

Application for Conditional Use

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



PETITIONER*		PETITIONER REPRESENTATIVE (if any)	
Name (last name first) Anchorage Sand & Gravel, Inc (Ryan Mormon)		Name (last name first) S4 Group, LLC (Tom Dreyer)	
Mailing Address 1040 O'Malley Road		Mailing Address 124 E 7th Avenue	
Anchorage, AK 99515		Anchorage, AK 99501	
Contact Phone - Day 907-348-6433	Evening 907-529-0556	Contact Phone - Day 907-306-8104	Evening 907-227-1847
Fax		Fax	
E-mail ryan.mormon@anchsand.com		E-mail tom@s4ak.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): 011-201-92-000, 011-162-42-000, 011-201-94, 011-201-93		
Site Street Address: 5401 Dimond Blvd & 8501 Sand Lake Road		
Current legal description: (use additional sheet if necessary) Lancaster Subdivision Tract A, Polen Park Subdivision Tract 1, 2, 3 <i>77M</i>		
Zoning: R-1A	Acreage: 74	Grid #: 2324

CONDITIONAL USE APPROVAL REQUESTED	
Use: Land reclamation	
<input type="checkbox"/> New conditional use	<input checked="" type="checkbox"/> Amendment to approved conditional use Original Case #: 2014-056

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

	<input type="checkbox"/> Owner <input checked="" type="checkbox"/> Representative	9/10/19
Signature	(Representatives must provide written proof of authorization)	Date
Tom Dreyer		
Print Name		

Accepted by: <i>Ry</i>	Poster & Affidavit: <i>8+1</i>	Fee: <i>\$16,520</i>	Case Number: <i>2019-0138</i>	Requested Meeting Date: <i>11/04/19</i>
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COMPREHENSIVE PLAN INFORMATION

Anchorage 2020 Urban/Rural Services: Urban Rural

Anchorage 2020 Major Elements – site is within or abuts:

- Major employment center Redevelopment/mixed use area Town center
 Neighborhood commercial center Industrial reserve
 Transit - supportive development corridor District/area plan area: West Anchorage District Plan

Chugiak-Eagle River Land Use Classification:

- Commercial Industrial Parks/open space Public lands/institutions Town center
 Transportation/community facility Alpine/slope affected Special study area Development reserve
 Residential at _____ dwelling units per acre Environmentally sensitive area

Girdwood- Turnagain Arm Land Use Classification

- Commercial Industrial Parks/open space Public lands/institutions Resort
 Transportation/community facility Alpine/slope affected Special study area Reserve
 Residential at _____ dwelling units per acre Mixed use Rural homestead

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: 2019-0118 & 2019-0119
 Preliminary Plat Final Plat - Case Number(s): S-12430, Recorded Plat 2019-41
 Conditional Use - Case Number(s): 2014-056
 Zoning variance - Case Number(s):
 Land Use Enforcement Action for
 Building or Land Use Permit for Fill/Grading Plan Permit C16-1442, C.O. Permit X-18-1618
 Wetland permit: Army Corp of Engineers Municipality of Anchorage

SUBMITTAL REQUIREMENTS

- 1 copy required: Signed application (original) Ownership and beneficial interest form
 Watershed sign off form Underlying plat
^{N/A} Special limitations from the underlying zoning, if applicable
- 35 copies required: Signed application (copies)
 Map of area surrounding petition site within 500 feet, including zoning and existing uses
 Map of existing conditions, to scale, including:
 land uses structures utilities vegetation soils
 natural features drainage topography site access pedestrian facilities
 vehicle circulation and driveways easements and/or reservations
 Project narrative explaining:
 the project planning objectives facility operations
 an analysis of how the proposal meets the standards on page 3 of this application
 construction and operation schedule final ownership
^{N/A} gross and net density (PUDs only)
 Site plan(s) to scale depicting, with dimensions:
^{N/A} building footprints parking areas vehicle circulation and driveways
 pedestrian facilities lighting grading landscaping
 loading facilities fences drainage required open space
 snow storage area or alternative strategy trash receptacle location and screening detail
 easements significant natural features freestanding sign location(s)
^{N/A} Building plans to scale depicting, with dimensions:
 floor plans building elevations exterior colors and textures
 Summary of community meeting(s)

(Additional information may be required.)



Land Surveying
Land Development Consultants
Subdivision Specialists
Construction Surveying

124 E 7th Avenue, Anchorage, Alaska 99501 www.S4AK.com 907-306-8104

August 26, 2019

MOA Planning Department
4700 Elmore Road
Anchorage, Ak 99519

Letter of Authorization

The owners of the below listed parcels, do, hereby authorize the S4 Group to represent them before the MOA for the Conditional Use Permit Amendment/Land Reclamation of the parcels listed below:

Lancaster Subdivision, Tract A,
Polen Park Subdivision, Tract 1 & 2

A handwritten signature in blue ink, appearing to read 'Chris Taylor', written over a horizontal line.

8-27-19

Owner: Authorized signature for: Anchorage Sand & Gravel, Inc.

Chris Taylor

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: Lancaster + Pollen Park Subds.
- Project Location, Tax ID, or Legal Description: Lancaster Tr A (parcel # 01116242)
Pollen Park Trd-3 (parcel #s 01120192, 01120193, 01120194)
- 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:

X KBC **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:

- | | | | | |
|---------------------------------------|---------------------------------------|--|--------------------------------------|---|
| <input type="checkbox"/> Y | <input checked="" type="checkbox"/> N | WMS written drainage recommendations are available. | <input type="checkbox"/> Preliminary | <input type="checkbox"/> Final |
| <input checked="" type="checkbox"/> Y | <input checked="" type="checkbox"/> N | WMS written field inspection report or map is available. | <input type="checkbox"/> Preliminary | <input checked="" type="checkbox"/> Final |
| <input type="checkbox"/> Y | <input checked="" type="checkbox"/> N | Field flagging and/or map-grade GPS data is available. | | |

Inspection Certified By:

Date:

[Signature]

8/29/19



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Land Development Consultants
Subdivision Specialists
Construction Surveying

124 E 7th Avenue, Anchorage, Alaska 99501 www.S4AK.com 907-306-8104

September 10, 2019

Attachment 'A'
Narrative
Sand Lake Fill Site (SLFS)
Conditional Use Permit Amendment
Land Reclamation

The Project site: Sand Lake Fill Site Reclamation of the Sand Lake Gravel Pit, located at the northeast corner of Dimond Blvd. & Sand Lake Road, containing approximately 76 acres.

Purpose & Planning Objectives: The final planning objective is to continue filling the site until reaching the final contours as shown on the proposed site plan. The purpose is three-fold:

1. Update the conditional use with the new legal description based on the recently recorded plat.
2. Removing Tracts 2 & 3, Polen Park Subdivision, from the land fill reclamation area. Tract 2 & 3 are being filled with only structural fill, as can be seen on sheet C2 of the grading & drainage plan attached to this application. The permit for this area is included in the application packet.
3. Amending the final grading & restoration plan.

Construction & Operations Schedule: The operations schedule is from 7:00 am to 6:00 pm, Monday thru Saturday. No operations will be permitted on Sundays or legal holidays.

Final Ownership: AS&G will retain ownership of the parcels.

Community Participation: As per Title 21, we held a community meeting on August 14, 2019 at 6:00 pm. The community meeting was held on-site at the project location. We mailed out approx. 221 mailers, the mailing list was provided by the MOA Planning Department. The meeting adjourned at 7:10 pm. Please refer to the enclosed "Summary of Community Meeting" for further detail. The community meeting was held on-site for two salient reasons: 1. The Sand Lake Community Council did not hold a meeting in August, and, 2. This gave the community the chance to view the project and discuss the project while being right on the project itself. A lot of neighbors showed up for the meeting and participated in a healthy discussion of the project. The meeting lasted for an hour &

10 minutes, and the after-meeting went on for a while and the community, AS&G & others partook in discussions and communications about the project.

Pre-Application Conference

There was a pre-application conference held on July 17, 2019 at the MOA Planning Departments conference room.

General Conditional Use Standards (AMC 21.03.080.D)

1. The proposed use is consistent with the Comprehensive Plan and all applicable provisions of this title and applicable state and federal regulations;

Response: The proposed use is consistent with the 2040 Land Use Plan and with the West Anchorage District Plan. The 2040 plan classifies this area as "Other Open Space". Other Open Space is defined on page 51 of the plan as; "This designation applies to non-municipal public and private open spaces that function as part of the Anchorage Bowl's system of parks, open space, outdoor recreational facilities, and natural preservation areas.

It also includes private lands that by easement, subdivision, permit conditions, agreement, commercial activity, or environmental constraints – will continue to function as open space. May are private lands set aside as common open space in residential development. Some open spaces in this designation are not intended to provide public recreation access.

The uses recommended by the plan are: Natural areas, passive use areas, indoor and outdoor recreation facilities, community playgrounds, community or interpretive gardens, outdoor commercial recreation, or agricultural nursery and horticultural uses."

In summary, this CUP Amendment & Land Reclamation plan fits within the qualifications and accepted uses as outlined in the 2040 Land Use Plan.

The West Anchorage District Plan classifies this area as; "Other Areas that Function as Park & Natural Resources." The description of which is similar to the 2040 LUP description above, and " Includes a small number of dispersed sites serving as private park, outdoor recreation, wetland mitigation, or natural resource areas, some of which may not allow public recreation access."

2. The proposed use is consistent with the purpose and intent of the zoning district in which it is located, including any district specific standards set forth in chapter 21.04:

Response: This area is zoned R-1A. Parks, public or private are a permitted use in R-1A. Natural Resource Extraction is allowed by zoning code through the conditional use process. Land Reclamation, this CUP, is allowed by Title 21 zoning code through the Conditional Use Process. (Smaller sites may be approved through the Administrative Site Plan Review process.)

3. The proposed use is consistent with any applicable use-specific standards set forth in chapter 21.05;

Response: This Land Reclamation Conditional Use Permit application complies with all of the specifics as outlined in Title 21.05.060.E.5, titled 'Land Reclamation.'

4. The site size, dimensions, shape, location, and topography are adequate for the needs of the proposed use and any mitigation needed to address potential impacts;

Response: This Land Reclamation CUP Amendment site has been successfully going through filling and reclamation for many years, and this CUP will bring the process to closure within about 5 years or so, depending on the economy. All mitigations have been addressed by past CUP's, and by this application. Please refer to the enclosed diagram titled "Estimated Filling Phases" that shows the areas that have already been graded and seeded, and the expected future phases.

5. The proposed use will not alter the character of the surrounding area in a manner which substantially limits, impairs, or prevents the use of surrounding properties for the permitted uses listed in the underlying zoning district;

Response: This CUP Land Reclamation permit will not alter the character of the surrounding area. The CUP will simply prepare the site for its future final use by finishing the filling and grading of the pit.

6. The proposed use is compatible with the uses allowed on adjacent properties, in terms of its scale, site design, operating characteristics (hours of operation, traffic generation, lighting, noise, odor, dust, and other external impacts.);

Response: This permit is compatible with the adjacent properties. The final site plan will create recreational and other possibilities for the surrounding neighborhood as outlined in the allowable uses.

7. Any significant adverse impacts anticipated to result from the use will be mitigated or offset to the maximum extent feasible;

Response: There is no significant adverse impact by the approval of this permit. The reclamation plan addresses all of the environmental issues involved in reclamation processes. The final product will be an asset to the local neighborhoods, and to the city in general.

8. The proposed use is appropriately located with respect to the transportation system, including but not limited to existing and/or planned street designations and improvements, street capacity, access to collectors or arterials, connectivity, off-site parking impacts, transit availability, impact on pedestrian, bicycle, and transit circulation, and safety for all modes;

Response: This parcel is well located to the transportation system, with access for filling only allowed off of Sand Lake Road, a type II minor arterial. Sand Lake Road will also serve as access to the property when the final site plan contours have been completed. The Sand Lake Fill Site does not utilize any residential streets for access. Access for reclamation operations are from Sand Lake Road, classified as a Class II minor arterial street, according to the Official Streets & Highway Plan. There are currently 3 approved fill-site related access points along Sand Lake Road. The new access point along Dimond Boulevard is only for providing access to Polen Park Tract 2 & 3 for future development. Access along Dimond Blvd, as stated in the underlying CUP, is prohibited for the purposes of the CUP filling of the site. The Dimond Blvd access was permitted under the State of Alaska Department of Transportation and Public Facilities under Driveway Approval to Construct #28095. The Sand Lake Road access to Polen Park was permitted under the State of Alaska Department of Transportation and Public Facilities under Driveway Approval to Construct #26494. Copies of all of the driveway permits have been copied to the Planning department.

9. The proposed use is appropriately located with respect to existing and/or planned water supply, fire and police protection, wastewater disposal, storm water disposal, and similar facilities and services;

Response: The site is currently served by public water supplies, public sewer systems, fire hydrants, and lies within the fire & police protection boundary.

Use Specific Standards for Land Reclamation. Title 21.05.060.E.5.b.ii

(A) A site plan showing: (see attached site plan.)

(1) Drainage.

(2) Existing & proposed topographical contours (ten-foot contours.)

(3) Water table information.

(3) Points of vehicular access to the site.

(B) An erosion & sediment control plan.

Response: A complete erosion & sediment control plan report by Triad Engineering is attached to this application.

(C) A description of the soil types encountered on the site.

Response: Existing soils type are sand & gravel and fill material as per the grading plan.

(D) A landscaping plan for the period of land reclamation operations and for the final restoration of the site.

Response: The entire site will be graded to the contours as shown on the site plan, top-soiled and seeded. Please refer to the enclosed figure titled " Estimated Filling Phases" for further detail.

(E) A security plan to prevent casual trespass.

Response: All gates are locked during off hours. The entire site is monitored via live video cameras and is also being recorded via DVR. The wheel wash electrical control panel is fenced in and has razor wire at the top to prevent anyone from climbing over the secured area.

(F) Proposed hours of operation.

Response: The operations schedule is from 7:00 am to 6:00 pm, Monday thru Saturday. No operations will be permitted on Sundays or legal holidays.

(G) A description of land reclamation and processing operations for the site.

There are no proposed changes in the process on land reclamation & processing operations from what is currently regulated by the underlying CUP.

(H) Projected traffic counts for each point of vehicular access to the site.

Response: History has shown that the total number of truck trips for the site will average 250 one-way project-related trips per day of operation.

(I) An estimate of the quantity of materials to be imported to the site and timetable, with supporting calculations conforming to generally accepted engineering principles.

Response: According to Anchorage Sand & Gravel (AS&G) records, roughly 269,000 cubic yards (CY) of material was deposited at the Sand Lake Fill Site in 2018. Roughly 6,670,053 CY have been deposited in the Sand Lake Fill Site Pit since 1983. The remaining estimated fill quantity is 1,200,000 CY. At the 2018 fill rate, the site should be completed in another 5 years. The current CUP permit is valid until May 5th, 2024.

(J) A statement of the types of materials that will be accepted at the site.

There are not any proposed changes in the allowed types of fill from what is currently allowed by the existing CUP. The list of acceptable fill materials is as follows: peat, clay, silty soil, hydro-axed materials, tree fragments, stumps, turf, and other organics associated with permitted clearing and grubbing operations, including wood chips from grinding operations, and concrete remnants related to demolition, concrete testing, or construction site clean-up.

(K) Such other materials as the director may require by regulation pursuant to AMC chapter 3.40.

21.05.060.E.5.b.iii The site plan and erosion and sediment control plan required in subsection ii. Above shall be subject to review and approval for drainage, erosion and sedimentation control; for conformance with the 208 Areawide Water Quality Management Plan; and for compliance with generally accepted sound engineering principles.

Response: Please refer to the enclosed "Preliminary Stormwater Management Report" prepared by Triad Engineering.

Title 21.05.060.E.5.b.v. In addition to the conditional use standards of approval at 21.03.080.D., the planning and zoning commission may approve a land reclamation use only if the commission finds that the use also meets the following standards;

A. Principal access to the site shall minimize the use of residential streets, and access roads shall be treated in a manner to make them dust free. Where access roads intersect arterials, suitable traffic controls shall be established.

Response: The Sand Lake Fill Site does not utilize any local residential streets for access. Access for reclamation operations are from Sand Lake Road, classified as a Class II minor arterial street, according to the Official Streets & Highway Plan. Water trucks are utilized to keep dust at a minimum. There are currently 3 approved fill-site

related access points along Sand Lake Road. The new access point along Dimond Boulevard is only for providing access to Polen Park Tract 2 & 3 for future development. Access along Dimond Blvd, as stated in the underlying CUP, is prohibited for the purposes of the CUP filling of the site. The Dimond Blvd access was permitted under the State of Alaska Department of Transportation and Public Facilities under Driveway Approval to Construct #28095.

B. The site will not accept material that are hazardous or flammable.

Response: Only peat, clay, silty soil, hydro-axed materials, tree fragments, stumps, turf, and other organics associated with permitted clearing and grubbing operations, including wood chips from grinding operations, and concrete remnants related to demolition, concrete testing, or construction site clean-up. No hazardous or flammable material are allowed.

C. The site will not accept junk as defined in chapter 21.14.

Response: None of the items defined as junk by Title 21.14 are allowed as fill material. Junk is defined in chapter 21.14 as: "Any worn-out, wrecked, scrapped, partially or fully dismantled, discarded tangible material, or combination of materials or items, including junk vehicles as defined in AMC 15.20.010. Also included are machinery, metal, rags, rubber, paper, plastics, chemicals, and building material which cannot, without further alteration and reconditioning, be used for their original purpose."

D. The site will not accept soils contaminated with petroleum product or byproducts.

Response: No soils or any other product contaminated with petroleum products or byproducts are accepted as fill material. Strict monitoring is on-going.

E. The reclamation operations will not pose a hazard to the public health & safety.

Response: The Sand Lake Fill Site Land Reclamation does not pose a hazard to the public health or safety. All access points are gated and locked during non-operational hours. The entire site is monitored for safety by recording video security cameras .

F. The reclamation operations will not generate noise, dust, surface water runoff, groundwater pollution or traffic that will unduly impact surrounding land use.

Response: Noise will be kept to a minimum and at specific hours of operation as approved. Dust will be kept at a minimum with the use of a water truck. Surface water

runoff will be strictly regulated as per public works standards and by the submittal and approval of a SWWWP, traffic will not be on any local residential streets, access is as shown on the site plan directly from Sand Lake Road. All on-site equipment shall be muffled and use white noise alarms or motion detectors for backing up.

G. The restoration plan for the site ensures that, after reclamation operations cease, the site will be left in a safe, stable, and aesthetically acceptable condition.

Response: This land reclamation will leave the site in a condition that is appropriate for the future use of the land. The final use of the land will be for development as per the underlying zoning and as per the conditions of the existing Conditional Use Permit. Upon final reclamation, the site will allow for the creation of outdoor recreation areas subject to the applicable provisions of Title 21, passive or active open space, functional open space which could include open fields, athletic fields, community gardens, commercial nurseries, and the like. The entire site will be graded to the approved contours and seeded with grass.

H. The proposed use meets such additional standards for land reclamation conditional uses as the director may establish by regulation pursuant to AMC chapter 3.40.

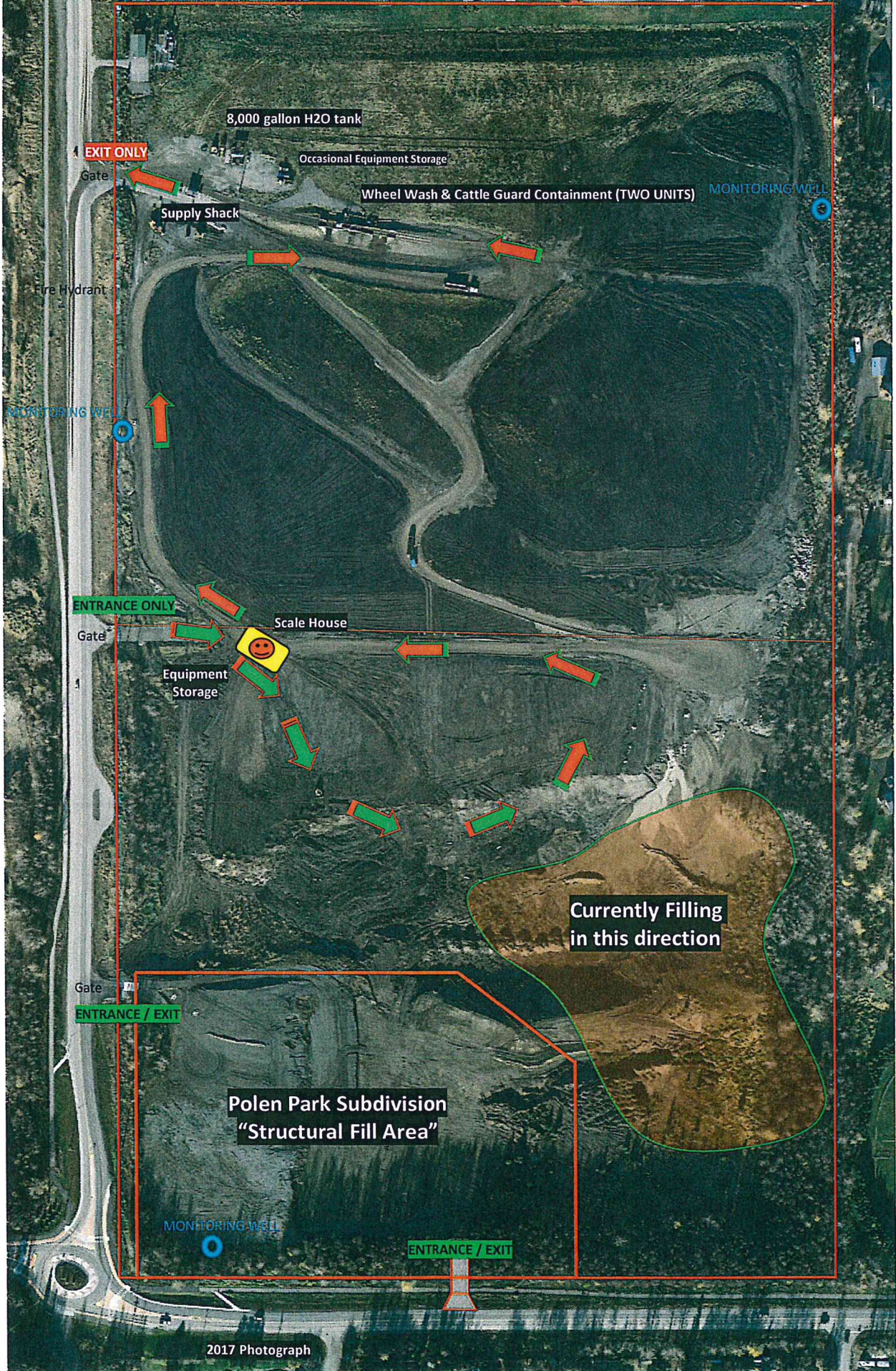
Response: This refers to any future laws that may be passed as per AMC chapter 3.40. At this date, there are no known to us any added laws to the regulation of land reclamation conditional use permits.

Thank you,



Tom Dreyer, PLS
petitioner's representative

SAND LAKE FILL SITE – CUP AMENDMENT OPERATIONS PLAN



SAND LAKE FILL SITE – ESTIMATED FILLING PHASES

PHASE 1 – 4, Area Has Been Seeded.

NOTE: Wheel Wash System will remain in place until AS&G decides to remove the unit.

EXIT ONLY

Gate

Fire Hydrant

MONITORING WELL

MONITORING WELL

ENTRANCE ONLY

Gate

PHASE 5 – Currently working within this area.

PHASE 6 – Currently working within this area.

Gate

ENTRANCE / EXIT

**Polen Park Subdivision
"Structural Fill Area"**

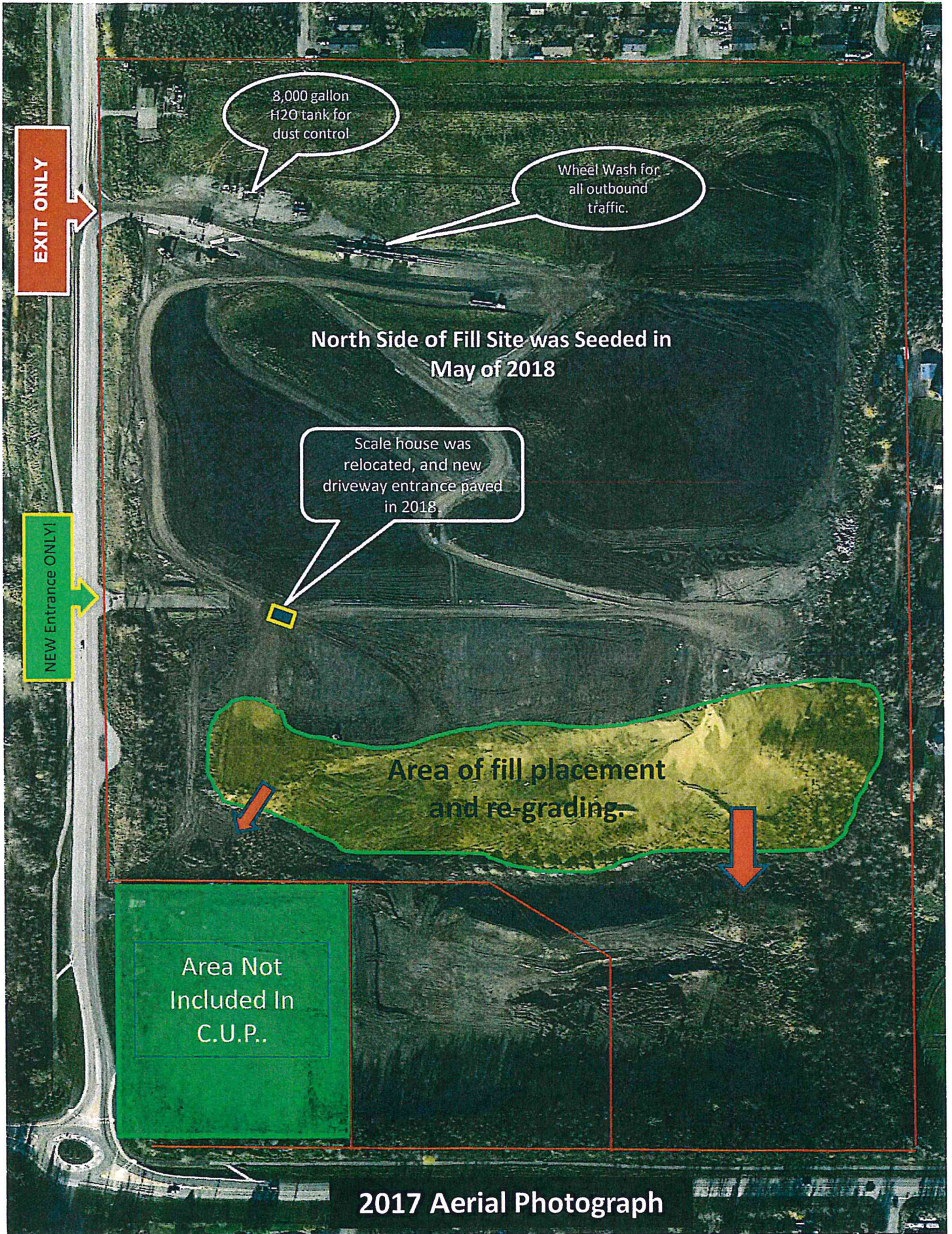
MONITORING WELL

ENTRANCE / EXIT

PHASE 7

2017 Photograph

Approx. Scale



8,000 gallon H2O tank for dust control

Wheel Wash for all outbound traffic.

