

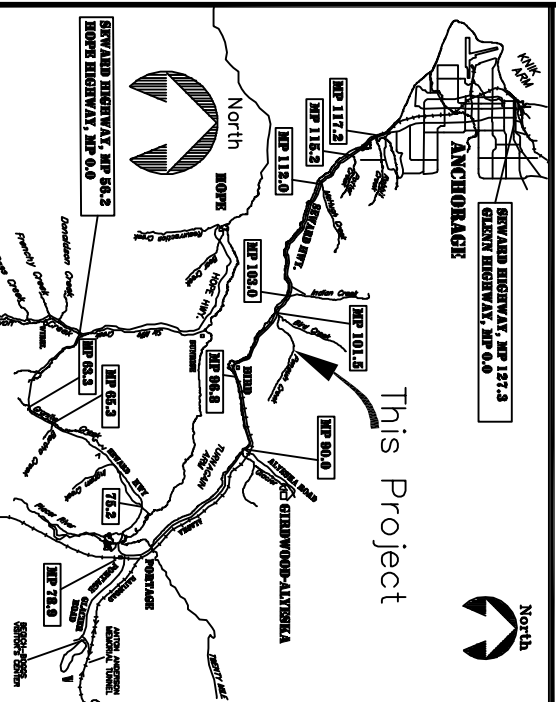
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF PARKS
AND
OUTDOOR RECREATION

PENGUIN CREEK CROSSING
BRIDGE DESIGN

PROJECT NO.
15-001

In Cooperation with UAA Seawolves Engineering

Vicinity Map



INDEX

1. TITLE SHEET
2. DESIGN CRITERIA AND GENERAL NOTES
3. EXISTING CONDITIONS AND SITE CONTROL
4. CUT AND FILL LIMITS
5. PLAN AND PROFILE
6. MICROPILE FOUNDATION DETAIL
7. ABUTMENTS DETAILS

The following Division of Parks & Outdoor Rec. standard drawings apply to this project: NONE
The following D.O.I.(Highways) standard drawings apply to this project: NONE

STATE OF ALASKA
Department of Natural Resources
Division of Parks & Outdoor Recreation

Recommended:

Rys Miranda
Chief, Design and Construction

Approved:

Ben Ellis
Director, Alaska State Parks

Date

Date

Design Criteria:

Structural design criteria

Snow Load: 100 PSF
 Wind Load (3 second gust): 130 MPH
 Dead Load: 70 PSF
 Pedestrian Live Load: 90 PSF

hydraulic design criteria:

Normal Water elevation: 12 in.
 High Water elevation: 3 Ft.
 Design Flood: 100 yr
 (all elevation based on local datum)

Geotechnical and foundation design criteria:

micropile reinforcement
 yield strength of continuous thread hollow bar anchor: 75 KSI
 outside diameter: 2.05 in.
 inside diameter: 1.02 in.
 coupling system: contech system
 drill bit diameter: 3.5 in.

Micropile cement
 28-Day compressive strength: 5000 psi min.
 neat cement grout: 0.4-0.5
 water-cement ratio: type i/ii
 Cement type:

Assumed soil criteria
 grout to ground bond strength: 45 psi
 modulus of subgrade reaction: 30 degrees

Casing
 yield strength of casing: 35 Ksi
 casing steel type: astm a618 a500 gGrade B
 outside diameter: 10.75 in.
 Wall Thickness: 0.435 in.
 surface treatment:

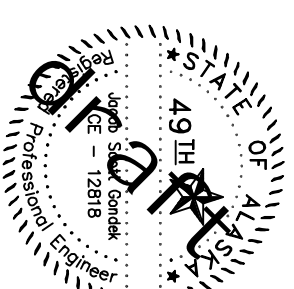
General dimensions of structure
 Width of bridge deck: 6 ft.
 Span of Bridge: 85 ft.
 Bridge Slope: 1.5%

fasteners
 bolts - install a307a galvanized unless otherwise noted
 Plate steel - astm a36 unless otherwise noted

general notes:

1. the contractor shall verify and coordinate all dimensions among the drawings before starting any work or fabrication. any discrepancies found among the drawing, site conditions, specifications, and these notes shall be reported to the project engineer immediately.
2. the contractor is responsible for meeting all safety standards and is in charge of all safety matters on and surrounding the job site.

ESTIMATE OF QUANTITIES			
ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY
201(3)	clearing & grubbing	L.S.	All req'd
203(3)	unclassified excavation	L.S.	All req'd
203(6)	borrow type a	ton	31
505(1)	furnish micropile	each	4
505(2)	drive/set micropile	L.S.	All req'd
515(1)	pre-manufactured bridge, 85 ft.	L.S.	All req'd
615(1)	furnish standard signage	each	15
618(2)	seeding	Pound	All req'd
620(1)	topsoil	sq. yard	All req'd
640(1)	mobilization & demobilization	L.S.	All req'd
641(2)	temporary erosion & sediment control plan	c.s.	All req'd
641(6)	escp price adjustment	c.s.	All req'd
650(21)	barrier rock	each	11



