



WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

KLICKITAT WLA – SIMCOE MOUNTAINS BOUNDARY/INTERIOR FENCE KT:R204:2021-1

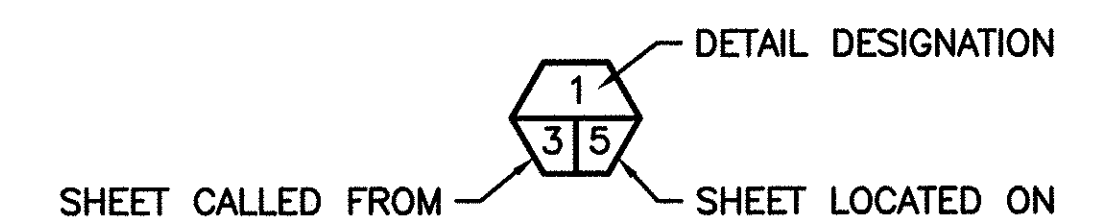
SHEET INDEX

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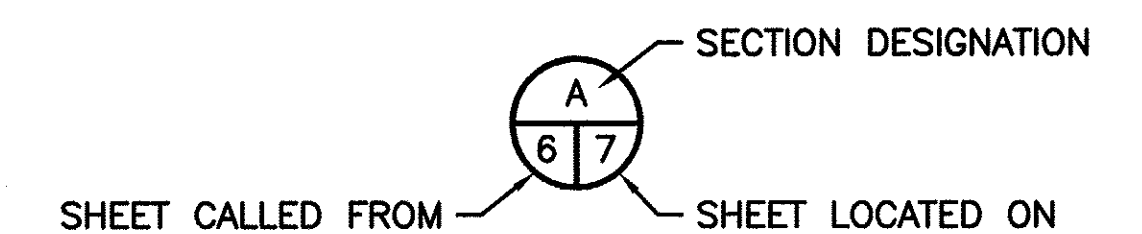
ABBREVIATIONS

ALUM	-	ALUMINUM
L	-	ANGLE
APPROX	-	APPROXIMATELY
BM	-	BENCH MARK
CL	-	CENTERLINE
CMP	-	CORRUGATED METAL PIPE
CLR	-	CLEARANCE
CONC	-	CONCRETE
CSBC	-	CRUSHED SURFACE BASE COURSE
CSTC	-	CRUSHED SURFACE TOP COURSE
DIA	-	DIAMETER
ELEV	-	ELEVATION
FB	-	FLAT BAR
FTG	-	FOOTING
GALV	-	GALVANIZED
ID	-	INSIDE DIAMETER
IE	-	INVERT ELEVATION
MFG	-	MANUFACTURER'S
MISC	-	MISCELLANEOUS
OC	-	ON CENTER
OD	-	OUTSIDE DIAMETER
PL	-	PLATE
REQ'D	-	REQUIRED
SEC	-	SECTION
SPEC'S	-	PROJECT SPECIFICATIONS
SS	-	STAINLESS STEEL
TYP	-	TYPICAL
WS	-	WATER SURFACE