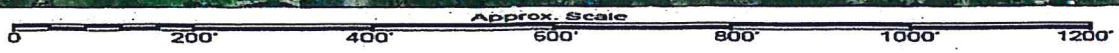
North Side of Fill Site was Seeded in May of 2018

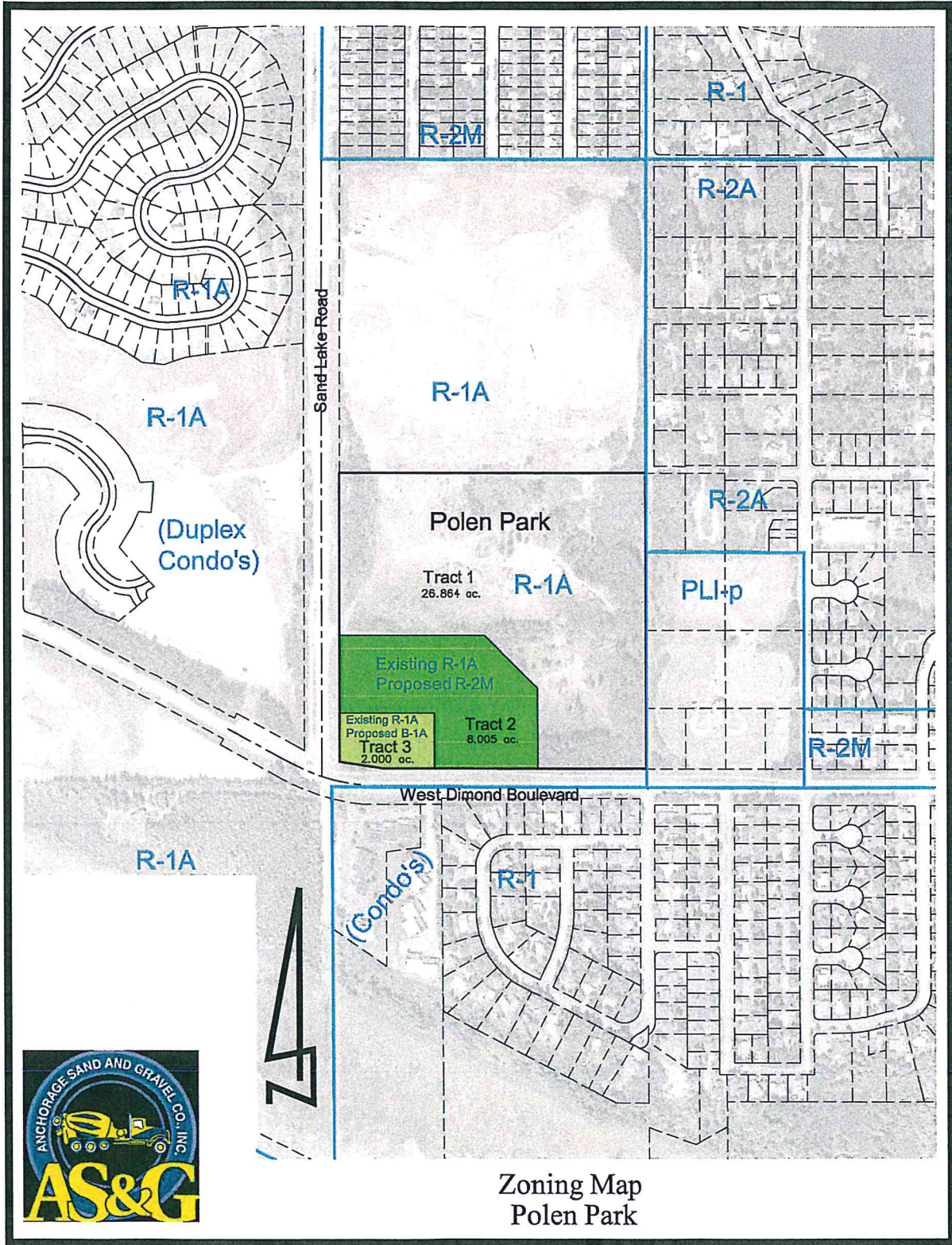
Scale house was relocated, and new driveway entrance paved in 2018.

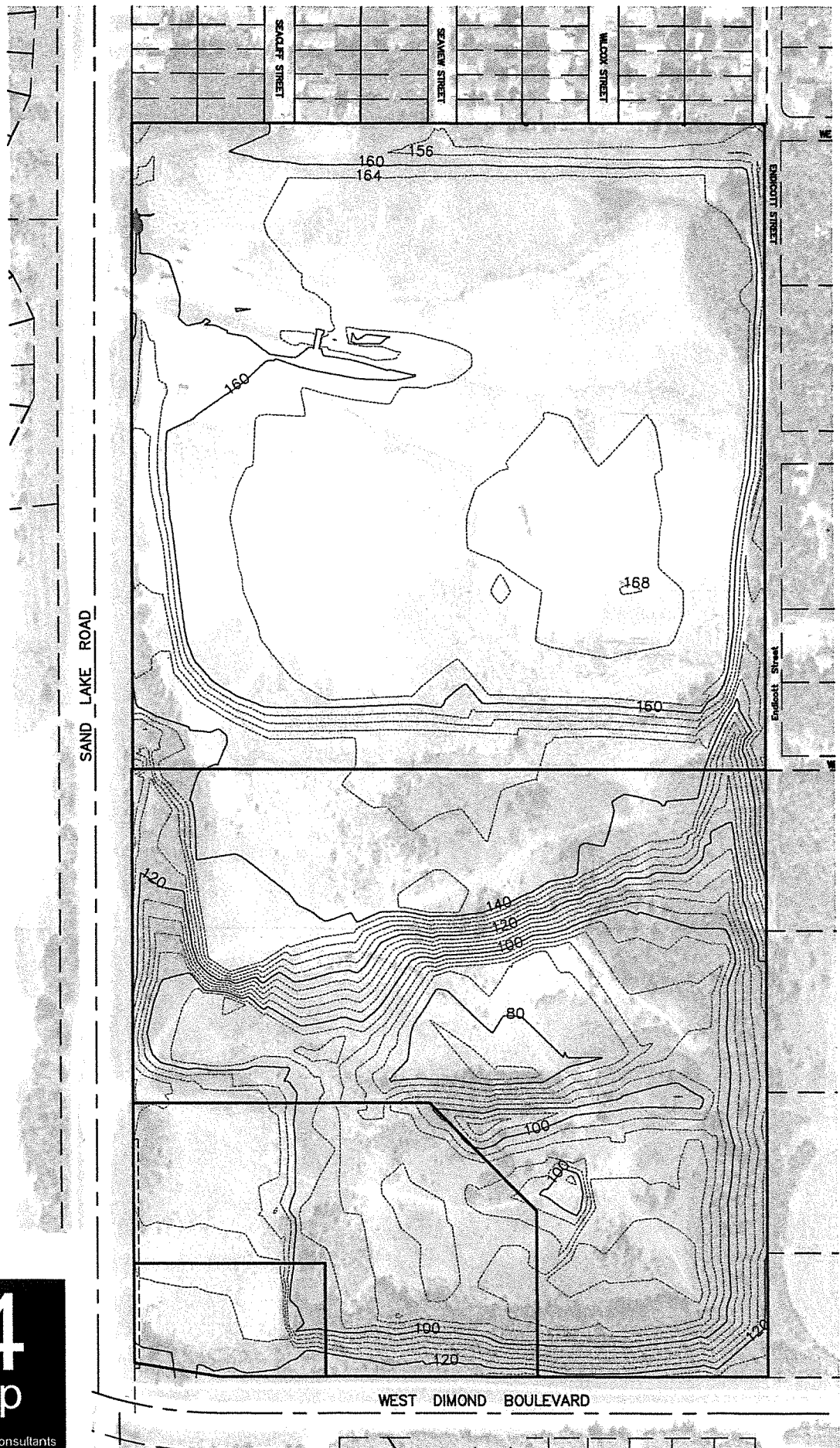
Area of fill placement and re-grading.

Area Not Included In C.U.P.

2017 Aerial Photograph



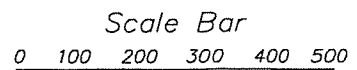




S4
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Existing Topography Sand Lake Fill Site





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August 20, 2019

Ms. Michelle McNulty, MOA Planning Division Director
4700 Elmore Road
Anchorage, Ak 99507

Re: Summary of Community Meeting
Project: Sand Lake Fill Site CUP Amendment

Note: CC'd to the President of the Sand Lake Community Council

Dear Ms. McNulty,

This letter and the accompanying documents serve as the 'Summary of Community Meeting'.

The project includes the following:

Task: Sand Lake Fill Site Conditional Use Permit (CUP) Amendment.

Location: Near the NE corner of Dimond Blvd & Sand Lake Road.

Legal Description: Polen Park Subdivision, Tract 1 & 2, & Lancaster Subdivision Tract A.

The mailing list for this Community Meeting (CM) for the surrounding area was created by the MOA Planning Department and we mailed out the Notices of Community Meeting on July 24th, 2019, over 21 days before the meeting, by first class mail. I have included a copy of the mailer that was sent out through first-class mail, 221 mailers were sent out, 19 were returned. We scheduled the on-site Community Meeting for 2 main reasons; 1. The Sand Lake Community Council did not meet in August, and 2. Having the CM on-site gave the community the ability to stand on the actual project site area while discussing the issues. We presented the Sand Lake Fill Site CUP Amendment, there was approx. 43 members of the community in attendance, and we took questions and answered as listed below.

Question & Answers (Summarized)

(Note: Some questions relate more to the re-zoning than the CUP Amendment, but we chose to leave them in this summary for context.)

Q: When does this go to the Assembly?

A: A CUP goes to a public hearing in front of the Planning & Zoning Commission that makes the final decision, not the Assembly.

Q: What is the new driveway on the south?

A: This is a future access point for Polen Park Subdivision which was approved by the DOT.

Q: What elevation is the driveway on Dimond Blvd at?

A: Approximately elevation 120'.

Q: How many homes can be in R-2M zoning?

A: Up to 15 DUA.

Q: How high can buildings be in R-2M?

A: 30' is the height limit, with a maximum of 2 & ½ stories.

Q: Is there a gas station planned?

A: There is no gas station planned, nor is it allowed by the West Anchorage District Plan.

Q: What is the project's current zoning?

A: R-1A.

Q: Is there public water and sewer next to the property?

A: Yes there is, both along Dimond Blvd & Sand Lake Road.

Q: How deep is the Pond?

A: The top of the drainage basin (Pond) will be at approx. elevation 110' which may change in accordance with engineering practices.

Q: Why are you doing this?

A1: To change the existing CUP's legal description to match the new boundary around the Polen Park Tracts.

A2: To amend the final site plan elevations to better suit the new boundary of the CUP.

A3: To create one huge field on about the same level instead of the old site-plan that had multiple tiered areas.

Q: How many properties does this include?

A: Three. Tract A of Lancaster Subdivision, which is about 39 acres in size, and Polen Park Subdivision Tracts 1 & 2, approx., 35 acres in size.

Q: What type of ball fields are planned?

A: The community will help decide what the fields will be. Possibilities are soccer, baseball, rugby or just open fields for community use.

Q: What is considered park in this plan?

A: The north approximately 66 acres shown will be used as described in the existing CUP.

Q: Where are trail connections going to be?

A: Proposed trail connections will be in the southeast corner, along the eastern boundary, at the northeast corner, and along Sand Lake Road & Dimond Blvd.

Q: Where is the new driveway located?

A: On the south side of the project along Dimond Blvd, accessing the Polen Park Tracts.

Q: How many new driveways will there be?

A: One where it is currently built along Dimond Blvd, one at the northwest corner of the Polen Park Tracts, and another two access points along Sand Lake Road as shown on the site plan.

Q: How is the CUP tied to the Rezone?

A: The CUP is not tied to the re-zone, they are completely separate cases.

Q: What is the plan for B-1A?

A: What can go in this particular B-1A zoning is restricted by the West Anchorage District plan to: "Convenience retail such as coffee shops, florists, bakeries, and convenience scale grocery oriented to the needs of the surrounding residential population."

Q: How high are the grades going to be?

A: The proposed site plan extends the area with an elevation of 162', which is the elevation on the existing site plan for the northern 40 acres.

Q: Can the public talk at the public hearings?

A: Yes the public is invited to the hearings to speak.

Q: Who owns this land?

A: AS&G owns the land currently.

Q: Can anything be built on the bad fill?

A: No permanent structures or foundations can be built on 70 acres of the fill site. The 10 acres of Polen Park Tract 2 & 3 are being filled with structural fill and permanent structures can be built there.

Q: Is this plan to get an amendment to the CUP?

A: Yes.

Q: Where is the zoning change of the additional 5 acres?

A: The area next to Dimond Blvd within Polen Park Tract 2.

Q: Are apartments allowed in R-2M?

A: Yes, up to an eight-plex.

Q: Are site condos legal to build?

A: Site condos are legal but go through a MOA review process and must be approved to current stringent Title 21 code.

Q: Can fire trucks turn around in site condos?

A: Yes. The Fire Department has to review and approve any new development to make sure it meets code.

Q: Who is Triad Engineering?

A: Triad Engineering is the civil engineering firm that is part of the team on this project.

Q: Where is the drainage and what is the plan for water?

A: It all drains down to the proposed drainage basin. (Pond)

Q: Will the pond water be filtered?

A: The water will be filtered before going into the pond.

Q: Will there be storm drains and will they tie into Sand Lake?

A: The drainage will all go to the pond and there will be no tie into Sand Lake.

Q: Who maintains this land?

A: AS&G currently maintains the land.

Q: Who will end up owning the park?

A: AS&G will continue to own the land until other financial arrangements are made.

Q: Could there be community gardens in the park?

A: Yes, there could be community gardens.

Q: Could water be brought into the park for gardens?

A: Water could be installed for the community gardens.

Q: When will the filling be complete?

A: Variable depending on the Alaska economy. The current CUP expires in 2024.

Q: How much fill is required to finish the project?

A: The amount will be on the application for the CUP amendment.

Q: Can the bad fill have homes on it?

A: Homes could not be built on the non-structural fill that encompasses about 70 acres of the site.

Q: Can a dome be built in the park?

A: Not sure.

Q: How long will it take to fill the B-1A with good fill?

A: Variable that depends on the Alaskan economy, the current permit expires in 2024.

Q: Are 120 units going to be built in the proposed R-2M area?

A: Title 21 specifies a maximum of 15 dwelling units per acre, which equates to a possibility of 120 dwelling units on the 8 acres of Tract 2, Polen Park.

Q: When will the public be able to use the proposed park?

A: After the fill site is fully complete, graded, top-soiled, and seeded. Insurance and safety issues impede opening the park area until there is no more filling or construction activities.

Q: Can there be a golf course?

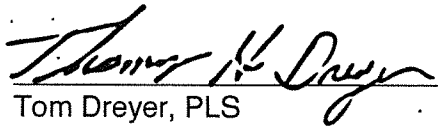
A: That could be an option, but it may be too small of an area.

Q: Could tennis courts be built?

A: Maybe but with great difficulty due to the unstable ground.

If members of the Community Council or the MOA Planning staff need any further information or clarification, please email me at: tom@s4ak.com.

Thank you,



e-signed 8/21/19

Tom Dreyer, PLS

S4 Group

Petitioner's representative

COMMUNITY MEETING/BBQ

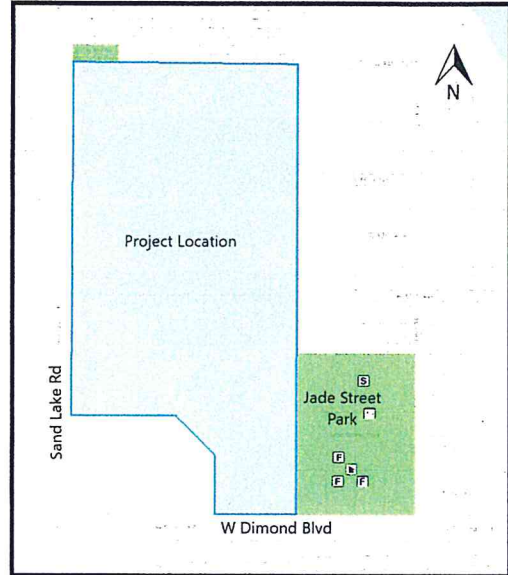
Sand Lake Community Meeting: Sand Lake Fill Site Conditional Use Amendment

AS&G representatives will be holding a meeting & BBQ for the Sand Lake Community on August 14, 2019 at 6:00 PM to present a proposed conditional use amendment. The project site is at the NE corner of W Dimond Blvd. and Sand Lake Rd; legal description: Polen Park Subdivision Tract 1 and Lancaster Tract A. The proposal is for a conditional use permit amendment for the project site; as set forth in Title 21. Representatives will provide an overview of the conditional use amendment, project schedule, and will be available to answer questions.

This meeting was originally scheduled for August 1st, but has been rescheduled and expanded to include a community BBQ.

We want to hear from you,
so please come and enjoy some barbecue on us!

To RSVP, text "BBQ" to 907-306-8104.



124 E 7th Ave
Anchorage, AK 99501

Community BBQ!

WED, AUG 14, 2019 @ 6:00 PM

North Entrance
8501 Sand Lake Rd
Anchorage, AK 99502

To RSVP, text "BBQ" to 907-306-8104.

We welcome your feedback! Interested parties may appear at the meeting and speak on the matter. You can also submit your comments or request additional information by contacting:

Municipality of Anchorage
Planning Department
4700 Elmore Rd, Anchorage, AK 99507
(907) 343-7900

<<name>>

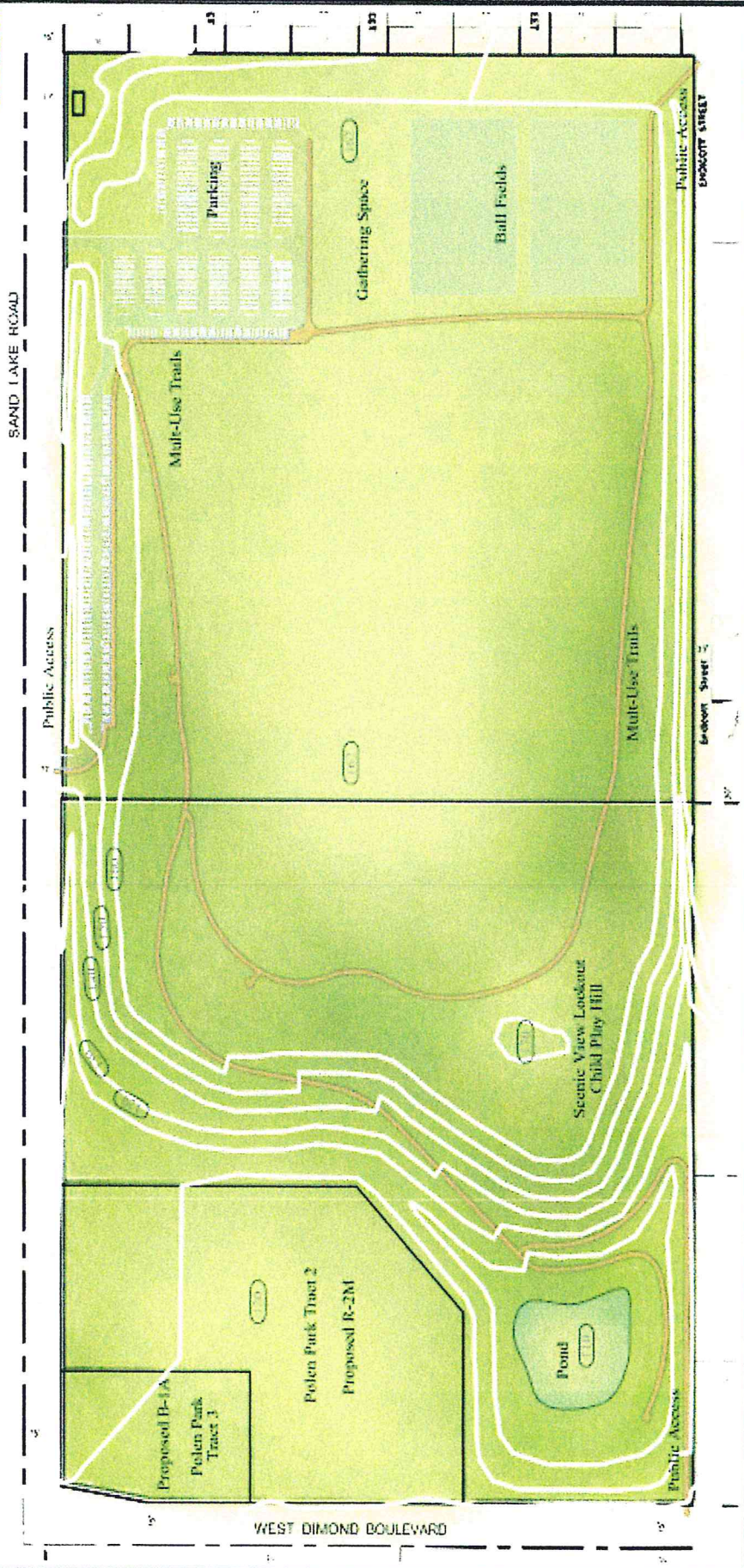
<<A1>>

<<A2#0>>, <<A2#1>> <<A2#2>>



Sand Lake Fill Site Concept Plan

Scale 1" = 30'



Polen Park Subdivision

Lancaster Tract A & Parcel 21 SW ¼, SW ¼, T12N, R4W, SEC 10

PRELIMINARY STORMWATER MANAGEMENT REPORT

Anchorage Sand & Gravel Co, Inc.

1040 O'Malley Road

Anchorage, AK 99507

Prepared By:

TRIAD
ENGINEERING, LLC

P.O. Box 111989
Anchorage, Alaska 99511
(907) 561-6537
www.triadak.com

August 2019

Prepared By: **Brandon J. Marcott, P.E.**



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1. Project Overview

1.1 Location

The project is located in the northeast quadrant of the W. Dimond Boulevard and Sand Lake Road intersection in Anchorage, Alaska. The site address is 8501 Sand Lake Road. See below for a location map. Both Dimond Boulevard and Sand Lake Road are publically dedicated streets owned and maintained by ADOT. In addition to these two streets, the site is bordered by residential development to the north and Jade Street Park and a residential development to the east. Vehicular access to the site is currently from Sand Lake Road. An additional access point is permitted from Dimond Boulevard when the site is subdivided and developed.

Due to the project's location, an orographic factor of 1.0 was used for this drainage analysis. An orographic map is included in Appendix 7.1.



Location Map

1.2 Description

The site contains two separate parcels, Lancaster Tract A and Parcel 21 SW $\frac{1}{4}$, SW $\frac{1}{4}$, T12N, R4W, SEC 10 with a total area of approximately 79.2 acres. Both parcels are owned by Anchorage Sand & Gravel Co, Inc. The site is currently in use under a Conditional Use Permit for a fill operation. The owner intends to subdivide the parcels, creating 10 acres

in the southwest corner for commercial/residential use and the remaining 69.2 acres will be used as a park for recreational use.

1.3 Category Determination

The Anchorage Stormwater Manual, Version 1.0 (December 2017) will be used for the analysis and relevant stormwater management requirements. The project will disturb more than 10,000 square feet and is categorized as a "Large Project" per Table 3.3.1.

1.4 Drainage Project Notification

Mapping has been completed by Watershed Management in June of 2018. The site does not contain stream channels or MOA-identified drainageways.

2. Drainage Basin

2.1 Basin size

The overall drainage basin analyzed within this report is approximately 111 acres.

2.2 Existing Conditions & Land Cover

The parcel was once a natural resource extraction site and is currently undergoing land reclamation for recreational and open space development. The site has operated as a natural resource extraction site since 1979 and has received various types of fill over the past 40 years, including unusable excavated material, peat and concrete.

The primary landcover is bare soil and dirt access roads with some grass and mature vegetation present on site. Sand Lake Road and Dimond Boulevard contribute to the basin, as well as a residential neighborhood to the north, and Jade Park along with portions of the backyards of properties to the east of the parcel. The overall drainage basin is designated as a sink with the low point shown in the map on the following page. All 111 acres of the drainage basin contribute runoff. The proposed land cover for the basin is shown in the table below.

Contributing Predevelopment Land Cover

Land Cover	Slope	Area [Acre]	Percent
Impervious	1-4%	17.7	15.9%
Bare Soil or Dirt Access Rd	2-50%	52.7	47.3%
Natural Forest (Poor)	2-5%	11	9.9%
Lawn (Moderate Slopes)	1-5%	30	26.9%

There is no impervious area within the 79.2 acres of the project site under predevelopment conditions.

2.3 Proposed Conditions & Land Cover

The proposed development creates approximately 8 acres of impervious area within the commercial/residential portion on site. This correlates to 10% of the 79.2 acres. The remaining area, roughly 71.2 acres, was modeled as Lawn with varying slopes. The proposed land cover for the drainage basin is shown in the table on the following page.

Contributing Postdevelopment Land Cover

Land Cover	Slope	Area [Acre]	Percent
Impervious	1-4%	33.1	29.8%
Lawn (Moderate Slopes)	2-5%	66.2	59.6%
Lawn (Steep Slopes)	6-50%	11.7	10.6%

2.4 Map of Basin

See below for a map of the MOA-delineated drainage basin. The entire 111-acre basin drains to an existing low point on site near the south end of the existing fill operation.



MOA Drainage Map - Screenshot 11/18/18

3. Existing Conditions

3.1 Predevelopment Site Plan

Existing conditions are shown on the following page. Overland flow from the contributing area sheet drains towards the project where it eventually infiltrates on site.

There are no established storm drains or conveyance systems present on site. Runoff from surrounding drainage basins is collected in swales or catch basin inlets and conveyed through the municipal storm system where it is discharged to nearby water bodies including Jewel Lake, Sundi Lake, Sand Lake and Cook Inlet.



Pre-development Site Plan

3.2 Floodways, Floodplains and Problem Areas

The site is not located within a floodplain and there are no known problem areas in the project's immediate vicinity. There have been no known flooding incidents and there is no standing water visible at the low point on site.