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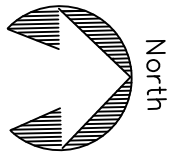
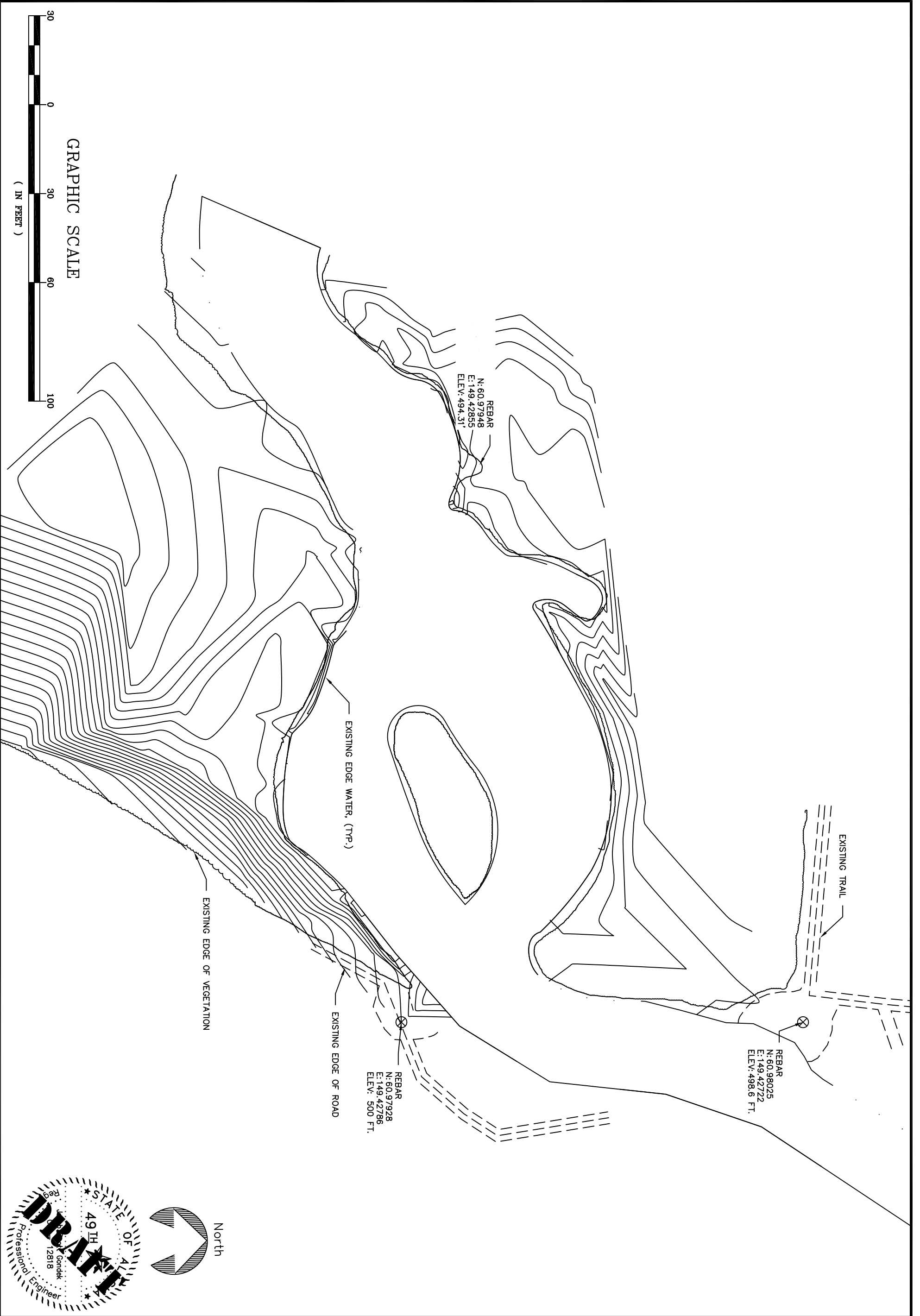
DESIGN CRITERIA AND GENERAL NOTES

