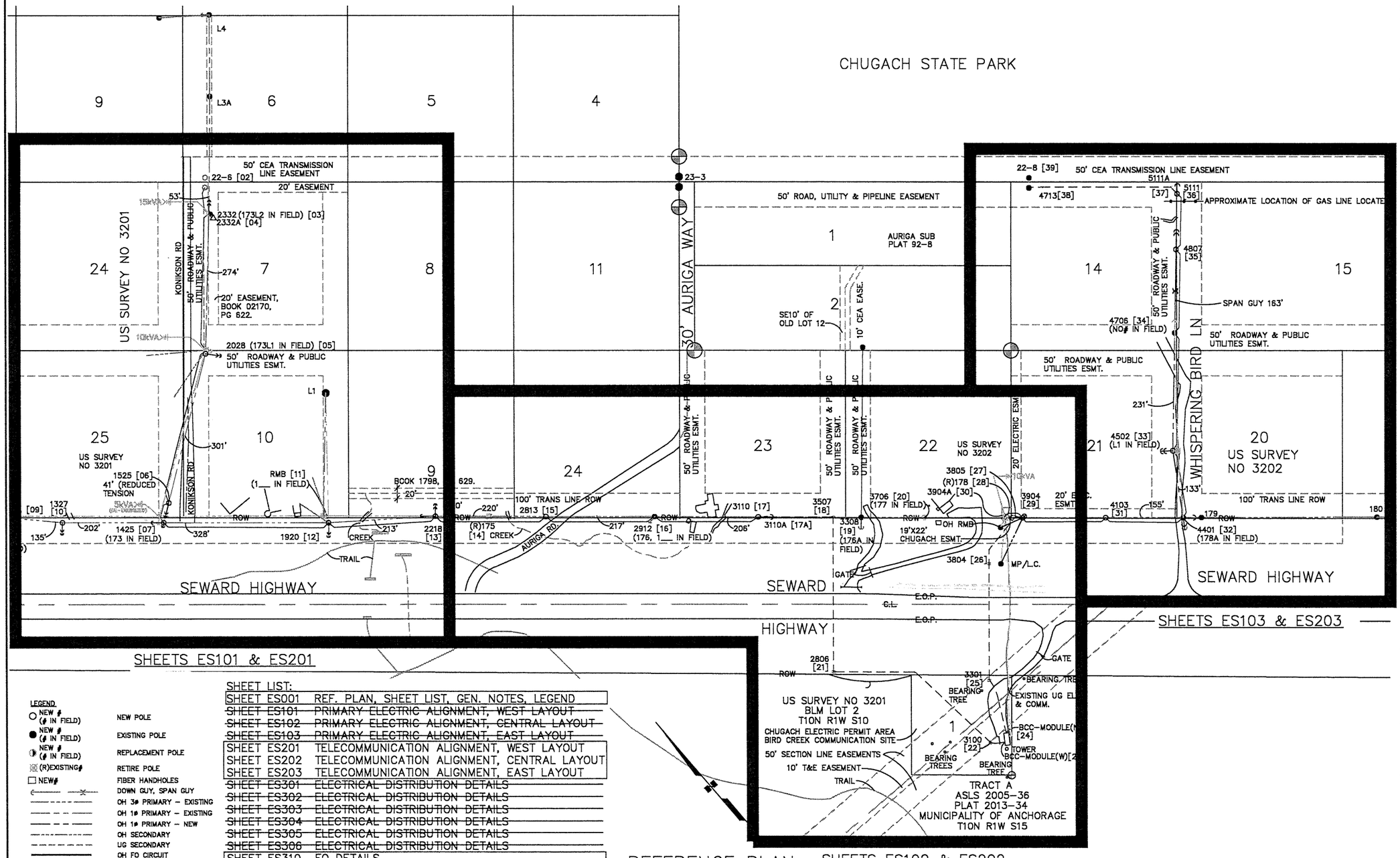

LEGEND

NEW # (# IN FIELD)	NEW POLE
NEW # (# IN FIELD)	EXISTING POLE
NEW # (# IN FIELD)	REPLACEMENT POLE
(R)EXISTING#	RETIRE POLE
NEW#	FIBER HANDHOLES
	DOWN GUY, SPAN GUY
	OH 3# PRIMARY – EXISTING
	OH 1# PRIMARY – EXISTING
	OH 1# PRIMARY – NEW
	OH SECONDARY
	UG SECONDARY
	OH FO CIRCUIT
	UG FO CIRCUIT

SHEET LIST:

REFERENCE PLAN

100' 0 100' 200'

GENERAL NOTES:

1. DRAWING IS BASED ON SURVEYED AND AVAILABLE DATA AND IS NOT A FULLY SURVEYED DRAWING. CONTRACTOR SHALL FIELD VERIFY ALL DISTANCES.
2. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE MOST RECENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE (NESC/IEEE C2) ADOPTED BY THE STATE OF ALASKA, CHUGACH ELECTRIC ASSOCIATION, AND THE RURAL UTILITY SERVICE (RUS). WHERE STANDARDS VARY, THE MOST STRINGENT SHALL APPLY.
3. ALL FIBER OPTIC WORK SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF TELECOMMUNICATION INDUSTRY ASSOCIATION (TIA) STANDARDS.
4. SCHEDULE, SEQUENCE, AND COORDINATE CONSTRUCTION AND DEMOLITION TO MINIMIZE REQUIRED OUTAGE AND TEMPORARY FACILITIES.
5. ALL MATERIALS SHALL MEET OEM SPECIFICATIONS AND REQUIREMENTS.
6. REQUEST LOCATES PRIOR TO DIGGING.
7. SET POLE(S) AT 10% OF POLE LENGTH PLUS 3', UNLESS NOTED OTHERWISE.
8. FIBER OPTIC CIRCUITS ARE TO BE INSTALLED CONTINUOUS WITHOUT SPLICES END TO END: BETWEEN STRUCTURE 22-6 AND WEST BCC ENCLOSURE, AND BETWEEN STRUCTURE 22-8 AND NORTH BCC ENCLOSURE. SPLICING WITHIN THESE CIRCUITS REQUIRES PRIOR WRITTEN APPROVAL FROM CHUGACH.
9. THOROUGHLY TAMP FILL IN 6" LIFTS AT NEW POLE AND ANCHORS.
10. TRIM BOLTS WITHIN 2" OF LOCKNUT.
11. ASSEMBLY UNITS LISTED ON DRAWINGS ARE PROVIDED FOR BASIC CONSTRUCTION ELEMENTS ONLY. SEE STAKING SHEETS FOR REQUIRED ASSEMBLY UNITS AND NOTES.
12. REFERENCES TO N, S, E, AND W ARE "PAGE" REFERENCES: N (PAGE UP), S (PAGE DOWN), EAST (PAGE RIGHT), AND W (PAGE LEFT).
13. UTILIZE ASSEMBLY DETAILS IN THIS SET, WHERE APPLICABLE; UTILIZE STANDARD CHUGACH DETAILS FOR OTHER ASSEMBLIES.
14. ATTACH NEUTRAL AT HEIGHT SPECIFIED IN DETAILS, OR AS MODIFIED IN STATION NOTES.
15. FRAME TRANSFORMERS ABOVE NEUTRAL.
16. RISERS: PROVIDE 8'-4" MINIMUM SPACING BETWEEN BOTTOM TWO STAND-OFF BRACKETS. SECONDARY RISER DRIP LOOPS SHALL BE WITHIN 6" OF TOP OF RISER
17. LINE CREW TO SET ALL POLES AND ANCHORS FOR BOTH DISTRIBUTION AND TELECOMMUNICATIONS WORK.
18. FIBER OPTIC AERIAL CABLE SHALL BE: AFL #AC0489C521CLO, 48 COUNT, SINGLE-MODE DNA-33072 AFL-ADSS. NO SUBSTITUTIONS.
19. FIBER OPTIC UNDERGROUND CABLE SHALL BE: CORNING #048EA-T4E01A20, ADSS LOOSE TUBE, GEL FILLED, DUAL JACKET, 48 COUNT, SINGLE-MODE (OS2). NO SUBSTITUTIONS.

PROJECT: BIRD POINT FIBER TIE IN

DESIGNER/PROJECT ENGINEER: EEE W.O. #: E2414297 / C2430003

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	CHECKED/DATE	APPROVED/DATE
0	ISSUED FOR CONSTRUCTION	GE/3-5-25		
1	ISSUED FOR CONSTRUCTION FO	GE/4-4-25		

OWNER: CHUGACH

CONSULTANT: EEE, LLC
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Anchorage, AK 99522
(907) 345-6188
Cell: (907) 242-7669
Email: errico@gci.net

ENG. STAMP: STATE OF ALASKA 49TH ★ Gregory M. Errico No. EE-10279 REGISTERED PROFESSIONAL ENGINEER 4/4/25

DRAWING NAME: BIRD POINT FIBER TIE IN

REFERENCE PLAN, SHEET LIST, GENERAL NOTES, LEGEND

FILE NAME:

SHEET NO.: ES001

SHEET 1 OF 17

SHEET NOTES:

DO NOT SPLICE FIBER, EXCEPT WHERE SPECIFIED.

