

Crow Creek Neighborhood Phase 1: Lower Matrix

Preliminary Design Considerations
Girdwood
Crow Creek Neighborhood – Lower Matrix

Feasibility Study Final Report

March 2007

Prepared for:
Municipality of Anchorage
Heritage Land Bank
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Introduction

This report has been prepared by The Boutet Company for the Municipality of Anchorage's, Heritage Land Bank. The study evaluates the feasibility of a residential subdivision in the Lower Matrix of Crow Creek Neighborhood. This report provides an analysis of existing conditions, a summary of previous studies, and proposed alternatives, including utilities, and roads. The report includes a cost analysis and an implementation strategy for the preferred alternative.

Background

In April of 2006 Agnew::Beck Consultants presented the Heritage Land Bank with the Crow Creek Neighborhood Land Use Plan based on data collected and extensive community input. The plan identified locations for potential residential development, land use, open space and also established guidelines for how residential development should occur in conjunction with various infrastructure projects planned in Girdwood. The Crow Creek Neighborhood Land Use Plan was approved by the Girdwood Land Use Committee, the Girdwood Board of Supervisors, been reviewed and passed the planning and zoning commission, and adopted by the Anchorage Assembly on January 8, 2006.

The policy presented in the plan was based on previous comprehensive planning for the entire Valley. The Girdwood Area Plan and the Commercial Areas and Transportation Master Plan consider broader community development objectives and describes in general terms the guidelines for the development of land by the Heritage Land Bank. Updates to Anchorage Municipal Code (AMC) Title 21.09 provide new standards and regulations for Girdwood as well as new zoning regulations. Under (AMC) Title 21.09, the area encompassed by the Crow Creek Neighborhood Land Use Plan is in a gR3 zoning district, which requires lower density, single family residential development.

The plan nominally addressed the constraints found in the Lower Matrix. The report stated that development in the Lower Matrix was possible, but would require additional design and study to accommodate the constraints of wetlands, geology, existing trails, waterways and slopes. The plan called for the total development of 28 acres, 40 lots in the Lower Matrix.

The Crow Creek Neighborhood Land Use Plan calls for an extensive system of trails linking to the new Girdwood Town site, the Girdwood Elementary School, and other valley wide trail system. The specific route of the secondary trail system will be finalized in the design of each residential area. The historic Iditarod trail also passes through the Lower Matrix.

Criteria

The purpose of this study is to evaluate the natural constraints indentified in the Crow Creek Neighborhood Plan and to propose alternative options for residential development that meets the requirements of the approved land use plan and AMC Title 21.09. The following tasks were completed to develop this draft report.

- Integrate existing GIS and survey data, property lines, existing wetlands, utilities, roads, and ortho-rectified aerial photos from July, 2006.
- Field reconnaissance, research, analysis and participation in discussions with AWWU regarding Phase II of the Water Loop project.
- Analyze and map existing wetlands mapping; the results of work for AWWU and a limited winter- field reconnaissance, tentative boundaries and characterization of wetland areas within the Lower Matrix Area.
- Develop conceptual layout of the Lower Matrix Subdivision, including roadways, utilities, using the results of the base mapping and wetlands delineation work.
- Estimate development cost for the conceptual subdivision layout, including cost to plat, design and construct roads, utilities, and site work.

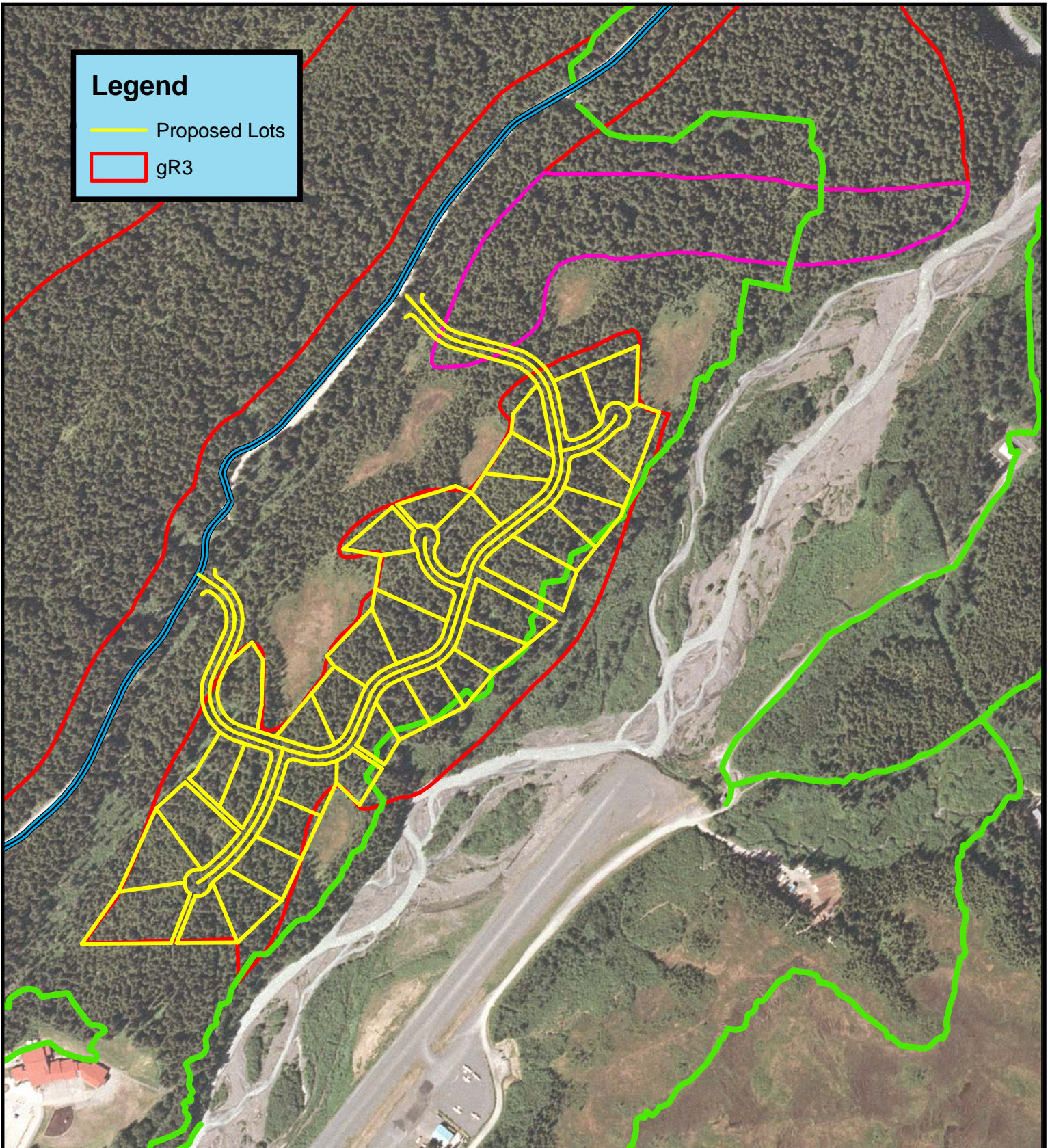
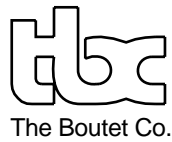


Figure 1
Zoning



Heritage Land Bank

Crow Creek Neighborhood Phase 1

Wetlands

The following Municipality of Anchorage wetland classifications are *have not been field verified*. The wetland areas and classifications are from aerial photography. Some areas have been previously identified by MOA as wetlands; however, the information is dated and needs to be verified in the field. Therefore, not only are the MOA classifications for the TBC report subject to change, but the spatial extent of the wetland itself could change after a detailed field investigation.