PREPARED: GSB
 DRAWN: GSB
 REVIEWED: AKPARK
 DATE: 4/20/15

SHEET

2

OF 07 SHEETS

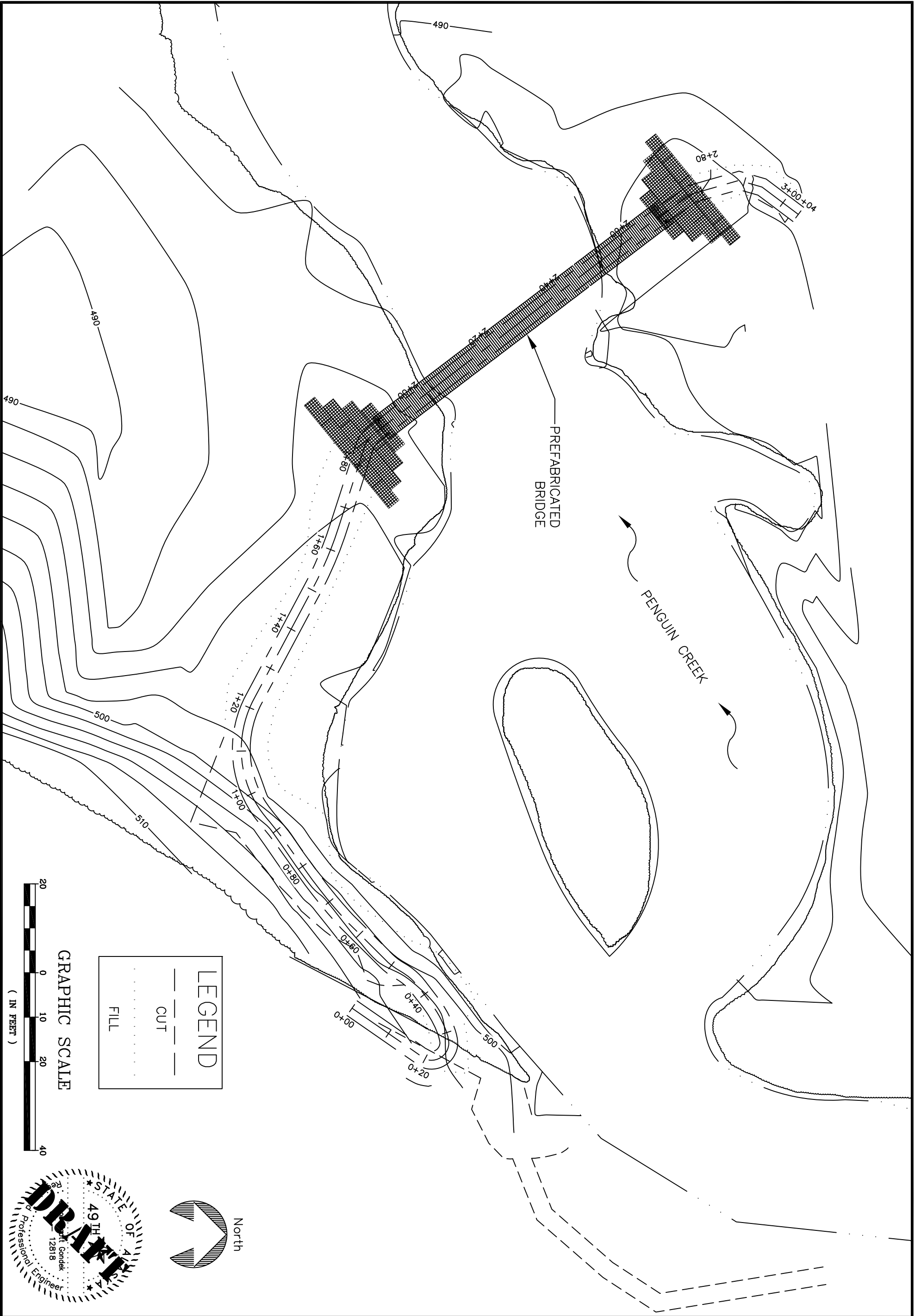


STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES
 PENGUIN CREEK
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EXISTING CONDITIONS AND SITE
 CONTROL

PREPARED: GSB
 DRAWN: DLR
 REVIEWED: AKPARK
 DATE: 04/20/15

SHEET
 3
 OF 07 SHEETS



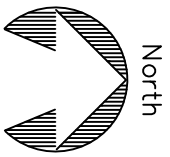
LEGEND

--- CUT ---

..... FILL



GRAPHIC SCALE
(IN FEET)