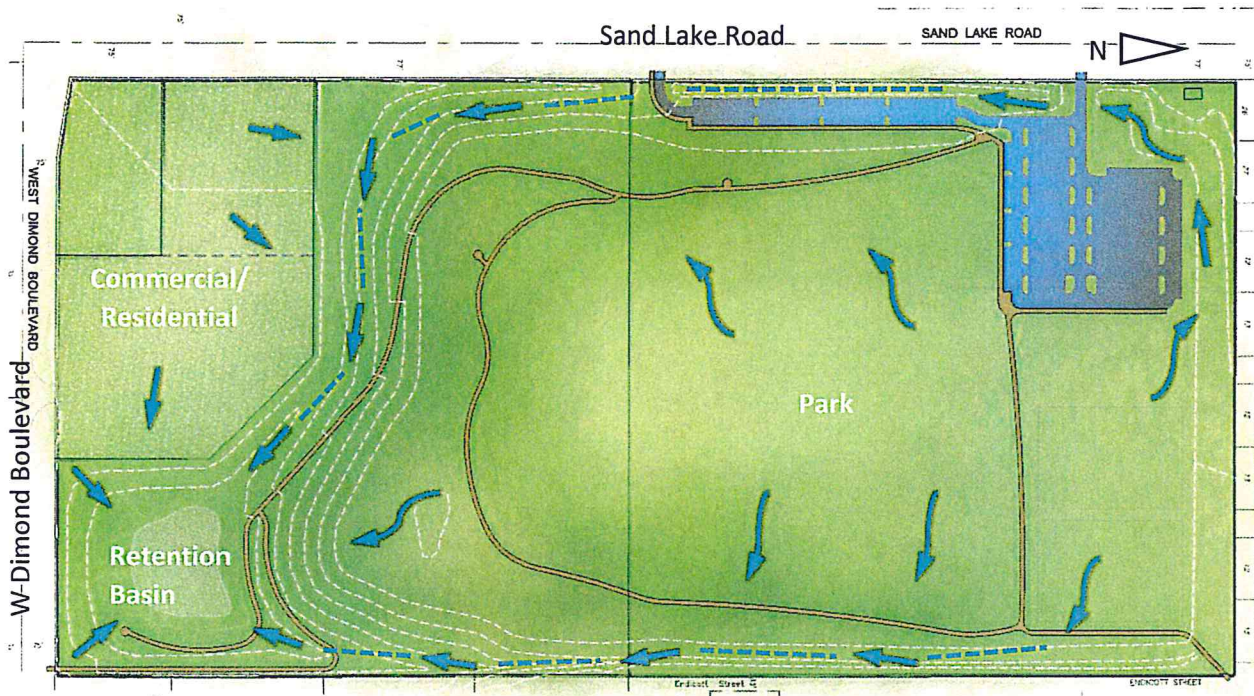
3.3 Soils

As mentioned in Section 2.2, portions of the site have received various fill types under a Conditional Use Permit. The material has been placed and track-walked to an unknown density. Based on the site's history, a hydrologic soils group "C" was used for the drainage analysis. The USGS Web Soil Survey has no data for the subject property or immediate surrounding area.

4. Proposed Conditions

4.1 Post-development Site Plan

Postdevelopment conditions will include approximately 10 acres of commercial and residential development and approximately 69.2 acres of lawn and park land. Runoff will be collected in vegetated swales and directed to an onsite pond that will be sized to contain the entire 100-year storm event. A post-development site plan is shown on the following page.



Post-development Site Plan

4.2 Discharge Points and Receiving Water Bodies

There is no proposed off-site discharge point. All runoff from the entire 111-acre drainage basin will be contained on site.

5. Stormwater Controls Construction Consideration Plan

The primary controls used for stormwater management will be vegetated swales and a constructed wet pond. A piped storm drain system may be incorporated into the final design for the commercial/residential portion of the site. Any future piped systems within the commercial/residential area will outfall to the wet pond. Construction of a storm drain connection to the existing municipal system is not anticipated.

5.1 Vegetated Swale

Vegetated swales will be constructed around the perimeter of the park and commercial area to pick up runoff generated on site as well as runoff flowing into the project from the surrounding area. The vegetated swales will be constructed per the Anchorage Stormwater Manual recommendations. To meet water quality requirements, the swales will be trapezoidal with a minimum 2 foot bottom and 3:1 maximum side slopes. The maximum longitudinal slope will be 6% and check dams will be installed as necessary to limit the velocity to 1 foot per second or less during the first 0.52 inches of rainfall.

5.2 Retention Basin

A Retention Basin will be constructed in the southeast corner of the project. The wet pond will be constructed per the Anchorage Stormwater Manual recommendations. The basin will be sized to retain the 100-year storm event on site. The footprint is estimated to be 59,000 square feet.

6. Compliance with Stormwater Management Requirements

To comply with the stormwater management requirements, the predevelopment peak runoff was compared to postdevelopment peak flows and the system was designed and sized to meet the requirements of Section 3 of the Anchorage Stormwater Manual.

The Autodesk Storm and Sanitary Sewer program was utilized to model the drainage system. SCS TR-55 methodology with hydrodynamic routing was used for the runoff model. The SCS Type I Cumulative Dimensionless 24-hour Rainfall Distribution in 6 minute increments (Anchorage Stormwater Manual page D-3) was used for the precipitation model. Time of concentration values for the postdevelopment sub-basins vary from 5 minutes to 45 minutes. Calculations are included in Appendix 7.3.

6.1 Water Quality Treatment

Stormwater management systems must be designed to provide water quality treatment through the use of Green Infrastructure. Treatment must be provided for runoff generated from the first 0.52 inches of rainfall from a 24-hour rainfall event preceded by 48 hours of no precipitation (Section 3.3.2.1).

The first 0.52 inches of precipitation will be treated through the use of vegetated swales and a constructed wet pond. Both of these management tools qualify as Green Infrastructure per Section 3.3.2.1.

6.2 Extended Detention (Channel Protection)

Extended detention is not required since the design will incorporate Green Infrastructure. However, all runoff generated by the 1-year event, is retained on site.

6.3 Conveyance

The storm system must be designed to convey the 10-year 24-hour event (Section 3.3.2.3).

The vegetated swales will be sized to convey the 10-year storm event. The swale used in the analysis is 2-feet deep, with a 2-foot bottom and 3:1 side slopes. At a 2% slope, the swale has a capacity of 111 cfs. The peak runoff carried by the swale during the 10-year event is 15 cfs or less than 14% of the swale's capacity. During the 10-year event, the maximum depth of flow is 0.6 feet with 1.4 feet of additional freeboard.

6.4 Detention and Peak Flow Control

For this analysis, Option 2 of Section 3.3.2.4 was utilized. Three requirements for Option 2 must be met:

1) Peak Flow Control

- a. *Maintain the postdevelopment project runoff peak flow from the 10-year, 24-hour storm to less than or equal to the pre-development runoff peak flow at all project discharge points. AND*
- b. *Maintain the postdevelopment project runoff peak flow from the 100-year, 24-hour storm to less than or equal to 1.05 times the predevelopment runoff peak flows.*

The drainage design retains all runoff on site for both the 10 and 100-year events.

2) **Project Flood Bypass:** Design bypass diversions for the postdevelopment, 100-year, 24-hour storm runoff event or show an unobstructed, overland flow path safely bypassing project structures and/or overtopping project conveyance routes without impact to property affected by bypass route.

No runoff is discharged off site during the 100-year event. The conveyance systems are designed to carry the peak flow from the 100-year event without adverse impacts to the site or to neighboring properties.

3) **Downstream Impacts:** A downstream impact analysis is not required for this option if the project is located within the Anchorage Roads and Drainage Service Area (ARDSA).

The project is located within ARDSA, therefore a downstream impact analysis is not required.

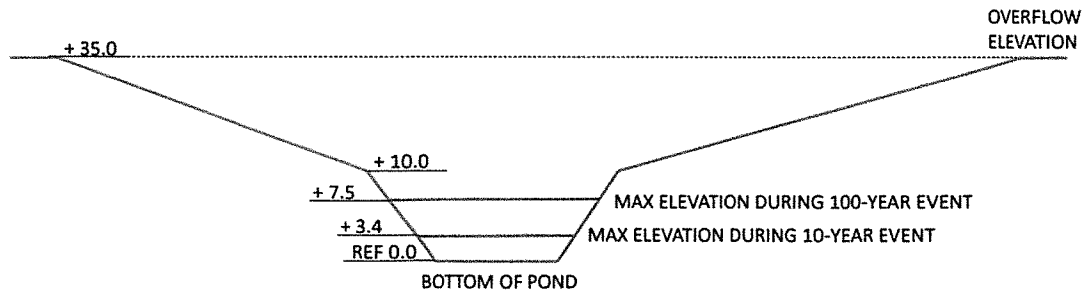
See the table below for a comparison of pre vs postdevelopment flow rates.

Peak Runoff Rate Comparison

Peak Flow [cfs]	Predevelopment	Postdevelopment	Fraction
10 Year 24 Hour	0	0	1.0
100 Year 24 Hour	0	0	1.0

No runoff occurs during the 10 or 100-year event under predevelopment conditions and no additional off-site runoff will be generated by the proposed development. Peak runoff for all events up to and including the 100-year storm will be retained on site in a constructed wet pond.

For this preliminary analysis, a retention basin footprint of 59,000 square feet with an average depth of 10 feet was used for the model. With these parameters, the basin reaches 34% capacity during the 10-year event and 75% capacity during the 100-year event. See below for a graphic depicting the retention basin cross section. Exact dimensions may change with the final grading design.



Calculations for the analysis are included in Appendix 7.3.

6.5 Downstream Impact Analysis

Not required for Option 2, Section 3.3.2.4.

6.6 Wetland Compliance

Not applicable, no wetlands are present on site.

6.7 Operations and Maintenance Plan

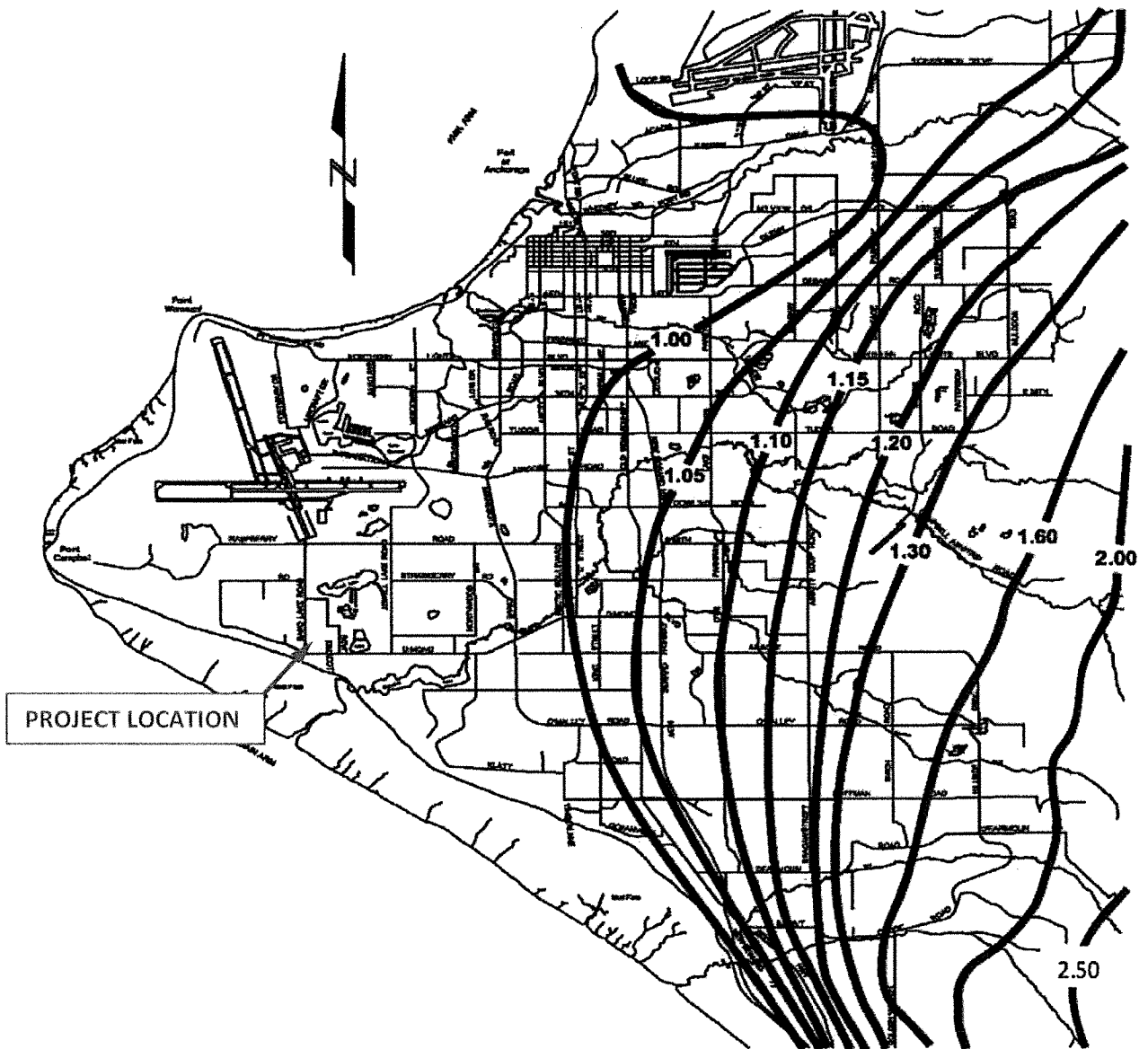
A specific operation and maintenance plan for the stormwater management controls will be written at the time of final design. At a minimum, the vegetated swales will require periodic inspection for trash and debris and annual inspection of the soil and vegetation conditions. Revegetation and sediment removal will be required as necessary. The retention basin will also need to be periodically inspected for sediment, trash and debris, and the surrounding vegetation will require upkeep as part of the park's landscaping and maintenance plan.

6.7 Conclusion

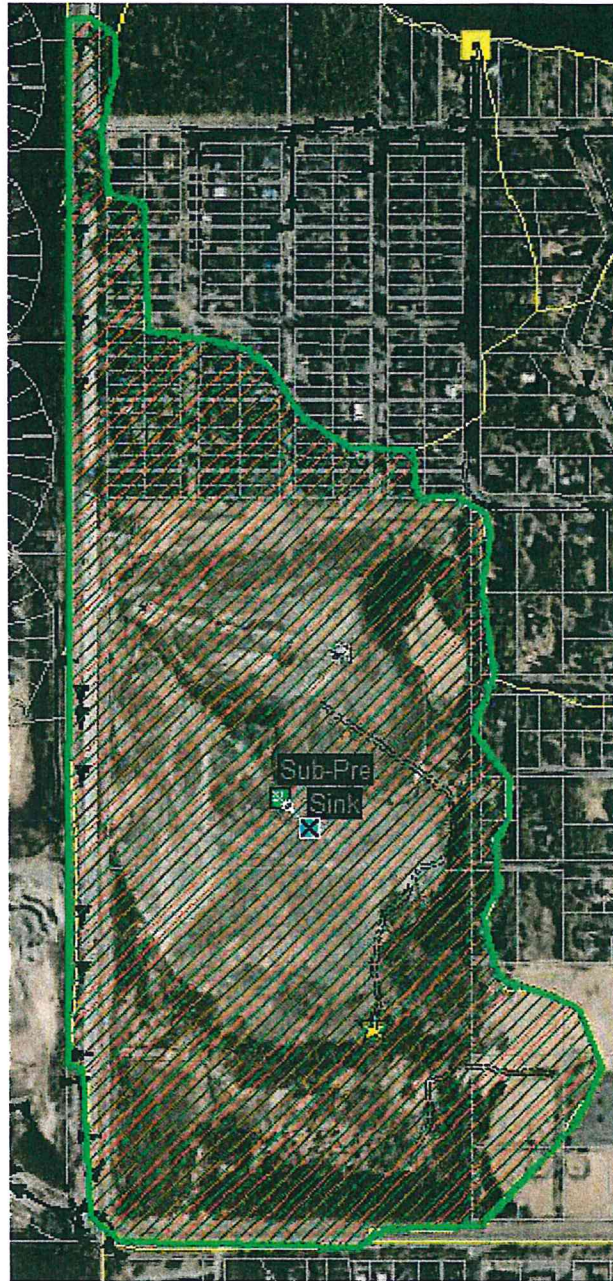
The proposed stormwater management plan complies with all Anchorage Stormwater Manual requirements. Runoff generated by the development will be treated and conveyed with vegetated swales to a constructed retention basin. The retention feature will be sized to retain the 100-year storm event.

7. Appendix

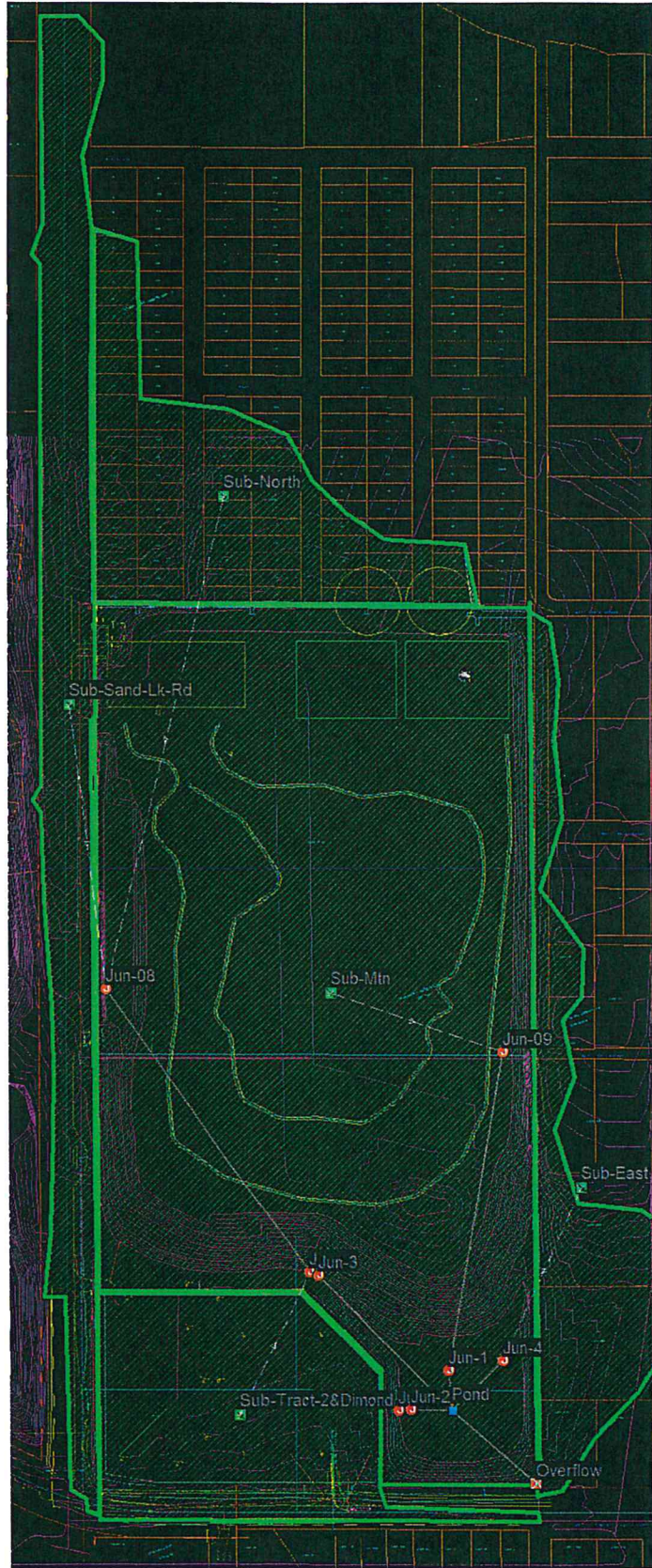
7.1 Orographic Map



7.2 Watershed Maps



Pre-development Watershed Map



Post-development Watershed Map

7.3 Hydrologic and Hydraulic Computations

Pre-development

Due to the drainage basin's characterization as a sink, all runoff from the basin is assumed to drain to the property and no runoff leaves the site.

Post-development

10-year, 24-hour

Autodesk® Storm and Sanitary Analysis 2016 - Version 12.0.42 (Build 0)

```

*****
Project Description
*****
File Name ..... Postdev Drainage 11-26-18 NEW DCM.SPF

*****
Analysis Options
*****
Flow Units ..... cfs
Subbasin Hydrograph Method. SCS TR-55
Time of Concentration..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Storage Node Exfiltration.. Constant rate, free surface area
Starting Date ..... FEB-10-2015 00:00:00
Ending Date ..... FEB-11-2015 12:00:00
Report Time Step ..... 00:05:00

*****
Element Count
*****
Number of rain gages ..... 1
Number of subbasins ..... 5
Number of nodes ..... 10
Number of links ..... 9

*****
Raingage Summary
*****
Gage          Data          Data          Recording
ID            Source         Type           Interval
                                      min
-----
Rain Gage-01  10YR - 24HR  NEW DCM  CUMULATIVE    6.00

*****
Subbasin Summary
*****
Subbasin      Total
              Area
ID            acres
-----
Sub-East      9.50
Sub-Mtn       65.30
Sub-North     11.50
Sub-Sand-Lk-Rd 13.00
Sub-Tract-24Diamond 12.10

*****
Node Summary
*****
Node          Element      Invert      Maximum      Pondered      External
ID            Type         Elevation   Elev.         Area          Inflow
                                      ft           ft           ft²
-----
Jun-08        JUNCTION    138.00      140.00       0.00
Jun-09        JUNCTION    136.00      138.00       0.00
Jun-1         JUNCTION    126.00      128.00       0.00
Jun-10        JUNCTION    126.20      128.20       0.00
Jun-11        JUNCTION    126.00      128.00       0.00
Jun-2         JUNCTION    126.00      128.00       0.00
Jun-3         JUNCTION    125.90      127.90       0.00
Jun-4         JUNCTION    126.00      128.00       0.00
Overflow      OUTFALL     124.00      126.00       0.00
Pond          STORAGE     84.00       94.00        0.00

*****
Link Summary
*****
Link          From Node   To Node      Element      Length      Slope      Manning's
ID            ID          ID           Type         ft          %          Roughness
-----
Link-11      Jun-1      Pond         CHANNEL      100.0      42.0000   0.0320
Link-12      Jun-2      Pond         CHANNEL      100.0      42.0000   0.0320
Link-13      Overflow   Pond         CHANNEL      100.0      40.0000   0.0320
Link-14      Jun-3      Pond         CHANNEL      100.0      41.9000   0.0320
Link-15      Jun-4      Pond         CHANNEL      100.0      42.0000   0.0320
Link-16      Jun-08    Jun-11      CHANNEL      1200.0    1.0000    0.0320

```

Link-17	Jun-09	Jun-1	CHANNEL	1000.0	1.0000	0.0320
Link-18	Jun-10	Jun-2	CHANNEL	10.0	2.0000	0.0320
Link-19	Jun-11	Jun-3	CHANNEL	5.0	2.0000	0.0320

Cross Section Summary

Link ID	Shape	Depth/ Diameter ft	Width ft	No. of Barrels	Cross Sectional Area ft ²	Full Flow Hydraulic Radius ft	Design Flow Capacity cfs
Link-11	RECT_OPEN	2.00	10.00	1	20.00	1.43	763.47
Link-12	RECT_OPEN	2.00	10.00	1	20.00	1.43	763.47
Link-13	RECT_OPEN	2.00	10.00	1	20.00	1.43	745.07
Link-14	RECT_OPEN	2.00	10.00	1	20.00	1.43	762.56
Link-15	RECT_OPEN	2.00	10.00	1	20.00	1.43	763.47
Link-16	TRAPEZOIDAL	2.00	14.00	1	16.00	1.09	78.80
Link-17	TRAPEZOIDAL	2.00	14.00	1	16.00	1.09	78.80
Link-18	TRAPEZOIDAL	2.00	14.00	1	16.00	1.09	111.44
Link-19	TRAPEZOIDAL	2.00	14.00	1	16.00	1.09	111.44

Runoff Quantity	Volume acre-ft	Depth inches

Total Precipitation	21.243	2.288
Surface Runoff	0.708	0.076
Continuity Error (%)	-0.000	

Flow Routing Continuity	Volume acre-ft	Volume Mgallons

External Inflow	0.000	0.000
External Outflow	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	4.581	1.493
Continuity Error (%)	0.321	

Composite Curve Number Computations Report

Subbasin Sub-East

Soil/Surface Description	Area (acres)	Soil Group	CN
> 75% grass cover, Good	8.50	B	61.00
Paved parking & roofs	1.00	B	98.00
Composite Area & Weighted CN	9.50		64.89

Subbasin Sub-Mtn

Soil/Surface Description	Area (acres)	Soil Group	CN
> 75% grass cover, Good	65.30	C	74.00
Composite Area & Weighted CN	65.30		74.00

Subbasin Sub-North

Soil/Surface Description	Area (acres)	Soil Group	CN
Paved parking & roofs	8.00	B	98.00
> 75% grass cover, Good	3.50	B	61.00
Composite Area & Weighted CN	11.50		86.74

Subbasin Sub-Sand-1k-Rd

Soil/Surface Description	Area (acres)	Soil Group	CN
Paved parking & roofs	11.70	B	98.00
> 75% grass cover, Good	1.30	B	61.00
Composite Area & Weighted CN	13.00		94.30

Subbasin Sub-Tract-2Ediamond

Soil/Surface Description	Area (acres)	Soil Group	CN
Paved parking & roofs	8.10	C	98.00
> 75% grass cover, Good	4.00	C	74.00
Composite Area & Weighted CN	12.10		90.07

SCS TR-55 Time of Concentration Computations Report

Sheet Flow Equation

$$T_c = (0.007 * ((n * L_f)^{0.8})) / ((P^{0.5}) * (S_f^{0.4}))$$

Where:

Tc = Time of Concentration (hrs)
 n = Manning's Roughness
 Lf = Flow Length (ft)
 P = 2 yr, 24 hr Rainfall (inches)
 Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation

V = 16.1345 * (Sf^0.5) (unpaved surface)
 V = 20.3282 * (Sf^0.5) (paved surface)
 V = 15.0 * (Sf^0.5) (grassed waterway surface)
 V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
 V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
 V = 7.0 * (Sf^0.5) (short grass pasture surface)
 V = 5.0 * (Sf^0.5) (woodland surface)
 V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
 Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hrs)
 Lf = Flow Length (ft)
 V = Velocity (ft/sec)
 Sf = Slope (ft/ft)

Channel Flow Equation

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
 R = Aq / Wp
 Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hrs)
 Lf = Flow Length (ft)
 R = Hydraulic Radius (ft)
 Aq = Flow Area (ft²)
 Wp = Wetted Perimeter (ft)
 V = Velocity (ft/sec)
 Sf = Slope (ft/ft)
 n = Manning's Roughness

Subbasin Sub-East

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	0.40	0.00	0.00
Flow Length (ft):	150.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.06	0.00	0.00
Computed Flow Time (minutes):	44.90	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	1600.00	0.00	0.00
Slope (%):	6.00	0.00	0.00
Surface Type:	Unpaved	Unpaved	Unpaved
Velocity (ft/sec):	3.95	0.00	0.00
Computed Flow Time (minutes):	6.75	0.00	0.00
Total TOC (minutes):	51.66		

Subbasin Sub-Mtn

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	0.40	0.00	0.00
Flow Length (ft):	150.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.06	0.00	0.00
Computed Flow Time (minutes):	44.90	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	40.00	0.00	0.00
Surface Type:	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec):	9.49	0.00	0.00
Computed Flow Time (minutes):	0.53	0.00	0.00
Total TOC (minutes):	45.43		

Subbasin Sub-North

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C

Manning's Roughness:	0.30	0.00	0.00
Flow Length (ft):	150.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.07	0.00	0.00
Computed Flow Time (minutes):	35.67	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	1500.00	0.00	0.00
Slope (%):	3.00	0.00	0.00
Surface Type:	Unpaved	Unpaved	Unpaved
Velocity (ft/sec):	2.79	0.00	0.00
Computed Flow Time (minutes):	8.96	0.00	0.00