Wetlands in URS proposed AWWU waterline report:	Wetlands in Study Area:
<ul style="list-style-type: none"> • Wetland 1-Class A • Wetland 2-Class C • Wetland 3-Class B/C • Wetland 4-Class B/C • Wetland 5-Class A • Wetland 6-Class B • Wetland 7 <ul style="list-style-type: none"> ○ Western edge by Tiny Creek-Class A ○ Rest-Class C • Wetland 8-Class C • Wetland 9-Class A • Wetland 10-Class B • Wetland 11-Class B 	<ul style="list-style-type: none"> • Wetland 1-Class A • Wetland 2-Class C • Wetland 3-Class B/C • Wetland 4-Class B/C • Wetland 5-Class A • Wetland 6-Class B • Wetland 7 <ul style="list-style-type: none"> ○ Western edge by Crow Creek Road-Class C ○ Rest, surrounding Tiny Creek-Class A • Wetland 8-Class C • Wetland 9-Class B/C • Wetland 10-Class A • Wetland 11-Class A • Wetland 12-Class A • Wetland 13-Class C • Wetland 14-Class B/C • Wetland 15-Class A • Wetland 16-Class B/C • Wetland 17-Class A

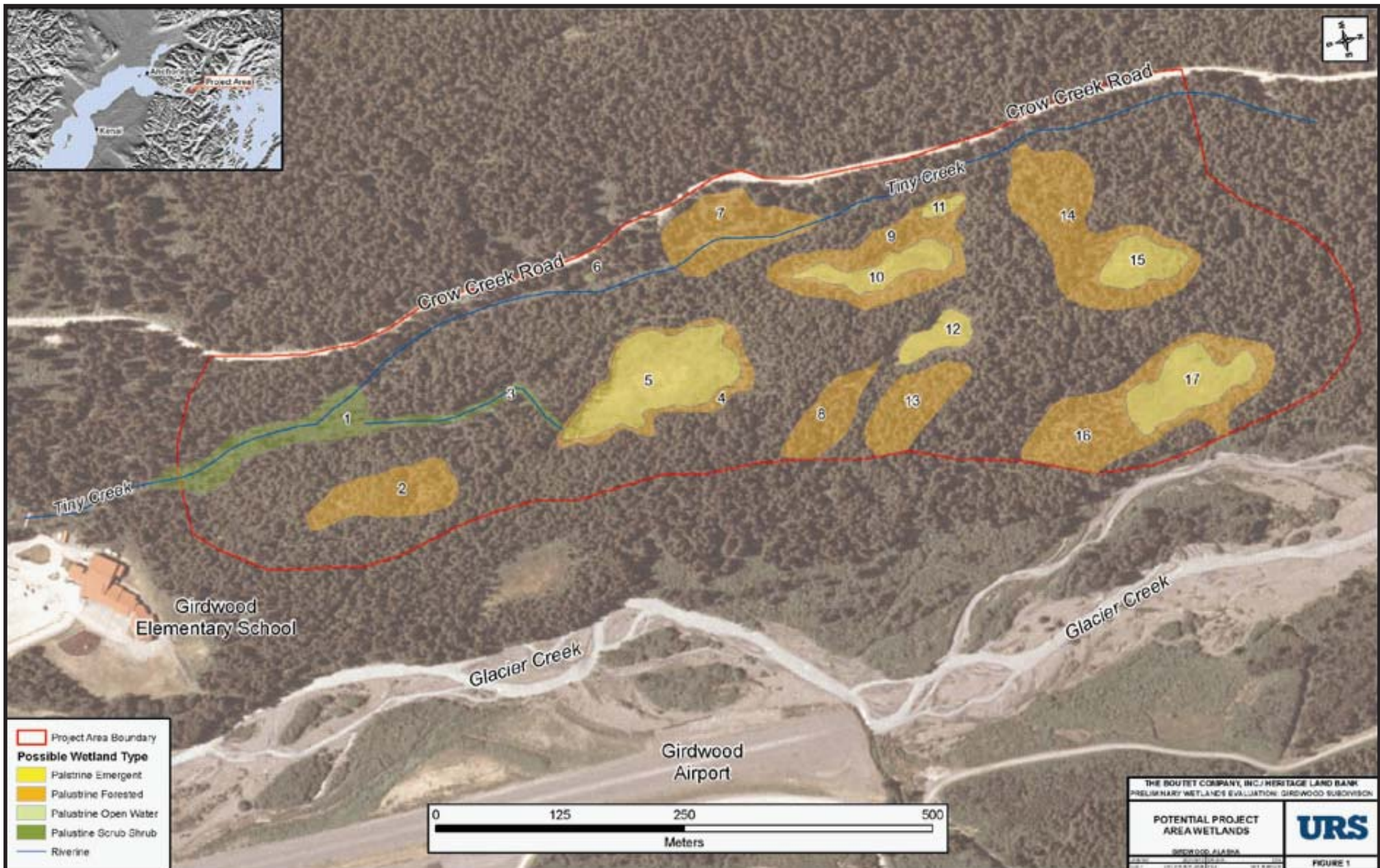
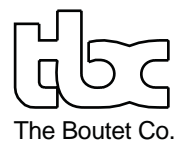


