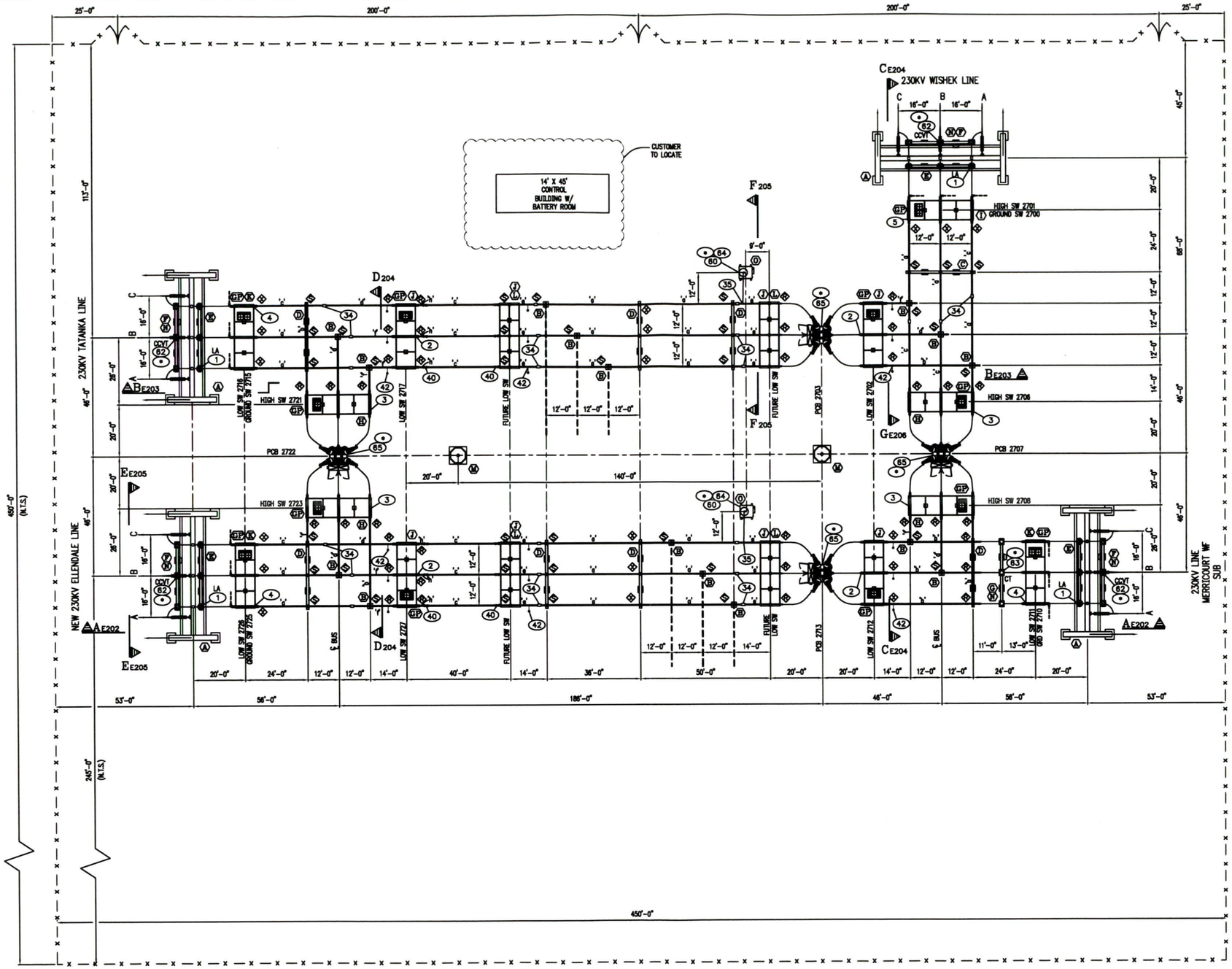
Attachment B
MDU Merricourt Substation
As-Built Drawings



TUBE CUTTING SCHEDULE

4" IPS. AL.

(19)	'a'	40'-0"
(7)	'b'	40'-0"
(8)	'c'	40'-0"
(6)	'd'	35'-0"
(3)	'e'	30'-0"
(6)	'f'	30'-0"

3" IPS. AL.

(6)	'm'	35'-0"

LEGEND:

- ⊕ – MATERIAL FURNISHED BY OTHERS
- ○ – REFER TO MATERIAL LIST(ML-4479)
- ⬡ – STRUCTURE DESIGNATION
- ◈ – RIGID BUS FITTING
- ◈ – SLIP BUS FITTING
- ◈ – EXPANSION BUS FITTING
- ⊕ – OPERATING MECHANISM
- □ – TERMINAL BOLT BAG DESIGNATION
- - - - FUTURE

NOTES:

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2. DRILL 1/4"ø WEEP HOLES IN ALL HORIZONTAL BUS RUNS AT MAX. POINT OF DEFLECTION.
3. STRUCTURE HEIGHTS MEASURED FROM BOTTOM OF BASE PLATES.
4. CONTRACTOR TO INSTALL 795 MCM ACSR INSIDE HORIZ. RUNS OF 4" ALUM. TUBE FOR DAMPENING.

4479E201

ISSUE E-9/1/11

VOLTAGE		SUSPENSION INSULATORS		MINIMUM METAL-TO-METAL DISTANCE FOR PHASE-TO-PHASE RIGID PARTS (ANSI C37.32 2002)	CLEARANCE TO GROUND FOR RIGID PARTS (ANSI C37.32 2002)		MINIMUM CLEARANCE BETWEEN OVERHEAD CONDUCTOR AND GROUND FOR PERSONAL SAFETY (NESC C-2 2007)
KV	BIL	ANSI CLASS	QTY PER STRING		RECOMMENDED	MINIMUM	
230	900			7'-5"	6'-4"	5'-11"	13'-9"

REV.	REVISION DESCRIPTION	MADE BY	CH'D BY	APP'D BY	DATE
5					
4					
3					
2	ISSUED FOR CONSTRUCTION	BKB			9/1/11
1	REVISED PER CUSTOMER COMMENTS	PJ	HBY	TH	03/16/11

☐ –PRELIMINARY
☐ –APPROVAL
■ –CONSTRUCTION
☐ –AS BUILT

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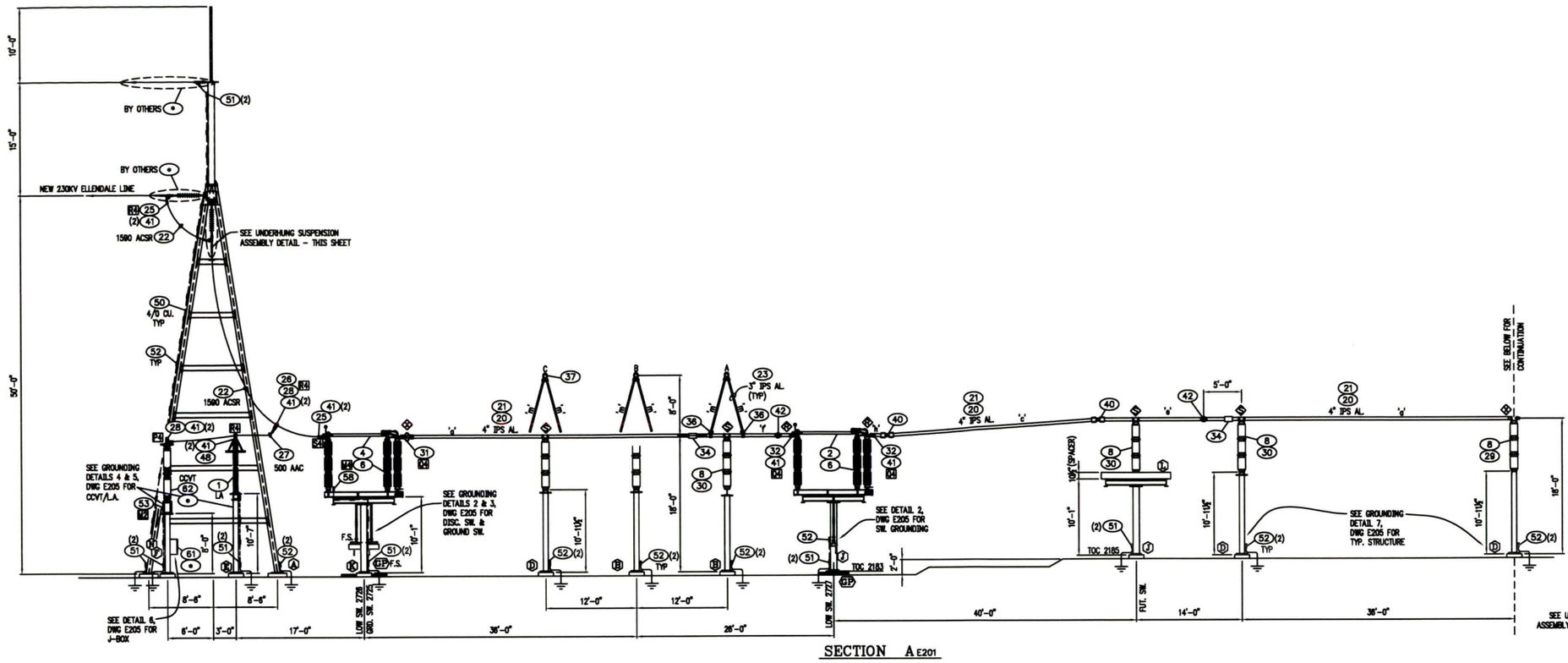
DIS-TRAN Packaged Substations, LLC
4725 HWY. 28 E.
Pineville, LA 71360
Tel: (318) 448-0274
Fax: (318) 445-7240

230KV MERRICOURT INTERCONNECT SUBSTATION
MONTANA-DAKOTA UTILITIES COMPANY
ELLENDALE, ND

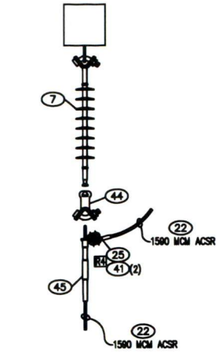
230KV PLAN VIEW

SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REV. NO.
1" = 20'-0"	02/13/11	4479	E201	2

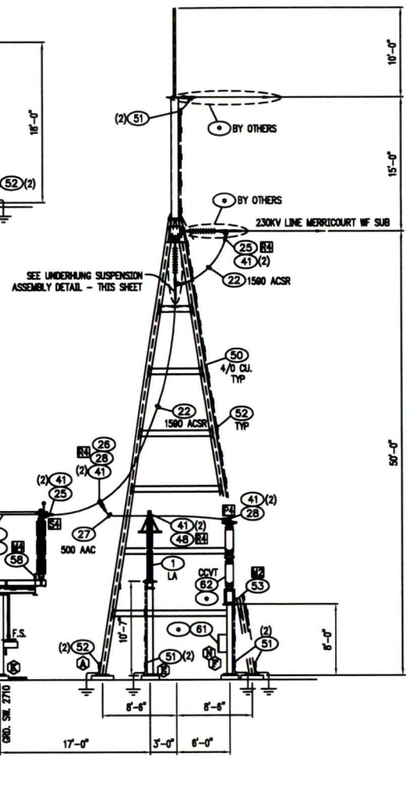
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BKB	JDH	TH

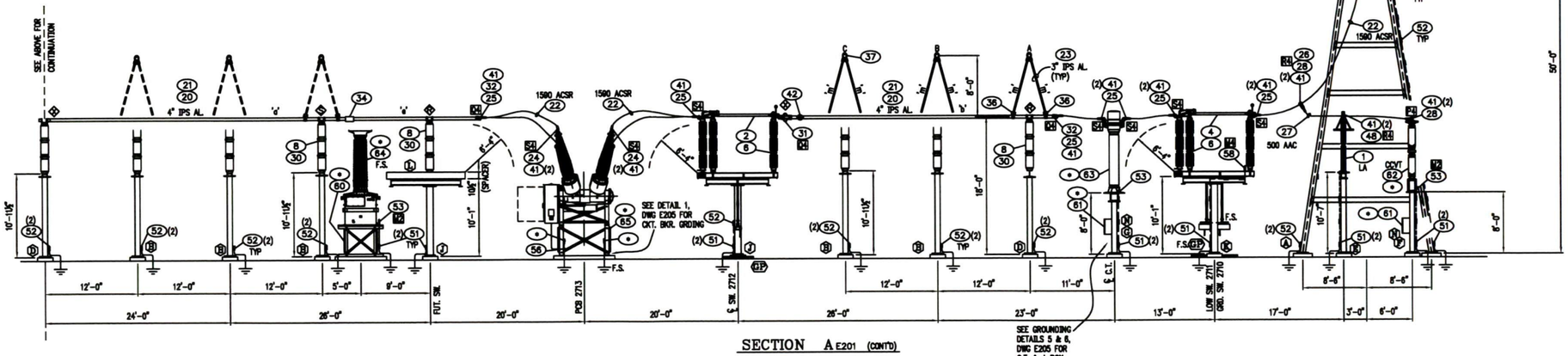


SECTION A E201



230KV UNDERHUNG SUSPENSION ASSY. DETAIL





SECTION A E201 (CONT'D)

TERMINAL BOLT SCHEDULE				
BAG	BOLT SIZE	# OF BOLTS	HARDWARE/BOLT	# OF BAGS
M2	1/2"ø x 1 1/4"	2 PER BAG	2F-2SW-1HHN	29
M4	1/2"ø x 1 1/4"	4 PER BAG	2F-2SW-1HHN	12
P4	1/2"ø x 2 1/2"	4 PER BAG	2F-2SW-1HHN	14
Q4	1/2"ø x 2 3/4"	4 PER BAG	2F-2SW-1HHN	77
R4	1/2"ø x 3"	4 PER BAG	2F-2SW-1HHN	55
S4	1/2"ø x 3 1/4"	4 PER BAG	2F-2SW-1HHN	54

NOTES:

1. F=FLAT WASHER, LW=LOCK WASHER, HN=STAINLESS HEX NUT, BHN=BRONZE HEX NUT, BW=BELLVILLE WASHER.
2. BAGS ARE NOT INTENDED TO BE SEQUENTIALLY LETTERED, BOLT SIZES THAT ARE NOT USED ON THIS PROJECT ARE REMOVED FROM THIS SCHEDULE TO ALLOW ADEQUATE ROOM ON THE DRAWING.

