

Appendix D
Capital Cost Estimates

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Table 21. Big Lake Airport Master Plan

| NEAR TERM (0-5 YEARS) | | | | |
|---------------------------------|---|---|--------------------------------|----------------------|
| Item No. | Project Title | Description | AIP Eligible | Project Total |
| A | Runway and taxiway shift, runway lighting replacement, rotating beacon, Electrical Enclosure Building (EEB) | Shift runway 1,050' to remove runway protection zone conflicts. Relocate TW B to new runway end. Resurface runway and parallel taxiway and connectors. Replace existing airfield lighting. Install rotating beacon and EEB. | Yes | \$ 10,971,000 |
| B | Reserve area for future helicopter apron and future lease lots | Reserve land for future development. | N/A | No Cost |
| C | Construct airport perimeter fence | Construct perimeter fence to improve security and control, and access along Hughes Homestead Road. | Yes | \$ 4,018,000 |
| D | Construct Snow Removal Equipment Building (SREB), construct Taxiway E | Construct 2-bay SREB. Grade lot to ultimate elevations and construct portion of N-S TW to connect the SREB to parallel TW. | Yes | \$ 6,066,000 |
| E | Resurface and extend lease lot access road | Resurface existing lease lot access road and extend access road east to the proposed SREB/M&O lot and the proposed N-S TW. | AIP eligibility may be limited | \$ 613,000 |
| F | Construct on-airport floatplane service road | Construct on-airport floatplane service road to tow floatplanes from Fish Creek to airport lease lots outside of runway safety area. Relocate beacon. | Yes | \$ 608,000 |
| G | Rehabilitate existing tiedown apron | Rehabilitate existing tiedown apron to extend life of apron. | Yes | \$ 232,000 |
| H | Install weather station | Construct weather station. | AIP eligibility may be limited | \$ 1,228,000 |
| MID TERM (6-10 YEARS) | | | | |
| | Project Title | Description | AIP Eligible | Project Total |
| I | Construct new tiedown area east of existing apron | Construct tiedown area to east and construct access road connecting existing lease lot access road to new tiedown apron. | Yes | \$ 10,357,000 |
| J | Construct 4 new lease lots north of new tiedown apron | Construct 4 new lease lots on northside of new tiedown area. Extend access road to north side of lease lots. | AIP eligibility may be limited | \$ 2,635,000 |
| LONG TERM (11-20+ YEARS) | | | | |
| | Project Title | Description | AIP Eligible | Project Total |
| K | Extend runway 450' | Extend runway 450'. Regrade hill to east to eliminate 20:1 penetrations. Resurface full length of existing runway and all taxiways/taxilanes. | Yes | \$ 20,692,000 |
| L | Construct north-south taxilane for 7 future lease lots (Beyond 20 year planning horizon) | Grade and construct 640' north-south taxiway, 7 lease lots, and access roads that connect to Aero Lane. Requires regrading and can be used as a material source for earlier construction projects. | AIP eligibility may be limited | \$ 13,659,000 |

| | |
|---|----------------------|
| Note: Airport Improvement Program (AIP) eligibility means the project would be eligible for funding through the Federal Aviation Administration's (FAA) AIP grant program administered through FAA Airports Division, Alaska Region. Funding amounts and percentages are apportioned according to 49 USC § 47114 (e). Phasing and timing of projects could change due to the availability of state and federal funding and changes to AIP eligibility of projects. | \$ 71,079,000 |
|---|----------------------|



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Shift runway 1,050' to remove runway protection zone conflicts. Relocate TW B to new runway end. Resurface runway and parallel taxiway and connectors. Replace existing airfield lighting. Install rotating beacon and EEB.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|-------------------------------------|-------------|--------------|--------------|----------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Clearing and Grubbing | Acre | 7 | \$ 12,200 | \$ 85,400 |
| 2 | Unclassified Excavation | Cubic Yard | 35,300 | \$ 15 | \$ 529,500 |
| 3 | Subbase | Ton | 39,500 | \$ 17 | \$ 671,500 |
| 4 | Crushed Aggregate Surface Course | Ton | 22,800 | \$ 40 | \$ 912,000 |
| 5 | Seeding | Acre | 6 | \$ 9,000 | \$ 54,000 |
| 6 | Topsoiling | Square Yard | 24,600 | \$ 6 | \$ 147,600 |
| 7 | Dust Palliative | Lump Sum | ALL REQUIRED | \$ 250,000 | \$ 250,000 |
| 8 | Obstruction Light | Each | 6 | \$ 3,200 | \$ 19,200 |
| 9 | Earthwork for Runway Shift | Lump Sum | ALL REQUIRED | \$ 800,000 | \$ 800,000 |
| 10 | Remove Existing Airfield Lighting | Lump Sum | ALL REQUIRED | \$ 40,300 | \$ 40,300 |
| 11 | Airfield Lighting | Lump Sum | ALL REQUIRED | \$ 1,050,000 | \$ 1,050,000 |
| 12 | Rotating Beacon | Each | 1 | \$ 13,000 | \$ 13,000 |
| 13 | Electrical Enclosure Building (EEB) | Lump Sum | ALL REQUIRED | \$ 180,000 | \$ 180,000 |
| 14 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 1,663,375 | \$ 1,663,375 |
| 15 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 1,283,175 | \$ 1,283,175 |
| Total Basic Bid (BB): | | | | | \$ 7,699,050 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 1,154,858 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 1,154,858 |
| Subtotal (BB + DE + CE): | | | | | \$ 10,008,765 |
| (ICAP) at 9.61% | | | | | \$ 961,842 |
| Project Total: | | | | | \$ 10,970,607 |
| Rounded Project Total: | | | | | \$ 10,971,000 |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Shift runway 1,050' to remove runway protection zone conflicts. Relocate TW B to new runway end. Resurface runway and parallel taxiway and connectors. Replace existing airfield lighting. Install rotating beacon and EEB.