Figure 2
Study Area



Heritage Land Bank
Crow Creek Neighborhood Phase 1

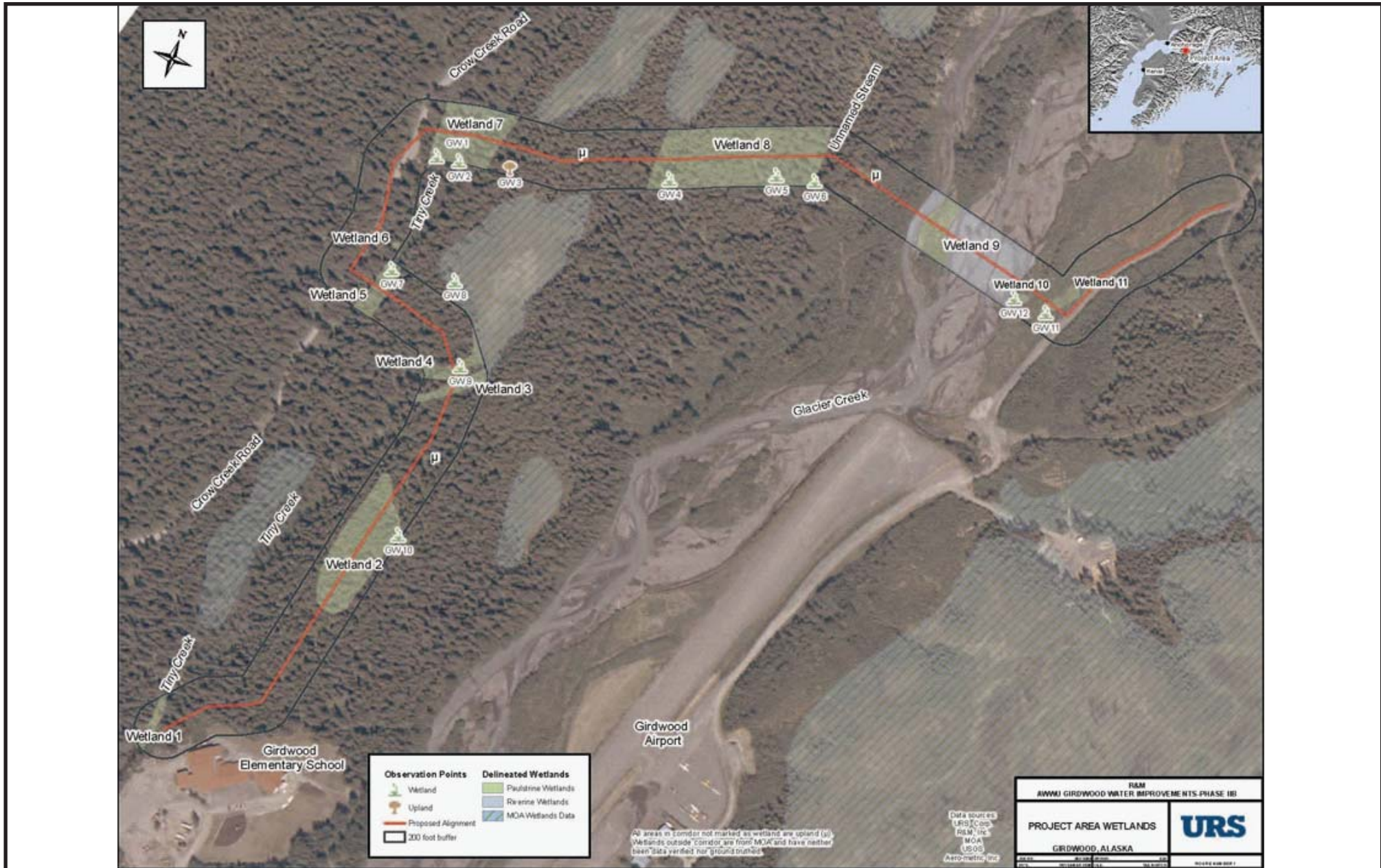
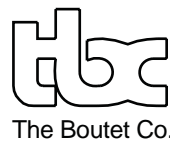


Figure 3

URS Wetlands Report



Heritage Land Bank

Crow Creek Neighborhood Phase 1

Alternatives

Medium Size Lots

The Crow Creek Neighborhood plan, which is the guiding document for residential development in the “Lower Matrix”, allows for the development of 28 acres with 36 lots. Within the proposed Concept A it is possible to increase the total number of lots to 40, by decreasing the lot sizes to approximately 5,000 square feet each. At this time two alternatives for moderately sized lots, at approximately 33,000 square feet each, have been developed.

Concept A

Concept A includes the development of 28 acres of lots for a total of 36 lots which meets the requirements of the Crow Creek Neighborhood Plan. The average lot size in Concept A is 33,698 square feet. The plan maximizes the development potential to the full extent allowed for in the Crow Creek Land Use Study. This concept requires the realignment of approximately 1,800 feet of the Iditarod Trail.

Concept B

Provides an alternative option that would not require the realignment of the Iditarod Trail. Under this scenario there would be 23.12 acres of possible development. This would allow the development of 30 total lots. Decreasing the lot sizes under this concept would provide no real advantage as the development would exceed the density required in the Crow Creek Neighborhood Plan. Average lot sizes are 33,570 square feet.

Estate Lots

Concept C

Concept C also requires a realignment of the Iditarod Trail. This plan has 28 acres of developed lots, the same as in Concept A. This concept would provide a maximum of 23 lots. Under AMC Title 21.09, lots greater than 50,000 square feet are permitted to have on-site sewer and water.

Concept C-2

This concept has the same subdivision plan as Concept C. The only difference is that under this plan we would provide public water with on-site sewer.

Analysis

Slopes

Through this feasibility study it was determined that it is possible to develop approximately 28 acres of home sites with the realignment of the Iditarod trail. Without the realignment of the Iditarod Trail there is less than 23 acres of possible home sites. Each of these lots has 40% or more buildable area. The grades on the access roads, residential roads and all the driveways will be less than 10%.

Concept Layout

Concept A – Page 11

Concept B – Page 12

Concept C – Page 13

Utilities and Roads

The roads to access and service the subdivision will be built to the minimum standard as described in AMC Title 21.09.070. The driving lanes shall be 10-foot wide, including 3.5 foot shoulders, 8-foot drainage ditch and snow storage areas, and an 8 -10 wide soft surface trail on one side of the roadway. Combined, the total width of the roadway facility is 51-53 feet. Approximately 5000 linear feet of road is needed to be developed.

The Crow Creek Neighborhood Plan, quoted below, suggest that a roadway facility of 60 feet may be required. This includes a larger, 12-foot area for drainage and snow storage.

“Snow removal and storage is a major factor in the design of residential subdivisions in Girdwood. Hauling snow is very expensive so adequate space must be provided on each side of the street for stacking of snow plowed off the street. Current Municipal standards call for 7 ft on each side of the road. In Girdwood, due to a generally heavier snowfall, a storage width of 12 ft should be considered. Current Municipal standards call for 7 ft on each side of the road. In Girdwood, due to a generally heavier snowfall, a storage width of 12 ft should be considered. This indicates a minimum Right-of-way width of 52 ft. The Municipality will likely require their minimum standard width of 60 ft.”

Underground utility lines are required to be located in the front of the lots, not on the sides or on the back of the lots. gR3-zoned districts also require that all utilities be buried.