SHEET SYMBOLS



DETAIL



SECTION

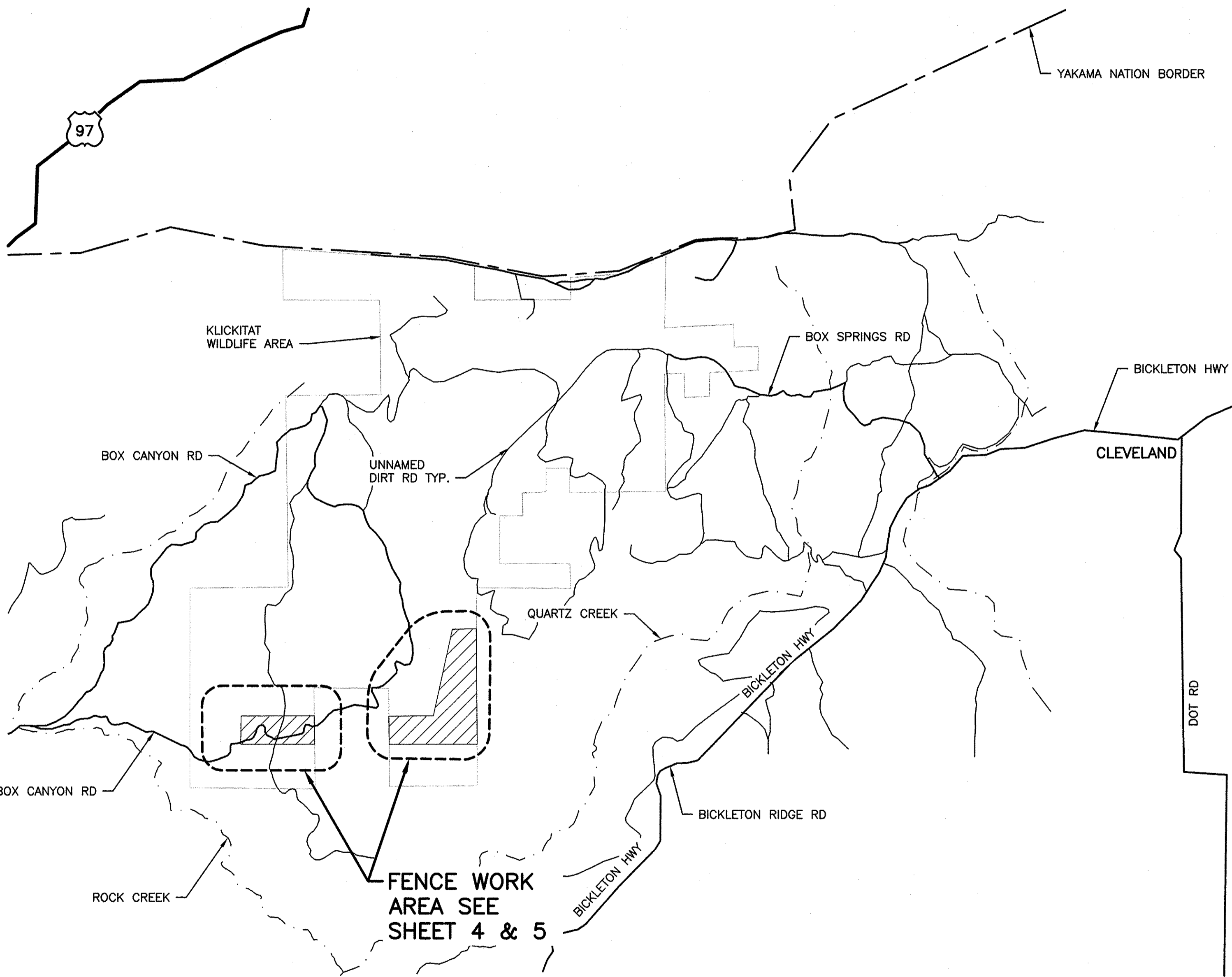


NOTE REFERENCE

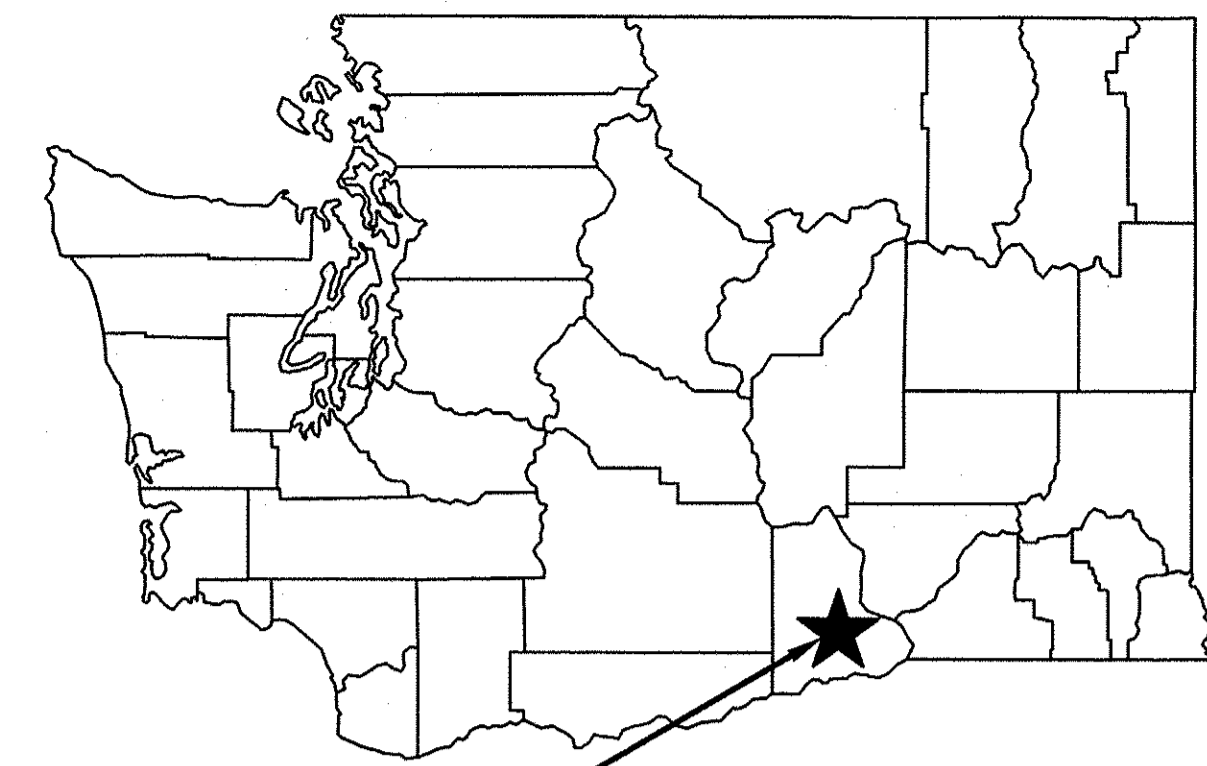
REFERENCE DESIGNATION TO A
NOTE, A PART, OR MATERIAL IN A
SCHEDULE/TABLE

PROJECT NO.
KT:R204:2021-1

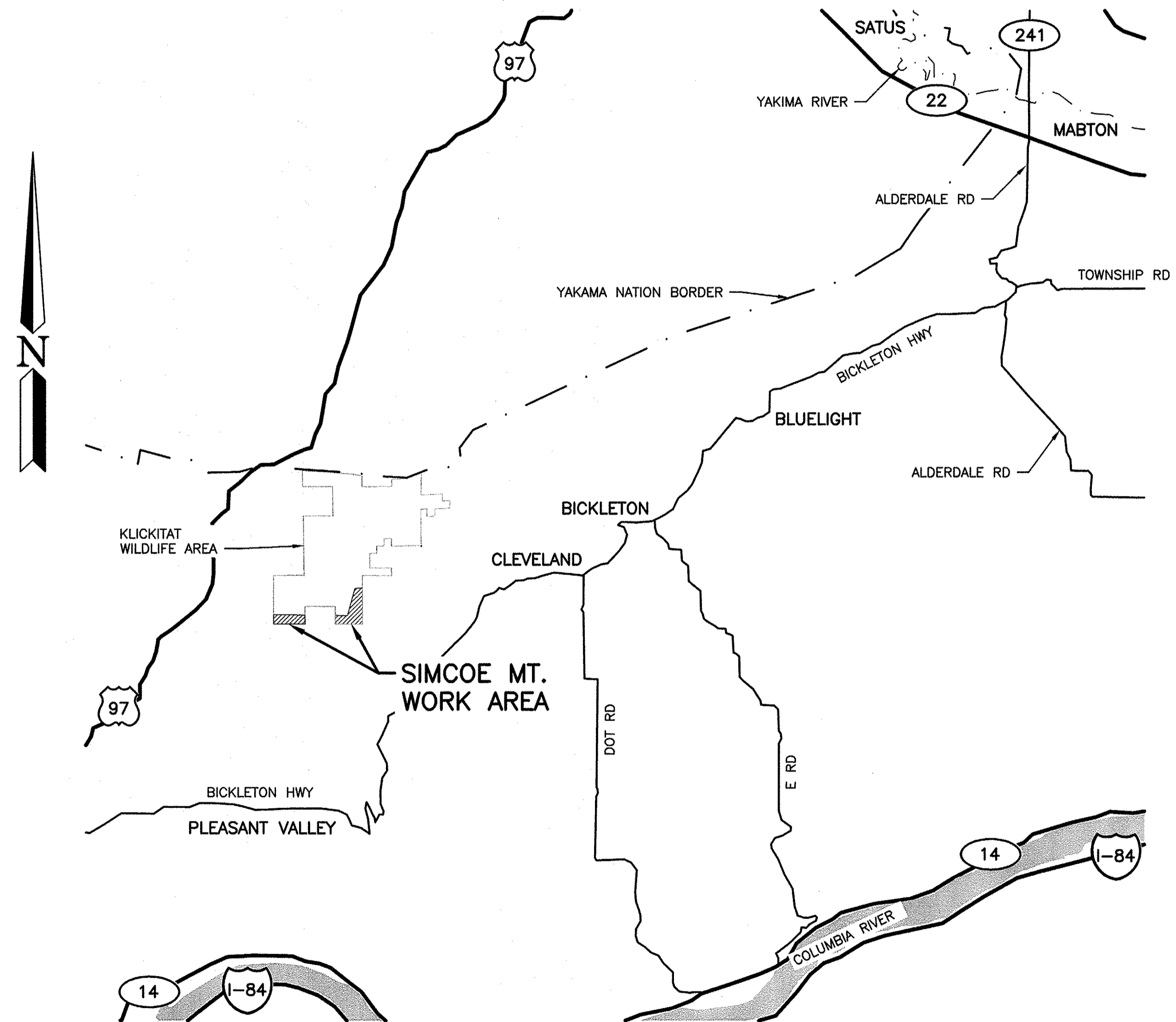
SHEET	OF
1	8



LOCAL MAP
NOT TO SCALE



SIMCOE MT. WORK AREAS
STATE MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

T. 5 N., R. 18 E., SECTIONS 17, 16, 15 & 10

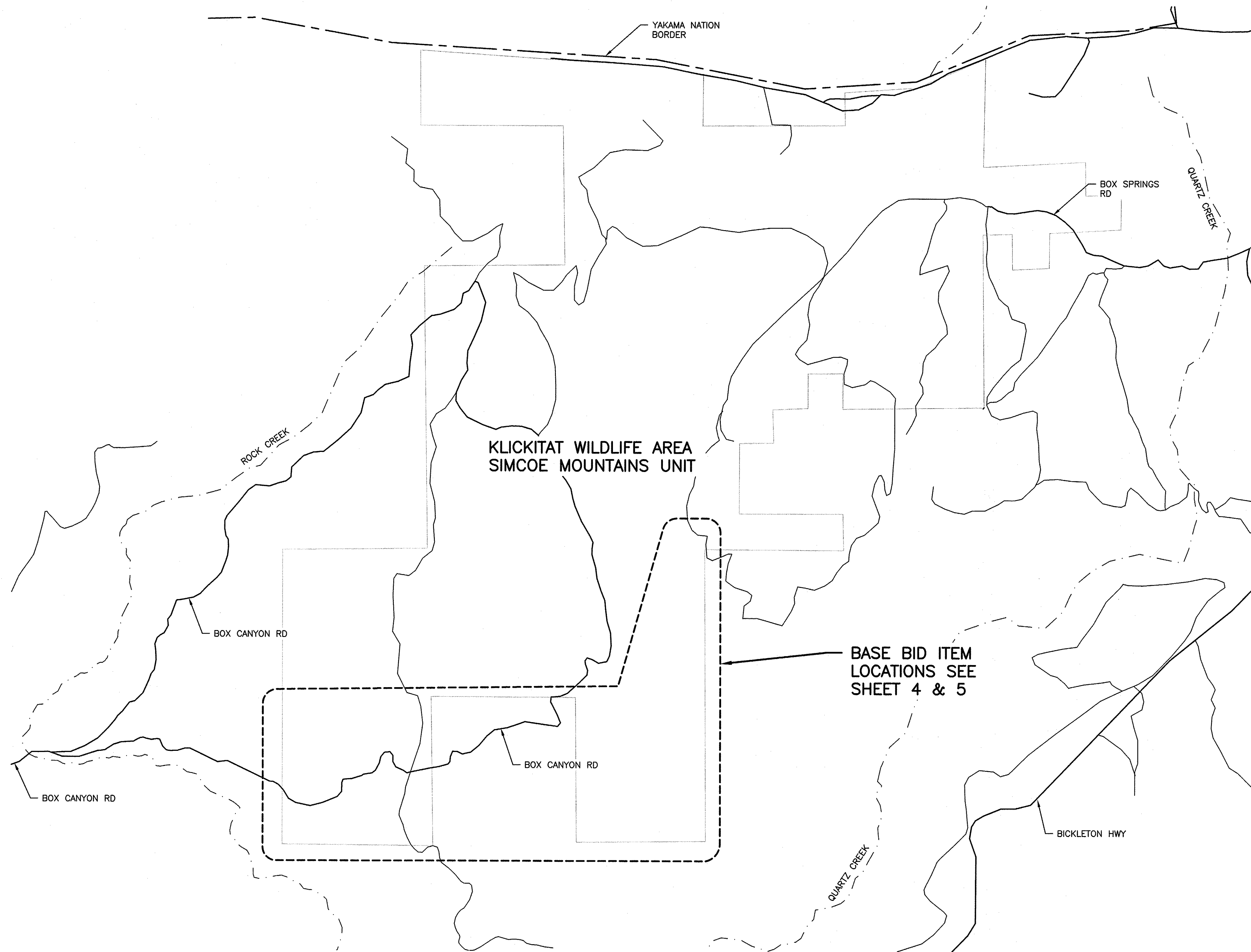
**WASHINGTON DEPARTMENT OF
FISH & WILDLIFE**



SYM	DATE	REVISION DESCRIPTION	BY
		APPROVED AND RELEASED FOR CONSTRUCTION	
		DESIGNED BY R. MOSBERGER	
		CHECKED BY	
		DRAWN BY S. ASHLER	
		DATE: 4/15/2022	
		CHIEF ENGINEER: <i>[Signature]</i>	DATE: 3/11/22
		PROGRAM	DATE:

KLICKITAT - WLA SIMCOE MOUNTAINS UNIT
BOUNDARY FENCE
LOCAL, STATE AND VICINITY MAPS

PROJECT NO.
KT:R204:2021-1
SHEET 2 OF 8



- NOTES:**
- ALL FENCES TOTAL APPROXIMATELY 2.15 MILES:
 - 3 - STREAM CROSSINGS
 - 5 - ACCESS GATES
 - 1 - WALK THROUGH GATE
 - 19 - END OR CORNER BRACE

KLICKITAT WILDLIFE AREA
SIMCOE MOUNTAINS UNIT

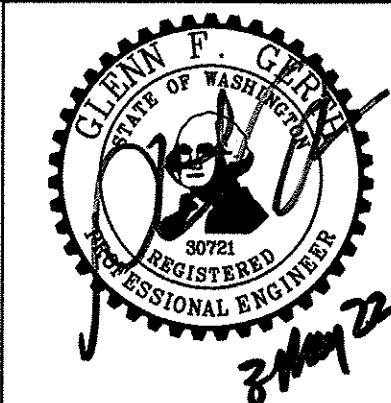
BASE BID ITEM
LOCATIONS SEE
SHEET 4 & 5

OVERALL SITE PLAN
NOT TO SCALE

LEGEND

NAMED DIRT ROAD	_____
UNNAMED DIRT ROAD	_____
COUNTY PAVED ROAD	_____
CREEK/STREAM	-----
YAKAMA NATION BORDER	-----
WILDLIFE BOUNDARY	-----

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PROGRAM			DATE: 4/15/2022

KLICKITAT - WLA SIMCOE MOUNTAINS UNIT
BOUNDARY FENCE
OVERALL SITE PLAN

PROJECT NO. KT:R204:2021-1	
SHEET 3	OF 8



NOTE:
 1. FENCES TOTAL APPROXIMATELY ± 1,869 FEET COMBINED:
 1 - STREAM CROSSINGS
 1 - ACCESS GATES
 11 - END OR CORNER BRACE

FENCE SEGMENTS

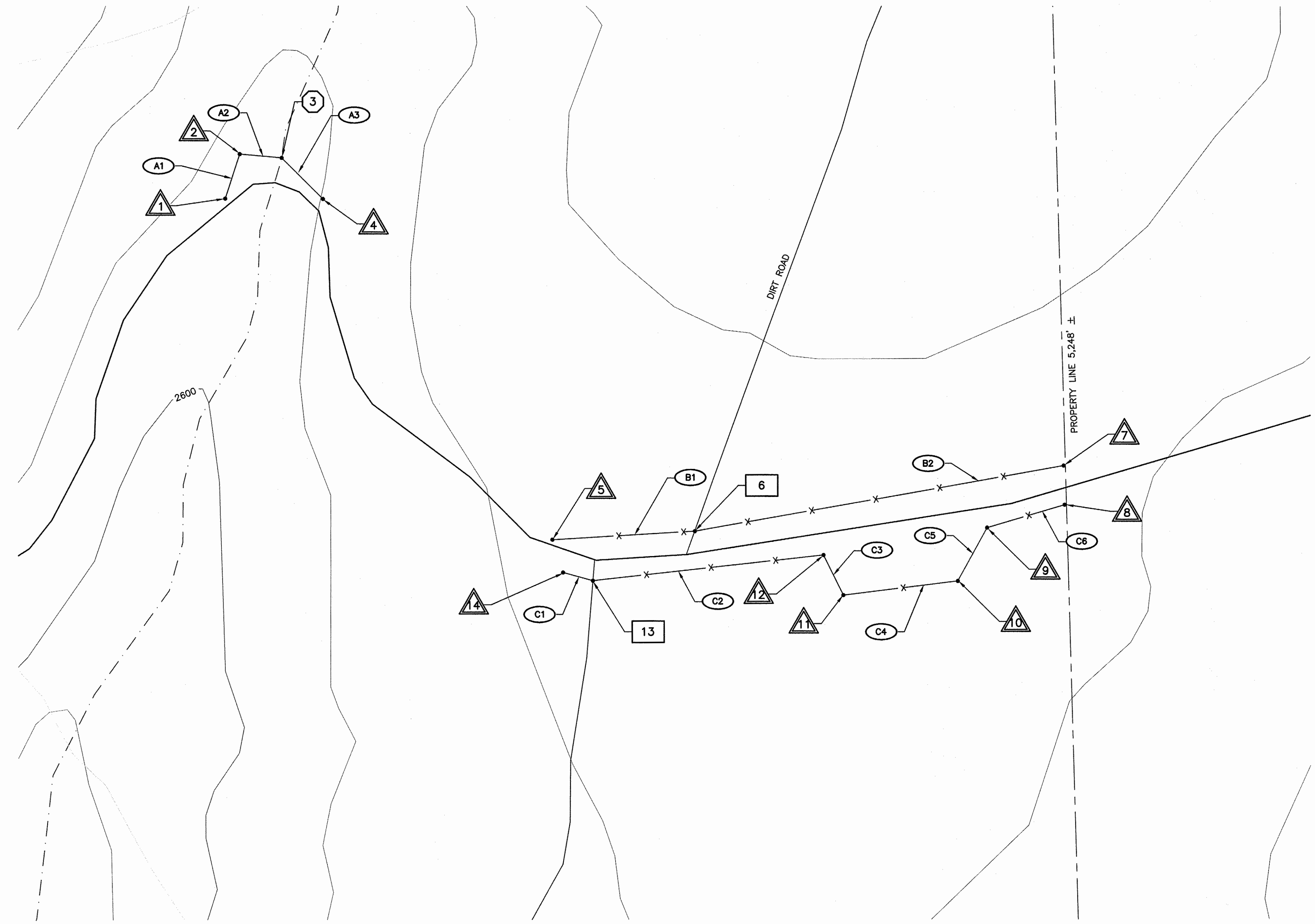
SEGMENT	DISTANCES
A1	71 ± LF
A2	64 ± LF
A3	85 ± LF
B1	218 ± LF
B2	570 ± LF
C1	47 ± LF
C2	354 ± LF
C3	68 ± LF
C4	176 ± LF
C5	93 ± LF
C6	123 ± LF

