the Dimond – WestPark intersection. No traffic signal was required.

The changes in density proposed by this PUD will not require an update to the TIA because the overall density in Kincaid Estates has been reduced. Tracts 8 and 9 have been recombined for an elementary and middle school, Tract 7 has been purchased by the Municipality for a park, Tract 10 is likely to remain undeveloped due to a pond on the site, and is now owned by the Municipality. The removal of these tracts from Kincaid Estates has removed approximately 120 dwelling units from the TIA (and other) impacts. Once the schools are built, some impacts will be added back in.

Internal streets will be owned by the homeowners association, but will still be reviewed by the Traffic, Fire, and Project Management & Engineering Departments. The property will be developed under AMCR 21.90, multiple dwelling units on a single lot or tract. All traffic will access Westpark Drive on the west side of the property.

4. Utility installation. All new utilities shall be installed underground.

Complies. All new utilities shall be installed underground. Water and sewer lines were installed on portions of the property as part of the original subdivision review, 2005-2007, and this has partially determined street, and therefore, building locations.

5. Conformance with comprehensive plan. A planned unit development shall be in accordance with the comprehensive

plan.

Complies, but see 21.50.130 B. 3. & C. 1. The Comprehensive Plan calls for a density of three to six du. The applicant is proposing 5.99 du.

6. Landscaping. Residential PUD's shall plant buffer landscaping along each boundary of the planned unit development adjoining a nonresidential district or a ROW designed for collector or greater capacity on the Official Streets and Highways Plan (OS&HP). If there is a nonresidential use permitted in the residential PUD, the uses shall be separated from dwelling units by a heavily landscaped buffer zone of a minimum of 30 feet in width.

Complies with conditions. A detailed landscape plan will be submitted later. The site abuts Westpark Drive, West Dimond Boulevard, and Sand Lake Boulevard, all three designated collector or greater in the Official Streets & Highways Plan. There are no non-residential uses in this proposed PUD.

The petitioner intends to retain the existing vegetated area along the property boundaries. However, because this existing vegetation is almost all deciduous, some evergreen trees need to be added. Landscaping internal to the property will be discussed as part of the final landscape plan, but a concept plan indicating some minimum landscaping should be proposed.

7. Fire safety requirements. All developments shall meet fire safety requirements established by the municipal fire department.

Comply with conditions. The streets and individual structures appear to meet fire access and separation requirements. The Fire Department will review the project for building siting, access, internal streets, and other fire related issues. There are two entrance/exit points to the property, both on Westpark Drive, approximately 270 feet apart.

AMC 21.50.130 C. Specific Standards for Residential PUD's

1. Density.

Partially Complies. The number of dwelling units per acre allowed per the gross area of a residential PUD in the R-1A zoning district is a maximum of 6.0 dwelling units per acre. Normally in R-1A, approximately four units per acre could be accommodated. The density for this site is proposed to be, at maximum build-out of 239 units on 39.9 acres, an equivalent of 5.99 DUA. The comprehensive plan calls for a density of three to six DUA.

However, in this PUD request for higher density, some agreements are being made as to street width, driveway length, on-street parking space width, sidewalks adjacent to the street and too close to parked cars, smaller private yards, driveways very close together, and snow storage area. The conventional Kincaid Estates subdivisions to the north of this property have densities of 2 to 3 units per acre. At six units per acre, with multi-family units in the mix, this proposal is somewhat out of character with the area. A reduction to 5, or even 4, units per acre would serve to bring this development more in line with existing densities, and provide sufficient area for design flexibility.

2. Open space.

Generally Complies. Thirty percent of the site shall be usable open space. At least one-half of the usable open space shall be contiguous, no portion may be less than 2,000 square feet in area, nor less than 30 feet at its smallest dimension. Usable open space may not exceed 20 percent slope. A minimum of 12 percent and a maximum of 50 percent of required open space shall consist of yards reserved for residents of the individual dwellings.

The site is approximately 40 acres in size. A calculation on the site plan indicates there is a total of 786,610 square feet or 45 percent (18 acres) of usable open space. Private open space is shown at 199,086 square feet which is 25 percent.

The standard is only partially met because some areas of open space are interrupted by berms with greater than 20 percent slope. Because of this, some open space areas cannot be considered truly consolidated or contiguous. The applicant needs to supply a calculation that at least 50 percent of the open space is contiguous.

Areas less than 30 feet minimum on a side or smaller than 2,000 square in area have not been counted as open space.

3. Height.

Complies. Height limitations of the underlying zoning district are 35 feet.

4. Uses. Permitted uses are limited to residential and accessory uses, convenience establishments and personal or professional services.

Complies. This is a strictly residential PUD. No commercial uses are proposed. All uses will be principal permitted and accessory residential uses.

5. Design.

Partially Complies.

- a. There are no proposed nonresidential uses.
- b. Pedestrian connections.

Connections are shown within the residential uses, and to Westpark Drive. Sidewalks are adjacent to the street and should have five feet of separation from the street. The subdivisions to the north have a sidewalk separation from the street.

The subdivision to the north, Kincaid Estates Tract 2, has provided a pedestrian connection easement (no sidewalk yet exists) to Tract 1. The site plan for Tract 1 indicates an open area connecting to Tract 2 at the same location, and a pedestrian path is shown.

There is the potential for pedestrian access paths from the subject Tract 1 onto Sand Lake Boulevard and onto Dimond Boulevard.

A bus route is planned for Sand Lake Boulevard and a trail connection is shown in the 1997 Trails Plan. The applicant should provide a pedestrian walkway connecting

the development to Sand Lake Boulevard, located approximately in the area of the existing construction road and driveway. The current overall slope of this road is about seven percent. A similar connection to West Dimond Boulevard, in the vicinity of the lift station, should be strongly considered. Although the slope here is 20 percent, there is adequate land area to provide a winding path, switch-backs, or even stairs. The exact locations of the two pathways should be coordinated with the Trails Coordinator and the Public Transportation Department.

- c. Buffer landscaping is required along lot lines adjacent to streets designated collector or greater in the OS&HP.

WestPark Drive, West Dimond Boulevard, and Sand Lake Boulevard will all require buffer landscaping. There is existing vegetation along portions of West Dimond and Sand Lake, but it is all most all deciduous. Some evergreens need to be added.

- d. Any two adjacent buildings shall be separated from each other by a distance equal to one-half the height of the taller building.

Structures will have to be reviewed in the site plan of each phase to ensure that the required separation is met. Building footprints may need to be adjusted, or the overall number of units may need to be reduced in order to meet this standard. Structures are not allowed to exceed 35 feet in height.

- e. Streams shall be separated from streets, drives, structures, etc. by a 50 foot landscape buffer.

There are no known streams on the site.

- f. Walls and ceiling-floor assemblies which are common to any two dwellings shall have a minimum STC acoustic rating of 55 and a minimum fire rating of one hour.

The structures will be required to meet this standard as duplex, triplex, and four-plex style housing is proposed. Additional noise mitigation is needed due to airport traffic.

- g. Required parking spaces for residential uses shall be provided with an electrical outlet.

All required parking will be inside the garages, or on the individual driveways at the residences. Any outdoor required parking will be provided with an electrical outlet.

- 6. Homeowner's agreements.

Complies. Proposed articles of incorporation are included with this application and will be provided to potential home buyers prior to any real property conveyance.

AMC 21.50.020, continued

- B. Will not have a permanent negative impact on the items listed below substantially greater than that anticipated from permitted development:

- a. Pedestrian and vehicular traffic circulation and safety.

See above discussion under traffic access and pedestrian connections. Traffic and Fire Department reviews will be expanded during permitting. Sidewalks link the development and connect to WestPark Drive. The Municipal Trails Coordinator and Mass Transit Department have commented on pedestrian access to West Dimond Boulevard and Sand Lake Boulevard. In order to maintain safe and adequate access, the internal streets will need to be posted with "Fire lane – No parking signs" per Fire Department standards. The home owners association will need to enforce this.

All requirements of AMCR 21.90 have not been shown to be met and will need to be addressed, see comment from PM&E.

- b. The demand for and availability of public services and facilities.

Complies. Public water and sewer are available and will be extended to each unit.

- c. Noise, air, water, or other forms of environmental pollution.

Complies. Apart from the time period in which construction occurs no unusual environmental pollution is expected. Due to the north – south alignment of a major runway at the international

airport, aircraft noise is a concern. See comments from the airport noise program manager and from DHHS.

d. The maintenance of compatible and efficient development patterns and land use intensities.

Complies. See Comprehensive Plan discussion above.

DEPARTMENT RECOMMENDATION: Approval with conditions.

The proposed development is at the maximum density level called for in the comprehensive plan and in an R-1A PUD.

The Conditional Use standards of AMC 21.50.020 and AMC 21.50.130 for Residential Planned Unit developments have largely been met.

The design is a fairly basic clustered subdivision style laid out in curvilinear fashion along internal streets, and not in the pods or building clusters usually associated with a PUD. However, the design is partially constrained by previous approvals of the Kincaid Estates Subdivision and utility line installation.

Attempting to maximize the density at six dwelling units per acre is placing some limits on open space, sidewalks, and pedestrian connections.

1. A Notice of Zoning Action shall be filed with the State Recorder's Office. Proof of such shall be provided to the Planning Department.
2. This is a final approval for a conditional use for a Residential Planned Unit Development in the R-1A Zoning District for a maximum of 200 dwelling units (5 du/a) in a mix of single family, duplex, triplex, and four-plex styles, essentially as shown on the site plan, as modified by this report. This approval is subject to the standards of AMC 21.50.130 A., B., and C.

Increases in density or major site plan changes will require either a minor or major conditional use amendment approved by the Planning and Zoning Commission. As each phase of the development is begun, the applicant shall

submit a detailed site plan for that phase addressing the conditional use standards.

3. All new utilities shall be installed underground.
4. The final condominium declaration will be provided at the time of Planning Department approval of the first phase.
5. Each of the 200 units will have a minimum of 25 percent private open space.
6. Any two adjacent buildings shall be separated from each other by a distance equal to one-half the height of the taller building. Adjustments to pad locations to meet this standard may include reduction in building height, reduction in pad or footprint size, or other structural changes. The adjustment(s) shall not be made at the expense of required open space. Any adjustments in building pad locations are subject to approval by the Planning Department.
7. Walls and ceiling-floor assemblies which are common to any two dwellings shall have a minimum STC acoustic rating of 55 and a minimum fire rating of one hour.

The applicant shall resolve with the Planning and Development Services Divisions, required building construction techniques to mitigate and reduce airport noise impacts to interior noise levels in the homes.

The homeowners documents shall include a prominent statement that "The property is within 60-70 DNL (average day-night noise level) when the north-south runway is in use. These noise levels are an average and may increase. The 60-65 DNL is comparable to a normal conversation at three feet and 70 DNL is comparable to a vacuum cleaner or curbside on a street. The FAA has determined that 65 DNL is the maximum appropriate DNL level for a residential neighborhood."

8. All required parking will be inside the garages, or on the individual driveways at the residences and provided with an electrical outlet.

9. The required perimeter buffer landscaping, adjacent to WestPark Drive, West Dimond Boulevard, and Sand Lake Boulevard, shall be installed not later than August 15 of the year following the beginning of construction in phase one. Perimeter landscaping, including the existing vegetation on West Dimond and Sand Lake Boulevards shall have a minimum 25 percent evergreen trees.

For each phase, a landscape plan with actual interior landscaping shall be submitted, and the landscaping shall be installed prior to August 15 of the year following completion of the development phase.

10. All construction and improvements related to this approval shall be substantially in compliance with the application, narrative, and plans on file with the department except as modified by these conditions of approval:

Solara at WestPark Subdivision Planned Unit Development, site, landscaping, grading, phasing, snow storage, open space, and utility plans; scale 1" = 60'; dated January 7 and January 20, 2011, as updated and revised, prepared by Lantech, Inc.

11. This approval is subject to all standards for a Conditional Use, Residential Planned Unit Development Conditional Use, and the petitioner's application, narrative and submittals.
12. Sidewalks along the street shall have five feet of separation from the street. The five foot strip shall be grassed and may have low shrubs (30 inches maximum height).

A pedestrian connection to Tract 2 shall be constructed at the end of phase 4.


The applicant shall provide a pedestrian walkway to Sand Lake Boulevard approximately in the area of the existing construction road and driveway. A connection to West Dimond Boulevard in the vicinity of the lift station should be strongly considered. The exact locations of pathways shall be coordinated with the Trails Coordinator and the Public Transportation Department.

13. Provide a snow storage calculation which demonstrates 20 percent of total street area is available for snow storage. Snow storage areas shall be a minimum 8 feet on any dimension. Snow storage is not allowed in areas of required landscaping or required parking.
14. With the site plan for phase one, the applicant shall include a fence plan for all five phases indicating a common design theme (style, material, color, etc) for all fences, whether the fence belongs to the homeowners association or to individual unit owners. Title 21.45.110 fence standards shall apply. This information shall be added to the homeowner's documents.
15. Street curbs shall be similar to barrier curbs type 1 or type 3.

Reviewed by:

Angela C. Chambers, AICP
Section Supervisor

Prepared by:



Alfred Barrett,
Senior Planner

2

**HISTORICAL MAPS
AND
AS-BUILTS**

3

DEPARTMENTAL

COMMENTS

PM&E

Case 2011-011 – Request to Rezone PC-SL to R-1 and PLI-SL (Yosemite Drive)

Private Development notes that PM&E is currently managing a drainage study of the area and PM&E has also issued an RFP for a concept study of what would be required to bring Yosemite Drive to full collector standards, though full construction for that project is not yet funded.

Private Development has no objection to the rezone. PD will address drainage issues and drainage plans when the property comes in for re-platting. However, should any fill or grade activity precede the plat application the petitioner is alerted to the requirement to coordinate submission of a drainage analysis and calculations to Private Development under building and/or land use permitting,. Final plans with appropriate details will be required prior to approval of the building or land use permit.

Also, the petitioner has stated no buildings will be constructed in the PLI-SL area because it is a former fill site. Private Development notes that any roads/driveways to access the PLI-SL areas should be designed so as not to traverse filled areas, or if this is unavoidable, road/drive design shall account for removal of unsuitable materials and backfill with structural fill.

Case 2011-012 – Zoning Conditional Use for a Nursing Home (Providence Extended Care)

When the project progresses to the building permit stage, Private Development will review the final design to assure conformance to fill and grade permit requirements. This will include the requirement to coordinate submission of a drainage analysis and calculations to Private Development under building and/or land use permitting. Final plans with appropriate details will be required prior to approval of the building or land use permit. Appropriate details, in this case, will include details of driveway and cul-de-sac construction, showing structural fill placement conforming to the requirements of Title 23.105.110.4

Case 2011 - 013 – Zoning Conditional Use for a Planned Unit Development (Solara at WestPark)

This project will be built under the requirements of AMCR 21.90 for multiple dwelling units on a single lot or tract. The petitioner is advised that AMCR 21.90 makes frequent reference to review and approval of project details by the municipal engineer. The petitioner is advised that a Memorandum of Understanding is currently being prepared that will transfer these review and approval responsibilities to the Building Official. This is being done to align such responsibilities with the intent of the recent reorganizations of the Departments of Public Works and Community Development. As a result, members of the Private Development section will review and approve or disapprove all site civil plans on behalf of the Building Official.

The petitioner is also reminded of the requirements in AMCR 21.90 to retain the services of a professional engineer for inspection of all private road, drainage and utility construction and to submit daily and weekly inspection reports at specific reporting periods.

Case 2011-014 – An amendment to a natural resource extraction (Eklutna Site 1)

Private Development has no objection to the request.

Barrett, Al W. (Zoning)

From: Barrett, Tony G.
Sent: Friday, January 14, 2011 2:17 PM
To: Barrett, Al W. (Zoning)
Cc: Nesheim, Janine R.
Subject: RE: 239 dwelling unit application Case No. 2011-013

Al – in looking at the DNL contours from the Anchorage International Airport (F.A.R. Part 150 Update - 1997 Noise Exposure Map) it appears that this proposed PUD is within and/or adjacent to the noise contour expressed as 60 DNL (where DNL represents Day-Night average sound levels for a 24-hour weighted annual average; DNL applies a 10 dBA correction factor to nighttime noise). Using what is commonly referred to as the Schultz curve (named after the guy who developed it) about 10% of the population living within a 60 DNL zone would be 'highly annoyed' by that noise level. Some earlier studies suggested a much higher percent, but the newer data by Schultz and others seems to be commonly accepted by FAA and other federal regulators. I am not an expert in this field, but my quick research leads me to think that a 60 DNL would be roughly equivalent to 100 events each day at a sound level of about 90 decibels. Contrast that with our municipal noise ordinance maximum 60 dBA daytime and 50 dBA nighttime levels (which do not apply to airport/aircraft noise) and I think you can see that there would likely be a significant number of people moderately to highly annoyed at 60 DNL. Note that both the DNL and our maximum noise levels are based on outside noise levels, not those measured inside a building.

My limited understanding is that an STC of 55 would reduce the sound levels transmitted into a building by about 55 dBA where the source sound is human speech and somewhat less for aircraft and low-frequency sounds. I wish I knew enough about this to state an STC (or sound attenuation standard) that would be defensible and provide a relatively high degree of confidence that there would not be complaints associated with aircraft noise. Unfortunately, I don't have that expertise. Here is what I think makes sense:

- Require an analysis by qualified acoustical engineer which indicates that the exterior walls and roofs will provide sufficient sound transmission loss to assure that the interior noise levels would be such that 90% of the population would not be annoyed. Alternatively, the acoustical engineer could come up with an interior noise level that would approximate that same standard.

This would allow use of different DNL's if the project is outside the 60 DNL contour; it would allow engineers and architects to incorporate new construction materials and techniques with proven sound attenuation capabilities. Note that even if 90% of the statistical population would not be annoyed, if 10% of the people in 239 dwelling units were moderately or highly annoyed we would likely get noise complaints even though our ordinance does not regulate aircraft noise where the aircraft are operating in accordance with applicable federal laws or regulations.

I will work with Janine to incorporate our comments and recommendations into the appropriate format for submittal.

Thanks for the opportunity to comment.

Tony Barrett, RS
Food Safety & Sanitation Program
343-4744
Public Health - Working for YOU!

From: Barrett, Al W. (Zoning)
Sent: Thursday, December 30, 2010 9:37 AM
To: Barrett, Tony G.
Subject: RE: 239 dwelling unit application

We will have to use the language we put on plat notes, but this is a conditional use so it gives you the opportunity to ask for more if you think it's necessary. The CU requires a minimum 55 stc acoustic rating between common walls, but you may ask for something more for exterior walls.

Alfred Barrett,
Senior Planner
Planning Division,
Current Planning Section
907 343-7936 phone
907 343-7927 fax
barrettaw@muni.org

From: Barrett, Tony G.
Sent: Thursday, December 30, 2010 9:17 AM
To: Barrett, Al W. (Zoning); Nesheim, Janine R.
Subject: RE: 239 dwelling unit application

Al – do we have a mechanism for forewarning potential buyers that they are in a flight path and may be subject to noise? In Washington State, this kind of information can be recorded on the face of a plat and required to be included in various disclosure forms. I have seen it used in cases of residential development adjacent to long-standing agricultural use and industrial development. One of the ideas is to reduce complaints and actions against existing operations. My experience in some of these cases is that the Health Department still wound up dealing with complaints and in the case of one major national mushroom producer (Ostrom's) they wound up having to make significant changes in their operation to reduce complaints. In the case of a cheese manufacturer, they were forced to close as a result of development taking place around them. Since there is little we can do about noise from air traffic at authorized airports, maybe forewarning people about the noise would be helpful.

Is that an option that is used here in Anchorage?

Tony Barrett, RS
Food Safety & Sanitation Program
343-4744
Public Health - Working for YOU!

From: Barrett, Al W. (Zoning)
Sent: Thursday, December 30, 2010 8:57 AM
To: Nesheim, Janine R.; Barrett, Tony G.
Subject: 239 dwelling unit application

Planned unit development at sand lake gravel pit north of Dimond and between WestPark drive and sand lake road. Our case # 2011-013.

This is the west anchorage planning area meaning airport related issues. let me know if you want any noise notes in the recommendation.

Alfred Barrett,
Senior Planner
Planning Division,
Current Planning Section
907 343-7936 phone
907 343-7927 fax
barrettaw@muni.org

Barrett, Al W. (Zoning)

From: Barrett, Tony G.
Sent: Thursday, January 20, 2011 10:08 AM
To: Barrett, Al W. (Zoning); 'Tony Hoffman'; tmedmondson@thepetersengroup.biz; Dave Grenier; Bob Petersen; Nesheim, Janine R.
Subject: RE: noise level comments

Al - I concur with the recommendations listed in the airport comment letter.

Tony Barrett, RS
Food Safety & Sanitation Program
343-4744

Public Health - Working for YOU!

-----Original Message-----

From: Barrett, Al W. (Zoning)

Sent: Thursday, January 20, 2011 9:05 AM

To: 'Tony Hoffman'; tmedmondson@thepetersengroup.biz; Dave Grenier; Bob Petersen;

Barrett, Tony G.; Nesheim, Janine R.

Subject: noise level comments

All,

The department was already working to come up with comments regarding noise level mitigation for this case. Comments from the airport arrived this morning.

Al

Alfred Barrett,
Senior Planner
Planning Division,
Current Planning Section
907 343-7936 phone
907 343-7927 fax
barrettaw@muni.org

Kimmel, Corliss A.

RECEIVED

From: Tremont, David J.
Sent: Wednesday, January 26, 2011 9:35 AM
To: Barrett, Al W. (Zoning)
Cc: Wong, Carol C.; Kimmel, Corliss A.
Subject: Comments on 2-7-11 zoning cases

JAN 26, 2011

Municipality of Anchorage
Zoning Division

Following are the Long-Range Planning Section's comments on several zoning cases to be heard by the Planning and Zoning Commission on February 7, 2011.

Thank you.

David Tremont
Senior Planner
Community Development Department
Planning Division
Long-Range Planning Section
Municipality of Anchorage
(907) 343-7915
tremontdj@muni.org

**Case #2011-012 Conditional Use for a Nursing Home
(Providence Extended Care Center Replacement Project)**

This case has been postponed to March 7, 2011 per the applicant's request. Once revised information is provided for review, the Long-Range Planning Section will provide comments.

Case #2011-013 Conditional Use for a Planned Unit Development (Tract 1, Kincaid Estates – Solara at Westpark)

The proposed residential density of this PUD (6 dwelling units per acre) would be at the upper limit of the gross density range (3-6 du/a) for this area as set forth in the 1982 *Anchorage Bowl Comprehensive Development Plan*. A slight reduction in the number of dwelling units would allow more design flexibility and improve the overall livability of this development. Refer to the Long-Range Planning Section's comments below.

Neighborhood Connectivity and Accessibility

An earlier phase of the Kincaid Estates development located immediately to the north has designated a 10-foot wide walkway easement. The proposed Solara development should designate a ten foot wide walkway easement to match the alignment of the adjacent easement. This would provide a convenient pedestrian connection between these two neighborhoods.

The *Areawide Trails Plan* designates several planned trail connections from the overall Kincaid Estates Subdivision to Sand Lake Road, with one planned trail connection on the southeastern corner of Solara Estates connecting to a grade separated crossing of Sand Lake Road. Although there are slope issues, the Long-Range Planning Section recommends that the design of this development should include a trail connection which traverses the eastern slope area up to Sand Lake Road. This would provide more direct pedestrian access to Sand Lake Road and a transit stop being planned by the Public Transportation Department. In addition, a trail corridor should be considered to connect the Solara Development directly south to the Dimond Boulevard trail system.

Landscaping

The application should include a landscaping plan which shows in more detail the proposed visual enhancement landscaping within the development (AMC 21.50.130B.6) and buffer landscaping along the eastern, western, and southern boundaries of the overall site (AMC 21.50.130.C.5.c). The landscaping plan will need to meet requirements of AMC 21.45.125.B. The plan should also address moose protection for installed deciduous trees.

Pedestrian Safety and Visitor Parking Needs

The streets in the proposed development are narrow with five foot wide sidewalks attached to back of rolled curb on each side of the street. This is a change from the original Kincaid Estates Subdivision plat which depicted separated sidewalks on all streets of the subdivision. The Long-Range Planning Section recommends that the Solara Estates development should separate sidewalks from the back of curb by at least five feet on each side of the street. This would make the sidewalk safer by separating pedestrians from moving traffic, and planting grass in the separation area would also help visually break up the extent of pavement. Finally, the separation area could potentially be used for temporary snow storage during winter months, depending on the distance between driveways. The Long-Range Planning Section also recommends that vertical curbing should be used instead of the proposed rolled curb. Rolled curb with an attached sidewalk typically becomes a paved strip used for parking vehicles. Vertical curb is required in the provisionally adopted Title 21 rewrite.

The Long-Range Planning Section is concerned that this development has not provided for visitor parking. The narrow streets may not allow for on-street parking due to the minimum street widths needed for Fire Department equipment access. Possibly the best way to distribute visitor parking areas is to widen the streets enough to allow on-street parking on at least one side of the street while providing enough remaining width in the street for Fire Department equipment access. Alternatively, small off-street parking areas or wider areas along portions of the streets would need to be designed throughout the development.

Sunlight Access

The Long-Range Planning Section is concerned that proposed housing units on the southernmost portion of the site will have little or no direct sunlight access during the winter months of the year. A sunlight access analysis should be done to determine to what extent (e.g. number of days) these units would receive any direct sunlight between the fall and spring equinoxes (September 21 to March 21) of each year. Based on the findings of this analysis, the development could potentially be redesigned to remove proposed residential units in the darkest part of the development and, instead, use this area for non-residential uses such as a snow storage site, visitor parking, or even a recreation area to serve the development.

Open Space Areas

The proposed grading plan for the development shows berms within the open space areas. Given the proposed use of narrow private streets to access this development, it is even more important to provide areas for residents to use and enjoy. If these areas are to serve as useable open space for residents, the open space areas should be graded to have gentler slopes with visual enhancement landscaping, particularly trees, planted on the edges rather than in the middle. The wider open space areas should be designed for open play areas while narrower portions could also be more useable to residents by removing berms and planting the edges of these areas with trees.

Airport Noise Contours

According to airport noise maps, the project area is subject to airport noise ranging between 60 to 70 DNL during take-offs and departures using runways 14 and 32. This information should be provided to prospective buyers of homes in this area as part of the real estate disclosure documents. In addition, the development should consider building design and construction methods and materials to reduce interior noise levels within the residential dwelling units to no greater than 45 DNL.

Snow Storage

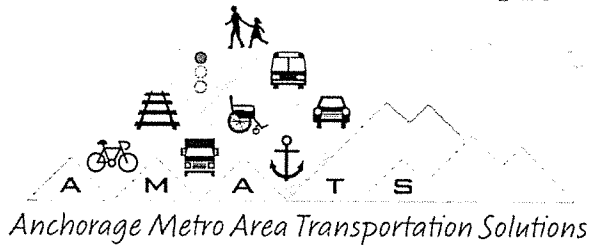
The snow storage areas on the site should total approximately 20 percent of the total area of streets in the development that will be plowed. This will ensure that there is sufficient area for snow storage if the snow is to be kept on site and not hauled off periodically. It is also important to locate snow storage areas so that they don't occur at key focal points of the

neighborhood. Finally, proposed landscaping should not be located near the edge of designated snow storage areas since trees and shrubs planted near these areas are typically damaged by snow plowing and snow stacking equipment.

Building Separation

Some buildings on the site plan don't appear to meet the minimum building separation requirements of AMC 21.50.130C.5.d. As more detailed building locations are provided to the Planning Division for review as part of the phased development, any adjustments made to building locations in order to meet the separation standard should result in reduction in number of building units and not in a loss in the required open space.

DEC 9 2010



MUNICIPALITY OF ANCHORAGE
Community Development Department
Transportation Planning Division
Planning & Development Center, 4700 Elmore Road
P.O. Box 196650, Anchorage, AK 99519-6650
voice (907) 343-7994, facsimile (907) 343-7998
e-mail: BrewerTM@muni.org

TO: Angela Chambers, Current Planning Section Supervisor
Community Development Department - Planning, Zoning and
Platting Division

FROM: Teresa Brewer, Associate Planner

DATE: Zoning Conditional Use Permit Application, Solara West Park
PUD, Case No. 2011-013; Agency review comments

1. Zoning Conditional Use Permit Application, Solara West Park PUD,
Case No. 2011-013

A. No comment on the Zoning Conditional Use Permit Application.
However, Transportation Planning staff recommends that the petitioner to
coordinate with the MOA Traffic Engineer regarding road design and access.
For instance, the proposed long blocks and straight roads will encourage
speeding within the neighborhood. Equally, a Traffic Impact Analysis may
need conducted (or revisited) as the proposed density is changed.

Barrett, Al W. (Zoning)

From: Walsh, Sharen A.
Sent: Tuesday, January 18, 2011 5:51 PM
To: Barrett, Al W. (Zoning)
Subject: RE: Solara Kincaid Estates

Excellent question. I need to look at that. I don't know if there is a mechanism for that in 21.09 or in Title 23. I need to review.

I am dancing as fast as I can over here, will work on getting comments to you before I leave the building tomorrow.

Sharen A. Walsh, P.E.
Deputy Director & Building Official
Development Services Division
Community Development Department
Municipality of Anchorage
(907) 343-8025

From: Barrett, Al W. (Zoning)
Sent: Tuesday, January 18, 2011 12:15 PM
To: Walsh, Sharen A.
Subject: Solara Kincaid Estates

Do we need a performance bond?

Alfred Barrett,
Senior Planner
Planning Division,
Current Planning Section
907 343-7936 phone
907 343-7927 fax
barrettaw@muni.org

Kimmel, Corliss A.

From: Staff, Alton R.
Sent: Thursday, January 06, 2011 4:14 PM
To: McLaughlin, Francis D.; Kimmel, Corliss A.; Stewart, Gloria I.
Cc: Schanche, Lori E.
Subject: Plat and Zoning Case Comments

RECEIVED

JAN 06, 2011

Municipality of Anchorage
Zoning Division

Case No. 2011-013 People Mover recommends a route for the Jewel Lake/Sand Lake area in the five year plan. Of course with reduced funding we are not expanding route coverage so it will be a later date before new routes are added. The Development of the northwest quadrant of Sand Lake and Dimond Boulevard should include a direct pedestrian access to Sand Lake and Dimond. A pedestrian path will encourage non-motorized travel for residents of this subdivision.

Case No.	2011-008	No Comment
	2011-16	No comment

Thank you for the opportunity to review.

Alton R. Staff
Planning Manager
Public Transportation Department
3600 Dr. Martin Luther King Jr. Ave.
Anchorage, AK 99507
907-343-8230

Barrett, Al W. (Zoning)

From: Coop, Leland R.
Sent: Monday, January 03, 2011 9:22 AM
To: Barrett, Al W. (Zoning); Crapps, John E.
Subject: RE: Kincaid Estates - Sand Lake gravel pit

*for Feb 7.
11-013*

The code for this does not apply to private streets. While there is some safety issue related to width of driveway it is more a critical snow removal and possible drainage issue that the Muni does not want. I'm not defending private verses public streets here. We just stated that if these are public roads then the tri-plex and above must have on-site parking and maneuvering.

Lee

From: Barrett, Al W. (Zoning)
Sent: Thursday, December 30, 2010 11:58 AM
To: Coop, Leland R.; Crapps, John E.
Subject: Kincaid Estates - Sand Lake gravel pit

At a meeting with the applicant, Traffic pointed out that their 3 and 4 – plexes did not provide on site turning and maneuvering area. So, the applicant responded he'd keep the streets private. Private streets would have to be added to the HOA docs, but my question is, doesn't the turning & maneuvering requirement still apply to private streets? After all, it's a safety issue.

We'll need the show storage calc before going to PZC.

Applicant's comments below.

At the Tuesday meeting with Traffic, John Crapps and Lee Coop had two main concerns. The first was snow storage and the second was the tri-plex and 4-plex driveway access backing into the public right of way. They pointed out that because we are dedicating the rights of way, Title 21 requires that vehicles not back onto the street and that all maneuvers occur onsite. This dramatically affects the site plan as proposed. We have looked at alternatives that would provide onsite movements and have concluded they are not feasible. This bring us back to having private streets which Traffic say they would not object to and is in fact preferred. They also noted that private streets for projects of this type would also be preferred by Maintenance, We would appreciate your thoughts on the public vs. private street issue as well as any suggestions you may have on how to proceed. At this point we are leaning toward the private option.

As to the snow storage concern, we are in the process of calculating the amount of snow and identifying appropriate storage sites.

We feel that this issue can be resolved to the satisfaction of Traffic.

Alfred Barrett,
Senior Planner



MUNICIPALITY OF ANCHORAGE

Development Services Division

Right of Way Section

Phone: (907) 343-8240 Fax: (907) 343-8250



RECEIVED

JAN 07, 2011

Municipality of Anchorage
Zoning Division

DATE: January 7, 2011
TO: Planning, Zoning and Platting Division
THRU: Jack L. Frost, Jr., Right of Way Supervisor
FROM: Lynn McGee, Senior Plan Reviewer
SUBJ: Comments on Planning and Zoning Commission case(s) for February 7, 2011.