ASSUMPTIONS:

Shift runway 1,050' to the east.

Resurface existing runway (2450' - 1050' = 1400')

Construct shifted runway (1050')

Provide new lighting along runway (including removal of old) and connector taxiways

Shift connector TW B to new runway end (west); obliterate existing TW B.

Resurface existing portion of parallel TW D, connector TW C, and TW A

Extend parallel TW D to new runway end (east)

Construct new connector TW F at runway end (east)

Resurface runup pad

Install hazard lights on building with Part 77 penetrations.

Runway Safety Area (RSA) (Resurfaced) = 2450' + 240' = 2690'

Runway Safety Area (RSA) (Shift) = 1050+240' = 1260'

RSA Extension Past RW Ends = 240'

Runway Obliteration (removal of the portion of runway that will no longer be used): (1050' - 240') x 70'

Remove 24" of existing embankment, replace with 20" of subbase and 4" of topsoil/seed

1.) Dimensions:

| | Length (FT) | Width (FT) | Area (SF) |
|--|-------------|------------|-----------|
| Runway (Resurfaced) | 1,400 | 60 | 84,000 |
| Runway (Shift) | 1,050 | 60 | 63,000 |
| RSA (Resurfaced) (subtract RW) | 1,640 | 120 | 112,800 |
| RSA (Shift) (subtract RW) | 1,290 | 120 | 91,800 |
| Connector TWs (B and F) | 250 | 25 | 6,250 |
| Connector TW TSAs (B and F) | 250 | 79 | 19,750 |
| Connector TW C (N & S of TW D) | 500 | 25 | 12,500 |
| Connector TW C TSA (N & S of TW D) | 500 | 79 | 39,500 |
| Parallel TW D (existing) | 2,000 | 25 | 50,000 |
| Parallel TW D (extend) | 1,015 | 25 | 25,375 |
| Parallel TW D TSAs (existing & extended) | 3,015 | 79 | 238,185 |
| TW A to existing lease lots | 805 | 25 | 20,125 |
| TW A to existing lease lots (TSA) | 805 | 79 | 63,595 |
| Runway Obliteration | 810 | 70 | 56,700 |
| RSA Obliteration | 1,050 | 120 | 69,300 |
| TW B Obliteration | 250 | 50 | 12,500 |
| TW B TSA Obliteration | 250 | 79 | 19,750 |
| Runup Pad | 115 | 105 | 12,075 |

2.) Runway/Taxiway (Resurfaced)

| | Depth (IN) |
|-------------------------|------------|
| Unclassified Excavation | 6 |
| Surface Course | 9 |

3.) Runway/Taxiway (Shift/Extension/Relocate)

| | |
|-------------------------|----|
| Unclassified Excavation | 57 |
| Subbase | 48 |
| Surface Course | 9 |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Shift runway 1,050' to remove runway protection zone conflicts. Relocate TW B to new runway end. Resurface runway and parallel taxiway and connectors. Replace existing airfield lighting. Install rotating beacon and EEB.

ASSUMPTIONS (CONTINUED):

| | | |
|---|-----|--|
| 4.) RSA/TSA (Resurfaced) | | |
| Unclassified Excavation | 2 | |
| Surface Course | 2 | |
| 5.) RSA/TSA (Extension) | | |
| Unclassified Excavation | 4 | |
| Surface Course | 4 | |
| 6.) Runway/TW Obliteration (minus RSA) | | |
| Unclassified Excavation | 24 | |
| Subbase | 20 | |
| *Seeding & Topsoil by surface area | --- | |
| 7.) RSA Obliteration | | |
| Unclassified Excavation | 4 | |
| *Seeding & Topsoil by surface area | --- | |
| 8.) New EEB is about 450 sq.ft. at ~\$400/sf = ~\$180,000 | | |
| 9.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications): | | |
| 10% Mobilization / Demobilization | | |
| 25% Various Contractor Furnished Services | | |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Reserve land for future development.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|-----------------------|---------------|----------|--------------|---|-------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Reserve area' | Lump Sum | ALL REQUIRED | \$ - | \$ - |
| | | | | Total Basic Bid (BB): | \$ - |
| | | | | Design Engineering (DE) at 15.0%: | \$ - |
| | | | | Construction Engineering (CE) at 15.0%: | \$ - |
| | | | | Subtotal (BB + DE + CE): | \$ - |
| | | | | (ICAP) at 9.61% | \$ - |
| | | | | Project Total: | \$ - |
| | | | | Rounded Project Total: | \$ - |