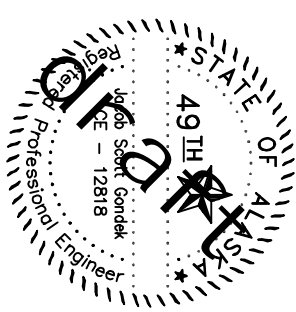
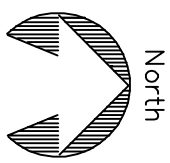
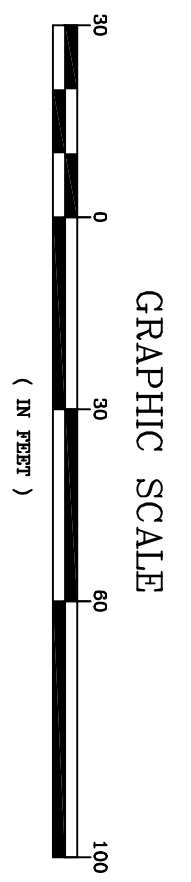
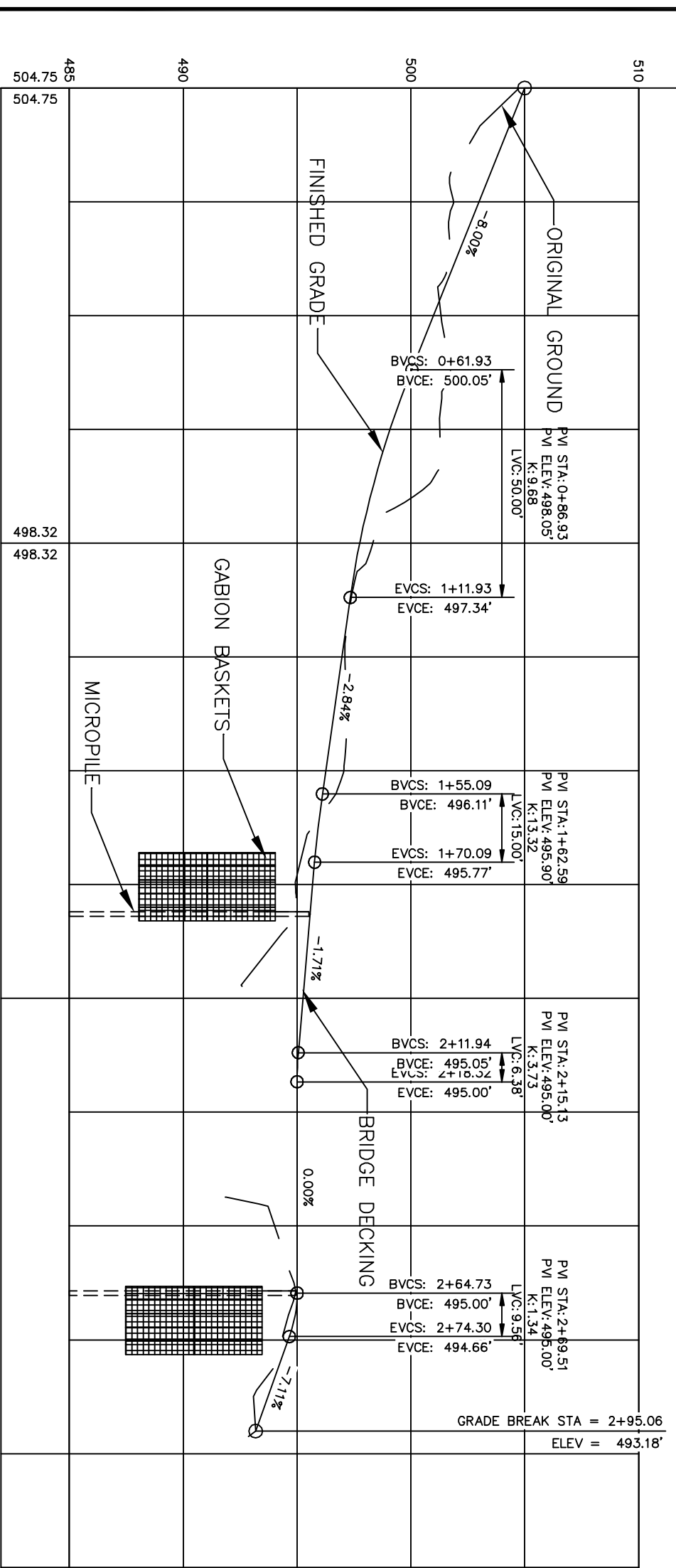
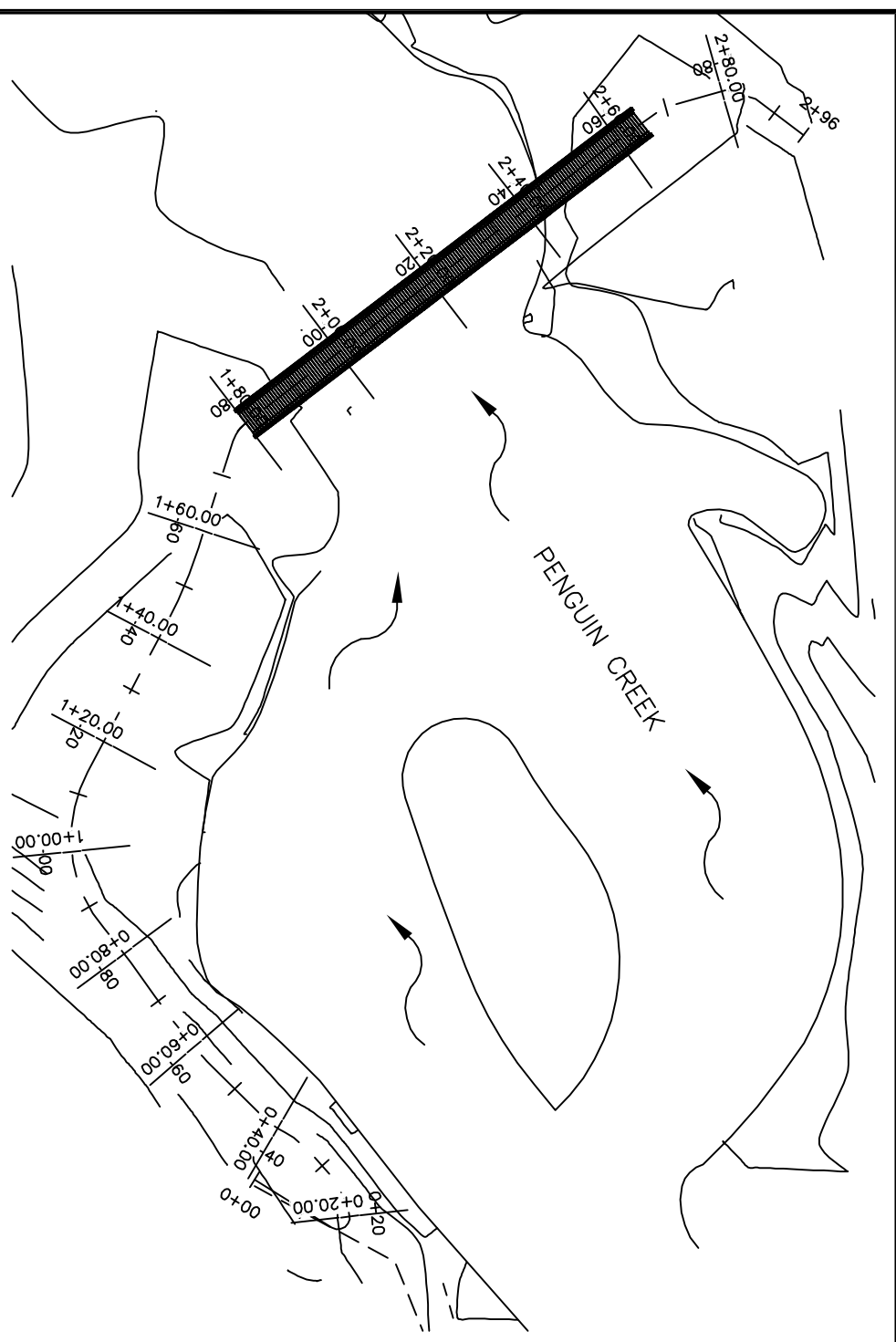
4
OF 7 SHEETS