FENCES GPS LOCATIONS

POINT	REMARKS	LATITUDE	LONGITUDE
1	END BRACE	N45.91897°	W120.57825°
2	CORNER BRACE	N45.91923°	W120.57815°
3	STREAM CROSSING	N45.91923°	W120.57783°
4	END BRACE	N45.91898°	W120.57783°
5	END BRACE	N45.91698°	W120.57574°
6	SET END BRACES BOTH SIDES OF EX. GATE	N45.91691°	W120.57471°
7	END BRACE	N45.91746°	W120.57105°
8	END BRACE	N45.91736°	W120.57101°
9	CORNER BRACE	N45.91704°	W120.57263°
10	CORNER BRACE	N45.91678°	W120.57280°
11	CORNER BRACE	N45.91670°	W120.57362°
12	CORNER BRACE	N45.91687°	W120.57394°
13	DROP GATE 16' WIDE	N45.91674°	W120.57549°
14	END BRACE	N45.91680°	W120.57566°

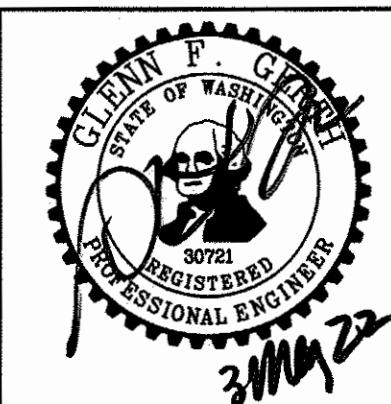
LEGEND

- MINOR CONTOUR
- MAJOR CONTOUR
- DIRT ROAD
- CREEK/STREAM
- YAKAMA NATION BORDER
- BIDDED FENCE
- ALT. FENCE
- DENOTES GATE ON PLAN
- END OR CORNER
- STREAM CROSSING
- LINE SEGMENT



FENCE SITE PLAN
 NOT TO SCALE

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KLICKITAT – WLA SIMCOE MOUNTAINS UNIT
BOUNDARY FENCE
 FENCE SITE PLAN

PROJECT NO.
 KT:R204:2021-1
 SHEET 4 OF 8



NOTE:
 1. FENCE IS APPROXIMATELY ± 9,496 MILES:
 2 - STREAM CROSSINGS
 4 - ACCESS GATES
 1 - WALK THROUGH GATE
 8 - END OR CORNER BRACE

FENCE SEGMENTS

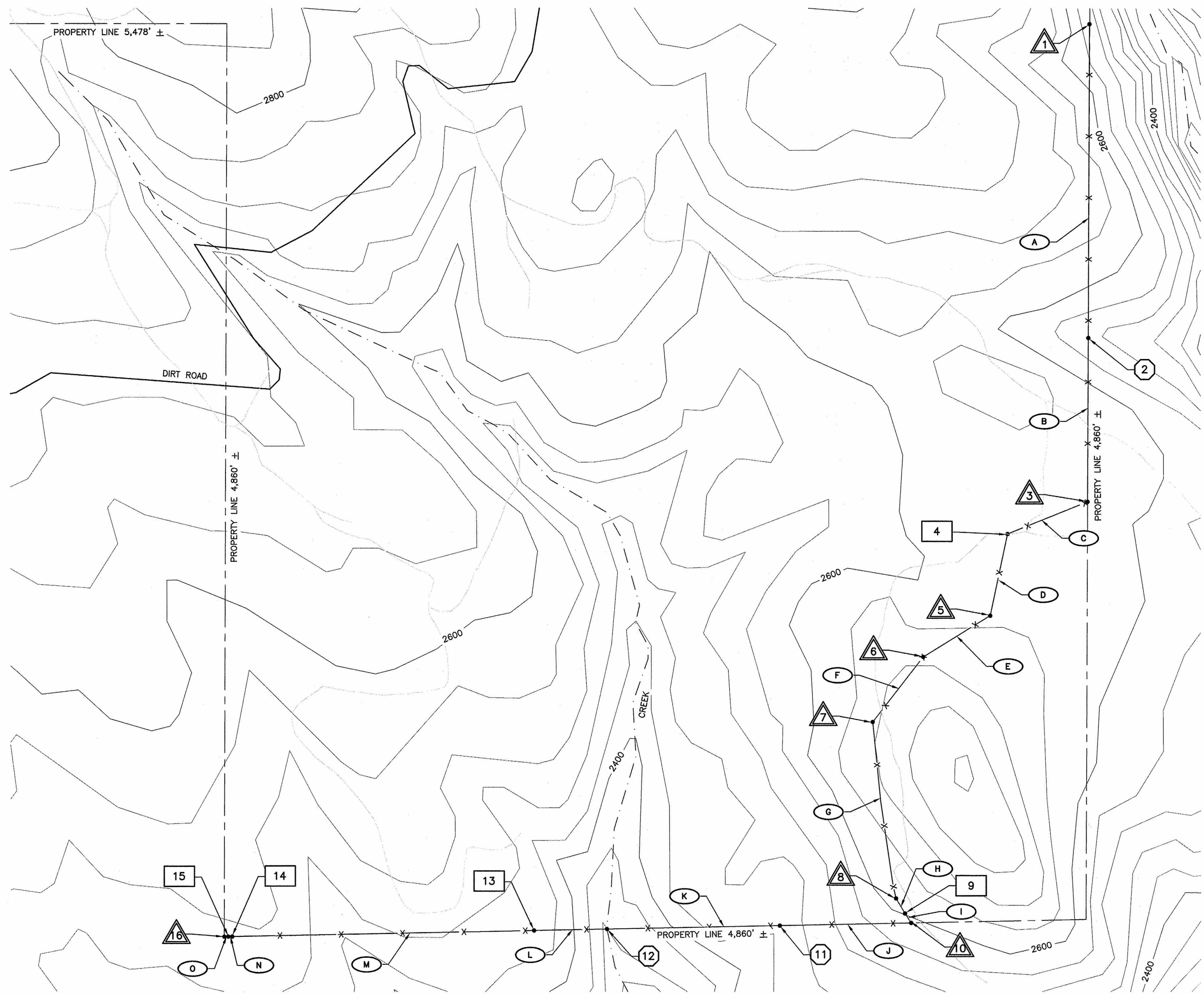
SEGMENT	DISTANCES
A	1,766 ± LF
B	874 ± LF
C	500 ± LF
D	432 ± LF
E	444 ± LF
F	465 ± LF
G	1,001 ± LF
H	99 ± LF
I	50 ± LF
J	734 ± LF
K	971 ± LF
L	420 ± LF
M	1,700 ± LF
N	20 ± LF
O	20 ± LF

FENCE GPS LOCATIONS

POINT	REMARKS	LATITUDE	LONGITUDE
1	END BRACE AT EXISTING FENCE	N45.92805°	W120.53048°
2	STREAM CROSSING	N45.92278°	W120.53019°
3	CORNER BRACE	N45.91951°	W120.53127°
4	DROP GATE 16' WIDE	N45.91868°	W120.53216°
5	CORNER BRACE	N45.91710°	W120.53265°
6	CORNER BRACE	N45.91487°	W120.53594°
7	CORNER BRACE	N45.91313°	W120.53551°
8	CORNER BRACE	N45.91143°	W120.53537°
9	DROP GATE 16' WIDE	N45.91100°	W120.53517°
10	CORNER BRACE	N45.91066°	W120.53489°
11	HOLD DOWN ONLY	N45.91063°	W120.53854°
12	STREAM CROSSING	N45.91058°	W120.54334°
13	DROP GATE 16' WIDE	N45.91076°	W120.54544°
14	DROP GATE 16' WIDE	N45.91027°	W120.55407°
15	WALK THROUGH GATE	N45.91031°	W120.55442°
16	END BRACE AT EXISTING FENCE	N45.91030°	W120.55469°

LEGEND

- DIRT PATH/TRAIL
- MINOR CONTOUR
- MAJOR CONTOUR
- DIRT ROAD
- CREEK/STREAM
- YAKAMA NATION BORDER
- BIDDED FENCE
- ALT. FENCE
- DENOTES GATE ON PLAN
- END OR CORNER
- STREAM CROSSING
- LINE SEGMENT