ASSUMPTIONS:

Update ALP to reflect the change



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Construct perimeter fence to improve security and control, and access along Hughes Homestead Road.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|-------------------------------|-------------|--------------|------------|---------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | 8' Chain-Link Fence | Linear Foot | 16,000 | \$ 65 | \$ 1,040,000 |
| 2 | Install Powered Vehicle Gate | Each | 1 | \$ 80,000 | \$ 80,000 |
| 3 | Install Powered Aircraft Gate | Each | 2 | \$ 250,000 | \$ 500,000 |
| 4 | Install Manual Gate | Each | 10 | \$ 5,000 | \$ 50,000 |
| 5 | Standard Sign | Square Foot | 440 | \$ 160 | \$ 70,400 |
| 6 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 609,140 | \$ 609,140 |
| 7 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 469,908 | \$ 469,908 |
| Total Basic Bid (BB): | | | | | \$ 2,819,448 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 422,917 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 422,917 |
| Subtotal (BB + DE + CE): | | | | | \$ 3,665,282 |
| (ICAP) at 9.61%: | | | | | \$ 352,234 |
| Project Total: | | | | | \$ 4,017,516 |
| Rounded Project Total: | | | | | \$ 4,018,000 |

ASSUMPTIONS:

- Install chain link fence around perimeter of airport (approx. 16,000', length from ArcMap)*
- Install 10 manual gates at existing lease lots along Big Lake Road & at Hughes Homestead Road
- Install 1 powered vehicle gates at Aero Lane/Taxi Way
- Install 1 powered aircraft gate to access Big Lake floatplane ramp
- Install 1 powered aircraft gate at Tailwind Cir.
- *Included in the unit pricing is a vegetation barrier along entire length for wildlife mitigation



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Construct perimeter fence to improve security and control, and access along Hughes Homestead Road.

ASSUMPTIONS:

| | |
|---------------------|--------------------|
| 1.) Dimensions: | <u>Length (FT)</u> |
| 8' Chain-Link Fence | 16,000 |

- 2.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications):
10% Mobilization / Demobilization
25% Various Contractor Furnished Services



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Construct 2-bay SREB. Grade lot to ultimate elevations and construct portion of N-S TW to connect the SREB to parallel TW.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|--------------------------------------|------------|--------------|--------------|---------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Clearing and Grubbing | Acre | 3 | \$ 12,200 | \$ 36,600 |
| 2 | Unclassified Excavation | Cubic Yard | 1,300 | \$ 15 | \$ 19,500 |
| 3 | Subbase | Ton | 1,850 | \$ 17 | \$ 31,450 |
| 4 | Crushed Aggregate Surface Course | Ton | 676 | \$ 40 | \$ 27,040 |
| 5 | New two (2) Bay SREB | Lump Sum | ALL REQUIRED | \$ 1,500,000 | \$ 1,500,000 |
| 6 | Extend Power to Maintenance Building | Lump Sum | ALL REQUIRED | \$ 52,000 | \$ 52,000 |
| 7 | Earthwork for SREB Lot | Lump Sum | ALL REQUIRED | \$ 961,000 | \$ 961,000 |
| 11 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 919,657 | \$ 919,657 |
| 12 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 709,449 | \$ 709,449 |
| Total Basic Bid (BB): | | | | | \$ 4,256,696 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 638,504 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 638,504 |
| Subtotal (BB + DE + CE): | | | | | \$ 5,533,705 |
| (ICAP) at 9.61% | | | | | \$ 531,789 |
| Project Total: | | | | | \$ 6,065,494 |
| Rounded Project Total: | | | | | \$ 6,066,000 |

ASSUMPTIONS:

Grade proposed SREB/M&O lot, including a portion of proposed TW E to access the SREB.
 Access road to SREB/M&O lot is included in Project E (Extend Road for Lease Lots)
 Extend power to SREB