LEGEND:

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- ◯ – REFER TO MATERIAL LIST(ML-4479)
- ⬡ – STRUCTURE DESIGNATION
- ◈ – RIGID BUS FITTING
- ◈ – SLIP BUS FITTING
- ◈ – EXPANSION BUS FITTING
- ⊕ – OPERATING MECHANISM
- □ – TERMINAL BOLT BAG DESIGNATION
- ---- – FUTURE

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3. STRUCTURE HEIGHTS MEASURED FROM BOTTOM OF BASE PLATES.
4. CONTRACTOR TO INSTALL 795 MCM ACSR INSIDE HORIZ. RUNS OF 4" ALUM. TUBE FOR DAMPENING.

ISSUE E-9/1/11

VOLTAGE		SUSPENSION INSULATORS		MINIMUM METAL-TO-METAL DISTANCE FOR PHASE-TO-PHASE RIGID PARTS (ANSI C37.32 2002)	CLEARANCE TO GROUND FOR RIGID PARTS (ANSI C37.32 2002)		MINIMUM CLEARANCE BETWEEN OVERHEAD CONDUCTOR AND GROUND FOR PERSONAL SAFETY (NESC C-2 2007)
KV	BIL	ANSI CLASS	QTY PER STRING		RECOMMENDED	MINIMUM	
230	900			7'-5"	6'-4"	5'-11"	13'-9"

REV.	REVISION DESCRIPTION	MADE BY	CK'D BY	APP'D BY	DATE
5					
4					
3					
2	ADDED BAG BOLTS; ISSUED FOR CONSTRUCTION	BKB			9/1/11
1	REVISED PER CUSTOMER COMMENTS	PJ	HBY	TH	03/16/11

- ☐ – PRELIMINARY
- ☐ – APPROVAL
- ■ – CONSTRUCTION
- ☐ – AS BUILT

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4479E202

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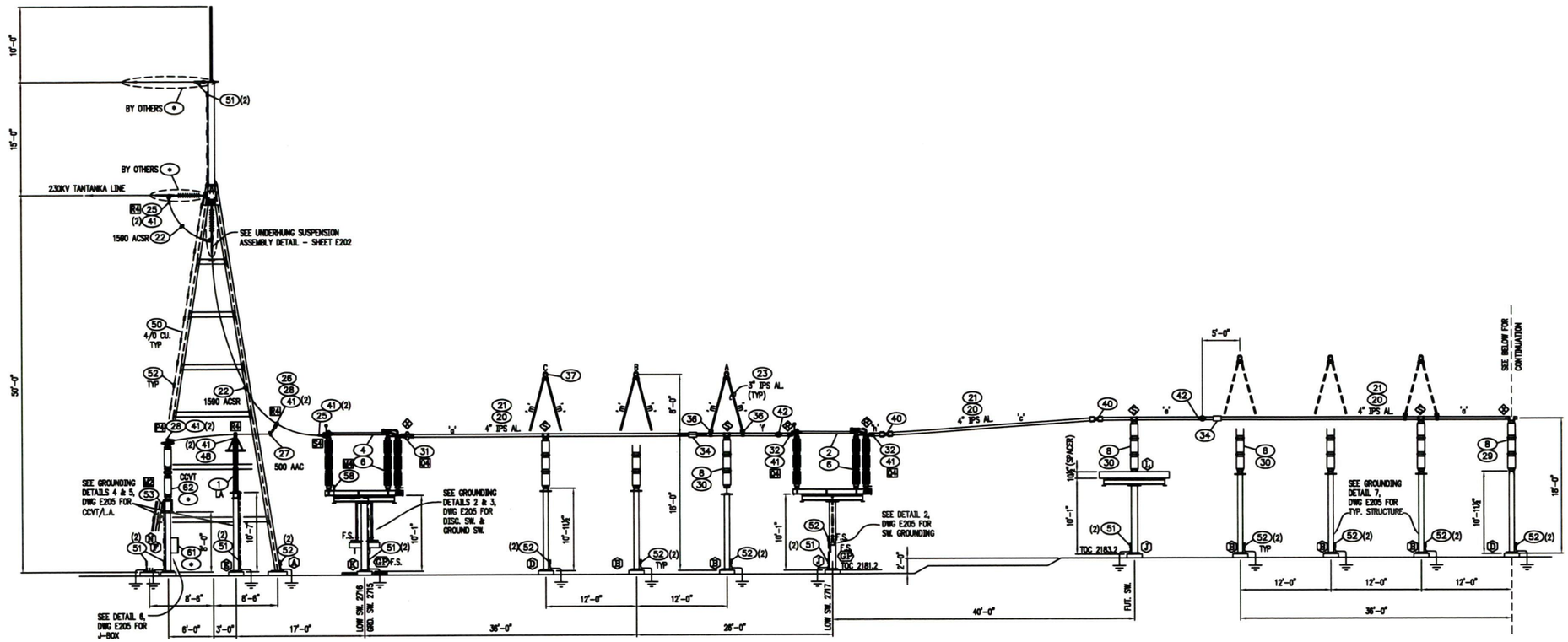
DIS-TRAN Packaged Substations, LLC
4725 HWY. 28 E.
Pineville, LA 71360
Tel: (318) 448-0274
Fax: (318) 445-7240

230KV MERRICOURT INTERCONNECT SUBSTATION
MONTANA-DAKOTA UTILITIES COMPANY
ELLENDALE, ND

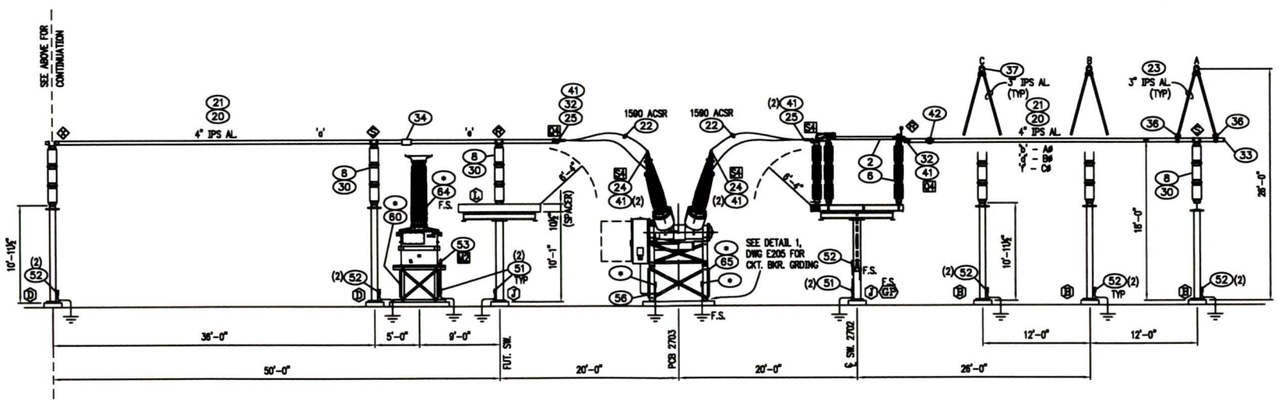
SECTION A

SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REV. NO.
1/8" = 1'-0"	02/13/11	4479	E202	2

DRAWN BY	CHK'D. BY	APP'D. BY
BKB	JDH	TH



SECTION B E201



SECTION B E201 (CONT'D)

TERMINAL BOLT SCHEDULE

BAG	BOLT SIZE	# OF BOLTS	HARDWARE/BOLT	# OF BAGS
M2	½"ø x 1¾"	2 PER BAG	2F-2BW-1BHN	29
M4	½"ø x 1¾"	4 PER BAG	2F-2BW-1BHN	12
P4	½"ø x 2¼"	4 PER BAG	2F-2BW-1BHN	14
Q4	½"ø x 2¾"	4 PER BAG	2F-2BW-1BHN	77
R4	½"ø x 3"	4 PER BAG	2F-2BW-1BHN	55
S4	½"ø x 3¾"	4 PER BAG	2F-2BW-1BHN	54

NOTES:

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- ⬡ - STRUCTURE DESIGNATION
- ◈ - RIGID BUS FITTING
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- ⊕ - OPERATING MECHANISM
- □ - TERMINAL BOLT BAG DESIGNATION
- - - - FUTURE

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4479E203

ISSUE E-9/1/11

VOLTAGE		SUSPENSION INSULATORS		MINIMUM METAL-TO-METAL DISTANCE FOR PHASE-TO-PHASE RIGID PARTS (ANSI C37.32 2002)	CLEARANCE TO GROUND FOR RIGID PARTS (ANSI C37.32 2002)		MINIMUM CLEARANCE BETWEEN OVERHEAD CONDUCTOR AND GROUND FOR PERSONAL SAFETY (NESC C-2 2007)
KV	BIL	ANSI CLASS	QTY PER STRING		RECOMMENDED	MINIMUM	
230	900			7'-5"	6'-4"	5'-11"	13'-9"

REV.	REVISION DESCRIPTION	MADE BY	CK'D BY	APP'D BY	DATE
5					
4					
3					
2	ADDED BAG BOLTS; ISSUED FOR CONSTRUCTION	BKB			9/1/11
1	REVISED PER CUSTOMER COMMENTS	PJ	HBY	TH	03/16/11

☐ -PRELIMINARY
☐ -APPROVAL
■ -CONSTRUCTION
☐ -AS BUILT

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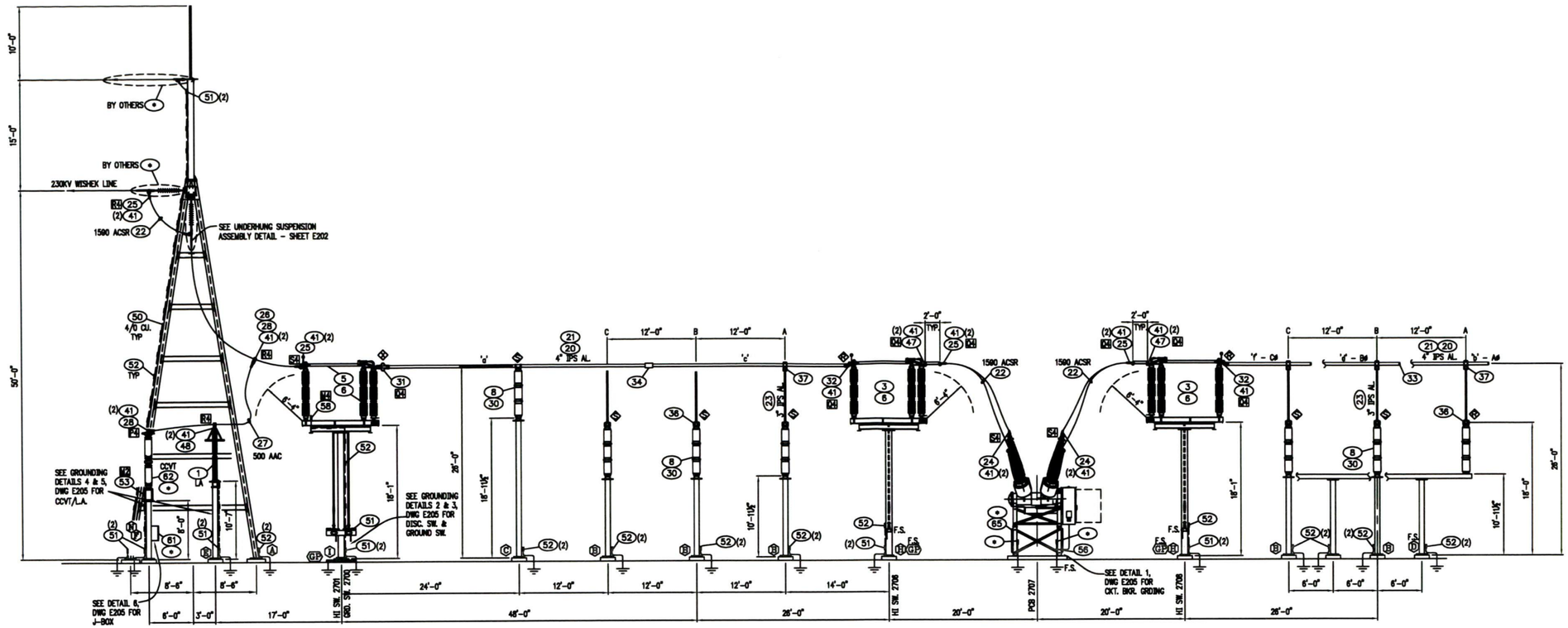
DIS-TRAN Packaged Substations, LLC
4725 HWY. 28 E.
Pineville, LA 71360
Tel: (318) 448-0274
Fax: (318) 445-7240