Right of Way Section has reviewed the following case(s) due January 10, 2011.

- 10-139 Briarcliff, Tract A, Pango, Tract B, grid 2131**
(Site Plan Review, Large Retail/Commercial Establishment)
Right of Way Section will have comments in the building permit plan review process.
Review time 15 minutes.
- 11-010 Lyn Ary Park, grid 1526**
(Master Plan Review for a Public Park)
Right of Way Section will comment on the design plan review process.
Review time 15 minutes.
- 11-011 Section 23, T14N R2W NW ¼, grid SW0251**
(Rezoning Request, PC-SL to R-1 and PLI-SL)
Right of Way Section recommends the development of these lands do not have an access to other than Yosemite Drive.
Review time 30 minutes.
- 11-012 Waldec #2, Tracts A-1-1 & A2-1, grid 1338**
(Conditional Use, Nursing Home)
Right of Way Section has no comments at this time.
Review time 15 minutes.
- 11-013 Kincaid Estates, Tract 1, grid 2323**
(Conditional Use, Planned Unit Development)
Right of Way Section has no comments at this time.
Review time 15 minutes.
- 11-014 Section 24, SW ¼, & Section 25, T16N, R1W, grid NW2065**
(Amendment to Natural Resource Extraction Master Plan)
Right of Way Section has no comments at this time.
Review time 15 minutes.

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

CENTRAL REGION - PLANNING

SEAN PARNELL, GOVERNOR

4111 AVIATION AVENUE
P.O. BOX 196900
ANCHORAGE, ALASKA 99519-6900
(907) 269-0520 (FAX 269-0521)
(TTY 269-0473)

January 6, 2011

RE: MOA Zoning Review

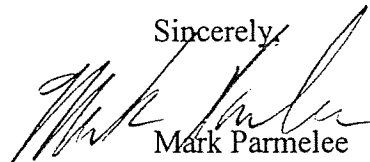
Angela Chambers, AICP
Municipality of Anchorage
Community Development Department
Planning Division
P.O. Box 196650
Anchorage, Alaska 99519-6650

Dear Ms. Chambers:

The Alaska Department of Transportation and Public Facilities, ADOT&PF, reviewed the following applications and has no comments:

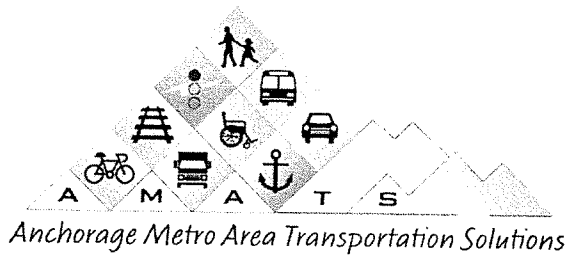
2011-013 Kincaid estates – Conditional use for a planned unit development

Sincerely,



Mark Parmelee
Area Planner

/as



MUNICIPALITY OF ANCHORAGE
Community Development Department,
Transportation Planning Section
Non-Motorized Transportation Coordinator
Planning & Development Center, 4700 Elmore Road
P. O. Box 196650, Anchorage, AK 99519-6650
voice (907) 343-8368, facsimile (907) 249-7806
e-mail: schanchele@muni.org

DATE: January 7, 2011

TO: Angela Chambers, Platting Officer

FROM: Lori Schanche, Non-Motorized Transportation Coordinator

SUBJECT: Case No. 2011-013
Solara at West Park

Add another pathway to the property line at NE corner of property across from Post Office boxes to meet existing easement between lots 15 & 16 to the north. This will ensure that connectivity exists between developments. We realize that the development to the north does not yet have a walkway developed, but this pathway will help to ensure that the access is known.

The design of this development should create a pedestrian connection to Sand Lake Road. We understand that some day there may be a bus route along Sand Lake Road. In addition, this connection would create connections to an existing pathway as well as the future school sites on the east side of Sand Lake Road. The *Areawide Trails Plan* actually shows two grade separated pathway connections at Sand Lake Road in the vicinity of this development as well as the one to the north. At a minimum, development should include some kind of connector to the pathway along Sand Lake Road. Given existing grades a connection would be possible. Instead of grading the property flat, some clever grading and redesign could create this connection.

Cc: Craig Lyon, AMATS
Alton Staff, PM

Barrett, Al W. (Zoning)

From: Roy, Isobel
Sent: Friday, January 14, 2011 11:31 AM
To: Barrett, Al W. (Zoning)

Aside from my agreement with Randy and Lori about connectivity issues, specifically about access and trail potential, I would offer that buffer landscape should include native materials. The buffer landscape along the northern stretch of Westpark seems poorly maintained. A line of mature spruce could be very striking and appropriate if not for the poor maintenance. The spruce is struggling in part because grass has been allowed to crowd out the trunks. Each tree should have a sufficient mulch ring.

If the developer wanted a stronger statement, they might consider adding more native trees, e.g. aspens and birch, along with the spruce. Native shrub planting as an understory might enhance the buffer. Calamagrostis, the native grass in place there, might be considered part of the groundcover.

Let me know if questions arise.

Regards,

Isobel Roy

Project Administrator
Project Management & Engineering
Municipality of Anchorage
Office: 907-343-7579
Cell: 907-727-2378

**SOLARA at WEST PARK
TRAFFIC IMPACT UPDATE**

12-16-10

The following information relating to Traffic Impact is provided for the proposed Planned Unit Development (PUD) called Solara at West Park, located on Tract 1 of West Park Subdivision.

The original approval of Tract 1 consists of 113 single family lots. The proposed PUD consists of 53 single family units, 47 duplex units, 8 tri-plex units and 17 four-plex for a total of 239 dwelling units.

The approved West Park Subdivision, originally known as Kincaid Estates and approved in December of 2002, had a total of 670 single family lots and 80 duplex lots for a total of 830 dwelling units. Since that time, the school district has purchased Tract 8A and 9A (see attached Exhibit 1) which originally showed 127 single family and 30 duplex lots for a total of 187 units. In addition to the school site purchase, there were 46 lots approved within Tract 10, the pond area, which now is being left as open space. The 7 duplex lots within Tract 7A have also recently been removed from development and will be left as open space after being filled. The total reduction of units due to the school site purchase as well as the pond area and Tract 7A being left as open space is 247. Comparing the reduction of 247 units to the proposed PUD increase of 126 units results in an overall decrease of 121 units from the original plat approval.

The progression of changes in the total number of units since the original approval is as follows.

- Original December 2002 Approval: 830 units
- Total after School Site Purchase: 643 units
- Total after removal of Tract 10: 597 units
- Total after removal of Tract 7A: 583 units
- Total with Proposed PUD: 709 units

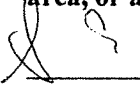
In summary, with the decrease in overall unit count for the West Park Subdivision, the original conclusions within the approved TIA still stand; that is, the development does not exceed the capacity for safe operation of the surrounding intersections. Note that the analysis concluded there was no need for a left turn pocket into the project at Kincaid and Kincaid Estates Drive (now West Park Drive) or a deceleration lane from Dimond Blvd onto West Park Drive. However, based upon the experience and concerns expressed by the surrounding neighborhoods, these two features were incorporated into the project design and have been built.


WMS WATERCOURSE MAPPING SUMMARY

Per the requirements for watercourse verification outlined in Project Management and Engineering Operating Policy and Procedure #8 and Planning Department Operating Policy and Procedure #1 (effective June 18, 2007), MOA Watershed Management Services has inspected the following location for the presence or absence of stream channels or other watercourses, as defined in Anchorage Municipal Code (21.35).

- Project Case Number or Subdivision Name: Tract 1 Kincaide Estate
- Project Location, Tax ID, or Legal Description: 01129121
- Project Area (if different from the entire parcel or subdivision): _____

In accordance with the requirements and methods identified, WMS verifies that this parcel, project area, or application:

  **DOES NOT** contain stream channels and/or drainageways, as identified in WMS field or archival mapping information.*

  **DOES** contain stream channels and/or drainageways **AND** these are located and identified on submittal documents in general congruence with WMS field and archival mapping information.
*New or additional mapping **IS NOT REQUIRED**.**

 Contains stream channels and/or drainageways **BUT** one or more streams or other watercourses:

- are **NOT** shown on submittal documents, or
- are **NOT** depicted adequately on submittal documents for verification, or
- are **NOT** located or identified on submittal documents in general congruence with WMS field and archival mapping information.

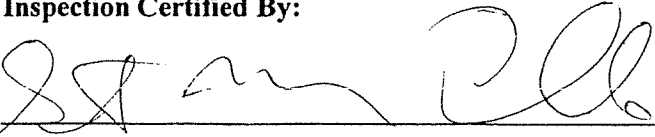
*New or additional mapping **IS REQUIRED** and must be re-submitted for further review and verification.**

 Presence of stream channels and/or drainageways is unknown **AND** field verification is not possible at this time. WMS will verify as soon as conditions and prioritized resources allow.

* Streams omitted in error by WMS or others remain subject to MOA Code and must be shown in new mapping upon identification of the error.

ADDITIONAL INFORMATION:

- Y N WMS written drainage recommendations are available. Preliminary Final
- Y N WMS written field inspection report or map is available. Preliminary Final
- Y N Field flagging and/or map-grade GPS data is available.

Inspection Certified By: 

Date: 12.16.10

Barrett, Al W. (Zoning)

From: Furch, Tom P.
Sent: Monday, January 24, 2011 2:00 PM
To: Barrett, Al W. (Zoning)
Subject: RE: Solara at Kincaid gravel pit

We discussed, and I was assured, that the road divider at the entrances would not interfere with the minimum 20 ft **unobstructed** width as required in the fire code. The plans as submitted could not be accurately scaled. If the divider is installed then by code they would require 20 ft road width on each side in each direction.

Tom Furch

From: Barrett, Al W. (Zoning)
Sent: Monday, January 24, 2011 1:54 PM
To: Coop, Leland R.; Furch, Tom P.
Subject: Solara at Kincaid gravel pit

Any final comments or concerns you'd like in the report?

Alfred Barrett,
Senior Planner
Planning Division,
Current Planning Section
907 343-7936 phone
907 343-7927 fax
barrettaw@muni.org

Municipality of Anchorage
P. O. Box 196650
Anchorage, Alaska 99519-6650
(907) 343-7943

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1/14/11

NOTICE OF PUBLIC HEARING - - Monday, February 07, 2011

Planning Division Case Number: 2011-013

The Municipality of Anchorage Planning and Zoning Commission will consider the following:

CASE: 2011-013
PETITIONER: The Petersen Group, Inc.
REQUEST: Zoning conditional use for a planned unit development
TOTAL AREA: 39.90 acres
SITE ADDRESS: 9101 WESTPARK DR
CURRENT ZONE: R-1A One-family residential district
COM COUNCIL(S): 1---Sand Lake

LEGAL/DETAILS: A Conditional Use for a Planned Unit Development (PUD). Kincaid Estates Subdivision, Tract 1. Generally located south of Kincaid Road, west of Sand Lake Road and north of West Dimond Blvd.

The Planning and Zoning Commission will hold a public hearing on the above matter at 6:30 p.m., Monday, February 07, 2011 in the Assembly Chambers of the Z. J. Loussac Library, 3600 Denali Street, Anchorage, Alaska.

The Zoning Ordinance requires that you be sent notice because your property is within the vicinity of the petition area. This will be the only public hearing before the Commission and you are invited to attend and present testimony, if you so desire.

If you would like to comment on the petition this form may be used for your convenience. Mailing Address: Municipality of Anchorage, Department of Community Development, Planning Division, P.O. Box 196650, Anchorage, Alaska 99519-6650. For more information call 343-7943; FAX 343-7927. Case information may be viewed at www.muni.org by selecting Departments/Planning/Zoning and Platting Cases.

Name: _____

Address: _____

Legal Description: _____

Comments: _____

REZONING/RESIDENTS-PLANNING COMMISSION
2011-013

public water available at reasonable cost.

1/18/11

Amy Cox

5936 Big Bend Loop

Anchorage ak 99502

We bought our house knowing that the Westpark neighborhood was zoned only for single family residences, a park, and a school. We bought our house based on this knowledge. This neighborhood is full of nice houses with great value. We have a house that will be on the next street to this "planned development". Our property value will be greatly diminished by this development. The family neighborhood and character that we paid so much for will be lost in the amount of traffic, population, and increase of noise pollution. This project is incompatible with surrounding homes and at almost 40 acres, will demolish our single family neighborhood. The safety of our community is also at stake. We have children in the neighborhood riding bikes and playing outside. The increase of population and traffic will make Westpark dangerous for our children. In addition, we pay HOA fees to keep our neighborhood to a standard and with almost 40 acres of multi-family units, Westpark neighborhood will no longer be a desirable place to live.

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[Details](#) | [Staff Report](#) | [submit a comment](#)

Public Comments

1/26/11

Jim Anderson Anderson
8219 Sundi Drive
Anchorage Ak 99502

I am appalled that the municipality and the department of Zoning would even consider putting increased density multiplex units in the "gravel pit", (know known as West Park)! They were in error to even put in the development that they have, and they only succeeded because the more than three thousand citizens who depend on their wells for clean water, could not afford to fight the municipality and Mark Begich in court. After all, he had all of our high tax money with which to pay lawyers to sue us! We were, however, promised that there would be low density with large lots and single family only housing. Much of the plumbing and utility lines are presently only five or six feet above the aquifers that supply our wells. Many of us have had our (very deep) wells for thirty years. They draw from an ultimate water table that comes from the surrounding mountains, and according to the hydrologists, is plentiful and quite good quality since it has been filtered for several hundred years before now being brought to the surface. Multi family zoning in the gravel pit is an outrage and an insult to those citizens who have fought so long to maintain the safety of our water. Increased residential density will multiply the risk to our water ten-fold, and we have been promised that this would not happen. What good does it do to even have a Municipality control? You go back on your word and decisions at will. You might as well put the developers in charge (who are motivated only by money) along with the City planning department (whose only concern is to create more taxes) also in charge and forget about anyone's rights! It seems that we are back in the old west days, driven to fighting about water rights, with a crooked sheriff in town! I don't want to hear about how we should all hook up to city utilities: I already know that in my particular case, that move would put a lien on my house

to the tune of \$250,000. We have already paid tens of thousands of dollars to drill 256 ft for our well, maintain it, and install modern electric monitored on site septic system (designed to be permanent). furthermore, we pay the highest property taxes in the city. For what? We don't cost the Muni any money for water or sewer. We have large lots because we followed the rules, we are on top of good gravel that will support our usage indefinitely. Now, if our water table goes out (not to mention that there are no utility mains out here), we will be charged so much to hook up to the city that we would lose all of the equity in our homes. The value of our houses has already gone down because of that subdivision and it's possible effect on our homes. If you add greater density to the gravel pit subdivision, you now affect not only those of us who are on surrounding wells, but you will also lower the value of the single family residences already built there. Multi-family dwellings have never been known to increase the value of a neighborhood! At this very moment our well (which has a flow equal to a community well, is not flowing. We are trying to get a well digger out to ascertain and fix the problems if he can. However, we have called every well digger in the yellow pages, and they are all so busy they are two weeks out. Why? Unusual mass calls for well service in the middle of the winter, and especially so in Sand Lake. Do you think this is just coincidence? Or could it possibly be related to the deep commercial well that the pit developer was allowed to drill (very deep) and use forever to water his "sand and gravel, and now his top soil and nitrate filled grass? I do not know about others, but if the Municipality does this, and it is going to cost me hundreds of thousands of dollars to pay for utilities and take the equity from my home, I am willing to go back to court. I might as well pay the lawyers \$250,000 as pay a municipality that has become as crooked as the infamous Chicago politicians! Incidentally, about two blocks away the Muni last summer put in a water line along north Jade and 84th street. Yes, the residents were each assessed from \$12,000 and up, and forced to give up their community well. What happened to that community well? Why the Municipality takes it over, of course. They make more money now that they can charge those people monthly for the water that they used to get for a pittance. In fact, some of our larger community wells in the area; the Muni has been trying to buy the well from the homeowners association for years. They get their water from the same aquifers that we do, but greed moves them to acquire all that they can in order to charge more money for what we already have! And Mark Begich is gone. Now we have a GOOD MAYOR. I know he understands the problems. He defended us against the liberal assembly several years ago. Where is Mr. Sullivan now?

1/25/11

Betty Dodds

8705 Sommers Place

Anchorage AK

The Sand Lake Community was led to believe that only single family homes would be built in the West Park Subdivision. Rezoning to allow town houses and condos is an unfair, underhanded thing to do to the home owners in the subdivision as well as the homeowners in the surrounding area. Changing the zoning to allow condos and townhouses to be built will lower the value of the single family homes already built there. There are only two ways to enter or leave the West Park subdivision. Increased traffic will only increase the potential for accidents. What happens if the storm drainage system and the lift station are not adequate to handle the increased use? Will developers be required to pay into an escrow account to be used for fixing/upgrading the lift station if needed or will taxpayers and ratepayers bear the expense? Have the Corps of Engineers weighed in on the adequacy of the present AWWU sewage system should this

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Public Comments

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Anchorage AK

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1/25/11

Deanna Essert
6262 W. Dimond Blvd.
Anchorage AK 99502

The proposed rezoning request from R1A to Planned Unit Development is incompatible with the abutting and surrounding zoning. The West Park

Subdivision was sold to the Community with the zoning being R1A and the roads, lift station and storm drainage system were designed for R1A zoning. Substantial costs to property owners will be incurred if the R1A zoning is changed.(1) AWWU rate-payers will incur additional charges when the capacity for storm drainage and sewerage is increased to serve an area with increased density. (2) The access to West Park is a safety hazard, as many leaving West Park do not stop for West Dimond traffic. Increased traffic will require road and safety improvements. (3) The housing market will not support condo or town houses and, during a downturn in the economy, condos and town houses are the first to lose value. Presently, many townhouses and condos are under-water and owners are seeking refinancing. Additional condo and town house units are not needed. (4) Before any more storm drainage is directed into the wetlands in the Anchorage Coastal Wildlife Refuge, the Municipality needs to have an impartial engineering firm, U.S. Fish and Wildlife, AK Department of Fish and Game, etc.do a study to determine the impact of additional drainage on the Refuge. The establishment of a sinking fund, under the control of the Corps of Engineers or other responsible party, should be funded to cover the cost of the study. All those developers seeking zoning changes that increase density will be required to contribute to the fund. (5) With no public water available to homeowners surrounding West Park, it is inconceivable for the Muni to allow increased density, in an area where the aquifers are at risk that provide approximately 3,000 residents with water for private and community water wells.

1/25/11

Deanna Essert
6262 W. Dimond Blvd.
Anchorage AK 99502

The developers seeking rezoning for Case # 2011-013 should not be allowed to change the zoning from R1A to a Planned Unit Development with Condos or townhouses since rezoning would conflict with abutting and surrounding properties. (1) The Sand Lake Community accepted development in the pits because the developer of West Park designed a subdivision with single family homes. (2) The storm drainage system and lift station were designed for the original density and will not accommodate increased density. If AWWU is required to upgrade the lift-station and storm drainage system, ratepayers will be impacted with additional costs of the upgrades. If there is a lift station failure due to increased density, rate payers will suffer increased costs. (3) The road system is not adequate for present traffic. Many accessing West Dimond from West Park Drive do not stop for oncoming traffic. Safety and road improvements will be necessary with the proposed rezoning and those costs will be borne by property owners. (4) There is no market for more condos and townhouses in the proposed price range. Many condos and townhouses in the Anchorage bowl have lost value and owners are attempting to refinance. Adding more condos and townhouses will impact existing housing stock and lower property values for this type of unit. (5) Before any development with additional storm drainage and sewerage is pursued, a study by the Corps of Engineers and the managers of the Refuge is necessitated to determine if the present AWWU sewerage system is adequate and what the effects on the Anchorage Coastal Wildlife Refuge will be and how those will be addressed. All developers pursuing increased density should be required to pay into a "sinking fund" to cover the costs of these studies.(6) Increased density threatens the aquifers under the West Park Subdivision and the ionically exposed aquifer (pond) that feeds water wells for approximately 3000 residents surrounding the West Park Subdivision, and who do not have

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Public Comments

1/18/11

Amy Cox

5936 Big Bend Loop

Anchorage ak 99502

We bought our house knowing that the Westpark neighborhood was zoned only for single family residences, a park, and a school. We bought our house based on this knowledge. This neighborhood is full of nice houses with great value. We have a house that will be on the next street to this "planned development". Our property value will be greatly diminished by this development. The family neighborhood and character that we paid so much for will be lost in the amount of traffic, population, and increase of noise pollution. This project is incompatible with surrounding homes and at almost 40 acres, will demolish our single family neighborhood. The safety of our community is also at stake. We have children in the neighborhood riding bikes and playing outside. The increase of population and traffic will make Westpark dangerous for our children. In addition, we pay HOA fees to keep our neighborhood to a standard and with almost 40 acres of multi-family units, Westpark neighborhood will no longer be a desirable place to live.

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Public Comments

1/27/11

Marvin Krogh
6150 W Dimond
Anchorage Ak 99502

Rezoning the area in question to allow multi family dwellings is not in the best interest of those that presently reside in the area. Why should the interest of a developer be allowed to reap the benefits established by existing agreed upon zoning? Most of us choose to live in the area because of established existing zoning. We do not believe zoning should be changed to allow multi family dwellings.

1/26/11

Marya Morrow
6345 W. Dimond Blvd.
Anchorage Ak 99502

I strongly oppose re-zoning in the gravel pit. Other people's comments have clearly stated my reasons for opposing this dreadful idea.(See Betty Dodds, Deanna Esserts, Frank Box and Jim Anderson.) Permitting high density housing in the pit would be a huge disservice to all surrounding homeowners. Past history in the pit has shown that developers have rights and homeowners have none. Isn't it time for a change?

1/26/11

Marjorie and Robert Paulson
5950 W Dimond Blvd
Anchorage AK 99502

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1/26/11

Glenn Aronwits
8721 Sommers Place
Anchorage AK 99502

Durning Community Council Meetings and Planning Zoning hearing the developer (s) clearly stated that West Park Subdivision would contain only low density housing, no matter which one of their plats were approved. The P&Z board approved this development explicitly on a low density housing. This issue should be mute, as one of the key conditions of this development is it shall only contain single family homes. There are numerous health and safety issues with the surrounding private water systems and road conditions in the area. Health and safety issues have been brought up numerous times to Municipality, so I will not digress except to say stressing the infrastructure with high density housing is like playing russian roulette. The rezoning should not be considered period.

1/26/11

T. Frank Box
8030 Seaview St
Anchorage AK 99502

I moved into my home in Sandlake in 1982, at the time I moved in I was told there was a Supreme Court of Alaska decision regarding appropriate development. The statement said, that the gravel pits would need to be reclaimed and allowed to naturalize and/or settle for 10 years before they could be developed. That plan went off the table when a developer is also a member of the planning and zoning board purchased the property. If it were not for the work of the Sandlake Concerned Coalition the existing housing development at the bottom of the gravel pits would be full of multi-family dwellings. I suppose it is good thing that there are families living in the new development to advocate for respecting all of the legal language that went into the original project development hearings. Although, the developers were sharp enough to break the project into seven different plats has to make it difficult to litigate it is really one project. And should be treated as such. Many of us from the Sandlake Concerned Coalition spent long hours waiting to testify at the assembly chambers only to be belittled and heckled by planning and zoning board members. Furthermore, this had been settled and a variance need not be granted for higher density housing than was initially approved. This would de-value the new homes recently built and overload the current wastewater system as designed & built.

1/26/11

Jeff Ritter
8610 Sommers Place
Anchorage AK 99502

I strongly oppose increased density zoning for the area in question. The West Park development as it exists has already over taxed the environment.

1/26/11

Jim Anderson Anderson
8219 Sundi Drive
Anchorage Ak 99502

I am appalled that the municipality and the department of Zoning would even consider putting increased density multiplex units in the "gravel pit", (know known as West Park)! They were in error to even put in the development that they have, and they only succeeded because the more than three thousand citizens who depend on their wells for clean water, could not afford to fight the municipality and Mark Begich in court. After all, he had all of our high tax money with which to pay lawyers to sue us! We were, however, promised that there would be low density with large lots and single family only housing. Much of the plumbing and utility lines are presently only five or six feet above the aquifers that supply our wells. Many of us have had our (very deep) wells for thirty years. They draw from an ultimate water table that comes from the surrounding mountains, and according to the hydrologists, is plentiful and quite good quality since it has been filtered for several hundred years before now being brought to the surface. Multi family zoning in the gravel pit is an outrage and an insult to those citizens who have fought so long to maintain the safety of our water. Increased residential density will multiply the risk to our water ten-fold, and we have been promised that this would not happen. What good does it do to even have a Municipality control? You go back on your word and decisions at will. You

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6262 W. Dimond Blvd.
Anchorage AK 99502

The proposed rezoning request from R1A to Planned Unit Development is incompatible with the abutting and surrounding zoning. The West Park Subdivision was sold to the Community with the zoning being R1A and the roads, lift station and storm drainage system were designed for R1A zoning. Substantial costs to property owners will be incurred if the R1A zoning is changed. (1) AWWU rate-payers will incur additional charges when the capacity for storm drainage and sewerage is increased to serve an area with increased density. (2) The access to West Park is a safety hazard, as many leaving West Park do not stop for West Dimond traffic. Increased traffic will require road and safety improvements. (3) The housing market will not support condo or town houses and, during a downturn in the economy, condos and town houses are the first to lose value. Presently, many townhouses and condos are under-water and owners are seeking refinancing. Additional condo and town house units are not needed. (4) Before any more storm drainage is directed into the wetlands in the Anchorage Coastal Wildlife Refuge, the Municipality needs to have an impartial engineering firm, U.S. Fish and Wildlife, AK Department of Fish and Game, etc. do a study to determine the impact of additional drainage on the Refuge. The establishment of a sinking fund, under the control of the Corps of Engineers or other responsible party, should be funded to cover the cost of the study. All those developers seeking zoning changes that increase density will be required to contribute to the fund. (5) With no public water available to homeowners surrounding West Park, it is inconceivable for the Muni to allow increased density, in an area where the aquifers are at risk that provide approximately 3,000 residents with water for private and community water wells.

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1/18/11

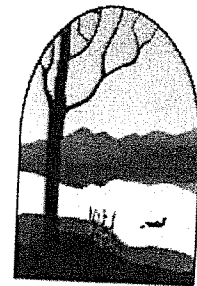
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Sand Lake Community Council

Sand Lake Community Council c/o Community Councils Center • Anchorage, Alaska 99503
E-Mail: mail@sandlakecc.org or slccpresident@gmail.com Web: <http://www.sandlakecc.org>



RECEIVED

JAN 27 2011

PLANNING DEPARTMENT

Date: January 27, 2011

Municipality of Anchorage
Planning & Zoning Commission
Anchorage Assembly

Re: Proposed Peterson Sand Lake Pit Development

Dear Sir/Madam,

Significant development has taken place in the old Sand Lake gravel pit in recent years and many residents are concerned about the safety of their drinking water due to an exposed aquifer at the bottom of the Pit, increased traffic on Dimond Blvd, smog created by pollutants in the lowest part of the pit, and negative influence on adjacent nearby schools. There have been three major hydrologic studies completed: one by UAA in 2004, another by UAF in 2008, and a third by MOA/UAA/Anchorage Waterways Council/J. A. Munter Consulting, Inc. in 2010 that all showed the importance and need for improved efforts towards protecting groundwater supplies for local wells from contamination.

These studies were authored by some of Alaska's premier water scientists, engineers, and institutions. The UAF and UAA studies collected abundant original data, including sampling water from 70 wells and stratigraphic test well drilling. All three studies conclude there is significant vulnerability to the underlying drinking water aquifers. On behalf of the Sand Lake Community Council and South Anchorage Concerned Coalition (SACC) we request that due to the proximity of the proposed Peterson development to the exposed aquifer (South Pond) and the underlying aquifers, and the above listed potential negative effects that the density not be increased and that a number of precautions listed below be adhered to.

Limited History

The Muni permitted the Sand Lake Gravel Pit development before 2004 as though the residents concerns were non-issues, accepting the developer's "research" and conclusions as accurate and reliable, not materially acknowledging the local well owners' concerns as reasonable possibilities that need to be investigated further. Subsequent studies cited above after the original platting action have demonstrated residents concerns to be viable and the basis for approving the original plats to be technically flawed (see details below). Now that the Municipality is re-opening this issue, all of these issues should be reopened. It is as if the Muni permitted a house on quicksand, and now wants to permit another story on top.



Herein lies the problem: the issue of trust and concern about the real agenda of the Municipality. Most of us assume that our government's primary function is to manage the community for the greater good, especially our health, safety, and welfare. While we acknowledge the need for additional housing in Anchorage and perhaps increased density in some areas, this development should not steamroller valid health, safety and welfare concerns. The message that came from the prior process was disturbing: that the Municipality's agenda has not been considerate of numerous Sand Lake Community Council resolutions, health safety and welfare issues, and that has been demoralizing. When diligent, taxpaying citizens raise legitimate health and safety concerns regarding a huge, long term project with far reaching impact, it is reasonable that the issues they raise should be considered very carefully. These are not issues to be decided solely by political appointees who are well meaning, but may or may not have the necessary expertise, or city employees who may feel obligated to promote a particular political agenda. This is too important for that.

Hundreds of homeowners in the area of Dimond Blvd., Sand Lake Road, and Kincaid Road continue to feel threatened with the potential contamination of their wells by the construction of the large subdivision and the everyday living activities of over 2000 people (with single family homes only, 713 total units) projected to live in the gravel pit by the end of the building phase. They wonder if bacterial and viral diseases, birth defects, and cancer will be the long term results of pesticides, or earthquake generated sewage leaks, all quietly seeping into the aquifers due to the porous sand and gravel soils not present in most all of Anchorage.

Credible Review of Reports by UAA/UAF/AWC/Munter

The municipality has relied on a dubious ADEC 8-page report (Weise, 2003) and unsupported findings from a local vendor, Terrasat. Below are excerpts from the UAA 96-page 2004 report cited above:

“The ADEC (2003) **does not** provide analysis or modeling of the potential for contamination of the groundwater due to the proposed subdivision.” UAA (2004)”

“Therefore, the appropriate **data do not exist to make conclusions** about the connection or lack thereof between the upper and lower parts of the aquifer system in the area or for the site of the proposed subdivision which has extremely limited data available to address this problem.” UAA (2004)”

“Our review of the TERRASAT, Inc. reports with regards to the hydrogeologic studies conducted indicates that several unsubstantiated conclusions have been posed about the hydrogeologic environment at and near the site of the proposed subdivision. In the case of the hydrogeologic assessment of unconnected aquifers, the necessary data is lacking to support the conclusions. In the case of groundwater mixing analysis using groundwater chemistry, the available geochemical data **does not contain the correct** geochemical parameters and therefore **the conclusions are not validated.**” UAA (2004)



There are many other passages from the cited reports (2004, 2008, 2010) that vividly outline that the Muni permitted the development based on misinformation from ADEC and Terrasat.

Sand Lake Community Council Requests

The Sand Lake Community requests the following:

- That this proposed development not go forward until the original concerns of this subdivision are adequately addressed by incorporating all data from all previous studies.
- That the density for the proposed Peterson Development be limited to the original Platted amount of 113 units and not the proposed 239 units.
- An analysis of additional loading to South Pond by more people walking dogs there in the wintertime, with resultant fecal loading during breakup and hydrocarbon hazards. What does the MOA do to reduce this hazard? Signage and other precautions could be undertaken to let residents know of the danger to aquifers. An example of such a sign would be "Do not walk pets on ice - Groundwater recharge area"
- Plans for placement of topsoil to make sure there is a sufficient amount to filter pollutants before reaching aquifers.
- That the complaints by well owners submitted to the MOA be addressed prior to any permits being issued.

It is important to assure Sand Lake people that their well water is safe to drink, the schools are safe, and roads can support the traffic even with all the new development in the area. A Sand Lake Community Resolution will be brought to a vote at the next Sand Lake Community Council meeting.

Sincerely,

President Dan Burgess

Sand Lake Community Council

Cc: Mayor Dan Sullivan
Assemblyman Ernie Hall
Assemblywoman Harriet Drummond
Sen. Lesil McGuire
Rep. Mia Costello
Rep. Craig Johnson
Former Rep. Norm Rokeberg
Former Rep. Bob Buch

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JAN 27 2011

PLANNING DEPARTMENT

Violet G. Hulec
6530 W. Dimond Blvd.
Anchorage, Ak. 99502

Case # 2011-013
"Solara"

Site Address - 9101 Westpark
Drive

I have serious concerns about the Peterson development in West Park Subdivision known as "Solara" - a PHD that if developed, as planned will affect many people + properties in the area. Is it possible to notify people whose properties are further away than 500' from the site?

Can we have a more wide spread area notified?

Before you make a zoning decision will you consider my basic concerns?