ASSUMPTIONS:

| | | | |
|---|--------------------|-------------------|------------------|
| 1.) Dimensions: | <u>Length (FT)</u> | <u>Width (FT)</u> | <u>Area (SF)</u> |
| New partial TW E (TSA) | 255 | 25 | 6,375 |
| New partial TW E (TSA) | 255 | 79 | 20,145 |
| 2.) New Taxiway | <u>Depth (IN)</u> | | |
| Unclassified Excavation | 57 | | |
| Subbase | 48 | | |
| Surface Course | 9 | | |
| 3.) New TSA | <u>Depth (IN)</u> | | |
| Unclassified Excavation | 4 | | |
| Surface Course | 4 | | |
| 4.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications): | | | |
| 10% Mobilization / Demobilization | | | |
| 25% Various Contractor Furnished Services | | | |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Resurface existing lease lot access road and extend access road east to the proposed SREB/M&O lot and the proposed N-S TW.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|----------------------------------|-------------|--------------|------------|-------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Clearing and Grubbing | Acre | 2.0 | \$ 12,200 | \$ 24,400 |
| 2 | Unclassified Excavation | Cubic Yard | 4,300 | \$ 15 | \$ 64,500 |
| 3 | Subbase | Ton | 7,200 | \$ 17 | \$ 122,400 |
| 4 | Crushed Aggregate Surface Course | Ton | 1,190 | \$ 40 | \$ 47,600 |
| 5 | Standard Sign | Square Foot | 40 | \$ 160 | \$ 6,400 |
| 6 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 92,855 | \$ 92,855 |
| 7 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 71,631 | \$ 71,631 |
| Total Basic Bid (BB): | | | | | \$ 429,786 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 64,468 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 64,468 |
| Subtotal (BB + DE + CE): | | | | | \$ 558,722 |
| (ICAP) at 9.61%: | | | | | \$ 53,693 |
| Project Total: | | | | | \$ 612,415 |
| Rounded Project Total: | | | | | \$ 613,000 |

ASSUMPTIONS:

Extend and improve access road to all lease lots.

Resurface existing access road to lots on the west side of the existing apron (west of Tailwind Cir.).

Resurface S. Taxi Way.

Extend access road east to the end of the existing apron.

Limits of clearing and grubbing is 10-feet beyond each edge, unless otherwise noted.

Clearing and grubbing is only needed along the extended access road.

| 1.) Dimensions: | Length (FT) | Width (FT) | Area (SF) |
|--|-------------|------------|-----------|
| Access road on west side of existing apron | 650 | 24 | 15,600 |
| S. Taxi Way | 700 | 24 | 16,800 |
| Access road on east side of existing apron | 1,380 | 24 | 33,120 |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Resurface existing lease lot access road and extend access road east to the proposed SREB/M&O lot and the proposed N-S TW.

ASSUMPTIONS (CONT.):

| | |
|---|-------------------|
| 2.) Access Roads (Resurface) | <u>Depth (IN)</u> |
| Unclassified Excavation | 2 |
| Surface Course | 2 |
| 3.) Access Roads (Extend) | |
| Unclassified Excavation | 40 |
| Subbase | 36 |
| Surface Course | 4 |
| 4.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications): | |
| 10% Mobilization / Demobilization | |
| 25% Various Contractor Furnished Services | |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

Construct on-airport floatplane service road to tow floatplanes from Fish
 PROJECT: Creek to airport lease lots outside of runway safety area. Relocate
 beacon.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|----------------------------------|------------|--------------|------------|-------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Clearing and Grubbing | Acre | 3 | \$ 12,200 | \$ 36,600 |
| 2 | Unclassified Excavation | Cubic Yard | 3,600 | \$ 15 | \$ 54,000 |
| 3 | Subbase | Ton | 6,230 | \$ 17 | \$ 105,910 |
| 4 | Crushed Aggregate Surface Course | Ton | 700 | \$ 40 | \$ 28,000 |
| 5 | Standard Sign | Each | 16 | \$ 160 | \$ 2,560 |
| 6 | Hinged Pole Beacon Tower | Each | 1 | \$ 36,000 | \$ 36,000 |
| 7 | Soft Cost @ 35% | LUMP SUM | ALL REQUIRED | \$ 92,075 | \$ 92,075 |
| 8 | 20% Contingency | LUMP SUM | ALL REQUIRED | \$ 71,029 | \$ 71,029 |
| Total Basic Bid (BB): | | | | | \$ 426,173 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 63,926 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 63,926 |
| Subtotal (BB + DE + CE): | | | | | \$ 554,025 |
| (ICAP) at 9.61%: | | | | | \$ 53,242 |
| Project Total: | | | | | \$ 607,267 |
| Rounded Project Total: | | | | | \$ 608,000 |

ASSUMPTIONS:

Construct floatplane service road (approx. 1,200', length from ArcMap)
 Clearing width equals taxiway clearing width (79') to accommodate trailered planes.
 Powered aircraft gate is included in perimeter fencing cost (Alt. C)
 Relocate rotating beacon outside of proposed floatplane service road.

| 1.) Dimensions: | Length (FT) | Width (FT) | Area (SF) |
|-----------------------------------|-------------|------------|-----------|
| Access Road | 1,200 | 24 | 28,800 |
| Clearing Width (width of taxiway) | 1,200 | 79 | 94,800 |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

Construct on-airport floatplane service road to tow floatplanes from Fish
PROJECT: Creek to airport lease lots outside of runway safety area. Relocate
beacon.