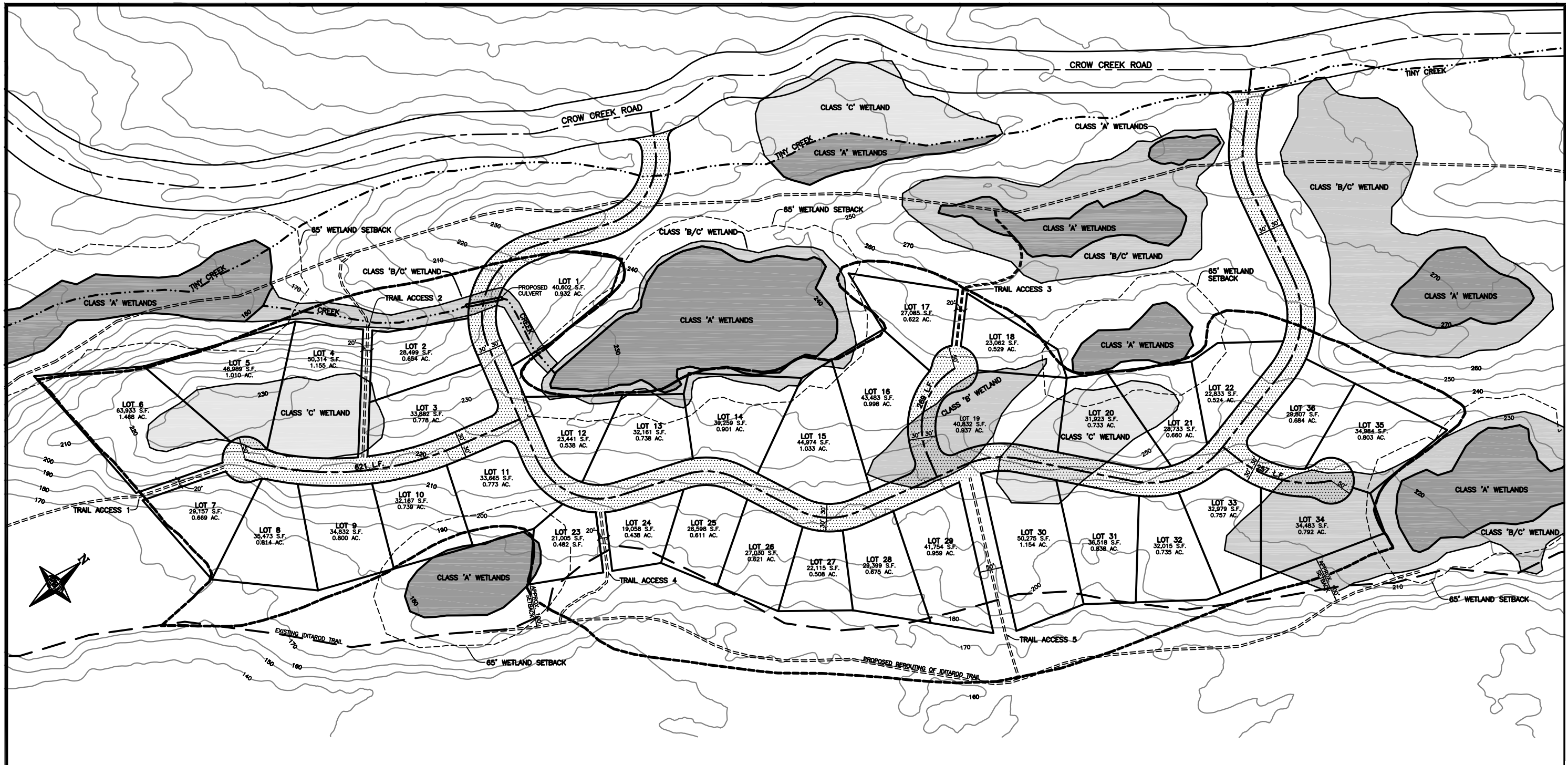
Trails

Within the proposed development there will be approximately 5,000 linear feet of trails along one side of the residential street. These trails will have connections to the Iditarod Trail to the east, and the proposed “Tiny Creek Trail” to the west of the subdivision. It is estimated that approximately 1800 feet of the existing Iditarod Trail will need to be relocated to provide the necessary 100-foot trail buffer of 100 feet and to allow for sufficient lot development to make this project viable.

The “Tiny Creek Trail” will be 5,000 feet in length will be located in the Girdwood Open Space just west of the gR3 boundary. This proposed trail will begin at the Girdwood Elementary School and extend due

north, in the small valley created by Tiny Creek before connecting with the Iditarod Trail just prior to the crossing of Crow Creek Road. There will at least a 65-foot buffer between the creek and the proposed trail. There will be two connector trails from the subdivision west onto this trail.

Another trail with an approximate length of 500-feet is also proposed, in the anticipated AWWU water line corridor from the Girdwood Elementary School to the southern cul-de-sac of the proposed development.

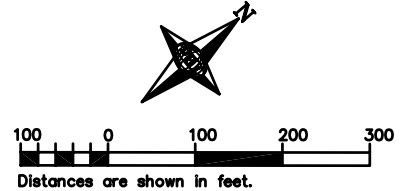


LEGEND

- CLASS 'A' WETLAND BOUNDARY W/ 65' SETBACK
- PROPOSED TRAIL
- 10' CONTOUR INTERVAL
- EXISTING IDITAROD TAIL
- ZONE GR-3 BOUNDARY
- CREEK
- CLASS 'A' WETLAND
- CLASS 'B' OR CLASS 'B/C' WETLAND
- CLASS 'C' WETLAND
- PROPOSED 60' ROAD R.O.W.

NOTES:

TOTAL NUMBER OF LOTS= 36
 TOTAL AREA OF LOTS= 1,227,319 S.F.= 28.2 ACRES
 AVERAGE AREA OF LOTS= 34,092 S.F.= 0.8 ACRES
 MAXIMUM DWELLING UNITS PER ACRES= 1.3
 TOTAL LINEAL FOOT OF ROADS= 4,566 L.F.
 TOTAL LINEAL FOOT OF TRAILS WITHIN GR-3= 2,268 L.F.



DATE	BY	DATA	BY	DATE	REVISIONS	BY
Designed		Sanitary Sewer				
		Storm Sewer				
Drawn		Water				
		Gas				
Checked		Telephone				
		Electric				
		Cable TV				
Approved		Easement				
		Footing Elev.				