- ① The stop light leaving West Park Drive onto West Dimond Blvd. often times is not heeded. It is real safety problem.
- ② The lift station: Is it adequate for the increased load? Remember the City is responsible for its proper operation.
- ③ Reserve an area for a cell phone + security system. We are not properly served now.
- ④ We are in an earthquake prone area + our water wells are affected by increased activity in the area.
- ⑤ All units are 3 BR units - more children, school + traffic impacts.
- ⑥ Consider the impact of property values on the adjoining R1 and R6 properties.
- ⑦ How much demand is there for this development?

Zoning and Platting Cases On-line

View Case Comments

[Submit a Comment](#)

** These comments were submitted by citizens and are part of the public record for the cases **
Questions? If you have questions regarding a case, please contact Zoning at 907-343-7943 or Platting & Variances at 907-343-7942.

RECEIVED

1. **Select a Case:**

JAN 27, 2011

Municipality of Anchorage
Zoning Division

2. View Comments:

Case Num: 2011-013

Zoning conditional use for a planned unit development

Site Address: 9101 WESTPARK DR

Location: A Conditional Use for a Planned Unit Development (PUD). Kincaid Estates Subdivision, Tract 1. Generally located south of Kincaid Road, west of Sand Lake Road and north of West Dimond Blvd.

[Details](#) | [Staff Report](#) | [submit a comment](#)

Public Comments

1/27/11

William Watson/SACC

8111 Sundi Drive

Anchorage AK 99502

Will Watson Sand Lake Concerned Coalition 8111 Sundi Drive Anchorage, Alaska 99502 Dear Sir/Madam, When the Sand Lake Pit development was permitted in 2003/04 assurances were provided to the local residents concerned about their water. PnZ said only single family residences, higher density PUDs were not put forth as a possibility. The residents look back and know they were misled by the Muni, ADEC and a Developer who misrepresented the truth to them. As has been well documented in 3-studies led by PhD level scientists that have pulled back the veil on a very important issue. The vulnerability of Sand Lake drinking water and citizens health. The content of this transmittal relies heavily on what others said over the years. Facts here tell a story of a process gone wrong and we as residents can only hope a remedy is in order now that the facts are clearer and the public more aware. Court is the communities last option not its first. When the Assembly served as Board of Adjustment they heard the pleas of the local residents and said the following: "The Platting Boards Findings that the proposed development promotes public health, safety and welfare with respect to ground water protections is not supported in the record by substantial evidence." In addition they stated: "There is evidence in the record demonstrating that additional information and studies are still needed." Did the Muni and the Planning Department call for more studies? It appeared the powers that be had a different plan. The Assembly would no longer serve as Board of Adjustment and the Mayor could select a new board of 3 that would not have to answer to the voters and the people of Sand Lake. All that had to happen was to get the "Board of 3" approved and "presto" the problem of Sand Lake residents could be circumvented. The Planning department contined to represent to the public that

that aquifers were not connected therefore public health was not at risk. In the fall of 2004 heavy rains doused a graded Pit and the South Pond became a reddish brown color. Within days residents from around the Pit reported having problems with their wells. Several wells stopped completely, many more had slowed and the filters happened to be the same color as the reddish brown South Pond. At least 14 people filed complaints with the Muni. Many other residents did not report problems with their well out of fear of Muni reprisals and possible difficulty in selling their homes. None of the residents reported to SACC or SLCC that they heard from the Muni in a constructive way. Some were told it was the ADEC's problem. The ADEC said it was not their responsibility either. A bad situation made worse by public officials who hid. Samples of the complaints are included in the packet. Regardless the Muni stuck to its story that the aquifers were not connected. The Planning Dept. simply pointed to the ADEC report and did not apparently question how a credible scientific hydrology study could be only 8 pages long. In May of 2003 James Weise and his boss Kristin Ryan (both of ADEC) released an 8-page report that could not pass the straight face test. It made outlandish conclusions about the aquifers without factual data. When Mr. Weise was invited to the Sand Lake Community Council he accepted the invitation to discuss his report, then he was a no-show without even so much as phone call. A third party review of the ADEC abbreviated report as well as the Muni and Terrasat reports was demanded by residents. Rep. Norm Rokeberg took this matter very seriously and called the ADEC to task on its abbreviated report and the repercussions from it. A letter to the ADEC commissioner is included in the packet. Rep. Rokeberg worked with legislature and appropriated the funds necessary for the 3rd Party Review. As noted by the January 27, 2011 Sand Lake Community Council letter and others, the 2004 UAA report questioned the credibility of the ADEC report and that it apparently made assumptions a credible scientist would never do. The municipality relied on the 8-page ADEC report (Weise, 2003) and unsupported findings from a local contractor, Terrasat. Below are excerpts from the UAA 96-page 2004 report cited above: "Our review of the TERRASAT, Inc. reports with regards to the hydrogeologic studies conducted indicates that several unsubstantiated conclusions have been posed about the hydrogeologic environment at and near the site of the proposed subdivision. In the case of the hydrogeologic assessment of unconnected aquifers, the necessary data is lacking to support the conclusions. In the case of groundwater mixing analysis using groundwater chemistry, the available geochemical data does not contain the correct geochemical parameters and therefore the conclusions are not validated." UAA (2004) "The ADEC (2003) does not provide analysis or modeling of the potential for contamination of the groundwater due to the proposed subdivision." UAA (2004) "Therefore, the appropriate data do not exist to make conclusions about the connection or lack thereof between the upper and lower parts of the aquifer system in the area or for the site of the proposed subdivision which has extremely limited data available to address this problem." UAA (2004) "In a November 30, 2004 letter from Dan Sullivan to then Mayor Begich about the Pits and the UAA 2004 report saying; "...I found the information in the third party review and their knowledge of the relevant issues to be far more extensive than that of the representatives from DEC, only their concurrence that there is insufficient data and that they didn't really want to be involved. This is interesting as their mission to protect the public from environmental degradation." "Clearly, we now have the scientific rationale to require the developer to take the extra measures necessary to protect the surrounding neighbor's water source. It is also clear that it is our obligation to ensure this protection. I urge you to direct your departments to not proceed with any future permitting and plan approvals until the developer has completed the additional testing and has agreed to the recommendations listed above." The determination

of this body will speak volumes, both about the members and our community at large. Will the problematic water situation be viewed as mistake that needs to be corrected, or another chapter in citizens treated poorly? Thank you for your time and attention to this issue. Will Watson SACC

1/27/11

William Watson/SACC

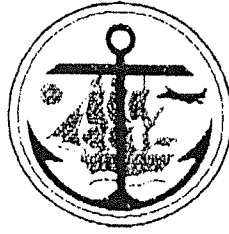
8111 Sundi Drive

Anchorage AK 99502

Will Watson South Anchorage Concerned Coalition 8111 Sundi Drive Anchorage, Alaska 99502 Dear Sir/Madam, When the Sand Lake Pit development was permitted in 2003/04 assurances were provided to the local residents concerned about their water. PnZ said only single family residences, higher density PUDs were not put forth as a possibility. The residents look back and know they were misled by the Muni, ADEC and a Developer who misrepresented the truth to them. As has been well documented in 3-studies led by PhD level scientists that have pulled back the veil on a very important issue. The vulnerability of Sand Lake drinking water and citizens health. The content of this transmittal relies heavily on what others said over the years. Facts here tell a story of a process gone wrong and we as residents can only hope a remedy is in order now that the facts are clearer and the public more aware. Court is the communities last option not its first. When the Assembly served as Board of Adjustment they heard the pleas of the local residents and said the following: "The Platting Boards Findings that the proposed development promotes public health, safety and welfare with respect to ground water protections is not supported in the record by substantial evidence." In addition they stated: "There is evidence in the record demonstrating that additional information and studies are still needed." Did the Muni and the Planning Department call for more studies? It appeared the powers that be had a different plan. The Assembly would no longer serve as Board of Adjustment and the Mayor could select a new board of 3 that would not have to answer to the voters and the people of Sand Lake. All that had to happen was to get the "Board of 3" approved and "presto" the problem of Sand Lake residents could be circumvented. The Planning department continued to represent to the public that that aquifers were not connected therefore public health was not at risk. In the fall of 2004 heavy rains doused a graded Pit and the South Pond became a reddish brown color. Within days residents from around the Pit reported having problems with their wells. Several wells stopped completely, many more had slowed and the filters happened to be the same color as the reddish brown South Pond. At least 14 people filed complaints with the Muni. Many other residents did not report problems with their well out of fear of Muni reprisals and possible difficulty in selling their homes. None of the residents reported to SACC or SLCC that they heard from the Muni in a constructive way. Some were told it was the ADEC's problem. The ADEC said it was not their responsibility either. A bad situation made worse by public officials who hid. Samples of the complaints are included in the packet. Regardless the Muni stuck to its story that the aquifers were not connected. The Planning Dept. and Muni pointed to the ADEC report and did not apparently question how a credible scientific hydrology study could be only 8 pages long, with figures not based on existing data. In May of 2003 James Weise and his boss Kristin Ryan (both of ADEC) released an 8-page report that could not pass the straight face test. It made outlandish conclusions about the aquifers without factual data. When Mr. Weise was invited to the Sand Lake Community Council he accepted the invitation to discuss his report, then he was a no-show without even so much as phone call. A third party review of the ADEC abbreviated report as well as the

277-4698

Municipality of Anchorage



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<http://www.ci.anchorage.ak.us>

ANCHORAGE ASSEMBLY
Dan Sullivan

November 30, 2004

MARK
Dear Mayor Begich,

Thank you for taking the time on November 16 to discuss the Sand Lake gravel pit issue. The information that was presented as a result of the third party review that you initiated makes it clear that we must proceed with great caution before allowing additional work in the area.

Specifically, the professors from UAA very clearly stated that the lack of information regarding the subsurface aquifer and its relation to existing wells neighboring the gravel pit make it virtually impossible to ensure that development will not cause harm to their water quality.

Additionally, their review of the existing data, which was a much more comprehensive review than that conducted by DEC, shows that there is no consistent geological substrata, and their mapping indicates potential connectivity between the various layers of aquifers.

It is the responsibility of the Municipality to ensure the health, safety and welfare of its residents. We have the means to require the highest standards of development to accomplish that level of protection. As we discussed at the meeting, these means should include but not be limited to the following:

1. Baseline data of the surrounding wells needs to be established in order to have a starting point when conducting subsequent testing.
2. Ongoing monitoring of those wells needs to be performed to determine if there is a relationship between the current grading and water withdrawal activity and the reported fouling of the well filters.
3. If the exposed aquifer or "pond" is to be filled as a part of this development, then it must be done with verifiably clean organic materials.
4. The topsoil placed in the development area should be of sufficient depth and consist of sufficient peat content to prevent the migration of potential pollutants into the aquifer.

5. A long term bond must be in place with sufficient legal requirements, such as transferability to subsequent owners, and of an amount sufficient to cover potential liabilities, which may not occur for years. Given our legal team's outstanding record of recent contract negotiations, I am confident they can craft such a requirement as a condition of further development.
6. Additional testing (core samples, test wells etc.) should be performed throughout the gravel pit itself so that even better data can be obtained prior to development. This was the recommendation of the Assembly, when serving as the Board of Adjustment and this has not been accomplished.

Essentially, these are the recommendations that I heard from LeeAnn Munk, PhD. and from William Schnabel, PhD., during our discussion at the November 16 meeting. I found the information in the third party review and their knowledge of the relevant issues to be far more extensive than that of the representatives from DEC. In fact, I heard virtually no scientific refutation of the UAA report from DEC, only their concurrence that there is insufficient data and that they didn't really want to be involved. This is interesting since it's their mission to protect the public from environmental degradation.

Clearly, we now have the scientific rationale to require the developer to take the extra measures necessary to protect the surrounding neighbor's water source. It is also clear that it is our obligation to ensure this protection. I urge you to direct your departments to not proceed with any future permitting and plan approvals until the developer has completed the additional testing and has agreed to the other recommendations listed above.

Mayor, as you are aware, I am generally a pro-development advocate. This particular piece of property, however, is so unique as a result of the over extraction of its gravel, that it cannot be developed under normal rules and circumstances. In fact, the Sand Lake Gravel Pit Redevelopment Plan calls for complete restoration of the Pit prior to development. While the developer is confident that the development does indeed accomplish the restoration, there is too much at stake not to err on the side of caution.

Thank you for your time and attention to this issue. I look forward to working with you towards a successful resolution.

Warm regards,



Dan Sullivan
Assembly, District 3

Cc: Rep. Norm Rokeberg
Sen. Ben Stevens
SACC
Assemblymember Pam Jennings

ALASKA STATE LEGISLATURE 348-2592 House of Representatives

COMMITTEE ASSIGNMENTS:
RULES COMMITTEE, CHAIRMAN
LABOR & COMMERCE COMMITTEE, MEMBER
LEGISLATIVE COUNCIL, MEMBER
SPECIAL COMMITTEE ON OIL & GAS, MEMBER
LEGISLATIVE ETHICS COMMITTEE, MEMBER
Website: <http://www.akstatepublic.net/rokeberg/>



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ALASKA STATE CAPITOL
JUNEAU, AK 99801-1102
PHONE (907) 465-4068
FAX: (907) 465-2046

Representative Norman Rokeberg
e-mail: Representative_Norman_Rokeberg@legis.state.ak.us

November 20, 2004

Kurt Fredriksson
Acting Commissioner
Department of Environmental Conservation
410 Willoughby Street, #303
Juneau, AK 99801-1795

FAX: (907) 465-5066

RE. Sand Lake Water, Third Party Review

Dear Mr. Fredriksson:

Your October 26, 2004 letter indicates your Department received the UAA Third Party Review of the Kincaid Estates (Sand Lake Gravel Pit) development's potential impacts on area aquifers. However, I see no acknowledgement that it was read and understood by you and your staff. I believe your Department's position that "the interpretation and recommendations made in DEC's 2003 report . . . remain unchanged" given the UAA Review is wrong and intellectually dishonest!

Even a person without any engineering or scientific credentials can recognize that the DEC's May 2003 Conclusions (1) A "confined aquifer system" exists throughout the subject area; and (2) There is no connection between the alleged lower confined aquifer and the upper, unconfined or water table aquifer or activity from the proposed development are false and are without scientific foundation.

Moreover, DEC as represented by Ms. Kristen Ryan flip-flopped on a key recommendation of the May 2003 report regarding the exposed water aquifer (11 acre pond) by stating on November 12, 2004, it was acceptable to DEC to fill the pond rather than leave it undisturbed and monitored. What is going on?

I have heard from several of my constituents that your Department has refused to meet with them or take any questions regarding the May 12, 2003 DEC Summary Report ("DEC Report") regarding the Kincaid Estates subdivision in the Sand Lake Gravel Pit.

Kurt Fredriksson
November 20, 2004
Page Two

There are over 3000 residents who receive their water from aquifers under the Sand Lake Gravel Pit. There have been at least 14 residents who have filed complaints with the Department of Natural Resources because of problems with their wells. These problems were apparently caused by development operations in the Pit area this summer.

I need some assurances that DEC understands the problem and the seriousness of the problem that the residents of the Sand Lake area are facing. Your refusal to talk to my constituents about this matter indicates that you may not be fully aware of the grave concerns that my constituents have expressed on many occasions or the impact of your actions.

Therefore, I have a series of questions that I would like to have answered on or before the 29th of November. These questions are as follows:

1. Who prepared DEC Report? Please list each DEC employee involved and their professional qualifications.
2. Why has DEC refused to talk with residents of the Sand Lake area concerning the DEC Report and the subsequent UAA Review?
3. Why has DEC refused to present their findings to a Sand Lake Community Council meeting to discuss the DEC Report and the subsequent UAA Review?
4. Why has DEC refused to meet with the South Anchorage Concerned Coalition (SACC) to discuss these matters?
5. Who at DEC reviewed the UAA Review? Please list each DEC employee involved and their professional qualifications.
6. The DEC Report states, in its conclusion, that "percolation into the deeper confined aquifer is highly unlikely". The UAA Review indicates, "There is no data to support this statement". Please provide, in detail, the information, field surveys, etc. that DEC used to arrive at its conclusion. Please provide, in detail, the review process, if any, used to consider the UAA Review conclusion and the determination of DEC to stand by its original statement.
7. DEC Report's cross sections were made using only nine wells, resulting in the conclusion that the "depiction of the continuity of materials [that] is

Kurt Fredriksson
November 20, 2004
Page Three

- not consistent with the conceptual model described in their report?" The UAA Review utilized 93 wells, both public and private, to make its determinations. Please provide, in detail, the review process that DEC used to make its original determination to use only nine wells and the process used to make the determination to stand behind the DEC Report. Did DEC review the information on the 93 wells that UAA used? If so, which wells; when was the review accomplished; who accomplished the review; and what was the professional background of those accomplishing the review. If DEC decided not to review information on the 93 wells, please provide the reasoning behind this decision.
8. The UAA Review states: "the appropriate data do not exist to make [the ADEC] conclusions about the connections or lack thereof between the upper and lower parts of the aquifer system. . .". What process was used by DEC to determine that it would stand by its conclusions? Please list the names and qualifications of all employees involved in this decision.
 9. Professor Munk from UAA dismissed Ms. Ryan's assertions regarding the vanadium and arsenic data in a recent UAA thesis. This took place at a meeting held on November 12th. Does DEC understand that its senior management is receiving incorrect information?
 10. Please indicate the professional and technical qualifications of Mr. Weise and others involved in the UAA Review, if they are not covered above.
 11. What is DEC's understanding of MOA's reliance on DEC's Report? Has DEC had any discussions with MOA or AWWU concerning the DEC Report, the UAA Review and/or the UAA thesis? If so, please provide the names of all DEC employees involved in conversations with MOA on these subjects, and the name and positions of all MOA or AWWU employees involved in these discussions.
 12. Does DEC recognize that numerous wells around the pit have had troubles with sediment this summer and fall? How does DEC account for this problem? Who has reviewed the sediment problems this summer and fall? If a review was conducted, please provide the name of each DEC employee and their professional background.
 13. Has DEC followed up to determine if the MOA or the developer has developed scientifically sound "background" data or if the May 2003 recommendations for monitoring have been followed?

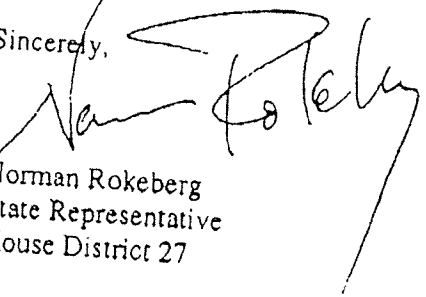
Kurt Fredriksson
November 20, 2004
Page Four

- 14. In all questions above, the term "DEC employee" is meant to cover any outside contractors who assisted DEC in any review. If an outside contractor was involved, please indicate that the person(s) is an outside contractor, and indicate his or her professional qualifications and what the working arrangement is with DEC.

The health and safety of the Sand Lake Community is at risk, given the recent problems experienced with drinking water supplies, and the deliberate action of your Department. The MOA, the Anchorage Assembly, the Anchorage Planning Department, the Anchorage Platting Board, and Mayor Begich have all detrimentally relied on DEC's May 2003 Report as a stamp of approval to proceed with the development. This is dead wrong, and I respectfully request that you correct this situation before it is too late!

I will be out of town until the 29th of November. If you have any questions about this letter, please contact Heather Nobrega of my staff at 269-0117. Again, I would appreciate having the answers to these questions in my office on or before November 29, 2004.

Sincerely,



Norman Rokeberg
State Representative
House District 27

- CC: SACC - 278-5353
- Sand Lake Community Council - 248-8377
- Governor Murkowski, Attn: Jim Clark - 465-3537
- Kristin Ryan, DEC, 269-7654
- Senator Ben Stevens - 269-0204
- Mayor Mark Begich - 343-4499

NAME: Loren and Betty Dodds

ADDRESS: 8705 Somers Place Anch. Ak 99502

LEGAL: LOT, BLOCK, SUBDIVISION Seaview Heights Blk 2 Lt 6(LT4)

COMMUNITY WELL
4 Homes

PRIVATE WELL

WELL DEPTH 254

On/During Mid-October the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased Need for Filter Changes

Increased Sediment

Drop in Water Pressure

Odor & Taste

In addition, the following changes occurred:

See attached.

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced :

Respectfully,

Loren Dodds

Name: Betty Dodds Signature Betty Dodds

Date: October 27, 2004

TIMELINE : DODDS' WELL

August 30, 2004, Loren changed the filters in our filtering system. They were quite dirty because they hadn't been changed for at least 18 months. We were having no problems, but we were going to be gone the month of September and thought they should be changed before winter.

September 30, 2004. Pictures are taken of muddy water and debris washing into the exposed aquifer. The color of the water is reddish brown.

September 30, 2004, We arrived home and learned of the problems neighbors were having with dirty water and filters. Loren checked our filters and found them to be in good condition.

October 9, 2004. Filters checked again. Still no problem.

October 21, 2004. I noticed a decrease in water pressure. Loren checked the filters. They were dirty and were the same reddish brown color as the water in the September 30th pictures.

HISTORY

We had dirty water in the mid-1970's when the aquifer was exposed during gravel extraction. The extraction was allowed to continue until the "pond" was about 11 acres in area and 40 some feet deep. When the water table was breached it took approximately 2-3 weeks for the dirty water to reach our well and our water taps.

Our neighbor, Russell Backhaus, was working in the pit for the contractor so we know the 2-3 week approximation is accurate. The contractor was required to install a filtering system on our well before he could begin work the next spring/summer. Due to financial problems he did no gravel mining that summer and no one has taken gravel from the "pond" since then.

The developer's experts and the ADEC have maintained from the beginning of this saga that there is no way dirty water from the exposed aquifer could ever get to our well. Dan Young, Terrasat Inc., has told the Platting Board and Planning and Zoning on numerous occasions that it would take several years for any disturbance in "the pond" to reach our well. James Munter, SACC's consultant, has always said that according to his calculations 2-3 weeks is more likely.

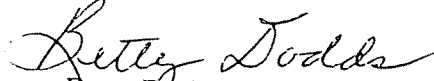
SUMMARY

The pictures of the muddy water and debris washing into the exposed aquifer were taken on September 30, 2004. Our filters became dirty sometime between October 9th and October 21st. That's not a span of several years that's 2-3 weeks. Common sense should

tell everyone that our well is somehow connected to the exposed aquifer and if ours is connected there has to be others that are also connected.

Right now our filters are keeping the dirty water out of the taps but filters cannot filter out nitrates from dog feces or fertilizers. Except for daily testing there is no way we will know if/when nitrates have reached our well. Four homes get their water supply from our well. We don't want to spend the rest of our lives worrying about the water being safe for all of us to use.


Loren Dodds


Betty Dodds

NAME: Joanna & Robert Grumblis

ADDRESS: 7420 Sand Lake Rd.

LEGAL: LOT, BLOCK, SUBDIVISION Evenson Subd. Block 2A

COMMUNITY WELL PRIVATE WELL WELL DEPTH 100'

On/During Aug / Sept '04 the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased Need for Filter Changes

Increased Sediment

Drop in Water Pressure

Brown

Odor & Taste Dare we drink it?

In addition, the following changes occurred:

Need to regenerate our water softener almost 2x daily as opposed to every other day. Needed to purchase additional filter for drinking water.

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.

Grading, digging, hauling dirt and water.

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced:

the above mentioned alterations.

Respectfully,

Name: Joanna Grumblis Signature Joanna Grumblis

Date: Oct 24, 2004

NAME: Jonathan E Wells

ADDRESS: 8101 Sand Lake Rd

WELL LOCATION: _____ DEPTH _____

COMMUNITY WELL

PRIVATE WELL

My name is Jonathan E Wells.

Summer 2004

On/During Sand Lake Gravel Pit Grading the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased need for Filter Changes

Increased Sediment

Drop in Water Pressure

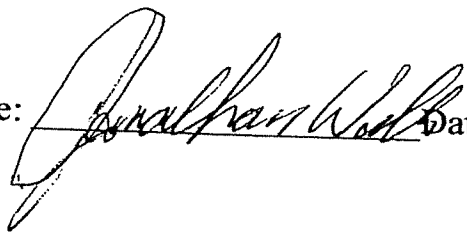
In addition, the following changes occurred:

we installed an inline Sediment filter in Aug '04 and changed the filter on month later rather than the recommended 3 to 6 month change.
During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced: Black particles.

Respectfully,

Name: Jonathan E Wells

Signature: 

Date: 10/8/04

NAME: KARL/LISA HANNI

ADDRESS: 8661 BLUFFWOOD CR

WELL LOCATION: SAME DEPTH 280'

COMMUNITY WELL PRIVATE WELL

My name is LISA HANNI

(APPROX) 2-3 WEEKS
On/During END OF SEPT / EARLY OCT the well at the above address experienced the following alterations in water quality/ delivery:

- Clouding
- Increased Sediment
- Increased need for Filter Changes
- Drop in Water Pressure

In addition, the following changes occurred:

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.

EXCAVATION/GRADING/SPRAYING/
LOTS OF ACTIVITY IN THE SAND PIT.
(FRUCKS)

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced :

Respectfully,

Name: LISA R. HANNI Signature: Lisa R Hanni Date: 10-13-04

NAME: Rick W. Castro

ADDRESS: 7657 Ingram St.

WELL LOCATION: _____ DEPTH _____

COMMUNITY WELL PRIVATE WELL

2.

My name is Lupe V. Castro.

On/During 1st of October the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased need for Filter Changes

Increased Sediment

Drop in Water Pressure

In addition, the following changes occurred:
smell of water

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.
construction, big trucks coming and going.

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced :
smell, drop of pressure and cloudiness.

Respectfully,

Name: Lupe V. Castro Signature: Lupe V. Castro Date: 10/16/04

NAME: Nancy EdtH & Steven Pradell

ADDRESS: 7238 Violet Drive, Anchorage AK 99502

WELL LOCATION: In front of house DEPTH ?

COMMUNITY WELL

PRIVATE WELL

My name is Nancy EdtH & Steven Pradell

On/During late part of the summer of 2004 (Aug.-Sept.) the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased need for Filter Changes

Increased Sediment

Drop in Water Pressure

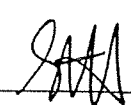
In addition, the following changes occurred:

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed. what appeared to be

In the pit we saw, road digging, grating & back filling going on.

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced: such a drop in water pressure since we moved in, in 2002, nor had the renters told us of such a problem, prior to 2002.

Respectfully,

Name: Nancy EdtH & Steven Pradell Signature: Nancy EdtH  Date: 8.14.04

NAME: GREG + KARLA KORMAN

ADDRESS: 8707 Sommers Place Arch 99502

WELL LOCATION: _____ DEPTH 250'

COMMUNITY WELL

PRIVATE WELL

My name is GREG KORMAN.

On/During July August + Sept 2004 the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased need for Filter Changes

Increased Sediment

Drop in Water Pressure

In addition, the following changes occurred:

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.

Excavation and leveling of old gravel pit basin

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced: such a increased need for filter changes

Respectfully,

Name: GREG KORMAN Signature: Greg Korman Date: Oct 2, 2004

NAME: James R. Utter

ADDRESS: 5232 W. 73rd

WELL LOCATION: Front of residence DEPTH 120'

COMMUNITY WELL

PRIVATE WELL

My name is James R. Utter.

On/During Summer 04 the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased need for Filter Changes

Increased Sediment

Drop in Water Pressure

In addition, the following changes occurred:

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.

obvious Development

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced :

- x Increased need of filter change
- x Drop in water pressure

Respectfully,

Name: James R. Utter Signature: James R. Utter Date: 9/15/04

NAME: WILLIAM STONE

ADDRESS: 8055 SAND LAKE ROAD

WELL LOCATION: _____ DEPTH _____

COMMUNITY WELL

PRIVATE WELL

My name is WILLIAM STONE

On/During SEPT/OCT 2004 the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased need for Filter Changes

Increased Sediment

Drop in Water Pressure

In addition, the following changes occurred:

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.

BELIEVE DUE TO WATER BEING REMOVED
FROM IN GRAVEL PIT...

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced :

Respectfully,

Name: WILLIAM STONE Signature: William Stone Date: 10/12/04

NAME: Sean Langton

ADDRESS: 8243 Wilcox St.

WELL LOCATION: Left side of House DEPTH 295 ft

COMMUNITY WELL

PRIVATE WELL

My name is Sean Langton.

On/During May 20th, 2004 the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased need for Filter Changes

Increased Sediment

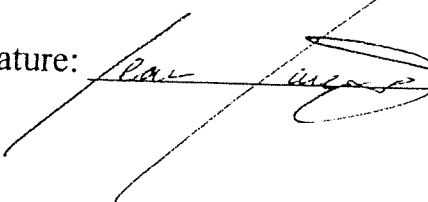
Drop in Water Pressure

In addition, the following changes occurred:

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced :

Respectfully,

Name: Sean Langton Signature:  Date: 9-12-04

NAME: Dimitra Tsamis

ADDRESS: 8020 Wilcox St

WELL LOCATION: same DEPTH _____

COMMUNITY WELL

PRIVATE WELL

My name is Dimitra Tsamis.

On/During Summer 2004 the well at the above address experienced the following alterations in water quality/ delivery:

Clouding

Increased need for Filter Changes

Increased Sediment

Drop in Water Pressure

In addition, the following changes occurred:

There has been no return in water pressure and it appears to be getting worse.

During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed.

This issue arose after construction/excavation activities began in the Sand Lake pit.

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced:

any drop in water pressure.

Respectfully,

Name: Dimitra Tsamis Signature: Dimitra Tsamis Date: 9/17/04

NAME: Violet G. Hulce

Lot 2A Block 3 Seaview Heights Sub.

ADDRESS: 6530 W. Dimond Blvd.

Anchorage, Alaska

WELL LOCATION: 76' from front DEPTH Estimated 300 feet
of house *no well log available*

COMMUNITY WELL

PRIVATE WELL

My name is Violet G. Hulce.

On/During Starting May 1, 2004* the well at the above address experienced the following alterations in water quality/ delivery: Starting Sept. 15-20, 2004 and increasing rapidly, black water appeared in toilets, laundry, filters thruout the house.
Clouding Increased need for Filter Changes Previously once/m
for rusty water.

Increased Sediment X

Drop in Water Pressure

Black Tarry gunk

In addition, the following changes occurred: Sept, 15, 2004 water filter Changed - black filter.

Sept, 26, 2004 water filter changed - Black tarry gunk was present. Sept 27, 2004 - Black sandy filter.
During the time changes in water quality were observed, the following activities in the Sand Lake Pit were observed. grading of the gravel pits daily.

It was told to me that up to 80,000 gallons of water was utilized from well on tract #1 of gravel pits to keep dust down & to "settle" the sand.

Prior to excavation in the Sand Lake Pit Area, and extraction of water from the well located in Tract #1 for dust control, the water drawn from the well located at the above address has never experienced;

Black settlements in the water - black water in pressure tank - black water in toilets - black water in laundry tubs & washing machine.

Respectfully, I'm unable to do laundry at home.

Name: Violet G. HULCE Signature: Violet G. Hulce Date: 9/29/04

* New pressure tank installed.

SAND LAKE COMMUNITY COUNCIL RESOLUTION

February 9, 2004

Subject: DEVELOPMENT IN THE SAND LAKE GRAVEL PITS

The Sand Lake Community Council strongly disapproves the approval of all plats, conditional use permits and fill and grading permits for the Sand Lake Gravel Pit because of serious questions regarding the health and safety of surrounding neighborhoods. The SLCC asks that the MOA retract all of the plats (approved and pending), conditional use permit (lift station) permits and fill and grading permits for the Sand Lake pit because of DEC and MOA improprieties.

Adopted this 9th day of February 2004, at Anchorage, Alaska, by the Sand Lake Community Council.

Sand Lake Community Council

Sherri R. Jackson
Sherri Jackson, President

DRAFT RESOLUTION 09-04

SAND LAKE COMMUNITY COUNCIL

SUBJECT: SAND LAKE COMMUNITY SUPPORT OF FILLING THE LUCY PIT IN THE INTEREST OF PUBLIC SAFETY, IF THE MUNICIPALITY OF ANCHORAGE AND ITS SUBCONTRACTORS ALASKA SAND AND GRAVEL COMPLETES A SCOPE OF WORK THAT DETERMINES PRIVATE DRINKING WATER WELLS ARE PROTECTED BEFORE FILLING IS UNDERTAKEN AND A LONG TERM MONITORING PROGRAM IS IMPLEMENTED.

WHEREAS, the Sand Lake Community Council (SLCC) believes it is in the community interest to fill the Lucy Pit;

WHEREAS, the Municipality has recently issued a sole-source license to White Raven, a private contractor, to place over half a million cubic yards of fill in the Lucy Pit, a large deep hole adjacent to a planned school site;

WHEREAS, Alaska Sand and Gravel has entered into a contract with White Raven Development to fill the Lucy Pit contained within the Old Sand Lake Gravel Pit.

WHEREAS, findings by UAA, UAF, and hydrologist James Munter, Certified Ground Water Professional, that aquifers near the Sand Lake Gravel Pits are not protected by continuous confining units, contrary to previous assertions (including ADEC's James Weiss's discredited 2003 Summary Report) used to plan and approve development in the pits;

WHEREAS, The Sand Lake Community has reasons to believe their water could possibly be contaminated by filling the Lucy Pit based on prior scientific findings by UAA, UAF, AWC, SACC and others. And that the Lucy Pit contains water that may be connected to numerous shallow private wells that are located closely downgradient of the Lucy Pit and are believed to be vulnerable to contamination

WHEREAS, the drinking water of residents could be contaminated if the site conditions (hydrogeology) does not protect the underlying drinking water aquifers.