ASSUMPTIONS (CONT.):

| | <u>Depth (IN)</u> |
|-----------------------------|-------------------|
| 2.) Floatplane Service Road | |
| Clearing and Grubbing | --- |
| Unclassified Excavation | 40 |
| Subbase | 36 |
| Surface Course | 4 |

- 3.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications):
10% Mobilization / Demobilization
25% Various Contractor Furnished Services



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Rehabilitate existing tiedown apron to extend life of apron.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|----------------------------------|------------|--------------|------------|-------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Unclassified Excavation | Cubic Yard | 900 | \$ 15 | \$ 13,500 |
| 2 | Crushed Aggregate Surface Course | Ton | 1,610 | \$ 35 | \$ 56,350 |
| 3 | Tiedowns | Each | 38 | \$ 800 | \$ 30,400 |
| 4 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 35,088 | \$ 35,088 |
| 5 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 27,068 | \$ 27,068 |
| Total Basic Bid (BB): | | | | | \$ 162,405 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 24,361 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 24,361 |
| Subtotal (BB + DE + CE): | | | | | \$ 211,127 |
| (ICAP) at 9.61%: | | | | | \$ 20,289 |
| Project Total: | | | | | \$ 231,416 |
| Rounded Project Total: | | | | | \$ 232,000 |

ASSUMPTIONS:

Rehabilitate existing apron east of Tailwind Circle for use as tie-down area.

Resurface existing apron.

Install 38 new aircraft tie-downs in new configuration

| | | | |
|-------------------------|--------------------|-------------------|------------------|
| 1.) Dimensions: | <u>Length (FT)</u> | <u>Width (FT)</u> | <u>Area (SF)</u> |
| Existing tie-down apron | 210 | 635 | 133,350 |

| | |
|-------------------------|-------------------|
| 2.) Apron (Resurface) | <u>Depth (IN)</u> |
| Unclassified Excavation | 2 |
| Surface Course | 2 |

3.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications):

10% Mobilization / Demobilization

25% Various Contractor Furnished Services



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Construct weather station.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|--|----------|--------------|------------|---------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Weather station equipment and siting study | Lump Sum | 1 | \$ 300,000 | \$ 300,000 |
| 2 | Clearing and Grubbing | Acre | 19 | \$ 12,200 | \$ 231,800 |
| 3 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 186,130 | \$ 186,130 |
| 4 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 143,586 | \$ 143,586 |
| Total Basic Bid (BB): | | | | | \$ 861,516 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 129,227 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 129,227 |
| Subtotal (BB + DE + CE): | | | | | \$ 1,119,971 |
| (ICAP) at 9.61% | | | | | \$ 107,629 |
| Project Total: | | | | | \$ 1,227,600 |
| Rounded Project Total: | | | | | \$ 1,228,000 |

ASSUMPTIONS:

Clear 500' radius around weather station

1.) Dimensions Radius (FT)
 weather station 500

2.) Clearing and Grubbing Area (SF) Area (AC)
 weather station 785,500 18.03

3.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications):
 10% Mobilization / Demobilization
 25% Various Contractor Furnished Services



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Construct tiedown area to east and construct access road connecting existing lease lot access road to new tiedown apron.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|---------------------------------------|-------------|--------------|--------------|----------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Clearing and Grubbing | Acre | 6 | \$ 12,200 | \$ 73,200 |
| 2 | Unclassified Excavation | Cubic Yard | 30,400 | \$ 15 | \$ 456,000 |
| 3 | Subbase | Ton | 49,300 | \$ 17 | \$ 838,100 |
| 4 | Crushed Aggregate Surface Course | Ton | 10,010 | \$ 40 | \$ 400,400 |
| 5 | Seeding | Acre | 1 | \$ 9,000 | \$ 9,000 |
| 6 | Topsoiling | Square Yard | 4,050 | \$ 6.00 | \$ 24,300 |
| 7 | Tiedowns | Each | 33 | \$ 800 | \$ 26,400 |
| 8 | Extend Power to Proposed Tiedown Area | Lump Sum | ALL REQUIRED | \$ 160,000 | \$ 160,000 |
| 9 | Apron Flood Lighting | Lump Sum | ALL REQUIRED | \$ 58,000 | \$ 58,000 |
| 10 | Regrade Tiedown Area | Lump Sum | ALL REQUIRED | \$ 2,441,000 | \$ 2,441,000 |
| 11 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 1,570,240 | \$ 1,570,240 |
| 12 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 1,211,328 | \$ 1,211,328 |
| Total Basic Bid (BB): | | | | | \$ 7,267,968 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 1,090,195 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 1,090,195 |
| Subtotal (BB + DE + CE): | | | | | \$ 9,448,358 |
| (ICAP) at 9.61%: | | | | | \$ 907,987 |
| Project Total: | | | | | \$ 10,356,346 |
| Rounded Project Total: | | | | | \$ 10,357,000 |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Construct tiedown area to east and construct access road connecting existing lease lot access road to new tiedown apron.