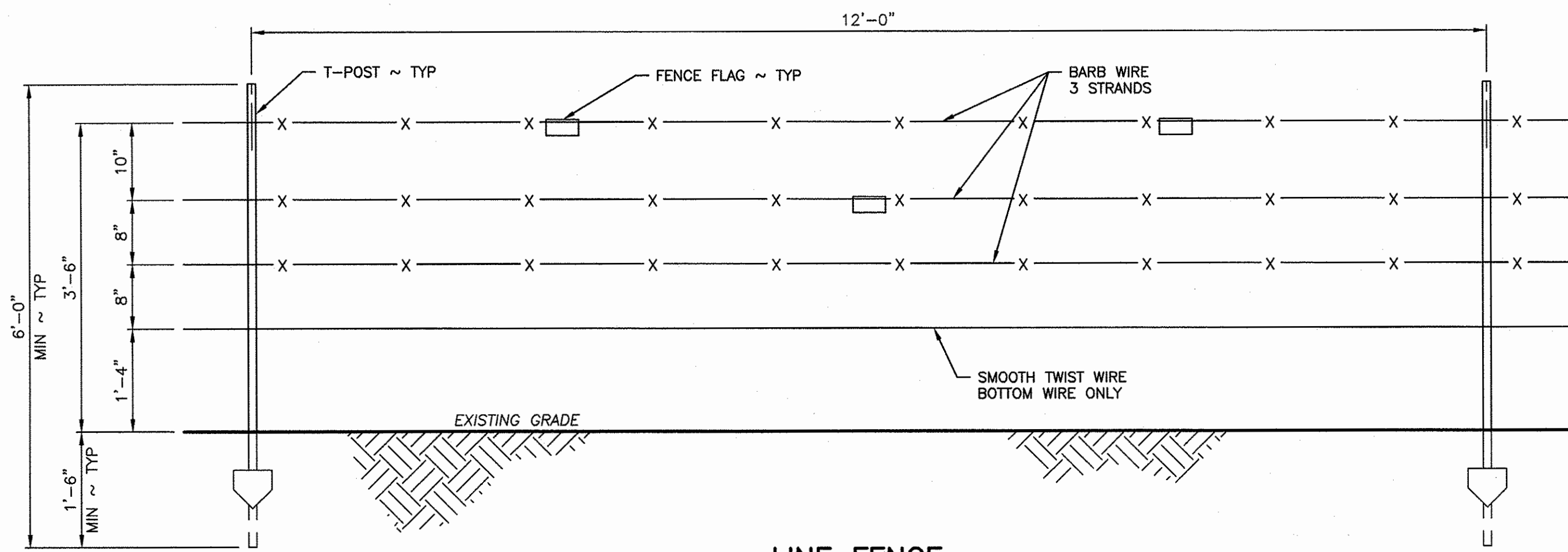
FENCE SITE PLAN
 NOT TO SCALE

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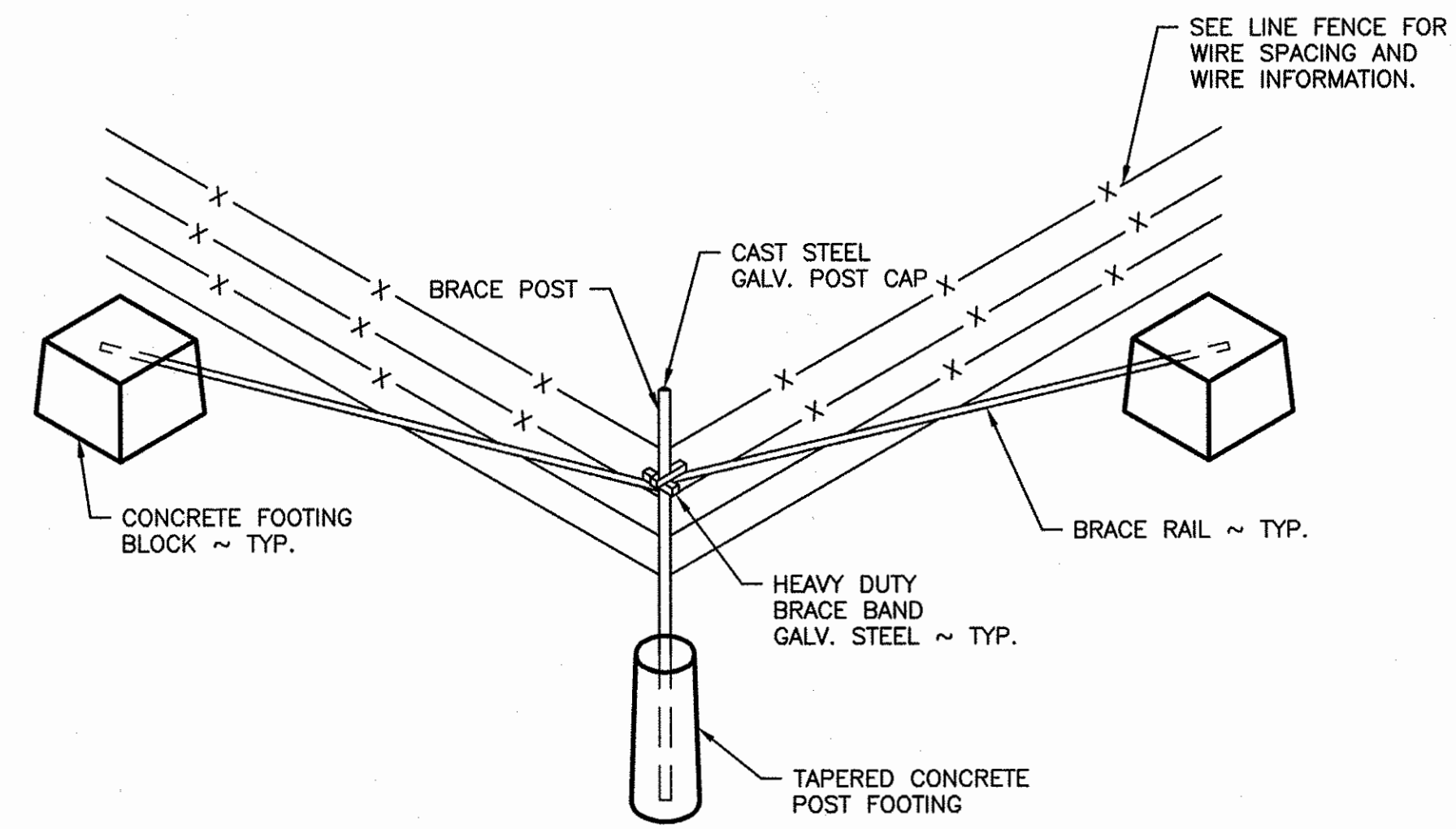


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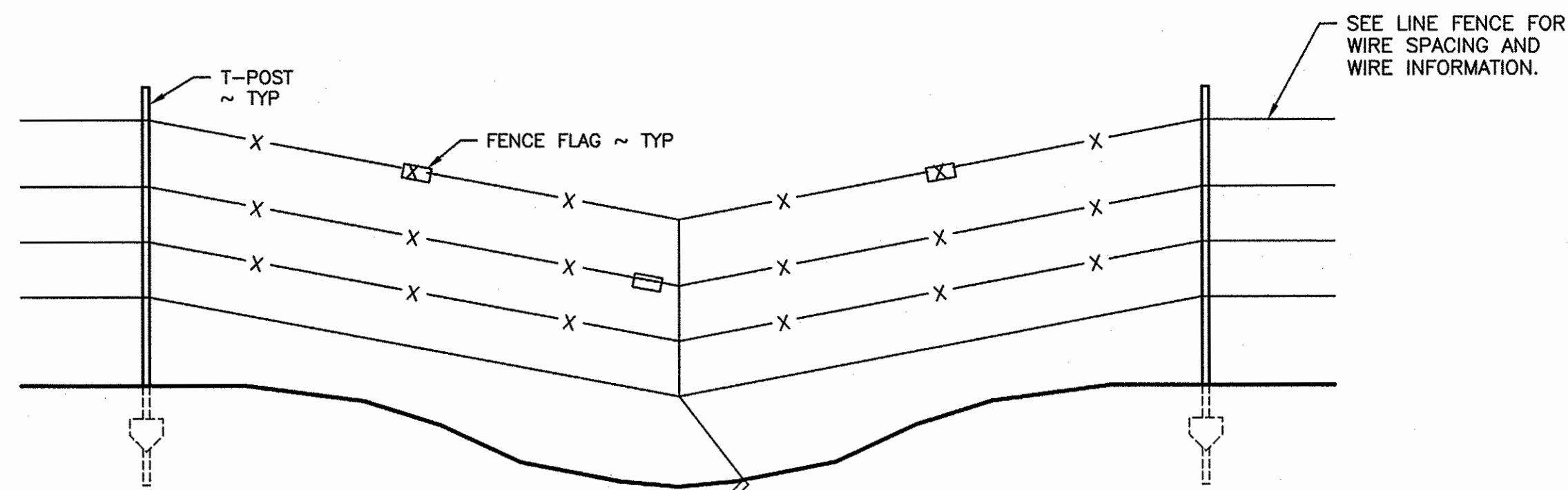
KLICKITAT – WLA SIMCOE MOUNTAINS UNIT		PROJECT NO. KT:R204:2021-1	
BOUNDARY FENCE			
FENCE SITE PLAN		SHEET 5	OF 8



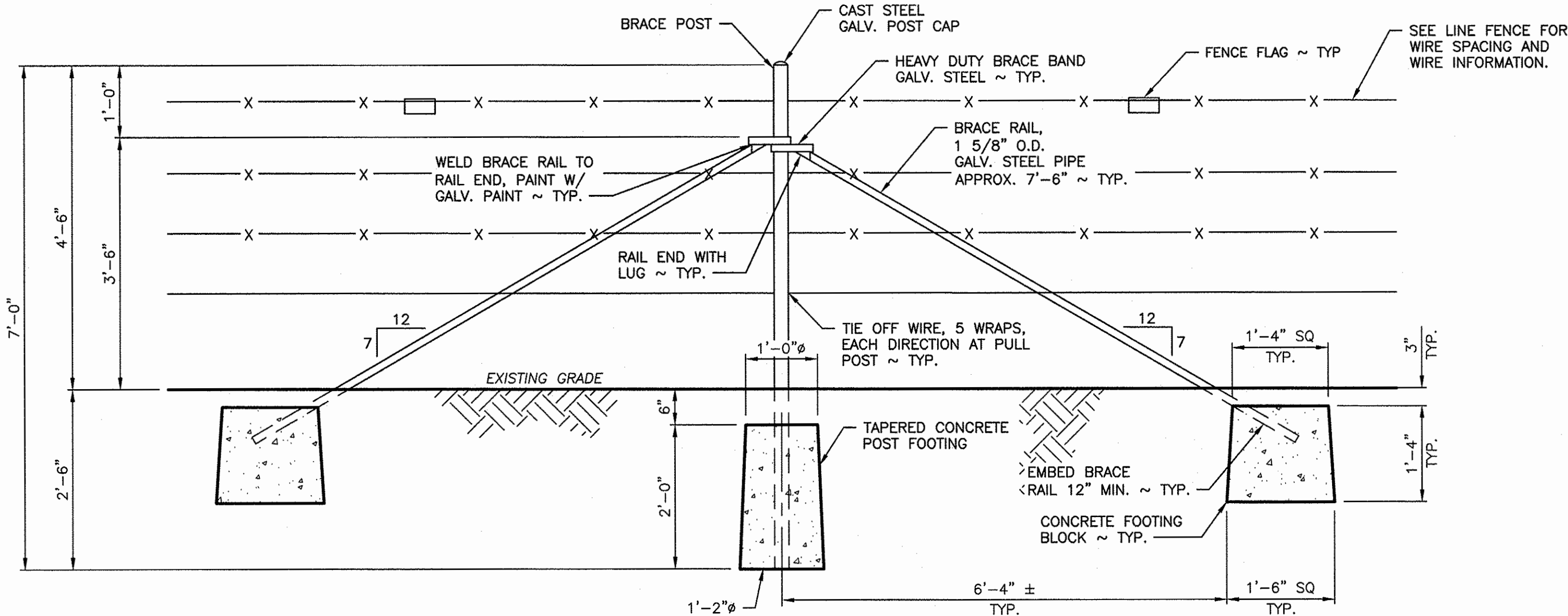
LINE FENCE
SCALE: 3/4" = 1'-0"