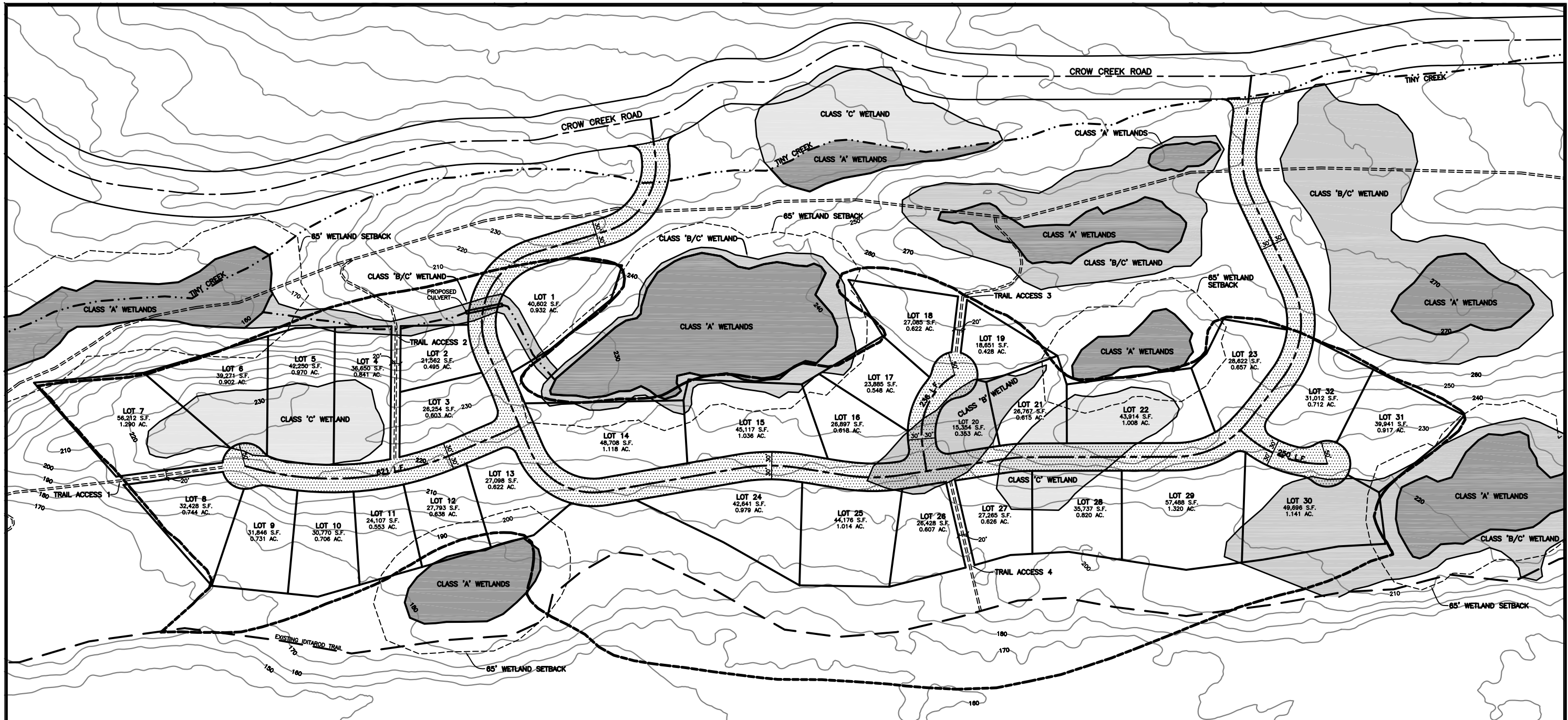
DHI CONSULTING ENGINEERS
 CIVIL • SURVEYING • PLANNING
 Telephone: (907)344-1385 Fax: (907)344-1383
 800 E. DIAMOND BOULEVARD SUITE 3-550 • ANCHORAGE, ALASKA 99515

CROW CREEK ROAD
 LOWER MATRIX WITH RELOCATED IDITAROD
 TRAIL AND PUBLIC WATER & SEWER



Figure 4
CONCEPT 'A'

F.B.	PG.	GRID	COMP FILE NO.	SHEET
HOR	SCALE	DATE	771AREAA1	11
	1" = 100'	2/22/07		
		W.O. 07771		

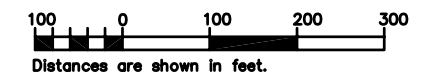


LEGEND

- CLASS A WETLAND BOUNDARY W/ 65' SETBACK
- PROPOSED TRAIL
- 10' CONTOUR INTERVAL
- EXISTING IDITAROD TAIL
- ZONE GR-3 BOUNDARY
- CREEK
- CLASS 'A' WETLAND
- CLASS 'B' OR CLASS 'B/C' WETLAND
- CLASS 'C' WETLAND
- PROPOSED 60' ROAD R.O.W.

NOTES:

- TOTAL NUMBER OF LOTS= 32
- TOTAL AREA OF LOTS= 1,096,232 S.F.= 25.2 ACRES
- AVERAGE AREA OF LOTS= 34,257 S.F.= 0.8 ACRES
- MAXIMUM DWELLING UNITS PER ACRES= 1.3
- TOTAL LINEAL FOOT OF ROADS= 4,382 L.F.
- TOTAL LINEAL FOOT OF TRAILS WITHIN GR-3= 1,009 L.F.



DATE	BY	DATA	BY	DATE	REVISIONS	BY
Designed		Sanitary Sewer				
		Storm Sewer				
Drawn		Water				
		Gas				
Checked		Telephone				
		Electric				
		Cable TV				
Approved		Easement				
		Footing Elev.				



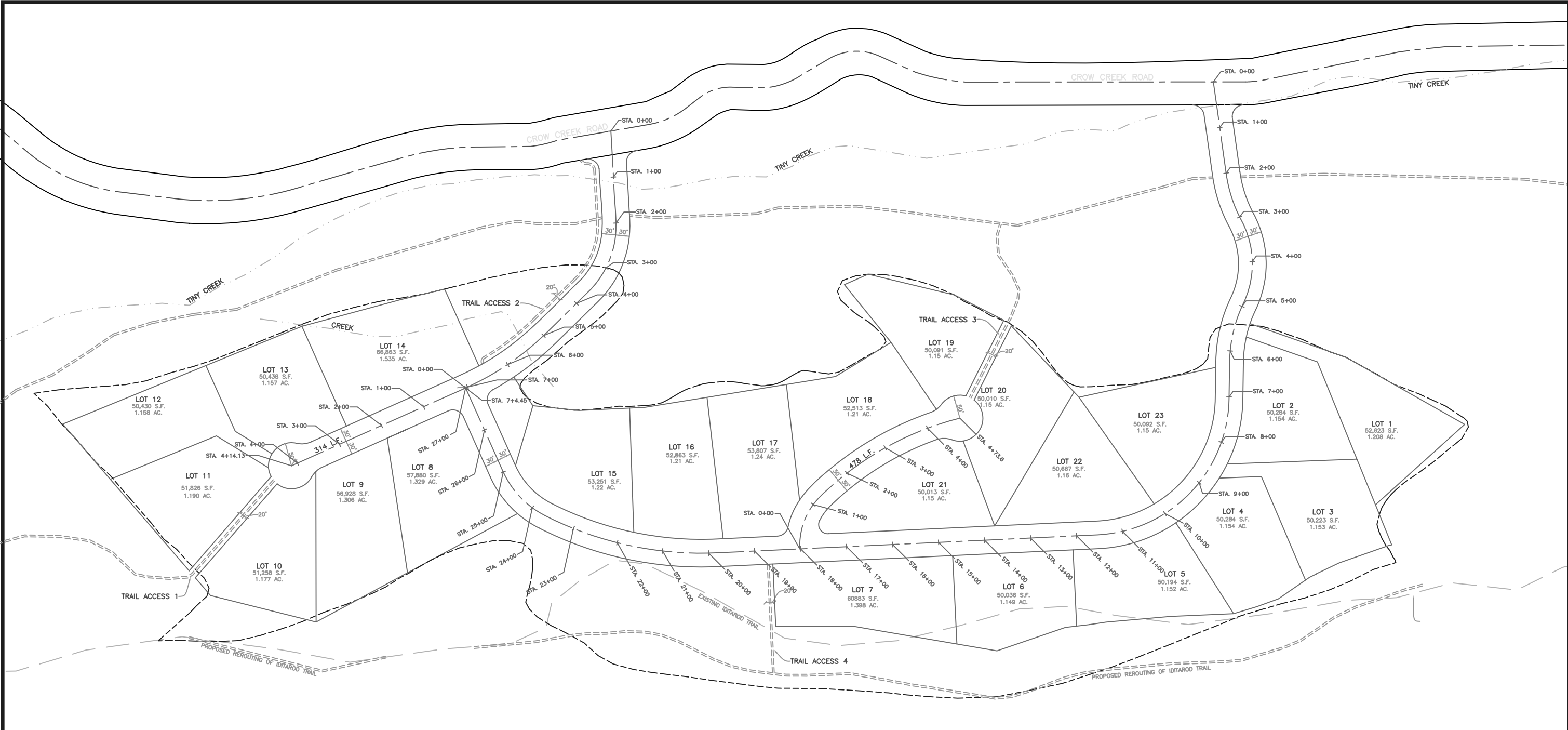
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CROW CREEK ROAD
 LOWER MATRIX WITH EXISTING IDITAROD
 TRAIL AND PUBLIC WATER & SEWER