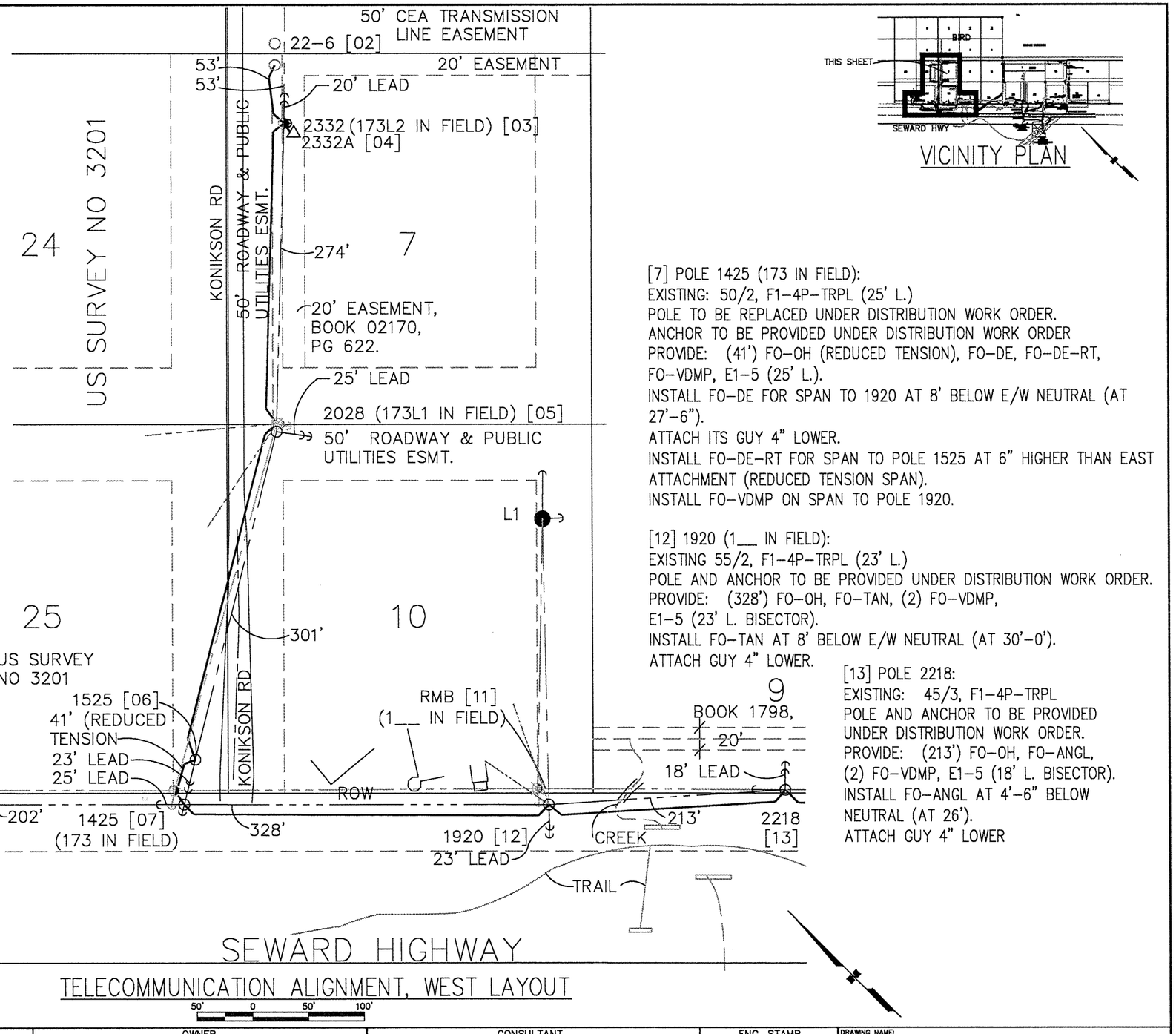
INSTALL TANGENT AND ANGLE (FO-TAN AND FO-ANGL) ATTACHMENTS ON SAME SIDE AS NEUTRAL.

[02] STRUCTURE 22-6:
EXISTING: TRANSMISSION H-POLE STRUCTURE (2) 85/H5, (~100') FO-OH (STORAGE), FO ENCLOSURE, (8) FO-DL-CLAMP.
PROVIDE: FO-OH (100') FO-DE-RT, (3) FO-DL-CLAMP, (24) FO-SPLICE. ATTACH FO-DE AT 3' BELOW CROSSARMS BRACES' BOLT.
CALL OUT OF FO-OH IS FOR NEW STORAGE ON EXISTING RACK.
INSTALL FO-OH AT REDUCED TENSION TO 2332.
REFERENCE STAKING SHEETS FOR REQUIRED SPLICING, TESTING, COMMISSIONING, ETC.

[03] POLE 2332 (173L2 IN FIELD):
EXISTING: 45/3, F1-4P-TRPL (20' L.)
POLE TO BE REPLACED UNDER DISTRIBUTION WORK ORDER.
ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (53') FO-OH, FO-DE-RT, FO-DL-CLAMP, E1-5 (20' L. NORTH).
INSTALL FO-DE FOR SPAN TO POLE 2028 AT 5'-6" BELOW NEUTRAL (AT 25'-6").
INSTALL FO-DE FOR SPAN TO POLE 22-6 ON WEST FACE OF POLE, AT 90° TO LINE, 4" LOWER (REDUCED TENSION SPAN).
ATTACH GUY 4" LOWER.

[05] POLE 2028 (173L1 IN FIELD):
EXISTING: 50/2, F1-4P-TRPL (25' L.).
PROVIDE: (274') FO-OH, FO-ANGL, FO-VDMP (SPAN TO 1525), E1-5 (25' BISECTOR).
POLE TO BE REPLACED UNDER DISTRIBUTION WORK ORDER.
ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
INSTALL FO-ANGL AT 6'-6" BELOW NEUTRAL (AT 29'-6").
ATTACH GUY 4" LOWER.

[06] POLE 1525:
EXISTING: 45/3, F1-4P-TRPL.
PROVIDE: (301') FO-OH, (100') FO-OH (STORAGE), FO-DE, FO-DE-RT, FO-VDMP (SPAN TO 2028), FO-STORAGE, (3) FO-DL-CLAMP, E1-5 (23' L.).
POLE AND ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
INSTALL FO-DE FOR SPAN TO 2028 AT 9'-0" BELOW CROSSARM (AT 27'-6").
ATTACH ITS GUY 4" LOWER.
INSTALL FO-DE-RT FOR SPAN TO POLE 1425 ON EAST FACE OF POLE, AT 90° TO LINE, 6" ABOVE NORTH ATTACHMENT (REDUCED TENSION SPAN).
INSTALL STORAGE RACK WITH ITS OUTER UPPER COILS AT 19' ABOVE GRADE.



TELECOMMUNICATION ALIGNMENT, WEST LAYOUT

50' 0 50' 100'

VICINITY PLAN

[7] POLE 1425 (173 IN FIELD):
EXISTING: 50/2, F1-4P-TRPL (25' L.)
POLE TO BE REPLACED UNDER DISTRIBUTION WORK ORDER.
ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER
PROVIDE: (41') FO-OH (REDUCED TENSION), FO-DE, FO-DE-RT, FO-VDMP, E1-5 (25' L.).
INSTALL FO-DE FOR SPAN TO 1920 AT 8' BELOW E/W NEUTRAL (AT 27'-6").
ATTACH ITS GUY 4" LOWER.
INSTALL FO-DE-RT FOR SPAN TO POLE 1525 AT 6" HIGHER THAN EAST ATTACHMENT (REDUCED TENSION SPAN).
INSTALL FO-VDMP ON SPAN TO POLE 1920.

[12] 1920 (1___ IN FIELD):
EXISTING 55/2, F1-4P-TRPL (23' L.)
POLE AND ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (328') FO-OH, FO-TAN, (2) FO-VDMP, E1-5 (23' L. BISECTOR).
INSTALL FO-TAN AT 8' BELOW E/W NEUTRAL (AT 30'-0').
ATTACH GUY 4" LOWER.