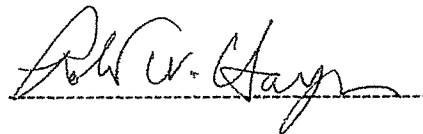
NOW, WHEREFORE, the Sand Lake Community Council supports the planned filling of the Lucy Pit by The Municipality of Anchorage and it's Sub-Contractors, if and only if the following conditions are enforced:

1. Sufficient data are obtained prior to the emplacement of any fill that show that the proposed fill will not contaminate groundwater.
2. We support the filling of the Lucy Pit contingent on obtaining the money for the Deep Water Wells. It is our understanding that AS&G will work with the community to obtain the funding.

3. Sentry-type groundwater monitoring wells are emplaced in all aquifers identified on the Lucy Pit property in locations that intercept groundwater flow between the Lucy Pit and neighboring wells and are sampled prior to the emplacement of any fill or re-grading activity.
4. Prior to the emplacement of any fill or re-grading activity, water in the bottom of the Lucy pit is sampled for common water contaminants.
5. The sentry wells are sampled at least twice yearly for at least five years after the beginning of fill placement and at least biannually thereafter for at least 10 more years, or more frequently if contaminants are detected.
6. Standard Operating Procedures are put in place that assure inspection of each load of fill to a maximum lift thickness of one foot and documentation that each load of fill contains no prohibited materials or quantities of limited materials outside of specifications.
7. The Municipality of Anchorage and it's Sub-Contractors, agrees to work with the Sand Lake Community Council and South Anchorage Concerned Coalition to provide the best assurances possible to Sand Lake Residents that their water is being protected throughout the filling process, and to cooperate on other hydrologic studies that are being conducted.

The Sand Lake Community Council hereby resolves to support The Municipality of Anchorage and it's Sub-Contractors efforts to fill the Lucy Pit should the above conditions be met.

ADOPTED, this 14th day of September 2009 and dated this fourteenth of September, 2009, at Anchorage Alaska by the Sand Lake Community Council.

A handwritten signature in cursive script, appearing to read "Robert Hayes", written over a horizontal dashed line.

Mr. Robert Hayes, President

MUNICIPALITY OF ANCHORAGE BOARD OF ADJUSTMENT
FINDINGS OF FACT AND DECISION
KINCAID ESTATES SUBDIVISION CASE S-10990-3
APPEAL FROM THE PLATTING BOARD TO THE
MUNICIPALITY OF ANCHORAGE BOARD OF ADJUSTMENT

- With respect to ground water protection, concerns were raised as to the potential for aquifer contamination from percolation and from the lift station and concerns were raised regarding well water disturbance from the development. Also experts identified additional studies that needed to be done. Numerous experts disputed that public health, safety and welfare were furthered by this plat. These included but were not limited to Munter, Kleweno, Urbanus, Cross, and Dr. Pasch.
- The Platting Board did not adequately explain the basis for its decision given the concerns raised and the conflicting evidence. The Platting Board did not articulate what evidence it found persuasive or what evidence it relied on to find that the proposed development promotes public health, safety and welfare with regard to ground water protection.
- The Board of Adjustment agrees with an earlier statement by the Platting Board that protection of this aquifer and maintenance of water quality is one of the greatest concerns for surrounding property owners. (Finding 35R.1247) These concerns are sufficiently important to warrant notice to the public and the opportunity to be heard. In addition, the Platting Board should exercise care not to delegate its decision-making responsibility on matters relating to the protection of aquifers and water quality. The Platting Board's finding that the proposed development promotes public health, safety and welfare with respect to ground water protection is not supported in the record by substantial evidence.
- Appellant asserted that the preliminary plat failed to address or mitigate the effects of incompatibilities between the proposed development and the surrounding neighborhood in that there is inadequate evidence of drinking water protection.
- This issue was raised in Kincaid Estates 1 and Assembly sitting as the Board of Adjustment found that there was not sufficient evidence in the record that the preliminary plat mitigated the effects of incompatibilities between the proposed development and the surrounding neighborhood with respect to drinking water protection and that additional information was needed. (R.C—35, C-041)
- The plat at issue herein is significantly different from the plat in Kincaid Estates 1 as it relates to drinking water protection. There is evidence in the record demonstrating that additional information and studies are still needed.
- There was conflicting evidence in the record as to the adequacy of drinking water protection. This Board found it could not determine whether there was sufficient evidence to support the Platting Board's decision because the Platting Board did not state what evidence it relied on to find that the plat mitigated the effects of incompatibilities between land uses and residential densities in the proposed development and land uses and residential densities in the surrounding neighborhood.

- The Platting 'board's finding that the preliminary plat mitigates the effect of incompatibilities between the land uses or residential densities in the proposed development and the land uses and residential densities in the surrounding neighborhood is not supported in the record by substantial evidence with respect to drinking water protection.
- Appellant alleged that all relevant information and analyses must be before the Platting Board prior to any decision to approve or reject a preliminary plat and that the Platting Board acted without all of the required information in violation of AMC 21.15.110 (B)(4), AMC 21.15.110 (B)(6) and AMC 21.76.110.
- AMC 21.15.110(B)(4)(b) relates to information about the adequacy of water supply and waterborne domestic waste disposal from the subdivision itself and requires that certain information required by the Department of Health and Human Services be submitted.
- There was no evidence that the Department of Health and Human Services required additional information to be submitted under AMC 21.15.110(B)(4)(b)
- AMC 21.15.110(B)(6) relates to information the Platting Officer may require and is a discretionary provision. However, the Board of Adjustment encourages the platting officer to review its discretionary authority or require the applicant to submit analyses prepared by qualified experts concerning any or all aspects of the effect the subdivision development will have on the surrounding neighborhoods' drinking water.

Sand Lake Area Groundwater: Geochemistry and Aquifer Connectivity



A report to:

Anchorage Waterways Council

Prepared by:

LeeAnn Munk¹, PhD

James A. Munter², CPG, CGWP

Bryce A. Willems¹, PhD

¹University of Alaska Anchorage, Department of Geological Sciences, 3211 Providence Drive, Anchorage, Alaska, 99508

²J. A. Munter Consulting, Inc., 5701 Penny Circle, Anchorage, Alaska, 99516

January 2010

Executive Summary

Unresolved concerns by local well owners about redevelopment of the Sand Lake Gravel Pits and potential contamination of local aquifers has prompted an additional study of hydrogeologic conditions and groundwater quality near the old gravel pits. Two test wells were drilled and sampled for stratigraphic information, and completed as monitoring wells in two of the three aquifers identified at the site. Water samples obtained from the two wells found differences in nitrates, arsenic, and tritium, although the major and trace ion geochemistry of the samples were more or less similar. A hydrogeologic cross section suggests that the "shallow" and "middle" aquifers may be connected in the vicinity of the gravel pit, potentially explaining why wells tapping the "shallow" and "middle" aquifers both contain tritium, although the log of a well tapping the "middle" aquifer suggests that water is derived from beneath a thick confining layer. Tritium in aquifers is attributed to water that has been recharged since the beginning of atmospheric testing of thermonuclear weapons in 1952. Water-level data indicate that there is a downward vertical gradient from the shallow aquifer towards deeper aquifers at the site, but that the quantity of flow is uncertain.

All volatile organic compounds and semi-volatile organic compounds were below their standard detection limits for both wells sampled. The deeper well sampled exceeded the USEPA maximum contaminant level for arsenic, while the shallow well exceeded the maximum contaminant level for nitrates. The arsenic is considered to be naturally occurring and consistent with values previously analyzed in the area. The nitrate concentrations are higher than values found in other well in the area and are likely attributable to local conditions that are not well understood. Shallow groundwater in the vicinity of the test drilling site is concluded to be susceptible to surface contamination and efforts to avoid or minimize future contamination of these aquifers are warranted.

Acknowledgements

This project was funded from a 2008 legislative appropriation to the Municipality of Anchorage through the Anchorage Waterways Council. The authors would like to acknowledge the cooperation of area homeowners and the Municipality of Anchorage for providing access to properties for this study and to UAA student Isaiah Ditmer and his team who collected elevation and location data for several sites. Also, UAA student Steve Walsh performed much of the fieldwork for this project and the students in Dr. Munk's environmental geochemistry course (spring 2009) assisted with field sampling. Special thanks to Megan Cardenas who helped with report graphics.

Introduction

Background

Redevelopment of the former Sand Lake Gravel Pit into residential housing (over 500 planned new homes) and two school sites has sparked increasing concerns among neighboring users of private wells over potential changes in water quality from the development. Surrounding neighborhoods are developed with on-site wells and septic systems serving mostly single-family homes. Past sand and gravel mining in the gravel

pit has resulted in the creation of two deep excavations that contain water, at least one of which (the South Pond) is directly connected to the adjacent water table aquifer (Figures 1 and 2).

Excavation and roiling of the pond in the 1970's and storm- and regrading-derived turbidity in the pond in 2004 are reported by residents to have closely preceded observations of sediment production from a well downgradient (westward) of the pond. These observations have heightened local concerns that activity in the former gravel pit may adversely affect well water quality in the vicinity of the pits.

Wells in the Sand Lake area tap a complex glacial stratigraphy of sands, silts, and gravels. Prior studies have provided mixed conclusions about the protection of wells by confining units. ADEC (2003) interpreted that continuous confining units are widely present in the area and that all wells in the area are adequately protected, while UAA (Munk et al., 2004) found that aquifers and confining units are highly irregular and frequently cannot be correlated from well to well. Kane et al (2008) found that there is a "complex hydrogeologic setting that makes it difficult to accurately delineate groundwater flow and can result in large differences in flow direction, rate, and head differences over short vertical distances." This lack of conformity by different investigators has further increased confusion and concern of residents.

UAF also found that some wells in the Sand Lake area contained tritium at post-1952 concentrations (Kane et al., 2008), including four wells ranging in depth from 250 to 300 ft. These data suggest that at least some wells in the Sand Lake area pump groundwater that is less than 60 years old and may be vulnerable to changes in the quality of water recharged to the aquifer on a multi-decadal or shorter timescale, contrary to earlier ADEC (2003) suggestions.

Study Objectives and Scope

The present study seeks to:

1. develop a better understanding of groundwater conditions in the West Dimond area downgradient of the South Pond by test drilling and sampling groundwater from multiple depths;
2. interpret the geologic findings at the test drilling locations along with data from surrounding well logs and surface exposures to understand boundaries, potential interconnections, and recharge-discharge relationships of aquifers; and
3. utilize groundwater geochemistry from the test wells to determine baseline water-quality characteristics, especially targeting water from different geologic strata, and investigate whether the water quality and geochemistry data are useful for interpreting aquifer interconnections via water quality "fingerprints".
4. evaluate seasonal changes in groundwater quality and geochemistry.

5. initiate a potential long-term groundwater monitoring station to detect potential changes in groundwater conditions over time.

These objectives have been pursued through the drilling and development of two monitoring/test wells on a private parcel in the West Dimond area of Anchorage. Each well was sampled twice, during February and again in April, 2009, with samples submitted for laboratory analyses. Local hydrogeologic relationships are presented in a cross section extending from the South Pond to the nearby Turnagain Arm incorporating the test well sites and publicly-available driller's logs of nearby wells. Chemical analyses of water samples are presented and discussed.

Local Hydrogeology

Extensive summaries of the geology and hydrogeology of southwest Anchorage have been presented elsewhere and are not repeated here (Ulery and Updike (1983), Munk et al. (2004), Moran and Galloway (2006), and Dearborn and Freethey (1974), among others).

In brief, sedimentation associated with multiple glaciations of the area has left behind a complex assemblage of nonlithified glacial, glaciofluvial, and glaciomarine sediments. No water wells in the study area are reported to penetrate lithified rock formations. Detailed cross sections by Munk and others (2004) showed that aquifers and confining units in many areas could not be confidently correlated from well to well because of the complex glacial stratigraphy.

Groundwater flow systems in the area are not well defined as a result of the complex stratigraphy and limitations imposed by 1) the absence of synchronous and reliable non-pumping water-level measurements and 2) accurate elevation measurements on wellheads. Maps by Munk and others (2004) and Kane and others (2008) show, in the West Dimond area, a general direction of groundwater flow to the southwest towards Turnagain Arm.

Methods

Test Well Installation and Development

Two test wells were drilled at locations shown in Figure 1 using air rotary drilling. The wells were cased with 6-in. steel casing and completed with open ends and developed with a natural gravel pack. Each well was constructed to Municipality of Anchorage standards for domestic water wells, including the installation of grout by the dry driven grout method. Well drilling observation and geologic sample logging was performed on-site during all active drilling by a geologic technician and periodically inspected and overseen by an Alaska-licensed professional geologist.

After initial air-lift development, submersible pumps were installed in each well in order to purge the wells until clear water was produced and to perform preliminary yield testing of the wells.

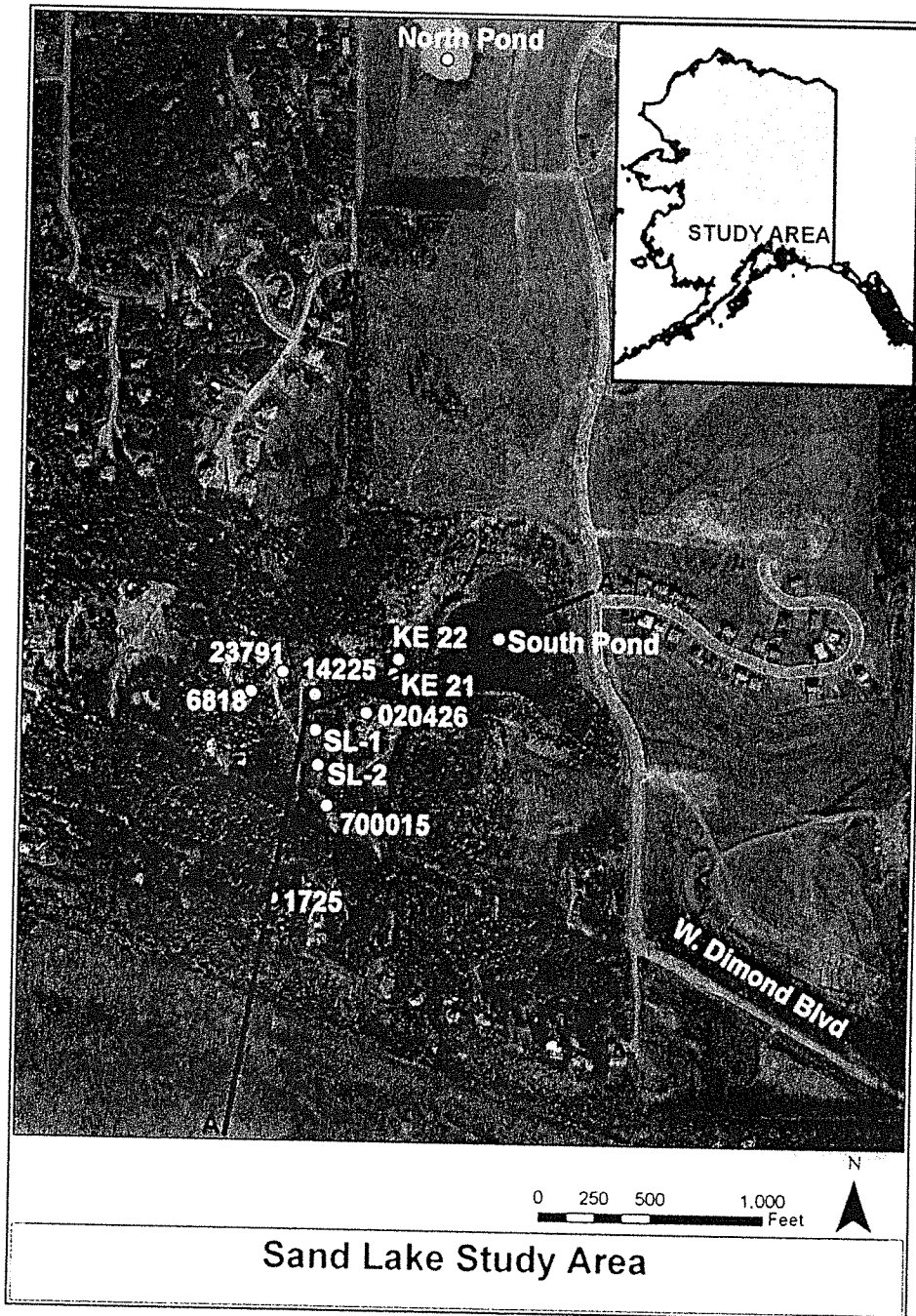


Figure 1. Aerial photograph of the study area in southwest Anchorage showing locations of wells, surface water elevation measurement sites used in this study, and the line of cross-section A-A' in Figure 2.

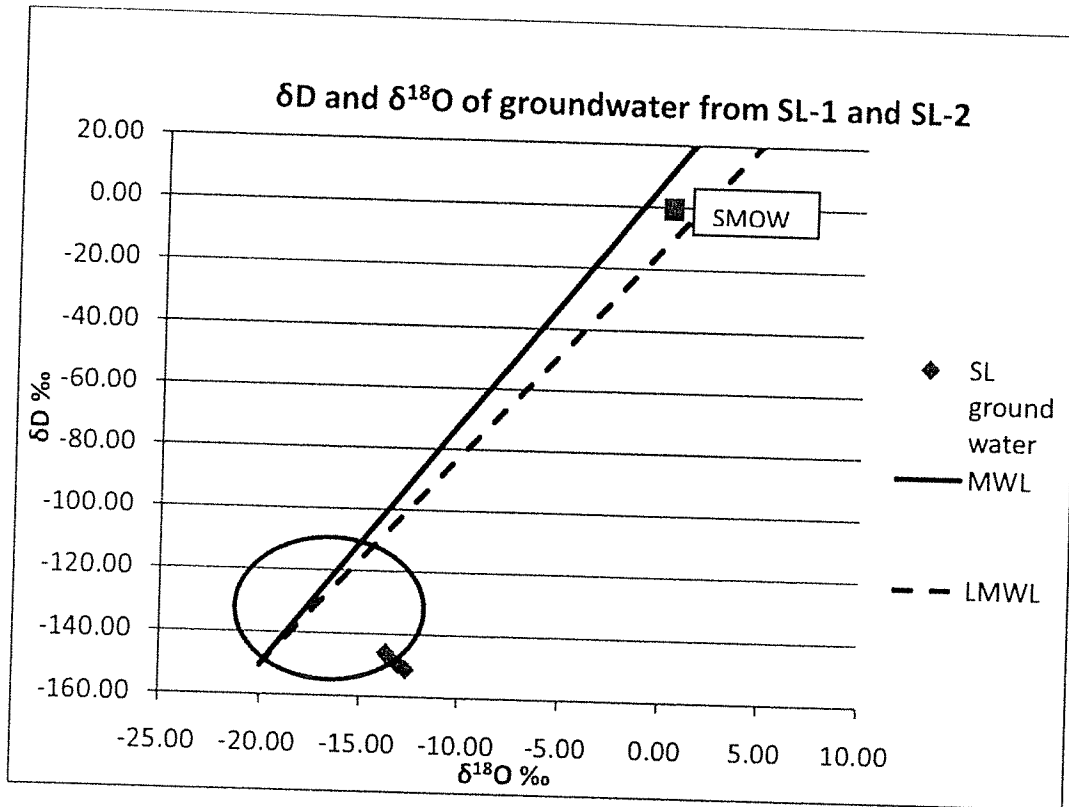


Figure 8. $\delta^{18}O$ (oxygen) and δD (hydrogen) isotopic ratios of groundwater from SL-1 and SL-2 monitoring wells. MWL = Meteoric Water Line (global) and LMWL = Local Meteoric Water Line based on precipitation data from Anchorage and the Matanuska-Susitna Valley area (Sjostrom et al., 2006). Blue oval represents the general area of data points from Kane et al. (2008), SMOW = Standard Mean Ocean Water.

Volatile Organic Compounds and Semi-Volatile Organic Compounds

All volatile organic compounds and semi-volatile organic compounds were below their standard detection limits as reported by SGS labs Anchorage, Alaska (Appendix E).

Conclusions

Test drilling, water quality analyses, and a hydrogeologic cross section have shown that the South Pond in the former Sand Lake Gravel Pit and its associated aquifer is connected to a shallow aquifer downgradient of the pond and groundwater can be expected to flow relatively unimpeded by geological boundaries towards the test well sites. The shallow aquifer is also hypothesized to potentially provide recharge to a mid-depth aquifer downgradient of the pond. A deeper aquifer at the site may be more hydrogeologically separated.

The shallow aquifer is also shown to contain elevated tritium, indicative of receiving atmospheric recharge subsequent to the beginning of atmospheric testing of nuclear explosives in 1952. The mid-depth aquifer has previously been shown to also contain tritium at similar concentrations, further supporting a relatively direct aquifer connection between the two aquifers. The deeper aquifer in the area does not contain measurable tritium and may be locally separated from the shallow and mid-depth aquifer.

Water quality and chemistry data show that there are some differences in water chemistry between the shallow and deep aquifers particularly in terms of pH, dissolved oxygen, nitrates, iron and manganese concentrations, and some trace elements, most notably arsenic. Except for nitrates, the variations are within the range of a more comprehensive study of the Sand Lake area aquifers by Kane et al., (2008). The data set for this study and the variations in the results are small enough that "fingerprinting" of different water types to demonstrate separation of aquifers is inconclusive. Additionally, no major seasonal differences in water chemistry were detected; however, only two sampling events were possible for this study. Results from a more comprehensive seasonal groundwater study in Anchorage by Munk et al., (in press) indicate that over a five month period (based on monthly sampling) there are significant changes in the overall water quality and composition in the Anchorage aquifer, particularly with respect to the mobility of arsenic.

Water quality data also show that waters from both wells meet maximum contaminant levels for the parameters measured, except that water from the deep aquifer exceeded the maximum contaminant level for arsenic and water from the shallow aquifer exceeded the maximum contaminant level for nitrates. These maximum contaminant levels are applicable to public water systems and are also set by the US Environmental Protection Agency and the World Health Organization. Kane and others (2008) found that most wells in the Sand Lake area also exceed the MCL for naturally-occurring arsenic. This is a very significant environmental problem that may be affecting the health of those drinking the untreated groundwater.

The source of nitrates in well SL-1 is not known, but the levels found are significantly above what is typically considered natural background concentrations in Anchorage (typically more than 2 or 3 mg/L nitrates is considered man-caused). The presence of these nitrates, along with the presence of tritium, shows that the shallow and mid-depth aquifers appear to be susceptible to surface contamination and that efforts to avoid or minimize future contamination of these aquifers are warranted.

References Cited

Alaska Department of Environmental Conservation (ADEC) 2003. A summary of the engineering and hydrogeologic assessment of the proposed Kincaid Estates Subdivision and potential impact to the surrounding public water systems and ground water resource of the area.

**Review of Geologic and Hydrogeologic Studies Related to the Proposed
Kincaid Estates Subdivision, Anchorage, Alaska**

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October 6, 2004

**Submitted to
Representative Norman Rokeberg
House District 27
State Capitol
Juneau, Alaska**

The ADEC (2003) does not provide analysis or modeling of the potential for contamination of the groundwater due to the proposed subdivision.

In their conclusions the ADEC (2003) indicates that professional geologic research of the Bootlegger Cove Formation and of the Anchorage area groundwater flow regime suggest that the Class C public water system wells to the south and to the west of the proposed Kincaid Estates Subdivision fully penetrate a confining layer and draw water from the confined aquifer system that is below, and is interpreted to be not connected to, the shallow overlying unconfined aquifer, or water-table aquifer. Again there is no mention of the specific subsurface geologic or hydrostratigraphic conditions for the area in any of the references cited by ADEC (2003) and this is not consistent with the ADEC (2003) conceptual model of discontinuous and variable stratigraphy. It is true that there are confining conditions in some of the Class C wells used by the ADEC, but these conditions cannot be extrapolated very far from the wells based on the ADEC interpretative cross sections and the lateral and vertical variability of the subsurface geologic units. Therefore, this confining condition has not been shown to exist everywhere under the site of the proposed subdivision. In addition, the ADEC (2003) goes on to state that since the data suggest that the public water system wells in the area draw water from the confined aquifer system; these wells should not be influenced by the water contained in the unconfined or water-table aquifer or activity from the proposed development at the Kincaid Estates Subdivision area. To our knowledge the ADEC has not developed mixing models that support or refute this conclusion nor have they conducted aquifer tests that may lead to an understanding of the existence of a connection between the upper and lower parts of the aquifer system. Therefore, the appropriate data do not exist to make conclusions about the connection or lack thereof between the upper and lower parts of the aquifer system in the area or for the site of the proposed subdivision which has extremely limited data available to address this problem.

VI C. Shannon & Wilson, Inc. (2002) peer review

There are various points raised by Shannon & Wilson, Inc. (2002a) in regards to the TERRASAT, Inc. January 4, 2002 report "Ground water Resource Evaluation for the Proposed Kincaid Estates Subdivision". We address the points that Shannon & Wilson, Inc. (2002a) raised that still have not been satisfactorily addressed by TERRASAT, Inc.

In the April 8, 2002 letter to Mr. Mike Krueger at the Municipality of Anchorage RE: Peer Review, Kincaid Estates Subdivision Documents, Anchorage, Alaska, Shannon & Wilson Inc. made appropriate recommendations. In particular on page 4 it is recommended that site specific studies be conducted to improve the confidence of the conclusions made by TERRASAT, Inc. These site-specific studies are suggested for determining aquifer thickness, hydraulic conductivity, and gradient. The only field study in which TERRASAT, Inc. collected and analyzed data to address any of these parameters was their water level measurements in the KE-series wells which resulted in a gradient map for the area around the south pond. The July-August 2004 single well test only produced results that could be reliably applied to the particular pumping well and the immediate area surrounding that one well (see VII A xv c. above).

In addition, Shannon & Wilson, Inc. (2002a) question the basis for the TERRASAT, Inc. opinion that the aquifer beneath the proposed subdivision will have nitrate concentrations similar to or lower than the surrounding areas stating that the site currently lacks cultural development that would bring with it nitrate loading through fertilizing and animal wastes, but it also lacks a thick cap of soil to buffer the migration of contaminants to the water table aquifer. The available TERRASAT, Inc. calculations of nitrate concentrations that would result from fertilizer application do not account for the thickness or other physical and chemical characteristics of material above the aquifer.

Shannon & Wilson, Inc. (2002a) state that in their opinion the arsenic data base is too weak to draw any meaningful conclusions. We agree with this opinion and have addressed the problems of using the arsenic concentrations in the well water in the Sand Lake area to determine whether or not the water in the upper part of the aquifer mixes with water in the lower part of the aquifer.

Shannon & Wilson, Inc. (2002a) recommend that modeling of the leaching of nitrates be done by using SESOIL. TERRASAT, Inc. responded by indicating that they thought SESOIL was not appropriate for this application but it is unclear if modeling was attempted by alternative applications. Shannon & Wilson, Inc. (2002a) recommend that site-specific studies are necessary in order to document key parameters to eliminate variability and assumptions in the mass loading of nitrate calculations by TERRASAT, Inc. To our knowledge no site-specific data have been included in such calculations.

Shannon & Wilson, Inc. (2002a) also address the issue of potential contaminants in surface runoff, particularly the large volumes of surface runoff generated during high flow events. As Shannon & Wilson, Inc. (2002a) state it is not uncommon in Anchorage for 1) a large slug of animal wastes preserved in snow in ice to be released to runoff during breakup 2) residents to water their lawns, and 3) July and August storm events to create runoff that could carry wastes and fertilizers into surface water bodies. Shannon & Wilson, Inc. (2002a) go on to state that the concentration of contaminant(s) could be exacerbated in these situations because the contaminant mass enters the system suddenly instead of gradually over time. These are valid points that have not been addressed.

In their final review comments (2002b), Shannon & Wilson, Inc. raises one other point dealing with the groundwater resource quantity in terms of a portion of recharge that is likely to be taken off site via storm drains and/or prevented from infiltrating to the groundwater due to changes in surface types. The amount of recharge in this regard has not been determined.

As part of our review, we requested a meeting in early September 2004, with a Shannon & Wilson, Inc. engineer who prepared the 2002 report. It is our understanding that Shannon & Wilson, Inc. is no longer employed by the Municipality in regards to the proposed Kincaid Estates Subdivision. We have, in fact, met with representatives of all parties except for Shannon & Wilson, Inc. who represented the Municipality of Anchorage. Unfortunately, Shannon & Wilson, Inc. representatives could not meet with us before our October deadline. Although their report is clearly written and we agree with their 2002a

review, we wanted clarification on the April 23, 2002 letter to the Municipality of Anchorage where it is stated that TERRASAT, Inc. presented additional information that satisfied most of their concerns regarding resource protection at the proposed subdivision. No specific information is mentioned in this letter so it is difficult to judge why they were satisfied.

We were also curious to learn about the other investigations in the Sand Lake area mentioned in the 2002a report and to ask if Shannon & Wilson, Inc. knew of any additional environmental modeling done for the Sand Lake area. We were also interested in their ideas about local coal clasts and denitrifying bacteria.

Furthermore, we were seeking Shannon & Wilson, Inc. input on a number of issues raised by TERRASAT, Inc. regarding Shannon & Wilson, Inc. conclusions. For example, in their report submitted to the Municipality of Anchorage Planning Department on May 17, 2004 TERRASAT, Inc. states that “[a representative from] MOA On-Site Services evaluated the facts regarding this well [6818] and concluded that a connection between the [unconfined and lower] aquifers did not exist. Shannon & Wilson and ADEC also evaluated the facts and concluded no connection exists.” Because no mention of aquifer connectivity is made in the Shannon & Wilson, Inc. (2002a) report, it is unclear whether or not Shannon & Wilson concur with that statement. In addition, TERRASAT, Inc. (2004d), states that “Professionals at MOA, ADEC, and Shannon & Wilson seriously considered Mr. Munter’s work and disagree with it.” Our copy of Mr. Munter’s report is dated May 8, 2002. The final memo from Shannon & Wilson is dated April 23, 2002. It is not clear if Mr. Munter’s report was available before the final letter submitted by Shannon & Wilson Inc. The ADEC (2003) report lists Mr. Munter’s report in the bibliography but does not mention it in the body of the report.

Our inability to discuss these issues with the Shannon & Wilson, Inc. does not affect the major topics we reviewed or our conclusions. We merely tried to be as complete as possible and to obtain as much information in the limited time allotted for this effort.

Table 6. continued.

No.	Finding Stated
23.	The Board found the subsurface materials shown on the cross sections of the 1986 Updike and Ulery map do not indicate any stratigraphic gap in the subsurface materials beneath the pond. The soils are generally composed of silty fine sand with silt and clay layers and silty clay or clayey silt, materials which are not conducive to the movement of water. For a hydraulic connection to exist between the exposed aquifer and the Dodds' well the strata would have to have been deposited east-to-west at much steeper slopes than those depicted on the Updike and Ulery geologic map.
24.	The Board found based upon geological information presented there does not appear to be the connectivity between the pond aquifer and the deeper aquifer from which the Dodds' well draws water.
25.	The Board found the 5/13/03 ADEC report states that 'the Anchorage area groundwater flow regime suggest that the Class C public water system wells to the south and west of the proposed Kincaid Estates Subdivision fully penetrate a confining layer and draw water from the confined aquifer system the is below, and is interpreted to be not connected to, the shallow overlying unconfined aquifer, or water-table aquifer'.
26.	The Board found the cross section (B-B') shown on the 1986 Updike and Ulery Engineering-Geologic Map of Southwest Anchorage, Alaska supports the ADEC comment.

VIII. Recommendations

VIII A. Recommendations for Fully Characterizing the Aquifers

These aquifers cannot be fully characterized until more field work and analysis are performed. The following is a list of methodologies for characterizing the aquifers:

- Installation of additional monitoring wells on the proposed Kincaid Estates Subdivision of sufficient size for both monitoring water levels and collection of water quality data. These wells should be deep enough and distributed widely enough to determine the thickness and lateral extent of unconfined and confined aquifers and confining layers.
- Long-term monitoring of water levels in unconfined and confined aquifers and monitoring of barometric pressure.
- Field testing of both the upper and lower aquifers to determine the strength of hydraulic connections between permeable zones (i.e. aquifer tests using multiple monitoring wells in different horizons).
- Field testing to determine hydraulic conductivities in the unconfined and confined aquifers.
- Periodic collection of appropriate water quality analytes from the upper aquifer and the pond to monitor any changes in water quality.
- Analysis of the data using conventional hydrogeologic methods.

VIII B. Recommendations for Surface and Ground Water Quality Monitoring

Because the southern pond is believed to be equivalent to the water table aquifer it is potentially vulnerable to contamination. The data do not exist to indicate whether or not there is a connection between the shallow and deeper parts of the aquifer system. Therefore we recommend that the surface and ground water be monitored for bacteria (coliform and E. coli) and nitrates to track the water quality.