230KV MERRICOURT INTERCONNECT SUBSTATION
MONTANA-DAKOTA UTILITIES COMPANY
ELLENDALE, ND

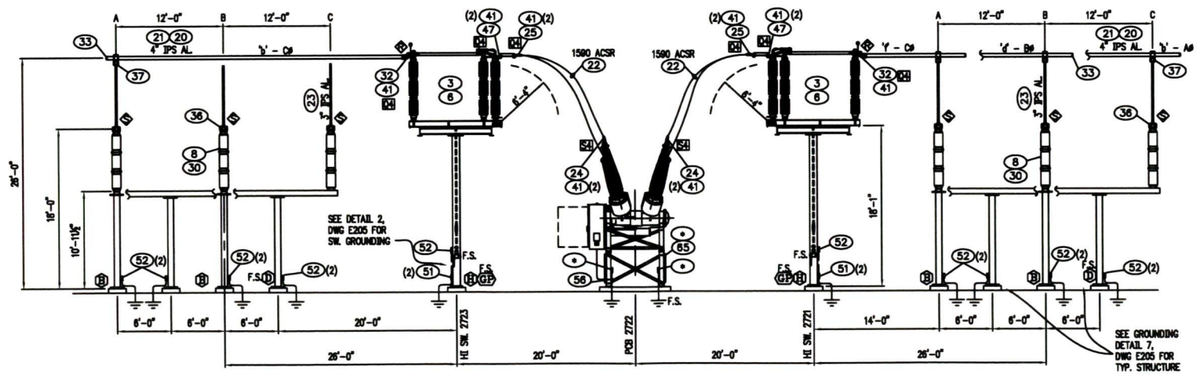
SECTION B

SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REV. NO.
⅛" = 1'-0"	02/13/11	4479	E203	2

DRAWN BY	CK'D. BY	APP'D. BY
BKB	JDH	TH



SECTION C E201



SECTION D E201

TERMINAL BOLT SCHEDULE				
BAG	BOLT SIZE	# OF BOLTS	HARDWARE/BOLT	# OF BAGS
M2	1⅛"ø x 1¾"	2 PER BAG	2F-2SW-1HN	29
M4	1⅛"ø x 1¾"	4 PER BAG	2F-2SW-1HN	12
P4	1⅛"ø x 2½"	4 PER BAG	2F-2SW-1HN	14
Q4	1⅛"ø x 2¾"	4 PER BAG	2F-2SW-1HN	77
R4	1⅛"ø x 3"	4 PER BAG	2F-2SW-1HN	55
S4	1⅛"ø x 3¼"	4 PER BAG	2F-2SW-1HN	54

NOTES:

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- ⬭ - STRUCTURE DESIGNATION
- ◈ - RIGID BUS FITTING
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- ⊕ - OPERATING MECHANISM
- □ - TERMINAL BOLT BAG DESIGNATION
- - - - FUTURE

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4. CONTRACTOR TO INSTALL 795 MCM ACSR INSIDE HORIZ. RUNS OF 4" ALUM. TUBE FOR DAMPENING.

4479E204

ISSUE E-9/1/11

VOLTAGE		SUSPENSION INSULATORS		MINIMUM METAL-TO-METAL DISTANCE FOR PHASE-TO-PHASE RIGID PARTS (ANSI C37.32 2002)	CLEARANCE TO GROUND FOR RIGID PARTS (ANSI C37.32 2002)		MINIMUM CLEARANCE BETWEEN OVERHEAD CONDUCTOR AND GROUND FOR PERSONAL SAFETY (NESC C-2 2007)
KV	BIL	ANSI CLASS	QTY PER STRING		RECOMMENDED	MINIMUM	
230	900			7'-5"	6'-4"	5'-11"	13'-9"

REV.	REVISION DESCRIPTION	MADE BY	CK'D BY	APP'D BY	DATE
6					
5					
4					
3					
2	ADDED BAG BOTS; ISSUED FOR CONSTRUCTION	BKB			9/1/11
1	REVISED PER CUSTOMER COMMENTS	PJ	HBY	TH	03/16/11

☐ -PRELIMINARY
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☐ -AS BUILT

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Tel: (318) 448-0274
Fax: (318) 445-7240

230KV MERRICOURT INTERCONNECT SUBSTATION
MONTANA-DAKOTA UTILITIES COMPANY
ELLENDALE, ND

SECTIONS C & D

SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REV. NO.
¼" = 1'-0"	02/13/11	4479	E204	2

DRAWN BY	CHK'D. BY	APP'D. BY
BKB	JDH	TH

Attachment B
MDU Merricourt Substation
As-Built Grading Plans

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Civil Construction Plans

for

Substation Site, Access Road, Drainage and Erosion Control

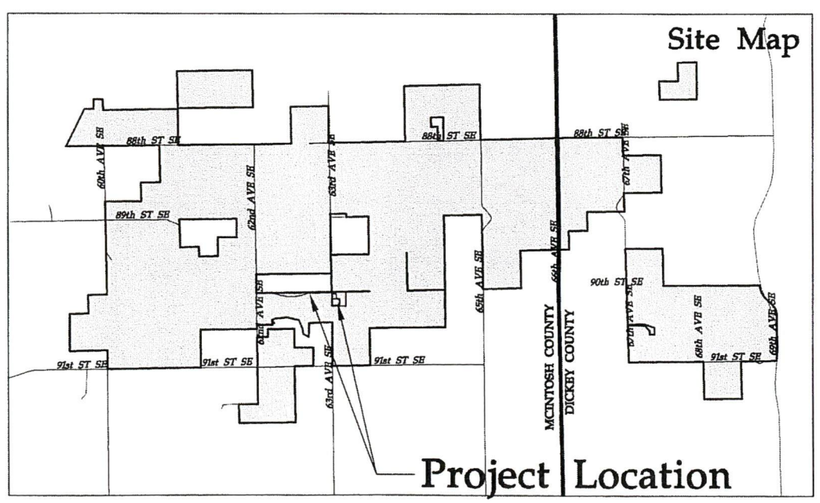
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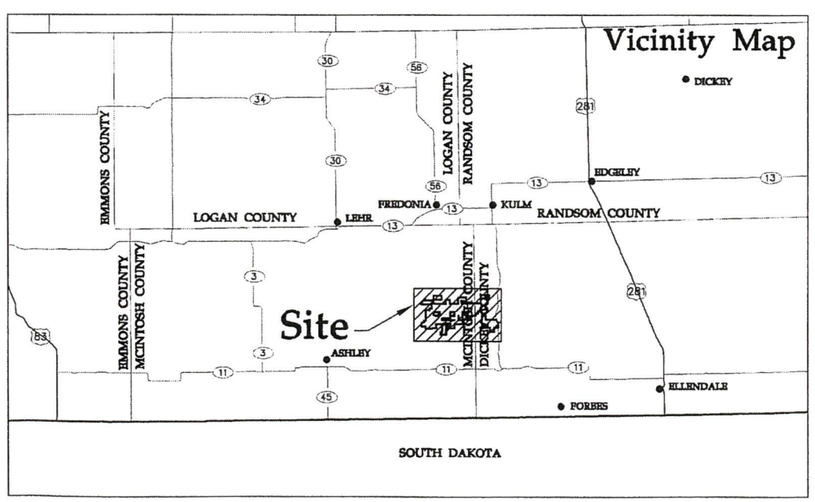
Merricourt Substation

Mcintosh and Dickey County, North Dakota

NO.	DATE	REVISION	SHEETS
1	1/7/11	ACCESS ROAD REALIGNMENT	ALL
2	1/17/11	ACCESS ROAD REALIGNMENT	ALL
3	5/19/11	SUBSTATION MODIFICATION	6-7

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	CONSTRUCTION NOTES
3	CONSTRUCTION DETAILS
4	SUBSTATION ACCESS ROAD PLAN AND PROFILE
5	SUBSTATION ACCESS ROAD PLAN AND PROFILE
6	SUBSTATION ACCESS ROAD PLAN AND PROFILE
7	SUBSTATION GRADING PLAN





Westwood Professional Services, Inc.
7699 Anagram Drive
Eden Prairie, MN 55344

PHONE 952-937-5150
FAX 952-937-5822
TOLL FREE 1-888-937-5150

www.westwoodps.com

Designed: SJB
Checked: CJC
Drawn: SJB
Record Drawing by/date:

Revisions:

#	DATE	DESCRIPTION
1	1/7/11	ACCESS ROAD REALIGNMENT
2	1/17/11	ACCESS ROAD REALIGNMENT
3	5/19/11	SUBSTATION MODIFICATION

Prepared for:

enXco
An EDF EN company

10 Second Street Northeast
Minneapolis, MN 55413

Merricourt Substation
Mcintosh and Dickey County, North Dakota

Cover Sheet

95% Completion
NOT FOR CONSTRUCTION
Turbine Array: V15

Date: 1/17/10
Sheet: 1 OF 7

20101085COVF01.dwg

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PRODUCTS

1. ACCESS ROAD SHALL CONSIST OF 100% CRUSHED NDDOT CLASS 5 AGGREGATE BASE.
2. ROAD SUBGRADE AND SHOULDERS SHALL CONSIST OF COMPACTED NATIVE SOILS.

TABLE 1: CLASS 5 AGGREGATE SPECIFICATION LIMITS

SIEVE SIZE	PERCENT PASSING
1"	100%
3/4"	90–100%
NO. 4	35–70%
NO. 30	16–40%
NO. 200	4–10%
SHALE	12%
L.A. ABRASION	50%
FRACTURED FACES	10%

3. RIPRAP: RIPRAP SHALL CONSIST OF SOUND, DURABLE FIELD STONE OR QUARRY STONE.

TABLE 2: RIPRAP GRADATION

SIZE (INCHES)	PERCENT SMALLER
28*	80–100%
22*	30–80%
16	20–50%
10	0–5%

*THE MAXIMUM SIZE OF STONE PERMITTED FOR RIPRAP INSTALLATION SHALL NOT EXCEED THE SPECIFIED THICKNESS OF THE RIPRAP BLANKET BY MORE THAN 6 INCHES. STONE OF THIS EXCESS SIZE MAY BE PLACED BY PROVIDING IT DOES NOT EXCEED 10 PERCENT OF THE TOTAL STONE AND CAN BE BLENDED SATISFACTORILY INTO THE RIPRAP.

EXECUTION

1. CLEARING AND GRUBBING
   A. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE ALL TREES, STUMPS, BRUSH, AND DEBRIS WITHIN THE GRADING AREAS SHOWN ON THE PLANS. THE CONTRACTOR IS TO REMOVE ONLY THOSE TREES WHICH ARE DESIGNATED BY THE OWNER'S REPRESENTATIVE FOR REMOVAL, AND SHALL EXERCISE EXTREME CARE AROUND EXISTING TREES TO BE SAVED.
2. TOPSOIL STRIPPING
   A. TOPSOIL SHALL BE STRIPPED FROM ALL ROADWAY AREAS THROUGH THE ROOT ZONE. TOPSOIL SHALL NOT BE STRIPPED OUTSIDE OF THE DESIGNATED DISTURBANCE AREAS.
   B. ANY TOPSOIL, THAT HAS BEEN STRIPPED, SHALL BE RE-SPREAD OR STOCKPILED WITHIN GRADING AREAS AND/OR USED AS FILL OUTSIDE OF THE DISTURBANCE AREAS, AS DIRECTED BY THE ENGINEER. ALL TOPSOIL SHALL BE REDISTRIBUTED TO THE LAND OWNER'S PROPERTY OF WHERE IT ORIGINATED FROM.
3. EMBANKMENT CONSTRUCTION.
   A. EMBANKMENT CONSTRUCTION SHALL CONSIST OF THE PLACING OF SUITABLE FILL MATERIAL, AFTER TOPSOIL STRIPPING, ABOVE THE EXISTING GRADE. GENERALLY, EMBANKMENTS SHALL HAVE COMPACTED SUPPORT SLOPES OF ONE FOOT HORIZONTAL TO ONE FOOT VERTICAL. THE MATERIAL FOR EMBANKMENT CONSTRUCTION SHALL BE OBTAINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THIS MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8".
   B. ALL SLOPES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GRADING SHOWN ON THE PLANS.