PREPARED: DLR
DRAWN: DLR
REVIEWED: AKPARKS
DATE: 4/20/15



STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES
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CUT AND FILL LIMITS

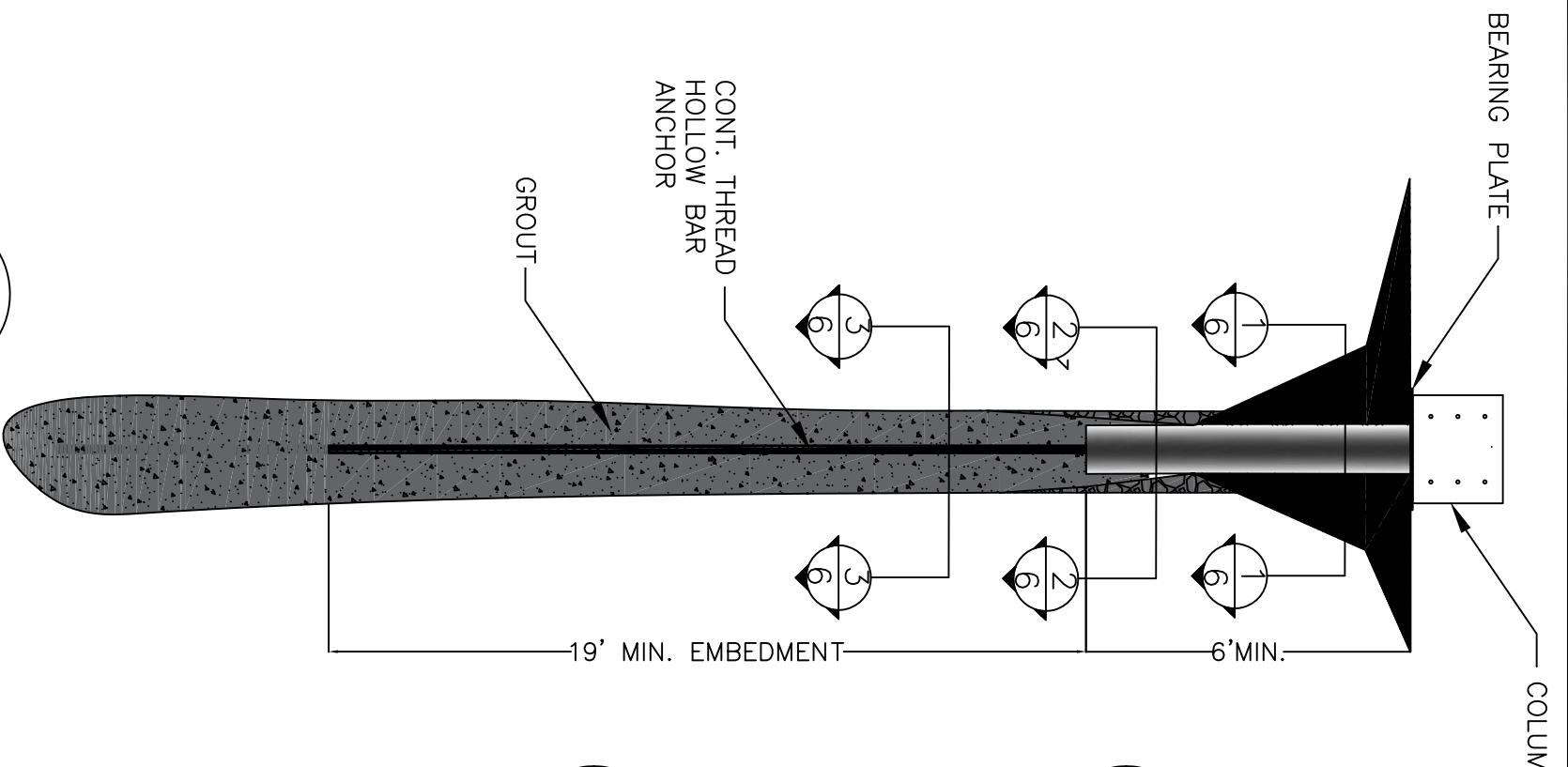


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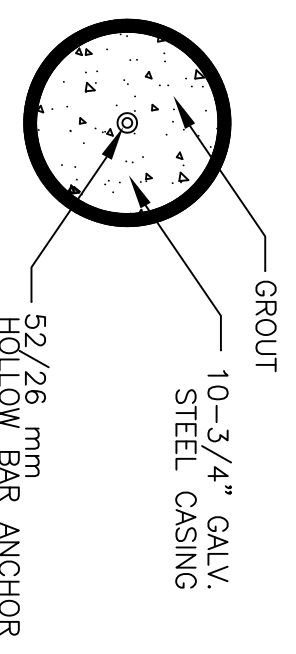
PLAN AND PROFILE

PREPARED: GSB
 DRAWN: DLR
 REVIEWED: AKPARK
 DATE: 04/20/15

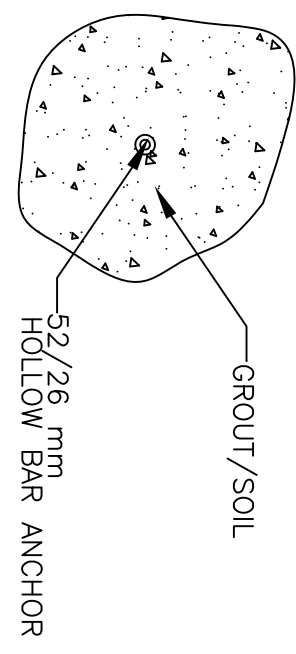
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 5
 OF 07 SHEETS