[13] POLE 2218:
EXISTING: 45/3, F1-4P-TRPL
POLE AND ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (213') FO-OH, FO-ANGL, (2) FO-VDMP, E1-5 (18' L. BISECTOR).
INSTALL FO-ANGL AT 4'-6" BELOW NEUTRAL (AT 26').
ATTACH GUY 4" LOWER

PROJECT: BIRD POINT FIBER TIES
DESIGNER/PROJECT ENGINEER: EEE W.O. #: C2430003

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	CHECKED/DATE	APPROVED/DATE
0	ISSUED FOR CONSTRUCTION	GE/4-4-25		

OWNER: CHUGACH

CONSULTANT: EEE, LLC
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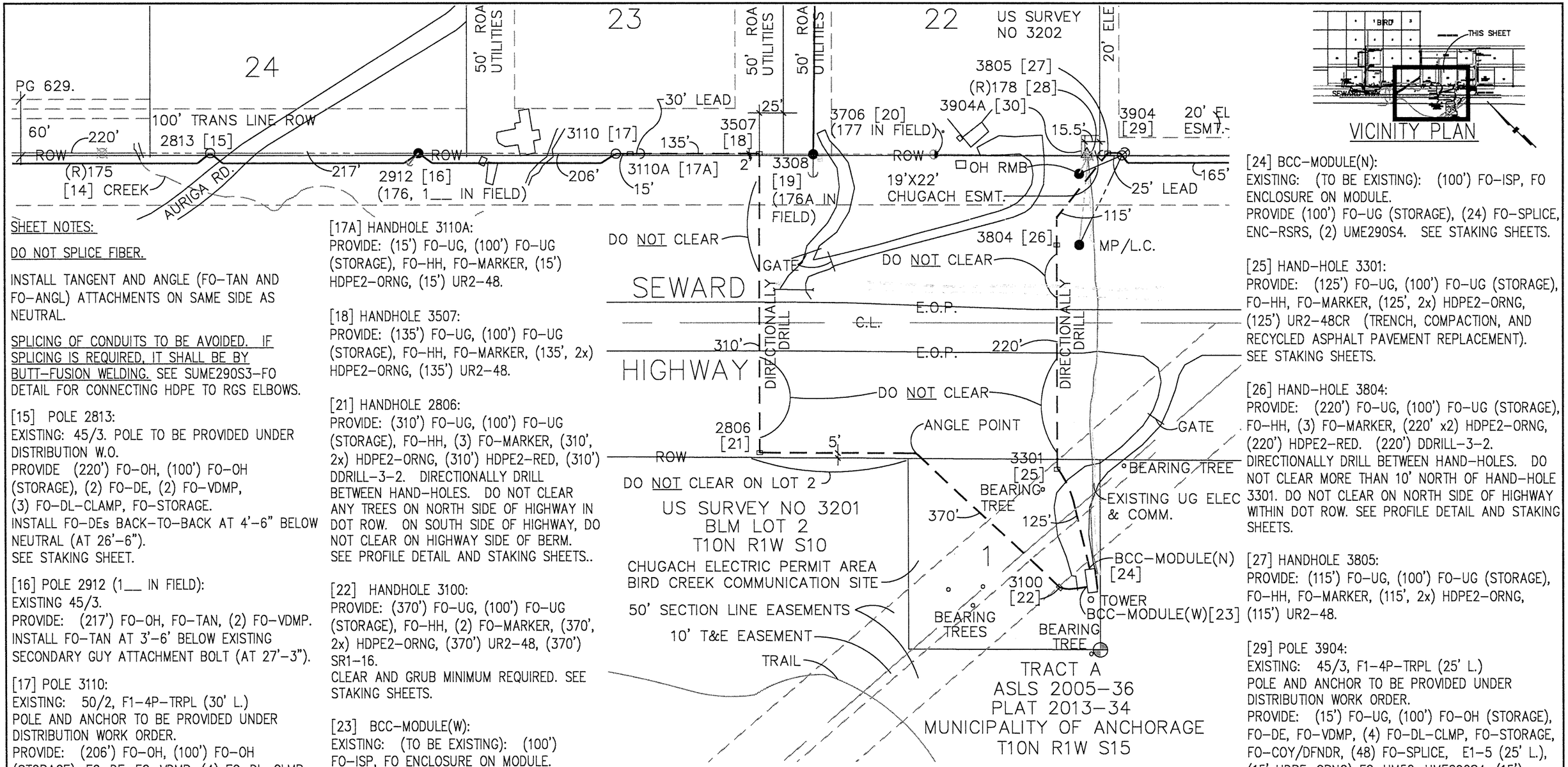
Cell: (907) 242-7669
Email: errico@gci.net

ENG. STAMP: STATE OF ALASKA 49TH 4/1/25 Gregory M. Errico No. EE-10279 REGISTERED PROFESSIONAL ENGINEER

DRAWING NAME: BIRD POINT FIBER TIE IN
TELECOMMUNICATION ALIGNMENT
WEST LAYOUT
FILE NAME:
SHEET NO.: ES201
SHEET 5 OF 17



VICINITY PLAN

SHEET NOTES:

DO NOT SPLICE FIBER.

INSTALL TANGENT AND ANGLE (FO-TAN AND FO-ANGL) ATTACHMENTS ON SAME SIDE AS NEUTRAL.

SPLICING OF CONDUITS TO BE AVOIDED. IF SPLICING IS REQUIRED, IT SHALL BE BY BUTT-FUSION WELDING. SEE SUME290S3-FO DETAIL FOR CONNECTING HDPE TO RGS ELBOWS.

[15] POLE 2813:
EXISTING: 45/3. POLE TO BE PROVIDED UNDER DISTRIBUTION W.O.
PROVIDE (220') FO-OH, (100') FO-OH (STORAGE), (2) FO-DE, (2) FO-VDMP, (3) FO-DL-CLAMP, FO-STORAGE.
INSTALL FO-DEs BACK-TO-BACK AT 4'-6" BELOW NEUTRAL (AT 26'-6").
SEE STAKING SHEET.

[16] POLE 2912 (1___ IN FIELD):
EXISTING 45/3.
PROVIDE: (217') FO-OH, FO-TAN, (2) FO-VDMP.
INSTALL FO-TAN AT 3'-6' BELOW EXISTING SECONDARY GUY ATTACHMENT BOLT (AT 27'-3").

[17] POLE 3110:
EXISTING: 50/2, F1-4P-TRPL (30' L.)
POLE AND ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (206') FO-OH, (100') FO-OH (STORAGE), FO-DE, FO-VDMP, (4) FO-DL-CLMP, FO-STORAGE, FO-COY/DFNDR, (48) FO-SPLICE, E1-5 (30' L.), FO-UM52, UME290S4. INSTALL FO-DE AT 5' BELOW NEUTRAL AT 30', AND GUY 6" LOWER. SEE STAKING SHEETS.

[17A] HANDHOLE 3110A:
PROVIDE: (15') FO-UG, (100') FO-UG (STORAGE), FO-HH, FO-MARKER, (15') HDPE2-ORNG, (15') UR2-48.

[18] HANDHOLE 3507:
PROVIDE: (135') FO-UG, (100') FO-UG (STORAGE), FO-HH, FO-MARKER, (135', 2x) HDPE2-ORNG, (135') UR2-48.

[21] HANDHOLE 2806:
PROVIDE: (310') FO-UG, (100') FO-UG (STORAGE), FO-HH, (3) FO-MARKER, (310', 2x) HDPE2-ORNG, (310') HDPE2-RED, (310') DDRILL-3-2. DIRECTIONALLY DRILL BETWEEN HAND-HOLES. DO NOT CLEAR ANY TREES ON NORTH SIDE OF HIGHWAY IN DOT ROW. ON SOUTH SIDE OF HIGHWAY, DO NOT CLEAR ON HIGHWAY SIDE OF BERM.
SEE PROFILE DETAIL AND STAKING SHEETS..

[22] HANDHOLE 3100:
PROVIDE: (370') FO-UG, (100') FO-UG (STORAGE), FO-HH, (2) FO-MARKER, (370', 2x) HDPE2-ORNG, (370') UR2-48, (370') SR1-16.
CLEAR AND GRUB MINIMUM REQUIRED. SEE STAKING SHEETS.

[23] BCC-MODULE(W):
EXISTING: (TO BE EXISTING): (100') FO-ISP, FO ENCLOSURE ON MODULE.
PROVIDE: (30') FO-UG, (100') FO-UG (STORAGE), (24) FO-SPLICE, (30', 2x) HDPE2-ORNG, (30') UR2-48CR (TRENCH, COMPACTION, AND RECYCLED ASPHALT PAVEMENT REPLACEMENT), (2) UME290S4, ENC-RSRS. SEE STAKING SHEETS.

[24] BCC-MODULE(N):
EXISTING: (TO BE EXISTING): (100') FO-ISP, FO ENCLOSURE ON MODULE.
PROVIDE (100') FO-UG (STORAGE), (24) FO-SPLICE, ENC-RSRS, (2) UME290S4. SEE STAKING SHEETS.

[25] HAND-HOLE 3301:
PROVIDE: (125') FO-UG, (100') FO-UG (STORAGE), FO-HH, FO-MARKER, (125', 2x) HDPE2-ORNG, (125') UR2-48CR (TRENCH, COMPACTION, AND RECYCLED ASPHALT PAVEMENT REPLACEMENT).
SEE STAKING SHEETS.

[26] HAND-HOLE 3804:
PROVIDE: (220') FO-UG, (100') FO-UG (STORAGE), FO-HH, (3) FO-MARKER, (220' x2) HDPE2-ORNG, (220') HDPE2-RED. (220') DDRILL-3-2.
DIRECTIONALLY DRILL BETWEEN HAND-HOLES. DO NOT CLEAR MORE THAN 10' NORTH OF HAND-HOLE 3301. DO NOT CLEAR ON NORTH SIDE OF HIGHWAY WITHIN DOT ROW. SEE PROFILE DETAIL AND STAKING SHEETS.

[27] HANDHOLE 3805:
PROVIDE: (115') FO-UG, (100') FO-UG (STORAGE), FO-HH, FO-MARKER, (115', 2x) HDPE2-ORNG, (115') UR2-48.