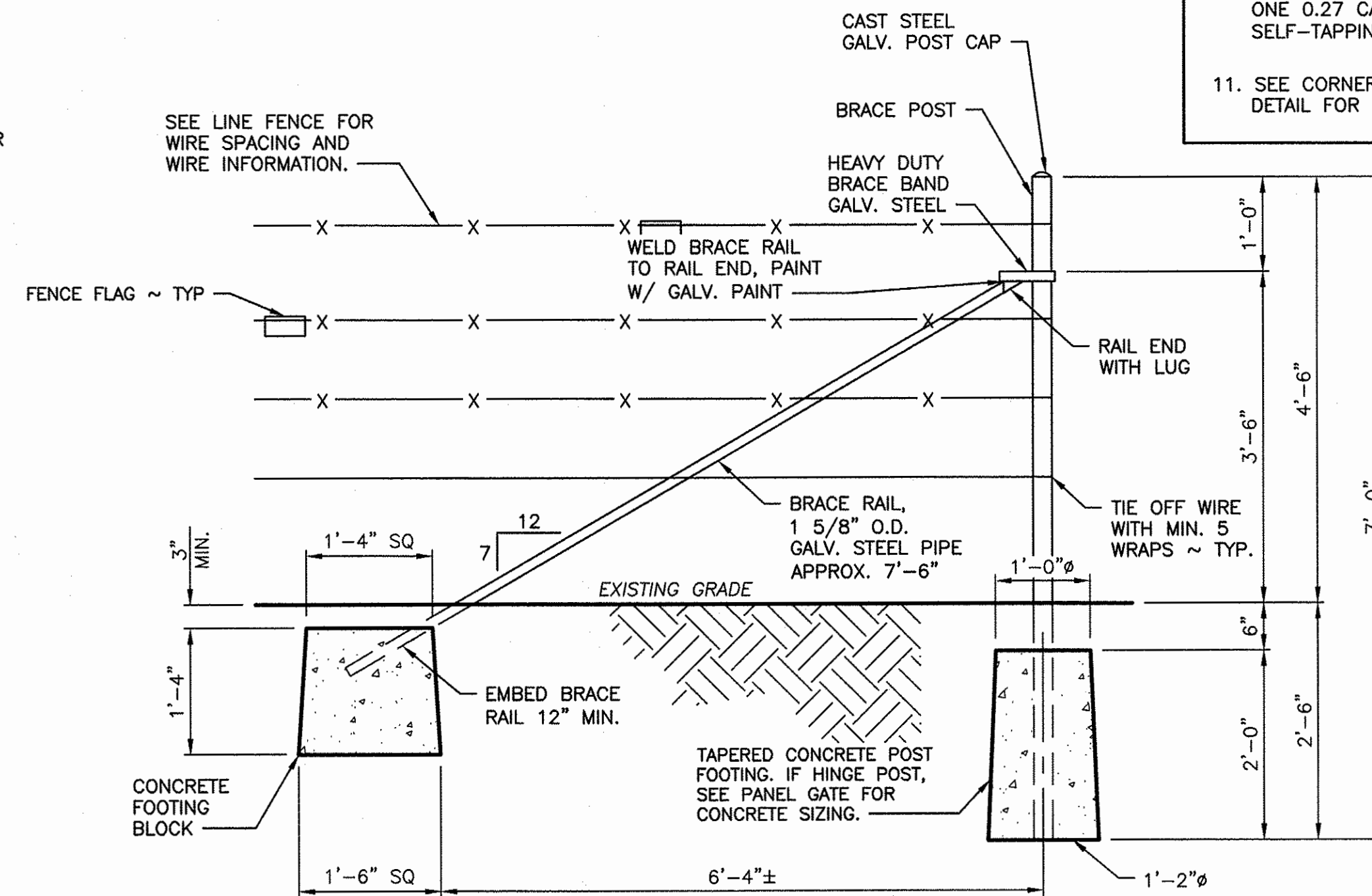
CORNER BRACE
NOT TO SCALE



HOLD DOWN
NOT TO SCALE



CORNER OR STRETCH BRACE
SCALE: 3/4" = 1'-0"



END OR GATE BRACE
SCALE: 3/4" = 1'-0"

GENERAL NOTES:

- A. SMOOTH TWIST WIRE SHALL BE 12 1/2 GAUGE, BARBLESS, WITH CLASS 3 GALVANIZING.
- B. BARBED WIRE SHALL BE 12 1/2 GAUGE WITH 4 POINT BARBS SPACED AT 5 INCHES WITH CLASS 3 GALVANIZING.
- C. ALL VERTICAL STEEL BRACE AND HINGE POSTS SHALL HAVE A GALVANIZED METAL POST CAP.
- D. IF DEPTH CANNOT BE REACHED DUE TO GROUND CONDITION USE ALTERNATE METHOD APPROVED BY ENGINEER.

LINE FENCE:

- 1. ALL T-POSTS SHALL NOT EXCEED 12 FEET OF SPACING.
- 2. STEEL T-POSTS SHALL BE HEAVY DUTY WEIGHT (1.33#), CERTIFIED ASTM-A702, GREEN WITH WHITE TOP, AND MINIMUM OF 6 FEET IN LENGTH. ALL POSTS SHALL BE DRIVEN TO A MINIMUM DEPTH OF 18 INCHES.
- 3. WIRE CLAMPS TO ATTACH BARBED WIRE TO STEEL POSTS SHALL BE 11 GA. GALVANIZED WIRE.

HOLD DOWN:

- 4. INSTALL HOLD DOWNS AS NECESSARY TO MAINTAIN WIRE TO GROUND SPACING PER LINE FENCE DETAIL.

CORNER OR STRETCH BRACE:

- 5. BRACE POSTS SHALL BE AT LEAST 7 FEET 3 INCHES LONG X 2 3/8 INCHES IN DIAMETER, POSTS SHALL BE BURIED A MINIMUM DEPTH OF 33 INCHES.
- 6. HEAVY DUTY BRACE BAND SHALL BE FIXED IN PLACE WITH ONE 0.27 CALIBER POWER ACTUATED NAIL OR 1/4 INCH SELF-TAPPING SCREW.
- 7. THE DISTANCE BETWEEN STRETCH BRACES SHALL NOT EXCEED 1,320 FEET (1/4 MILE).
- 8. INSTALL STRETCH BRACES AT CHANGES OF GRADE OF 10 DEGREES (1.75 FEET OF RISE OR DROP ON 10 FEET OF RUN) OR MORE.
- 9. CHANGES IN ALIGNMENT OF 10 DEGREES OR MORE (1.75 FEET OF DIRECTION CHANGE IN 10 FEET OF RUN) SHALL BE CONSIDERED AS CORNERS, AND A CORNER BRACE STRUCTURE SHALL BE INSTALLED.

END OR GATE BRACE:

- 10. POSITION OF WIRE ON END POST SHALL BE FIXED IN PLACE WITH ONE 0.27 CALIBER POWER ACTUATED NAIL OR 1/4 INCH SELF-TAPPING SCREW.
- 11. SEE CORNER OR STRETCH BRACE NOTES AND PANEL GATE DETAIL FOR MORE INFORMATION.

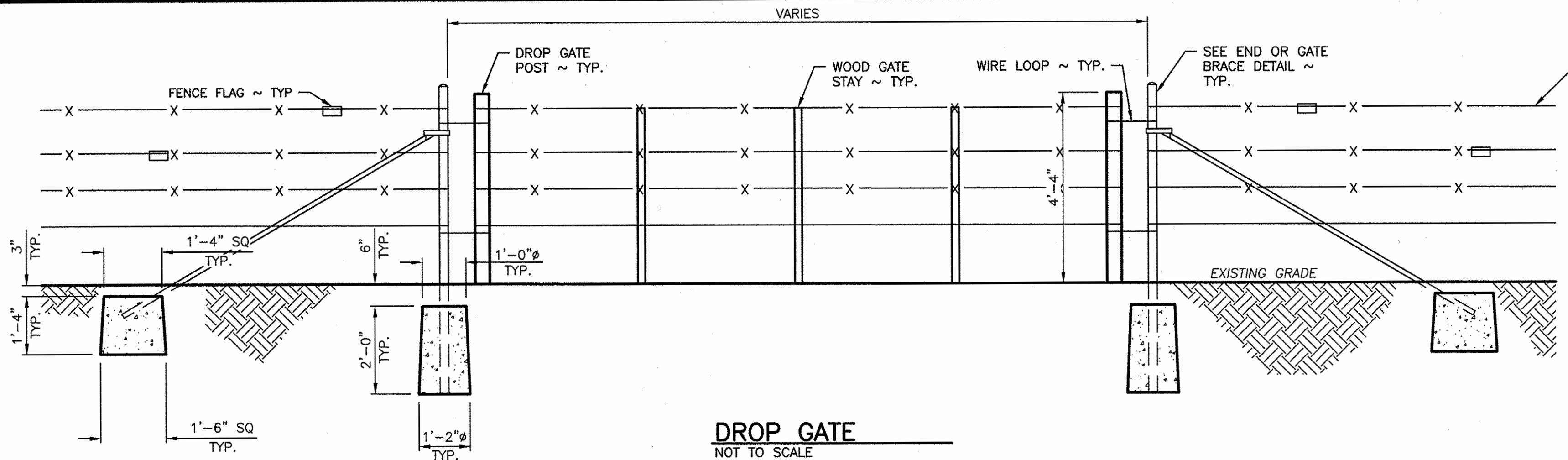
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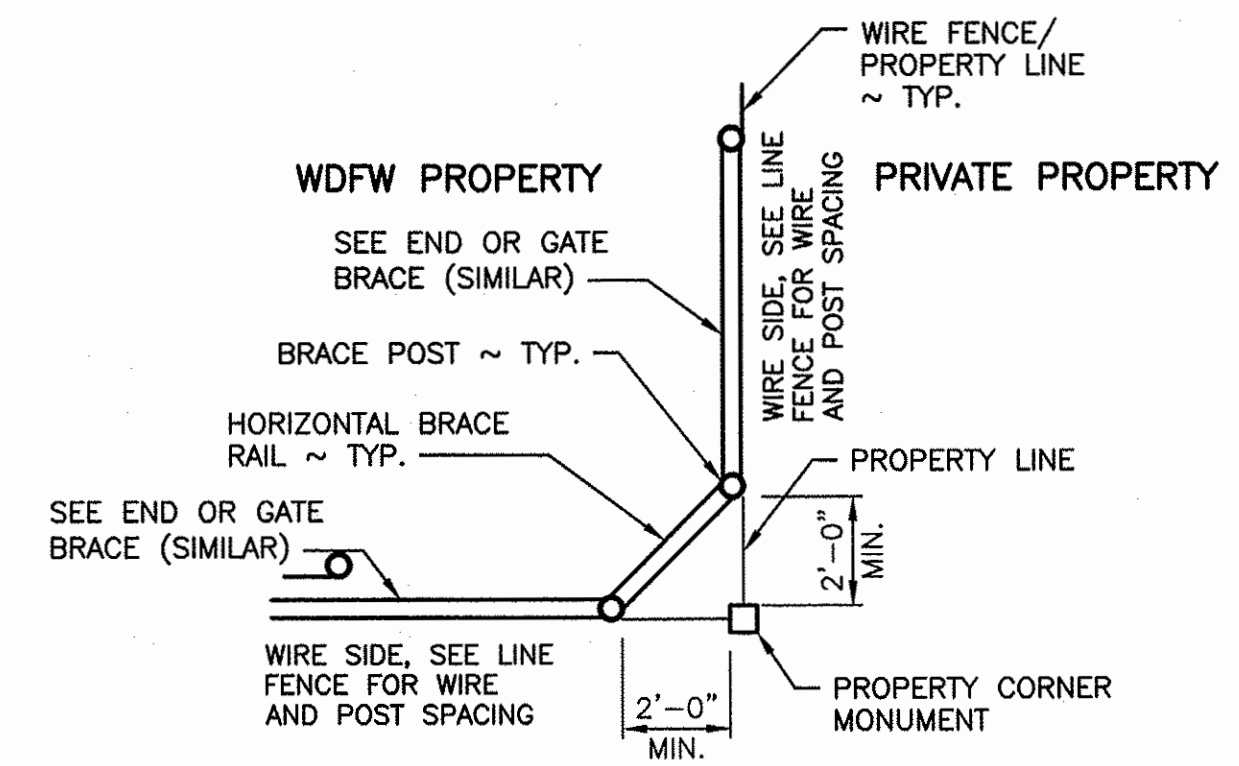
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CHIEF ENGINEER		<i>Glenn P. Ashler</i>	DATE: 3/14/22
PROGRAM			DATE: 4/15/2022