TESTING REQUIREMENTS:

1. TESTING SHALL BE PERFORMED BY A DESIGNATED INDEPENDENT TESTING AGENCY.
2. SUBMIT TESTING AND INSPECTION RECORDS SPECIFIED TO THE CIVIL ENGINEER OF RECORD FOR REVIEW.
   A. THE ENGINEER WILL REVIEW THE TESTING AND INSPECTION RECORDS TO CHECK CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONSTRUCTION CONTRACTOR FROM THE RESPONSIBILITY FOR CORRECTING DEFECTIVE WORK.
3. PROOF ROLLING:
   A. PROOF-ROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER OR QUALIFIED GEOTECHNICAL REPRESENTATIVE USING A FULLY LOADED TANDEM AXLE DUMP TRUCK WITH A MINIMUM GROSS WEIGHT OF 25 TONS OR A FULLY LOADED WATER TRUCK WITH AN EQUIVALENT AXLE LOADING. PROOF-ROLLING ACCEPTANCE STANDARDS INCLUDE NO RUTTING GREATER THAN 1.5 INCHES, AND NO "PUMPING" OF THE SOIL BEHIND THE LOADED TRUCK.
4. SIEVE ANALYSIS:
   A. SIEVE ANALYSIS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM C136
5. PROCTOR:
   A. PROCTORS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D698
6. ATTERBERG LIMITS:
   A. ATTERBERG LIMITS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D4318
7. MOISTURE DENSITY (NUCLEAR DENSITY):
   A. MOISTURE DENSITY TESTING SHALL BE DONE IN ACCORDANCE WITH ASTM D2922
8. DYNAMIC CONE PENETROMETER (DCP) TESTING;
   A. DCP TESTING SHALL BE DONE IN ACCORDANCE WITH ASTM D6951-03

TABLE 3: TESTING SCHEDULE SUMMARY

LOCATION	TEST	FREQUENCY
STRUCTURAL FILL	GRAIN SIZE ANALYSIS, MOISTURE CONTENT, ATTERBERG LIMITS ON FINES CONTENT, AND PROCTOR	1 PER MAJOR SOIL TYPE
COMPACTED SUBGRADE	PROOF-ROLL	ENTIRE LENGTH
	MOISTURE DENSITY TEST (NUCLEAR DENSITY)	1 PER 1000 FT OR MIN. 3 PER ROAD
AGGREGATE BASE	PROOF-ROLL	ENTIRE LENGTH
	SIEVE ANALYSIS	1 PER 2500 CY
	DCP TEST	1 PER 500 LF OF ROAD

SUBGRADE COMPACTION, TEST ROLLING AND AGGREGATE BASE COMPACTION:

1. FILL MATERIAL:
   A. SOILS USED AS FILL MATERIAL SHALL BE TESTED FOR GRAIN SIZE ANALYSIS, MOISTURE CONTENT, ATTERBERG LIMITS ON FINES CONTENT, AND PROCTOR TESTS (STANDARD DRY MAXIMUM DENSITY).
      a. FOR PLACED & COMPACTED FILLS, PROVIDE ONE COMPACTION TEST PER LIFT FOR EVERY 1000 FT OF ROAD LENGTH. INCLUDE THE LOCATION, DRY DENSITY, MOISTURE CONTENT, AND COMPACTION PERCENT BASED ON STANDARD PROCTOR MAXIMUM DRY DENSITY.
   B. IN ROADWAY CUT AREAS, OR WHERE EMBANKMENT CONSTRUCTION REQUIRES LESS THAN 12 INCHES OF FILL PLACEMENT, COMPACT TO A MINIMUM OF 95 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.
2. COMPACTED SUBGRADE:
   A. THE ENTIRE SUBGRADE SHALL BE PROOF-ROLLED PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE TO IDENTIFY AREAS OF UNSTABLE SUBGRADE.
   B. IF PROOF ROLLING DETERMINES THAT THE SUBGRADE STABILIZATION CANNOT BE ACHIEVED, THE FOLLOWING ALTERNATIVES WILL BE IMPLEMENTED:
      a. REMOVE UNSUITABLE MATERIAL AND REPLACE WITH SUITABLE EMBANKMENT.
      b. SCARIFY, DRY, AND RECOMPACT SUBGRADE AND PERFORM ADDITIONAL PROOF ROLL.
      c. INCREASE ROAD BASE THICKNESS.
   C. PROVIDE 3 MOISTURE DENSITY COMPACTION TESTS PER ROAD, OR ONE FOR EVERY 1000 L.F. OF ROAD LENGTH, WHICHEVER IS GREATER. COMPACTED SUBGRADE MUST BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR MAXIMUM DRY DENSITY AT ±3% OF OPTIMUM MOISTURE CONTENT FOR GRANULAR SOILS AND AT -1 TO +3% OF OPTIMUM MOISTURE CONTENT FOR COHESIVE SOILS.
3. AGGREGATE BASE:
   A. AGGREGATE BASE SHALL BE PROOF-ROLLED OVER THE ENTIRE LENGTH.
   B. PROVIDE 1 SIEVE ANALYSIS PER 2500 CY OF ROAD BASE PLACED.
   C. IF PROOF ROLLING DETERMINES THAT THE ROAD IS UNSTABLE, ADDITIONAL AGGREGATE SHALL BE ADDED UNTIL THE UNSTABLE SECTION IS ABLE TO PASS A PROOF ROLL.

GENERAL NOTES:

1. THE PLANIMETRIC FEATURES, GROUND SURFACE CONTOURS (AT TWO-FOOT VERTICAL INTERVALS) AND ELEVATIONS ARE BASED ON A DTM SURFACE PROVIDED BY ETG, A DIVISION OF WESTWOOD. THE CONTOURS DISPLAYED ARE BASED ON A 5-FOOT CONTOUR INTERVAL ACCURACY PER THE NATIONAL MAPPING ACCURACY STANDARDS.
2. THE ELEVATIONS AND CONTOURS SHOWN ON THESE CONSTRUCTION DRAWINGS WERE PREPARED FROM AERIAL PHOTOGRAPHY DATA, NOT ACTUAL FIELD SURVEYING. AS SUCH, THE ACCURACY OF THE ELEVATIONS AND CONTOURS IS NOT AS HIGH AS INFORMATION GATHERED USING FIELD SURVEYING PROCEDURES. THE CONTRACTOR WILL FIND THAT GROUND ELEVATIONS DETERMINED DURING FIELD STAKING WILL VARY FROM THE GROUND ELEVATIONS SHOWN ON THE DRAWINGS.
3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONSTRUCTION ACTIVITIES SHALL NOT BLOCK THE NATURAL OR MANMADE CREEKS OR DRAINAGE SWALES CAUSING RAINWATER TO POND. ADDITIONAL CULVERTS IN EXCESS OF THOSE ON THE PLANS MAY BE REQUIRED.
4. ANY FACILITIES REMOVED TO ALLOW FOR CONSTRUCTION (MAILBOXES, SIGNS, FENCES, ETC.) SHALL BE REPLACED BY THE CONTRACTOR IN A CONDITION AS GOOD AS PRE-EXISTING.
5. THE CONTRACTOR SHALL NOTIFY NORTH DAKOTA ONE CALL 811 AT LEAST 48 HOURS BEFORE EXCAVATION ACTIVITIES COMMENCE.
6. WHILE BUILDING THE ROADS AND EXCAVATING THE SUBSTATION SITE, EXCESS SOIL WILL RESULT. THE CONTRACTOR SHALL DISPOSE OF THIS EXCESS SOIL IN AN APPROVED MANNER. NO TOPSOIL WILL BE ALLOWED TO LEAVE THE PROPERTY FROM WHICH IT WAS DUG. EXCESS TOPSOIL SHALL BE DISTRIBUTED INTO A THIN LAYER ON LAND IMMEDIATELY ADJACENT TO WHERE THE TOPSOIL ORIGINATED. WHILE DOING SO, THE CONTRACTOR SHALL AVOID CAUSING RIDGES OR MOUNDS THAT WOULD MAKE IT DIFFICULT FOR STORM WATER RUNOFF TO DRAIN. THE FINAL SURFACE OF THE DISTURBED TOPSOIL SHALL BE SMOOTH AND FOLLOW THE NATURAL CONTOUR OF THE LAND.
7. ANY STORM WATER DRAIN TILES DAMAGED, DISTURBED, BROKEN OR CUT FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED IMMEDIATELY (IN ANY EVENT WITHIN 24 HOURS). CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENT DOES NOT ENTER ANY DRAINTILE SYSTEM. IN THE EVENT SHOULD SEDIMENT ENTER THE DRAINTILE SYSTEM, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT.
8. WETLAND INFORMATION SHOWN ON THE PLAN WAS DELINEATED BY OTHERS. ALL WETLAND PERMITTING SHALL BE COMPLETED PRIOR TO CONSTRUCTION COMMENCING. THE GENERAL CONTRACTOR SHALL VERIFY THAT ALL WETLAND PERMITS HAVE BEEN SUBMITTED AND APPROVED PRIOR TO CONSTRUCTION COMMENCING.
9. CULTURAL RESOURCE REPORTS HAVE BEEN PREPARED BY OTHERS. THE LOCATIONS OF CULTURAL RESOURCE SITES MAY BE CONFIDENTIAL AND PROTECTED BY STATE OR FEDERAL LAW. PUBLIC RELEASE OF SPECIFIC INFORMATION REGARDING THESE RESOURCES MAY BE RESTRICTED. REFER TO THE CULTURAL RESOURCE REPORTS FOR DETAILS.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

1. THE CONTRACTOR SHALL PROVIDE PERMANENT AND TEMPORARY EROSION CONTROL MEASURES AS PLANNED AND SPECIFIED FOLLOWNG BEST MANAGEMENT PRACTICES BEING IN CONFORMANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL STORMWATER PERMIT.

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Revisions:

#	DATE	DESCRIPTION
1	1/7/11	ACCESS ROAD REALIGNMENT
2	1/17/11	ACCESS ROAD REALIGNMENT
3	5/19/11	SUBSTATION MODIFICATION

Prepared for:

enXco
An EDF EN company

10 Second Street Northeast
Minneapolis, MN 55413

Merricourt Substation

Mcintosh and Dickey County, North Dakota

Construction Notes

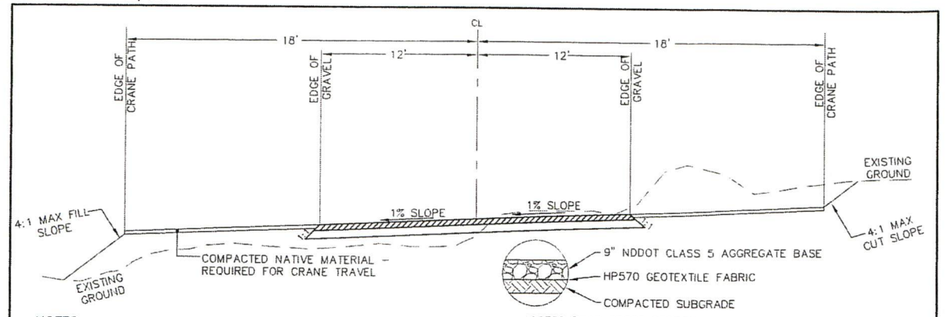
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Sheet: 2 OF 7

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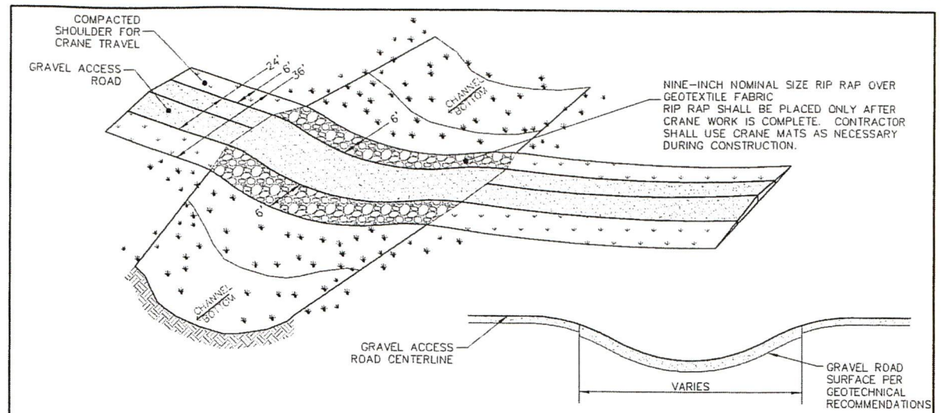