ASSUMPTIONS:

Construct tiedown apron to the east.

Construct new tiedown area to east (approx. 1,100' x 140')

Extend parallel TW D through to the end of the new tiedown area (approx. 400') (1/2 width TSA)

Extend access road from TW E to western side of tiedown apron. (approx. 390')

| 1.) Dimensions: | Length (FT) | Width (FT) | Area (SF) |
|------------------------------------|-------------|------------|-----------|
| Proposed Tiedown Area | 1,100 | 140 | 154,000 |
| Extend TW D through tiedown area | 400 | 25 | 10,000 |
| Resurface connector TW F to RW end | 250 | 25 | 6,250 |
| Extend access road to new tiedown | 390 | 24 | 9,360 |

| 2.) Proposed Tiedown Apron | Depth (IN) |
|----------------------------|------------|
| Unclassified Excavation | 57 |
| Subbase | 48 |
| Surface Course | 9 |

| 3.) Taxiway (Extension) | Depth (IN) |
|-------------------------|------------|
| Unclassified Excavation | 57 |
| Subbase | 48 |
| Surface Course | 9 |

| 4.) TSA (Extension) | Depth (IN) |
|-------------------------|------------|
| Unclassified Excavation | 4 |
| Surface Course | 4 |

| 5.) Taxiway (Resurfaced) | Depth (IN) |
|--------------------------|------------|
| Unclassified Excavation | 6 |
| Surface Course | 9 |

| 6.) TSA (Resurfaced) | Depth (IN) |
|-------------------------|------------|
| Unclassified Excavation | 2 |
| Surface Course | 2 |

| 7.) Access Road (Extension) | Depth (IN) |
|-----------------------------|------------|
| Unclassified Excavation | 40 |
| Subbase | 36 |
| Surface Course | 4 |

8.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications):

- 10% Mobilization / Demobilization
- 25% Various Contractor Furnished Services



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Construct 4 new lease lots on the north side of the new tiedown apron.
Extend access road.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|----------------------------------|-------------|--------------|------------|---------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Clearing and Grubbing | Acre | 4 | \$ 12,200 | \$ 48,800 |
| 2 | Unclassified Excavation | Cubic Yard | 2,700 | \$ 15 | \$ 40,500 |
| 3 | Subbase | Ton | 4,670 | \$ 17 | \$ 79,390 |
| 4 | Crushed Aggregate Surface Course | Ton | 520 | \$ 40 | \$ 20,800 |
| 5 | Seeding | Acre | 2 | \$ 9,000 | \$ 18,000 |
| 6 | Topsoiling | Square Yard | 9,100 | \$ 6.00 | \$ 54,600 |
| 8 | Regrade Lease Lots | Lump Sum | ALL REQUIRED | \$ 879,000 | \$ 879,000 |
| 9 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 399,382 | \$ 399,382 |
| 10 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 308,094 | \$ 308,094 |
| Total Basic Bid (BB): | | | | | \$ 1,848,566 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 277,285 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 277,285 |
| Subtotal (BB + DE + CE): | | | | | \$ 2,403,136 |
| (ICAP) at 9.61% | | | | | \$ 230,941 |
| Project Total: | | | | | \$ 2,634,077 |
| Rounded Project Total: | | | | | \$ 2,635,000 |

ASSUMPTIONS:

- Develop area for four lease lots (~800' x 150') on north edge of proposed tiedown area.
- Grade lease lot area to accommodate future construction
- Extend access road to end of new lease lots
- Clearing and grubbing acreage is based on ground disturbance required to regrade the lots.
- Assuming power extension will be paid for by lease developers.



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Construct 4 new lease lots on the north side of the new tiedown apron.
Extend access road.

ASSUMPTIONS (CONT.):