Figure 5
CONCEPT B

F.B.	PG.	GRID	COMP FILE NO.	SHEET
			771AREAB1	12
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HOR 1" = 100'		2/22/07	06771	

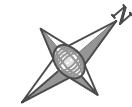


LEGEND

- CLASS A WETLAND BOUNDARY W/ 65' SETBACK
- PROPOSED TRAIL
- 10' CONTOUR INTERVAL
- EXISTING IDITAROD TAIL
- ZONE GR-3 BOUNDARY
- CREEK
- CLASS 'A' WETLAND
- CLASS 'B' OR CLASS 'B/C' WETLAND
- CLASS 'C' WETLAND
- PROPOSED 60' ROAD R.O.W.

NOTES:

- TOTAL NUMBER OF LOTS= 23
- TOTAL AREA OF LOTS= 1,211,457 S.F.= 27.8 ACRES
- AVERAGE AREA OF LOTS= 50,477 S.F.= 1.159 ACRES
- MAXIMUM DWELLING UNITS PER ACRES= 1.3
- TOTAL LINEAL FOOT OF ROADS= 4,228 L.F.
- TOTAL LINEAL FOOT OF TRAILS WITHIN GR-3= 1,980 L.F.
- TOTAL LINEAL FOOT RELOCATED TRAILS WITHIN GR-3= 3912 L.F.



DATE	BY	DATA	BY	DATE	REVISIONS	BY
Designed		Sanitary Sewer				
		Storm Sewer				
Drawn		Water				
		Gas				
Checked		Telephone				
		Electric				
Approved		Cable TV				
		Easement				
		Footing Elev.				



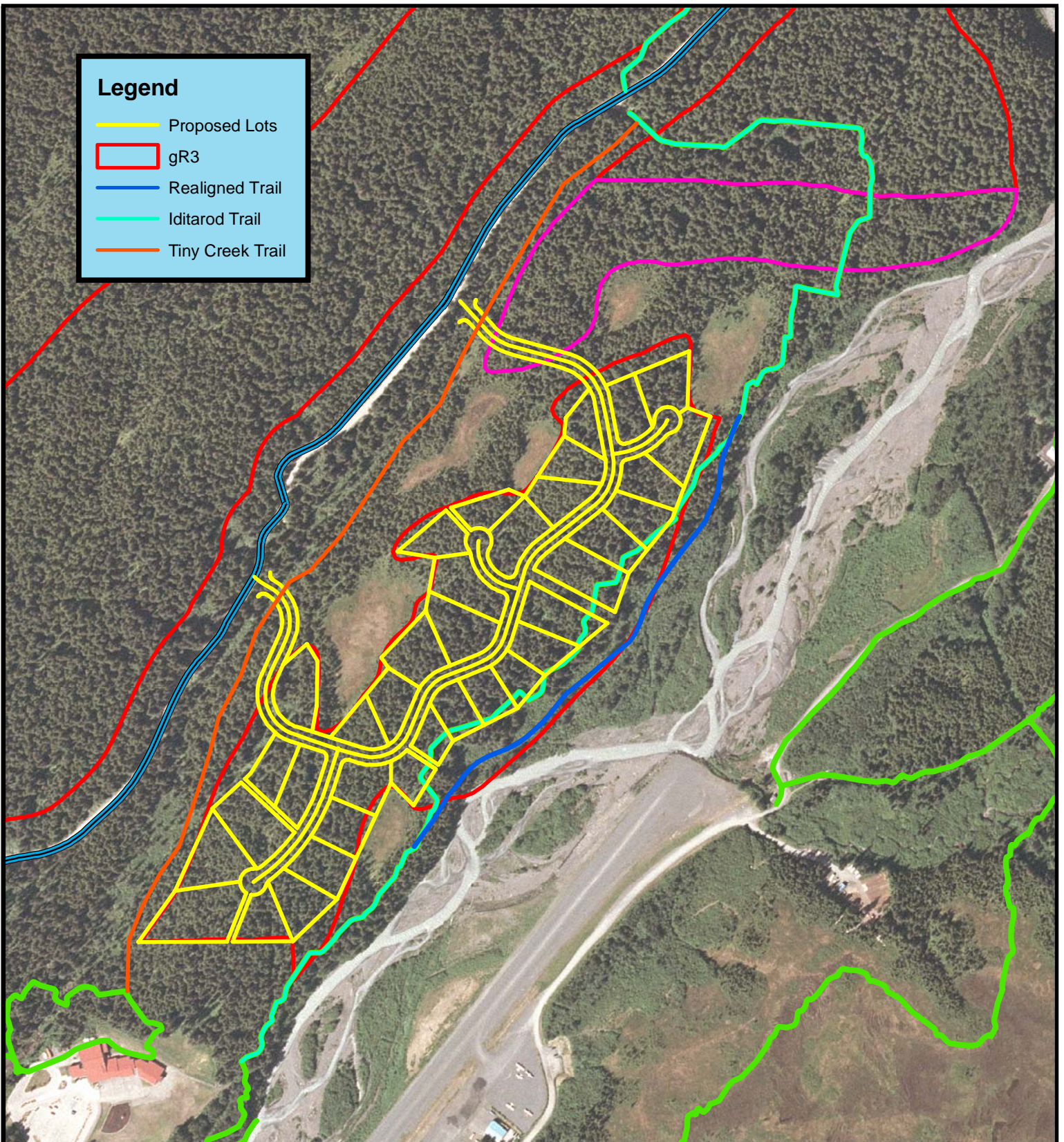
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**CROW CREEK ROAD
 LOWER MATRIX WITH RELOCATED IDITAROD
 TRAIL AND PUBLIC WATER & ON-SITE SEWER**