Total TOC (minutes):	44.63		

Subbasin Sub-Sand-Lk-Rd

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	0.20	0.00	0.00
Flow Length (ft):	100.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.09	0.00	0.00
Computed Flow Time (minutes):	18.65	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	2500.00	0.00	0.00
Slope (%):	3.00	0.00	0.00
Surface Type:	Unpaved	Unpaved	Unpaved
Velocity (ft/sec):	2.79	0.00	0.00
Computed Flow Time (minutes):	14.93	0.00	0.00

Total TOC (minutes):	33.58		

Subbasin Sub-Tract-2&Diamond

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	0.01	0.00	0.00
Flow Length (ft):	150.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.99	0.00	0.00
Computed Flow Time (minutes):	2.53	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	700.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
Surface Type:	Paved	Unpaved	Unpaved
Velocity (ft/sec):	2.87	0.00	0.00
Computed Flow Time (minutes):	4.07	0.00	0.00

Total TOC (minutes):	6.60		

Subbasin Runoff Summary

Subbasin ID	Total Precip in	Total Runoff in	Peak Runoff cfs	Weighted Curve Number	Time of Concentration days hh:mm:ss
Sub-East	2.28	0.22	0.21	64.890	0 00:51:39
Sub-Mtn	2.28	0.49	8.25	74.000	0 00:45:25
Sub-North	2.28	1.11	4.10	86.740	0 00:44:37
Sub-Sand-Lk-Rd	2.28	1.69	8.07	94.300	0 00:33:34
Sub-Tract-2&Diamond	2.28	1.34	12.11	90.070	0 00:06:36

Node Depth Summary

Node ID	Average Depth Attained ft	Maximum Depth Attained ft	Maximum HGL Attained ft	Time of Max Occurrence days hh:mm	Total Flooded Volume acre-in	Total Time Flooded minutes	Retention Time hh:mm:ss
Jun-08	0.17	0.85	138.85	0 12:31	0	0	0:00:00
Jun-09	0.18	0.87	136.87	0 12:41	0	0	0:00:00
Jun-1	0.02	0.12	126.12	0 12:42	0	0	0:00:00
Jun-10	0.00	0.00	126.20	0 00:00	0	0	0:00:00
Jun-11	0.21	1.04	127.04	0 12:16	0	0	0:00:00

Jun-2	0.00	0.00	126.00	0	00:00	0	0	0:00:00
Jun-3	0.03	0.17	126.07	0	12:17	0	0	0:00:00
Jun-4	0.00	0.01	126.01	0	13:02	0	0	0:00:00
Overflow	0.00	0.00	124.00	0	00:00	0	0	0:00:00
Pond	1.85	3.30	87.30	1	12:00	0	0	0:00:00

Node Flow Summary

Node ID	Element Type	Maximum Lateral Inflow cfs	Peak Inflow cfs	Time of Peak Inflow Occurrence days hh:mm	Maximum Flooding Overflow cfs	Time of Peak Flooding Occurrence days hh:mm
Jun-08	JUNCTION	11.89	11.89	0 12:30	0.00	
Jun-09	JUNCTION	8.22	8.22	0 12:40	0.00	
Jun-1	JUNCTION	0.00	8.15	0 12:41	0.00	
Jun-10	JUNCTION	0.00	0.00	0 00:00	0.00	
Jun-11	JUNCTION	10.48	15.98	0 12:15	0.00	
Jun-2	JUNCTION	0.00	0.00	0 00:00	0.00	
Jun-3	JUNCTION	0.00	15.35	0 12:17	0.00	
Jun-4	JUNCTION	0.21	0.21	0 12:55	0.00	
Overflow	OUTFALL	0.00	0.00	0 00:00	0.00	
Pond	STORAGE	0.00	21.82	0 12:37	0.00	

Storage Node Summary

Storage Node ID	Maximum Ponded Volume 1000 ft ³	Maximum Ponded Volume (%)	Time of Max Ponded Volume days hh:mm	Average Ponded Volume 1000 ft ³	Average Ponded Volume (%)	Maximum Storage Node Outflow cfs	Maximum Exfiltration Rate cfm	Time of Max. Exfiltration Rate hh:mm:ss	Total Exfiltrated Volume 1000 ft ³
Pond	194.538	33	1 12:00	109.175	19	0.00	0.00	0:00:00	0.000

Outfall Loading Summary

Outfall Node ID	Flow Frequency (%)	Average Flow cfs	Peak Inflow cfs
Overflow	0.00	0.00	0.00
System	0.00	0.00	0.00

Link Flow Summary

Link ID	Element Type	Time of Peak Flow Occurrence days hh:mm	Maximum Velocity Attained ft/sec	Length Factor	Peak Flow during Analysis cfs	Design Flow Capacity cfs	Ratio of Maximum /Design Flow	Ratio of Maximum Flow Depth	Total Time Surcharged minutes	Reported Condition
Link-11	CHANNEL	0 12:42	1.75	13.86	8.14	763.47	0.01	0.51	0	Calculated
Link-12	CHANNEL	0 00:00	0.00	13.86	0.00	763.47	0.00	0.50	0	Calculated
Link-13	CHANNEL	0 00:00	0.00	13.58	0.00	745.07	0.00	0.50	0	Calculated
Link-14	CHANNEL	0 12:18	4.35	13.85	15.33	762.56	0.02	0.51	0	Calculated
Link-15	CHANNEL	0 13:03	0.04	13.86	0.21	763.47	0.00	0.50	0	Calculated
Link-16	CHANNEL	0 12:32	2.67	1.00	11.71	78.80	0.15	0.46	0	Calculated
Link-17	CHANNEL	0 12:41	4.74	1.00	8.15	78.80	0.10	0.25	0	Calculated
Link-18	CHANNEL	0 00:00	0.00	39.09	0.00	111.44	0.00	0.00	0	Calculated
Link-19	CHANNEL	0 12:17	6.72	78.19	15.35	111.44	0.14	0.30	0	Calculated

Highest Flow Instability Indexes

All links are stable.

Analysis began on: Tue Nov 27 10:35:01 2018
Analysis ended on: Tue Nov 27 10:35:02 2018
Total elapsed time: 00:00:01

100-year, 24-hour

Autodesk® Storm and Sanitary Analysis 2016 - Version 12.0.42 (Build 0)

Project Description

File Name Postdev Drainage 11-26-18 NEW DCM.SPF

Analysis Options

Flow Units cfs
Subbasin Hydrograph Method. SCS TR-55
Time of Concentration..... SCS TR-55

Link Routing Method Hydrodynamic
 Storage Node Exfiltration.. Constant rate, free surface area
 Starting Date FEB-10-2015 00:00:00
 Ending Date FEB-11-2015 12:00:00
 Report Time Step 00:05:00

 Element Count

 Number of rain gages 1
 Number of subbasins 5
 Number of nodes 10
 Number of links 9

 Raingage Summary

Gage ID	Data Source	Data Type	Recording Interval
Rain Gage-01	100-YR NEW DCM	CUMULATIVE	6.00

min

 Subbasin Summary

Subbasin ID	Total Area acres
Sub-East	9.50
Sub-Mtn	65.30
Sub-North	11.50
Sub-Sand-Lk-Rd	13.00
Sub-Tract-2&Diamond	12.10

 Node Summary

Node ID	Element Type	Invert Elevation ft	Maximum Elev. ft	Ponded Area ft ²	External Inflow
Jun-08	JUNCTION	138.00	140.00	0.00	
Jun-09	JUNCTION	136.00	138.00	0.00	
Jun-1	JUNCTION	126.00	128.00	0.00	
Jun-10	JUNCTION	126.20	128.20	0.00	
Jun-11	JUNCTION	126.00	128.00	0.00	
Jun-2	JUNCTION	126.00	128.00	0.00	
Jun-3	JUNCTION	125.90	127.90	0.00	
Jun-4	JUNCTION	126.00	128.00	0.00	
Overflow	OUTFALL	124.00	126.00	0.00	
Pond	STORAGE	84.00	94.00	0.00	

 Link Summary

Link ID	From Node	To Node	Element Type	Length ft	Slope %	Manning's Roughness
Link-11	Jun-1	Pond	CHANNEL	100.0	42.0000	0.0320
Link-12	Jun-2	Pond	CHANNEL	100.0	42.0000	0.0320
Link-13	Overflow	Pond	CHANNEL	100.0	40.0000	0.0320
Link-14	Jun-3	Pond	CHANNEL	100.0	41.9000	0.0320
Link-15	Jun-4	Pond	CHANNEL	100.0	42.0000	0.0320
Link-16	Jun-08	Jun-11	CHANNEL	1200.0	1.0000	0.0320
Link-17	Jun-09	Jun-1	CHANNEL	1000.0	1.0000	0.0320
Link-18	Jun-10	Jun-2	CHANNEL	10.0	2.0000	0.0320
Link-19	Jun-11	Jun-3	CHANNEL	5.0	2.0000	0.0320

 Cross Section Summary

Link ID	Shape	Depth/Diameter ft	Width ft	No. of Barrels	Cross Sectional Area ft ²	Full Flow Hydraulic Radius ft	Design Flow Capacity cfs
Link-11	RECT_OPEN	2.00	10.00	1	20.00	1.43	763.47
Link-12	RECT_OPEN	2.00	10.00	1	20.00	1.43	763.47
Link-13	RECT_OPEN	2.00	10.00	1	20.00	1.43	745.07
Link-14	RECT_OPEN	2.00	10.00	1	20.00	1.43	762.56
Link-15	RECT_OPEN	2.00	10.00	1	20.00	1.43	763.47
Link-16	TRAPEZOIDAL	2.00	14.00	1	16.00	1.09	78.80
Link-17	TRAPEZOIDAL	2.00	14.00	1	16.00	1.09	78.80
Link-18	TRAPEZOIDAL	2.00	14.00	1	16.00	1.09	111.44
Link-19	TRAPEZOIDAL	2.00	14.00	1	16.00	1.09	111.44

	Volume acre-ft	Depth inches
Runoff Quantity Continuity		
Total Precipitation	33.448	3.603
Surface Runoff	1.562	0.168
Continuity Error (%)	-0.000	

	Volume acre-ft	Volume Mgallons
Flow Routing Continuity		

```

External Inflow ..... 0.000 0.000
External Outflow ..... 0.000 0.000
Initial Stored Volume .... 0.000 0.000
Final Stored Volume ..... 9.973 3.250
Continuity Error (%) ..... 0.329

```

```

*****
Composite Curve Number Computations Report
*****

```

```

-----
Subbasin Sub-East
-----

```

Soil/Surface Description	Area (acres)	Soil Group	CN
> 75% grass cover, Good	8.50	B	61.00
Paved parking & roofs	1.00	B	98.00
Composite Area & Weighted CN	9.50		64.89

```

-----
Subbasin Sub-Mtn
-----

```

Soil/Surface Description	Area (acres)	Soil Group	CN
> 75% grass cover, Good	65.30	C	74.00
Composite Area & Weighted CN	65.30		74.00

```

-----
Subbasin Sub-North
-----

```

Soil/Surface Description	Area (acres)	Soil Group	CN
Paved parking & roofs	8.00	B	98.00
> 75% grass cover, Good	3.50	B	61.00
Composite Area & Weighted CN	11.50		86.74

```

-----
Subbasin Sub-Sand-Lk-Rd
-----

```

Soil/Surface Description	Area (acres)	Soil Group	CN
Paved parking & roofs	11.70	B	98.00
> 75% grass cover, Good	1.30	B	61.00
Composite Area & Weighted CN	13.00		94.30

```

-----
Subbasin Sub-Tract-24Diamond
-----

```

Soil/Surface Description	Area (acres)	Soil Group	CN
Paved parking & roofs	8.10	C	98.00
> 75% grass cover, Good	4.00	C	74.00
Composite Area & Weighted CN	12.10		90.07

```

*****
SCS TR-55 Time of Concentration Computations Report
*****

```

```

Sheet Flow Equation
-----

```

$$T_c = (0.007 * ((n * L_f)^{0.8})) / ((P^{0.5}) * (S_f^{0.4}))$$

Where:

T_c = Time of Concentration (hrs)
 n = Manning's Roughness
 L_f = Flow Length (ft)
 P = 2 yr, 24 hr Rainfall (inches)
 S_f = Slope (ft/ft)

```

Shallow Concentrated Flow Equation
-----

```

$V = 16.1345 * (S_f^{0.5})$ (unpaved surface)
 $V = 20.3282 * (S_f^{0.5})$ (paved surface)
 $V = 15.0 * (S_f^{0.5})$ (grassed waterway surface)
 $V = 10.0 * (S_f^{0.5})$ (nearly bare & untilled surface)
 $V = 9.0 * (S_f^{0.5})$ (cultivated straight rows surface)
 $V = 7.0 * (S_f^{0.5})$ (short grass pasture surface)
 $V = 5.0 * (S_f^{0.5})$ (woodland surface)
 $V = 2.5 * (S_f^{0.5})$ (forest w/heavy litter surface)
 $T_c = (L_f / V) / (3600 \text{ sec/hr})$

Where:

T_c = Time of Concentration (hrs)
 L_f = Flow Length (ft)
 V = Velocity (ft/sec)
 S_f = slope (ft/ft)

```

Channel Flow Equation
-----

```

$V = (1.49 * (R^{2/3}) * (S_f^{0.5})) / n$
 $R = A_f / W_p$
 $T_c = (L_f / V) / (3600 \text{ sec/hr})$

Where:

Tc = Time of Concentration (hrs)
 Lf = Flow Length (ft)
 R = Hydraulic Radius (ft)
 Aq = Flow Area (ft²)
 Wp = Wetted Perimeter (ft)
 V = Velocity (ft/sec)
 Sf = Slope (ft/ft)
 n = Manning's Roughness

 Subbasin Sub-East

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	0.40	0.00	0.00
Flow Length (ft):	150.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.06	0.00	0.00
Computed Flow Time (minutes):	44.90	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	1600.00	0.00	0.00
Slope (%):	6.00	0.00	0.00
Surface Type:	Unpaved	Unpaved	Unpaved
Velocity (ft/sec):	3.95	0.00	0.00
Computed Flow Time (minutes):	6.75	0.00	0.00

Total TOC (minutes): 51.66

 Subbasin Sub-Mtn

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	0.40	0.00	0.00
Flow Length (ft):	150.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.06	0.00	0.00
Computed Flow Time (minutes):	44.90	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	40.00	0.00	0.00
Surface Type:	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec):	9.49	0.00	0.00
Computed Flow Time (minutes):	0.53	0.00	0.00

Total TOC (minutes): 45.43

 Subbasin Sub-North

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	0.30	0.00	0.00
Flow Length (ft):	150.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.07	0.00	0.00
Computed Flow Time (minutes):	35.67	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	1500.00	0.00	0.00
Slope (%):	3.00	0.00	0.00
Surface Type:	Unpaved	Unpaved	Unpaved
Velocity (ft/sec):	2.79	0.00	0.00
Computed Flow Time (minutes):	8.96	0.00	0.00

Total TOC (minutes): 44.63

 Subbasin Sub-Sand-Lk-Rd

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	0.20	0.00	0.00
Flow Length (ft):	100.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.09	0.00	0.00
Computed Flow Time (minutes):	18.65	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	2500.00	0.00	0.00
Slope (%):	3.00	0.00	0.00
Surface Type:	Unpaved	Unpaved	Unpaved
Velocity (ft/sec):	2.79	0.00	0.00
Computed Flow Time (minutes):	14.93	0.00	0.00
Total TOC (minutes):	33.58		

Subbasin Sub-Tract-2&Dimond

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	0.01	0.00	0.00
Flow Length (ft):	150.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	1.40	0.00	0.00
Velocity (ft/sec):	0.99	0.00	0.00
Computed Flow Time (minutes):	2.53	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	700.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
Surface Type:	Paved	Unpaved	Unpaved
Velocity (ft/sec):	2.87	0.00	0.00
Computed Flow Time (minutes):	4.07	0.00	0.00
Total TOC (minutes):	6.60		

Subbasin Runoff Summary

Subbasin ID	Total Precip in	Total Runoff in	Peak Runoff cfs	Weighted Curve Number	Time of Concentration days	hh:mm:ss
Sub-East	3.59	0.79	1.84	64.890	0	00:51:39
Sub-Mtn	3.59	1.30	25.99	74.000	0	00:45:25
Sub-North	3.59	2.24	8.28	86.740	0	00:44:37
Sub-Sand-Lk-Rd	3.59	2.95	13.69	94.300	0	00:33:34
Sub-Tract-2&Dimond	3.59	2.54	22.40	90.070	0	00:06:36

Node Depth Summary

Node ID	Average Depth Attained Ft	Maximum Depth Attained Ft	Maximum HGL Attained Ft	Time of Max Occurrence days	hh:mm	Total Flooded Volume acre-in	Total Time Flooded minutes	Retention Time hh:mm:ss
Jun-08	0.24	1.12	139.12	0	12:31	0	0	0:00:00
Jun-09	0.30	1.48	137.48	0	12:37	0	0	0:00:00
Jun-1	0.04	0.23	126.23	0	12:38	0	0	0:00:00
Jun-10	0.00	0.00	126.20	0	00:00	0	0	0:00:00
Jun-11	0.30	1.40	127.40	0	12:16	0	0	0:00:00
Jun-2	0.00	0.00	126.00	0	00:00	0	0	0:00:00
Jun-3	0.05	0.25	126.15	0	12:17	0	0	0:00:00
Jun-4	0.01	0.05	126.05	0	12:44	0	0	0:00:00
Overflow	0.00	0.00	124.00	0	00:00	0	0	0:00:00
Pond	4.18	7.28	91.28	1	12:00	0	0	0:00:00

Node Flow Summary

Node ID	Element Type	Maximum Lateral Inflow cfs	Peak Inflow cfs	Time of Peak Inflow Occurrence days	hh:mm	Maximum Flooding cfs	Time of Peak Flooding Occurrence days	hh:mm
Jun-08	JUNCTION	21.51	21.51	0	12:30	0.00		
Jun-09	JUNCTION	25.93	25.93	0	12:35	0.00		
Jun-1	JUNCTION	0.00	25.74	0	12:38	0.00		
Jun-10	JUNCTION	0.00	0.00	0	00:00	0.00		
Jun-11	JUNCTION	19.56	29.63	0	12:15	0.00		
Jun-2	JUNCTION	0.00	0.00	0	00:00	0.00		
Jun-3	JUNCTION	0.00	28.81	0	12:16	0.00		
Jun-4	JUNCTION	1.83	1.83	0	12:40	0.00		
Overflow	OUTFALL	0.00	0.00	0	00:00	0.00		
Pond	STORAGE	0.00	52.42	0	12:36	0.00		

Storage Node Summary

Storage Node ID	Maximum	Maximum	Time of Max	Average	Average	Maximum	Maximum	Time of Max.	Total
-----------------	---------	---------	-------------	---------	---------	---------	---------	--------------	-------

	Ponded Volume 1000 ft ³	Ponded Volume (%)	Ponded Volume days hh:mm	Ponded Volume 1000 ft ³	Ponded Volume (%)	Storage Node Outflow cfs	Exfiltration Rate cfm	Exfiltration Rate hh:mm:ss	Exfiltrated Volume 1000 ft ³
Pond	429.448	73	1 12:00	246.897	42	0.00	0.00	0:00:00	0.000

 Outfall Loading Summary

Outfall Node ID	Flow Frequency (%)	Average Flow cfs	Peak Inflow cfs
Overflow	0.00	0.00	0.00
System	0.00	0.00	0.00

 Link Flow Summary

Link ID	Element Type	Time of Peak Flow Occurrence days hh:mm	Maximum Velocity Attained ft/sec	Length Factor	Peak Flow during Analysis cfs	Design Flow Capacity cfs	Ratio of Maximum /Design Flow	Ratio of Maximum Flow Depth	Total Time Surcharged minutes	Reported Condition
Link-11	CHANNEL	0 12:39	2.31	13.86	25.74	763.47	0.03	0.56	0	Calculated
Link-12	CHANNEL	0 00:00	0.00	13.86	0.00	763.47	0.00	0.50	0	Calculated
Link-13	CHANNEL	0 00:00	0.00	13.58	0.00	745.07	0.00	0.50	0	Calculated
Link-14	CHANNEL	0 12:17	3.39	13.85	28.80	762.56	0.04	0.56	0	Calculated
Link-15	CHANNEL	0 12:44	0.18	13.86	1.82	763.47	0.00	0.51	0	Calculated
Link-16	CHANNEL	0 12:31	3.07	1.00	21.26	78.80	0.27	0.61	0	Calculated
Link-17	CHANNEL	0 12:38	6.56	1.00	25.74	78.80	0.33	0.43	0	Calculated
Link-18	CHANNEL	0 00:00	0.00	39.09	0.00	111.44	0.00	0.00	0	Calculated
Link-19	CHANNEL	0 12:16	7.83	78.19	28.81	111.44	0.26	0.41	0	Calculated

 Highest Flow Instability Indexes

 All links are stable.

Analysis began on: Tue Nov 27 10:47:19 2018
 Analysis ended on: Tue Nov 27 10:47:21 2018
 Total elapsed time: 00:00:02

7.4 Stormwater Management Design Drawings

Design drawings will be included in the final report.

7.5 Operation and Maintenance Plan

An O&M Plan will be included in the final report.

MUNICIPALITY OF ANCHORAGE
PLANNING AND ZONING COMMISSION RESOLUTION NO. 2014-029

A RESOLUTION APPROVING A MODIFICATION TO A NATURAL RESOURCE EXTRACTION CONDITIONAL USE TO END A SEVEN YEAR ABEYANCE AND AMEND THE SITE PLAN, IN THE R-1A (SINGLE FAMILY RESIDENTIAL) DISTRICT FOR LANCASTER SUBDIVISION, TRACT A, AND T12N, R4W, SECTION 10, SW ¼, SW ¼, PARCEL 21, S.M., AK; GENERALLY LOCATED ON THE NORTHEAST CORNER OF SAND LAKE ROAD AND DIMOND BOULEVARD.

(Case 2014-056; Parcel ID Nos. 001-162-42 and 011-201-30)

WHEREAS, a request was received from Anchorage Sand and Gravel, petitioner, and DOWL HKM, representative, for a modification to a natural resource extraction conditional use to end the seven year abeyance and amend the site plan, in the R-1A (single family residential) district for Lancaster Subdivision, Tract A, and T12N, R4W, Section 10, SW ¼, SW ¼, Parcel 21, S.M., AK; generally located on the northeast corner of Sand Lake Road and Dimond Boulevard; and

WHEREAS, a non-public hearing was held in front of the Planning and Zoning Commission on June 2, 2014.

NOW, THEREFORE, BE IT RESOLVED by the Anchorage Planning and Zoning Commission that:

- A. The Commission makes the following findings of fact:
1. The site is located at 8501 Sand Lake Road, and is a part of the 80-acre former gravel pit known as the Anchorage Sand and Gravel (AS&G) pit and Sand Lake Fill Site. It is a former natural resource extraction site which is undergoing reclamation for future open space.
 2. The request meets the general standards for conditional use approval (AMC 21.50.020) and the standards for natural resource extraction approval (AMC 21.50.070). This case was reviewed in accordance with AMC 21.13.030G., *Approval of site plans and conditional uses – Modification of final approval.*
- B. The Commission APPROVES the modification to a conditional use, subject to the following conditions:
1. Provide a grading and drainage plan to Private Development and a sediment and erosion control plan to Watershed Management Services.
 2. Prior to using the Phase II driveway, obtain a driveway permit from DOT&PF for the new driveway location.
 3. Resolve traffic impact issues with DOT&PF.

4. Add a label identifying the paved drive between the cattle guard containment and Sand Lake Road.
5. All documents submitted with this application are part of the conditions of approval.
6. This conditional use approval allows a natural resource extraction for the AS&G site on Lancaster Subdivision, Tract A and T12N, R4W, Section 10, SW ¼, SW ¼, Parcel 21, AK, zoned R-1A (single-family residential district), to deposit 2.5 million CY of mixed fill. The site will then be graded and leveled for use of outdoor recreation area, subject to the applicable provisions of Title 21, AMC.
7. This resolution incorporates prior conditions of approval for the northern portion of the petition area (under separate conditional use) which are still in effect and continue to govern the restoration operations of the natural resource extraction site in its entirety and supersedes the following resolutions: 28-75F dated 9/19/83; 28-75G dated 2/21/85; 28-75H dated 5/11/87; 28-075I dated 10/24/88; 75-028J dated 9/24/90; 21-78 dated 3/16/78; 21-78A dated 6/26/78; 25-78 dated 3/23/78; 25-78A dated 7/24/78; 78-025H dated 5/11/87; 16-83 dated 3/15/83; 95-019 dated 3/6/95; and 95-019A dated 11/6/95. Resolution 2000-034, dated 5/8/00, contained no additional conditions of approval. These incorporated conditions are as worded in resolution 95-019A (a resolution consolidating all prior approvals). These incorporated conditions are as worded in resolutions 2005-073 and 2005-074. These conditions are still in effect, except as modified by this approval):
 - a. This approval combines amortization permits P78-18 (Tract A, Lancaster Subdivision formerly known as the Anchorage Sand and Gravel pit), P78-42 (SW 1/4, SW 1/4, Section 10, T12N, R4W, S.M., Alaska formerly known as the Richard Evenson property) and CU 83-022-3 (the 80 acre tract including Tract A, Lancaster Subdivision and SW 1/4, SW 1/4, Section T12N, R4W, S.M., Alaska). This approval is based on AMC 21.55.090, Resolution 16-83 and the Sand Lake Redevelopment Plan as adopted March 15, 1983. (Amended from Resolution 28-75F.)
 - b. At the end of the fill operation, a close out inspection of the property with representatives of Private Development and Planning shall be conducted to evaluate the final restoration and compliance with the reclamation plan.

- c. Operational hours shall be limited to 7:00 a.m. to 6:00 p.m. on Monday through Saturday. No operations will be permitted on Sundays or legal holidays. (Adopted from Resolution 28-75F.)
- d. Dust mitigation plans on public roadways and on the roadways within the site shall be submitted and approved by the Department of Health and Environmental Protection and the Municipal Planning Department as well as the methods to control spillage and clean up of the public roads shall be submitted to ensure that the tracking of peat on the Sand Lake Road shall be contained. (Adopted from Resolution 28-75F.)
- e. Stop signs shall be erected at all access points of the site, as approved in final site plans. These signs shall be maintained for the life of the restoration operations. (Amended from Resolution 25-78A.)
- f. There shall be no access to Dimond Boulevard from the petition site. (amended from Resolution 25-78A.)
- g. Effective access barriers shall be erected across any approved access to the site, as specified in final site plan approval, during any and all periods of pit closures. These barriers shall be maintained to prevent casual access into the pits. (adopted from Resolutions 21-78A and 25-78A.)
- h. All on-site equipment shall be muffled and use white noise alarms or motion detectors for backing up.
- i. Portable restrooms shall be maintained on-site during any periods of pit operations for employee use. Such restrooms shall be maintained in a sanitary condition at all times. (adopted from Resolutions 21-78A and 25-78A.)
- j. Annually an inspection report prepared by an Alaskan registered and professional engineer will identify the location and extent of the backfill as it relates to the fill being placed, and as it relates to the approved fill document. This report is to be submitted by December 31 of each year to the Planning Division for compliance to these conditions of approval. (adopted from Resolution 28-75F.)
- k. The petitioner shall provide log books with dates, time and material dumped, to be available upon request of the Community Development Department. (adopted from Resolution 78-025H.)