VIII C. Recommendations for Characterizing the Topsoil

We recommend that the composition and physical characteristics of the proposed topsoil be specified. The topsoil represents the first major point of entry for most of the contaminants of concern. Moreover, the topsoil provides a convenient mechanism for degrading or immobilizing potential contaminants through biological, chemical, sorptive, and water retention processes. The final topsoil should contain sufficient water holding capacity to store the majority of expected precipitation and irrigation moisture within the root zone, with the caveat that heavy autumn precipitation will likely saturate and percolate through the soils regardless of design. The application of lawn chemicals in the autumn and late summer should be avoided, as this will further reduce the potential for contaminant migration to groundwater. Information regarding the parameters and calculations necessary for estimating water percolation through vegetated soils can be found in Allen (1998), Fayer, (1990), Flerchinger, (2000), or Simunek, (1996), among other sources.

IX. Conclusions

The review of geologic and hydrogeologic interpretations of the Sand Lake area and the proposed Kincaid Estates Subdivision show that although detailed studies have been performed, the glacial stratigraphy is complex and interpretations on the local scale vary widely. Most of the information about this area has been gathered through drillers' logs and sporadic groundwater sampling. No concerted effort to study the groundwater system in the Sand Lake area has been made and data is lacking in order to understand the system at the site of the proposed subdivision. Therefore, many questions remain about the geology and hydrogeology of the area. This has a significant impact on ideas regarding the protection of the aquifers at the proposed Kincaid Estates Subdivision. Ideas about groundwater flow, chemical transport in the subsurface, and the concentrations of those chemicals have based on an unclear understanding of the geologic and hydrogeologic system. Therefore, we identified specific aspects of geology, hydrogeology, and geochemistry that are not well understood and indicate where those aspects have significant impact on conclusions made in previous reports.

We have shown that the subsurface geology and hydrogeologic environment in the vicinity of the site of the proposed Kincaid Estates Subdivision varies laterally and with depth. It is not possible to determine the extent or continuity of low or high permeability layers across the site due to a lack of data on the subsurface geology there. Intervals of silty sand, sand and gravel, silt, and clay are discontinuous sometimes between wells less than 100 ft apart. The discontinuous character of low permeability units both above and below the

water table makes favorable conditions for perched groundwater and for lenses of confined aquifer material in addition to laterally extensive aquifers. The strength of the connections between aquifers cannot be determined from the available water level data and lithologic information. Aquifers that appear to be separated by many feet of low-permeability sediments might actually be connected at some distance from the borehole location where sediments may be coarser grained. This is indicative of stratigraphic units deposited as part of a glacial deltaic and glacial fluvial system where there is a lot of grain size variability both vertically and horizontally. The cohesive facies identified by Ulery and Updike (1983) and used in the conceptual hydrologic model of Barnwell et al. (1972) as the continuous confining layer is likely discontinuous in the geologic transition zone of Sand Lake area. Additional borings and hydraulic testing are necessary to determine the continuity of the confining layer underlying the proposed subdivision.

Regional groundwater flow directions are still not known for certain although they are likely in the direction of the Cook Inlet. Synoptic water level data do not exist for wells near the site and therefore, it is not possible to accurately determine the direction of regional groundwater flow. Hydrographs of historic levels in the Sand Lake area show that water levels in both shallow and deep wells fluctuate up to tens of feet. This could result in seasonal variations in groundwater flow directions. The direction of groundwater flow has only been determined for the shallow aquifer in the southern portion of the proposed subdivision. Shallow water local to the proposed Kincaid Estates Subdivision appears to move westward where as many as 23 shallow downgradient, private wells are identified.

Recharge rates are likely highest in the proposed development area because water does not drain away from this property and little vegetation is present. The impact that development will have on the volume of recharge has not been determined. The effect of reduced recharge on groundwater levels in shallow downgradient wells has not been investigated.

Our review of the TERRASAT, Inc. reports with regards to the hydrogeologic studies conducted indicates that several unsubstantiated conclusions have been posed about the hydrogeologic environment at and near the site of the proposed subdivision. In the case of the hydrogeologic assessment of unconnected aquifers, the necessary data is lacking to support the conclusions. In the case of groundwater mixing analysis using groundwater chemistry, the available geochemical data does not contain the correct geochemical parameters and therefore the conclusions are not validated.

In regard to aquifer protection, several arguments were presented by TERRASAT, Inc. detailing processes purported to protect the water table from surface applied contaminants. Specifically, the topsoil, fine-grained soil above the aquifer, and coal fragments contained within the unsaturated zone were all presented as mechanisms for aquifer protection. While we agreed to various extents with the concepts presented, we did not feel that any of the arguments provided adequate data to quantitatively assess the transport, degradation, and immobilization processes at the site. Moreover, we recognize that the accumulation, assimilation, and presentation of these data would be an onerous process and may have been beyond the original scope of the TERRASAT, Inc. work plan.

Nonetheless, concrete conclusions such as those stating that nitrate “will be used and degraded in the root zone long before it could possibly reach the aquifer by leaching through the soil” (TERRASAT, Inc., 2004c) are not justified in the absence of site specific measurement and/or modeling data.

The incidence of silt and sand alone in the private wells downgradient of the pond does not indicate a greater potential for these wells to be contaminated by activity at the pond. However, no measurements of the aquifer materials have been made to indicate whether or not there is a connection between the pond and the aquifer in which the wells are completed in. It is apparent from drillers’ well logs that these wells are completed in aquifers containing many intervals of loose and reportedly heaving sands. The sediment in these wells is likely mobilized in an annular space very near the well opening.

The 2003 ADEC report indicates a somewhat more reliable interpretation of the subsurface materials but does not present a review of the previous studies for the site such as those completed by TERRASAT, Inc. In addition, they provide no assessment of the potential risk of contamination.

Questions regarding the conclusions of TERRASAT, Inc., and ADEC (2003) have been asked in writing (Shannon & Wilson, 2002a; Halcro, 2002; J.A. Munter Consulting, Inc., 2002; Municipality of Anchorage Board of Adjustments, 2003; Pasch, 2003; South Anchorage Concerned Coalition, Inc., 2003) but it is our opinion that the conclusions are reiterated in several reports (TERRASAT, Inc., 2002b; 2002c; 2004b; and 2004c) without a presentation of site-specific hydrologic data to support the conclusions. In some respects, the requests for additional information made in the aforementioned letters and reports have not been sufficiently specific, allowing room for misinterpretation. It is also our opinion that currently, the data that would satisfactorily answer the question about the hydraulic connection between the upper and lower aquifer has not been collected. These opinions are based on the analyses presented in this report.

Shannon & Wilson, Inc. raised important points in their initial review of the TERRASAT, Inc. reports but we were not provided with the explanations for these points.

Some of our conclusions are inconsistent with the Findings of Fact and Decision produced by the Municipality of Anchorage Platting Board.

In our opinion, the arguments for concluding that various protective measures exist at the site of the proposed development to ensure groundwater resource protection are not substantiated by site-specific knowledge. The uncertainty associated with the aspects of geology, groundwater flow, and chemical contamination is too great in order to arrive at that overall conclusion.

Flow Patterns and Chemistry of Groundwater Aquifers in Southwest Anchorage, Alaska

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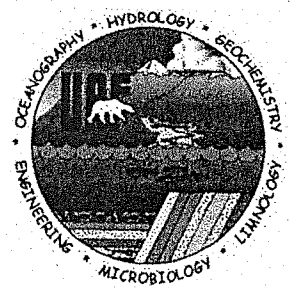
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Executive Summary

Southwest Anchorage is an area that is undergoing extensive residential development. Original housing development in the area was less dense than the present development and home owners relied on private groundwater wells for their water supply and septic systems for wastewater disposal. Presently, homes in the Sand Lake area are served by private water and sewer or, depending upon their location, municipal utilities.

There is a concern among some of the residents that still rely on groundwater from private wells for water use that recent development may be degrading groundwater quality. There has been no area-wide assessment of groundwater quality in the past; so, we concluded that the best use of the resources available was to perform a survey of groundwater quality of wells in the area. This approach would at least establish the quality of the groundwater resources at this point in time and could be used to document any future change.

The geology of the Sand Lake area is quite heterogeneous; it is typified by unconsolidated materials that range from fine (clay) to coarse (gravel) material. This should be expected in an area that is sandwiched between formerly glaciated mountains at the upper end and the marine environment at the lower end. Sixty five wells and 3 lakes were sampled during this study for analytes including calcium, magnesium, sodium, potassium, chloride, nitrite, nitrate, sulfate, phosphate, total organic carbon, arsenic and iron. The ground elevation at each well and the depth to the water level in the well were measured in the field, as was specific conductance and pH.

Some of the wells are withdrawing water from unconfined aquifers and others appear to be drawing from confined (or partially confined) aquifers where the fine grained unconsolidated materials are acting as an aquitard. Moreover, the wells terminate over a wide range of depths. Shallow wells are installed to depths of -10 to +10 m (-33 to +33 ft) relative to mean sea level. Intermediate wells are installed to -15 to -60 m relative to sea level. Deepest wells are installed -60 to -90 m (-196 to -295 ft) or more relative to

sea level. The majority of the wells are installed into the intermediate and the deepest aquifers. From a quantitative viewpoint, there appears to be sufficient groundwater presently.

It is clear from the chemical analyses of the wells tested that there are different zones of groundwater that have distinct signatures. This would imply the lack of (or at least minimal) interaction between some groundwater units. Generally, considering all of the past development in the Sand Lake area, the water quality is good, except for the arsenic occurring naturally in most of the wells (some in quite high concentrations). This arsenic significantly compromises the overall quality of the groundwater for drinking water purposes. Nitrate was detected in 16 of the 68 sampled wells, however the concentrations were below the maximum contaminant level of 10 mg/l. Nitrate, along with other nutrients, are good indicators of anthropogenic impact; therefore these nutrients should be monitored in the future. Age dating of the groundwater in the Sand Lake area indicated that the deeper groundwater was probably older than 50 years, while the shallower groundwater is likely younger and possibly shows the interaction with local recharge.

Introduction

Several neighborhoods within the Municipality of Anchorage still use private water-supply wells and septic systems instead of city water and sewer. Some of these areas have documented groundwater quality problems in the Anchorage area from local contaminated sites, leakage from septic systems, and naturally-occurring arsenic in the aquifer formation. Increased residential development in parts of Anchorage has caused concerns of increased pressure on local aquifers, more urban runoff, and potential water-quality issues. Several subdivisions in the Sand Lake area (Figure 1), located in Southwest Anchorage, south of the Ted Stevens Anchorage International Airport, still tap into parts of the aquifer for private water supply. In the Sand Lake area, a large residential development called Kincaid Estates is under construction. Some residents of the older neighboring subdivisions are concerned about potential impacts to the water quality of their local aquifer and water supply. The purpose of this investigation is to better understand the current baseline groundwater quality of the Sand Lake area.

Setting

The Sand Lake area, located in Southwest Anchorage near the Ted Stevens Anchorage International Airport, consists of several residential subdivisions of varying lot sizes as depicted in the locational map in Figure 1. Homesteading in the Sand Lake area began in the early 1930's and land was cleared at many homestead sites for agricultural purposes. The initial residential subdivision development occurred around the 1960's and between 1960 and 1970 the population of southwest Anchorage increased from 3,000 to 11,000 people. Several subdivisions were subsequently added in the Sand Lake area during the following decades in the vicinity of Sand, Sundi, and Jewel Lakes and by the late 1980's there were over 40,000 people living in Southwest Anchorage (including Sand Lake area). The most recent development is occurring in the area of the former gravel pits at Kincaid Estates (Figure 1). Several of the subdivisions in the area have lot sizes in the range of 1 to 2 acres, with the exception of the subdivisions in the very dense Sand Lake Subdivision, the newer subdivisions including the Kincaid Estates area, and the subdivision just to the north of Kincaid Estates (Figure 1). Photographs in Figure 2 are examples of the different residential settings in the Sand Lake area.

Most of the homes in the older subdivisions use private or community water-supply wells and septic systems. Some of these homes may use private wells, but may also be hooked up to city sewers. The newest subdivisions, such as Kincaid Estates, are connecting to city water and sewer systems.

Several natural lakes exist in the study area, including Sand Lake, Sundi Lake, and Jewel Lake; these surface-water bodies are a reflection of the local groundwater table. Several former gravel pits are located in the Kincaid Estates area and an old gravel pit is presently being used as a dumpsite just to the east of Kincaid Estates.

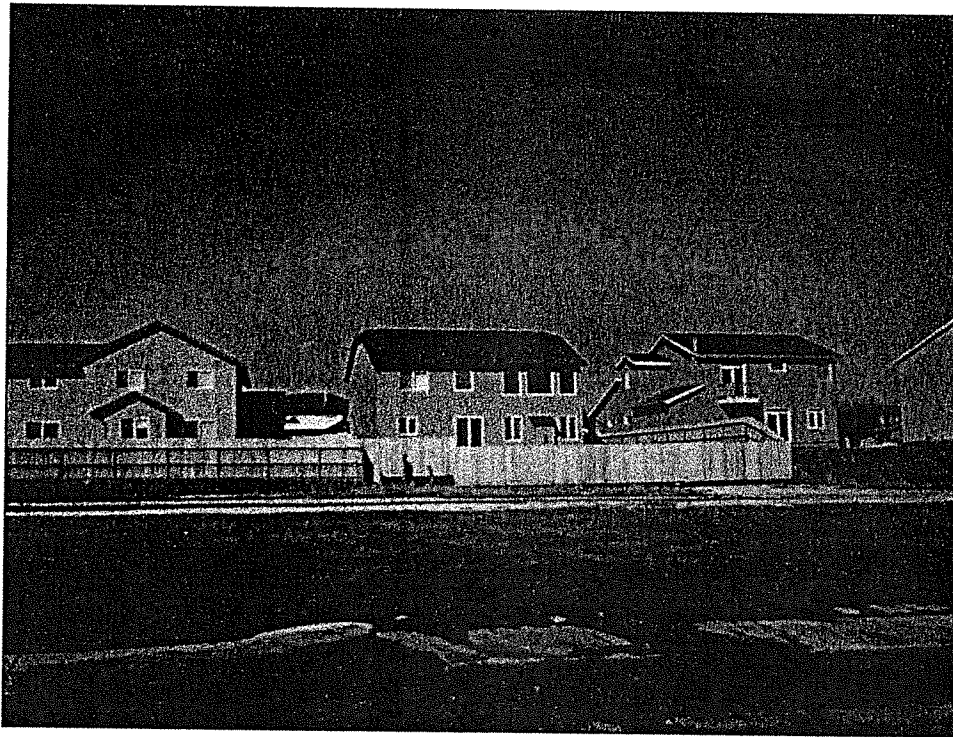


Figure 2a. Photograph of homes in the new Kincaid Estates subdivision.

Background

Numerous concerns have been expressed by some Sand Lake residents about the local groundwater resources and the role that recent development has had (and will in the future) on this resource. At times we will refer to the singular form of aquifer and other times refer to aquifers; in reality there are several aquifers in the area that are not totally isolated from each other. It was originally suggested that some tracer studies could be performed in the area to quantify the flow pattern; specifically, was there a hydraulic connection between the South Pond (an area of deeper gravel extraction that penetrated the water table) and some of the wells in the neighborhood. We rejected the tracer studies on the grounds that it was very unlikely that we would ever recover the tracer down-gradient using the existing wells. There are several reasons why we felt that the tracer test would not work; the two most compelling reasons were that the proposed wells (where the tracer would hopefully be recovered) were a substantial distance downstream (over 800 feet) and the tracer would have been injected at the top of the water table (in the South Pond) while the well bottoms are at greater depths (in some cases considerably deeper) below the water table. If the tracer could be recovered, it would take a considerable time of sampling to detect the tracer in down-gradient wells because the groundwater velocities are so low in this area. Further, it is even more unlikely we could recover the tracer because there are horizontal layers of relatively fine grained material scattered throughout the aquifer that act as aquitards; many of the wells are below this level. The pathway of the tracer would be significantly impacted by these aquitards. We do not have sufficient data to accurately map the spatial extent of all of these layers.

It would have required, for the tracer test to be successful, the installation of several sampling wells radiating out from the source area of where the tracer was injected with careful consideration of distance and depth of wells. There were not sufficient financial resources to even consider a tracer study of this type, plus permission to install recovery wells on private property was very doubtful as we did not even get permission to sample the ponds or monitoring wells on the Kincaid property.

There were also the reported cases of wells yielding cloudy (or murky) water (Munk et al., 2004, Munter, 2008) at various times. In the 1970's there were reports of turbid water appearing in two wells (one of which is well PW-24, sampled in this study) near the South Pond, in the Seaview Heights subdivision while gravel extraction/dewatering operations (Munk et al., 2004) were ongoing. The turbidity apparently cleared up after filters were changed and/or operations ceased. It was also reported that after an especially rainy period of time in Fall 2004, a home owner again observed that the water from their well (PW-24) was turbid. They also observed that surface runoff during this storm (where the new high density development is presently ongoing) had also turned the South Pond turbid. It was hypothesized by both the land owners and their consultant that there was a hydraulic connection between the two observations. They specifically felt that the turbid water in the South Pond was flowing through the aquifer to their well and yielding the turbidity observed in the well. It is our strong opinion that this is not physically possible. First, it is several hundred feet from the South Pond to the well. Second, the subsurface material is clean sand and gravel with scattered layers of fine material, excellent material for filtering out any suspended material in the groundwater. Additionally, the hydraulic gradient is quite low here and therefore the velocity of the groundwater would be low, even in the relatively porous sands and gravels. Again, excellent conditions for filtering out any suspended matter. Note that well PW-24 was sampled during the fall 2006 sampling event and the water sample contained no detectable nitrate, but was very high in iron. The sample did contain detectable tritium, indicating the water is post-1952 in recharge age and the isotopic signature during fall 2006 indicates recharge from snowmelt, as was most of the other groundwater samples.

All of these facts were considered when setting up our field study strategy. Several trips were made to the area to assess the conditions, plus several past reports were reviewed. Clearly the water quality of the aquifer(s) is not going to improve with development; this is true for all aquifers, regardless of where they are located. The aquifer (in some areas) already has documented evidence of naturally occurring arsenic. When we finally submitted our proposal to the Alaska Department of Natural Resources (ADNR), we tried to determine what approach would yield the best results in the long term. Due to the

above factors, it was determined that a tracer test to determine the connectivity of the pond and the adjacent wells was not feasible. The pond and neighboring lakes are hydraulically connected to the aquifers. Surface-water bodies lose and gain water depending on water levels. Using observation wells to determine the hydraulic gradients between the pond and nearby water-supply wells was not cost effective. In the long term, increased development (no matter where located) will have negative impacts on the groundwater quality. However, it would be very difficult and unfair to single out a single development project as the culprit of declining groundwater quality. Very dense developments also exist in the Sand Lake subdivision and east of Sand and Sundi Lakes which also would likely contribute to an overall decline in water quality. Hopefully future development impacts can be minimized with proper planning. After all was considered, we felt that the best use of the financial resources was to establish the background groundwater quality of the Sand Lake area. This effort would establish a snapshot of groundwater quality for future potential comparisons.

Data Collection Objectives

As indicated above, samples were collected and analyzed from numerous wells to obtain a baseline of the groundwater chemistry and general flow pattern in the Sand Lake area. The occurrence and spatial distribution of major ions, nutrients, trace elements, and isotopes in the Sand Lake area are not presently well defined. The extent and connectivity of the aquifers utilized for private water supply are not well understood in the Sand Lake area due to complex geology. Therefore, additional information is needed to better evaluate the groundwater hydrology and potential water-quality issues. Water samples and water levels were collected in October and November 2006 from 65 private water-supply wells and 3 surface-water bodies (Jewel Lake, Sand Lake, and Sundi Lake) by University of Alaska Fairbanks Water and Environmental Research Center project staff. Samples were analyzed at University of Alaska Fairbanks Water and Environmental Research Center and University of Miami Tritium Laboratory. Data processing and interpretation were performed at University of Alaska Fairbanks Water and Environmental Research Center. The main objective was to establish what the present groundwater chemistry was of the aquifers in the Sand Lake area.

Hydrogeology

Munk et al. (2004) summarized the hydrogeology of the Sand Lake area. They reported that the current distribution of sediments in the Sand Lake area is a result of a glacial event during the Naptowne glaciation. This glacial event produced a fan delta in the Anchorage area formed by glacial meltwater streams. As a result of the fan delta system, larger grained sediments (gravels and sands) were deposited in the east and finer grained sediments (silts and clays) were deposited in the west. Later, these deposits were re-transported through drainage channels. This deposit is known as the Bootlegger Cove Formation.

Groundwater in the Anchorage area is thought to originate in the foothills of the Chugach Mountains to the east. Water is recharged into the mountains and foothills as snowmelt and summer precipitation and begins traveling vertically downward and to the west due to steep hydraulic gradients that are typical in mountain and upland hydrologic settings. The conceptual model by Barnwell et al. (1972) and Moran and Galloway (2006) illustrate this process (Figure 3). In addition to Barnwell et al. (1972) and Moran and Galloway's (2006) conceptual model, we suspect snowmelt at the higher elevations in the mountains contributes to groundwater recharge by infiltrating into shallow fracture networks. The recharge eventually reaches the saturated zone, consisting of shallow layers of glacial deposits and deeper layers of sedimentary bedrock. The groundwater continues to travel through the aquifers west into the Anchorage Bowl and toward the discharge area (Cook Inlet). Additional recharge to the shallow unconfined aquifer also occurs during snowmelt throughout the Anchorage Bowl. It is unknown exactly how much summer precipitation recharges the aquifers in the Anchorage Bowl. For summer and fall recharge to occur it would depend on ground cover and whether the evapotranspiration demand is less than precipitation.

As they represent a potential source of geologic information, the logs submitted by well drillers were reviewed for the wells in the Sand Lake area. The use of drillers' logs adds an uncertainty to the geologic investigation because some logs have inadequate geologic and/or well construction documentation, while other are quite detailed. Consequently, it

should be recognized that there is some degree of uncertainty involved with the use of driller's logs. According to drillers' well logs in the area, the shallow geology (to depths of 182 m or 600 ft below ground surface) consists of interbedded clays, silty clays, silts, silty sands, sandy silts, sands, clayey gravels, sandy gravels, gravels, and glacial till. The shallow glacial deposits appear to be discontinuous both vertically and laterally. Most of the well logs we reviewed indicate one or more clay layers (or a layer of silt, sand, or gravel mixed with clay) above the aquifer from which the well is withdrawing water. Additionally, the clay or silt layer may be mixed with gravel or sand and might be a glacial till, but the driller's log description does not indicate it is a till. These clay layers are not always consistent throughout the entire study area. In general, there seems to be several shallower layers of clay and/or silt layers interbedded with sands and gravels aquifers above a deeper and thicker clay layer. Several very deep wells penetrate a confined sandy gravel aquifer that underlies this deeper clay unit. Both the shallow and deeper clays appear to be a confining (or semi-confining) layer in several parts of the Sand Lake area.

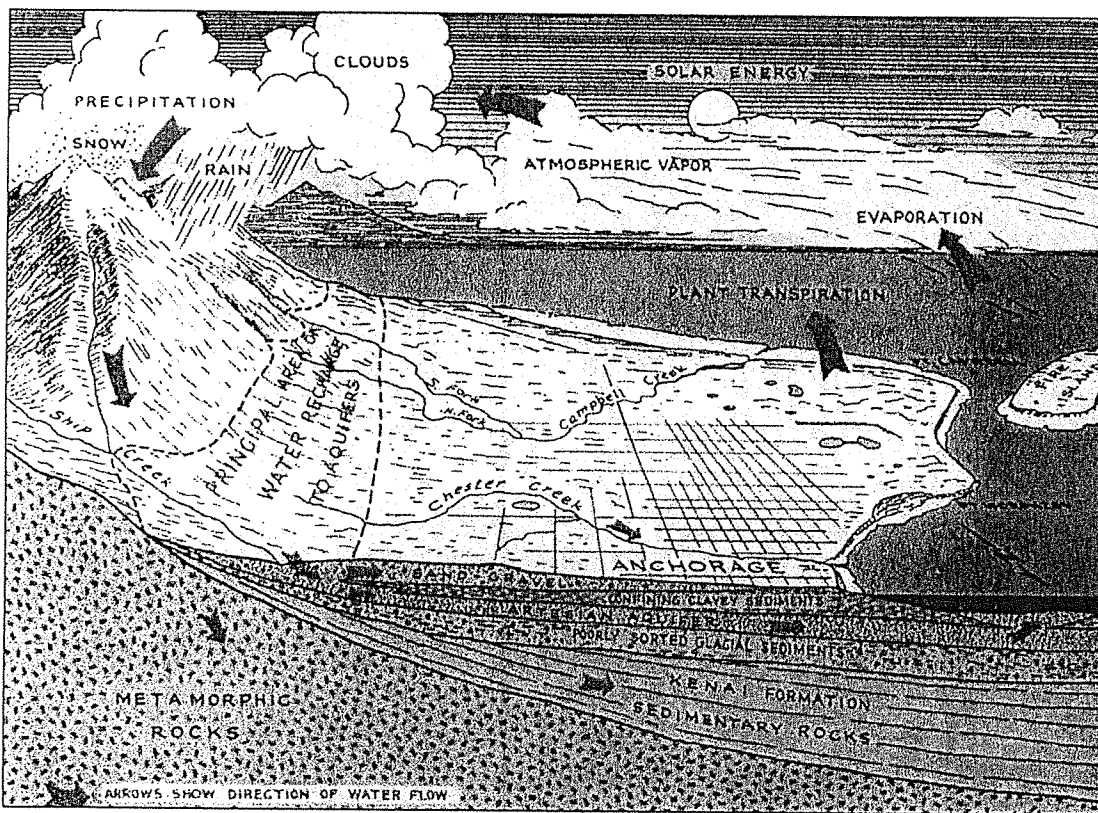


Figure 3a. Early conceptual model of the Anchorage area aquifer system by Barnwell et al. (1972).

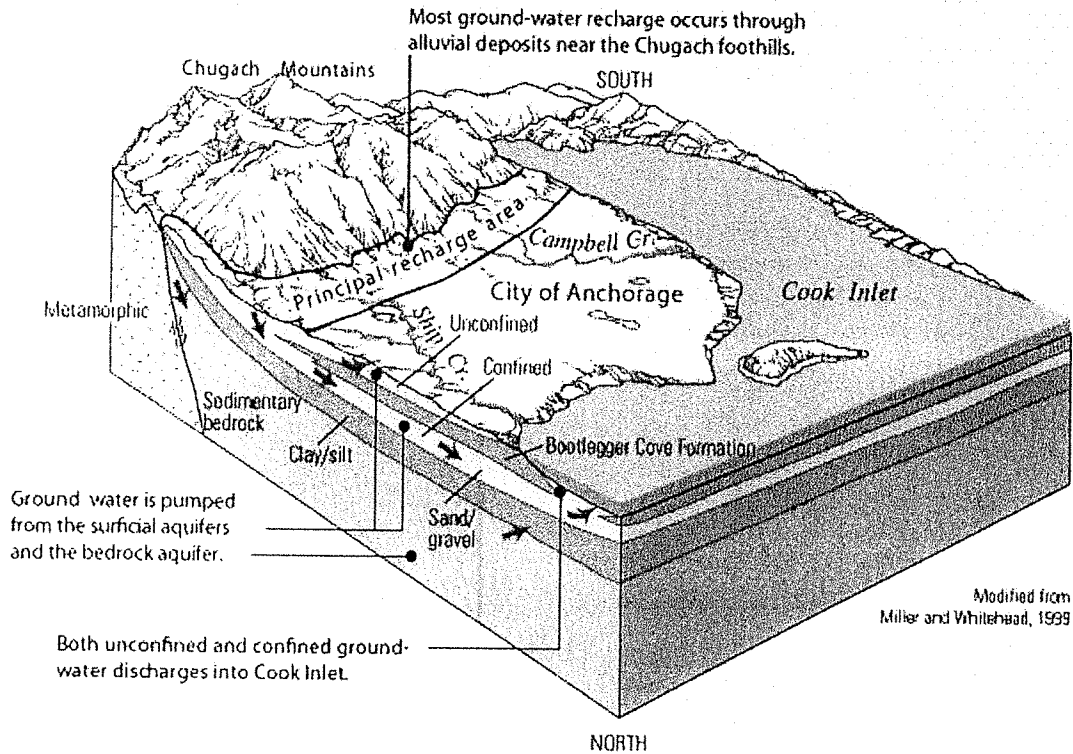


Figure 3b. Conceptual models of the Anchorage area aquifer systems updated by Moran and Galloway (2006).

Figure 4-9 depict cross sections through three areas in the Sand Lake study area based on well log records obtained from the ADNR WELTS database and the Municipality of Anchorage. Cross section A-A' (Figure 5) is through the Seaview Heights subdivision (also includes Campbell Heights subdivision). Geologic information is only available for 3 of the wells sampled for water quality along the section and all three wells penetrate through a layer of silt or clay. Additional well logs from non-sampled wells were also included in the section. Cross section B-B' (Figure 6) is also in the Seaview Heights subdivision. The available well logs through these two sections show layers of clay or silt of varying thickness. In the Seaview Heights subdivision, most of the sampled wells (except PW-8) seem to penetrate into a confined (or semi-confined) aquifer based on the water level elevations and well log descriptions. However, the confining unit does not seem to be continuous throughout the subdivision. Section C-C' (Figure 7) is located north to south through the Rolling Hills, Sand Lake, and Sundi Lake subdivisions. Wells are deeper in the Sand Lake subdivision than the other subdivisions in the Sand Lake

area. The wells that were sampled (and have a well log) along this cross section have at least one layer of clay or silt. The wells in the northern part of this cross section (Rolling Hills subdivision) are generally shallower than those in the Sand Lake subdivision. Cross section D-D' (Figure 8) is also in the Sand Lake subdivision area (from west to east). Many of the wells show a zone of sand and silt or clay in the upper portion of the aquifer and a zone of deeper clay or silt above a lower sand and gravel aquifer. Based on the measured water-level elevations and the geologic information, the deep wells in the Sand Lake subdivision appear to be penetrating a confined aquifer. Cross section E-E' (Figure 9) is in the Hidden Hills subdivision. Wells in this area are installed at depths ranging from 30 m (100 ft) to over 100 m (328 ft). Several wells in the Hidden Hills area (according to the available well logs) have some layer of silt or clay above the sand or gravel aquifer zone. However, these wells appear to be unconfined in this area, water-level elevations in the wells sampled are below the bottom of any potential confining clay layer. Additionally, the well log for least one well sampled in this area (PW-14) did not indicate any silt or clay layer above the aquifer zone.

The majority of the wells withdraw from a water-bearing gravel or sandy-gravel zone that is somewhat discontinuous (vertically and laterally) throughout the formation. Some of these shallower aquifers may be perched, meaning they are discontinuous zones of groundwater perched on top of a clay lens above the main water table. If they exist, it is possible that these perched aquifers could be used for water supply depending on local recharge. None of the wells sampled were flowing wells and the aquifers utilized are not artesian. It is likely that there are multiple aquifers utilized in this area, some of which may be partially bounded by relatively impermeable material and some could be more extensive and interconnected. Of the wells sampled for water quality in this study, 22 of the 35 well logs reviewed indicate the wells are potentially located in a confined aquifer (confined by a clay aquitard). Five of the 35 well logs reviewed indicate the well is probably under confining conditions by a silty layer. Seven of the 35 well logs indicate the aquifer of use is not confined, but there are one or more layers of clay and silt above the zone of water withdrawal. Only one well log (PW-14) indicated no clay or silt layers at the well location.

Groundwater from the 'shallower' wells, installed into the shallow or intermediate aquifers, may either be recharged after 1952 from the Chugach Mountains recharge area or perhaps the groundwater is a mixing of pre-1952 water with modern (post-1952) recharge.

Conclusions and Recommendations

Conflicts over groundwater resources are common in areas of development. In general, development in any location has negative impacts on the groundwater in terms of both quality and quantity. Ideally, development will not result in over-pumping of an aquifer or degradation of the quality of the aquifer. Realistically, we try to minimize the impacts of all kinds on this water resource. An aerial view of the Sand Lake area will show that development (generally housing) is quite variable in terms of density, with some subdivisions being quite dense while others have more spacious lots. There are some new subdivisions being developed that are quite dense, however they are on both municipal sewer and water, which minimizes potential contamination from septic systems and also decreases potential conflicts of water quantity. But, mainly because of the density of the development (impermeable surfaces), groundwater recharge is reduced and storm runoff (with possible contaminants) is enhanced.

Groundwater in the Sand Lake area generally originates as recharge in the Chugach Mountains to the east; although it is not quantified, it is suspected that groundwater recharge to shallower aquifers occurs in a westerly direction from the Chugach Mountains to almost the coast (Anchorage Bowl). In general, groundwater flows from east to west; however, in the Sand Lake area there is also a southerly component because of the local topography being intersected by the inlet. At the time of sampling, we measured the elevation at the top of the well and the depth to the groundwater in the well. However, because the wells are continually being pumped, the wells do not represent the true water table (or piezometric head if confined or partially confined) in the area.