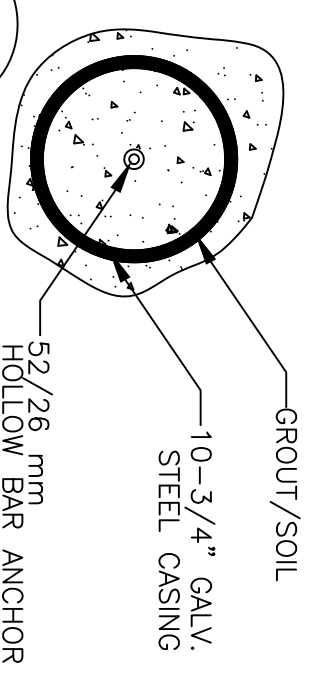
04 MICROPILE
06 PROFILE DETAIL



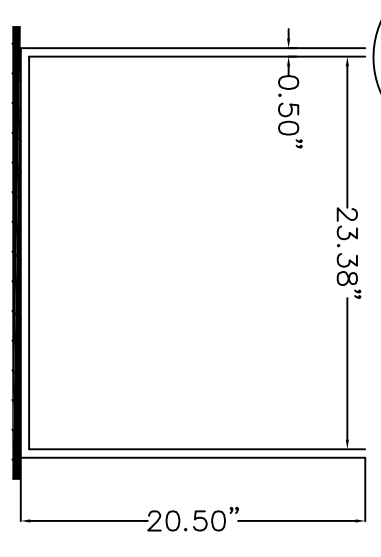
01 MICROPILE
06 CASING DETAIL



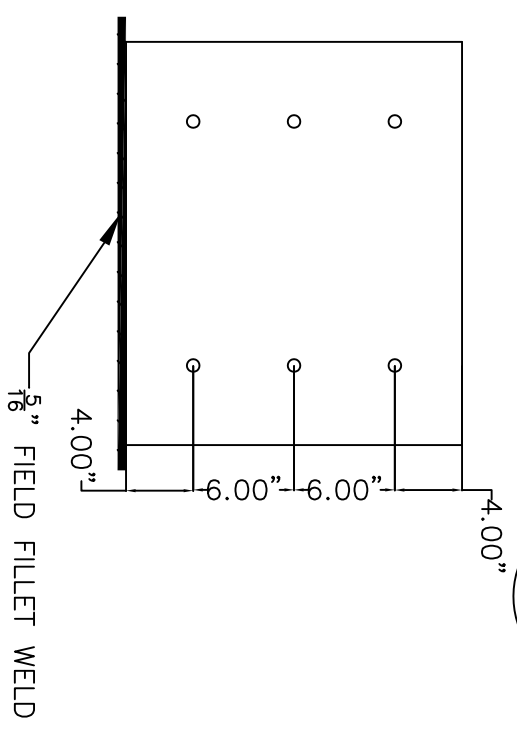
03 MICROPILE
06 ANCHOR DETAIL



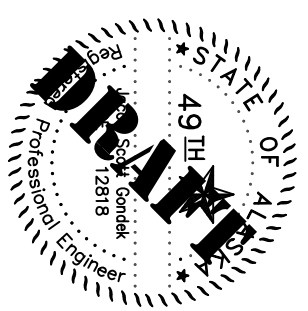
02 MICROPILE
06 CASING DETAIL