KLICKITAT - WLA SIMCOE MOUNTAINS UNIT
BOUNDARY FENCE
LINE FENCE, HOLD DOWN,
& BRACE DETAILS

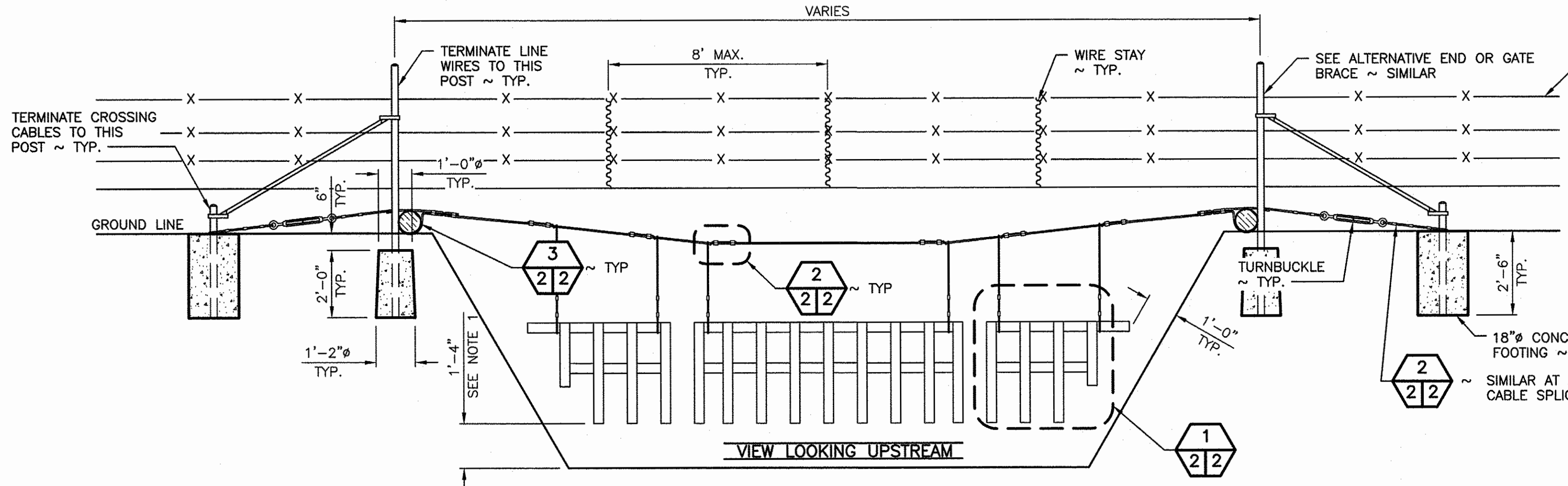
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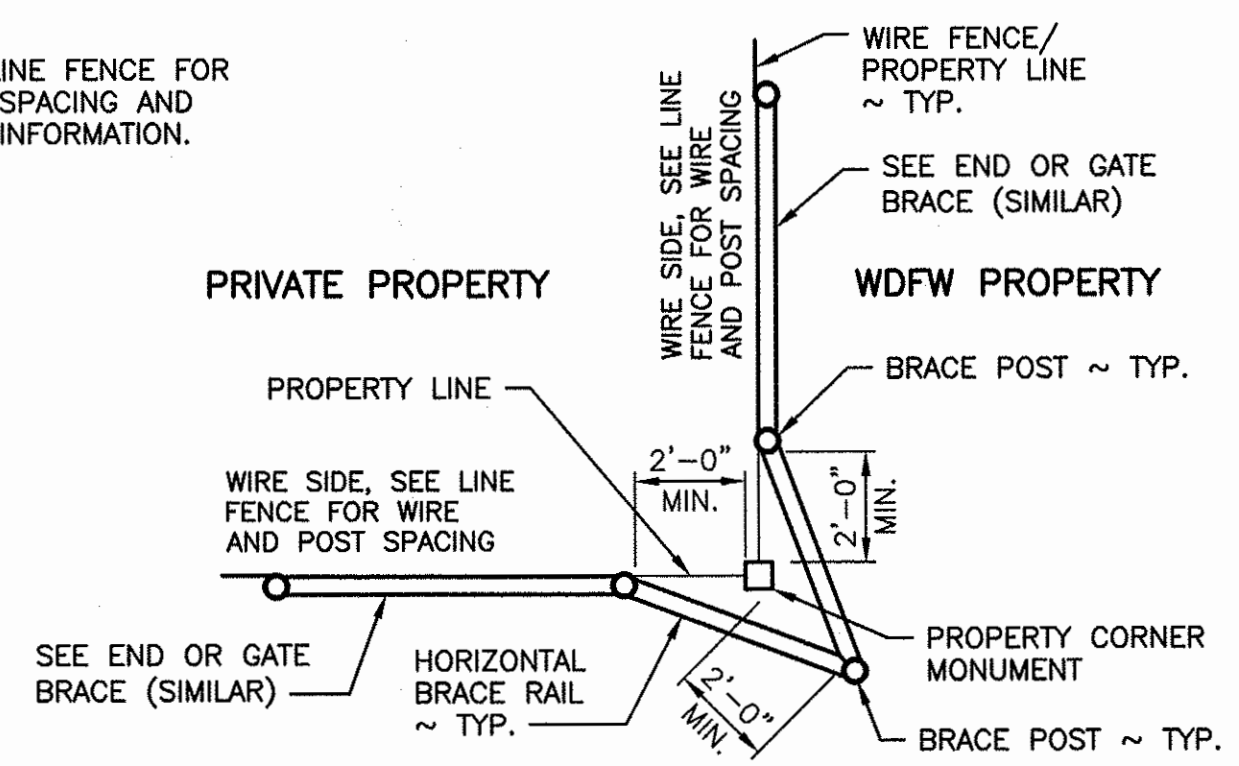
DROP GATE
NOT TO SCALE



CORNER OUTSIDE



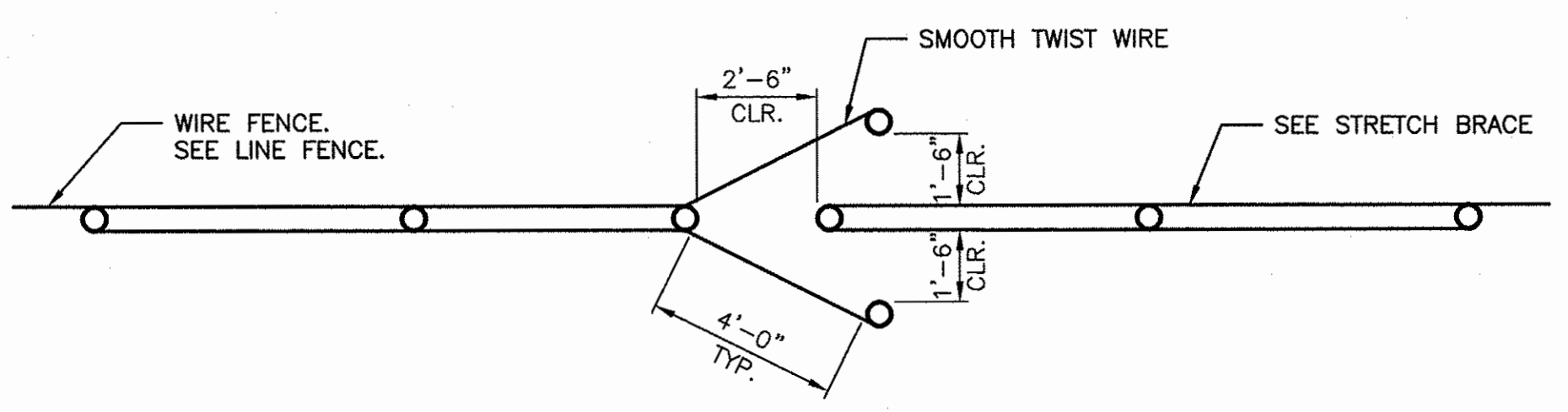
STREAM CROSSING
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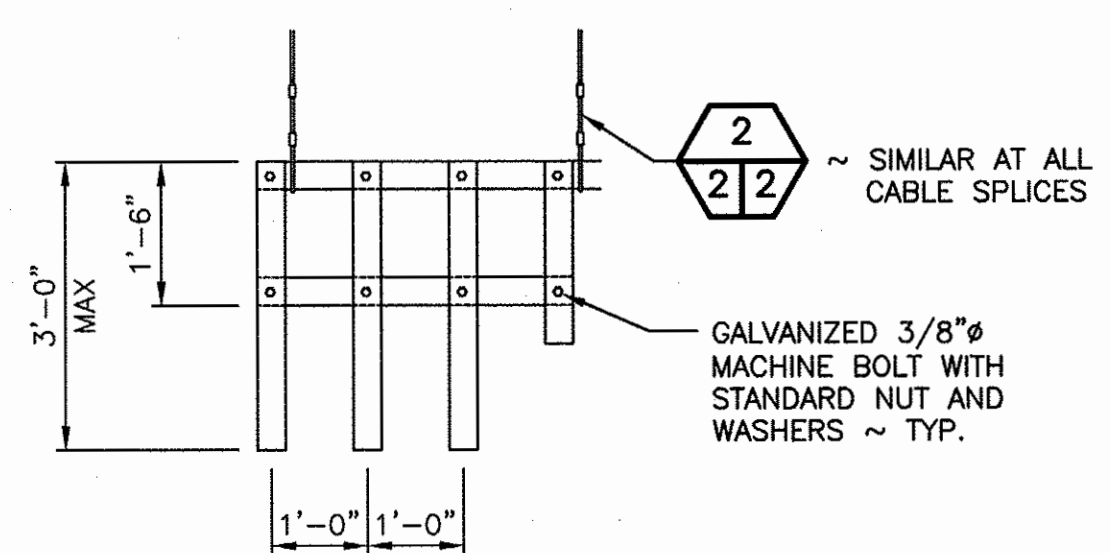
CORNER INSIDE

PROPERTY CORNER
NOT TO SCALE

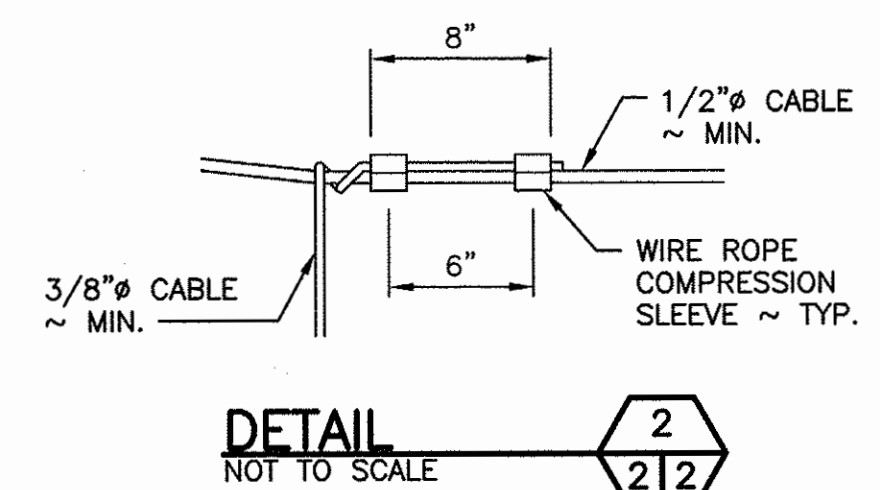
- NOTES:**
- DRAINAGE/STREAM CROSSING:**
- 1 X 4 PICKETS SHALL BE UNTREATED LUMBER AND CONSTRUCTED AS SHOWN IN THE DRAWINGS. PICKETS SHALL BE INSTALLED 1 FOOT 4 INCHES ABOVE GRADE OR 1 FOOT ABOVE ORDINARY HIGH WATER.
 - ALL CABLES SHALL BE FIBER CORE GALVANIZED CABLE OR APPROVED EQUAL.
 - CROSSING CABLE SHALL BE PLACED ON THE UPSTREAM SIDE OF POSTS.
 - CABLE COMPRESSION SLEEVE SHALL BE FOR GALVANIZED CABLE OR APPROVED EQUAL.
 - TURNBUCKLES SHALL BE 7200 LB RATED WITH 1 FOOT ADJUSTMENT.
 - SCREW-PIN LIFTING SHACKLES SHALL HAVE A 600 POUND CAPACITY FOR CROSSING SPANS UP TO 10 FEET IN LENGTH. FOR CROSSING SPANS GREATER THEN 10 FEET IN LENGTH, THE LIFTING SHACKLES SHALL HAVE A 1,100 POUND CAPACITY.
- DROP GATE:**
- GATE SHALL HAVE THREE VERTICAL WOOD 48 X 2 X 2 PRESSURE TREATED STAYS AT 1/4 POINTS ALONG GATE. THE DROP POSTS LOCATED AT EACH END SHALL BE 3 TO 4 INCHES IN DIAMETER WOOD POSTS CUT TO A LENGTH OF 4 FEET 4 INCHES. LOOP HINGES AND LOOP CLOSURES CONSTRUCTED OF BRACE WIRE AND LOOPED AROUND END BRACE POSTS TO FACILITATE CLOSURE OF THE GATE.
 - SPACING OF THE LONGITUDINAL WIRES SHALL BE THE SAME AS THE LINE FENCE.
- PANEL GATE:**
- HINGE POSTS SHALL BE AT LEAST 7 FEET 3 INCHES LONG X 4 INCHES DIAMETER AND BURIED TO A MINIMUM DEPTH OF 33 INCHES.
 - PANEL GATE MANUFACTURER, TYPE, AND SIZE AS SPECIFIED IN SPECIFICATION. INSTALLED PER MANUFACTURES SPECIFICATION.
- PROPERTY CORNER:**
- PROPERTY CORNER STRUCTURE CONSTRUCTION METHODS SIMILAR TO CORNER OR STRETCH BRACE.
 - DURING INSTALLATION OF POSTS, INSURE THAT THE PROPERTY CORNER MONUMENT IS NOT DAMAGED, MOVED, OR DISTURBED IN ANY WAY.