Clearly there are both glacial and marine influences on the geology of the area. In the Sand Lake area all of the subsurface material where groundwater is extracted is

unconsolidated (no bedrock aquifers that are pumped). However, there are lenses of fine-grained material of varying thicknesses interspersed with coarser materials that can result in some quasi-confined aquifers. This results in a complex hydrogeologic setting that makes it difficult to accurately delineate groundwater flow and can result in relatively large differences in flow direction, rate and head differences over short vertical distances.

In the Sand Lake area, over use of groundwater is not presently of concern. However, there is the likely possibility that the quality of the groundwater will decrease with time in response to past and current development, not only in the immediate area but also extending back to the areas of potential recharge that have seen considerable development in the past couple of decades. So, our approach was to quantify the quality of the groundwater in some of the wells in the area. Ideally we would have sampled all of the wells in the area; however, we did not have the resources to do that, some wells are not conducive to sampling before some treatment process (water-softener, filter, etc.), some people do not want their wells tested and in many cases we could not find anyone at home.

In summary, we established a baseline of the present groundwater quality of the Sand Lake area that can be used in the future to detect any anthropogenic inflicted change. At present the groundwater quality in the Sand Lake area is good except for the occurrence of naturally present arsenic in most areas that exceed the MCL of 10 µg/L; there is an increasing trend in the arsenic concentration with depth. Residents can install home treatment systems as recommended by the Municipality of Anchorage (Woolard, 2004) or should connect to city water where available. Nitrates were detected in 23% of the wells sampled but all concentrations were below drinking water standards during the time of sampling. The wells with detectable nitrates in the water sample should be checked to ensure the annular space between the formation and the well casing is properly grouted and sealed.

One of the present concerns by those that are still using wells in the Sand Lake area is the degradation of groundwater quality with time (in response to development). Several

steps could be taken to reduce the future, potential groundwater quality impacts from development:

- All new development and any existing subdivisions with septic systems should connect to the city sewer system where available. If this is not yet possible, existing septic systems need to be maintained by residents on a regular basis and residents should connect to city sewer as soon as it becomes available.
- Try to retain the natural drainage and vegetation as much as possible. This is not the present case in the Kincaid Estates, for example, where most of the vegetation has been removed; of course this area has been heavily excavated for gravel extraction in the past.
- Protect existing ponds, wetlands and lakes, including vegetative buffer zones around the periphery of these water-surface bodies.
- Try to minimize the potential of contaminants entering the aquifer in areas of groundwater recharge.

The challenge is that the above preventive measures need to be taken in the whole of the groundwater basin, not just the Sand Lake area. Contaminants can reach the groundwater aquifers just as easily in the principal groundwater recharge area in the Chugach Mountains as in the Sand Lake area. Generally, the deeper the well (or groundwater aquifer), the farther away is the main recharge area. Pollutants in recharge occurring in the Sand Lake area would impact the shallower aquifers first. These pollutants may not impact the deeper aquifers. Whether or not pollutants could reach the deeper parts of the aquifer would depend on the geology (soil type, whether the confining layer is present and continuous, etc.), the type of release (continuous or non-continuous, point or non-point pollution), and the chemical characteristics of the contaminant.

Additional data-collection efforts could be developed to further understand the hydraulic connections between the various aquifers and the role of ground-water recharge mechanisms for the Anchorage area. This would be a much greater effort than the one reported in this study. The installation monitoring wells, including nested piezometers,

could be used to calculate horizontal and vertical flow gradients. By observing changes in water levels over time through continuous groundwater-level measurements (with a pressure transducer) we could better understand recharge mechanisms and examine the role of pumping well stresses on the aquifer. We presently have no idea of the change in groundwater levels over time, especially in times of stress (during extended periods of low precipitation when groundwater recharge will be reduced). Water quality changes over time can be observed by establishing a frequent monitoring schedule (to capture seasonality) in select deep and shallow monitoring wells (or through multi-level sampling techniques) throughout the Anchorage area. Any observation piezometers should be installed as remotely as possible from existing wells that are being pumped. This type of data collection will allow the public and government regulators to make better informed decisions about the local water resources.

South Anchorage Concerned Coalition

PO Box 191063
Anchorage Alaska 99519

August 29, 2005

To: Assemblyman Daniel Sullivan
Assemblywoman Pamela Jennings
Municipality of Anchorage
Anchorage, Alaska 99501

Re: Plats S-10873, S-10990, Sand Lake Gravel Pit

Dear Assemblyman Sullivan & Assemblywomen Jennings:

It is unfortunate that we once again have to ask for your help in protecting the drinking water of approximately 3000 Sand Lake residents. One of the huge problems the community has been fighting is the credibility of public officials. A MOA staff member, Dan Roth, wrote a memo dated December 2, 2004, to Jerry Weaver, Platting officer stating: "I have reviewed the report from the University of Anchorage Alaska (UAA) titled "Review of Geologic and Hydrologic Studies Related to the Proposed Kincaid Estates Subdivision, Anchorage, Alaska."

He goes on to make an untrue statement that one monitoring well and partially addressing topsoil satisfies the recommendations delineated in the October 6, 2004, UAA report. Dan Roth's exact quote from the memo "The above stated actions should satisfy the recommendations put forth in the UAA report."

Before I continue please understand that the above stated December 2, 2004 memo was not supplied to SACC or the Sand Lake Community Council until we were provided a copy from Rep. Norman Rokeberg's office in July 2005. In other words although SACC is the community group who has represented residents on this issue for years the MOA did not provide a copy to SACC.

I wrote Professor Lee Ann Munk July 21, 2005 (included) asking that the authors of the UAA report correct the record as to the representations made by the MOA and developers regarding this critical health and safety issue.

Professor Munk and her co-author wrote a August 23, 2005 letter stating "The other recommendation to fully characterize the aquifers through aquifer testing in order to understand aquifer characteristics and groundwater flow to the best of my knowledge has not been pursued by the Municipality or any other party."

This misrepresentation by the MOA should not be permitted to stand and the record must be corrected. We ask you to write Jerry Weaver, Tom Nelson and Mark Begich and inform them of the recent UAA letter and ask for a written response including how they plan to address the issue of mapping aquifers and other associated hydrologic issues.

As you recall, the Anchorage Assembly ruled on this issue 2 years ago stating that “the mapping of aquifers and water flow” is directed, and was part of the remand conditions. The same issue, unmapped aquifers, exists and the work still has not been undertaken.

It is apparent from the fall 2004 rains that the surrounding wells were affected by water that leaks into the underlying aquifers. Fourteen people filed complaints with DNR and DEC stating issues related to those activities. Others wanted to file complaints but did not have confidence in their government. This is reason enough for the MOA to take actions to protect local Sand Lake drinking water.

The developers stated opposition to allowing access to the exposed aquifer for a tracer study raises the suspicion to new heights that the developer and MOA are really trying to hide something. If the developer and MOA were confident in their stated scientific position it would seem they would invite the idea of a tracer study to prove their position. It is our request that as our representatives that the MOA actively work with Rep. Rokeberg’s office, DNR and the developers to gain access to the exposed aquifer and implement a tracer study.

Many residents cannot understand why the MOA has not acted responsibly and worked with Rep. Rokeberg’s office and attempt to implement the already appropriated funds for a tracer study and other monitoring exclusive of the developers tainted contractor.

At the close of Professor Lee Ann Munk and Professor William Schnabel’s August 23, 2005 letter they state “The application of lawn chemicals in the autumn and late summer should be avoided, as this will further reduce the potential for contaminant migration to groundwater.” From reading this statement combined with the problems residents have experienced with their drinking water apparently from the result of development activities last summer, it is clear we have a health and safety problem that will apparently impact the drinking water of many Sand Lake families. Until the aquifers are mapped and the actual hydrologic conditions are revealed every citizen in the area who drinks from the water under the Pit will have to wonder if their water is contaminated.

Our community needs and deserves better. Thank you for your most important help on this issue.

Sincerely,

William Watson

CC:

Rep. Norman Rokeberg

Rep. Lesil McGuire

Senator Ben Stevens

Mr. Lawrence V. Albert, Esq.

Ms. Betty Dodds, SACC President

Ms. Deana Essert, SACC Treasurer

Mr. Jeff Lowenfels, SACC BOD

ALASKA STATE LEGISLATURE

Session

State Capitol Building, Room
125
Juneau, Alaska 99801-1182
Phone (907) 465-2995
Fax (907) 465-6592

Interim
716 West Fourth Avenue, Suite
430
Anchorage, Alaska 99501



SENATOR LESIL MCGUIRE

*Chair, Special Committee on
Energy
Chair, Special Committee on
World Trade, Technology &
Innovations
Co-Chair, Resources Committee
Member
Judiciary Committee
Armed Services Committee
Joint Cook Inlet Salmon Task*

September 14, 2009

The Honorable Dan Sullivan
Mayor, Municipality of Anchorage
632 West 6th Avenue, Suite 830
Anchorage, Alaska 99501

Dear Mayor Sullivan:

I write today on behalf of my constituents in the Sand Lake Community Council (SLCC) and the South Anchorage Concerned Coalition representing the Sand Lake area of southwest Anchorage, regarding the issuance of a Municipality of Anchorage license to Alaska Sand and Gravel and White Raven Development to place more than half a million cubic yards of fill in the Lucy Pit, in the old Sand Lake Gravel Pit.

As you and I have long recognized, the Pit is a large, deep hole and it is in the best community interest that it be filled. And, before rather than after the fact, it is in the best interest of Sand Lake residents, the Municipality of Anchorage, and communities far beyond our own to demonstrate proactive, "green" public policy to protect and enhance resources that are often irreplaceable. This will be reasonably and efficiently achieved in Sand Lake when the Municipality requires completion of state-of-the-art sentry wells to monitor well- water quality.

The Sand Lake Community Council will issue a Council Resolution, signed by Council President Robert Hayes, based on sound science and carefully reviewed by university and technical authorities. It puts to rest discredited assertions that the sentry wells are unnecessary and concerns are overblown about vulnerability and contamination. The preventive solutions proposed by SLCC are prudent and appropriate, and the Council will support the planned filling of the Lucy Pitt when these conditions are implemented.

Mr. Mayor, the Council Resolution advances these recommendations:

- *Sufficient data are obtained prior to the emplacement of any fill that show that the proposed fill will not contaminate groundwater.*
- *Data are collected prior to the placement of fill to identify the depth, thickness, and lateral extent of all aquifers to a depth of at least 350 feet below land surface on the Lucy Pit property.*

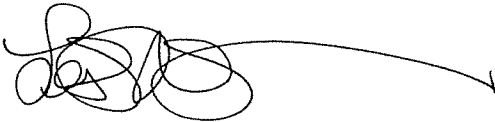
The Honorable Dan Sullivan
September 14, 2009
Page Two

- *Sentry-type groundwater monitoring wells are emplaced in all aquifers identified on the Lucy Pit property in locations that intercept groundwater flow between the Lucy Pit and neighboring wells and are sampled prior to the emplacement of any fill or re-grading activity.*
- *Prior to the emplacement of any fill or re-grading activity, water in the bottom of the Lucy pit is sampled for common water contaminants.*
- *The sentry wells are sampled at least twice yearly for at least five years after the beginning of fill placement and at least biannually thereafter for at least 10 more years, or more frequently if contaminants are detected.*
- *Standard Operating Procedures are put in place that assure inspection of each load of fill to a maximum lift thickness of one foot and documentation that each load of fill contains no prohibited materials or quantities of limited materials outside of specifications.*
- *Alaska Sand and Gravel (AS&G) agrees to work with the Sand Lake Community Council and South Anchorage Concerned Coalition to provide the best assurances possible to Sand Lake Residents that their water is being protected throughout the filling process, and to cooperate on other hydrologic studies that are being conducted.*
- *Should scientific findings determine that private drinking water wells could be impacted, AS&G agrees to delay its plans for filling the Lucy Pit until necessary precautions can be undertaken.*

Mr. Mayor, I submitted a capital budget request last session for the Sand Lake Watershed Drinking Water Studies that would provide funding to map aquifers, plot groundwater flow systems, provide early detection monitoring for contaminants, assess risks to wells and conduct contaminant prevention activities. I continue to aggressively pursue funding resources, and it is my hope that our offices can work together to achieve some form of state funding to continue making progress to provide the residents of Sand Lake the attention and security that they deserve.

I appreciate your time and consideration on this matter and look forward to working with you.

Warmly,

A handwritten signature in black ink, appearing to be "Lesil McGuire", with a long horizontal line extending to the right from the end of the signature.

Senator Lesil McGuire
Anchorage Senate District N

4

APPLICATION

Authorization Certificate

Date: December 14, 2010

Current Project Legal: Kincaid Estates, Tract 1, Plat No. 2003-95

Proposed Legal: Same

Type of Authorization: Conditional Site Plan Application for Planned Unit Development.

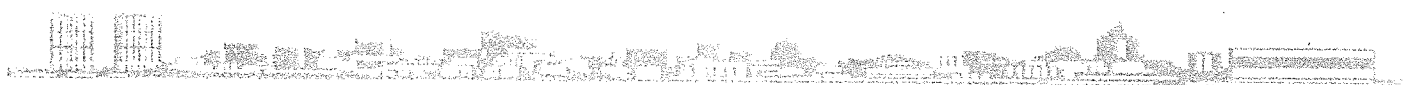
Statement:

I hereby authorize Lantech Inc. and it's agents to represent me in the Conditional Use Application of the above described property.

Thank you,



Owner: TREVOR EDMONDSON
PROJECT DEVELOPMENT MANAGER
THE PETERSEN GROUP



Application for Conditional Use

Municipality of Anchorage
 Planning Department
 PO Box 196650
 Anchorage, AK 99519-6650

Please fill in the information asked for below.



PETITIONER*		PETITIONER REPRESENTATIVE (IF ANY)	
Name (last name first) The Petersen Group		Name (last name first) Lantech Inc	
Mailing Address 3820 Lake Otis Parkway #200		Mailing Address 440 West Benson Blvd	
Anchorage, AK 99508		Anchorage, AK., 99503	
Contact Phone: Day:907-351-7825 Night:		Contact Phone: Day:907-562-5291 Night:	
FAX:		FAX:	
E-mail: tmedmondson@thepetersengroup.biz		E-mail:info@lantechi.com	

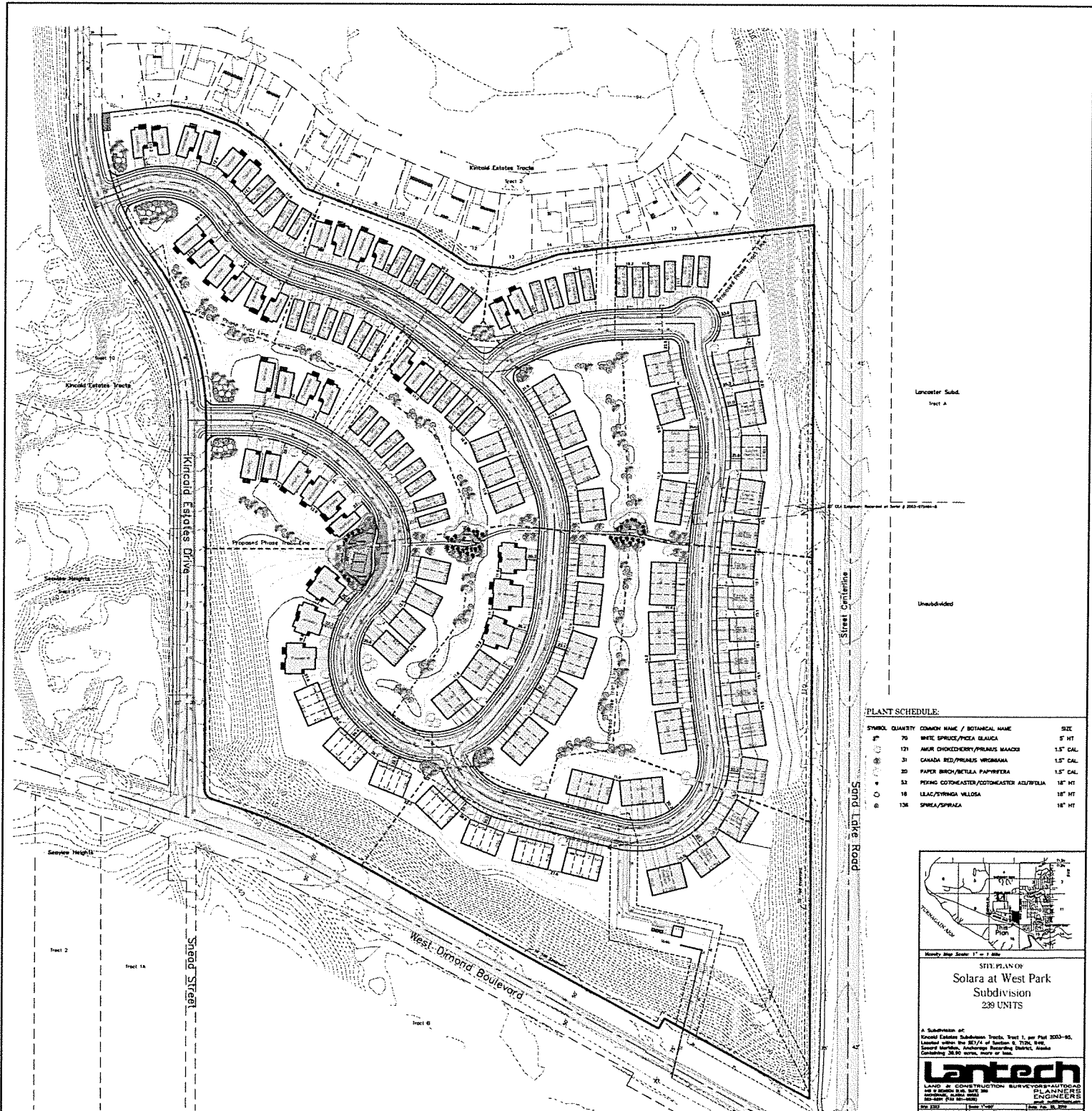
*Report additional petitioners or disclose other co-owners on supplemental form. Failure to divulge other beneficial interest owners may delay processing of this application.

PROPERTY INFORMATION		
Property Tax #(000-000-00-000): 011 291 21 000 1 6		
Site Street Address: 9101 WestPark Drive		
Current legal description: (use additional sheet if necessary) Tract 1, Kincaid Estates, Plat 2003-95		
Zoning:R-1A	Acreage: 39.9	Grid # 2323

CONDITIONAL USE APPROVAL REQUESTED		
Petitioning for:		
Final:	<input checked="" type="checkbox"/> New	<input type="checkbox"/> Amendment
Concept:	<input type="checkbox"/> New	<input type="checkbox"/> Amendment

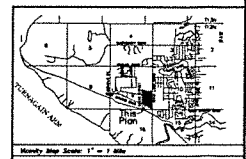
I hereby certify that (I am)(I have been authorized to act for) owner of the property described above and that I petition for a conditional use permit in conformance with Title 21 of the Anchorage Municipal, Code of Ordinances. I understand that payment of the application fee is nonrefundable and is to cover the costs associated with processing this application, and that it does not assure approval of the conditional use. I also

Accepted by: 	Poster & Affidavit: 	Fee: \$ 8,800	Case Number
--	---	---------------	-------------



PLANT SCHEDULE:

SYMBOL	QUANTITY	COMMON NAME / BOTANICAL NAME	SIZE
(Symbol)	70	WHITE SPRUCE/PICEA GLAUCA	5' HT
(Symbol)	121	AMUR CHERRY/PRIANUS MAACOS	1.5' CAL.
(Symbol)	31	CANADA RED/PRIANUS VIRGINIANA	1.5' CAL.
(Symbol)	20	PAPER BIRCH/BETULA PAPERIFERA	1.5' CAL.
(Symbol)	52	PINKING COTONEASTER/COTONEASTER ACUTIFOLIA	18" HT
(Symbol)	18	LIAC/SYRINGA VILLOSA	18" HT
(Symbol)	136	SPirea/SPIRAEA	18" HT



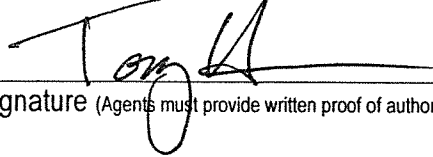
Sheet Scale: 1" = 1' 0"

**SITE PLAN OF
Solara at West Park
Subdivision
230 UNITS**

A. Subdivision of
Kincaid Estates Subdivision, Tracts, Tract 1, per Plat 2003-05,
located within the SE1/4 of Section 6, T12N, R4E,
County of Hamilton, Washington Recording District, Alaska
Containing 26.90 acres, more or less.

Lantech
LAND & CONSTRUCTION SURVEYORS & PLANNERS
ENGINEERS
1000 1st Avenue, Suite 1000, Anchorage, Alaska 99501
907-562-1111
www.lantech.com

understand that assigned hearing dates are tentative and may have to be postponed by Planning Department staff, the Planning and Zoning Commission or the Hearing Officer for administrative reasons.

12/16/10	
Date	Signature (Agents must provide written proof of authorization)

COMPREHENSIVE PLAN INFORMATION

Anchorage 2020 Urban/Rural Services: Urban Rural

Anchorage 2020 West Anchorage Planning Area: Inside Outside

Anchorage 2020 Major Urban Elements: Site is within or abuts:

- Major Employment Center
- Redevelopment/Mixed Use Area
- Town Center
- Neighborhood Commercial Center
- Industrial Center
- Transit - Supportive Development Corridor

Eagle River-Chugiak-Peters Creek Land Use Classification:

- Commercial
- Industrial
- Parks/opens space
- Public Land Institutions
- Marginal land
- Alpine/Slope Affected
- Special Study
- Residential at _____ dwelling units per acre

Girdwood- Turnagain Arm

- Commercial
- Industrial
- Parks/opens space
- Public Land Institutions
- Marginal land
- Alpine/Slope Affected
- Special Study
- Residential at _____ dwelling units per acre

ENVIRONMENTAL INFORMATION (All or portion of site affected)

- Wetland Classification: None "C" "B" "A"
- Avalanche Zone: None Blue Zone Red Zone
- Floodplain: None 100 year 500 year
- Seismic Zone (Harding/Lawson): "1" "2" "3" "4" "5"

RECENT REGULATORY INFORMATION (Events that have occurred in last 5 years for all or portion of site)

- Rezoning - Case Number:
- Preliminary Plat X Final Plat - Case Number(s): S10990
- Conditional Use - Case Number(s):
- Zoning variance - Case Number(s):
- Land Use Enforcement Action for
- Building or Land Use Permit for
- Wetland permit: Army Corp of Engineers Municipality of Anchorage

DOCUMENTATION

- Required:
 - Original, signed application, plus 35 sets of:
 - Site plan to scale depicting: building footprints; parking areas; vehicle and pedestrian circulation; lighting; grading; landscaping; signage; drainage and project location.
 - Building plans to scale depicting: floor plans; building elevations; exterior colors and textures.
 - Completed application and narrative: explaining the project; planning objectives; construction and operation schedule; final ownership; PUD's only: gross and net density; private and common open space areas.
 - Watershed sign off form, completed
 - Ownership and beneficial interest form, completed
- Optional:
 - Air quality impact
 - Traffic impact analysis
 - Economic impact analysis
 - Soils Analysis
 - Noise impact analysis
 - Holding capacity of the land analysis

GENERAL CONDITIONAL USE STANDARDS (AMC 21.50.020)

The Planning and Zoning Commission may only approve the conditional use if the Commission finds that **all** of the following 4 standards are satisfied. Each standard must have a response in as much detail as it takes to explain how your project satisfies the standard. The burden of proof rests with you. Use additional paper if needed.

Explain how the proposed conditional use furthers the goals and policies of the comprehensive development plan and conforms to the comprehensive development plan in the manner required by AMC 21.05.

The proposed Planned Unit Development complies with the Intent of AMC 21.50.130: The building use allows for full use of the available building space, while providing considerable open space: Pedestrian connectivity and maximum efficiency of public services are some of the benefits of clustered density such as this.

Explain how the proposed conditional use conforms to the standards for that use in this title and regulations promulgated under this title.

The P.U.D. concept design proposes single family residences only. It complies with building types, uses and densities in the Anchorage Comprehensive plan, as well as the 2020 Comprehensive Plan.

Explain how the proposed conditional use will be compatible with existing and planned land uses in the surrounding neighborhood and with the intent of its use district.

The zoning of the entire WestPark Community and that of this Planned Unit Development are both Residential, and thus compatible uses.

Explain how the proposed conditional use will not have a permanent negative impact on the items listed below substantially greater than that anticipated from permitted development:

1. Pedestrian and vehicular traffic circulation and safety.

Attached sidewalks on both sides of the internal street create a pedestrian friendly neighborhood. Additionally, the internal sidewalks connect directly to the separated pathways along WestPark Drive, creating connectivity to the surrounding subdivisions and the bike paths on Dimond Blvd and Sand Lake Road.

2. The demand for and availability of public services and facilities.

New Improvements and utilities will be constructed to serve this development. Coupled with the existing utilities already in place on the property, the demand for public services and facilities will be easily met.

3. Noise, air, water or other forms of environmental pollution.

Since the nature of this development (Residential) is the same as that allowed by the existing zoning, there will be no additional impacts to environmental pollution.

4. The maintenance of compatible and efficient development patterns and land use intensities.

The land development patterns in the area are residential, and the WestPark development has been under developed. One of the guiding principles of Anchorage 2020 is efficient use of land, and increase of density near transportation corridors. This development meets those goals, and is in line with residential development.

CONDITIONAL USE STANDARDS (AMC 21.50)

Certain conditional uses have detailed standards that relate only to that type of conditional use. When there are detailed standards the Planning and Zoning Commission may only approve the conditional use if the Commission finds that **all** general standards listed in the previous section and detailed standards listed for that conditional use in AMC 21.50 are satisfied. Each detailed standard must have a response in as much detail as it takes to explain how your project satisfies the standard. The burden of proof rests with you. Use additional paper if needed.

See project narrative



Planned Unit Development

Narrative Addendum

Introduction:

This narrative is a follow up to the application submitted by The Petersen Group Inc. (TPG) in December, 2010, for a planned Unit Development (MOA P&Z case 2011-013). Since the initial submittal, the project team met with Municipal Department Planning Staff on January 18, 2011 at a project post application meeting, and some comments and questions were brought up by staff personnel about aspects of the project layout design and building concepts. This narrative and supplemental site plan overlays have been prepared to clarify those questions and comments.

Open Space:

The open space on the original site plan depicted some areas that were less than 30' in width (particularly between the building pads). The "Open Space Exhibit" submitted with this narrative has eliminated all open space areas less than 30' in dimension. While the open space compliance of this project is well within the guidelines set forth for Planned Unit Developments, it is still important to visually display that compliance. Following is the code citation(s) that outline that conformity, and have the relevant project square footage inserted to demonstrate this projects compliance:

21.35.020 (DEFINITIONS)

Open space means those areas of a subdivision, planned unit development or condominium that are not occupied by structures. Open space may include parkland, play areas, walkways, trails and streets. The open space may be common open space or private, or a combination thereof, and may be devoted to active or passive use. Open space may be formally landscaped or retained as natural vegetation.

B. Usable open space means open space within a proposed development site, excluding areas devoted to roadways and parking. Unless otherwise specified in this Title, at least one-half of all areas designated as usable open space must have a slope of less than 20 percent (397,935 S.F. SHOWN, 384,305 S.F. MINIMUM). The space may be common or private.

Solara at WestPark Planned Unit Development *Narrative Addendum*

21.50.130 (P.U.D. REQUIREMENTS)

Open Space. A minimum of 30 percent of the site shall be reserved as usable open space (768,610 S.F. SHOWN, 521,413 S.F. MINIMUM). At least one-half of such usable open space shall be contiguous (530,339 S.F. SHOWN, 384,305 S.F. MINIMUM), and no portion of the required open space may be less than 2,000 square feet in area or less than 30 feet in its smallest dimension. A minimum of 12 percent and a maximum of 50 percent of required open space shall consist of yards which shall be reserved for the residents of individual dwellings (199,086 S.F. SHOWN, 92,233 S.F. MINIMUM, 384,305 S.F. MAXIMUM). In multistory buildings, balconies or decks may be used in lieu of yards provided that the total area of all balconies or decks in not less than the total yard area which would otherwise be required. Uses in the R-10 zone shall, in addition, conform to the maximum coverage requirements of that use district.

Parking:

Another concern the Municipal staff has shown is parking. It has been commented that there may not be enough parking in the development, and that additional parking may be required. To address that comment, a parking analysis has been conducted on Phases One and Five, to evaluate that concern. Phase One was evaluated, because that will be the first phase built, and there is a variety of all housing types in that phase (single family, duplex, triplex and fourplex styles). Phase Five was evaluated because there are mostly fourplex units in that phase. Following is the analysis:

	REQUIRED PARKING	EXISTING PARKING (See note 1 below)
PHASE # 1		
(16) Single Family	40	48
(6) Duplex	30	40
(5) Fourplex	44	52
On Street Parking		15
SUBTOTAL	111	
15% Overflow	17	
TOTAL Required	131	155
PHASE # 5		
(3) Triplex	23	18
(8) Duplex	40	64
(11) Fourplex	95	112
On Street Parking		17
SUBTOTAL	158	
15% Overflow	24	
TOTAL Required	181	211

Note #1: Tandem (2 car) Garages are counted as SINGLE CAR, not two. Because the majority of the single family homes, and the duplexes in Phase One, have two car garages, a surplus of parking quickly develops. Additionally, because the roads are built to FULL ROAD STANDARDS, on street parking will be provided. These on street parking are demonstrated on the revised site plan. As finalized construction and building plans are submitted

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Planned Unit Development

Narrative Addendum

for review, the calculations for each phase will be provided for review by the appropriate Municipal Department.

Building layout:

Some concerns regarding the code requirement for building separation (21.50.130 C.5.d) have arisen. To address these concerns, the revised site plan submitted with this narrative depicts *potential* actual building footprints that demonstrate conformance to this standard. While these are not final designs, or the building plans may change, this layout does indicate that building separation compliance can be met.

Since the three story duplex buildings along the east portion of the project will be built into the graded hillside, those separations will be appropriately adjusted to comply.

Landscaping:

To address staffs concern regarding landscaping, we have developed a preliminary assessment of the landscaping that will be installed for the project. The developer will install a minimum of 3 trees per building on the overall project. Additionally, three shrubs will be installed for every tree. The landscape layout shown on the revised site plan demonstrates the number of trees that could be installed at final build out. To ensure compliance with this commitment, the developer will provide a final landscape plan for each phase, to be reviewed by staff.

On Sand Lake Road and Dimond Boulevard, the existing vegetation will remain in place, and will serve as buffer landscaping. On the portion of the project along Sand Lake Road that is not naturally vegetated, the developer will install the appropriate number of trees **during Phase Four Development**, to fill in the buffer landscaping. The existing vegetation is depicted on the attached exhibit

Trail Connectivity:

The revised site plan depicts a trail connection to the south boundary of WestPark Subdivision Addition 2A (or this projects north boundary). While no trail connection has been established in Addition 2A, we feel that creating this connection will eventually enhance the overall connectivity of the WestPark community (once the other connection is made).

Fire Entrance:

The Municipal Fire Department Planning staff has requested a minimum of a 20' wide lane at the entrance for each lane at the two ingress and egress locations. That design modification has been made, and is shown on the revised site plan.

Airport Noise:

The municipal staff has addressed concerns about the Ted Stevens Airport noise effects will have on the residents of the development. Since the other building construction in WestPark has continued without any special regard or restrictions to noise abatement, there should be no special restrictions placed on this development not imposed on those other developments in WestPark, as well as those neighborhoods closer to the airport. However, we do agree that the plat note regarding the Airport Noise placed on the other WestPark Subdivisions is relevant, and we agree to place that note in the Homeowners documents. It is as follows:

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The subject property is located within the Anchorage International Airport's LDN noise contours, and is subject to present and future noise which may be bothersome to users of the property. These noise contours are based on average annual aircraft noise levels: during times when aircraft are overflying this area the actual noise exposure may exceed these levels. These noise impacts may change over time by virtue of: greater numbers of aircraft departures and arrivals; louder aircraft; seasonal and time of day variations; changes in airport, aircraft and air traffic control operating procedures; airport layout changes; and changes in the property owner's personal perceptions to the noise exposure and his/her sensitivity to aircraft noise.

Snow Storage:

Staff has also brought up concerns regarding the adequacy of snow storage. The site plan has specifically delineated temporary snow storage areas. Snow haul will be provided by the developments homeowners association. A final copy of the Homeowners Association documents will be provided for review to the Municipality for snow storage and haul adequacy for each phase of development. Additionally, per A.M.C. 21.45.220 C.2.f (*Townhouse Developments, lot and development requirement*), the site plan has more than enough building setback along the road to comply with a 10' snow storage area behind the back of curb.

Conclusion:

With this narrative and the site plans listed below, we feel that all the comments and concerns voiced by staff have been adequately addressed.