- l. Upon determination by Zoning Enforcement that a major violation of the conditions of approval is ongoing, by the filling of this property with other than structure soils and concrete (as permitted under Resolutions 78-025H and 28-075I), the use shall be suspended until the major violation has been corrected. (adopted from Resolutions 28-75F, 78-025H and 28-075I.)
- m. A staging map shall be submitted within 30 days of approval of the northern 35 acres to depict the staging of the fill for approval by the Community Development Department. As each stage, not to exceed 100 foot in width, is completed, it shall be stabilized and seeded with materials as approved by the Planning Staff within one six week growing season or on or before June 1 of the following year, whichever is earlier, to reduce air pollution and erosion. (Resolution 28-75F.)
- n. Clearly identified permanent control survey monuments shall be provided to Zoning Enforcement. The control survey monuments shall identify the maximum area of fill as depicted on Exhibit D1 and also establish the elevation so Zoning Enforcement will have the ability to substantiate the control filling. (adopted from Resolution 28-75F.)
- o. A performance bond in the amount of \$100,000 shall be provided to the Community Development Department within 30 days of approval to guarantee the implementation of the proposed restoration and preparation for redevelopment. The bond may be in any form found acceptable to staff including deeds of trusts and irrevocable letters of credit. (adopted from Resolution 28-75F.)
- p. The operation of the reclamation site shall include the following: (adopted from Resolution 95-019):
 - 1) On-site personnel shall be formally trained on all aspects of the operation of the reclamation site.
 - 2) The telephone number of Anchorage Sand & Gravel shall be placed on the side of the on-site operations building. The sign shall be of sufficient size to be visible from the adjacent roadway and the view of the sign shall be unobstructed by equipment, machinery, vegetation and the like.
 - 3) On-site personnel shall have total authority to direct road clean-up and maintenance operations as needed. On-site

personnel shall have the authority to call a sweeper, water truck and motor grader, as necessary, to respond to specific site conditions or complaints.

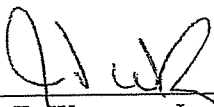
- 4) Circulation roads within the pit shall be maintained to minimize materials carried onto Sand Lake Road and Dimond Boulevard.
- 5) Anchorage Sand and Gravel shall identify contact people to respond to public inquiries. Currently, Wes VanderMartin, General Manager, AS&G, and Ryan Morman, Pit Operations Manager, AS&G can be reached at 349-3333. The home telephone numbers of the contact people shall be provided to the Chairman of the Sand Lake Community Council. The Community Council chairman and Land Use Enforcement shall be notified of any change in the AS&G contact personnel or business telephone number(s). The Community Council chairman shall be notified of any change in the home telephone numbers of AS&G contact personnel.
- q. The terms and conditions of this amortization permit shall be binding on the petitioner, his heirs, assigns, transferees, and other successors in interest and if violated shall subject the persons responsible for such violation to all penalties and remedies as provided by law. This resolution shall be recorded. (adopted from Resolutions 21-78A and 25-78A).
8. This conditional use approval is valid until May 5, 2024.
9. Future time extension requests shall require a nonpublic hearing review.
10. The list of acceptable fill materials is as follows: peat, clay, silty soil, hydro-axed materials, tree fragments, stumps, turf, and other organics associated with permitted clearing and grubbing operations, including wood chips from grinding operations, and concrete remnants related to demolition, concrete testing, or construction site clean-up.
11. The operation plan must address and include methods to prevent spontaneous combustion of materials on-site.
12. No gravel shall be removed from the site.
13. Submit a plan to Watershed Management Services and Planning for review and approval that addresses, but is not limited to, monitoring

protocol and monitoring well(s) to screen for contaminants and a method for third party review and reporting of results.

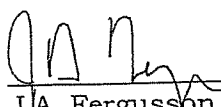
14. This approval includes a modification to the site plan, in accordance with the following plans:
 - a. Anchorage Sand and Gravel, Natural Resource Extraction Site, Grading/Drainage Plan; Figure 4; scale 1" = 200'; dated 2009-11-11; Drawn by DOWL HKM.
 - b. Sand Lake Fill Site CUP Amendment Operations Plan, Figure 3, drawn by DOWL HKM, dated 2014-3-10, scale 1" = 200'.
 - c. Anchorage Sand and Gravel, Natural Resource Extraction Site, Reclamation Plan; Figure 5; no scale; dated 2009-11-10; drawn by DOWL HKM.
15. A notice of zoning action shall be filed with the State Recorder's Office, along with a copy of the approved resolution and site plan. Proof of such shall be provided to the Planning Department.
16. The petitioner shall contract with a third party to evaluate methods and processes and how AS&G manages its site, the way AS&G processes and accepts materials, and the types of materials that are accepted. The petitioner shall, within 60 days, resolve with the Planning Department a process for reporting and memorializing the results of these third party reviews.

PASSED AND APPROVED by the Municipal Planning and Zoning Commission on the 2nd day of June, 2014.

ADOPTED by the Anchorage Municipal Planning and Zoning Commission this 14th day of July, 2014. This written decision/resolution of the Planning and Zoning Commission is final and any party may appeal it within twenty (20) days to the Board of Adjustment pursuant to the Anchorage Municipal Code 21.30.030.



Jerry T. Weaver, Jr.
Secretary



J.A. Fergusson
Chair

(Case 2014-056; Parcel ID Nos. 001-162-42 and 011-201-30)

**CONDITIONAL USE PERMIT MINOR AMENDMENT APPLICATION
FOR NATURAL RESOURCE EXTRACTION
Anchorage Sand & Gravel – Sand Lake Fill Site**

INTRODUCTION

Anchorage Sand & Gravel (AS&G) is proposing to amend an existing Conditional Use Permit (CUP) (Appendix A - Resolution 2010-005). In 2010, Anchorage Sand and Gravel (AS&G), requested to place their Conditional Use Permit (CUP) for the Sand Lake Fill Site in abeyance for ten years. This request was necessary so AS&G could concentrate their fill efforts on the Lucy Pit Fill Site located less than a mile away. The Lucy Pit Fill Site is now one to two construction seasons from completion and it is apparent that AS&G needs to request an amendment to their CUP to reopen the Sand Lake Fill Site during this period of transition. AS&G is requesting use of their Sand Lake Fill Site on a secondary basis during the next one to two construction seasons, so that as the Lucy Pit Fill Site moves towards final grade, associated with their approved grading plan, the flat working platform area will get smaller and smaller. As equipment continues to push the stockpiled material into final grade the working platform for trucks to dispose of fill and maneuver will be unavailable. Opening the Sand Lake Fill Site allows disposal of fill to continue without interruption, meeting contractor's needs and allows the Lucy Pit Fill Site to seamlessly move toward final reclamation. Once the Lucy Pit Fill Site is complete, AS&G will operate only at the Sand Lake Fill Site. The Sand Lake Fill Site will operate under the conditions of approval under Resolution 2010-005. The Sand Lake Fill Site will be accessed through a new driveway (to be permitted through a State of Alaska Department of Transportation and Public Facilities [DOT&PF] driveway permit) located approximately 900 feet south of the existing driveway off of Sand Lake Road. The water tank will remain in its current location, the scale house will be moved to a new location (in-line with the new driveway location), two "cattle guard" containment areas will be located on either side of the new leased wheel wash system, and the area will be paved. Once the Lucy Pit Fill Site is complete, the Lucy Pit wheel wash system will replace the leased system at the Sand Lake Fill Site.

LOCATION

The properties proposed for inclusion in the CUP application are Parcel 011-162-42 and 011-201-30 and contains approximately 79 acres. The parcels are legally known as Tract A,

Lancaster Subdivision and T12N R4W Section 10 SW4SW4, Parcel 21 and are commonly referred to as the Sand Lake Fill Site. The Sand Lake Fill Site is located within the SW ¼ of Section 10, T12N, R4W, Seward Meridian, State of Alaska (Figure 1 – Site Vicinity Map).

BACKGROUND

Since the early 1950's, extensive natural resource extraction has occurred in the Sand Lake area. The gravel extracted was much needed for construction of roads, runways, and buildings for the Anchorage International Airport, local road and building development, and then reconstruction after the 1964 earthquake. Most of the area's gravel pits are no longer in operation and have been closed out; however, they continue to exist as open pits. Consequently, the Sand Lake area has been left with un-stabilized steep slopes, a loss of native trees and vegetation, a loss of wildlife habitat and migration barriers, and visual blight. These open pits are a potential hazard to the health, safety and welfare of the local community, and make the construction of roads, trails, utilities, and homes nearly impossible.

The Sand Lake Fill Site is a gravel pit that was previously being filled with peat, gravel, silt, clay, and concrete remnants related to demolition, concrete testing, or construction site clean-up, and the like. Upon final reclamation, the site will allow for the creation of functional open space which could include open fields, athletic fields, community gardens, commercial nurseries, and the like. The fill operation at the site is operated by AS&G, and is located less than a mile to the northwest from the Lucy Pit Fill Site.

In December 2008, the MOA received authorization, through an Assembly action, to acquire Tracts 9A and 10, Westpark School Addition Subdivision, adjacent to the south boundary of the Lucy Pit Fill Site. The purpose of the acquisition was for the Anchorage School District (ASD) to use these sites for future elementary and middle school developments. Subsequently, AS&G entered into a Fill Agreement with the MOA, via a license agreement to place fill that White Raven, Inc. received as part of the sale price for the middle school site. This agreement gives AS&G exclusive fill rights to fill the Lucy Pit, so that the site may be brought to grade and be used as a future MOA park site. In 2010, the plan was approved by the Parks and Recreation Commission and AS&G obtained a CUP for natural resource extraction at the Lucy Pit to conduct fill operations and is now one to two seasons away from being reclaimed.

The purpose of reopening the CUP at the Sand Lake Fill Site is so that while AS&G is finalizing the grading and reclamation at the Lucy Pit Fill site the Sand Lake Fill Site can continue to accept fill, without interrupting construction projects. It is important to note that while both the Lucy Pit Fill Site and the Sand Lake Fill Site are open for the first two construction seasons that the total truck trips will remain the same. Once the Lucy Pit has been brought to the proposed grade, full operations will resume at the Sand Lake Fill Site (Figure 2 – Proximity Map).

EXISTING SITE CONDITIONS

Topography

The site generally slopes from the northeast corner of the site (at an elevation of 163 feet) to the south, intercepting a small ridge which is within the existing pit. From this ridge the site generally slopes to the south, culminating into an on-site sedimentation pond.

Seismic/Mass Wasting Considerations

The site is located in an area with moderately-low, seismically-induced ground failure. In considering development decisions, extra precautions may be appropriate for those areas identified as moderately susceptible to ground failure.

Mass wasting refers to the movement of large quantities of earth under gravitational force. Examples of mass wasting include landslides, avalanches, coastal flooding and erosion, and tsunami hazards. The entire site has been identified as having a low to moderate ground failure susceptibility.

Vegetation

Vegetation offers many advantages to a property including, windbreaks, shade, air pollution reduction, noise mitigation, water conservation, and screening. The majority of the existing site is unvegetated. The areas not affected by natural resource extraction contain vegetation consisting of alders and birch. Areas that have reached final grade have been seeded with an appropriate grass mix.

Wetlands

There are no wetlands identified on this site.

Drainage

The existing site conditions demonstrate that the site is graded in a manner that infiltrates stormwater on-site without contributing to off-site runoff.

Existing Infrastructure

The site is currently accessed by Sand Lake Road. Since the site is currently undeveloped, there are no existing roads or utilities within the project area. AWWU recently completed a water transmission line along the north boundary, including a pump station to provide appropriate water pressures.

STATEMENT OF PLANNING OBJECTIVES

Specific activities associated with the proposed project are described below.

DESCRIPTION OF OPERATIONS

Access.

This site will be accessed by a new controlled access drive off of Sand Lake Road, which will be either a locked gate or a chained closure. The existing access will be gated/closed (Figure 3- Operations Plan). Only AS&G personnel or contractors involved in fill operations will access the site. During fill operation periods, there will be an average of 250 one-way project-related trips per day. No pedestrians are allowed access to the site, except for those workers engaged in fill operations.

Clearing and Grubbing.

Most of the fill area has been cleared and grubbed due to prior natural resource extraction activities on the site.

Stripping.

The fill area has previously been stripped due to prior natural resource extraction activities on the site. No additional stripping is anticipated with this request.

Grading and Drainage.

The site will be graded as previously approved so that there is a high point running north and south along the site that gently slopes to the east and to the west (Figure 4 – Grading/Drainage

Plan). This will allow for water to sheet drain into on-site swales which will direct the stormwater runoff into an on-site sedimentation pond.

Fill Operations.

AS&G will continue to follow the existing fill procedures for their current operation. Allowed materials will not change from the previously approved CUP. These allowed materials include peat, clay, silty soils, hydro-axed materials, tree fragments, stumps, turf, and other organics associated with permitted clearing and grubbing operations, including wood chips from grinding operations, and concrete remnants related to demolition, concrete testing, or construction site clean-up.

Materials not accepted are to include asphalt, hazardous or contaminated materials, grass clippings, trash/garbage, building materials, lumber, pallets, and the like.

Processing.

No processing of material will occur on site, unless related to the approved reclamation plan.

Equipment Maintenance.

AS&G will continue to maintain a zero-leak policy on the site. All routine lubrication and fueling of equipment will be located on the site with appropriate controls in place. Major maintenance of equipment will be performed off-site.

Shipping.

Fill material will continue to be brought on the site with end dumps, semi-end dumps, side dumps, and end dumps with pup trailers. No material shall be delivered with belly dumps. During fill operation periods, there will be an average of 250 one-way project-related trips per day. It is important to note that opening of both fill sites will not result in double the truck trucks, but rather truck trips will be diverted from one fill site to the other. The total net number of truck trips for both fill sites will average 250 one-way project-related trips per day.

Reclamation

The overall site will be graded as previously approved to accommodate several potential end uses (Figure 5 -Reclamation Plan & Figure 6 – Reclamation 3-D View). Once an area of the pit is filled to the desired grade, it will be reclaimed. Reclamation will include seeding with an

erosion control seed mix. Upon completion of the fill and contour work, the overall site will be graded to accommodate several potential end uses, such as open fields, athletic fields, community gardens, commercial nurseries, and the like. The only habitable structural development on the property may be on an approximately 5-acre portion of the southwest corner of the site. This five-acre portion has not been affected by natural resource extraction and is not included in this CUP request.

Development Schedule with Phases and Dates

We request that the CUP for the Sand Lake Pit Fill Site resume in spring 2014. The Sand Lake Pit Fill Site operation will be secondary to the Lucy Pit Fill Site for one to two construction seasons while the Lucy Pit Fill Site is finalized. AS&G requests that the full operation of the Sand Lake Fill Site then continue until 2024.

If the amount of fill being brought onto the site is decreased in some years, then the petitioner may require a time extension beyond the 10 years currently requested. As has occurred in the past, the time extension period recommended by the Planning Department continues to be 5 year extensions, to be approved by the Planning and Zoning Commission through a non-public hearing review.

Operations would continue to typically occur between early April and late October. Hours of operation at the site will be from 7:00 a.m. to 6:00 p.m., Monday through Saturday. Operations are not permitted on Sundays or legal holidays.

Intent of Final Ownership

The site is owned by AS&G and they are expected to retain ownership at the end of this CUP permit.

AMC 21.50.020 GENERAL STANDARDS FOR CONDITIONAL USE APPROVAL

The authority hearing a conditional use application may approve the application only if it finds that the conditional use:

- A. Furthers the goals and policies of the applicable Comprehensive Development Plan and conforms to the Comprehensive Development Plan in the manner required by AMC 21.05.**

This proposed short-term fill use is necessary to fulfill the long-term use of the site as functional open space. The proposed development under this CUP is consistent with the Anchorage Bowl Comprehensive 2020 Plan (ABC 2020 Plan) and with other municipal planning standards. Development of the CUP area is intended to provide open space and recreational opportunities for the Sand Lake area.

The proposed development fulfills policy numbers 6, 7, 63, and 86 in the ABC 2020 Plan as described below.

Policy 6 states that areas designated for specific uses on the Zoning Map shall be protected from encroachment by incompatible land uses.

Upon completion of the fill and contour work, the overall site will be graded to accommodate several potential end uses including open fields, athletic fields, community gardens, commercial nurseries and the like. The only habitable structural development on the property may be on an approximately 5-acre portion of the southwest corner of the site (not included in this CUP). The short-term fill operation is necessary for the final use of the site, which is compatible with the surrounding land uses and therefore fulfills this policy.

Policy 7 states that incompatible uses adjoining one another should be avoided. The proposed long term development intends to provide open space and recreational opportunities which would serve and be compatible with the surrounding residential lands.

Policy 63 encourages public/private collaboration methods for natural open space protection. Upon completion of the fill and contour work, the overall site will be graded to accommodate several potential end uses including open fields, athletic fields, community gardens, commercial nurseries and the like. The short term fill operation is necessary for the final use of the site, which may provide up to 75 acres of open space and therefore fulfills this policy.

Policy 86 encourages public/private collaboration for acquisition, development, and maintenance of recreational spaces, parks, sports fields, public use facilities, and trails. Upon completion of the fill and contour work, the overall site will be graded to accommodate several potential end uses including open fields, athletic fields, community gardens, commercial nurseries and the like. The short term fill operation is necessary for the final use of the site, which may provide up to 75

acres of open space that may accommodate recreational spaces, parks, sports fields, and public use facilities and therefore fulfills this policy.

B. Conforms to the specific standards for natural resource extraction in this title and regulations promulgated under this title.

This site is currently zoned R-1A. The R-1A district is intended as urban and suburban single-family residential areas with low population densities. Structures and uses required to serve governmental, educational, religious, non-commercial, recreational, and other needs of such areas are permissible as conditional uses, subject to restrictions intended to preserve and protect the residential character. Natural resource extraction is a conditional use subject to conditional use standards in this district. A discussion of conformance with the standards of approval specific to natural resource extraction operations is discussed below under AMC 21.50.070.

The areas where fill is placed are not appropriate for residential housing. This has been the established direction since the first CUP for this site.

C. Will be compatible with existing and planned land uses in the surrounding neighborhood and with the intent of its use district.

Land uses surrounding the site are residential. The land to the south and west is zoned R-1 (Single-family Residential), land to the north is zoned R-2M (Multiple-family Residential), land to the northeast is zoned R-2A (Two-family Residential), and land to the southeast is PLI (Public Lands and Institutions).

The MOA Draft Approved Land Use Plan Map (Draft Approved in Concept by the Planning and Zoning Commission on June 28, 2006) identifies the northern portion of the site as Other Areas that function as Park and Natural Resource and the southern portion as low intensity residential. Lands to the north, south, east, and west are identified as low-intensity residential. Adjacent to a portion of the southeast of the site is Jade Park, which is designated as Park and Natural Resources.

Upon completion of the fill and contour work, the overall site will be graded to accommodate several potential end uses at the site, such as open fields, athletic fields, community gardens, commercial nurseries, and the like. The only habitable structural development on the property may be on an approximately 5-acre portion of the southwest corner of the site, which is not

included in this CUP. The open space, recreational, and/or low-intensity uses would be compatible with the surrounding residential lands, which is a compatible 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.

The site will not have any adverse affect on pedestrian and vehicular traffic circulation and safety. This site will be accessed by a new gated access drive off of Sand Lake Road. Only AS&G personnel or contractors involved in fill operations will access the site. During fill operation periods, there will be an average of 250 one-way project-related trips per day. No pedestrians are allowed access to the site, except for those workers engaged in fill operations.

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

The site will not require any new public services or facilities.

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

Best management practices will be implemented to reduce the potential for dust. On-site access drives will be watered as necessary to limit dust from truck traffic. A watering truck, motor grader, and sweeper will be available at the site or on an immediate-response basis as ordered by the on-site AS&G employee located on-site during all operation hours. In addition, AS&G will use their truck wheel wash to clean trucks prior to leaving the site, as necessary.

This use is subject to AMC 15.70, Noise Ordinance. Hours of operation have been limited to 7:00 a.m. to 6:00 p.m., Monday through Saturday. No fill activities are permitted on Sundays and legal holidays.

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

The proposed fill site is an area that has historically been used for natural resource extraction. Upon completion of the fill and contour work, the overall site will be graded to accommodate several potential end uses, such as open fields, athletic fields,

community gardens, commercial nurseries, and the like. The only habitable structural development on the property may be on an approximately 5-acre portion of the southwest corner of the site that has not been used for natural resource extraction and is not covered under this CUP. The short-term fill operation is necessary for the desired final use of the site, which is compatible with the surrounding land uses.

AMC 21.50.070 CONDITIONAL USE STANDARDS FOR NATURAL RESOURCE EXTRACTION

- 1. Principal access to the site shall minimize use of residential streets and access roads shall be treated to be dust free. Suitable traffic controls shall be established where access roads intersect arterials.**

The site will be accessed by a new gated access drive off of Sand Lake Road. Only AS&G personnel or contractors involved in fill operations will access the site. During fill operation periods, there will be an average of 250 one-way project-related trips per day, No pedestrians are allowed access to the site, except for those workers engaged in fill operations.

On-site access drives will be watered as necessary to limit dust from truck traffic. A watering truck, motor grader, and sweeper will be available at the site or on an immediate-response basis as ordered by the AS&G employee located on-site during all operation hours.

- 2. Extraction operations will not pose a hazard to the public health and safety.**

The proposed project will not pose a hazard to public health and safety. The site will be secured and only AS&G crews and contractors will have access to the fill area. Air emissions from the sites will be minimized to the extent possible and are not expected to pose a hazard to public health and safety. Re-seeding of non-active areas will be undertaken as appropriate for dust mitigation and slope stabilization.

This use is subject to AMC 15.70, Noise Ordinance. Hours of operation have been limited to 7:00 a.m. to 6:00 p.m., Monday through Saturday. No fill activities are permitted on Sundays and legal holidays.

Contractors delivering fill to the site will be required to sign a fill site agreement and are subject to maintaining AS&G disposal standards (Appendix B – AS&G Fill Procedures).

3. The extraction operations will not generate noise, dust, surface water runoff, or traffic that will unduly interfere with surrounding land uses.

Best management practices will be implemented to reduce the potential for dust. On-site access drives will be watered as necessary to limit dust from truck traffic. A watering truck, motor grader, and sweeper will be available at the site or on an immediate-response basis as ordered by the on-site AS&G employee located on-site during all operation hours. In addition, AS&G will use their truck wheel wash to clean trucks prior to leaving the site, as necessary.

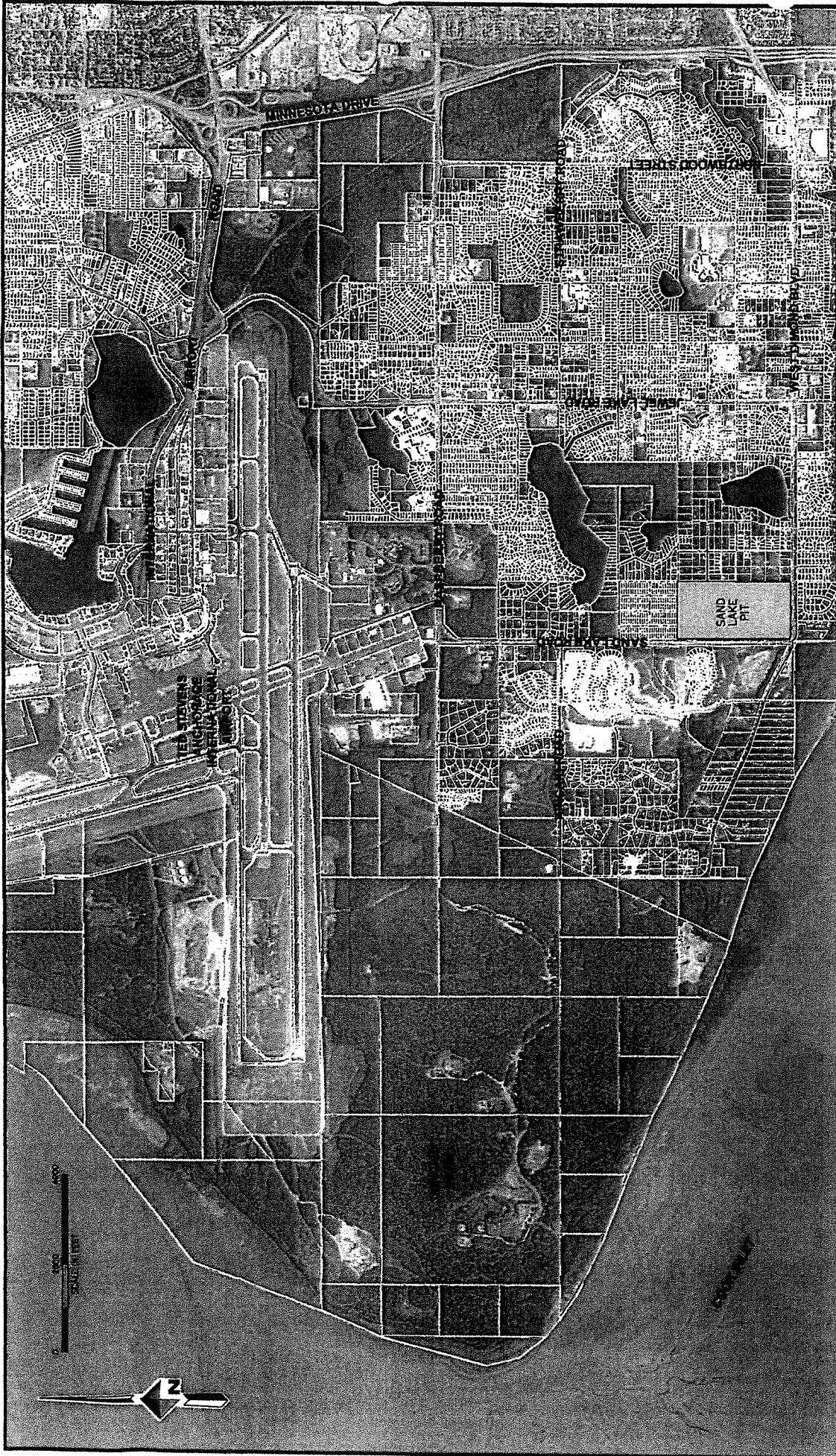
This use is subject to AMC 15.70, Noise Ordinance. Hours of operation have been limited to 7:00 a.m. to 6:00 p.m., Monday through Saturday. No fill activities are permitted on Sundays and legal holidays.

This site will be accessed by a gated access drive off of Sand Lake Road. Only AS&G personnel or contractors involved in fill operations will access the site. During fill operation periods, there will be an average of 250 one-way project-related trips per day. No pedestrians are allowed access to the site, except for those workers engaged in fill operations.

4. The restoration plan for the site ensures that, after extraction operations cease, the site will be left in a safe, stable, and aesthetically acceptable condition.

After fill operations are completed, the overall site will be graded to accommodate several potential end uses. Once an area of the pit is filled to the desired grade, it will be reclaimed. Areas will be seeded with an erosion control seed mix. Upon completion of the fill and contour work, the overall site will be graded to accommodate several potential end uses at the site such as open space, open fields, athletic fields, community gardens, commercial nurseries and the like. The only habitable structural development on the property may be on an approximately 5-acre portion of the southwest corner of the site. This area has not been affected by natural resource extraction and is not covered under this CUP. The small corner may be appropriate for a small neighborhood service/commercial/mixed use center to support the growing community in this area and provide limited commercial services within walking distance of local residents.