**Figure 6
 CONCEPT 'C'**

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		W.O. 07771		

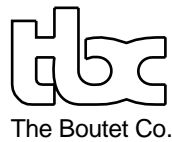


Legend

- Proposed Lots
- gR3
- Realigned Trail
- Iditarod Trail
- Tiny Creek Trail

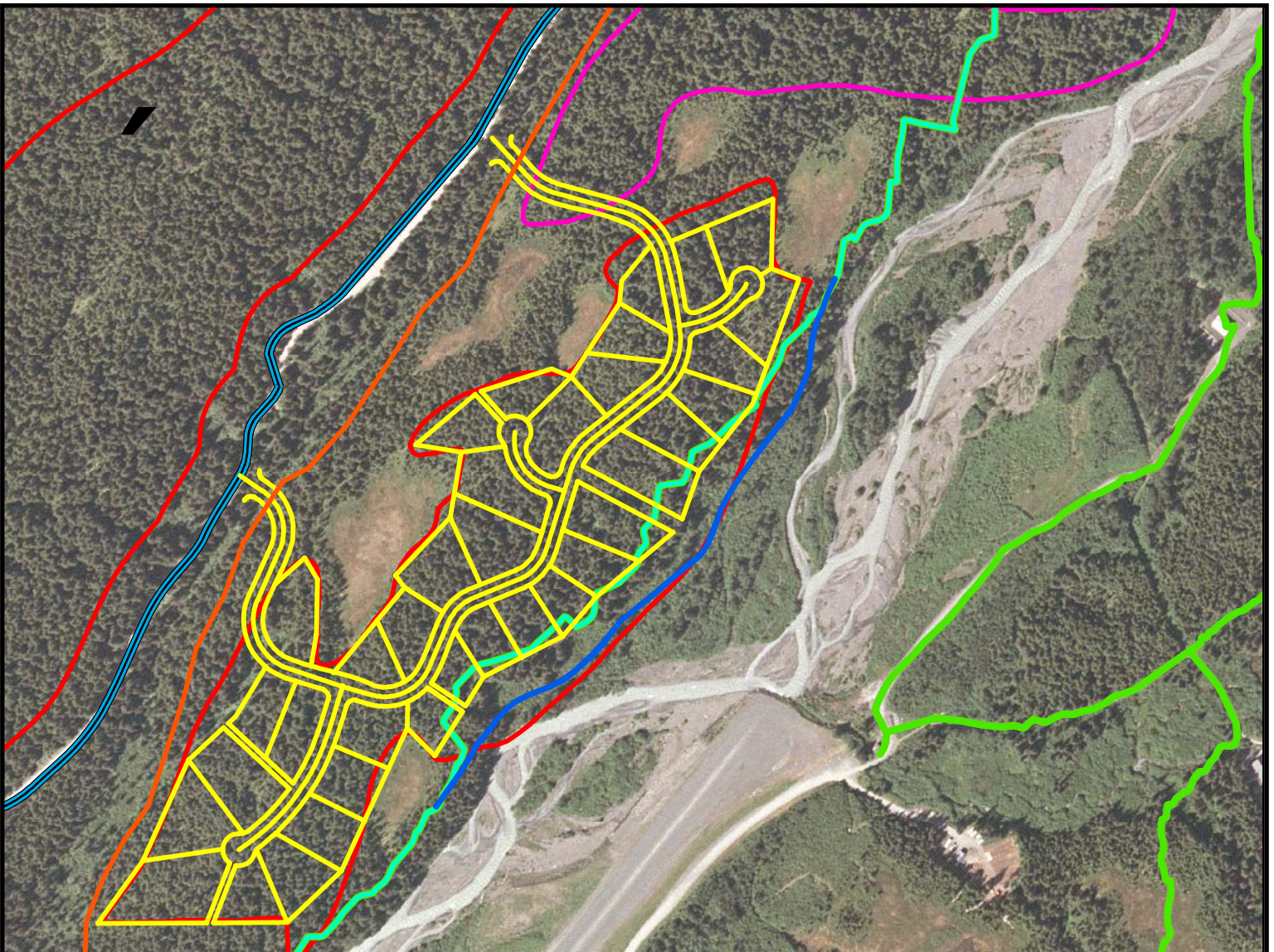
Figure 7

Lower Matrix Concept A

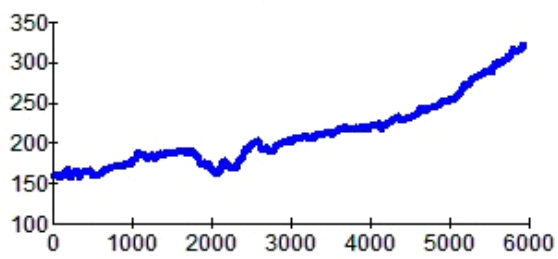


Heritage Land Bank

Crow Creek Infrastructure Study

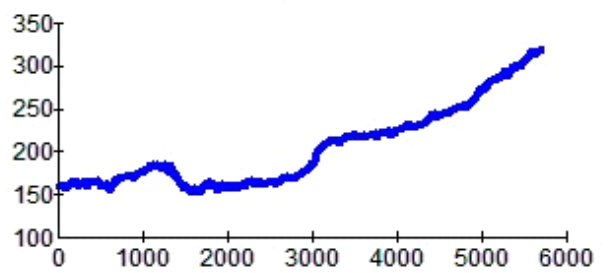


Original



Profile Graph Subtitle

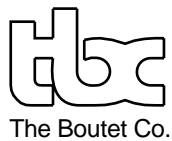
Realignment



Profile Graph Subtitle

Figure 8

Iditarod Trail Profiles



The Boutet Co.