[29] POLE 3904:
EXISTING: 45/3, F1-4P-TRPL (25' L.)
POLE AND ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (15') FO-UG, (100') FO-OH (STORAGE), FO-DE, FO-VDMP, (4) FO-DL-CLMP, FO-STORAGE, FO-COY/DFNDR, (48) FO-SPLICE, E1-5 (25' L.), (15' HDPE-ORNG) FO-UM52, UME290S4, (15') UR2-48.
INSTALL FO-DE AT 5'-0" BELOW NEUTRAL.
ATTACH GUY 6" LOWER. SEE STAKING SHEETS.

BEARING TREES:
DO NOT CUT, TRIM, OR IMPACT BEARING TREES. DO NOT MOVE BEARING TREE SIGNAGE.
DO NOT TRENCH WITHIN BEARING TREES BRANCH'S DRIP LINES.

TELECOMMUNICATION ALIGNMENT, CENTRAL LAYOUT

PROJECT: BIRD POINT FIBER TIES
DESIGNER/PROJECT ENGINEER: EEE W.O. #: C2430003

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	CHECKED/DATE	APPROVED/DATE
0	ISSUED FOR CONSTRUCTION	GE/4-4-25		

OWNER: CHUGACH

CONSULTANT: EEE, LLC
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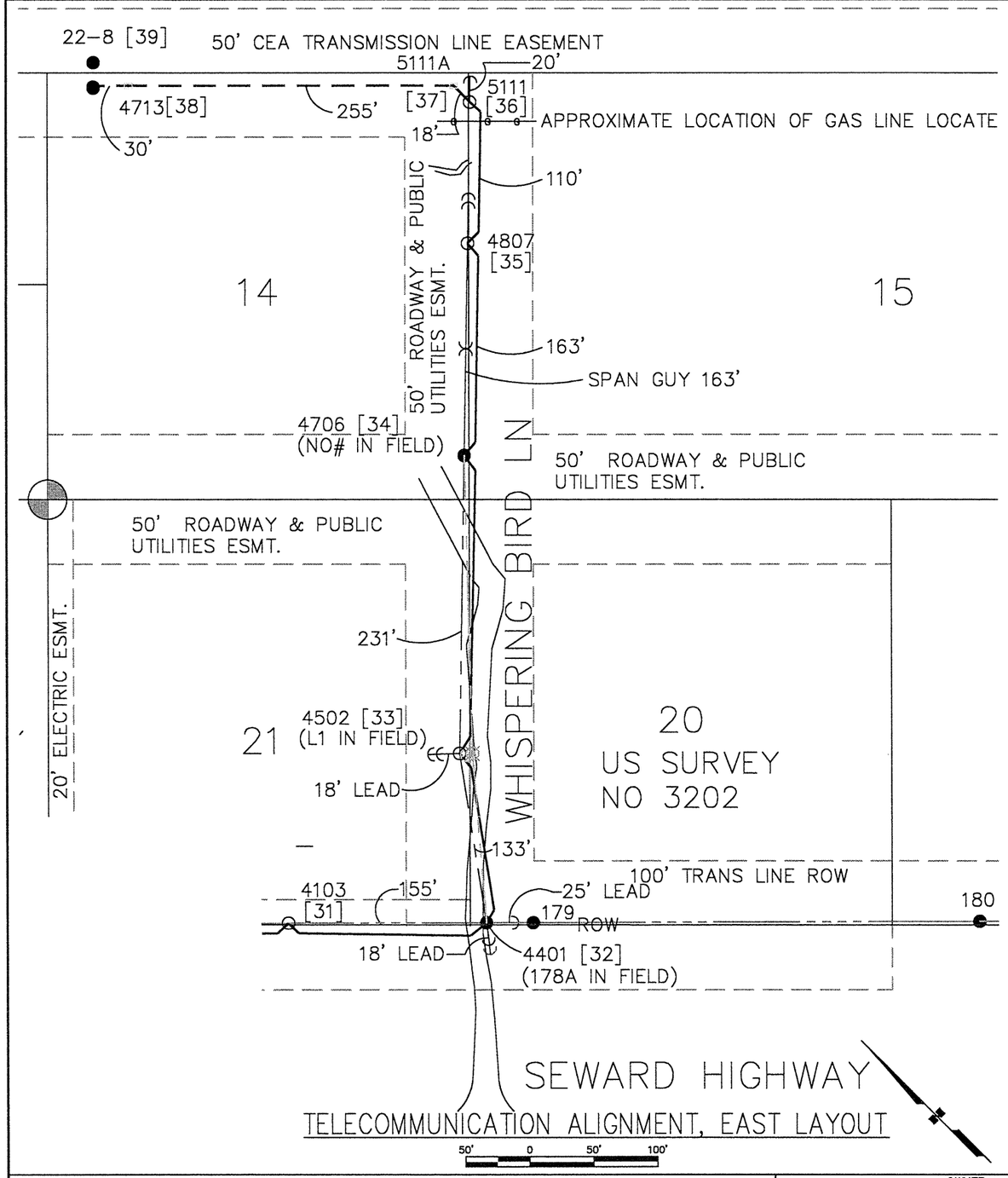
Cell: (907) 242-7669
Email: errico@gci.net

ENG. STAMP: STATE OF ALASKA 20TH 4/4/25 Gregory W. Errico No. EE-10279 REGISTERED PROFESSIONAL ENGINEER

DRAWING NAME: BIRD POINT FIBER TIE IN
TELECOMMUNICATION ALIGNMENT
CENTRAL LAYOUT
FILE NAME:
SHEET NO.: ES202
SHEET 6 OF 17



SHEET NOTES:

DO NOT SPLICE FIBER.

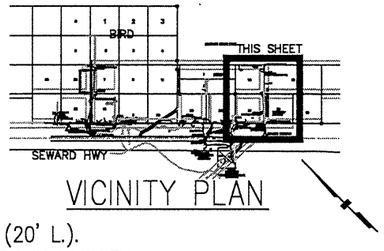
[31] POLE 4103:
EXISTING: 45/3.
POLE TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (165') FO-OH, FO-TAN, (2) FO-VDMP.
INSTALL FO-TAN AT 5' BELOW NEUTRAL (AT 26').

[32] POLE 4401 (178A IN FIELD):
EXISTING: 40/5, F1-4P-TRPL (25' L.), F1-4P-TRPL (18' L.).
ANCHORS TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (155') FO-OH, (2) FO-DE, FO-VDMP, E1-5 (25' L.), E1-5 (18' L.).
INSTALL FO-DE FOR SPAN TO POLE 4103 AT 3'-0" BELOW E/W NEUTRAL AT 25'-6".
INSTALL FO-DE FOR SPAN TO POLE 4502 8" LOWER AT 24'-10".
ATTACH GUYS 4" BELOW THEIR RESPECTIVE FO-DEs.
INSTALL FO-VDMP ON SPAN TO POLE 4103.

[33] POLE 4502 (L1 IN FIELD):
EXISTING: 45/3, F1-4P-TRPL (18' L.)
POLE TO BE REPLACED UNDER DISTRIBUTION WORK ORDER.
ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (133') FO-OH, (100') FO-OH (STORAGE), (2) FO-DE, FO-STORAGE, (3) FO-DL CLAMP, E1-5 (18' L.).
INSTALL FO-DEs BACK-TO-BACK AT 5' BELOW NEUTRAL AT 26'-6".
ATTACH GUY 4" LOWER.
INSTALL STORAGE RACK WITH ITS OUTER UPPER COILS AT 19' ABOVE GRADE.

[34] POLE 4706 (NO# IN FIELD):
EXISTING: 40/5.
DOWN GUY AND ANCHOR TO BE REPLACED WITH SPAN GUY UNDER DISTRIBUTION WORK ORDER.
(231') FO-OH, FO-TAN.
INSTALL FO-TAN ATTACH AT 3'-7" BELOW SECONDARY U-GUARD RISER AND 6'-3" BELOW NEUTRAL, AT 22'-6".

[35] POLE 4807:
EXISTING: 60/2.
POLE AND ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (163') FO-OH, FO-TAN.
INSTALL FO-TAN AT 9'-6" BELOW SPAN GUY (AT 39'-6").



VICINITY PLAN

[36] POLE 5111:
EXISTING: 35/5, SF4C (20' L.).
GAS LINE LOCATES WERE IN VICINITY.
POLE AND ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.
PROVIDE: (110') FO-OH, (100') FO-OH (STORAGE), FO-DE, (3) FO-DL-CLMP, FO-STORAGE, FO-COY/DFNDR, (48) FO-SPLICE, SPLIT-BOLT, E1-5 (20' L.), E3-10, FO-UM52, UME290S4.
INSTALL FO-DE AT 4" BELOW POLE TOP (AT 25'-2")
INSTALL SPLIT-BOLT AT 6" FROM POLE TOP.
ATTACH GUY AT 9" FROM POLE TOP.
INSTALL SECOND GUY MARKER (E3-10) ABOVE FIRST ON GUY MARKER.

[37] HAND-HOLE 5111A:
PROVIDE: (18') FO-UG, (100') FO-UG (STORAGE), FO-HH, FO-MARKER, (18') HDPE2-ORNG, (18') UR2-48.

[38] HAND-HOLE 4713:
PROVIDE: (255') FO-UG, (100') FO-UG (STORAGE), FO-HH, FO-MARKER, (255', 2x) HDPE2-ORNG, (255') UR2-48.