Submitted Project Plans and Documents:

The following maps and documents are submitted as part of this addendum to the original application:

Sand Lake Road Existing Vegetation Exhibit, dated 1-21-11

REVISED Site/Landscape Plan, dated 1-20-11

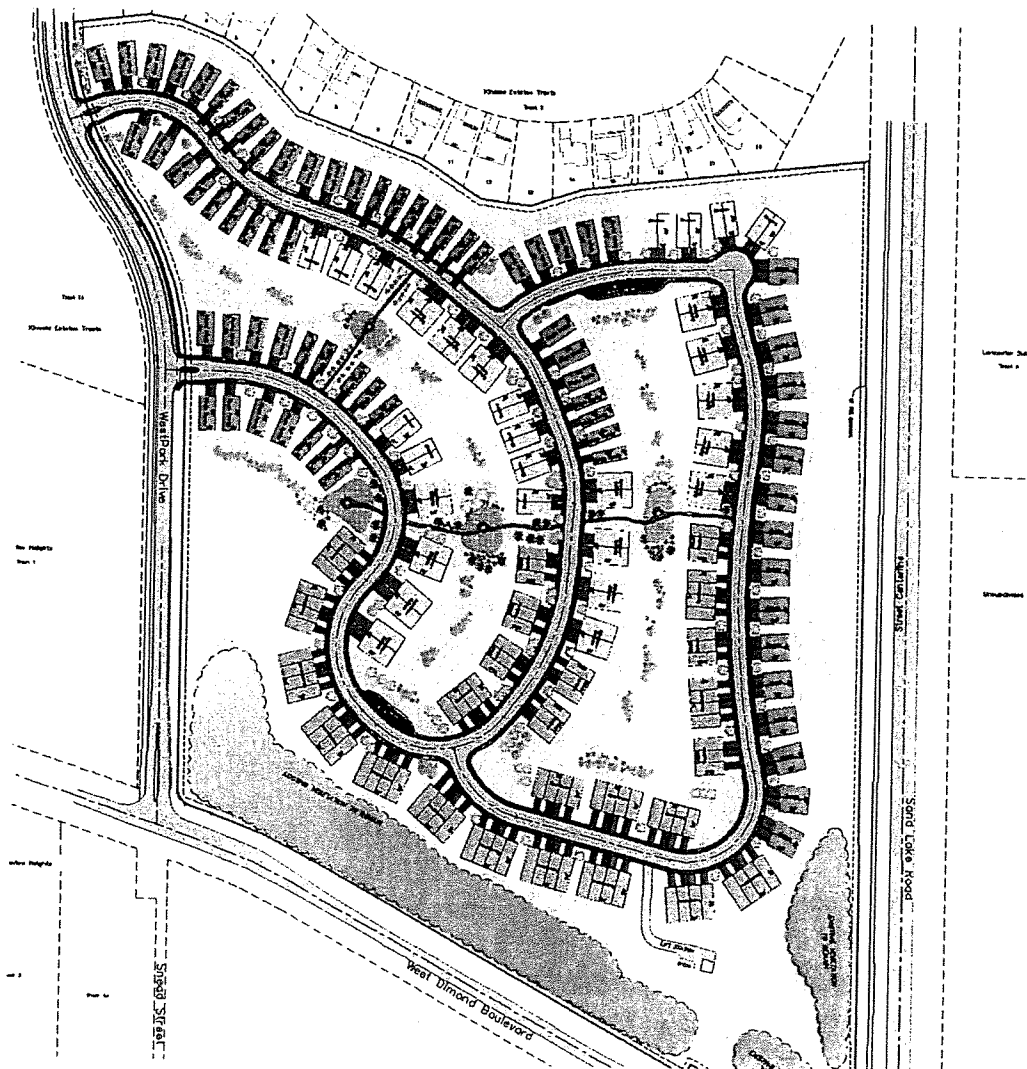
REVISED Open Space Plan, dated 1-20-11

Solara

at WestPark

Planned Unit Development

Narrative



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Planned Unit Development Narrative

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Proposal:

The Petersen Group Inc. (TPG) is requesting that the Municipality of Anchorage Planning and Zoning Commission review the following narrative and attached project maps and documents for our proposed Planned Unit Development of Kincaid Estates, Tract 1 (MOA Parcel I.D.# 011-123-01-000). We are requesting review and approval under A.M.C. 21.50.130.

The proposed development is for 239 units, which creates a density of 5.98 dwelling units per acre. This qualifies for the maximum allowed density of the existing R-1A zoning¹.

The development of the property will be governed by A.M.C.R. 21.80. All roads will be privately owned and maintained.

The property owner and developer is TPG. The project engineer is Triad Engineering, and the surveyor/planner is Lantech, Inc.

Overview:

The Kincaid Estates Tract 1 Planned Unit Development (P.U.D.) is a planned residential community of 239 single-family homes on 39.9 acres of undeveloped property. The property is presently owned and managed by TPG.

The current legal description of the parcel involved in the proposal is Tract "1", Kincaid Estates Subdivision, Plat 2003-95 .

¹ A.M.C. 21.50.130 C.1.

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Planned Unit Development Narrative

The original application for Kincaid Estates Subdivision (S-10990) was originally submitted in September, 2002. After multiple appeals to the Platting Board, the Board of Adjustments and finally the State Supreme Court, the deadline for the currently approved plat is December, 2013. This proposal is for a Planned Unit Development, utilizing the design criteria and building concepts proposed herein. The original road geometry and design set forth in the Platting Case (S-10990) will be mostly utilized, as some of the existing WestPark Development utilities reside within those corridors. The two points of ingress and egress are on WestPark Drive, a 70 foot wide collector standard road.

The building concept currently is configured for approximately 7.30 acres of building unit "footprint" space, with 125 buildings planned. The proposed building mix is as follows: 53 single family homes, 47 duplexes, 8 triplexes and 17 four plexes, for a total of 239 single family units in 125 buildings. The current plan has 22.4 acres of open space, as defined by AMC 21.35.020. There is 6.06 acres of impervious coverage (asphalt, sidewalk and curb).

The community will be a shared common cost community governed by a Homeowners Association. The Homeowners Association will be responsible for snow removal, road maintenance, grounds maintenance, and exterior home maintenance.

The development consists of single family homes and townhouses arranged in duplex, triplex, and fourplex configurations. The architecture to all the buildings will be craftsman styling which will create uniformity throughout the development. The development was laid out with considerations for density, building mass, building heights, and the flow from single family homes to the duplex, triplex, and fourplex townhomes. The building types were arranged in pods to create the feeling of a village within the development. Although there is a proposed increase in the approved density for this project, significant open spaces and amenities were designed into the development to enhance the village concept of the development and to provide areas for the entire neighborhood to enjoy. Sidewalks, trails, pocket parks and playgrounds will be built throughout the development to provide the neighborhood with areas to walk, sit, and recreate. Large open areas were also incorporated into the design to increase the openness of the development. Additionally, mounding and landscaping will be used to provide visual buffers that will reduce the impact of the building density within the development.

Zoning Density Comparison:

The zoning of the subject property and surrounding properties is currently R-1A. The zoning and currently approved subdivision layout (S-10990) provides for 113 single family homes in Tract One. In a conventional single lot subdivision, homes can be developed on single family lots without restriction to size, as long as they conform to the existing zoning lot coverage, building height and setback restrictions. *By requiring conformance to this proposed site plan*, the building size, type and overall ground coverage can be regulated.

PUD versus Conventional:

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Planned Unit Development Narrative

The likely building footprint coverage of an R-1A subdivision on the 113 lots currently approved in Tract 1 would be approximately 259,900² square feet, while the proposed site plan creates a total building footprint of 318,197 s.f. This kind of increased “clustering” provides more efficient use of transportation infrastructure, pedestrian connectivity, and better utilization of public services (school services, public utilities, emergency services, etc.), as well as providing for more common open space.

Additionally, much of the overall density and building units originally approved by the Platting Board for WestPark will never be realized. The approved West Park Subdivision, originally known as Kincaid Estates and approved in December of 2002, had a total of 670 single family lots and 80 duplex lots for a total of 830 dwelling units. Since that time, the school district has purchased Tract 8A and 9A (*see Zoning Exhibits 1-3*) which originally showed 127 single family and 30 duplex lots for a total of 187 units. In addition to the school site purchase, there were 46 lots approved within Tract 10, the pond area, which now is being left as open space. The 7 duplex lots within Tract 7A have also recently been removed from development and will be left as open space after being filled. The total reduction of units due to the school site purchase as well as the pond area and Tract 7A being left as open space is 247. Comparing the reduction of 247 units to the proposed PUD increase of 126 units results in an overall decrease of 121 units from the original plat approval.

The progression of changes in the total number of units since the original approval is as follows.

- Original December 2002 Approval: 830 units
- Total after School Site Purchase: 643 units
- Total after removal of Tract 10: 597 units
- Total after removal of Tract 7A: 583 units
- Total with Proposed PUD: 709 units

Utility, Road Improvements and Drainage:

The water, sewer and storm drain lines will be constructed in 5 phases between 2011 and 2021, as shown on the attached phasing plan. All main utility lines will be constructed within utility easements, and will become the property of the Municipality of Anchorage Water and Wastewater Utility upon completion. The sewer and water connections for the each individual house will be installed, and “stubbed” for connection when the individual buildings are constructed.

As part of the initial infrastructure development of WestPark Subdivision (during 2005-2007), many of the needed utility mains necessary for this project were constructed. Water, sewer and storm drain lines were constructed through Tract 1. A sewage lift station was built in the southeast corner of the property, which transmits the sewage from the development into the AWWU sewer lines on Dimond Boulevard. In addition, a 24” HDPE storm drain line was horizontally bored from the southeast corner of Tract 1, under Dimond Boulevard, south to Turnagain Arm to carry the storm water from the development to Cook Inlet to provide gravity flow of the surface drainage and therefore avoiding a stormwater lift station. A water line was

² Assuming a typical footprint of 2,300 s.f. per single family residence.

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Planned Unit Development Narrative

built from the intersection of Sand Lake and Dimond Boulevard through Tract 1, and extend up to Kincaid Road. All of these existing utilities will be utilized as part of this development's infrastructure.

The planned homes will all be serviced with conventional, public water and sewer connections. The sewer and water will connect into the existing water and sewer systems maintained and owned by the Anchorage Water and Wastewater Utility.

As stated previously, 2,531 l.f. of sewer pipe exists on site, and will be utilized on this project. An additional 2,066 l.f. new sewer line will be installed at the total build out of this project. Additionally, approximately 39 manholes will be on the property at completion. The new construction will tie into the existing sewer line which runs through the project, from WestPark Drive to the lift station at the southeast corner of the Tract.

Water line construction will entail construction of approximately 3,367 l.f. of new water improvements. This will augment the existing 2,320 l.f. of waterline that is currently in place, running from WestPark Drive to the southeast corner of the property.

The street section proposed will be 26 foot wide AC pavement, with Type 2 rolled curb and gutter on both sides. This matches the street section throughout WestPark. Approximately 4,760 linear feet of new road will be constructed for the development. Attached five foot wide sidewalks will be constructed adjacent to the road for local pedestrian use.

A combination of storm drain lines and curb and gutter will drain the surface water out of the subdivision to the southeast corner of the property. 316 l.f. of new storm drain pipe will be added to the existing 3,421 l.f. of existing storm drain to carry the surface drainage, by gravity, out of the development to Turnagain Arm. In addition, a total of 11 new curb inlet manholes and 3 new storm drain manholes will be installed to provide the necessary surface drainage management. "Beehive" style catch basin manholes will be installed in snow storage and open space areas, as necessary, to channel the snow melt into the storm system. No footing drains are anticipated to be required. This has been the experience throughout the existing WestPark development. However, the proposed storm drain is capable of accommodating footing drains if the need arises.

The surface drainage water will be treated several in line "stormceptors", strategically located along the storm drain alignment. Snow removal within the development will be performed by the Homeowners Association. Temporary snow storage sites in the development will be provided as shown on the site plan, and snow will be removed as necessary.

Landscaping:

As much of the existing vegetation will be preserved and retained as possible during all construction phases, particularly along the southern and southeastern slope, where the vegetation provides natural slope stabilization as well as buffering from Dimond Boulevard and Sand Lake Road. Additional vegetation and landscaping will be provided to enhance the native flora. See the Site Plan for details regarding new plant and existing vegetation retention.

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Planned Unit Development Narrative

Landscaping, park, and trail amenities will be constructed throughout the site in common open spaces as shown in the attached site plan. The trails and sidewalks within the proposed development will be connected to the existing WestPark pedestrian system. Landscaping will also be installed between buildings to provide buffers and visual enhancement. Mounding will be constructed in the large common open space as shown on the plans to provide visual buffer between units and visual enhancement to the common open spaces, pocket parks and trail system.

Once the site plan application has been approved by the Municipality, TPG will produce a full, detailed landscape plan developed by a professional landscape architect for approval *by the Municipal Planning Staff*. The final plan will essentially follow the landscaping and clustering shown on the submitted site plan. It is anticipated that TPG will establish a tree and shrub nursery on the south eastern portion of the property. The intent is to be able to initially plant more larger and healthy trees as development progresses.

Building Construction:

The homes will be conventional wood frame townhouse style structures, with dwelling unit sizes that range from 1,400 SF to 2,300 S.F.. The building construction will occur in five phases, each phase taking two to five years to complete, depending on the housing market. Each phase will entail construction of 38-69 units (22-34 structures) again depending on sales. Approval of the final plot plan for each phase of construction will be **administratively** approved by the appropriate departments of the Municipality of Anchorage.

The attached site plans, engineering and grading plans and building floor plans provide enough specifics for approval under A.M.C. 21.50.130. While the final building designs submitted for permitting may vary slightly, the projects final building density will not exceed that presented on this layout.

Building Colors

Solara building exteriors will primarily be lap vinyl siding with some variations primarily on front elevations in the form of vinyl vertical board and batten and shakes. Cultured stone wainscoting, columns and decorative details such as trusses, dental and corbels shall be used and applied to distinguish buildings and lend an overall craftsman style that will ultimately contribute to a cohesive neighborhood look and feel. Fascia, belly bands and exterior trim will generally be white. Body colors will generally be limited to muted earth tone and natural colors with some vibrant accents on front elevations. Examples are represented here on the various plan renderings enclosed and shall be similar to our exterior finishes currently being built in our Clearwater at Creekside and Discovery Park projects. *See Building Elevations.*

Building Schedule and Phasing

See attached Spreadsheet

Solara at WestPark

Planned Unit Development Narrative

Conformance with A.M.C. 21.50.130: Conditional Use Standards- Planned Unit Development

- A. *Intent*: By clustering the development as shown, and designing a “mix” of single family building types, we have complied with the intent of this section. By nature, this development is harmonious within itself, and compatible with the adjacent development patterns and building types.
- B. *General Provisions*:
1. *Minimum Site Area*: 39.9 acres exceeds the minimum 2.0 acres.
 2. *Grading Plan*: See the attached grading, drainage and utility plan, by Triad Engineering
 3. *Traffic Access*: The internal circulation is compliant with the guidelines set forth by municipal code, and the plan is subject to full review by the Municipal Traffic Engineer.
 4. *Utility Installation*: See the attached grading, drainage and utility plan, by Triad Engineering. All utilities will be installed below ground.
 5. *Conformance with comprehensive plan*: The proposed development is consistent with the Goals, Policies and objectives of the Anchorage Bowl Comprehensive Plan, as well as the 2020 Comprehensive Plan.
 6. *Landscaping*: All areas not devoted to building or other authorized approved improvements will be landscaped, or will be left in the original, undisturbed condition.
 7. *Fire Safety*: The Fire Department will have full review authority for conformance to the applicable Fire and Safety Codes.
- C. *Residential Planned Unit Developments*.
1. *Density*: The density of dwelling units planned in this development (5.99) is under the maximum allowed in the R-1A zone (6.0) by the P.U.D. standard.
 2. *Open Space*: Approximately 22.0 acres of the site is USABLE OPEN SPACE⁴, as defined by A.M.C. 21.35.020 which is well above the minimum as required by the P.U.D. standard for this sized Tract (11.97 acres, or 30%). Approx 4.79 acres of the open space is reserved as yards for the residents of the individual residents, which is 26% of the USABLE OPEN SPACE, and falls within the 12%-50% required for yards by the P.U.D. standard.
 3. *Height Limitations*: All buildings are less than 35 feet in height, as allowed by the P.U.D. standard for this zone.
 4. *Uses*: All the uses in this development are those permitted as residential and accessory uses.
 5. *Design*:
 - a. All uses proposed in this development are *residential* in nature and function.
 - b. *Pedestrian Paths*: As shown on the attached site plan, pedestrian circulation and connectivity have been designed into the development, allowing residents to access the separated walkways on WestPark Drive.
 - c. *Buffer Landscaping*, or the equivalent of natural vegetation, will be in place along WestPark Drive, Dimond Boulevard and Sand Lake Road.

⁴ As defined by A.M.C. 21.35.020

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Planned Unit Development Narrative

- d. *Building Separation*: All building footprints proposed meet the separation requirement (one half the height of the taller of the two adjacent buildings).
 - e. *Walls and ceiling floor assemblies* (see attached building plans)
 - f. *Parking stall electrical outlets*: All the required outdoor parking will either be adjacent to the buildings, or will have outlets available.
6. *Homeowner's agreements*: See attached homeowner documents.

Proposed P.U.D. Guidelines:

This narrative and the proposed site plan create the necessary guidelines and construction specifications that will allow the P.U.D. to be constructed in phases. Each of the phases building plans, utility and drainage improvement plans will be *administratively approved* by the Municipality of Anchorage personnel. This narrative is supplemented by the plans submitted with this document. Inevitably, there will be slight variations in building design styles as the phases are developed. However, the P.U.D.'s general development plan, housing density, and land use plan set forth and described herein will not change substantially as the development progresses.

Submitted Project Plans and Documents:

The following maps and documents are submitted as part of this application:

Narrative

Site Plan Application, Owner Authorization

Site Plan(s) each separately depicting the following:

Building layout, general road layout, landscaping and overall concept

Phasing and Snow Storage

Zoning Exhibits 1-3

Existing Site Condition and Topography Map with aerial overlay

Grading and Drainage Plan by Triad Engineering

Utility Plan by Triad Engineering

Concept Building Plans

Building Elevations with Color

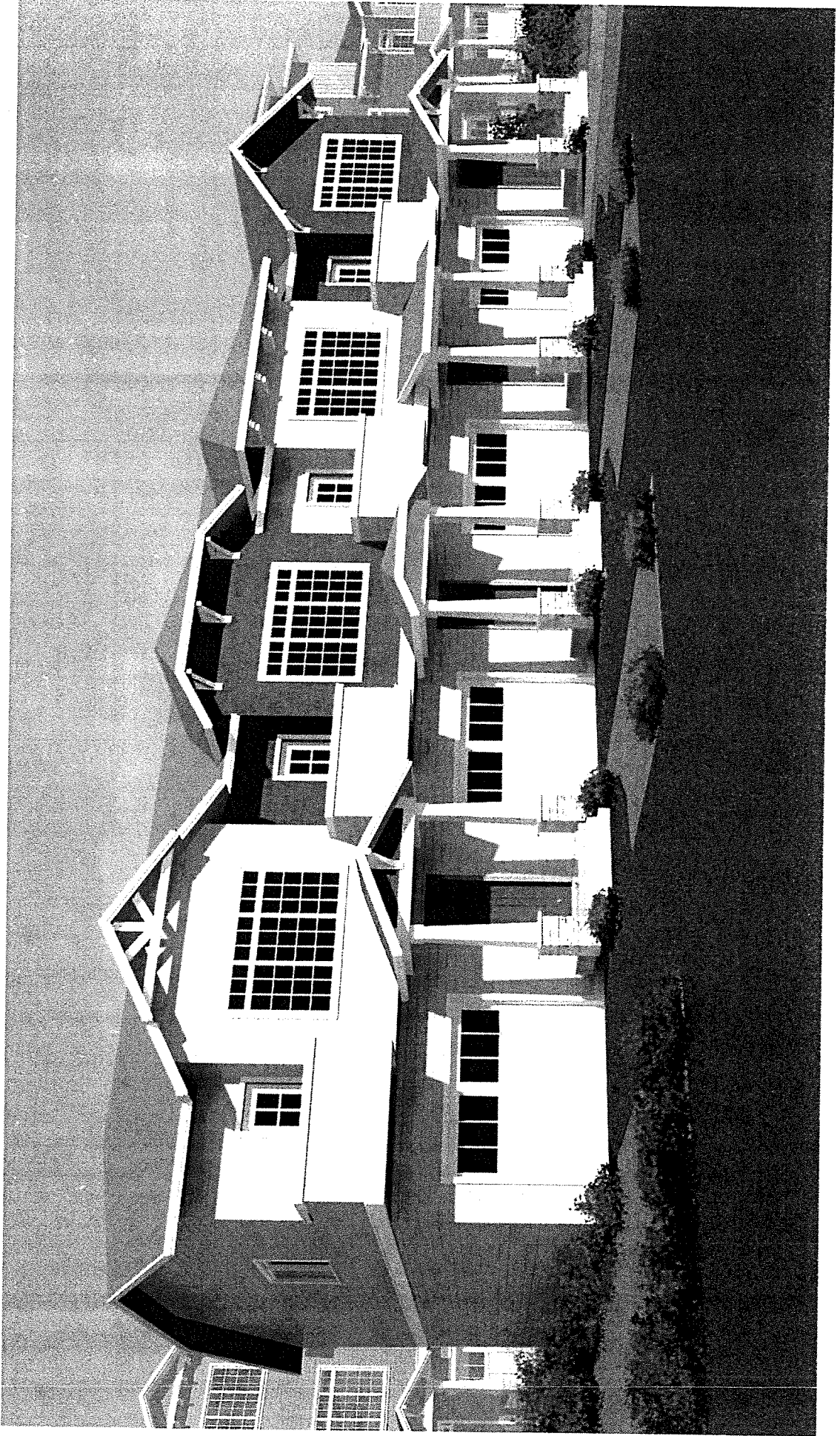
Preliminary Homeowner Documents

Traffic Impact Update report

Building Schedule with Phasing Spreadsheet

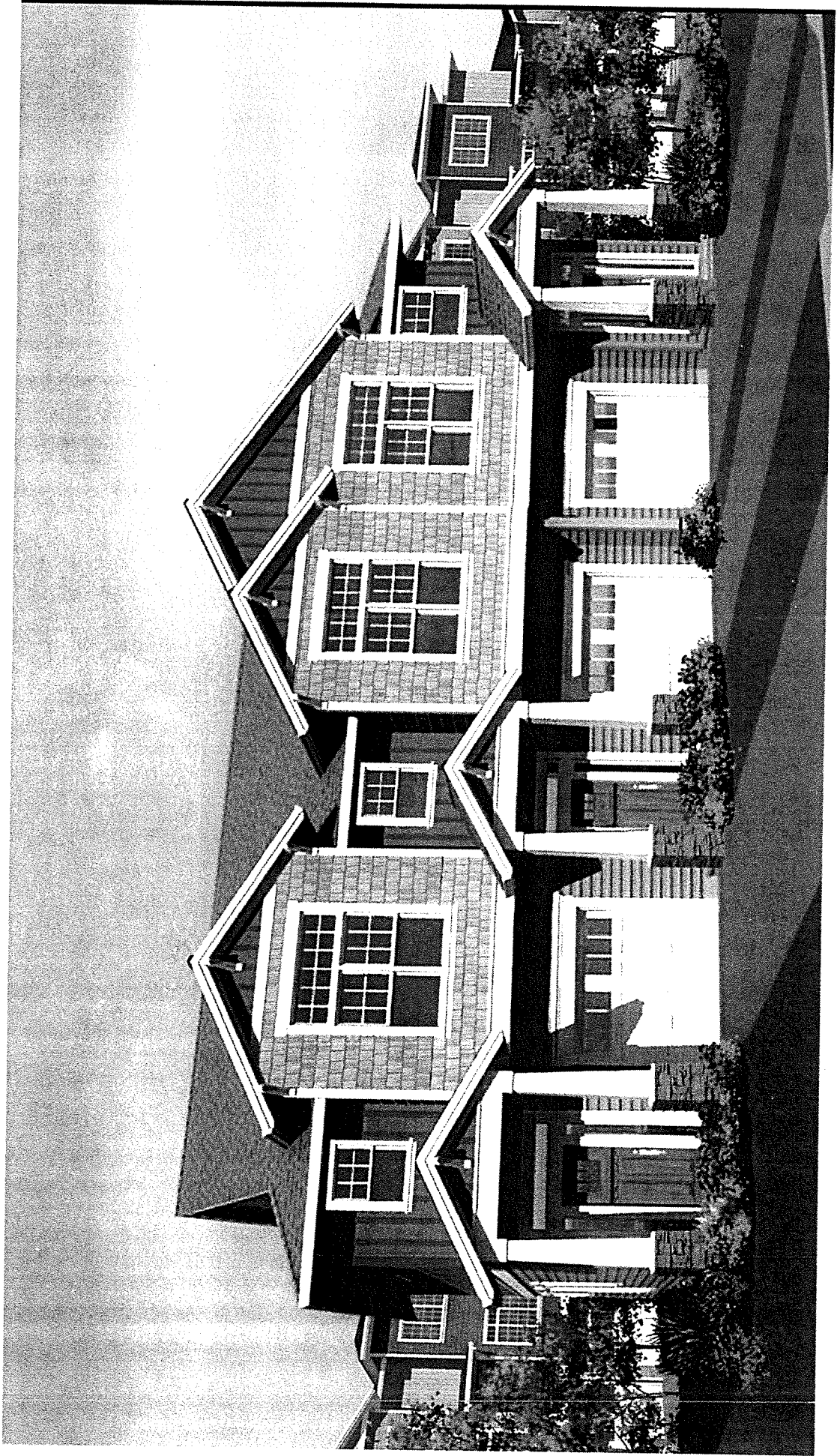
Spectrum

2 Bedroom, 2 Bath & Den
Single car garage
1,504 SF



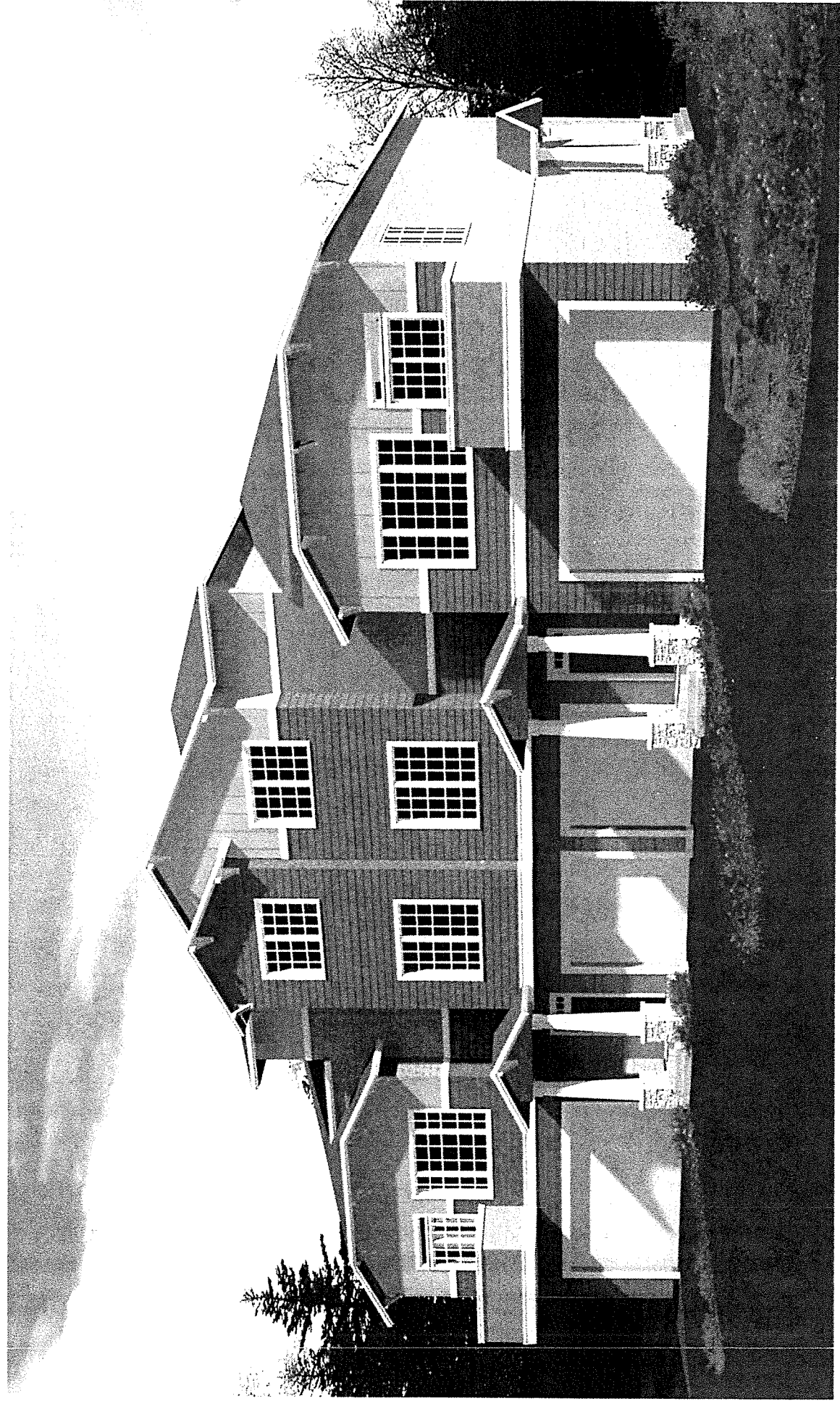
3 Bedroom, 2 1/2 Bath
Single car garage
1,629 SF