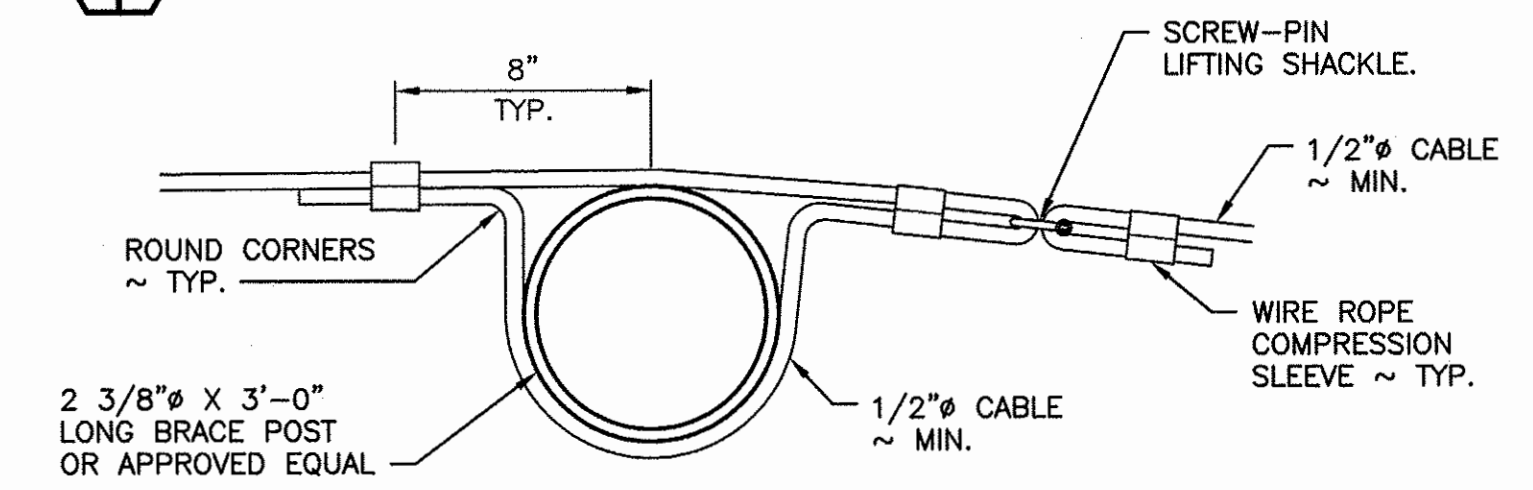
WALK THROUGH GATE
NOT TO SCALE



DETAIL 1
NOT TO SCALE

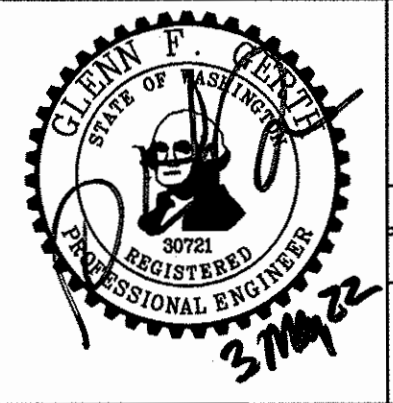


DETAIL 2
NOT TO SCALE



DETAIL 3
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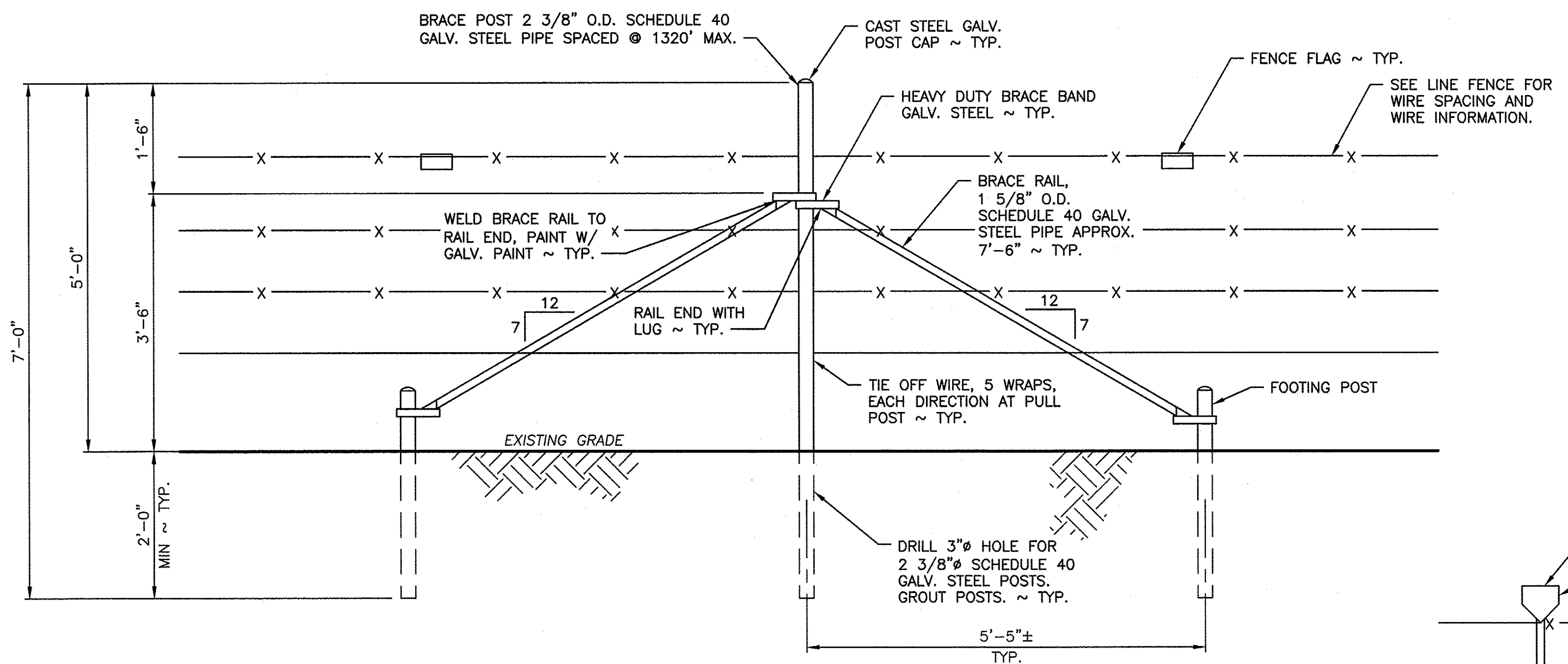
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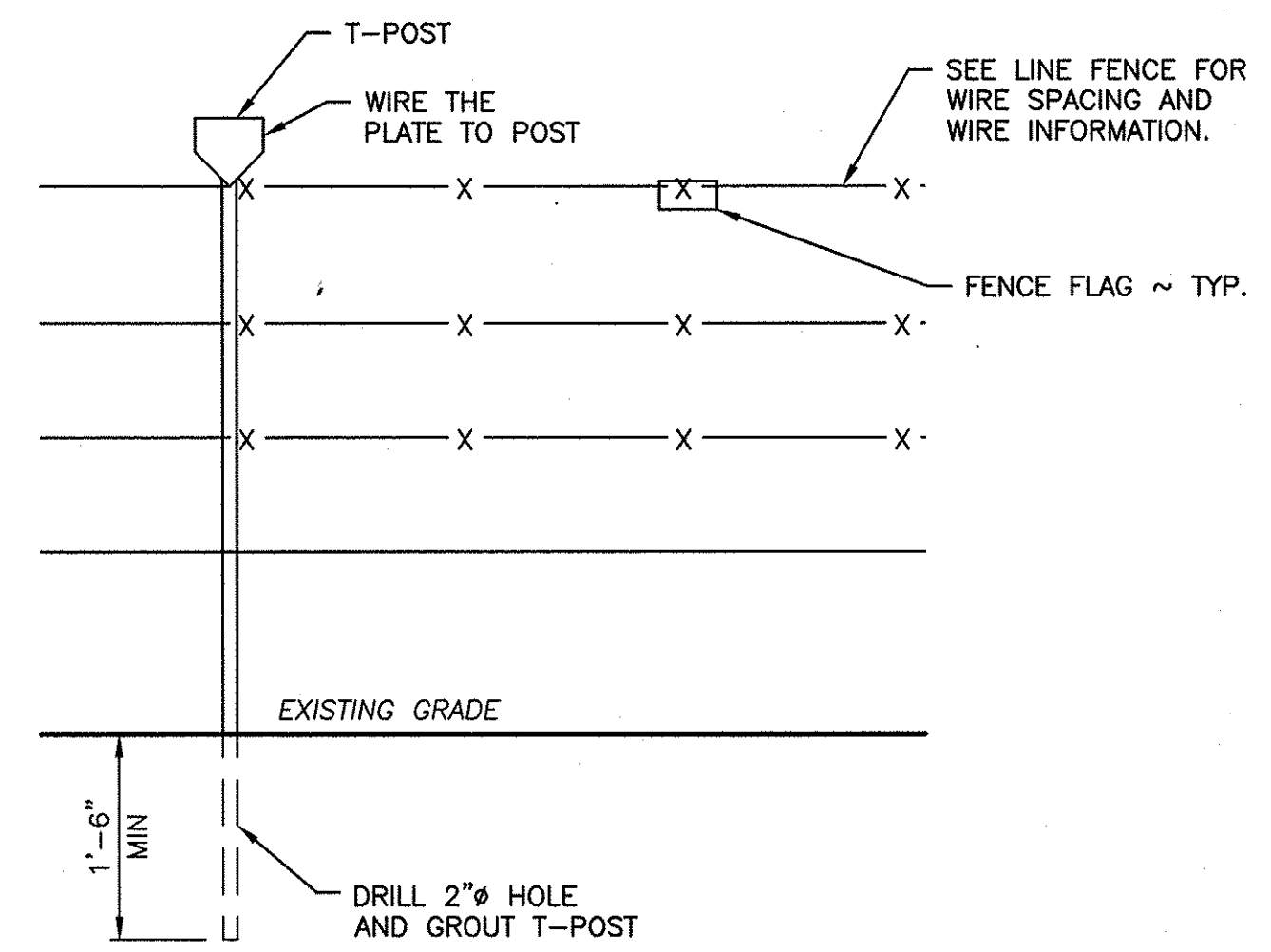
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KLICKITAT - WLA SIMCOE MOUNTAINS UNIT
BOUNDARY FENCE
PROPERTY CORNER, GATE &
STREAM CROSSING DETAILS