[39] STRUCTURE 22-8:
EXISTING: TRANSMISSION H-POLE STRUCTURE (2) 90/H4, (2) FOUNDATION CULVERTS.
(100') FO-OH (STORAGE), FO-ENCLOSURE.
PROVIDE: (30') FO-UG, (30') HDPE2-ORNG, SUME290S4, OFFSET2, (20') UR2-48, (10') UR2-48C, (2) SM31A, FO-UM52.
INSTALL STEEL ELBOW 4" OFF THE EAST FACE OF FOUNDATION CULVERT.
OFFSET2: FIELD BEND A 2" RIGID GALVANIZED STEEL CONDUIT OFFSET TO TRANSITION FROM ELBOW OUTSIDE OF CULVERT TO 6" TO 9" OFF THE FACE OF THE POLE.
INSTALL RISER ON EAST FACE OF POLE. CONNECT ITS SPECIFIED 2" RGC TO THE OFFSET2. PROVIDE 8'-6" SPACING BETWEEN BOTTOM TWO STAND-OFF BRACKETS.
PROVIDE 5 YARDS OF NFS FILL TO BACKFILL THE LAST 10' OF TRENCH AT CULVERT/POLE. THOROUGHLY COMPACT FILL IN TRENCH TO MAINTAIN STABILITY OF CULVERT FOUNDATION.

PROJECT: BIRD POINT FIBER TIES
DESIGNER/PROJECT ENGINEER: EEE W.O. #: C2430003

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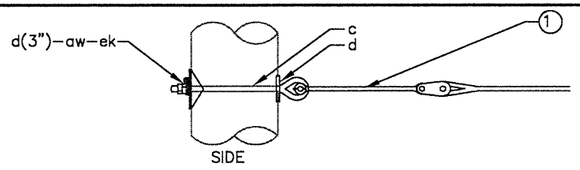
ENG. STAMP: STATE OF ALASKA 49TH Gregory M. Errico No. EE-10279 REGISTERED PROFESSIONAL ENGINEER

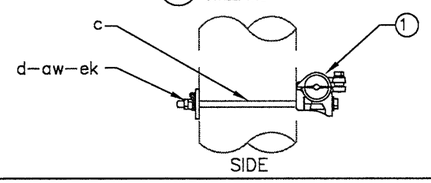
DRAWING NAME: BIRD POINT FIBER TIE IN
TELECOMMUNICATION ALIGNMENT
EAST LAYOUT
FILE NAME:
SHEET NO.: ES203
SHEET 7 OF 17



MATERIAL LIST			
Item	QTY	–RT QTY	DESCRIPTION
1	1		CLAMP, DE, FORMED WIRE, 0.693" TO 0.737", WITH REINFORCED RODS, AFL PART# ADELE693/737C
1		1	CLAMP, DE, FORMED WIRE, 0.693" TO 0.737", WITH REINFORCED RODS, AFL PART# ADESE693/737C
* c	1	1	BOLT, MACHINE, 5/8", x REQUIRED LENGTH
* o	1	1	BOLT, OVAL–EYE, 5/8", x REQUIRED LENGTH
d	1	1	WASHER, STEEL, 3" SQUARE, CURVED, STEEL, 11/16" HOLE, 1/4" THICK
d	1	1	WASHER, STEEL, 2–1/4" SQUARE, STEEL, 11/16" HOLE, 3/16" THICK
aw	1	1	WASHER, SPRING, 5/8"
ek	–	–	LOCKNUT, 5/8", QTY. AS REQUIRED

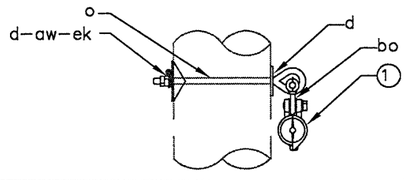
* SUBSTITUTE OVAL–EYE BOLT FOR MACHINE BOLT, WHEN INSTALLED BACK–TO–BACK.

3 FO-DE, FO-DE-RT
SCALE: NTS



MATERIAL LIST		
Item	QTY	DESCRIPTION
1	1	CLAMP, TRUNNION, SINGLE, 0.676" TO 0.725", AFL# ATGN676/725
c	1	BOLT, MACHINE, 5/8", x REQUIRED LENGTH
d	1	WASHER, STEEL, 2–1/4" SQUARE, STEEL, 11/16" HOLE, 3/16" THICK
aw	1	WASHER, SPRING, 5/8"
ek	–	LOCKNUT, 5/8", QTY. AS REQUIRED

2 FO-TAN
SCALE: NTS

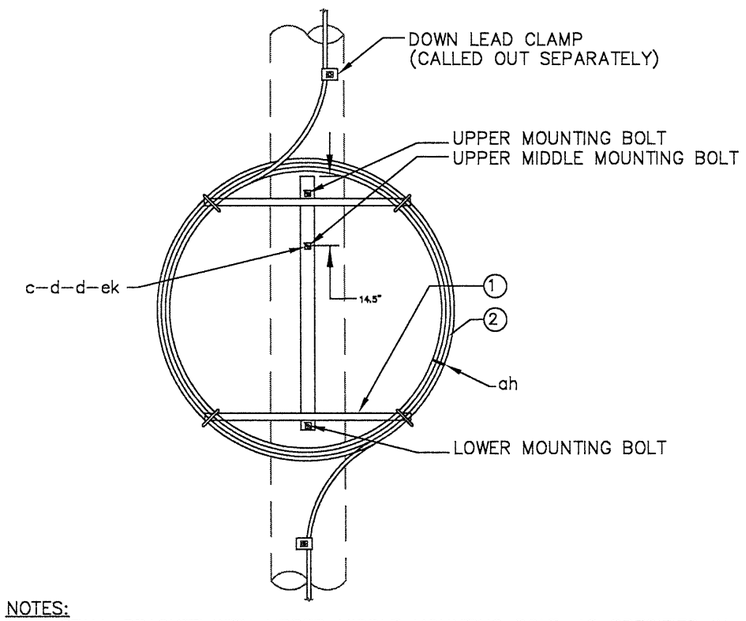


MATERIAL LIST		
Item	QTY	DESCRIPTION
1	1	CLAMP, ADSS SUSPENSION UNIT, 0.676" TO 0.725", AFL# ASN676/725
o	1	BOLT, OVAL–EYE, 5/8", x REQUIRED LENGTH
bo	1	SHACKLE, ANCHOR, 5/8" PIN
d	1	WASHER, STEEL, 3" SQUARE, CURVED, STEEL, 11/16" HOLE, 1/4" THICK
d	1	WASHER, STEEL, 2–1/4" SQUARE, STEEL, 11/16" HOLE, 3/16" THICK
aw	1	WASHER, SPRING, 5/8"
ek	–	LOCKNUT, 5/8", QTY. AS REQUIRED

1 FO-ANGL
SCALE: NTS

MATERIAL LIST	
Qty.	DESCRIPTION
1	VIBRATION DAMPER, SPIRAL, ADSS CABLE DIA. 0.564" TO 0.770; AFL# AVD564/770 OR PLP# 50509862

5 FO-VDMP
SCALE: NTS

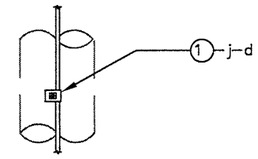


NOTES:
1. INSTALL BRACKET WITH UPPER MIDDLE MOUNTING BOLT, AS SPECIFIED IN THE STAKING SHEETS OR DRAWINGS.
2. SECURE WITH THREE BOLTS.
3. INSTALL 3" SQUARE–CURVED WASHERS ON POLE SIDE OF BOLTS; INSTALL 2–1/4" SQUARE WASHERS BETWEEN BOLT HEADS AND BRACKET.
4. UTILIZE EXTRA CARRIAGE BOLTS FROM STORAGE BRACKET KIT FOR DETAIL FO–COY/DFNDR.

MATERIAL LIST		
Item	QTY	DESCRIPTION
1	1	BRACKET, CABLE STORAGE, PLP SLACKLOOP FIBERLIGN, PART# 80061195
* 2	100'	ADSS FO CABLE
c	3	BOLT, MACHINE OR DA, 5/8, x REQUIRED LENGTH
d	3	WASHER, STEEL, 2–1/4" SQUARE, STEEL, 11/16" HOLE, 3/16" THICK
aw	3	WASHER, SPRING, 5/8"
ek	–	LOCKNUT, 5/8", QTY. AS REQUIRED
ah	–	TIE, WIRE, UV EXPOSURE RATED, HEAVY DUTY, QYT. AS REQUIRED TO SECURELY MAINTAIN COIL ON BRACKET

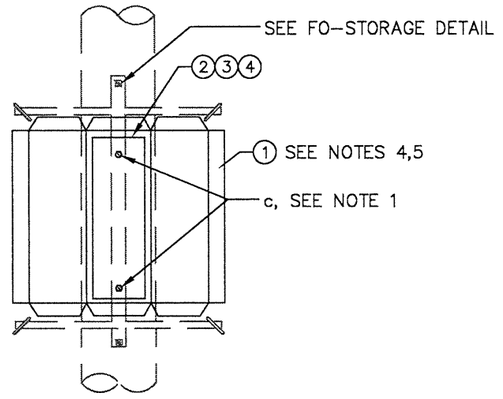
* CALLED OUT SEPARATELY IN STAKING SHEETS.