| | | | |
|---|--------------------|-------------------|------------------|
| 1.) Dimensions: | <u>Length (FT)</u> | <u>Width (FT)</u> | <u>Area (SF)</u> |
| Proposed Lease Lots | 800 | 150 | 120,000 |
| Access Road Extension | 900 | 24 | 21,600 |
| 2.) Access Road (Extension) | <u>Depth (IN)</u> | | |
| Unclassified Excavation | 40 | | |
| Subbase | 36 | | |
| Surface Course | 4 | | |
| 3.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications): | | | |
| 10% Mobilization / Demobilization | | | |
| 25% Various Contractor Furnished Services | | | |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Extend runway 450'. Regrade hill to east to eliminate 20:1 penetrations.
Resurface full length of existing runway and all taxiways/taxilanes.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|-----------------------------------|-------------|--------------|--------------|----------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Clearing and Grubbing | Acre | 19 | \$ 12,200 | \$ 231,800 |
| 2 | Unclassified Excavation | Cubic Yard | 25,200 | \$ 15 | \$ 378,000 |
| 3 | Subbase | Ton | 28,500 | \$ 17 | \$ 484,500 |
| 4 | Crushed Aggregate Surface Course | Ton | 23,550 | \$ 40 | \$ 942,000 |
| 5 | Seeding | Acre | 13 | \$ 9,000 | \$ 117,000 |
| 6 | Topsoiling | Square Yard | 58,700 | \$ 6 | \$ 352,200 |
| 7 | Dust Palliative | Lump Sum | ALL REQUIRED | \$ 250,000 | \$ 250,000 |
| 8 | Earthwork for Runway Extension | Lump Sum | ALL REQUIRED | \$ 5,042,000 | \$ 5,042,000 |
| 9 | Remove Existing Airfield Lighting | Lump Sum | ALL REQUIRED | \$ 59,100 | \$ 59,100 |
| 10 | Airfield Lighting | Lump Sum | ALL REQUIRED | \$ 1,107,000 | \$ 1,107,000 |
| 11 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 3,137,260 | \$ 3,137,260 |
| 12 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 2,420,172 | \$ 2,420,172 |
| Total Basic Bid (BB): | | | | | \$ 14,521,032 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 2,178,155 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 2,178,155 |
| Subtotal (BB + DE + CE): | | | | | \$ 18,877,342 |
| (ICAP) at 9.61% | | | | | \$ 1,814,113 |
| Project Total: | | | | | \$ 20,691,454 |
| Rounded Project Total: | | | | | \$ 20,692,000 |

ASSUMPTIONS:

Extend runway 450' to east. Reconstruct 1,480 feet of runway (including extension) to raise elevation.

Resurface existing runway (2900' - 1480' = 1420')

Extended runway 450'

Reconstruct 1480' of runway to increase grade to help reduce cut required for 20:1 penetration mitigation.



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Extend runway 450'. Regrade hill to east to eliminate 20:1 penetrations.
Resurface full length of existing runway and all taxiways/taxilanes.

ASSUMPTIONS: (CONTINUED)

- Upgrade all airfield lighting (including removal of old)
- Excavate hill at east end of runway to ensure no 20:1 penetrations. Topsoil and seed within grading limits.
- Construct new runway end connector taxiway (TW F)
- Obliterate old runway end connector taxiway (TW F) (can't meet minimum grades in ultimate)
- Resurface parallel taxiway, all taxiway connectors, and taxilane to lease lots.

Runway Safety Area (RSA) (Resurfaced) = [2900' - 1480'] + 280' = 1660'

Runway Safety Area (RSA) (Extension) = 1480' + 240' = 1720'

RSA Extension Past RW Ends = 240'

| 1.) Dimensions: | Length (FT) | Width (FT) | Area (SF) |
|------------------------------------|-------------|------------|-----------|
| Runway (Resurfaced) | 1,420 | 60 | 85,200 |
| Runway (Extension) | 1,480 | 60 | 88,800 |
| RSA (Resurfaced) (subtract RW) | 1,660 | 120 | 114,000 |
| RSA (Extension) (subtract RW) | 1,720 | 120 | 117,600 |
| Resurface TW B | 250 | 25 | 6,250 |
| Resurface TW B TSA | 250 | 79 | 19,750 |
| Resurface TW C (N & S of TW A) | 500 | 25 | 12,500 |
| Resurface TW C TSA (N & S of TW A) | 500 | 79 | 39,500 |
| Obliterate TW F | 250 | 25 | 6,250 |
| Obliterate TW F RSA | 250 | 79 | 19,750 |
| New connector TW F | 300 | 25 | 7,500 |
| New connector TW F (TSA) | 300 | 79 | 23,700 |
| Resurface parallel TW D | 3,015 | 25 | 75,375 |
| Resurface parallel TW D (TSA) | 3,015 | 79 | 238,185 |
| Resurface TW A to lease lots | 805 | 25 | 20,125 |
| Resurface TW A to lease lots (TSA) | 805 | 79 | 63,595 |

| 2.) Runway/Taxiway (Resurfaced) | Depth (IN) |
|---------------------------------|------------|
| Unclassified Excavation | 6 |
| Surface Course | 9 |

| 3.) Runway/Taxiway (Extension) | Depth (IN) |
|--------------------------------|------------|
| Unclassified Excavation | 57 |
| Subbase | 48 |
| Surface Course | 9 |

| 4.) RSA/TSA (Resurfaced) | Depth (IN) |
|--------------------------|------------|
| Unclassified Excavation | 2 |
| Surface Course | 2 |

| 5.) RSA/TSA (Extension) | Depth (IN) |
|-------------------------|------------|
| Unclassified Excavation | 4 |
| Surface Course | 4 |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

PROJECT: Extend runway 450'. Regrade hill to east to eliminate 20:1 penetrations.
Resurface full length of existing runway and all taxiways/taxilanes.