Equinox



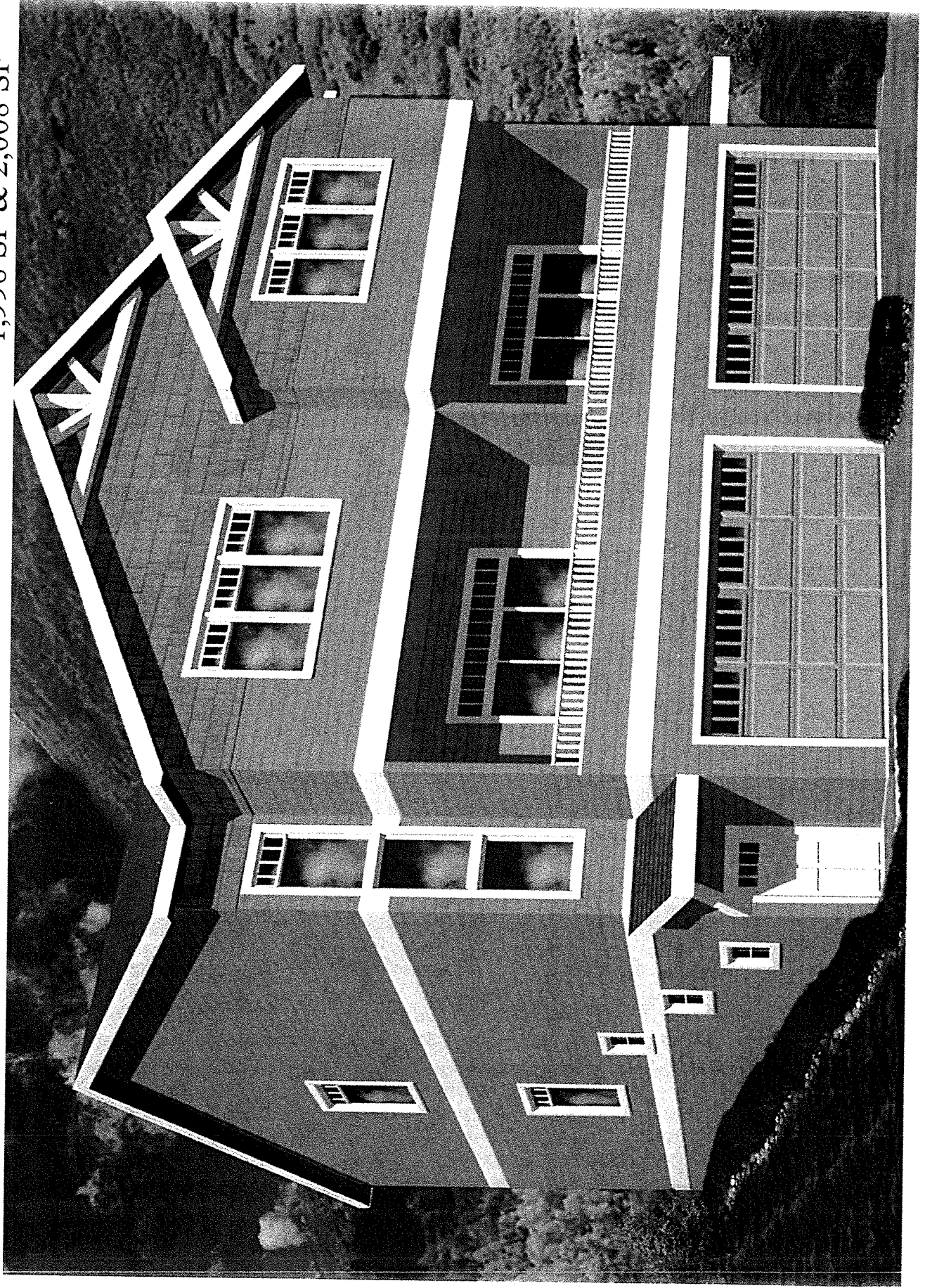
Prominence

3 Bedroom, 2 1/2 Bath
Tandem / Double car garage
1,402 SF & 1,739 SF



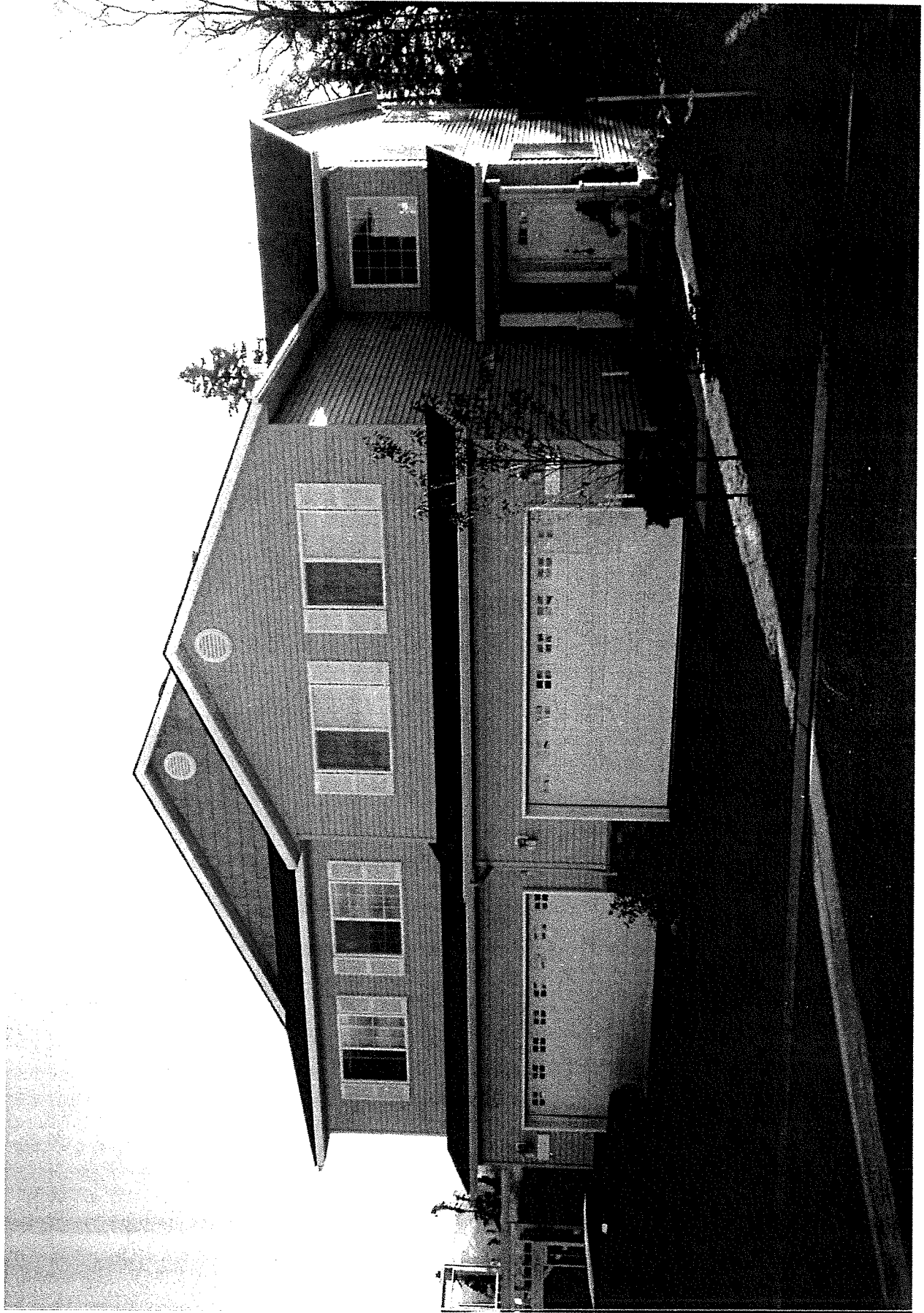
Aurora

3 Bedroom, 2 ½ Bath
Quad garage
1,998 SF & 2,008 SF



Eclipse

3 Bedroom, 2 1/2 Bath
Double car garage
1,835 SF



3 Bedroom, 2 / 2 ½ Bath
Single car garage
1,676 SF & 1,674 SF

Shadow



Sunset

3 Bedroom, 2 Bath
Single car garage
1,702 SF



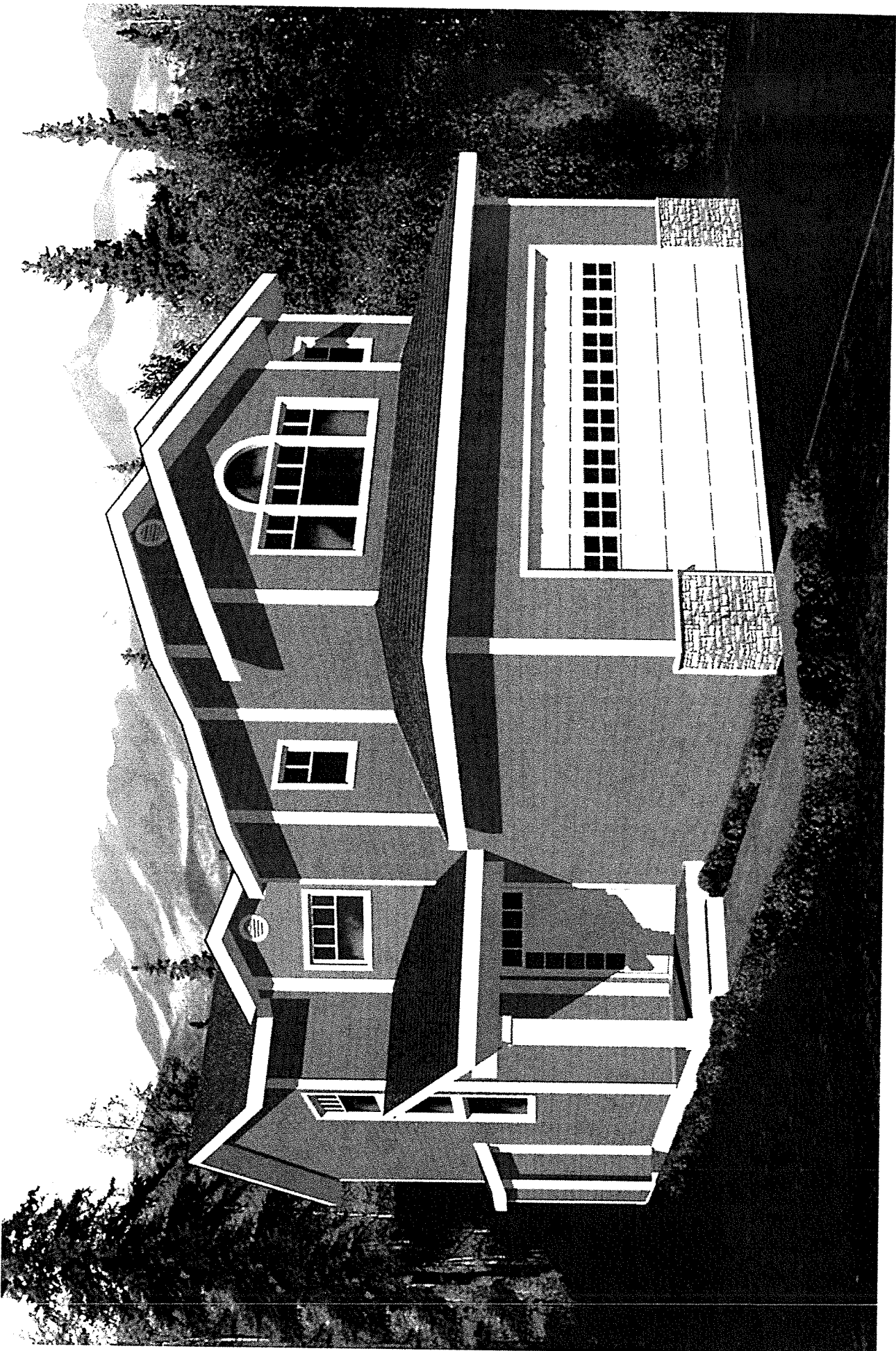
Sunrise

3 Bedroom, 2 1/2 Bath
Single car garage
1,676 SF



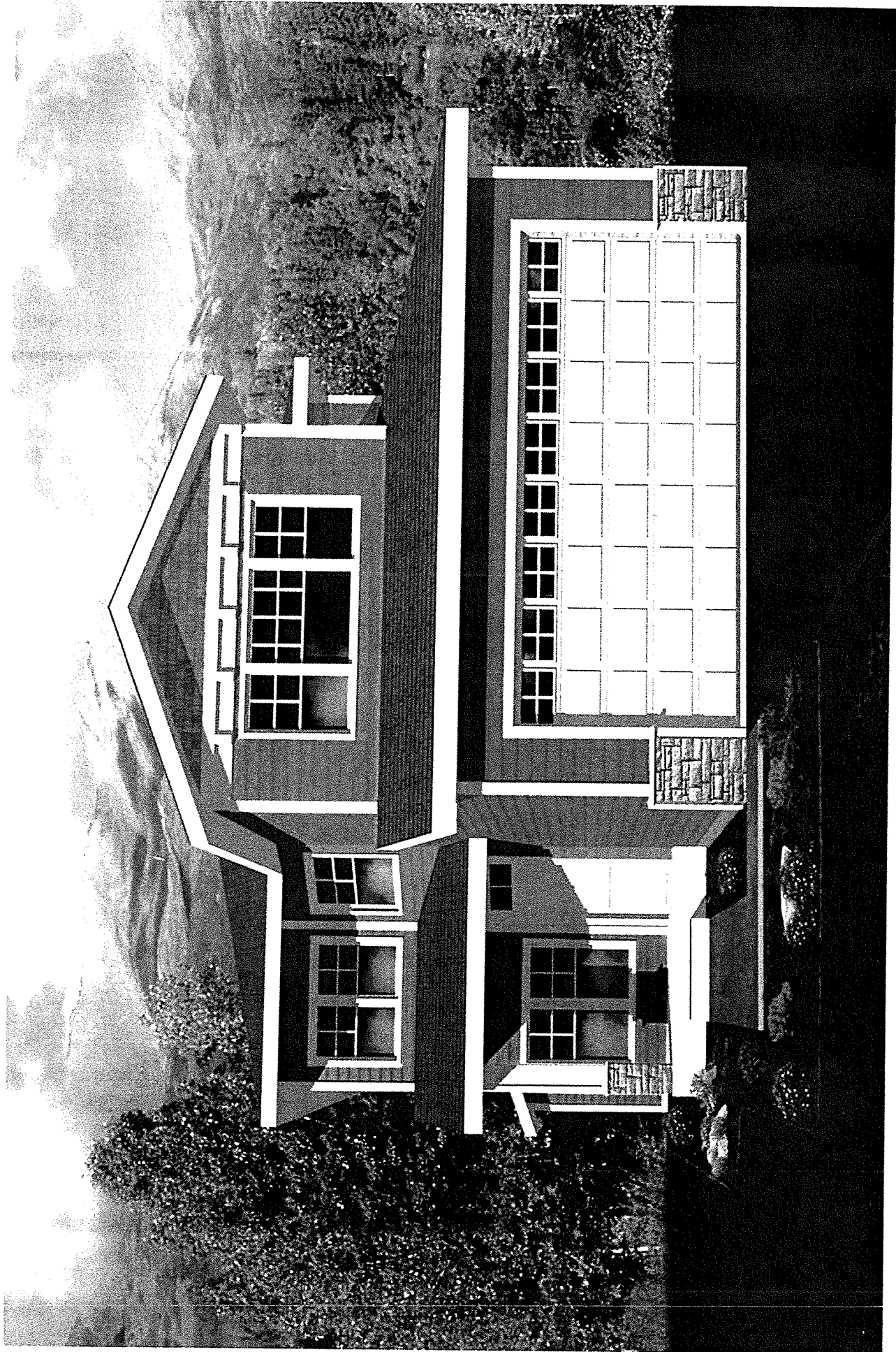
Halo

3 Bedroom, 2 1/2 Bath
Double car garage
1,893 SF



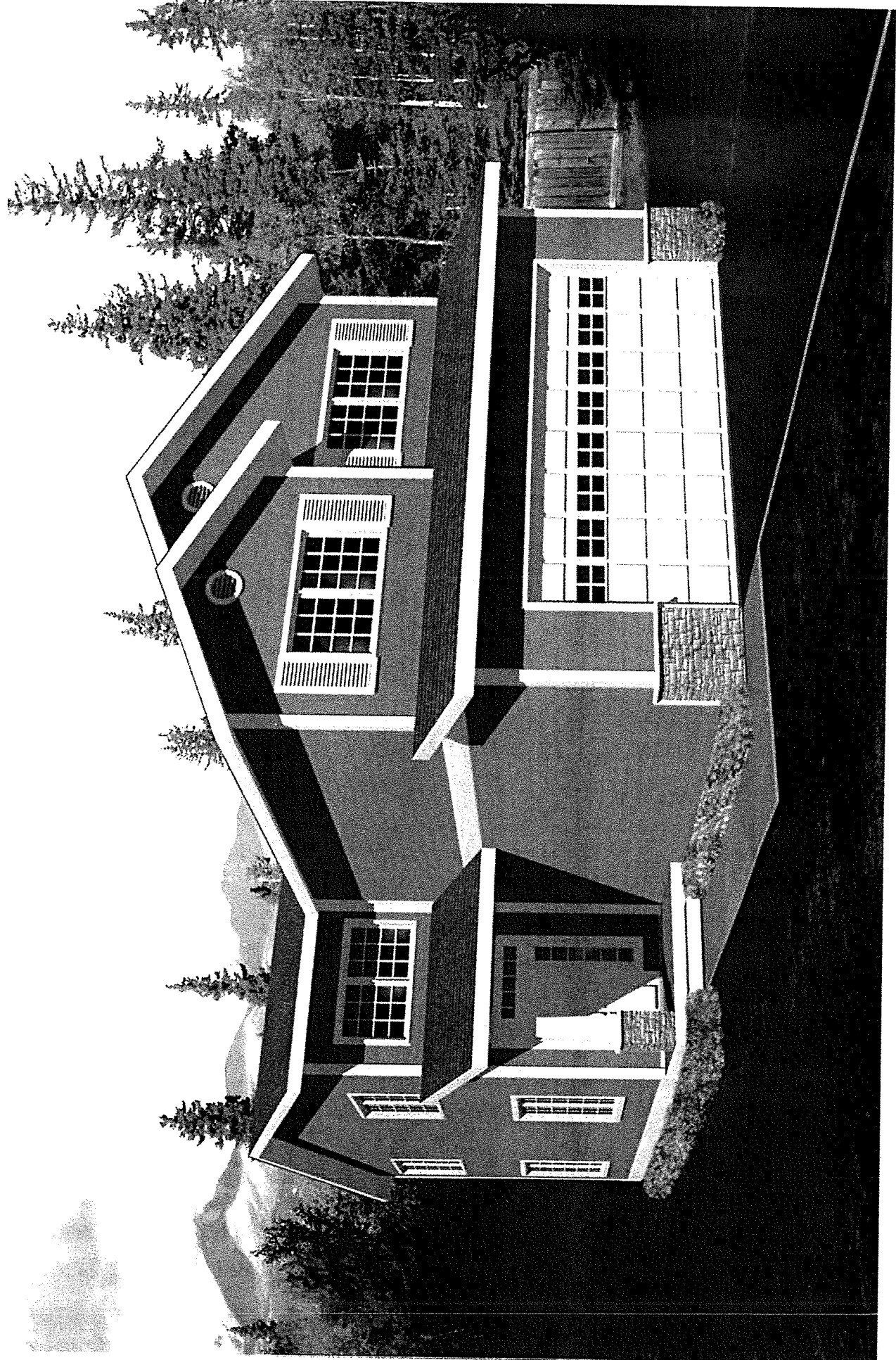
Celestial

3 Bedroom, 2 1/2 Bath & Den
Double car garage
2,146 SF



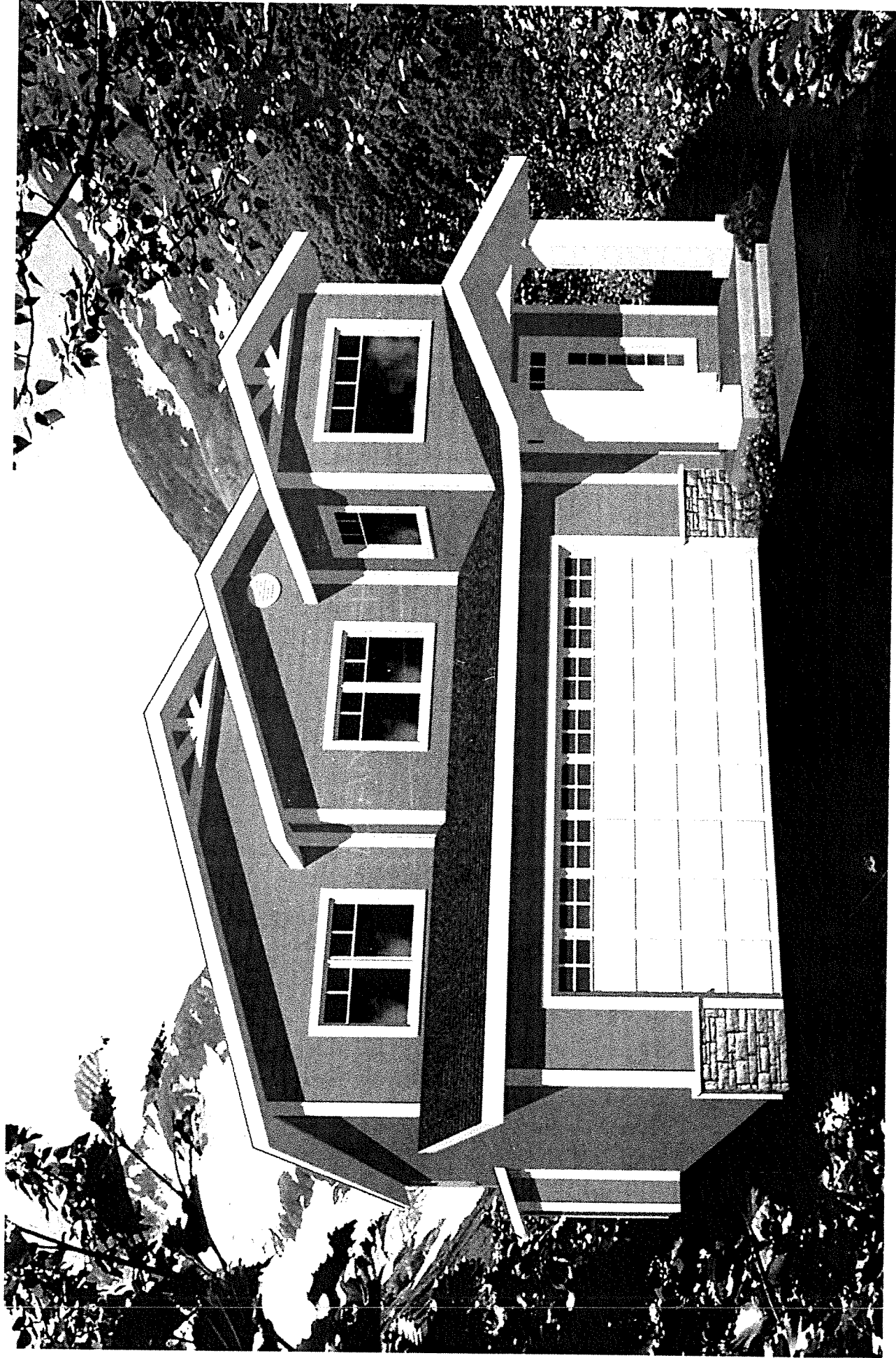
Meridian

3 Bedroom, 2 1/2 Bath
Double car garage
2,104 SF



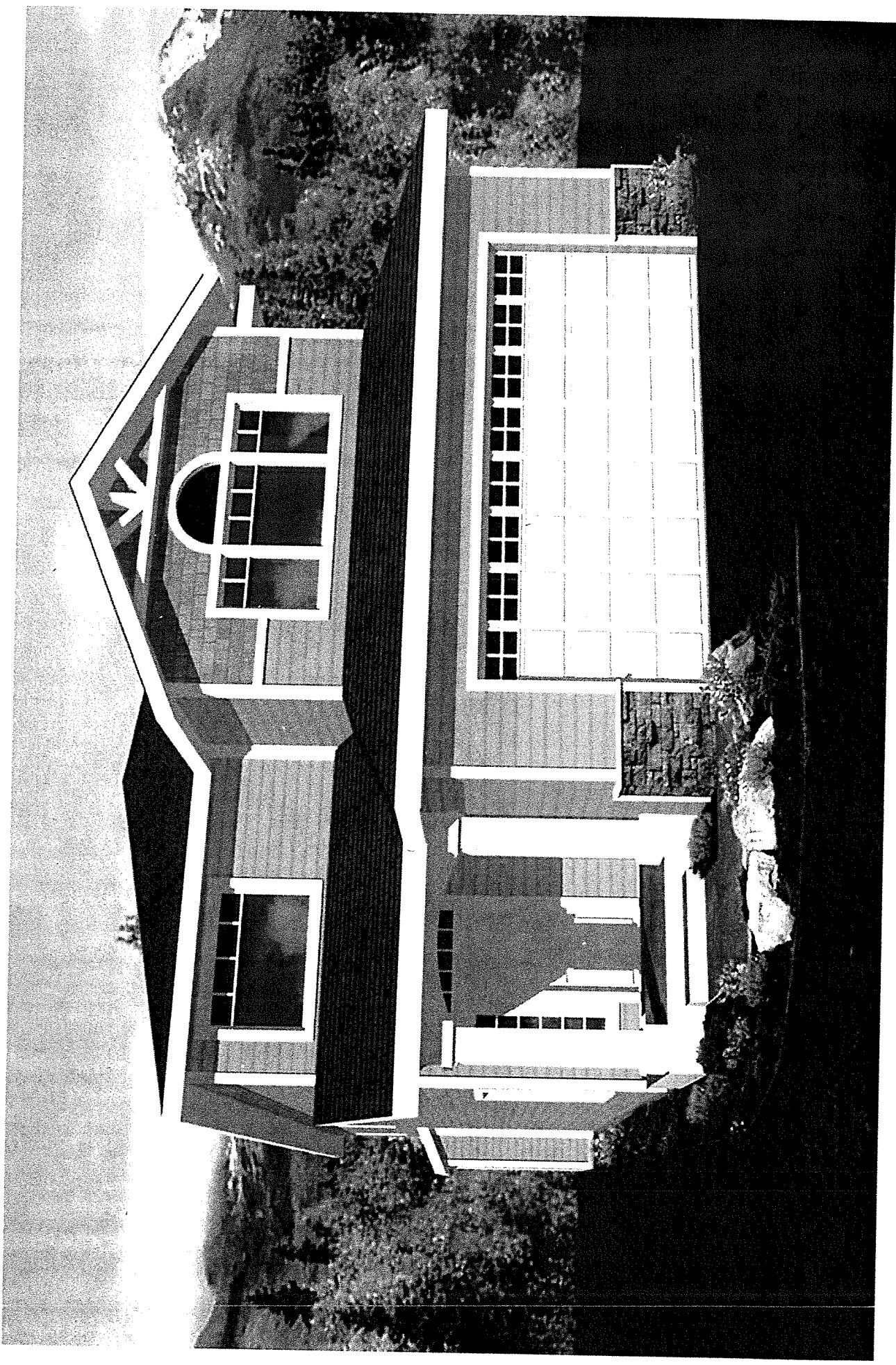
Radiance

3 Bedroom, 2 ½ Bath & Den
Double car garage
2,095 SF



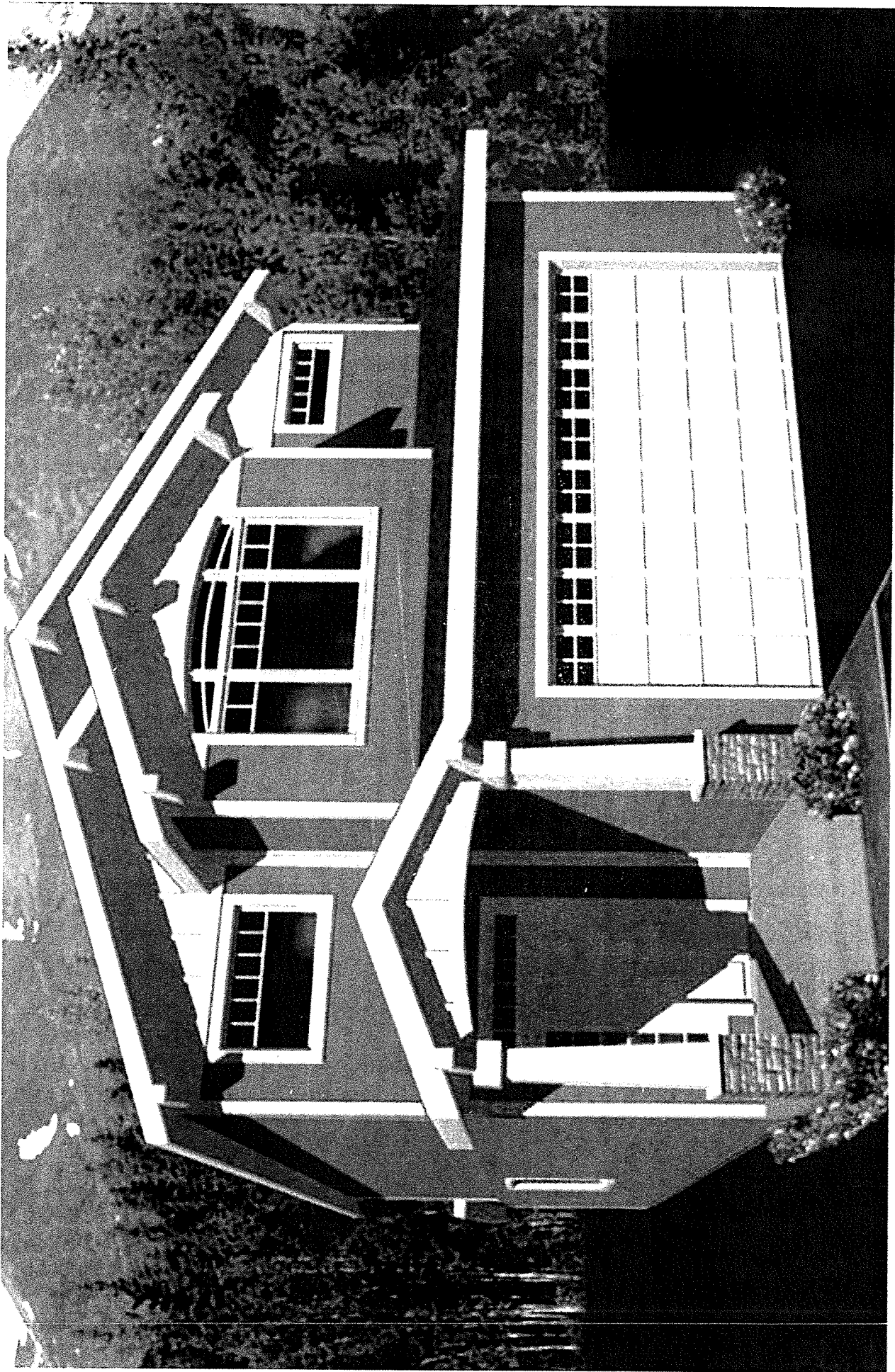
Ambiance

3 Bedroom, 2 ½ Bath & Den
Double car garage
2,307 SF



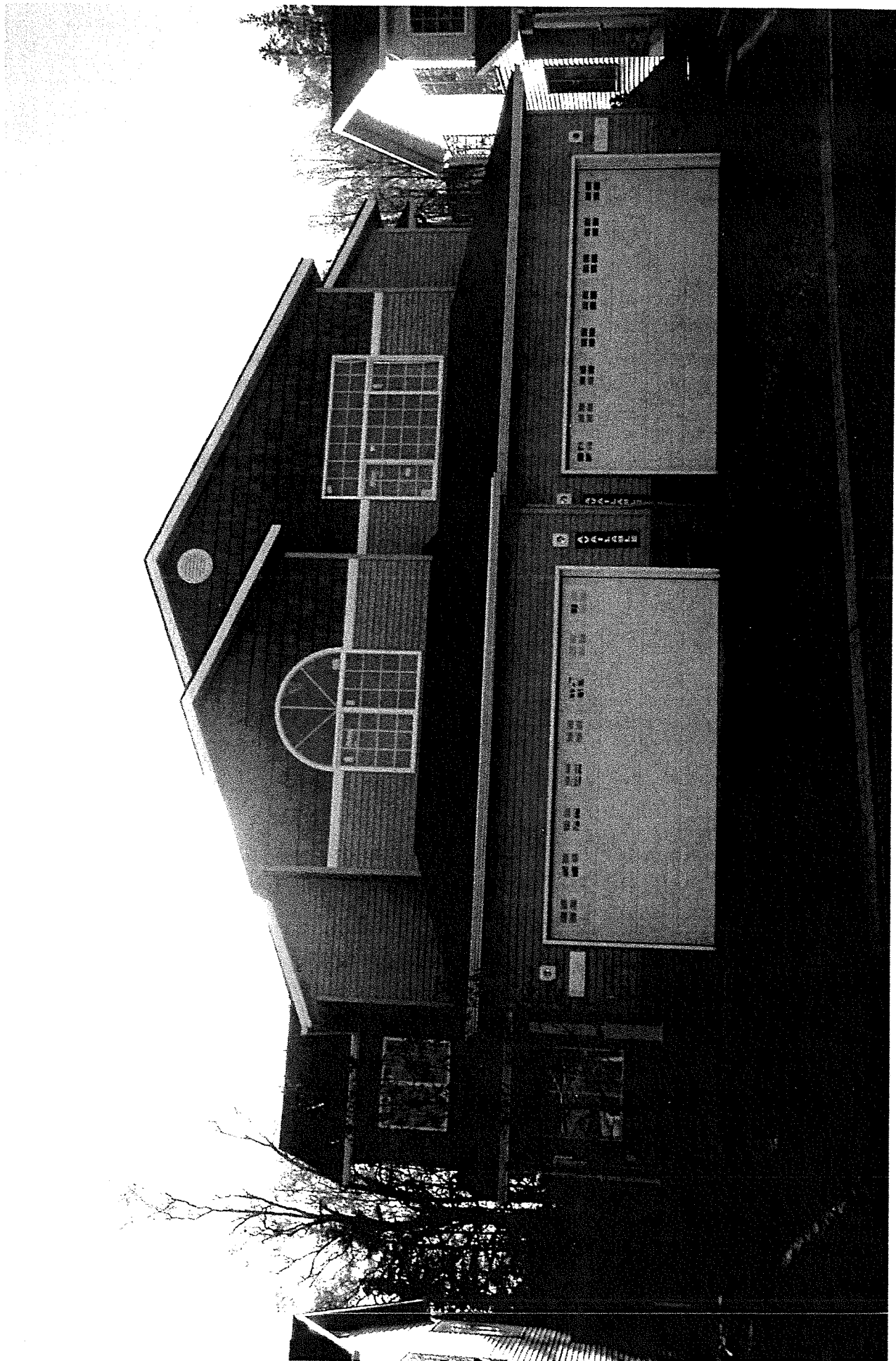
Essence

3 Bedroom, 2 ½ Bath
Double car garage
2,365 SF



Solstice

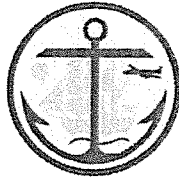
3 Bedroom, 2 1/2 Bath
Double car garage
2,191 SF



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POSTING

AFFIDAVIT

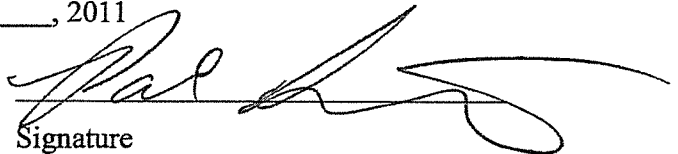


AFFIDAVIT OF POSTING

CASE NUMBER: 2011-013

I, Paul Lindemuth hereby certify that I have posted a **Notice of Public Hearing** as prescribed by Anchorage Municipal Code 21.15.005 on the property that I have petitioned for Planned Unit Development. The notice was posted on 1-3-11, which is at least 21 days prior to the public hearing on this petition. I acknowledge this Notice(s) must be posted in plain sight and displayed until all public hearings have been completed.

Affirmed and signed this 4th day of January, 2011


Signature

LEGAL DESCRIPTION

Tract or Lot 1

Block

Subdivision Kincaid Estates

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**HISTORICAL
INFORMATION**