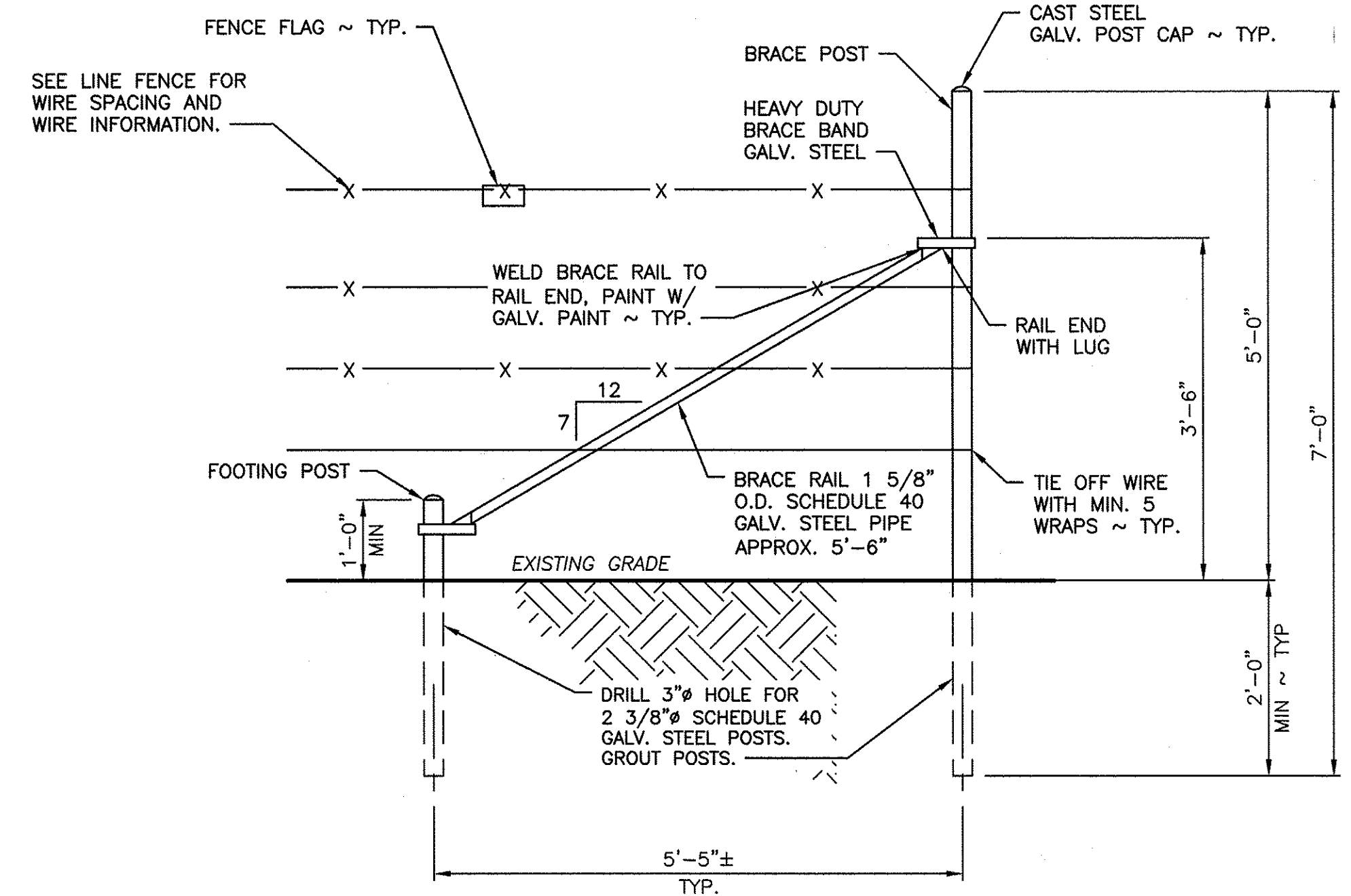
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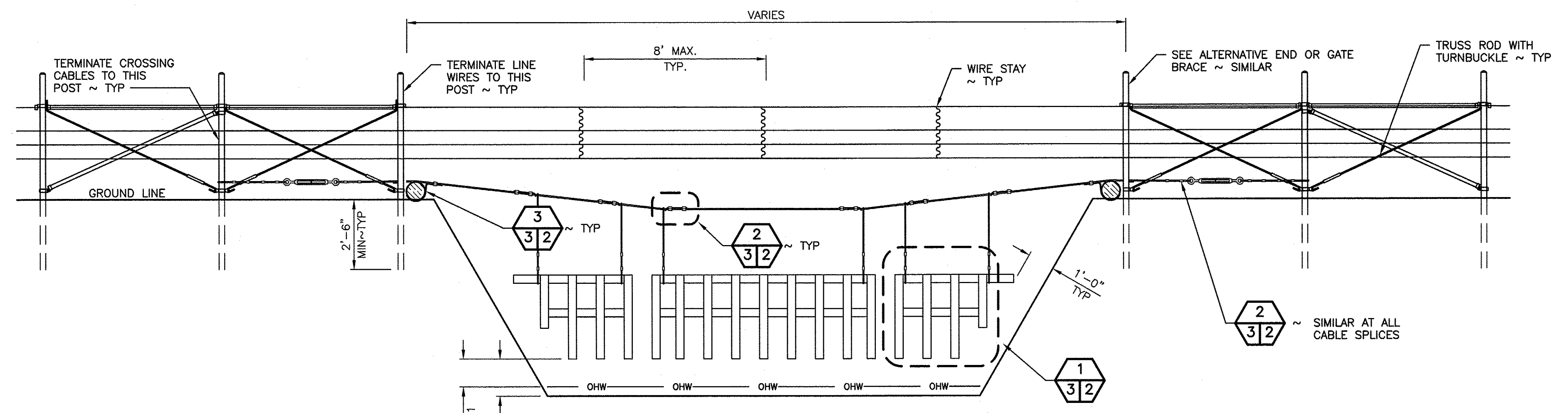
ALTERNATE CORNER OR STRETCH BRACE
SCALE: 3/4" = 1'-0"



ALTERNATE T-POST INSTALLATION
SCALE: 3/4" = 1'-0"



ALTERNATE END OR GATE BRACE
SCALE: 3/4" = 1'-0"



ALTERNATE STREAM CROSSING
NOT TO SCALE

NOTES FOR ALTERNATE METHODS:

DRAINAGE/STREAM CROSSING:

1. 1 X 4 PICKETS SHALL BE UNTREATED LUMBER AND CONSTRUCTED AS SHOWN IN THE DRAWINGS. PICKETS SHALL BE INSTALLED 1 FOOT 4 INCHES ABOVE GRADE OR 1 FOOT ABOVE ORDINARY HIGH WATER.
2. ALL CABLES SHALL BE FIBER CORE GALVANIZED CABLE OR APPROVED EQUAL.
3. CROSSING CABLE SHALL BE PLACED ON THE UPSTREAM SIDE OF POSTS.
4. CABLE COMPRESSION SLEEVE SHALL BE FOR GALVANIZED CABLE OR APPROVED EQUAL.
5. TURNBUCKLES SHALL BE 7200 LB RATED WITH 1 FOOT ADJUSTMENT.
6. SCREW-PIN LIFTING SHACKLES SHALL HAVE A 600 POUND CAPACITY FOR CROSSING SPANS UP TO 10 FEET IN LENGTH. FOR CROSSING SPANS GREATER THEN 10 FEET IN LENGTH, THE LIFTING SHACKLES SHALL HAVE A 1,100 POUND CAPACITY.

NOTES FOR ALTERNATE METHODS:

A. ALTERNATE METHODS MAY BE USED WITH ENGINEERS APPROVAL.

- B. IF THE POST HOLE CANNOT BE DUG CONVENTIONALLY DUE TO BEDROCK, A 3 INCHES DIAMETER HOLE FOR THE BRACE POST SHALL BE DRILLED TO A DEPTH OF AT LEAST 24 INCHES INTO THE ROCK AND THE POST BE GROUTED WITH A THIN FLOWABLE GROUT (OR LARGER TO ACCOMMODATE HINGE POST). AN IDENTICAL HOLE FOR A FOOTING POST TO RECEIVE THE LOWER END OF THE BRACE RAIL SHALL ALSO BE DRILLED, AND 2 3/8 INCHES DIAMETER POST GROUTED IN. ALL VERTICAL METAL POSTS (BRACE AND FOOTING) SHALL HAVE A GALVANIZED METAL POST CAP.

ALTERNATE T-POST INSTALLATION:

1. IF THE LINE POST DESIGN DEPTH CANNOT BE OBTAINED BY CONVENTIONAL DRIVING DUE TO EXISTING SOIL/ROCK CONDITIONS, THE POST HOLE SHALL BE DRILLED AND GROUTED WITH A THIN FLOWABLE GROUT.

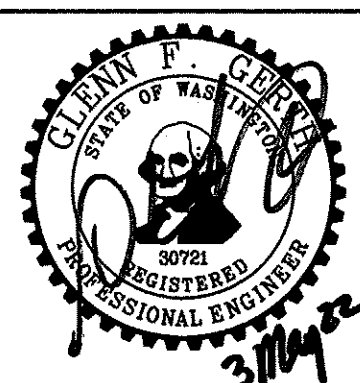
ALTERNATE CORNER OR STRETCH BRACE:

2. BRACE POSTS SHALL BE AT LEAST 7 FEET 3 INCHES LONG X 2 3/8 INCHES IN DIAMETER, POSTS SHALL BE BURIED A MINIMUM DEPTH OF 33 INCHES.
3. HEAVY DUTY BRACE BAND SHALL BE FIXED IN PLACE WITH ONE 0.27 CALIBER POWER ACTUATED NAIL OR 1/4 INCH SELF-TAPPING SCREW.
4. THE DISTANCE BETWEEN STRETCH BRACES SHALL NOT EXCEED 1,320 FEET (1/4 MILE).
5. INSTALL STRETCH BRACES AT CHANGES OF GRADE OF 10 DEGREES (1.75 FEET OF RISE OR DROP ON 10 FEET OF RUN) OR MORE.
6. CHANGES IN ALIGNMENT OF 10 DEGREES OR MORE (1.75 FEET OF DIRECTION CHANGE IN 10 FEET OF RUN) SHALL BE CONSIDERED AS CORNERS, AND A CORNER BRACE STRUCTURE SHALL BE INSTALLED.

ALTERNATE END OR GATE BRACE:

7. POSITION OF WIRE ON END POST SHALL BE FIXED IN PLACE WITH ONE 0.27 CALIBER POWER ACTUATED NAIL OR 1/4 INCH SELF-TAPPING SCREW.
8. SEE ALTERNATIVE CORNER OR STRETCH BRACE NOTES AND PANEL GATE DETAIL FOR MORE INFORMATION.
9. GATE HINGE POST SHALL BE 4 INCH DIAMETER SCHEDULE 40 GALVANIZED STEEL PIPE.

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		APPROVED AND RELEASED FOR CONSTRUCTION	
		CHIEF ENGINEER	
		PROGRAM	

DESIGNED BY R. MOSBERGER
CHECKED BY ---
DRAWN BY S. ASHLER
DATE 4/15/2022

KLICKITAT - WLA SIMCOE MOUNTAINS UNIT
BOUNDARY FENCE
ALTERNATE FENCE DETAILS

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