ASSUMPTIONS: (CONTINUED)

6.) Taxiway Obliteration

| | |
|------------------------------------|-----|
| Unclassified Excavation | 24 |
| Subbase | 20 |
| *Seeding & Topsoil by surface area | --- |

7.) TSA Obliteration

| | |
|------------------------------------|-----|
| Unclassified Excavation | 4 |
| *Seeding & Topsoil by surface area | --- |

8.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications):

- 10% Mobilization / Demobilization
- 25% Various Contractor Furnished Services



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

Grade and construct 640' north-south taxiway, 7 lease lots, and access
 PROJECT: roads that connect to Aero Lane. Requires regrading and can be used as
 a material source for earlier construction projects.

| Item No. | Pay Item | Pay Unit | Quantity | Unit Price | Amount |
|---|-------------------------------------|-------------|--------------|--------------|----------------------|
| ===== BASIC BID ===== | | | | | |
| 1 | Clearing and Grubbing | Acre | 8 | \$ 12,200 | \$ 97,600 |
| 2 | Unclassified Excavation | Cubic Yard | 11,500 | \$ 15 | \$ 172,500 |
| 3 | Subbase | Ton | 17,690 | \$ 17 | \$ 300,730 |
| 4 | Crushed Aggregate Surface Course | Ton | 4,590 | \$ 40 | \$ 183,600 |
| 5 | Seeding | Acre | 1 | \$ 9,000 | \$ 9,000 |
| 6 | Topsoiling | Square Yard | 1,600 | \$ 6.00 | \$ 9,600 |
| 7 | Install Powered Vehicle Gate | Each | 2 | \$ 80,000.00 | \$ 160,000 |
| 10 | Regrade Lease Lots for <2% Taxiways | Lump Sum | ALL REQUIRED | \$ 4,984,000 | \$ 4,984,000 |
| 11 | Soft Cost @ 35% | Lump Sum | ALL REQUIRED | \$ 2,070,961 | \$ 2,070,961 |
| 12 | 20% Contingency | Lump Sum | ALL REQUIRED | \$ 1,597,598 | \$ 1,597,598 |
| Total Basic Bid (BB): | | | | | \$ 9,585,589 |
| Design Engineering (DE) at 15.0%: | | | | | \$ 1,437,838 |
| Construction Engineering (CE) at 15.0%: | | | | | \$ 1,437,838 |
| Subtotal (BB + DE + CE): | | | | | \$ 12,461,265 |
| (ICAP) at 9.61% | | | | | \$ 1,197,528 |
| Project Total: | | | | | \$ 13,658,793 |
| Rounded Project Total: | | | | | \$ 13,659,000 |



ENGINEER'S ESTIMATE

Big Lake Airport Master Plan

Grade and construct 640' north-south taxiway, 7 lease lots, and access PROJECT: roads that connect to Aero Lane. Requires regrading and can be used as a material source for earlier construction projects.

ASSUMPTIONS:

-
- Develop land for seven additional lease lots northeast side of airport.
 - Extend TW E to the end of the north lease lot area (~640')
 - Regrade lease lots to accommodate maximum taxiway grade of 2%
 - Construct access roads along back of new lease lots (both connect to Aero Lane) (2 @ ~720')
 - Install 2 powered vehicle gate at Aero Lane
 - Assume power extension will be paid for by lease developers
 - Clearing and grubbing acreage is based on ground disturbance required to regrade the lots

| 1.) Dimensions: | Length (FT) | Width (FT) | Area (SF) |
|---------------------------------|-------------|------------|-----------|
| Proposed Lease Lots (each side) | 700 | 150 | 105,000 |
| Parallel TW D (Reconstruct) | 780 | 35 | 27,300 |
| Parallel TW D TSA (Reconstruct) | 780 | 79 | 61,620 |
| New TW E | 1,000 | 35 | 35,000 |
| New TW E (TSA) | 1,000 | 79 | 79,000 |
| Access Roads (each side) | 720 | 24 | 17,280 |

| 2.) Taxiway (Reconstruction/Extension) | Depth (IN) |
|--|------------|
| Unclassified Excavation | 57 |
| Subbase | 48 |
| Surface Course | 9 |

| 3.) TSA (Reconstruction/Extension) | Depth (IN) |
|------------------------------------|------------|
| Unclassified Excavation | 4 |
| Surface Course | 4 |

| 4.) Access Road | Depth (IN) |
|-------------------------|------------|
| Unclassified Excavation | 40 |
| Subbase | 36 |
| Surface Course | 4 |

- 5.) Soft costs include typical Contractor furnished items (G-items in DOT&PF airport project specifications):
 - 10% Mobilization / Demobilization
 - 25% Various Contractor Furnished Services