We appreciate your consideration of this application to amend a CUP for the fill operation at the Sand Lake Fill Site.

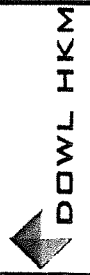


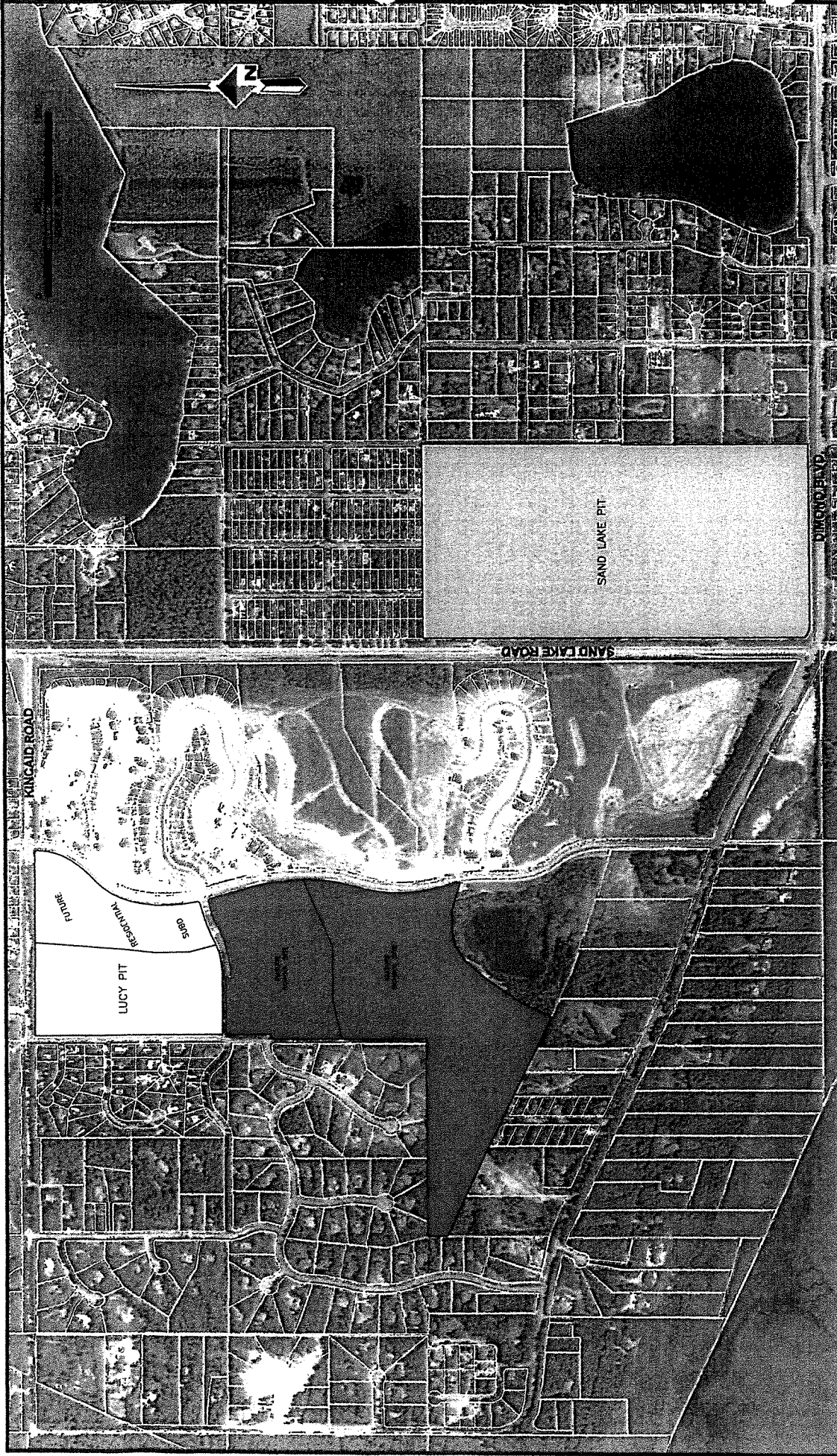
SCALE: 1"=200'

FIGURE 1

SITE VICINITY MAP
 ANCHORAGE SAND AND GRAVEL
 SAND LAKE PIT
 ANCHORAGE, ALASKA

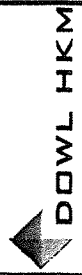
P:\Projects\0156815\0156815_013_LUCY_FITZGERALD_SUPERCOMMUNITY_MAP.dwg 2005-11-30





P:\Projects\050815683.01 LUCY PIT\008 CLIP\PROXIMITY MAP.dwg 2008-11-10
 MCA GRID: S10284
 SCALE: 1"=80'

FIGURE 2
 PROXIMITY MAP
 ANCHORAGE SAND AND GRAVEL
 SAND LAKE PIT
 ANCHORAGE, ALASKA





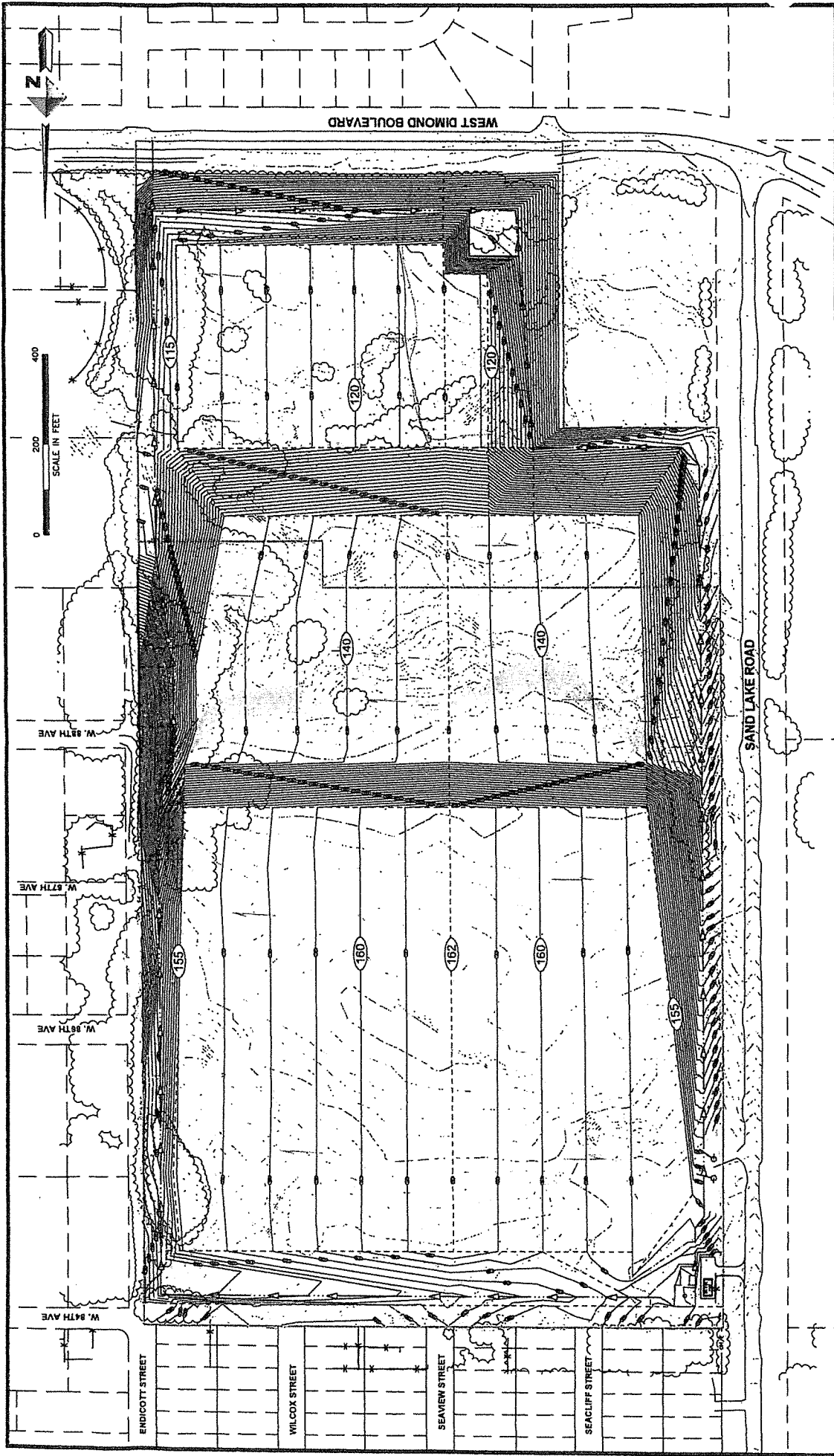
0329181703CUP Alter Amendment/Concept Site Plan/CUP Figure 3.dwg 2014-07 SCALE: 1"=200'

KEY
 PHASE I
 PHASE II

DOWL HKM

FIGURE 3

SAND LAKE FILL SITE
 CUP AMENDMENT
 OPERATIONS PLAN



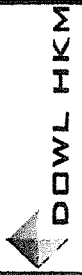
SCALE: 1"=20'

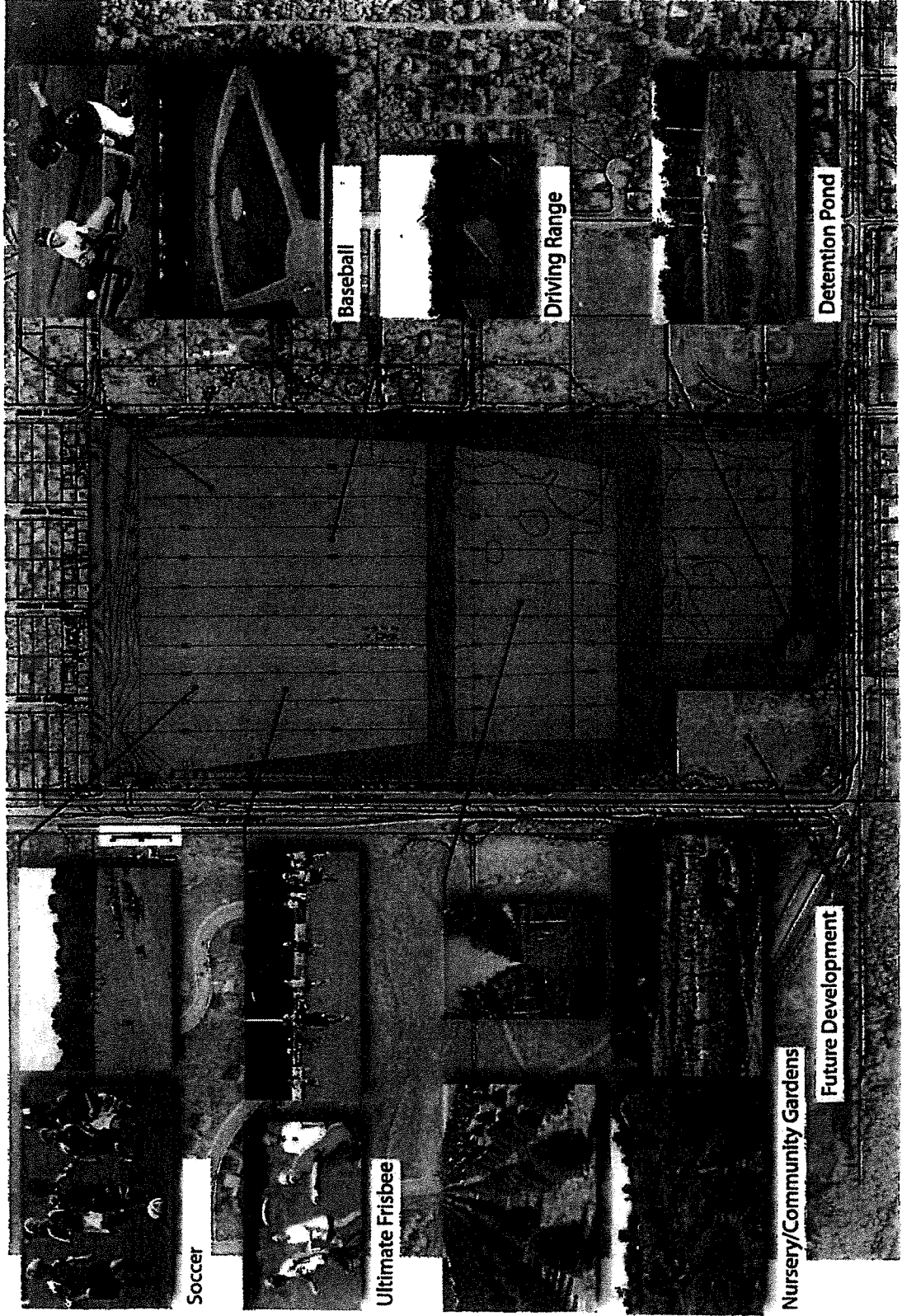
NOVA GRID: SW224

P:\Projects\30626\30626.DWG 03 LUCY PIT\PLAN\HGSANDLAKE PIT\DM-AS.dwg 2006-11-11

FIGURE 4

GRADING / DRAINAGE PLAN
 ANCHORAGE SAND AND GRAVEL
 SAND LAKE PIT
 ANCHORAGE, ALASKA





Project: 0568035605.03 LUCY PIT PLANNING SAND LAKE PTD08M-ASG.dwg 2008-11-10
 MCA GRID: 8Y2234
 SCALE: NO SCALE

RECLAMATION PLAN
 ANCHORAGE SAND AND GRAVEL
 SAND LAKE PIT
 ANCHORAGE, ALASKA

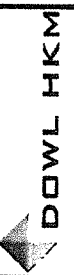


FIGURE 5



State of Alaska
Department of Transportation and Public Facilities

Driveway Approval to Construct #26494

Contact Name: Aaron Marsh Phone Number: (907)562-2000

Owner: Anchorage Sand & Gravel
Mailing Address: 1040 O'Malley Road
Anchorage, AK 99515

Driveway Location: Anchorage D/W - Sand Lake Road - Parcel 21 T12N R4W SEC 10 SW4SW4

Approval to Construct Expires: November 30, 2017

This Approval to Construct (ATC) pertains only to State rights of way.

Driveway Provisions:

A copy of this ATC must be on site during construction of the driveway.

The State reserves the right to require the removal of all activities from the area if any conditions of this ATC are violated.

This ATC is not a property right but a temporary authorization revocable by the State upon violation of any provision, special conditions, or other reasons. All reasonable attorney's fees and costs associated with legal or enforcement actions related to the terms and conditions of this ATC will be borne by the Owner.

A driveway constructed within the State rights of way is the property of the State, but all cost and liability arising from the construction, operation, or maintenance of a driveway is at the sole expense of those lands served. The Department is not obligated to change its maintenance practices to accommodate a driveway or to incur any additional expense removing snow berms or other obstructions from a driveway within the rights of way resulting from the Department's activities, or activities under a permit issued under 17 AAC 15 (Utility and Railroad Permits).

Any survey monument or monument accessory which will be disturbed or destroyed during construction of the driveway, will be referenced prior to the disturbance and restored or replaced by a Land Surveyor licensed in the State of Alaska. The Land Surveyor must file a Monument Record in accordance with AS 34.65.040. All Monument Records will be reviewed by the Department prior to filing with the District Recorder.

The Owner is responsible for adjusting, relocating or removing the access, without cost or liability to the Department, if the use or safety of the highway requires.

The Owner will obtain all necessary Federal, State, and Municipal permits and licenses required by law. Note: for relocation or adjustment of any utility within State rights of way a Department of Transportation Utility Permit (or amendment as appropriate) is required.

The Owner will pay all taxes and special assessments lawfully imposed upon the permitted area and pay other fees and charges assessed under applicable law.

Placement of fill material in waters of the U.S., including wetlands and streams, requires prior authorization from the U.S. Army Corps of Engineers (USACE). It is the responsibility of the Owner to contact the USACE before filling activities take place.

The Owner will construct and maintain the driveway in such a manner that the highway, and all of the highway's appurtenances or facilities, are not impaired or endangered in any way. These include drainage facilities, pipes, culverts, ditches, traffic control devices, street lights, pathways, and sidewalks.

If, as a result of this project, any improvements within the State owned rights of way are damaged, the Owner will be responsible for returning them to their previous condition.

No person will place, leave, or deposit upon any street, avenue, alley, sidewalk, or other public rights of way any snow or ice which has been removed from a private driveway, private parking area, or the adjacent property. The Owner is responsible for their snow removal contractor's actions concerning placement of snow from Owner's property.

The Owner will indemnify, defend and hold harmless the State, and its officers, employees, and contractors, from any and all claims or actions resulting from injury, death, loss, or damage sustained by any person or personal property resulting directly or indirectly from Owner's use of or activities in the area.

No equipment or materials are permitted on the shoulder during non-working hours.

All litter and debris generated as a result of this project must be removed and properly disposed of by the contractor. The Owner will be responsible for any and all costs incurred by the State associated with clean up or restoration of the State rights of way.

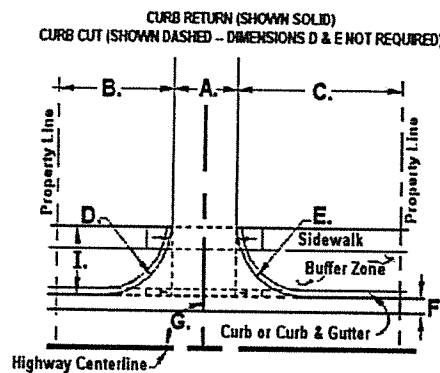
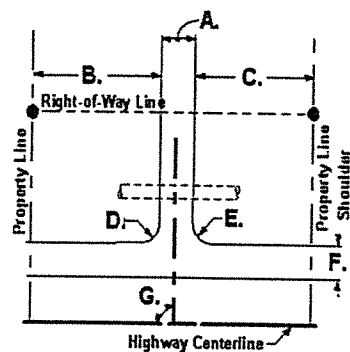
The Owner will pave from the edge of pavement to the end of the Landing, a distance as required by the Design Criteria of this document.

If a culvert is required by this ATC, Culvert Ends must be installed at time of installation/construction of the driveway.

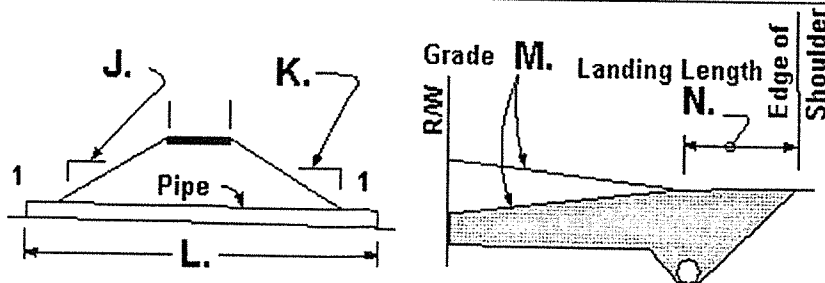
A permit for this driveway will be issued only after construction is complete and accepted by the Department of Transportation.

Design Criteria:

A.	Driveway width	34	Feet
B.	Left edge clearance	313	Feet
C.	Right edge clearance	577	Feet
D.	Left return radius	60	Feet
E.	Right return radius	50	Feet
F.	Shoulder width	9	Feet
G.	Approach angle	90	Degrees
H.	Curb type	Corrugated Metal Pipe	
I.	Curb to sidewalk distance	N/A	



J.	Left driveway foreslope	N/A	:1
K.	Right driveway foreslope	N/A	:1
L.	Culvert length	46	Feet
M.	Landing grade	2	Percent
N.	Landing length	30	Feet
O.	Culvert size	18	Inches
P.	Culvert type	Corrugated Metal Pipe	
Q.	Ditch depth	Feet	
R.	Shoulder type	Gravel	
S.	Road surface type	Paved	
T.	Driveway surface type	Asphalt	



Traffic Control for Driveway Construction:

The Owner or their contractor shall obtain a Lane Closure Permit for any work that closes traffic lanes, roadway shoulder, or pathway/sidewalk.

Short term or short duration work within the right of way does not typically require a Lane Closure Permit provided it conforms to the table below:

	WORK ON THE SHOULDER	WORK BEYOND SHOULDER (ROADSIDE)
DURATION	Less than 1 hour	Less than one day
TIME OF DAY	Daylight conditions only	
BASIC TRAFFIC SAFETY REQUIREMENTS	Use high intensity rotating, flashing, oscillating or strobe light on top of all vehicles, visible for 700 feet or more in all directions. Wear orange work vests labeled as meeting ANSI/ISEA 107-2004 Class 2, with Level 2 retroreflective material.	
WORK EXAMPLES	Offloading equipment to the roadside. Matching paved driveway to edge of roadway pavement. Sweeping the roadway shoulder.	

Do not park equipment within 30 feet of the edge of traveled way or within 10 feet of a curb when not working.


Special Conditions:

None Noted

Incorporated as part of this ATC:

- Site Plan

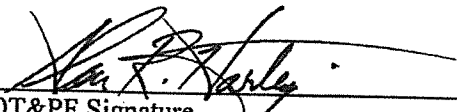
I, Ryan Morman, acknowledge that I am acting on behalf of the Owner with the full authority to do so. I further acknowledge and accept that Anchorage Sand & Gravel will comply with all the provisions and conditions of this ATC.



 Owner Signature

8-25-2016

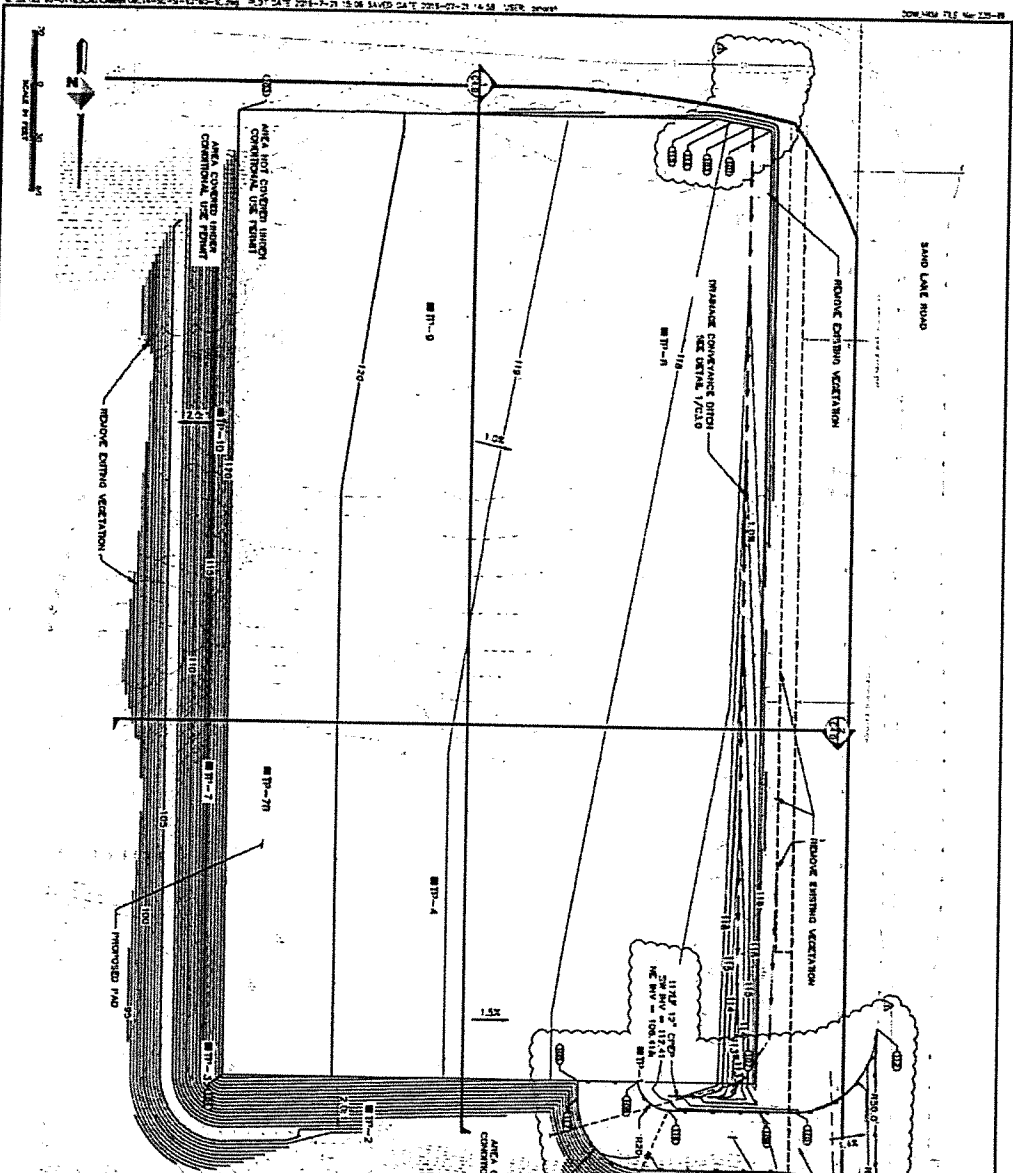
 Date



 DOT&PF Signature

8.25.2016

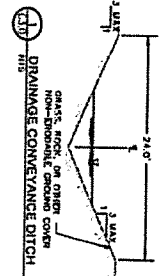
 Date



COORDINATE TABLE

POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
01	31183.58	33150.82	118.00	TOP OF PAV.
02	31186.52	33157.04	117.86	ENDPOINT OF SHAFT
03	31178.44	33182.15	121.00	TOP OF PAV.
04	31171.40	33182.15	121.00	TOP OF PAV.
05	31171.58	33184.94	117.74	TOP OF PAV/ EDGE OF PAVEDPORT
06	31171.40	33141.24	117.18	TOP OF PAV/ EDGE OF PAVEDPORT
07	31171.63	33157.05	119.41	END OF SHAFT
08	31171.60	33141.62	118.16	EDGE OF PAVEDPORT
09	31172.66	33144.48	117.02	EDGE OF PAVEDPORT
10	31172.66	33130.75	116.88	EDGE OF PAVEDPORT
11	31171.63	33132.82	116.89	EDGE OF PAVEDPORT
12	31180.41	33137.78	116.78	EDGE OF PAVEDPORT (LAND)
13	31183.11	33138.68	115.64	EDGE OF PAVEDPORT (LAND)
14	31183.25	33138.64	117.87	TOP OF PAV.
15	31173.62	33138.64	118.87	TOP OF PAV.
16	31173.62	33138.65	117.59	TOP OF PAV/ EDGE OF PAVEDPORT
17	31173.62	33145.44	117.80	TOP OF PAV/ EDGE OF PAVEDPORT

NET TAIL = 66340 FT



SAND LAKE 5-ACRE PORTION ANCHORAGE, AK

DATE: 7/17/2018

BY: [Signature]

DOWL

4614 B Street
Anchorage, Alaska 99503
907-562-2200

01	DATE	11/20/2018	111
02	DESCRIPTION	201 SURVEY POINT REVISIONS	112



State of Alaska
Department of Transportation and Public Facilities

Driveway Approval to Construct #28095

Contact Name: Bandon Marcott Phone Number: (907) 344-3114

Owner: Anchorage Sand & Gravel
Mailing Address: 1040 O'Malley Road
Anchorage, AK 99515

Driveway Location: Anchorage Driveway - North side of Dimond Blvd, 770' east of Sand Lake Road. Tax I.D. #011-201-30-000

Approval to Construct Expires: 10/15/2019

This Approval to Construct (ATC) pertains only to State rights of way.