ACCESS ROAD CROSS SECTION

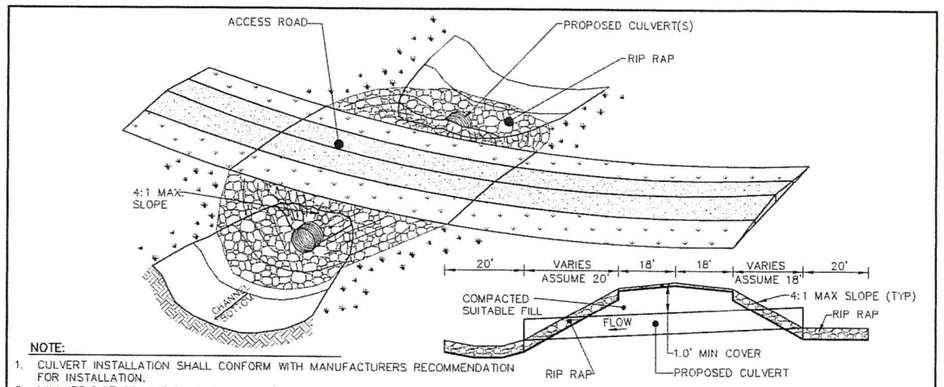
NOTES:

1. CONTRACTOR SHALL CONSTRUCT CROSS-SLOPE ROAD SECTION WHERE ACCESS ROADS ARE CONSTRUCTED ON A SIDE SLOPE, AND WHERE OTHERWISE NOTED ON PLANS, TO ENSURE THAT ROADS AND SHOULDERS REMAIN WELL DRAINED AT ALL TIMES.
2. MAXIMUM CROSS SLOPE FOR CRANE TRAVEL IS 1.0%
3. ROADS TO GENERALLY FOLLOW EXISTING CONTOURS EXCEPT IF GRADES EXCEED VEHICLE CAPABILITIES, IF THIS OCCURS GENERAL CONTRACTOR MAY PROVIDE ASSIST VEHICLE OR MODIFY GRADE

TYPICAL ACCESS ROAD — LAST REVISED: 04/08/09 — RD01



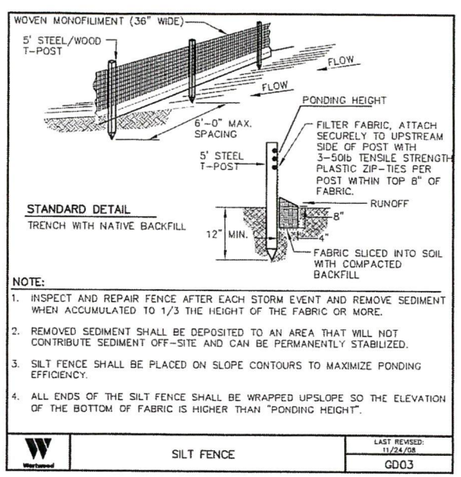
TYPICAL ACCESS ROAD SWALE CROSSING — LAST REVISED: 07/23/10 — RD12B



NOTE:

1. CULVERT INSTALLATION SHALL CONFORM WITH MANUFACTURERS RECOMMENDATION FOR INSTALLATION.
2. MINIMIZE DISTURBANCE TO THE STREAM/DITCH DURING CULVERT INSTALLATION/REMOVAL.
3. RESTORE DISTURBED AREA TO NATIVE CONDITIONS IN ACCORDANCE WITH THE SWPPP.

TYPICAL ACCESS ROAD SWALE CROSSING — LAST REVISED: 04/08/09 — RD12

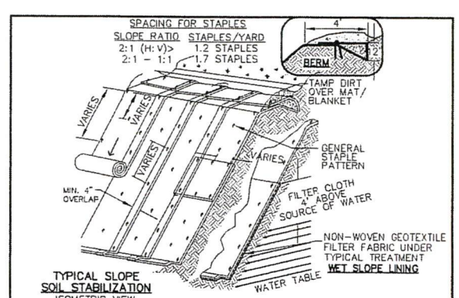


STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL

NOTE:

1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN ACCUMULATED TO 1/3 THE HEIGHT OF THE FABRIC OR MORE.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. ALL ENDS OF THE SILT FENCE SHALL BE WRAPPED UPSLOPE SO THE ELEVATION OF THE BOTTOM OF FABRIC IS HIGHER THAN "PONDING HEIGHT".

SILT FENCE — LAST REVISED: 11/24/08 — GD03

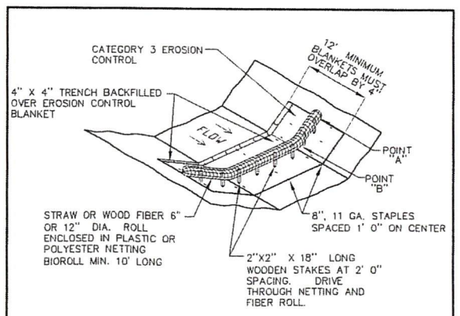


TYPICAL SLOPE SOIL STABILIZATION
ISOMETRIC VIEW

NOTE:

1. REFER TO THE PROJECT SWPPP FOR IMPLEMENTATION REQUIREMENTS.
2. MATS/BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICK AND GRASS.
4. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
5. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL.
6. DO NOT STRETCH.
7. BLANKET TYPE AND WEIGHT MUST BE CHOOSEN BASED ON SITE CONDITIONS AND MANUFACTURERS RECOMMENDATIONS.
8. STAPLE LENGTHS SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS.

TEMPORARY EROSION BLANKETS
TURF REINFORCEMENT MATS FOR SLOPES — LAST REVISED: 11/24/08 — GD21



NOTE:

1. REFER TO THE PROJECT SWPPP FOR IMPLEMENTATION REQUIREMENTS.
2. POINT "A" MUST BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
3. TYPE OF MATERIAL FOR EROSION CONTROL BLANKET IS SUBJECT TO FIELD CONDITIONS AND MANUFACTURERS RECOMMENDATION.

TEMPORARY BIOROLL BLANKET SYSTEM (DITCH APPLICATION) — LAST REVISED: 03/03/08 — GD23

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3	5/19/11	SUBSTATION MODIFICATION

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enXco
An EDF EN company

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Minneapolis, MN 55413

Merricourt Substation

Mcintosh and Dickey County, North Dakota

Construction Details

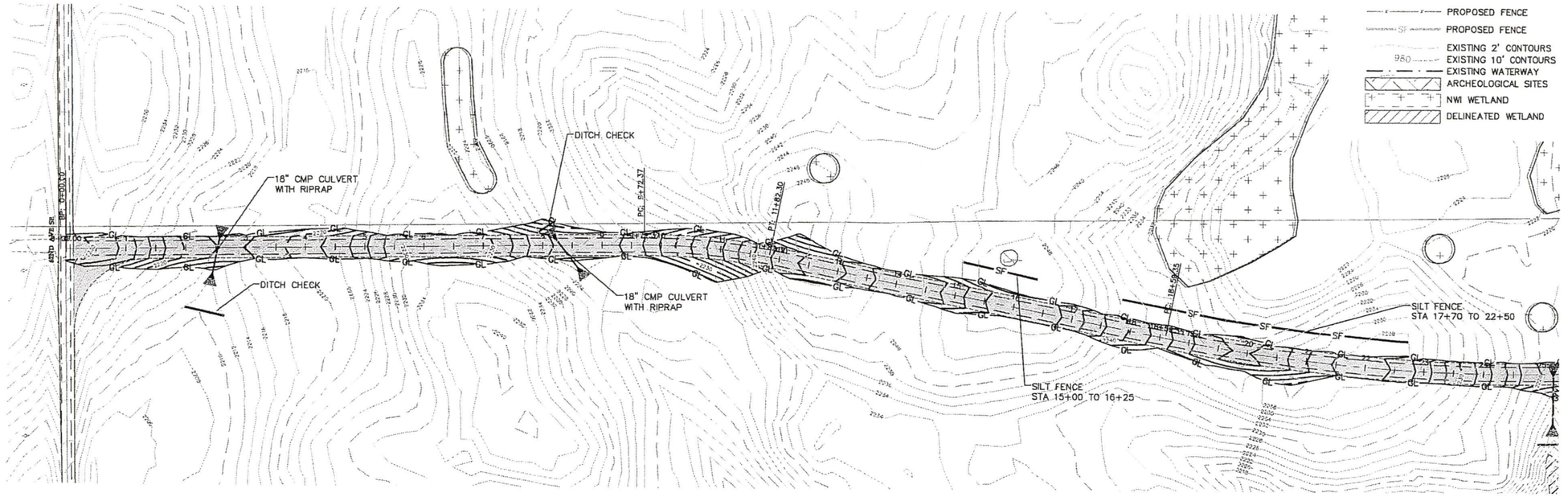
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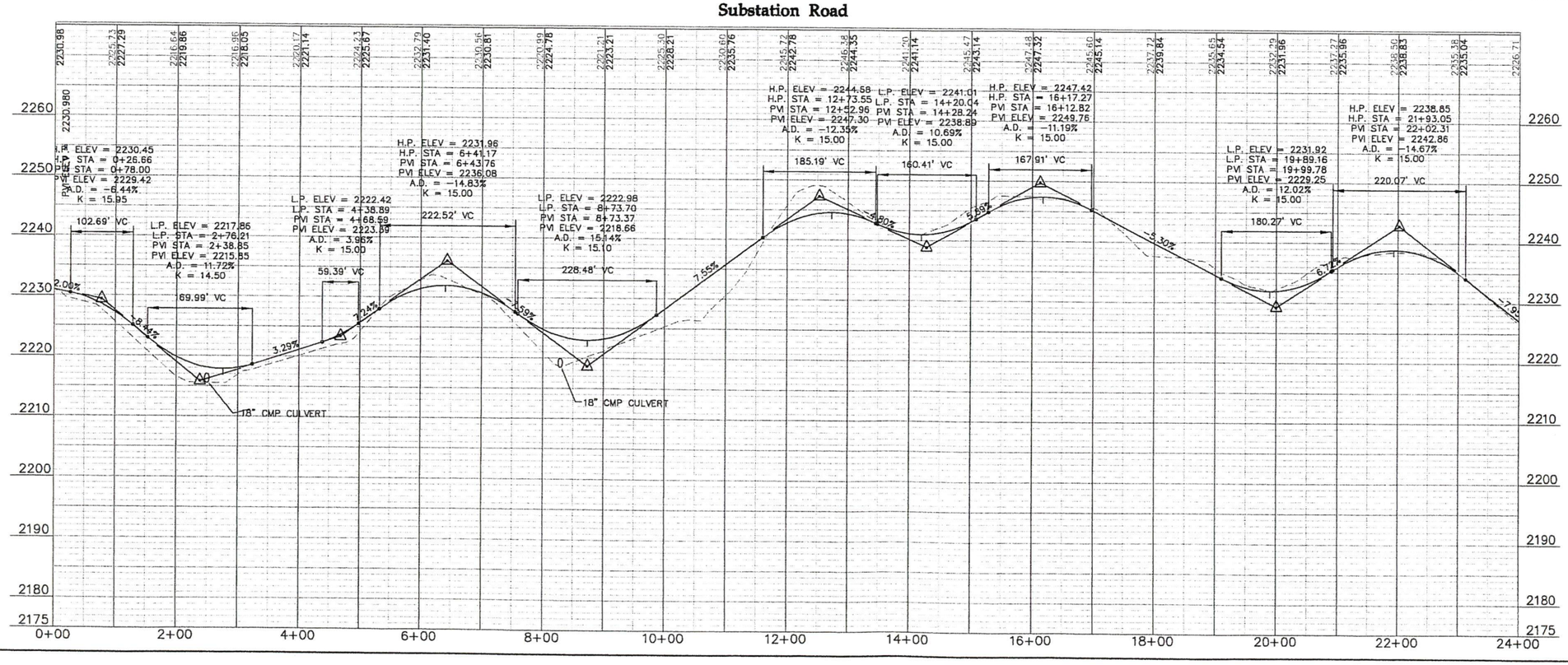
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0' 100' 200' 300'