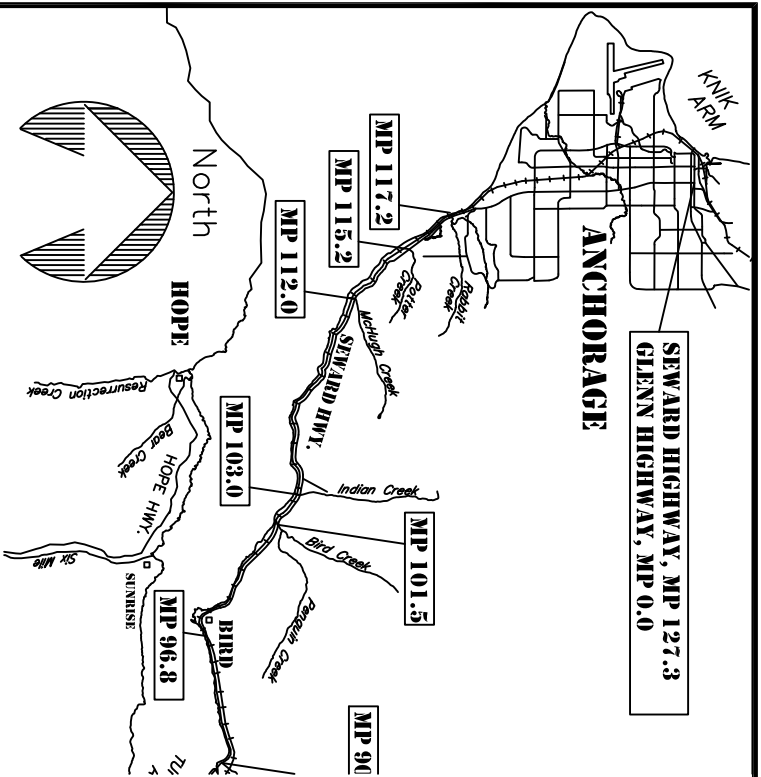


05 MICROPILE
06 COLUMN CAP



06 MICROPILE
06 COLUMN CAP





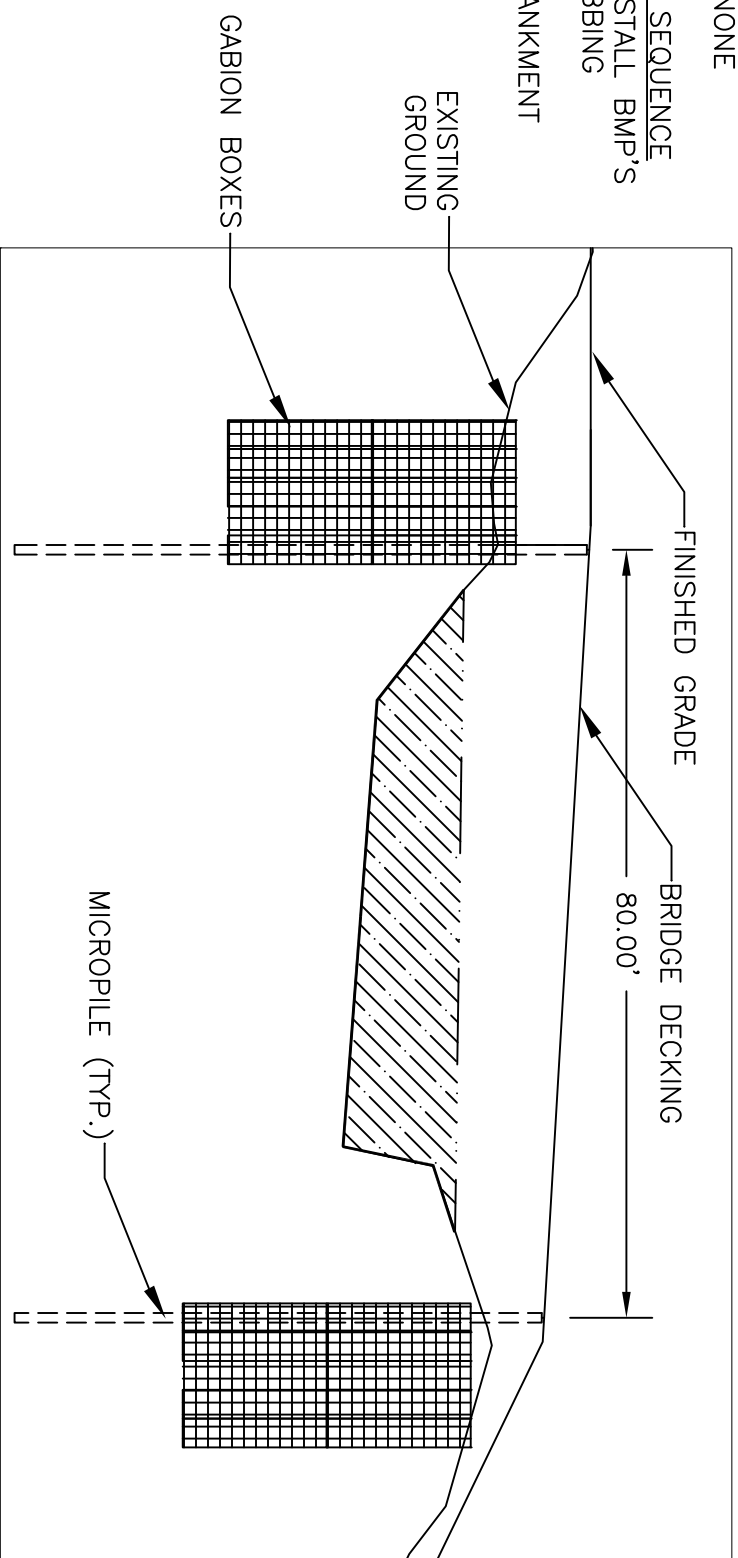
- SITE DESCRIPTIONS**
1. THIS PROJECT INCLUDES CLEARING, GRUBBING, EXCAVATION AND FILL.
 2. PROJECT AREA = 3300 SF
 3. PROJECT DISTURBED AREA = 5200 SF