Driveway Provisions:

A copy of this ATC must be on site during construction of the driveway.

The State reserves the right to require the removal of all activities from the area if any conditions of this ATC are violated.

This ATC is not a property right but a temporary authorization revocable by the State upon violation of any provision, special conditions, or other reasons. All reasonable attorney's fees and costs associated with legal or enforcement actions related to the terms and conditions of this ATC will be borne by the Owner.

A driveway constructed within the State rights of way is the property of the State, but all cost and liability arising from the construction, operation, or maintenance of a driveway is at the sole expense of those lands served. The Department is not obligated to change its maintenance practices to accommodate a driveway or to incur any additional expense removing snow berms or other obstructions from a driveway within the rights of way resulting from the Department's activities, or activities under a permit issued under 17 AAC 15 (Utility and Railroad Permits).

Any survey monument or monument accessory which will be disturbed or destroyed during construction of the driveway, will be referenced prior to the disturbance and restored or replaced by a Land Surveyor licensed in the State of Alaska. The Land Surveyor must file a Monument Record in accordance with AS 34.65.040. All Monument Records will be reviewed by the Department prior to filing with the District Recorder.

The Owner is responsible for adjusting, relocating or removing the access, without cost or liability to the Department, if the use or safety of the highway requires.

The Owner will obtain all necessary Federal, State, and Municipal permits and licenses required by law. Note: for relocation or adjustment of any utility within State rights of way a Department of Transportation Utility Permit (or amendment as appropriate) is required.

The Owner will pay all taxes and special assessments lawfully imposed upon the permitted area and pay other fees and charges assessed under applicable law.

Placement of fill material in waters of the U.S., including wetlands and streams, requires prior authorization from the U.S. Army Corps of Engineers (USACE). It is the responsibility of the Owner to contact the USACE before filling activities take place.

The Owner will construct and maintain the driveway in such a manner that the highway, and all of the highway's appurtenances or facilities, are not impaired or endangered in any way. These include drainage facilities, pipes, culverts, ditches, traffic control devices, street lights, pathways, and sidewalks.

If, as a result of this project, any improvements within the State owned rights of way are damaged, the Owner will be responsible for returning them to their previous condition.

No person will place, leave, or deposit upon any street, avenue, alley, sidewalk, or other public rights of way any snow or ice which has been removed from a private driveway, private parking area, or the adjacent property. The Owner is responsible for their snow removal contractor's actions concerning placement of snow from Owner's property.

The Owner will indemnify, defend and hold harmless the State, and its officers, employees, and contractors, from any and all claims or actions resulting from injury, death, loss, or damage sustained by any person or personal property resulting directly or indirectly from Owner's use of or activities in the area.

No equipment or materials are permitted on the shoulder during non-working hours.

All litter and debris generated as a result of this project must be removed and properly disposed of by the contractor. The Owner will be responsible for any and all costs incurred by the State associated with clean up or restoration of the State rights of way.

If a culvert is required by this ATC, the following applies:

- Culvert length and ditch depth, as stipulated in the Design Criteria, are generally based on information supplied by the applicant and must be verified on site during construction,
- Culvert and culvert ends must be installed at time of the driveway construction,
- Ensure a minimum ground cover of 12-inches is over the culvert prior to paving,
- Maintain existing drainage patterns.

The Owner will pave from the edge of pavement to the radius return or the distance stipulated by the Design Criteria "Landing length."

A permit for this driveway will be issued only after construction is complete and accepted by the Department of Transportation and Public Facilities.

Design Criteria:

A.	Driveway width	34	Feet
B.	Left edge clearance	758	Feet
C.	Right edge clearance	555	Feet
D.	Left return radius	60	Feet
E.	Right return radius	60	Feet
F.	Shoulder width	5	Feet
G.	Approach angle	90	Degrees
H.	Curb type	N/A	
I.	Curb to sidewalk distance	N/A	
J.	Left driveway foreslope	4:1	Or match existing
K.	Right driveway foreslope	4:1	Or match existing
L.	Culvert length	93	Feet (field fit)
M.	Landing grade	2	Percent
N.	Landing length		Feet
O.	Culvert size	18	Inches
P.	Culvert type	CMP	
Q.	Ditch depth	3	Feet
R.	Shoulder type		
S.	Road surface type	Paved	
T.	Driveway surface type	Asphalt	

Traffic Control for Driveway Construction:

The Owner or their contractor shall obtain a Lane Closure Permit for any work that closes traffic lanes, roadway shoulder, or pathway/sidewalk.

Short term or short duration work within the right of way does not typically require a Lane Closure Permit provided it conforms to the table below:

	WORK ON THE SHOULDER	WORK BEYOND SHOULDER (ROADSIDE)
DURATION	Less than 1 hour	Less than one day
TIME OF DAY	Daylight conditions only	
BASIC TRAFFIC SAFETY REQUIREMENTS	Use high intensity rotating, flashing, oscillating or strobe light on top of all vehicles, visible for 700 feet or more in all directions. Wear orange work vests labeled as meeting ANSI/ISEA 107-2004 Class 2, with Level 2 retroreflective material.	
WORK EXAMPLES	Offloading equipment to the roadside. Matching paved driveway to edge of roadway pavement. Sweeping the roadway shoulder.	

Do not park equipment within 30 feet of the edge of traveled way or within 10 feet of a curb when not working.


Special Conditions:

None Noted

Incorporated as part of this ATC:

- Site Plan

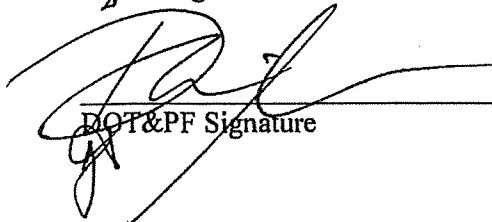
I, Ryan Morman, acknowledge that I am the owner, or acting on behalf of the owner with the full authority to do so. I further acknowledge and accept that I will comply with all the provisions and conditions that the Department of Transportation and Public Facilities has included as a condition of issuing a permit.



 Owner Signature

10-10-2018

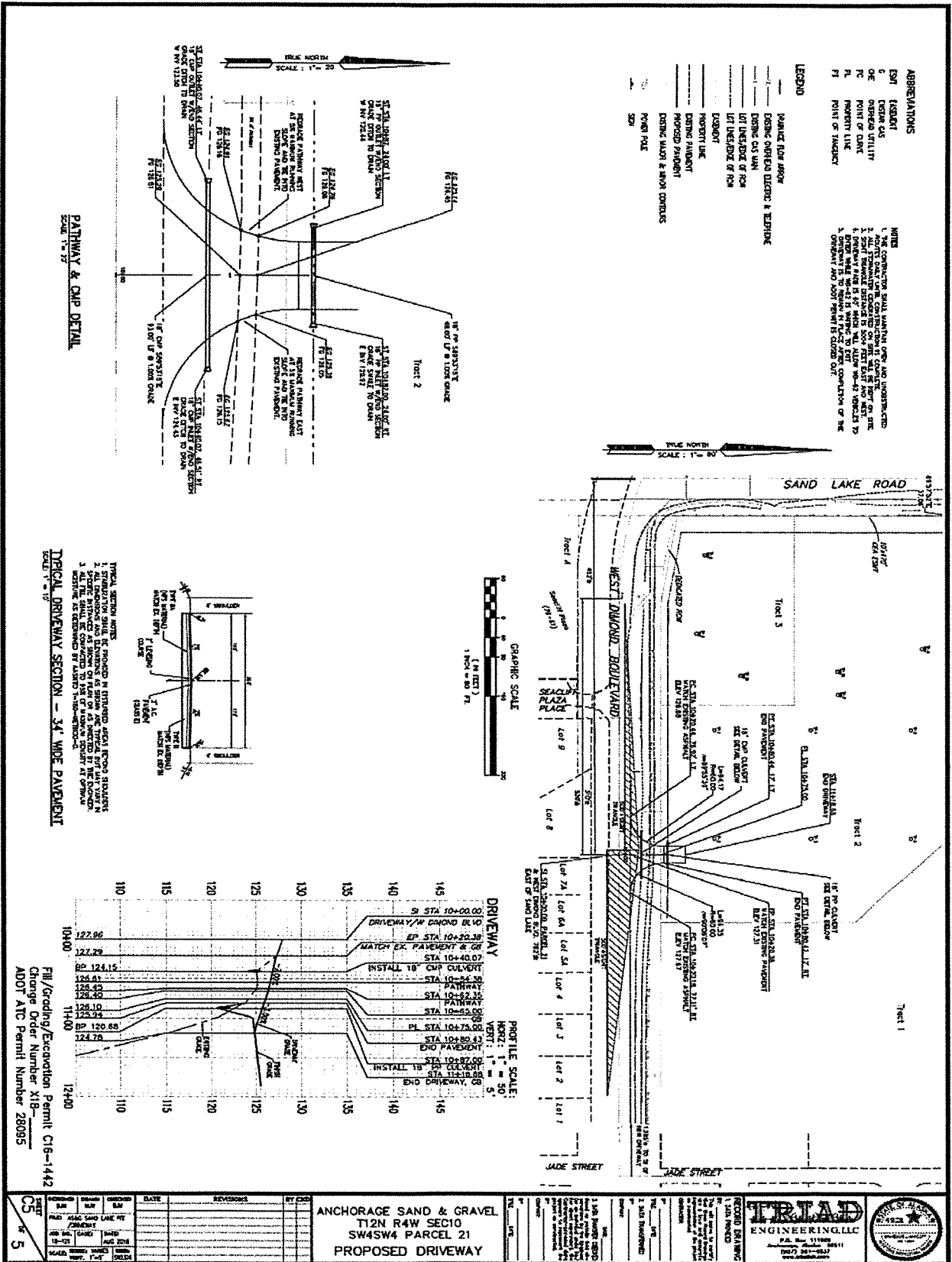
 Date



 DOT&PF Signature

10/11/18

 Date



NO.	REVISIONS	DATE	BY	CHKD.
1	ISSUED FOR PERMIT	08/14/14	CS	CS
2	REVISED PER PLAN	08/14/14	CS	CS
3	REVISED PER PLAN	08/14/14	CS	CS
4	REVISED PER PLAN	08/14/14	CS	CS
5	REVISED PER PLAN	08/14/14	CS	CS

ANCHORAGE SAND & GRAVEL
T12N R4W SEC10
SW4SW4 PARCEL 21
PROPOSED DRIVEWAY

1. ALL SHOWN ARE TO BE CONSTRUCTED AS SHOWN UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
4. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
5. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.

TRIMAD ENGINEERING, LLC
P.O. Box 11666
Anchorage, Alaska 99511
Tel: 907-562-1234
Fax: 907-562-1234



State of Alaska
Department of Transportation and Public Facilities

Driveway Approval to Construct #24494

Contact Name: Ryan Morman Phone Number: (349) 349-3333

Owner: Anchorage Sand & Gravel
Mailing Address: 1040 O'Malley Road
Anchorage, AK 99515

Driveway Location: Anchorage DW - 8501 Sand Lake Road - Lancaster TR A
Tax ID: 011-162-42-000

Approval to Construct Expires:
October 30, 2015

This Approval to Construct (ATC) pertains only to State rights of way.

Driveway Provisions:

A copy of this ATC must be on site during construction of the driveway.

The State reserves the right to require the removal of all activities from the area if any conditions of this ATC are violated.

This ATC is not a property right but a temporary authorization revocable by the State upon violation of any provision, special conditions, or other reasons. All reasonable attorney's fees and costs associated with legal or enforcement actions related to the terms and conditions of this ATC will be borne by the Owner.

A driveway constructed within the State rights of way is the property of the State, but all cost and liability arising from the construction, operation, or maintenance of a driveway is at the sole expense of those lands served. The Department is not obligated to change its maintenance practices to accommodate a driveway or to incur any additional expense removing snow berms or other obstructions from a driveway within the rights of way resulting from the Department's activities, or activities under a permit issued under 17 AAC 15 (Utility and Railroad Permits).

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The Owner will obtain all necessary Federal, State, and Municipal permits and licenses required by law. Note: for relocation or adjustment of any utility within State rights of way a Department of Transportation Utility Permit (or amendment as appropriate) is required.

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The Owner will indemnify, defend and hold harmless the State, and its officers, employees, and contractors, from any and all claims or actions resulting from injury, death, loss, or damage sustained by any person or personal property resulting directly or indirectly from Owner's use of or activities in the area.

No equipment or materials are permitted on the shoulder during non-working hours.

All litter and debris generated as a result of this project must be removed and properly disposed of by the contractor. The Owner will be responsible for any and all costs incurred by the State associated with clean up or restoration of the State rights of way.

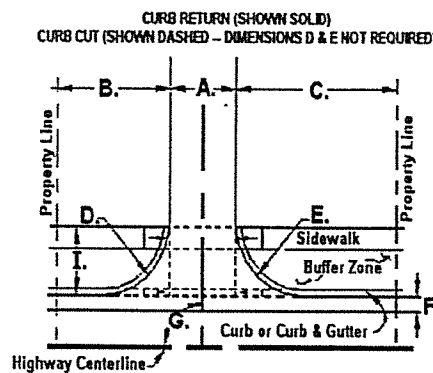
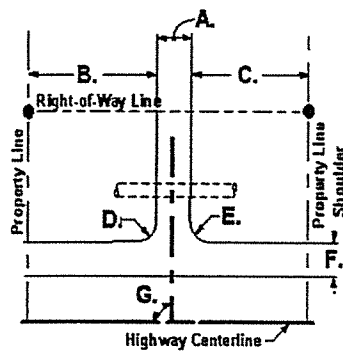
The Owner will pave from the edge of pavement to the end of the Landing, a distance as required by the Design Criteria of this document.

If a culvert is required by this ATC, Culvert Ends must be installed at time of installation/construction of the driveway.

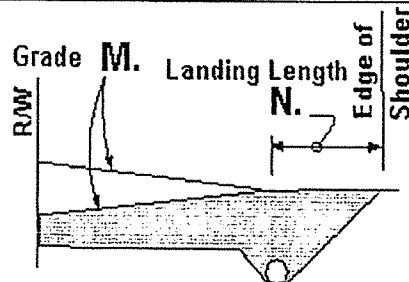
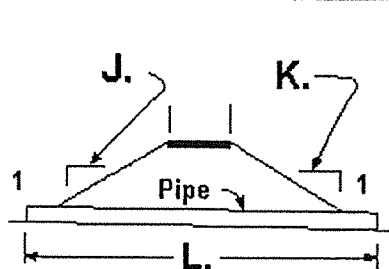
A permit for this driveway will be issued only after construction is complete and accepted by the Department of Transportation.

Design Criteria:

A.	Driveway width	34	Feet
B.	Left edge clearance	1170	Feet
C.	Right edge clearance	130	Feet
D.	Left return radius	40	Feet
E.	Right return radius	40	Feet
F.	Shoulder width	10	Feet
G.	Approach angle	90	Degrees
H.	Curb type	N/A	
I.	Curb to sidewalk distance	N/A	



J.	Left driveway foreslope	3	:1
K.	Right driveway foreslope	3	:1
L.	Culvert length	39	Feet
M.	Landing grade	2	Percent
N.	Landing length	30	Feet
O.	Culvert size	18	Inches
P.	Culvert type	Corrugated Metal Pipe	
Q.	Ditch depth	3	Feet
R.	Shoulder type	Gravel	
S.	Road surface type	Paved	
T.	Driveway surface type	Asphalt	



Traffic Control for Driveway Construction:

The Owner or their contractor shall obtain a Lane Closure Permit for any work that closes traffic lanes, roadway shoulder, or pathway/sidewalk.

Do not park equipment within 30 feet of the edge of traveled way or within 10 feet of a curb when not working.

Special Conditions:

The Owner will construct the driveway in accordance with the above design criteria and the incorporated site plan, including the extent of pavement and wheel wash system.

Sawcut DOT shoulder back one foot during approach paving.

The proposed gate will not be in the right of way.

The Owner will use best management practices (BMP) during hauling activities. BMP's include but not limited to street sweeping as necessary to keep Sand Lake Road free from gravel, dirt and other debris generated from this driveway.

Incorporated as part of this ATC:

- Site Plan

I, Ryan Morman, acting on behalf of the above named organization with full authority to do so, acknowledge and accept that Anchorage Sand & Gravel will comply with all the provisions and conditions that the Department of Transportation and Public Facilities has included as a condition of issuing this ATC.

Ryan Morman
Owner Signature

2-25-2015
Date

John Linnell
DOT&PF Signature

2-25-2015
Date

State of Alaska
Department of Transportation and Public Facilities

Driveway and Approach Road
Permit

This permit allows the permittee to construct and maintain a driveway or approach road within a State owned highway Right of Way.

<input type="checkbox"/> Residential/Private	<input checked="" type="checkbox"/> Commercial	<input type="checkbox"/> Government Agency
Applicant: Anchorage Sand and Gravel Mailing Address: 1040 O'Malley Road Anchorage, AK 99515 Contact Name: Dale Morman E-mail Address: Phone: (907) 349-3333 Fax: (907) 344-2844		
Driveway or Approach Road location (highway, subdivision, legal description milepost, etc.) Access onto Sand lake road from Anchorage Sand & Gravel's Clean fill site located on the Northeast corner of the intersection of Dimond and Sand Lake Rd, Lancaster Subdivision, Tract A.		
Proposed or Existing: EXISTING	Anticipated Completion Date: 10/15/2006	
Number of lots served: 1	Max. number of vehicles in any 1 hour: 100 300 <i>John 11/16/06</i> <i>AK DOT</i>	
Zoning Designation: RIA	Proposed Land Use: Fill Gravel Pit	

Attachments included as part of this permit are:

REQUIRED for ALL DRIVEWAYS:

- Plat including notes of the placement of the driveway.
- Site plan.
- Proof of ownership.

I, Dale Morman, acknowledge that I am acting on behalf of the above named organization with the full authority to do so. I further acknowledge and accept that Anchorage Sand and Gravel will comply with all the provisions and conditions that the Department of Transportation and Public Facilities has included as a condition of issuing this permit.

Dale G. Morman
Permittee Signature

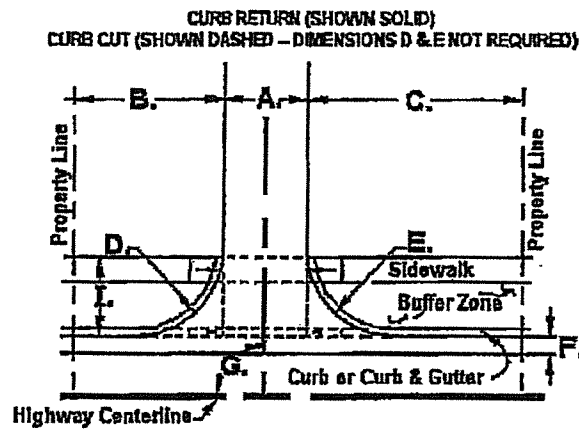
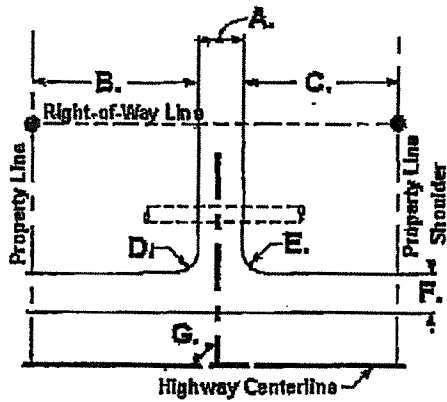
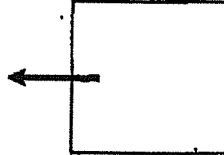
11-15-06
Date

Mike Hack
DOT&PF Signature

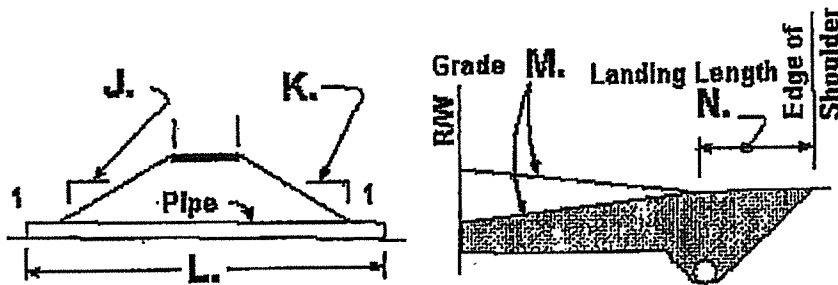
11/29/06
Date

Driveway Specifications

Direction of North in relation to the drawing.



- | | | |
|----|---------------------------|------------|
| A. | Driveway width | 60 feet |
| B. | Left edge clearance | 525 feet |
| C. | Right edge clearance | 1950 feet |
| D. | Left return radius | 40 feet |
| E. | Right return radius | 40 feet |
| F. | Shoulder width | 10 feet |
| G. | Approach angle | 90 degrees |
| H. | Curb type | None |
| I. | Curb to sidewalk distance | feet |



J.	Left driveway foreslope	:1
K.	Right driveway foreslope	:1
L.	Culvert length	90 Feet
M.	Landing grade	2 Percent
N.	Landing length	30 Feet
O.	Culvert size	18 inches
P.	Culvert type	Aluminum/Steel
Q.	Ditch depth	3 feet
R.	Shoulder type	Paved
S.	Pavement type	Paved
T.	Driveway surface type	Asphalt

Permittee upon signing this permit acknowledges and agrees to the following provisions:

A copy of this permit must be on site during construction of the access. If any of the conditions of this permit are violated, the State reserves the right to require the removal of all activities from the area.

The Permit grants permission for driveway construction only, allowing access to and from your property onto a State maintained highway. It does not permit the following within the right of way or within that portion of a driveway that is within the right of way: (1) Parking of vehicles "for sale"; (2) Obstructions of any kind (i.e. logs, cables, fencing, etc.); (3) Advertising signs or banners/flags; (4) Parking vehicles with signs/advertising on the side.

A driveway or approach road constructed under permit within a highway right-of-way is the property of the state, but all cost and liability arising from the construction, operation, or maintenance of a driveway or approach road is at the sole expense of those lands served. The department is not obligated to change its maintenance practices to accommodate a driveway or approach road constructed under a permit, or to incur any additional expense removing snow berms or other obstructions from a driveway or approach road within a right of way resulting from the department's activities, or activities under a permit issued under 17 AAC 15.

Permittee is responsible for adjusting or relocating the driveway or approach road without cost or liability to the department if the use or safety of the highway requires that the driveway or approach road be adjusted or relocated.

This Permit is not a property right but a temporary authorization, revocable by the State upon violation of any Permit terms or conditions, or for other reasons. All reasonable attorney's fees and costs associated with legal or enforcement actions related to the terms and conditions of this permit will be borne by the permittee.

Any survey monument or monument accessory which will be disturbed or destroyed during construction of the driveway or approach road shall be referenced prior to the disturbance and restored or replaced by a Land Surveyor licensed in the State of Alaska. The Land Surveyor must file a Monument Record in accordance with AS 34.65.040. All monument records shall be reviewed by the department prior to filing with the District Recorder.

The Permittee will obtain all necessary Federal, State, and Municipal permits and licenses required by law, pay all taxes and special assessments lawfully imposed upon the permitted area, and pay other fees and charges assessed under applicable law.

Before any filling activities take place within the right of way, or on the property adjacent to the right of way affected by this permit, please contact the U.S. Army Corps of Engineers (USACE) to see if any further authorization is necessary. Placement of fill material in waters of the U.S., including wetlands and streams, requires prior authorization in most cases. You can reach the USACE at - Anchorage: (907) 753-2712, Fax: (907) 753-5567 Toll Free 1-800-478-2712; Fairbanks: (907) 474-2166, Fax: (907) 474-2164; Juneau: (907) 790-4490, Fax: (907) 790-4499; Kenai: (907) 283-3519, Fax: (907) 283-3981. The website is <http://www.poa.usace.army.mil/reg>

A permittee shall construct and maintain a driveway or approach road in such a manner that the highway, and all of the highway's appurtenances or facilities, including drainage facilities, pipes, culverts, ditches, traffic control devices, street lights, pathways, and sidewalks are not impaired or endangered in any way by the construction or maintenance. (17 AAC 10.020(b) If you damage any improvements within the State owned right of way, you will be responsible for returning them to their previous condition. The Department will inspect and approve the restored improvements. (17 AAC 10.065)

All signs installed in State rights of way shall be fabricated, located and installed in conformance with the Alaska Traffic Manual (ATM), Alaska Sign Design Manual (ASDS), and standard drawings and specifications. Our Traffic & Safety section shall approve all variable message signs (i.e. street name signs) prior to installation.

Permittee shall indemnify, defend and hold harmless the State, and its officers, employees, and contractors, from any and all claims or actions resulting from injury, death, loss, or damage sustained by any person or personal property resulting directly or indirectly from Permittee's use of or activities in the permitted area.

If driveway construction interferes with the public's safety and/or use of facilities within State owned right of way, you will be directed to stop work until adjustments are made.

Do not park equipment or stockpile material on the shoulder during non-working hours.

Permittee is responsible for sight distance clearing of brush and obstructions adjacent to their property.

Driveway landings must be paved from pavement edge on all paved roads unless deemed otherwise by the State.

Please contact the Department for information about acceptable driveway markers (i.e., size, materials, distance, etc.) for placement within the right of way.

The State will not change its maintenance practices to accommodate your driveway or incur additional expense to clear snow berms or other obstacles resulting from the Department's activities.

You may not push or otherwise deposit snow or ice onto a highway in a manner, or in quantities, which may constitute a hazard to snow removal equipment or other traffic.

Implement the traffic control plan and maintain traffic control devices in accordance with the Alaska Traffic Manual and any provisions and conditions noted.

All sign layouts shall conform to the Alaska Sign Design Specifications.

Fabricate special signs from engineering grade reflective sheeting on either sheet aluminum or plywood panels.

Adjust sign locations in the field to provide adequate separation from existing signs. All signs shall be visible.

Traffic control devices are not required for construction more than 2 feet behind curb, or farther than 15 feet beyond the shoulder.

Remove all traffic control devices when no longer needed.

Clean up litter or debris generated as a result of this driveway construction.

An inspection is required prior to reimbursement of your performance deposit. Please contact the Department for an inspection appointment after final construction of your driveway.

Traffic control plans shall be prepared by an ATSSA or IMSA certified worksite traffic supervisor.

Certified worksite traffic supervisors can be found through most telephone books under headings including: traffic, road building contractors, and paving contractors. Or you may contact ATSSA at 1-800-272-8772 or IMSA at (315) 331-2182 for a listing of certified individuals.

Class "Conventional" signs, as designated in the Alaska Sign Design Specifications, shall be used.