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County, North Dakota

Substation Access Road Plan and Profile

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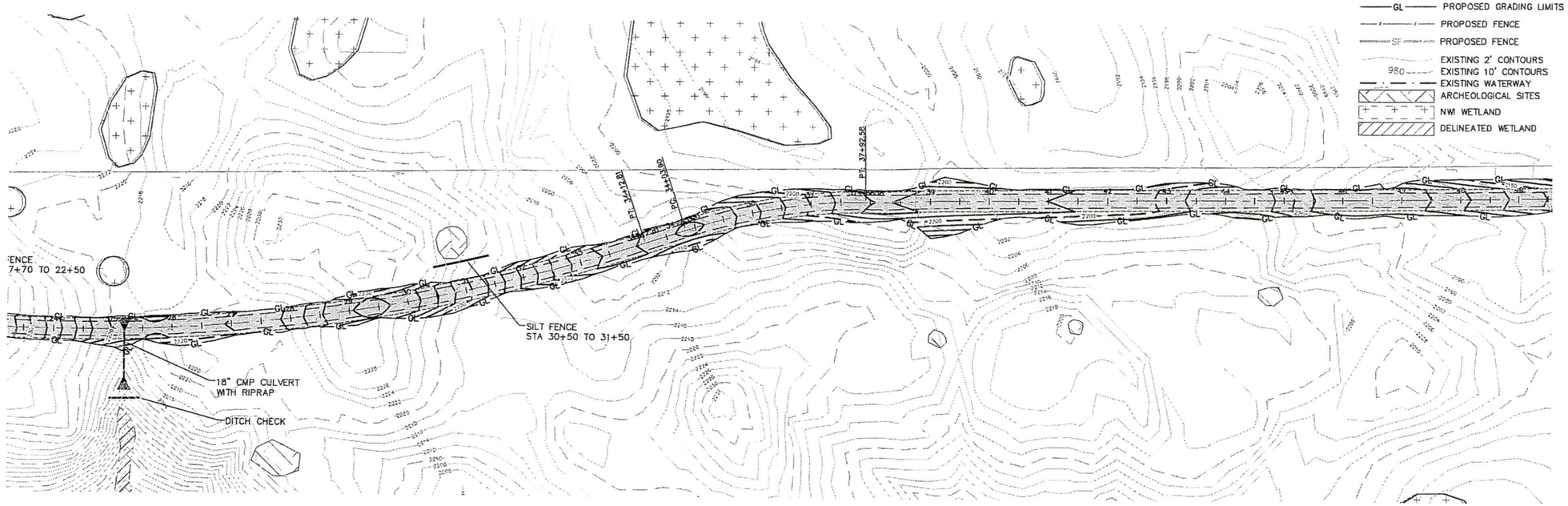
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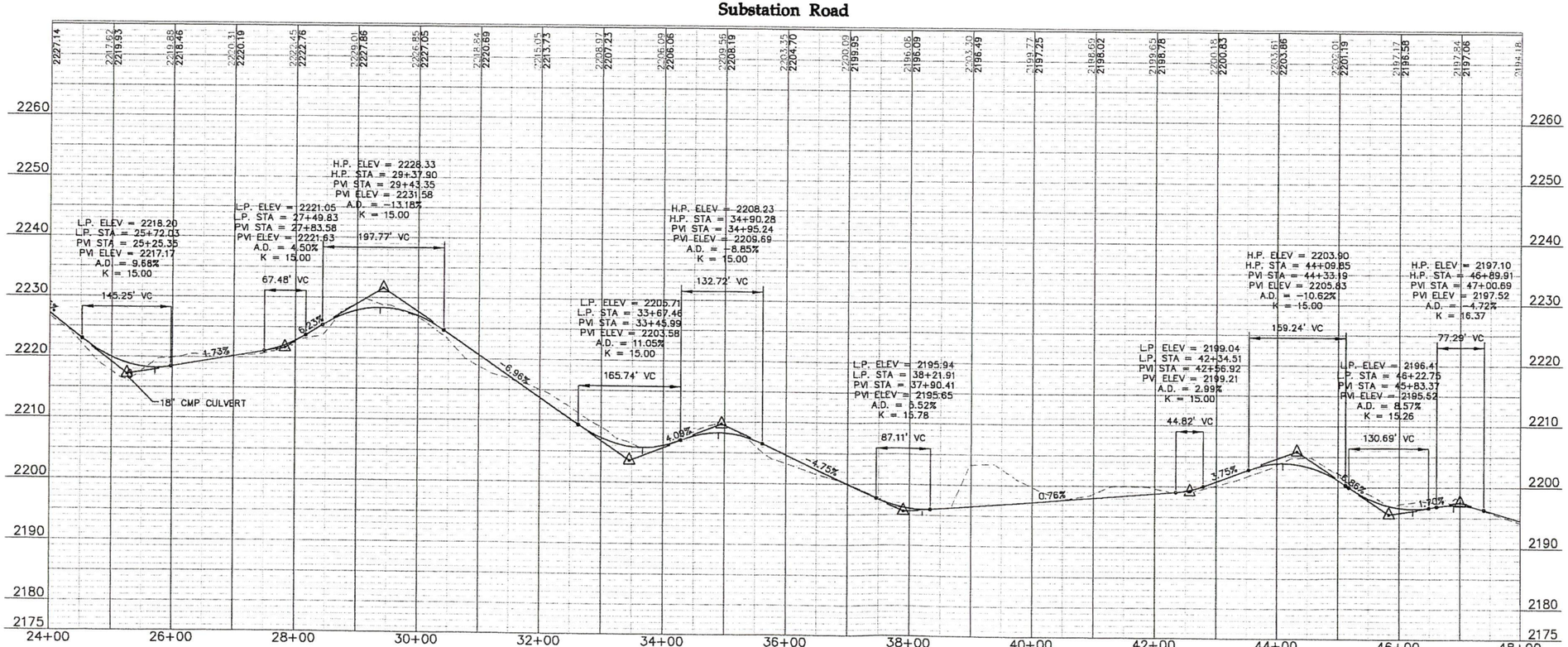
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0' 100' 200' 300'

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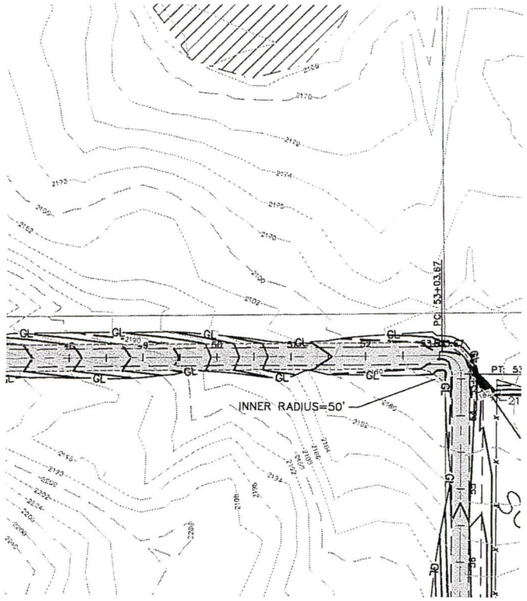
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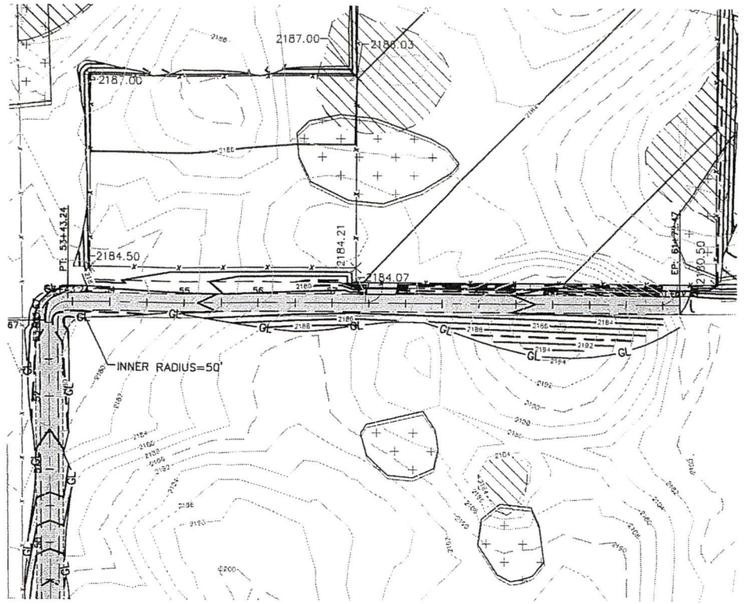
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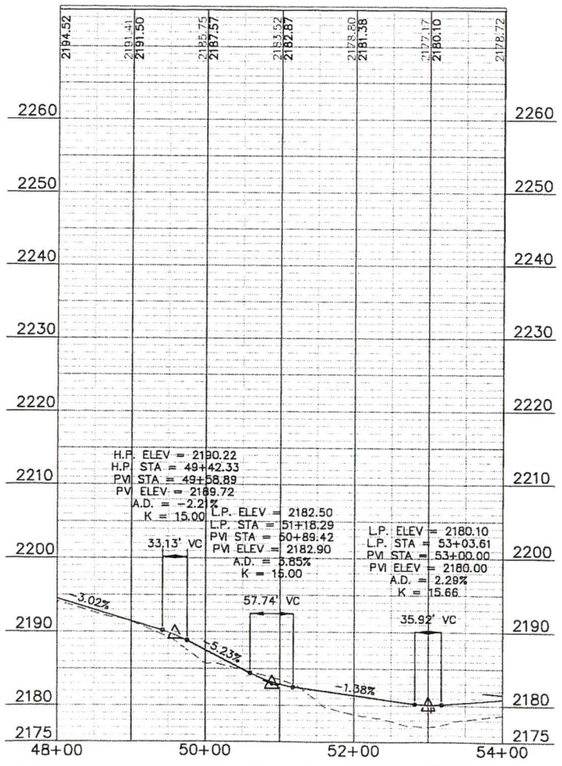




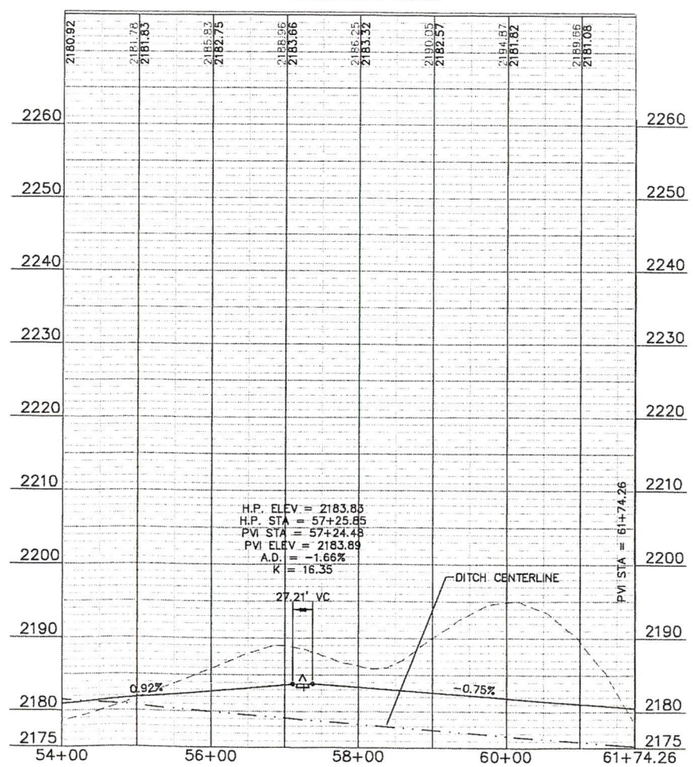
LEGEND:

- PROPOSED ACCESS ROAD
- PROPOSED STORM SEWER
- GL — PROPOSED GRADING LIMITS
- PROPOSED FENCE
- SF — PROPOSED FENCE
- EXISTING 2' CONTOURS
- 980 — EXISTING 10' CONTOURS
- EXISTING WATERWAY
- ARCHEOLOGICAL SITES
- NWI WETLAND
- DELINEATED WETLAND

Substation Road



Substation Road



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enXco
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10 Second Street Northeast
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0' 100' 200' 300'