4 FO-STORAGE
SCALE: NTS



MATERIAL LIST		
Item	QTY	DESCRIPTION
1	1	DOWNLEAD CLAMP FOR ADSS, 0.625" TO 0.750" HUBBELL PART# PSCDLCU625750
j	1	1/2" LAG BOLT x 4–1/2" LONG
d	1	WASHER, ROUND, 1" W/ 9/16" HOLE

7 FO-DL-CLAMP
SCALE: NTS



NOTES:
1. THIS ASSEMBLY UTILIZES PARTS FROM KIT PROVIDED IN DETAIL FO–STORAGE.
2. ENCLOSURE PART NUMBER SIZED FOR COYOTE 6.5"X22" SPLICE ENCLOSURE.
3. PROVIDE (1) ONE COIL OF "FO–UG" ON STORAGE RACK.
4. ENCLOSURE DETAILED OPEN. COMPLETE CLOSED AND SECURED INSTALLATION.
5. COORDINATE WITH OWNER FOR REQUIRED LOCK; AND PROVIDE IT.

MATERIAL LIST		
Item	QTY	DESCRIPTION
1	1	ENCLOSURE PROTECTION, PLP COYOTE DEFENDER, PART #8003491
c	2	BOLT, CARRIAGE, SEE NOTES
2	1	SPLICE ENCLOSURE, COYOTE 6.5" x 22", PLP# COYW622P001
3	1	SPLICE TRAY, 72 CT., COYOTE LITE–GRIP, PLP# LGSTS72
4	1	HEAT SHRINK SPLICE PROTECTOR KIT, (12) 60mm SINGLE FUSION, PLP# 8003509

6 FO-COY/DFNDR
SCALE: NTS

PROJECT: BIRD POINT FIBER TIES
DESIGNER/PROJECT ENGINEER: EEE W.O. #: C2430003

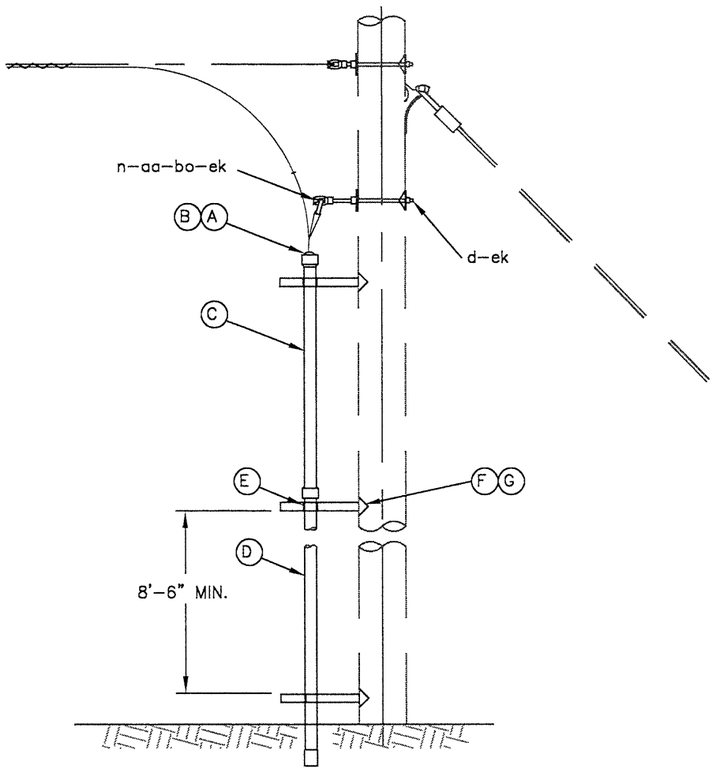
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	CHECKED/DATE	APPROVED/DATE
0	ISSUED FOR CONSTRUCTION	GE/4–4–25		

OWNER: CHUGACH

CONSULTANT: EEE, LLC
PO Box 220471
Anchorage, AK 99522
(907) 345–6188
Cell: (907) 242–7669
Email: errico@gci.net

ENG. STAMP: STATE OF ALASKA 49TH — Gregory M. Errico No. EE–10279 — REGISTERED PROFESSIONAL ENGINEER — 4/18/25

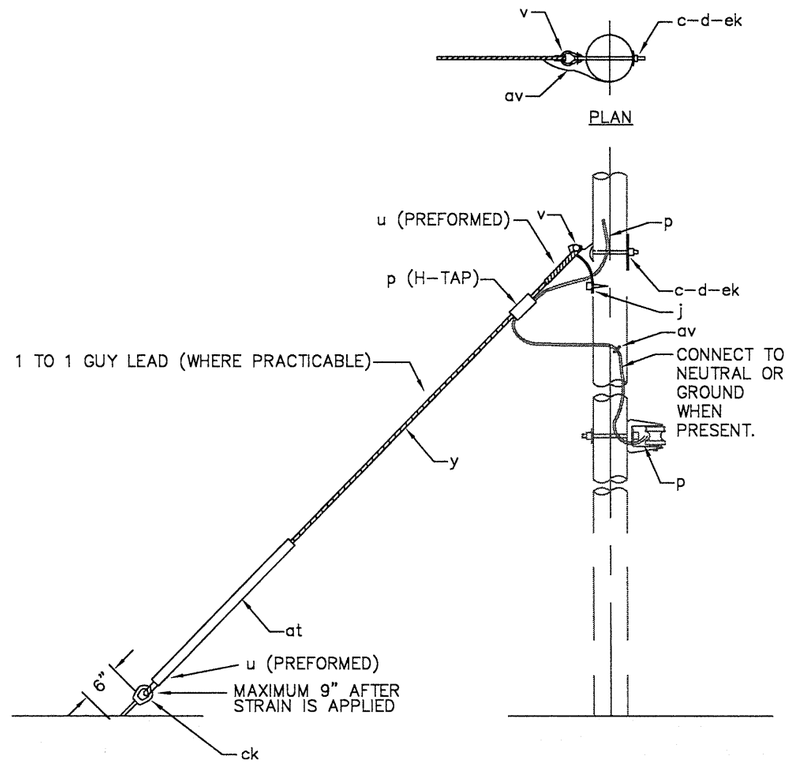
DRAWING NAME: BIRD POINT FIBER TIE IN
FO DETAILS
FILE NAME:
SHEET NO.: ES310
SHEET 14 OF 17



NOTES:
1. 8'–6" MINIMUM SPACING BETWEEN BOTTOM TWO STAND–OFF BRACKETS.

MATERIAL LIST		
Item	Qty.	DESCRIPTION
A	–	DUCT SEAL, RAINBOW# 79526, QUANTITY AS REQUIRED.
B	1	CONDUIT, BELL END, 2", PVC
C	–	CONDUIT, PVC, 2" SCHEDULE 40, AS REQUIRED
D	1	CONDUIT, RGS, 2", SCHEDULE 40, 10' LENGTH. W/ COUPLING
E	–	CLAMP, PIPE, 2", PLATED, AS REQUIRED
F	–	BRACKET, STAND–OFF, 12", AS REQUIRED
G	–	SCREW, LAG, 1/2" X 4", AS REQUIRED
H	1	GRIP, KELLEMS, OFFSET EYE, SPLIT MESH, ROD CLOSING, STAINLESS STEEL, 0.63" TO 0.74" DIA., HUBBELL# 02402038.
n	1	BOLT, DA, 5/8" x REQUIRED LENGTH
aa	1	NUT, EYE, 5/8"
bo	1	SHACKLE, ANCHOR
d	2	WASHER, 2–1/4" SQUARE, 11/16" HOLE
ek	3	LOCKNUT, 5/8"

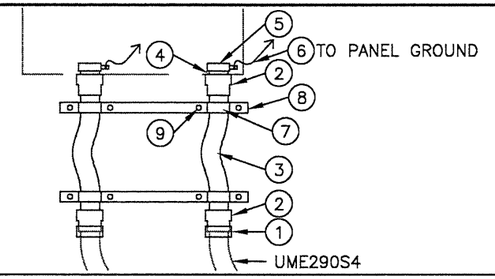
1 FO-UM52
SCALE: NTS



NOTES:
1. WHERE SEPARATE ANCHORS ARE INSTALLED THE MINIMUM SEPARATION SHALL BE FIVE FEET.
2. PROVIDE A SEPARATE BOLT FOR GUY. DO NOT SHARE A SECONDARY OR NEUTRAL ATTACHMENT BOLT.
3. SECURE GUY MARKER TO ANCHOR ROD EYE OR GUY.