ENVIRONMENTAL INFORMATION

1. RECEIVING WATER BODIES, PENGUIN CREEK
2. IMPAIRED WATER BODIES: NONE
5. HISTORIC IMPACTS: NONE

ASSUMED CONSTRUCTION SEQUENCE

1. IMPLEMENT ESCP/INSTALL BMP'S
2. CLEARING AND GRUBBING
3. EXCAVATION
4. CONSTRUCTION EMBANKMENT
5. RECLAIM TRAILS
6. COMPOST



EROSION AND SEDIMENT CONTROL PLAN (ESCP) NOTES

1. THE ESCP IS A GENERAL PLAN FOR GUIDING THE DEVELOPMENT OF THE CONTRACTORS STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR IS EXPECTED TO PROVIDE ADDITIONAL DETAILS AND BEST MANAGEMENT PRACTICES (BMP'S) BASED ON THE CONTRACTORS ACTUAL SCHEDULE AND CONSTRUCTION METHODS, ARE REQUIRED TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT AND SECTION 641 OF THE SPECIFICATIONS.
2. SEDIMENT CONTROL MEASURES AND TEMPORARY EROSION CONTROL FEATURES SHALL BE BASED ON BMP'S AS CONTAINED IN THE DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES MANUAL "CONTRACTOR GUIDANCE FOR PREPARING AND EXECUTING STORMWATER POLLUTION PREVENTION PLANS."
3. THE CONTRACTOR SHALL IDENTIFY ALL OPERATIONAL CULVERTS AND STORMDRAINS IN THE PROJECT THAT WILL BE IMPACTED BY STORMWATER FROM PROJECT ACTIVITIES. THE CONTRACTOR SHALL PROVIDE INLET AND OUTLET PROTECTION FOR THOSE CULVERTS AND STORMDRAINS.
4. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF DISTURBED AREA OPEN TO EROSION AT ANY ONE TIME.
5. EROSION AND SEDIMENT CONTROL BMP'S SHALL BE INSTALLED WITHIN 14 DAYS IN AREAS WHERE EARTHWORK DISTURBANCE HAS TEMPORARILY OR PERMANENTLY CEASED.
6. ALL DISTURBED GROUND CAPABLE OF SUPPORTING VEGETATION SHALL BE REVEGETATED ACCORDING TO SECTION 618 FOR FINAL STABILIZATION. FINAL STABILIZED AREAS NOT REVEGETATED SHALL BE 100% COVERED BY ROCK, ASPHALT, CONCRETE, OR OTHER PERMANENT NON-ERODABLE MATERIAL.
7. TEMPORARY PERIMETER CONTROLS SHALL BE INSTALLED FOR ANY FILL PLACED WITHIN 20 FEET OF ORDINARY HIGH WATER.
8. TEMPORARY PERIMETER CONTROL BMP'S SHALL BE INSTALLED BEFORE ANY UP-GRADE SOIL DISTURBANCE OCCURS.
9. PROVIDE PERIMETER CONTROLS IN AREAS NOT SHOWN ON THE PLANS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE PROJECT AREA.
10. RETAIN A VEGETATIVE BUFFER STRIP IN UPLAND AREAS WHEREVER POSSIBLE. VEGETATIVE BUFFER STRIPS MAY BE USED IN LIEU OF SILT FENCE OR OTHER TEMPORARY DEVICES PROVIDED THEY ARE OF SUFFICIENT WIDTH FOR THE CATCHMENT AREA.
11. AVOID CONDITIONS WHICH PROMOTE CONCENTRATED FLOWS. INSTALL VELOCITY CONTROL BMP'S WHEN CONCENTRATED FLOWS OCCUR.
12. SLOPE PROTECTION MAY INCLUDE SLOPE ROUGHENING, TACKIFYING, EROSIONS CONTROL BLANKETS, SEDDING, ROCK LINING, OR OTHER METHODS APPROVED BY THE PROJECT ENGINEER.
13. ALL STOCKPILES OF ERODIBLE MATERIALS SHALL HAVE PERIMETER CONTROL IN PLACE.
14. ERODIBLE MATERIALS MAY NOT BE STOCKPILED WITHIN 100 FEET OF ORDINARY HIGH WATER.



STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES

PENGUIN CREEK
BRIDGE CROSSING
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EROSION SEDIMENT CONTROL PLAN
(ESCP)



PREPARED: DS
DRAWN: DS
REVIEWED: AKP ARKS
DATE: 04/13/2015

SHEET

1

OF 1 SHEETS