Heritage Land Bank

Crow Creek Neighborhood Phase 1

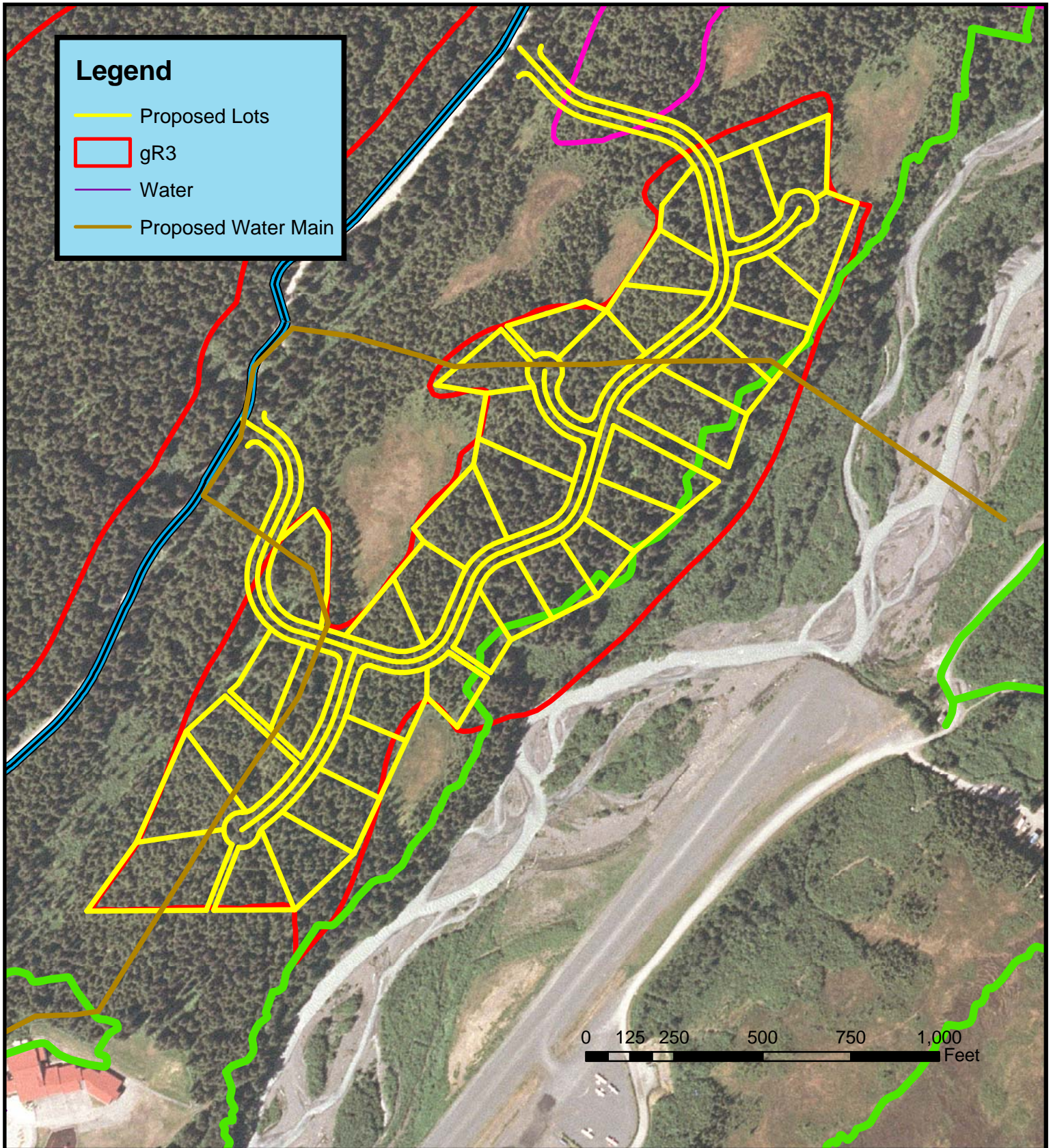
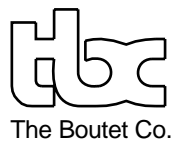


Figure 9

AWWU Water Project Phase 2b



Heritage Land Bank

Crow Creek Neighborhood Phase 1

Costs

Crow Creek Neighborhood				
Lower Matrix Site Development Costs				
Concept A and B				
Component	Cost Per Unit	Unit (Linear Feet or Quantity)	Sub-Total	TOTAL
CONSTRUCTION				
Main Road				
Water	\$ -	2582	\$ -	
Sewer	\$ 100	2582	\$ 258,200	
Roadway	\$ 60	2582	\$ 154,920	
Spur Road				
Water	\$ 250	636	\$ 159,000	
Sewer	\$ 100	900	\$ 90,000	
Roadway	\$ 100	636	\$ 63,600	
Access Roads				
Road	\$ 300	1348	\$ 404,400	
Roadway	\$ 100	1348	\$ 134,800	
Water and Sewer Service				
Stub-out to lots	\$ 3,000	36	\$ 108,000	
Construction Sub-Total			\$ 1,372,920	
Contingency at 25%			\$ 343,230	
Construction Total				\$ 1,716,150
Project Management, Platting and design at 30%				\$ 514,845
UTILITIES				
AWWU Assessment	\$ 5,000	36	\$ 180,000	
Electricity				
Gas				
Telephone	\$ 8,500	36	\$ 306,000	
Utilities Sub-Total				\$ 486,000.00
Trails				
Road Side Trails	\$ 18.00	4566	\$ 82,188	
Tiny Creek Trail	\$ 18.00	5000	\$ 90,000	
Realignment of Iditarod	\$ 18.00	1800	\$ 32,400	
Upgrade of Iditarod Trail	\$ 10.00	4200	\$ 42,000	
Neighborhood Connections	\$ 18.00	500	\$ 9,000	
Trail Sub Total				\$ 255,588.00
TOTAL INFRASTRUCTURE				\$ 2,972,583

**Crow Creek Neighborhood
Lower Matrix Site Development Costs
Concept C-2**

Component	Cost Per Unit	Unit (Linear Feet or Quantity)	Sub-Totals	TOTAL
CONSTRUCTION				
Main Road				
Water	\$ -	2582	\$ -	
Roadway	\$ 60	2582	\$ 154,920	
Spur Road				
Water	\$ 250	636	\$ 159,000	
Roadway	\$ 100	900	\$ 90,000	
Access Roads				
Road	\$ 300	1010	\$ 303,000	
Roadway	\$ 100	1010	\$ 101,000	
Water and Sewer Service				
Stub-out to lots	\$ 3,000	36	\$ 108,000	
Construction Sub-Total			\$ 915,920	
Contingency at 25%			\$ 228,980	
Construction Total				\$ 1,144,900
Project Management, Platting and design at 30%				\$ 343,470
UTILITIES				
AWWU Assessment	\$ 5,000	24	\$ 120,000	
Electricity				
Gas				
Telephone	\$ 8,500	24	\$ 204,000	
Utilities Sub-Total				\$ 324,000
Trails				
Road Side Trails	\$ 18.00	4566	\$ 82,188	
Tiny Creek Trail	\$ 18.00	5000	\$ 90,000	
Realignment of Iditarod	\$ 18.00	1800	\$ 32,400	
Upgrade of Iditarod Trail	\$ 10.00	4200	\$ 42,000	
Neighborhood Connections	\$ 18.00	500	\$ 9,000	
Trail Sub Total				\$ 255,588
TOTAL INFRASTRUCTURE				\$ 2,067,958

Summary of Development Cost

	Concept A	Concept B	*Concept C	*Concept C-2
Cost of Subdivision Infrastructure	\$ 2,716,995	\$ 2,634,595	\$ 2,041,625	\$ 2,067,958
Cost of Trails	\$ 255,588	\$ 255,588	\$ 255,588	\$ 255,588
TOTAL COST OF DEVELOPMENT	\$ 2,972,583	\$ 2,890,183	\$ 2,906,550	\$ 2,067,958
INFRASTRUCTURE COST PER LOT	\$ 82,572	\$ 90,318	\$ 121,106	\$ 86,165
Number of Lots	36	32	24	24
Average Lot Size	34092	34257	50092	50092
Acres of Lots	26.2	25.2	34.5	34.5
DEVELOPMENT COMPONENTS				
Public Water	x	x		x
Public Sewer	x	x		
On Site Water			x	
On Site Sewer			x	x

* Concept C on site water and sewer, Concept C-2 public water, on site sewer.

Implementation-Next Steps

Real Estate Sellers Assessment

Final Design and Engineering.

Plan for the development of subdivision infrastructure.

Development of RFP and methods to dispose of property.

Request for Proposals to develop the property.