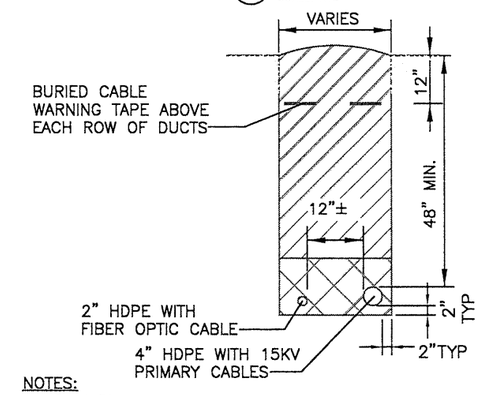
MATERIAL LIST		
Item	QTY	DESCRIPTION
c	1	BOLT, MACHINE, 3/4" X REQ'D LENGTH
d	1	WASHER, STEEL, 4" SQUARE, STEEL, CURVED, 13/16" HOLE, 1/4" THICK
ek	1	LOCKNUTS, 3/4"
j	1	SCREW, LAG 1/2' x 4–1/2"
p	–	CONNECTORS, COMPRESSION, COPPER, AS REQUIRED
p	–	CONNECTORS, H–TAP, COMPRESSION, AS REQ'D
u	2	DEADEND, PREFORMED, GUY, PREFORMED #AWDE–4122
v	1	GUY, ATTACHMENT, HOOK TYPE, 18,500 LBS, CHANCE #GH6, OR APPR. EQ.
y	–	GUY STRAND, ALUMINUM CLAD STEEL, 16M, AS REQ'D
al	–	COPPER CLAD STAPLES, AS REQUIRED
av	–	JUMPERS, GOUNDING, AS REQUIRED, #6 BARE SOLID COPPER
at	1	GUY MARKER, 96", 2" DIA., YELLOW, PREFORMED #PGMS7578
ck		CLAMP, ANCHOR ROD, BONDING

2 E1-5
SCALE: NTS



MATERIAL LIST		
No.	Qty.	DESCRIPTION
1	2	COUPLING, 2", GALVANIZED STEEL
2	4	CONNECTOR, 2", STRAIGHT LIQUIDTIGHT, HOT DIPPED GALVANIZED
3	–	CONDUIT, 2", LIQUIDTIGHT FLEXIBLE METAL, UL LISTED, OUTDOOR RATED, UV RESISTANT, DIRECT BURIAL RATED
4	2	CONDUIT LOCKING WASHER, 2", HOT DIPPED GALVANIZED
5	2	BUSHING, INSULATED GROUNDING, 2", HOT DIPPED GALVANIZED
6	4	WIRE, #8 SOLID COPPER, GREEN XHHW INSULATED
7	4	PIPE CLAMP, 2", HOT DIPPED GALVANIZED
8	–	CHANNEL, B11 1–5/8"x3–1/4"xLENGTH REQ'D, HOT DIPPED GALV., SPACED 24" MAX. AND WITHIN 12" OF ELBOW AND ENCLOSURE.
9	–	SCREW, STAINLESS STEEL, 1/4"x3/4" SELF TAPPING
d	–	WASHER, HOT DIPPED GALV., SIZED FOR HOLES IN UNI–STRUT AND SCREWS AS REQUIRED.

3 ENC-RSRS
SCALE: NTS



NOTES:
1. BACKFILLING IS PART OF ALL TRENCHING UNITS. ALL BACKFILL WITHIN 12" OF CABLE OR CONDUIT SHALL BE FREE OF LARGE ROCKS AND FROZEN MATERIAL WHICH MAY CAUSE DAMAGE TO THE INSTALLED CONDUIT.
2. UR2–48C AND UR2–48CR: COMPACT BACKFILL IN 6"–8" LIFTS, TO 95% COMPACTION. UR2–48C REQUIRED AT ALL UNPAVED DRIVEN WAYS. UR2–48CR REQUIRED AT ALL PAVED LOCATIONS.
3. AT ALL UR2–48C AND UR2–48CR TRENCH, SEPARATE EXCAVATION MATERIALS TO RECONSTRUCT TRENCH TO EXISTING CONDITIONS. PROVIDE ADDITIONAL CLASSIFIED MATERIAL TO MATCH EXISTING AS REQUIRED.
4. AT PAVED SURFACES, DOUBLE SAWCUT TRENCH EDGES. MATCH EXISTING PAVEMENT THICKNESS WHEN PATCHING.

LEGEND
- STONE FREE 1/2" MINUS BACKFILL
- BACKFILL, COMPACTED AT UR2–48C AND UR2–48CR, SEE NOTES
- UNDISTURBED EARTH

4 UR2-48, UR2-48C, UR2-48CR
SCALE: NTS

PROJECT: BIRD POINT FIBER TIES
DESIGNER/PROJECT ENGINEER: EEE W.O. #: C2430003

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	CHECKED/DATE	APPROVED/DATE
0	ISSUED FOR CONSTRUCTION	GE/4–4–25		

OWNER
CHUGACH

CONSULTANT
EEE, LLC
PO Box 220471
Anchorage, AK 99522
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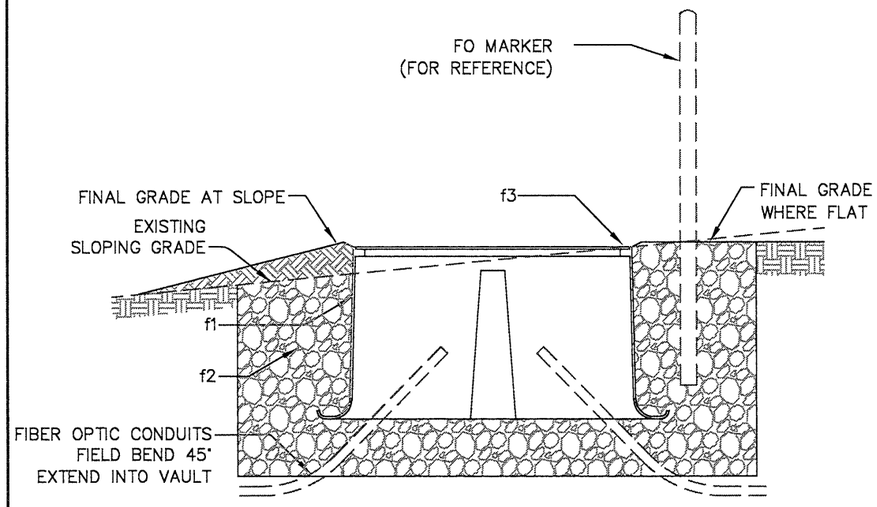
ENG. STAMP
STATE OF ALASKA
49 TH
4/4/25
Gregory M. Errico
No. EE–10279
REGISTERED PROFESSIONAL ENGINEER

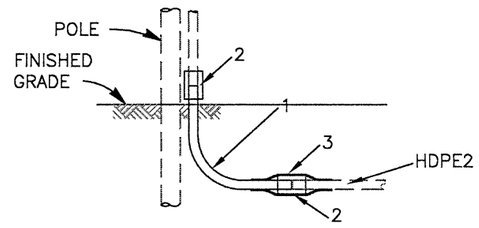
DRAWING NAME:
BIRD POINT FIBER TIE IN
FO DETAILS
FILE NAME:
SHEET NO.: ES311
SHEET 15 OF 17



NOTES:
1. OVER EXCAVATE FOR HANDHOLE INSTALLATION 1'–6" ON ALL SIDES (OR MORE) AND 1' BELOW THE HANDHOLE.
2. PROVIDE FILL UNDER AND AROUND HAND HOLE. COMPACT FILL IN 6" LEFTS.
2. INSTALL HAND HOLE LEVEL AND WITH ITS COVER 1" BELOW FINAL GRADE.
3. ON SLOPING GROUND BUILD–UP FILL AROUND HANDHOLE TO PROVIDE A MINIMUM OF 1:4 SLOPE TRANSITION TO ADJACENT EXISTING GRADE.
4. INSTALL MARKER AT 1' X 1' ON CORNER OF HANDHOLE (MARKER CALLED–OUT SEPARATELY).
5. EMBED MARKER 30" DEEP.
6. REPLACE HEX–HEAD 1/2"–13 BOLTS PROVIDE WITH HAND–HOLE 1/2"–13 STAINLESS STEEL PENTA–HEAD BOLTS.

MATERIAL LIST		
Item	Qty	DESCRIPTION
f1	1	HANDHOLE, COMPOSITE, 36"Wx60"Lx36"D, TIER 22 CONSTRUCTION, HUBBELL QUAZITE #PG3660BA36, W/ ONE–PIECE BOLTED COVER LABELED "FO", TIER 22 CONSTRUCTION, HUBBELL QUAZITE #PG3660HH0021, OR APPROVED EQUAL
f2	7	NON–FROST SUSCEPTIBLE FILL, YARD.
f3	2	BOLT, STAINLESS STEEL, 1/2"–13, PENTA–HEAD, LENGTH AS REQUIRED.

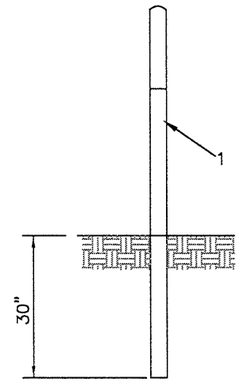
1 FO-HH
SCALE: NTS



NOTES:
1. CENTER COUPLING OVER JOINT.
2. CENTER HEAT SHRINK OVER COUPLING.