From the edge of roadway shoulder to within 2 feet behind curb, or up to 15 feet when there is no curb, place a flashing yellow beacon near the driveway or on the road shoulder. The following limitations apply: Total work is limited to no more than 12 continuous hours per day. (1) Use a Type A Beacon, 8-inch minimum diameter. (2) Mount beacon on top of: a vehicle, traffic drum, or Type II Barricade. Position the beacon off the shoulder when possible. (3) Otherwise, position the beacon on the shoulder, outside traffic lanes. (4) Ensure beacon visibility for 500 feet in both directions along main road. If necessary, use two beacons, one in advance of each approach to the driveway. (5) The size, shape, color, and reflectivity of traffic drums and Type II Barricades shall conform to Part VI of the Alaska Traffic Manual. (6) Obtain beacons, drums and barricades

from a local hardware and materials supplier, contractor, or Work Zone Traffic Control company. The Department does not furnish these devices.

Additional traffic control devices are required for the following: (1) Cuts in roadway pavement or physical disruptions to the shoulder section, (2) Excavations of the roadside foreslope from the road shoulder to the base of ditch, (3) Traffic lane disruptions or closures, (4) Pathway and sidewalk disruptions or closures, and (5) Making temporary or permanent guardrail breaks. These types of work require a traffic control plan. Items (1)-(2) include longer-term shoulder encroachments will require advance signs placed by the applicant or contractor. Items (1)-(5) could involve more complex work that will require traffic control plans prepared and implemented by a certified worksite supervisor. Consult with the Department prior to undertaking complex work.

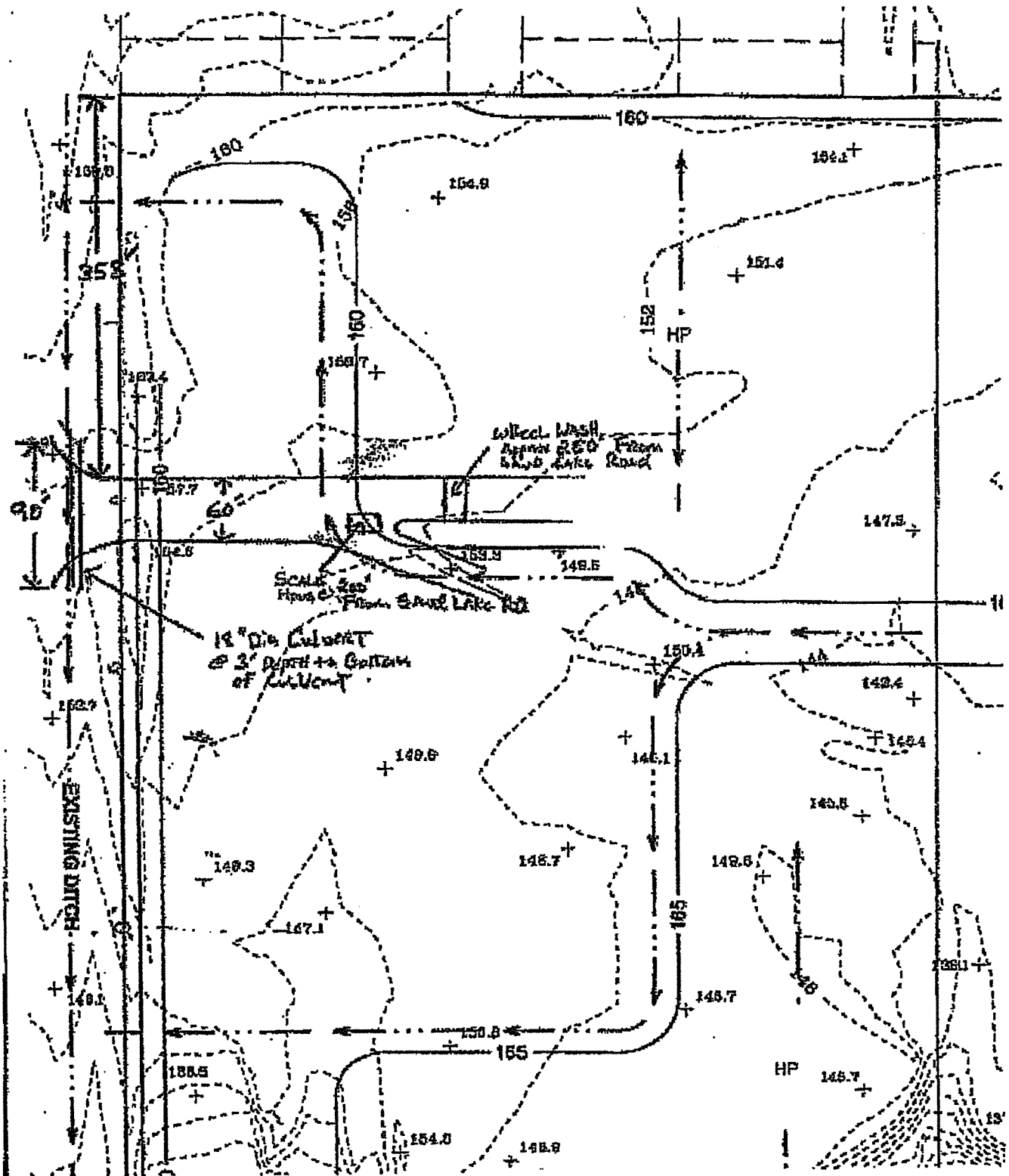
If the driveway approved by this permit connects to a paved State roadway, this driveway will be paved back from the existing edge of pavement a minimum of 20 feet for residential, 30 feet for commercial, or as required by the Permit.

If a culvert is required by this permit, Culvert Ends must be installed at time of installation/construction of driveway.

Permittee upon signing this permit acknowledges and agrees to the following conditions:

No Traffic Control Plan sheet needed, simply use two CW8-6 Truck Crossing Signs (36"x36"), one in each direction, to be installed on standard temp sign supports during hours of operation. Post signs 300 to 400 ft in advance of intersection on road shoulders. Otherwise, permanent W8-6 signs are acceptable, if placed on 2.5" PT Posts, offset from the road in accordance with Std Drwg S-00.00, 05.01, and 30.02. Driveway will be paved back at 300 ft length minimum, sufficient length that mud and debris no longer be deposited on the state road. The applicant's operation should be such that the watering that has been done on the state road will in the future be done on private property, such that the state road remains clean. Tire wash is therefore required for the duration of the permit. Any debris emanating from this driveway onto Sand lake Road must be swept.

SITE PLAN - File #12105 - AS&G
Driveway on Sand Lake



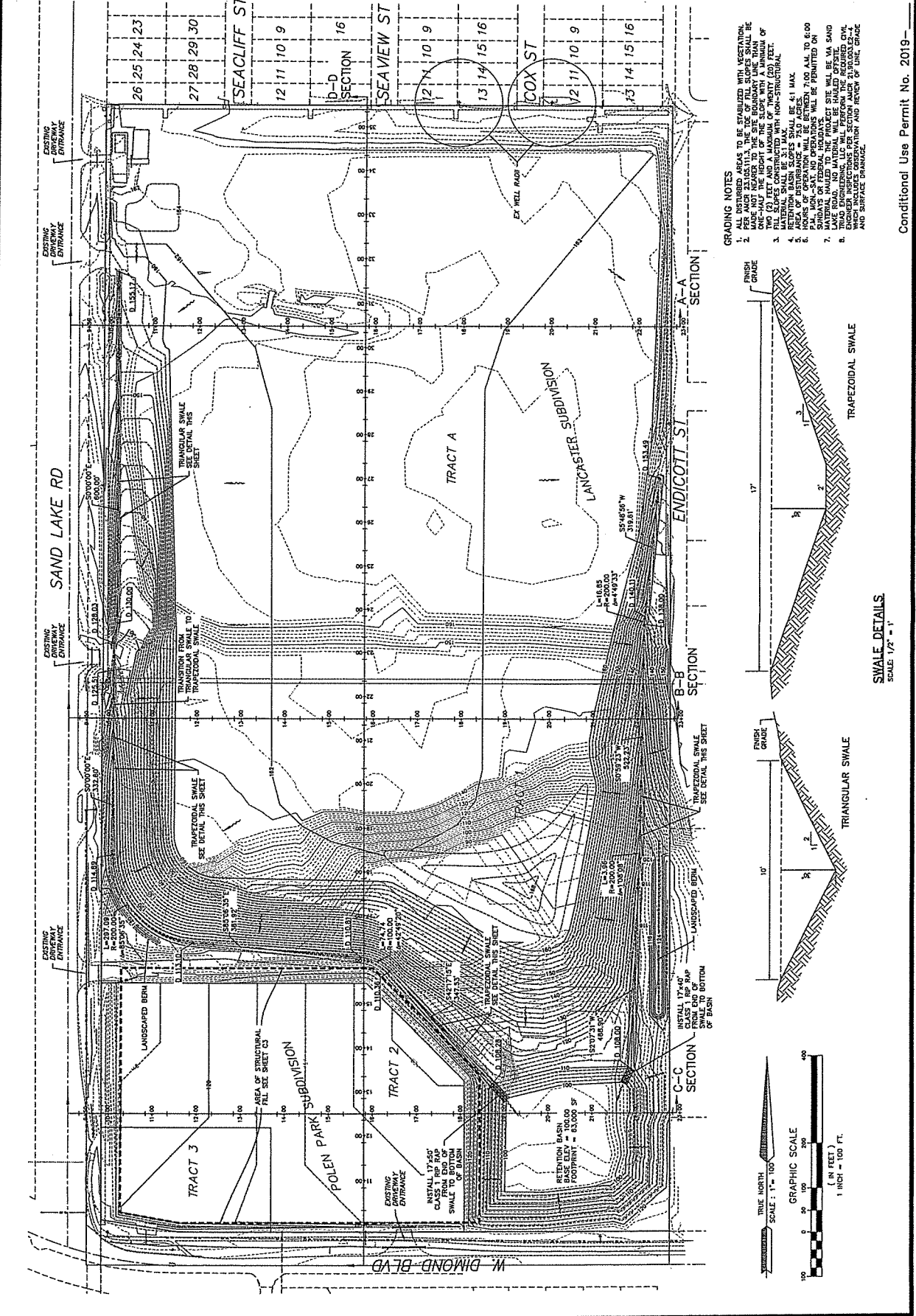


BRAD E. ...
 ENGINEERING, LLC
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 ...

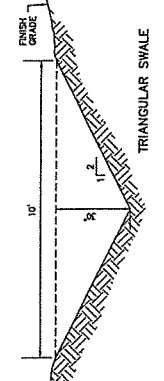
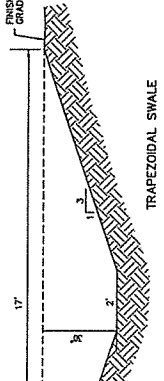
NO.	DATE	DESCRIPTION
1
2
3

LANCASTER SUB. TR A
POLEN PARK SUB. TR 1-3
GRADING PLAN

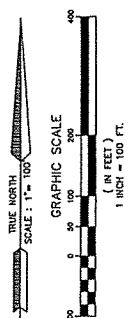
DATE	BY	REVISIONS
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- GRADING NOTES**
1. ALL DISTURBED AREAS TO BE STABILIZED WITH VEGETATION. VEGETATION SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.
 2. ALL DISTURBED AREAS TO BE STABILIZED WITH VEGETATION. VEGETATION SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.
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 8. ALL DISTURBED AREAS TO BE STABILIZED WITH VEGETATION. VEGETATION SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.



SWALE DETAILS
 SCALE: 1/2" = 1'



Conditional Use Permit No. 2019-...



TRM ENGINEERING, LLC
 11000 Woodloch Forest Dr.
 Columbus, Ohio 43240
 (614) 471-4337
 www.trm.com

RECORD DRAWING
 THIS DRAWING IS TO BE USED FOR CONSTRUCTION OF THE PROJECT.
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF THE DATA AND TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

DATE: _____
BY: _____
DATE: _____
BY: _____

1. DATA TRANSFER CHECKED
DATE: _____
BY: _____

2. DATA TRANSFERRED
DATE: _____
BY: _____

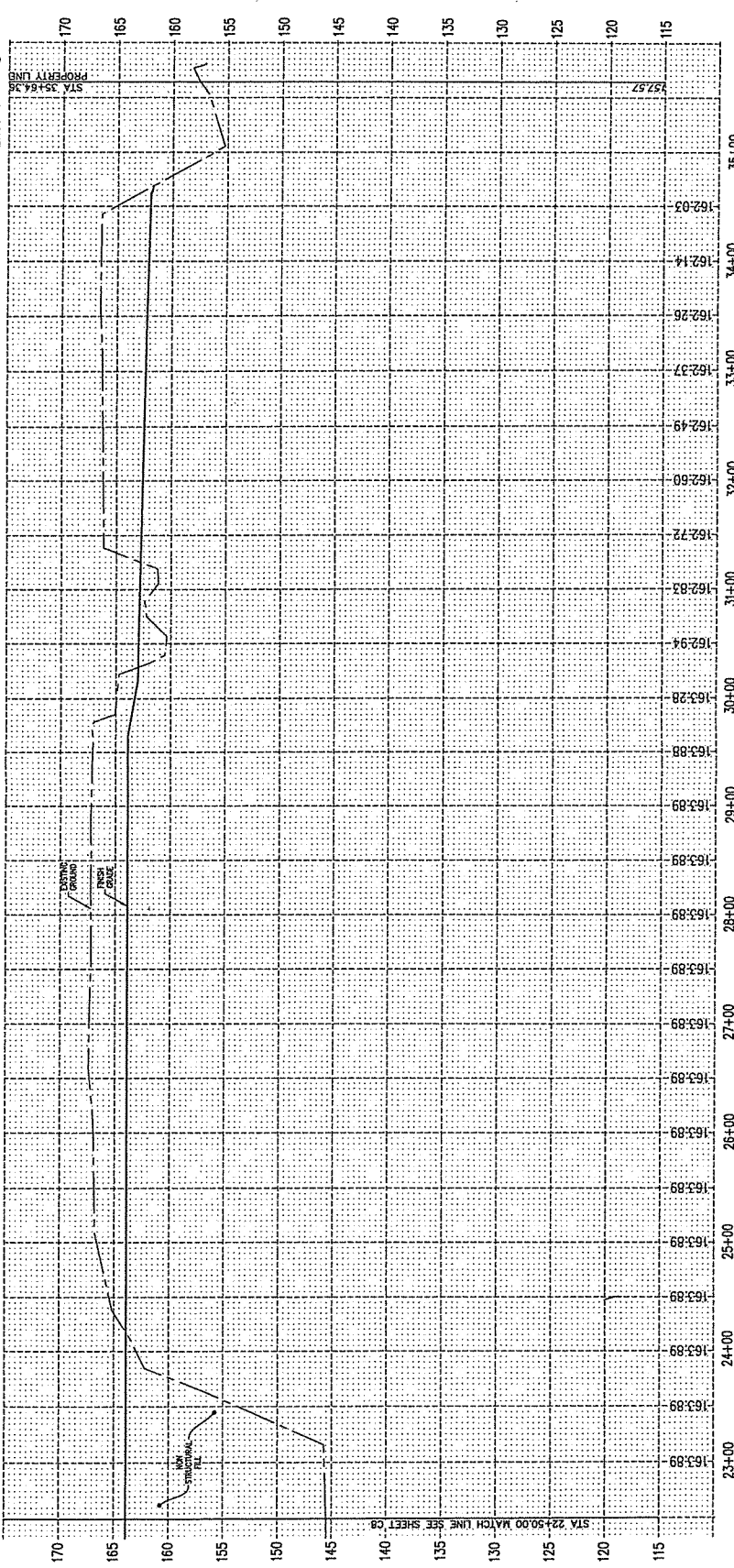
REVISIONS

NO.	DATE	DESCRIPTION

DATE	BY	CHECKED	DATE

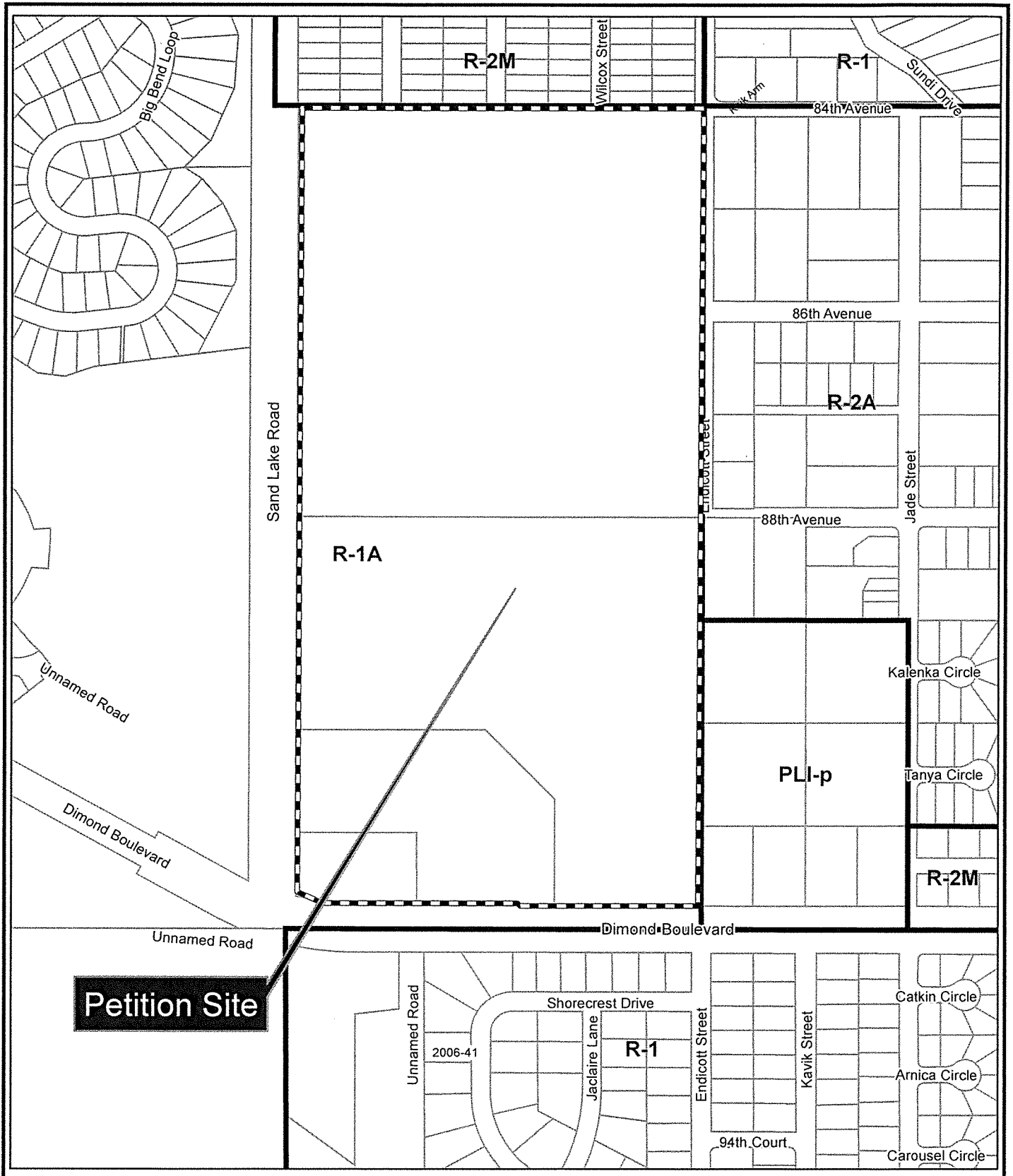
PROJECT: LANCASTER SUB. TR A
CROSS SECTION: D-D
DATE: 08/18/2019
SCALE: 1" = 50'
SHEET NO.: 8 OF 8

CROSS SECTION D-D
 PROFILE SCALE:
 HORIZ: 1" = 50'
 VERT: 1" = 5'



Conditional Use Permit No. 2019-

2019-0138



Municipality of Anchorage
Planning Department

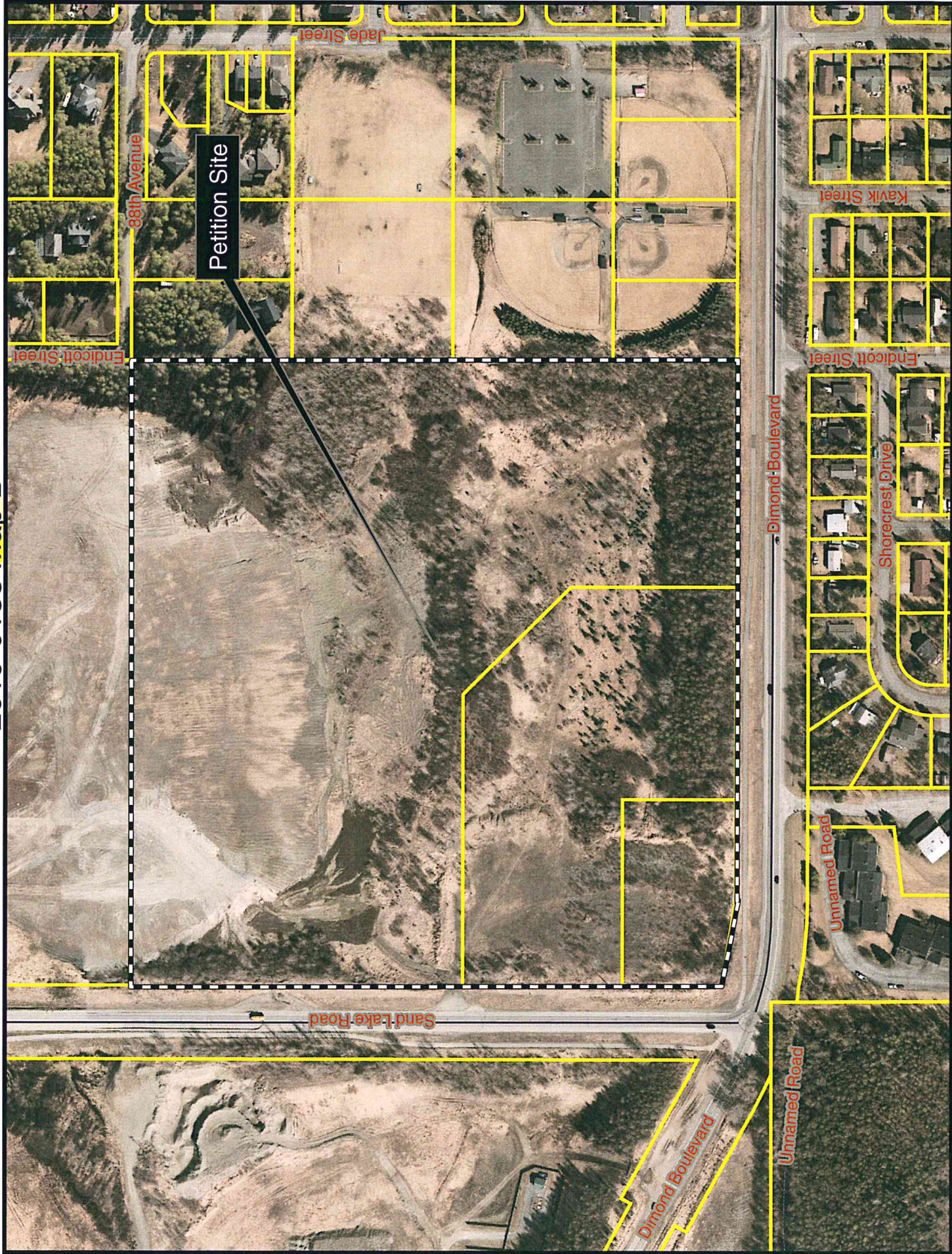
Date: September 16, 2019



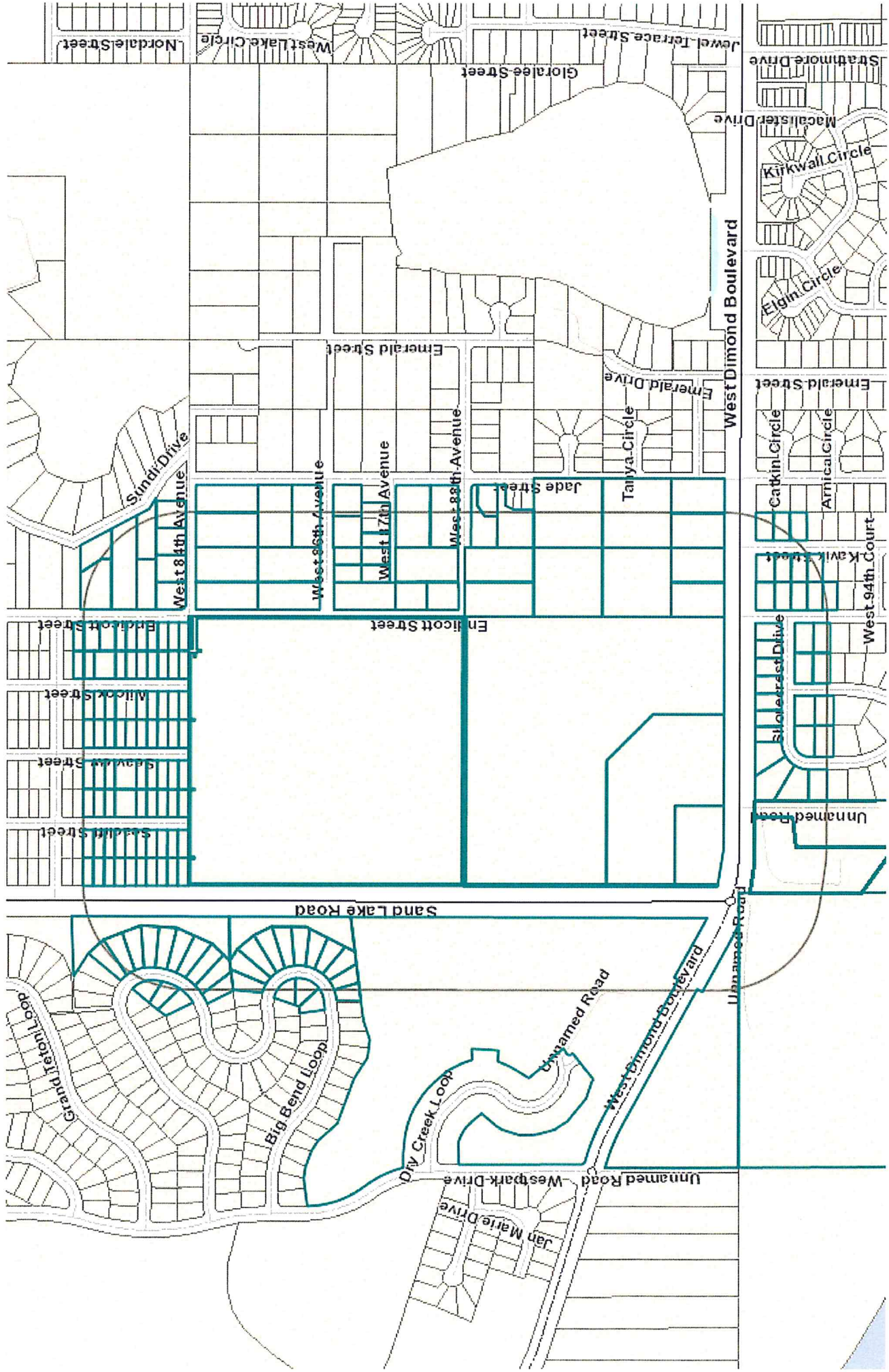
2019-0138 Map A



2019-0138 Map B



Anchorage



2019 - 0138 PHU map
Distance = 500' (190 parcels)