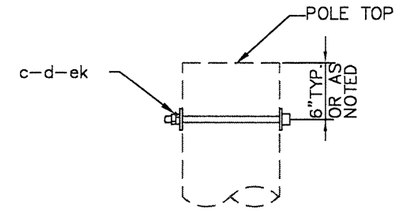
MATERIAL LIST		
ITEM	QTY.	DESCRIPTION
1	1	ELBOW, 2" CONDUIT, 48" RADIUS, 90°, RIGID GALVANIZED STEEL
2	2	COUPLING, 2", SHUR–LOCK II, COUPLER EXTENDED, PART# 20000264
3	24"	HEAT SHRINK, MINIMUM EXPANDED 3.75", MAXIMUM RECOVERED 1.75", MEDIUM WALL THICKNESS, RATED FOR DIRECT BURIAL. HEAT–SHRINKABLE, POLYOLEFIN TUBING

3 UME290S4
SCALE: NTS



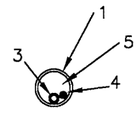
MATERIAL LIST		
Item	Qty	DESCRIPTION
1	1	MARKER, 3.5" x 78" ORANGE DOME TOP UV RESISTANT THERMOPLASTIC POLYMER, PREPRINTED "FIBER OPTIC CABLE BURIED BELOW CAUTION BEFORE DIGGING CALL 811", TAPCO #113779C.

2 FO-MARKER
SCALE: NTS

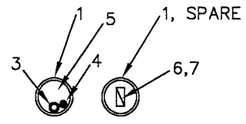


MATERIAL LIST		
Item	QTY	DESCRIPTION
c	1	BOLT, MACHINE, 5/8" LENGTH AS REQUIRED
d	2	WASHER, STEEL, 2–1/4" SQUARE, 11/16" HOLE
ek	–	LOCKNUT, 5/8", QTY. AS REQUIRED

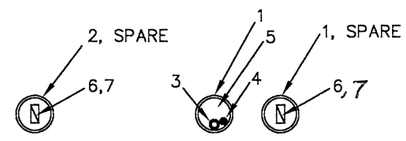
5 SPLIT-BOLT
SCALE: NTS



HANDHOLE TO RISER/ENCLOSURE



HANDHOLE TO HANDHOLE
WHERE TRENCHED



HANDHOLE TO HANDHOLE
WHERE DIRECTIONALLY DRILLED

MATERIAL LIST		
Item	Qty	DESCRIPTION
1	–	CONDUIT, HDPE, 2", ORANGE, LENGTH AS REQ'D.
2	–	CONDUIT, HDPE, 2", RED, LENGTH AS REQ'D.
3	–	FIBER, ADSS (CALLED–OUT SEPARATELY)
4	–	WIRE, TRACE, AWG, HMWPE INSULATION, LENGTH AS REQ'D.
5	–	DUCT SEAL, RAINBOW# 79526, QTY. AS REQ'D
6	–	PLUG, BLANK, 1.8" TO 2.4" DIA., TYCO# JM–BLA–20D236U, QTY. AS REQUIRED.
7	–	MULE TAPE, 1,000 LBS. MIN. STRENGTH, LENGTH AS REQ'D.

4 HDPE2-ORNG, HDPE2-RED
SCALE: NTS

PROJECT: BIRD POINT FIBER TIES
DESIGNER/PROJECT ENGINEER: EEE W.O. #: C2430003

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	CHECKED/DATE	APPROVED/DATE
0	ISSUED FOR CONSTRUCTION	GE/4–4–25		

OWNER: CHUGACH

CONSULTANT: EEE, LLC
PO Box 220471
Anchorage, AK 99522
(907) 345–6168
Cell: (907) 242–7669
Email: errico@gci.net

ENG. STAMP: STATE OF ALASKA · 49TH · Gregory M. Errico No. EE–10279 · REGISTERED PROFESSIONAL ENGINEER · 4/4/25

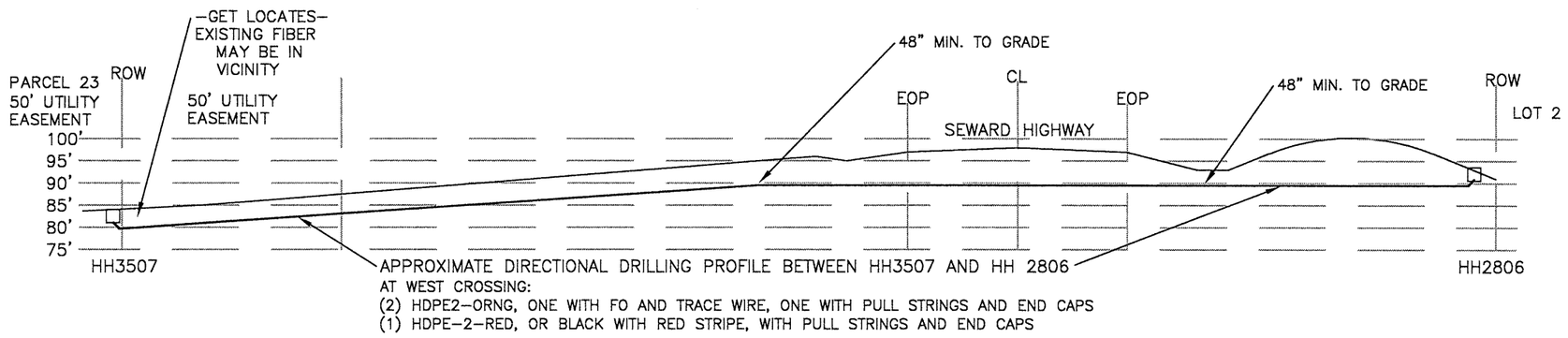
DRAWING NAME: BIRD POINT FIBER TIE IN

FO DETAILS

FILE NAME:

SHEET NO.: ES312

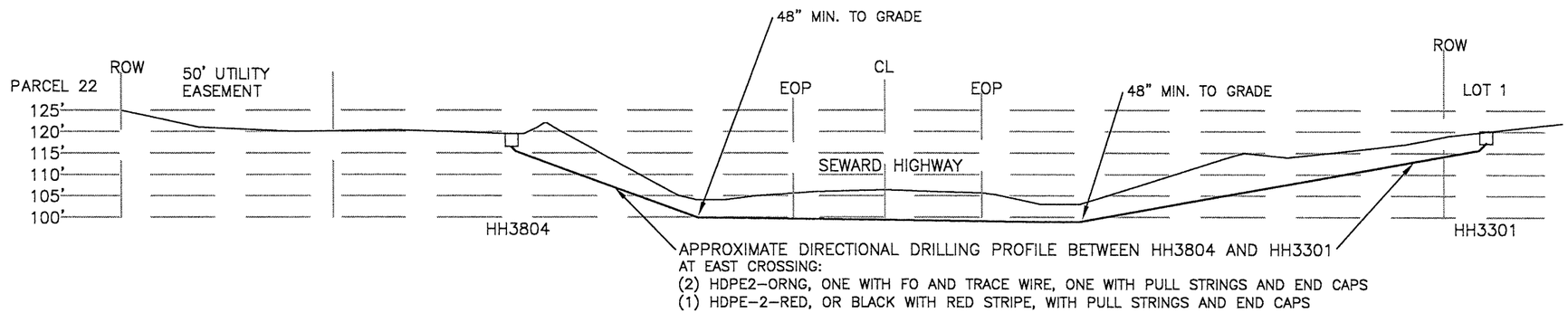
SHEET 16 OF 17



1 DDRILL-3-2: APPROXIMATE DIRECTION DRILL PROFILE BETWEEN HH 3507 AND HH 2806
SCALE: NTS

SHEET NOTES:

DDRILL-X-X: THIS UNIT IS FOR DIRECTIONALLY DRILLING BETWEEN HANDHOLES. IT INCLUDES ALL ANCILLARY EXCAVATION EFFORTS TO EMBED CONDUIT TO A MINIMUM OF 48". INCLUDING BUT NOT LIMITED TO: TRENCHING AT BORE ENDS TO LOWER THE CONDUIT TO REQUIRED EMBEDMENT DEPTH AND EXCAVATION OF DRILLING PITS. UNIT INCLUDES REMOVAL OF DRILLING FLUIDS (BENTONITE) FROM CONSTRUCTION SITE. CONDUITS SHALL NOT BE SPLICED. DUCTS SHALL BE BRUSHED AND CLEANED AFTER INSTALLATION. DUCTS SHALL BE MANDRELED WITH A 1.5" DIAMETER MANDREL AFTER INSTALLATION TO CONFIRM DUCTS WERE INSTALLED WITHOUT BEING CRUSHED. CONTRACTOR SHALL GIVE WRITTEN NOTICE 3 WORKING DAYS PRIOR TO PERFORM THE DIRECTIONAL DRILLING OPERATION AND MANDRELING OPERATIONS TO THE PROJECT ENGINEER FOR THEIR OPTION TO WITNESS BOTH OPERATIONS.



2 DDRILL-3-2: APPROXIMATE DIRECTIONAL DRILL PROFILE BETWEEN HH 3804 AND HH 3301
SCALE: NTS

PROJECT: BIRD POINT FIBER TIES
DESIGNER/PROJECT ENGINEER: EEE W.O. #: C2430003

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	CHECKED/DATE	APPROVED/DATE
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ENG. STAMP: STATE OF ALASKA 49TH Gregory M. Errico No. EE-10279 REGISTERED PROFESSIONAL ENGINEER 4/4/25

DRAWING NAME: BIRD POINT FIBER TIE IN
FILE NAME: FO DETAILS
SHEET NO.: ES313
SHEET 17 OF 17