Merricourt Substation

Mcintosh and Dickey County, North Dakota

Substation Access Road Plan and Profile

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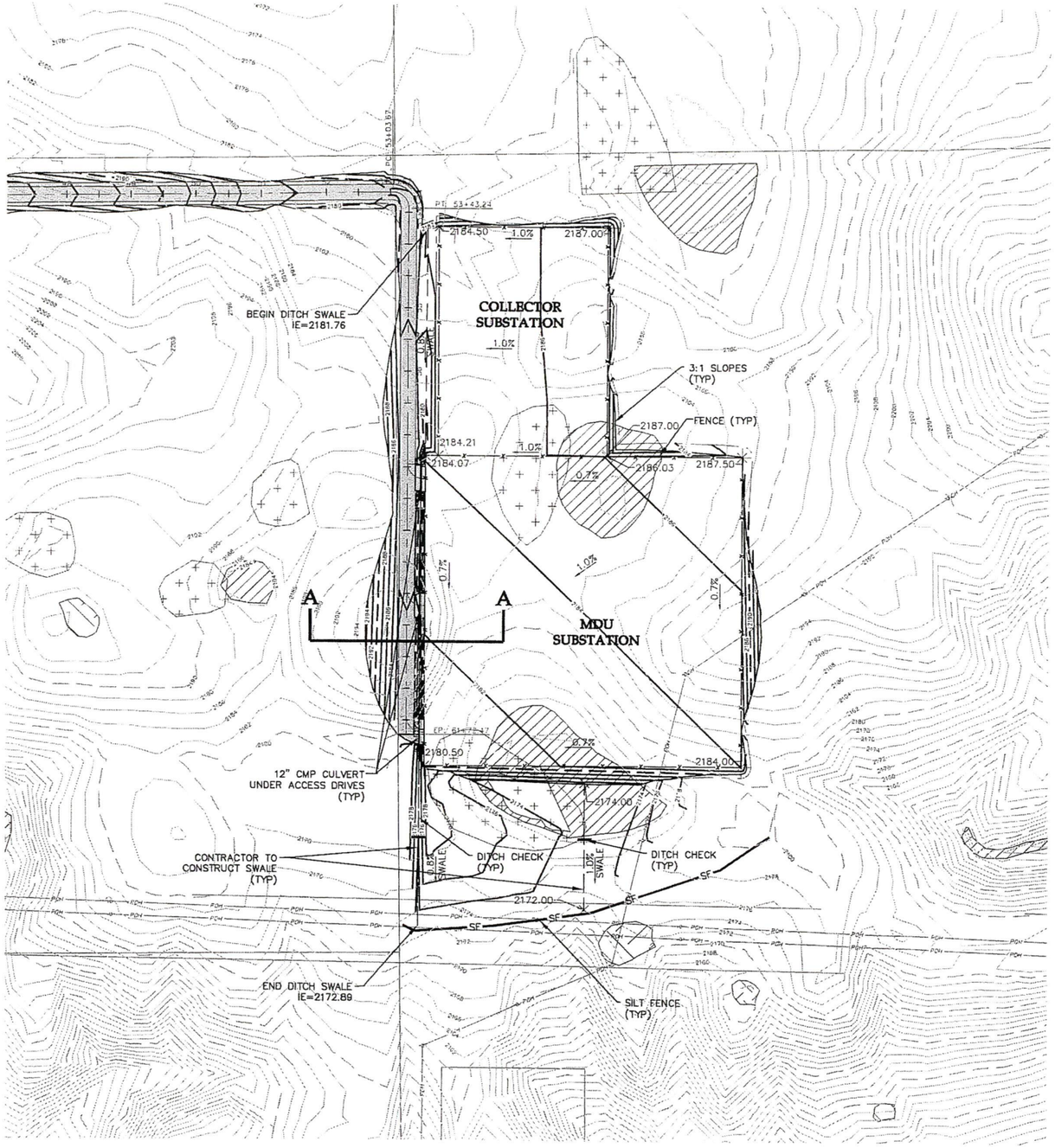
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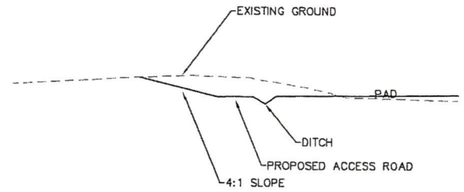
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- ARCHEOLOGICAL SITES
- NWI WETLAND
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SECTION A-A

ESTIMATED QUANTITIES

EARTHWORK QUANTITIES

RAW VALUES*	CUT	FILL
SUBSTATION	20,540 CY	26,804 CY
ROADWAY	14,069 CY	6,962 CY
TOTAL	34,609 CY	33,766 CY

*EXISTING GRADE TO FINISHED SURFACE ONLY WITHOUT TOPSOIL OR GRAVEL HOLD-DOWNS.

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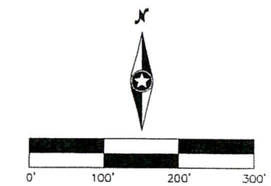
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Substation Grading Plan

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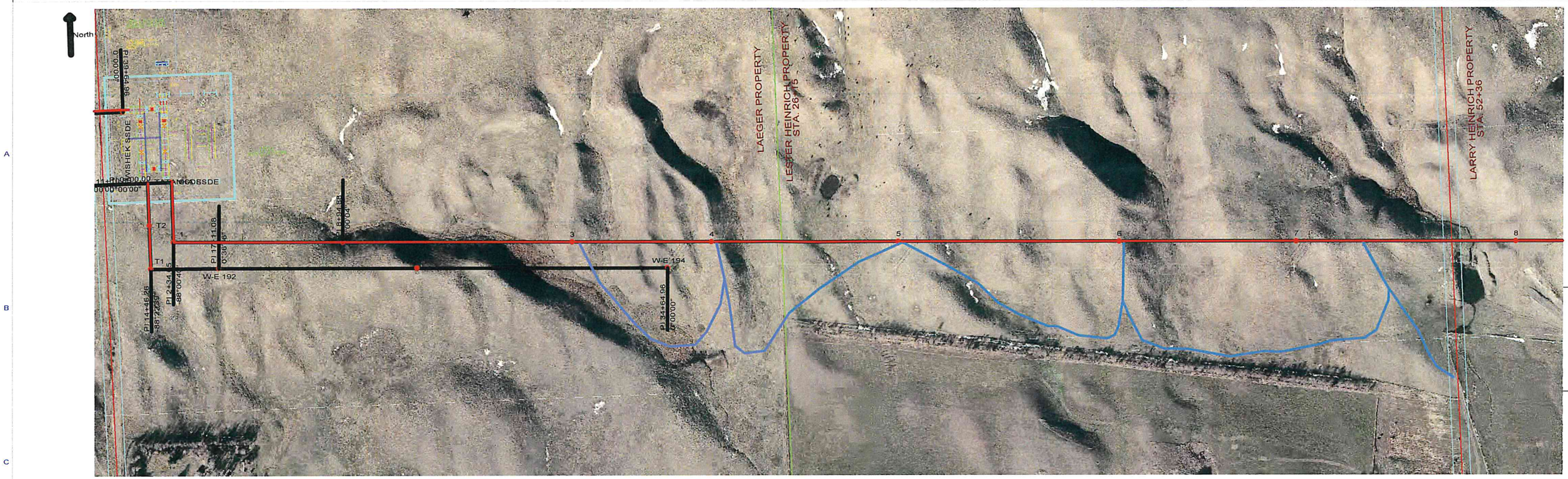
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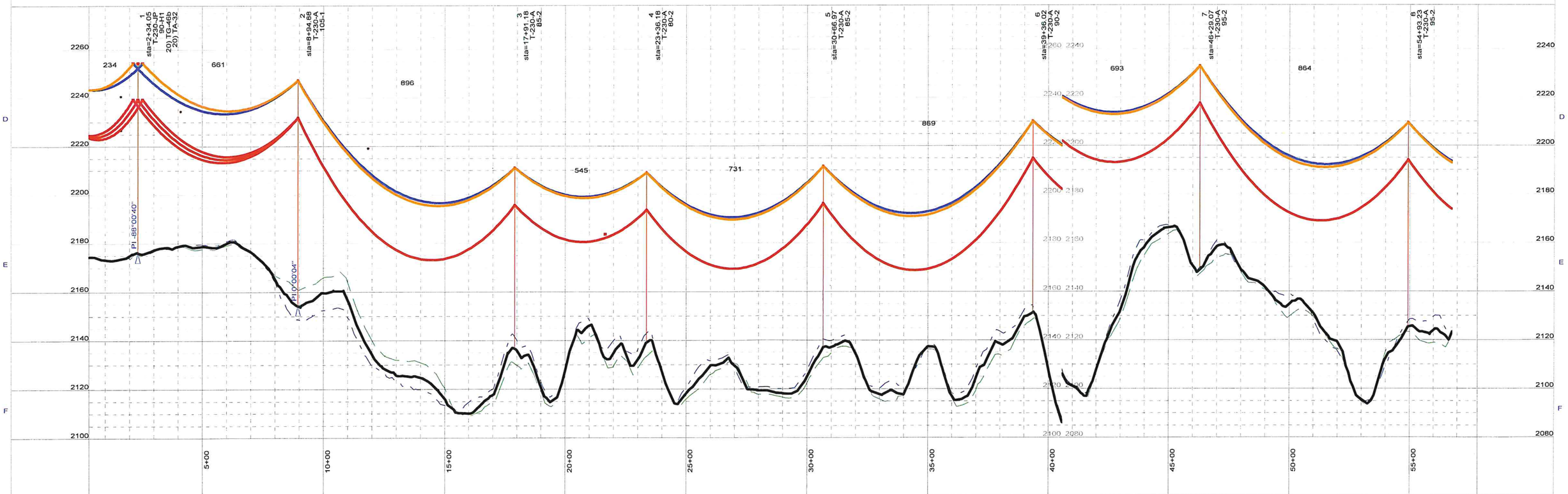
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Sheet: 7 OF 7

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Attachment B
Merricourt to Ellendale
Plans & Profiles 8-14-2012





NO:	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

NOTES:
- ACCESS ROUTE
- EXISTING LINE CROSSINGS
- ALIGNMENT

* CROSSARMS SPACING INCREASED TO 28'- 6"

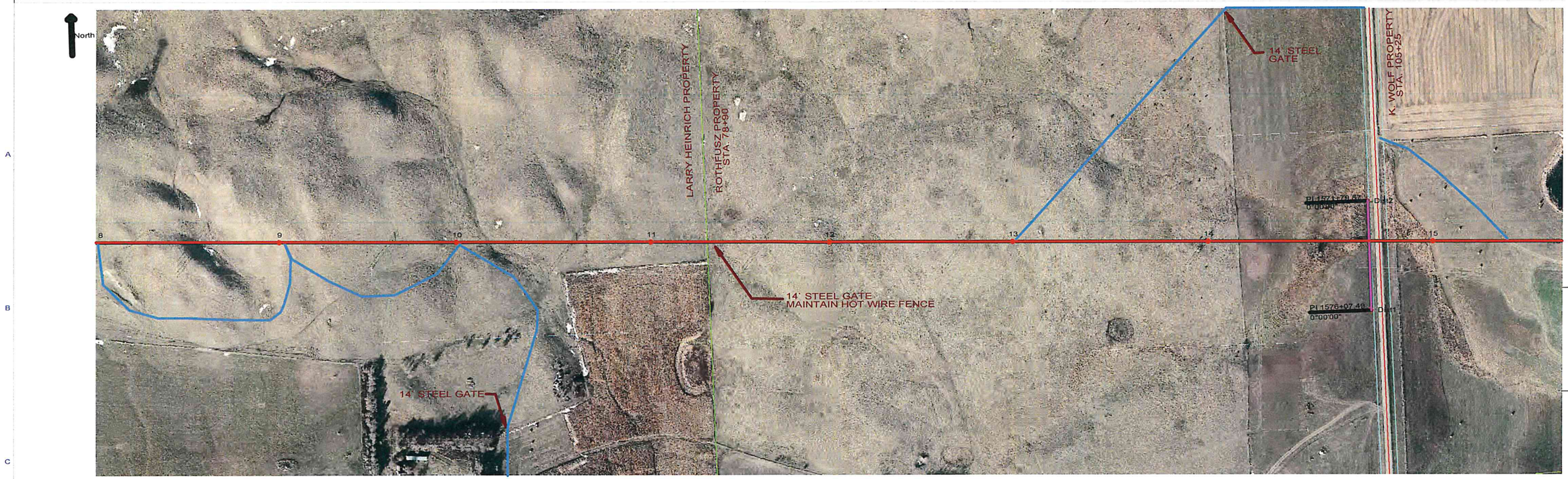
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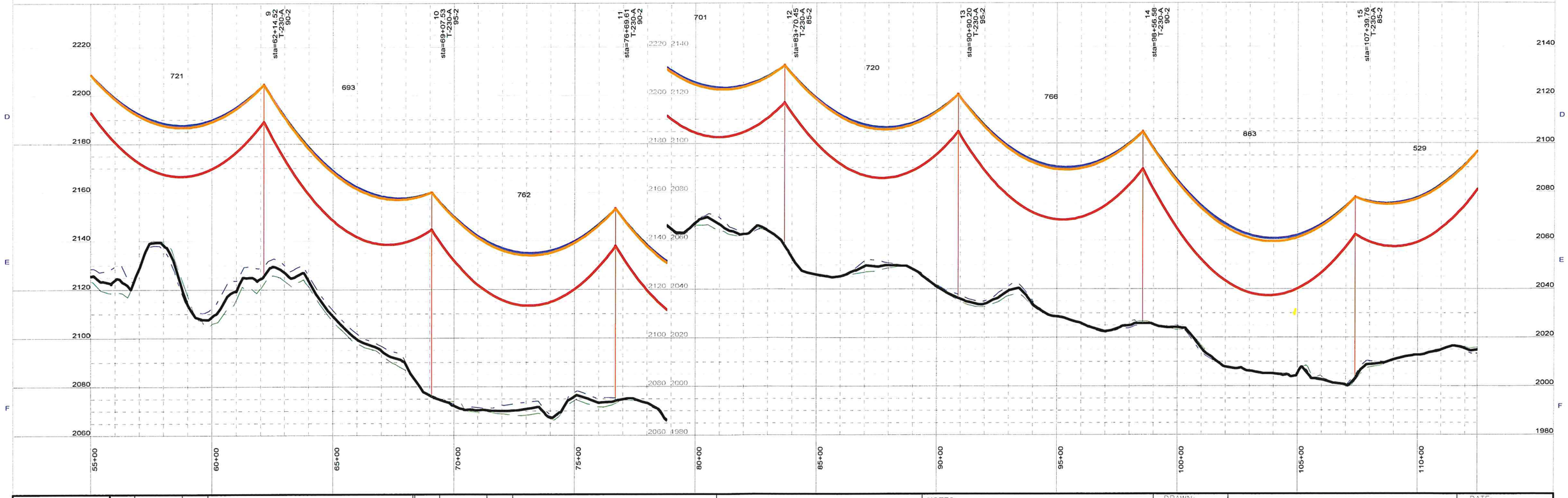
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:

SHEET: 1 of 29





MONTANA-DAKOTA UTILITIES CO.
In the Community to Serve

NO:	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

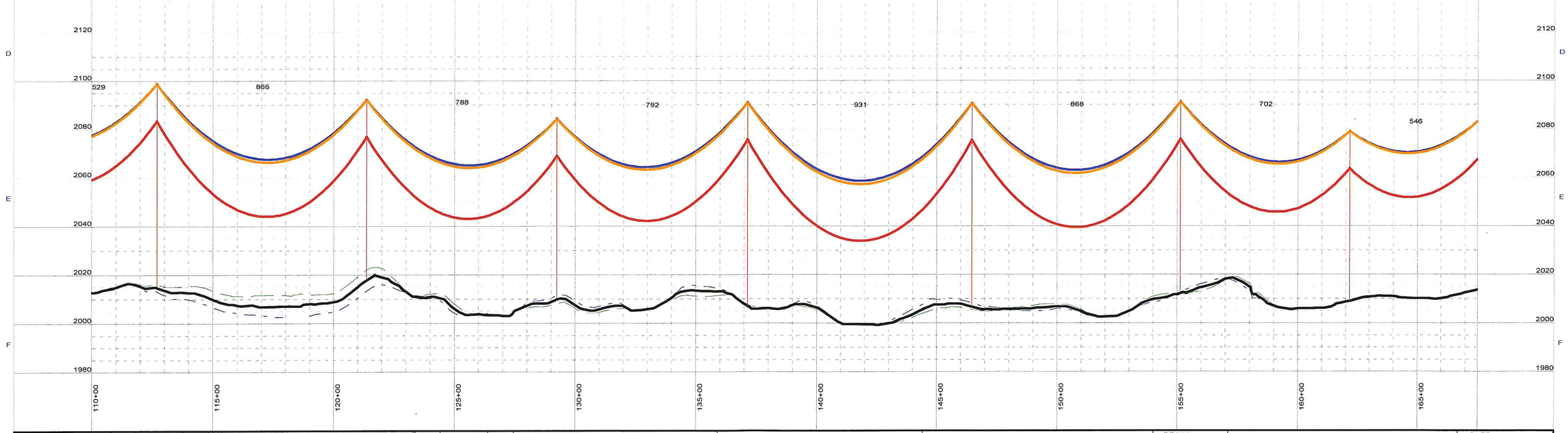
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EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 2 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

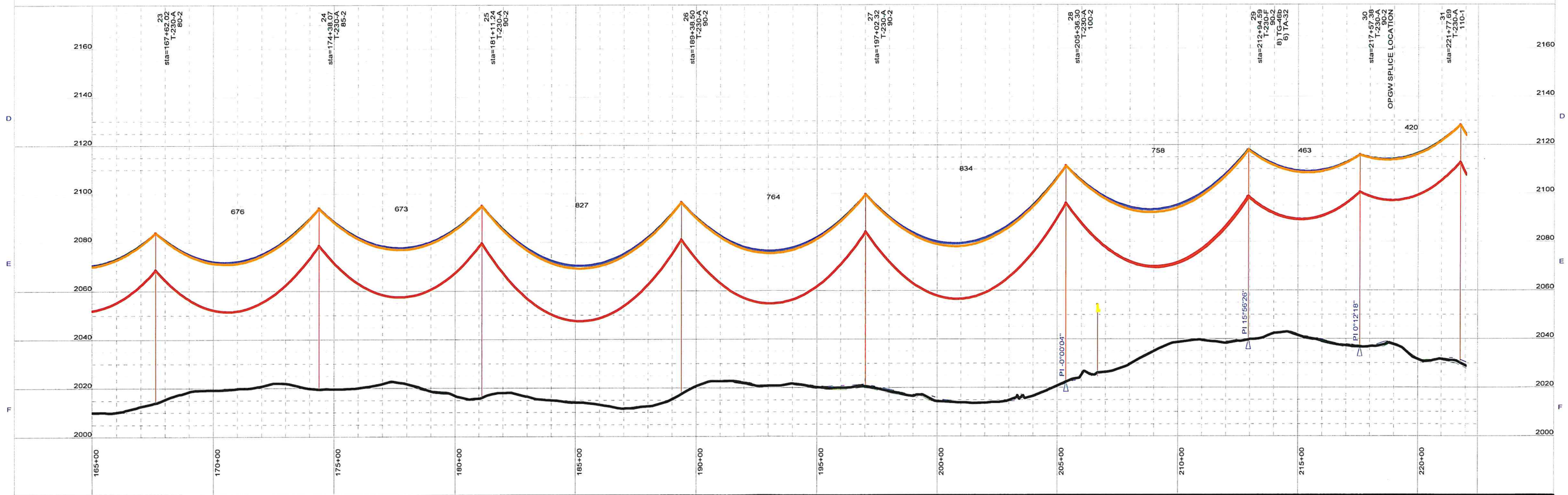
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 3 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

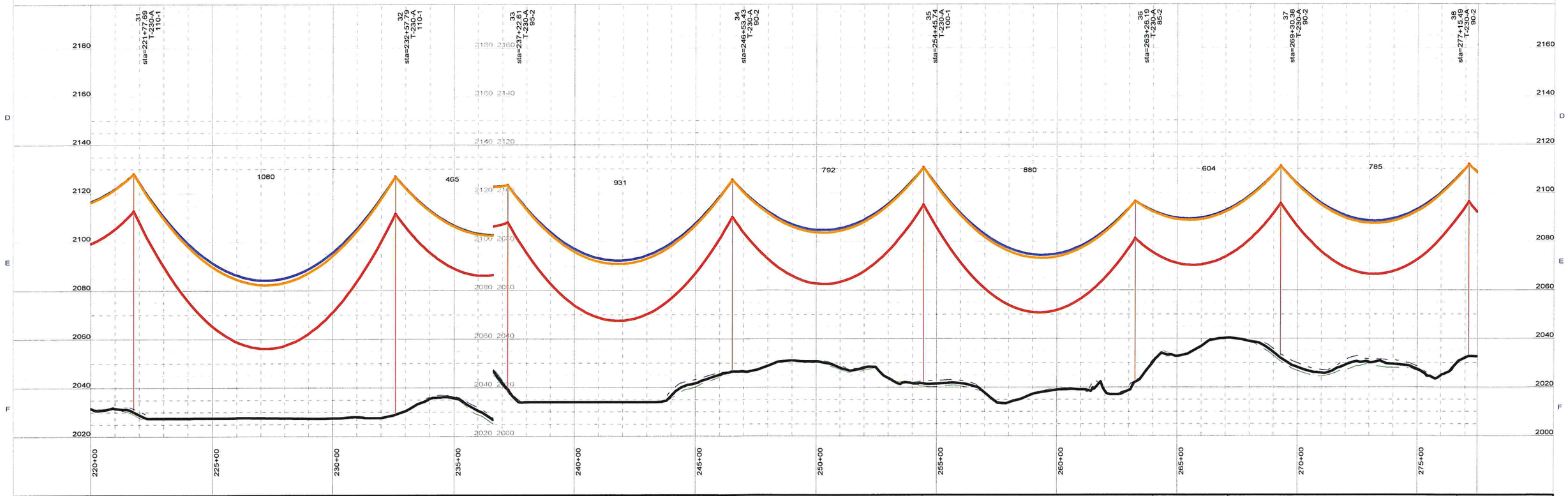
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 4 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

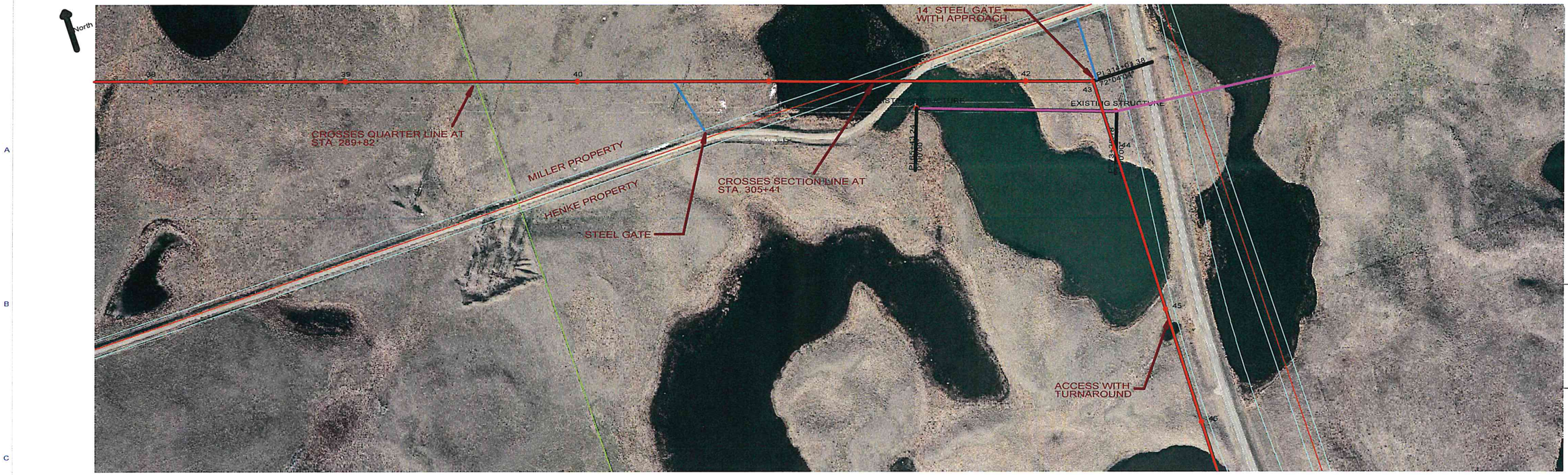
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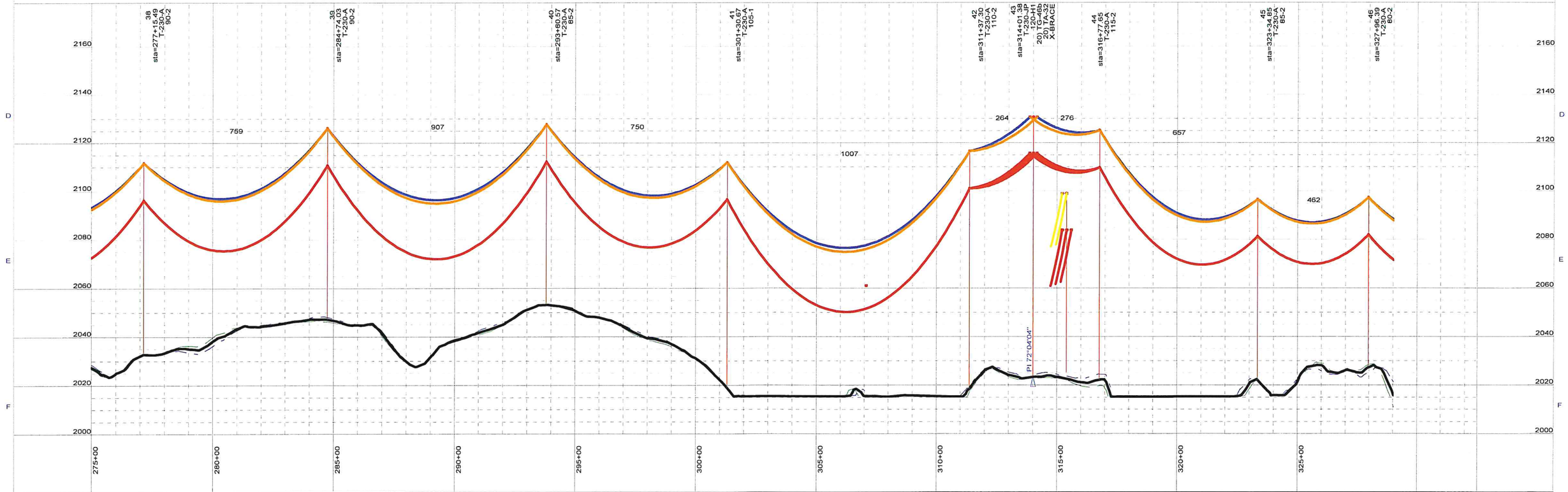
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 5 of 29





MONTANA-DAKOTA UTILITIES CO.
In the Community to Serve

NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

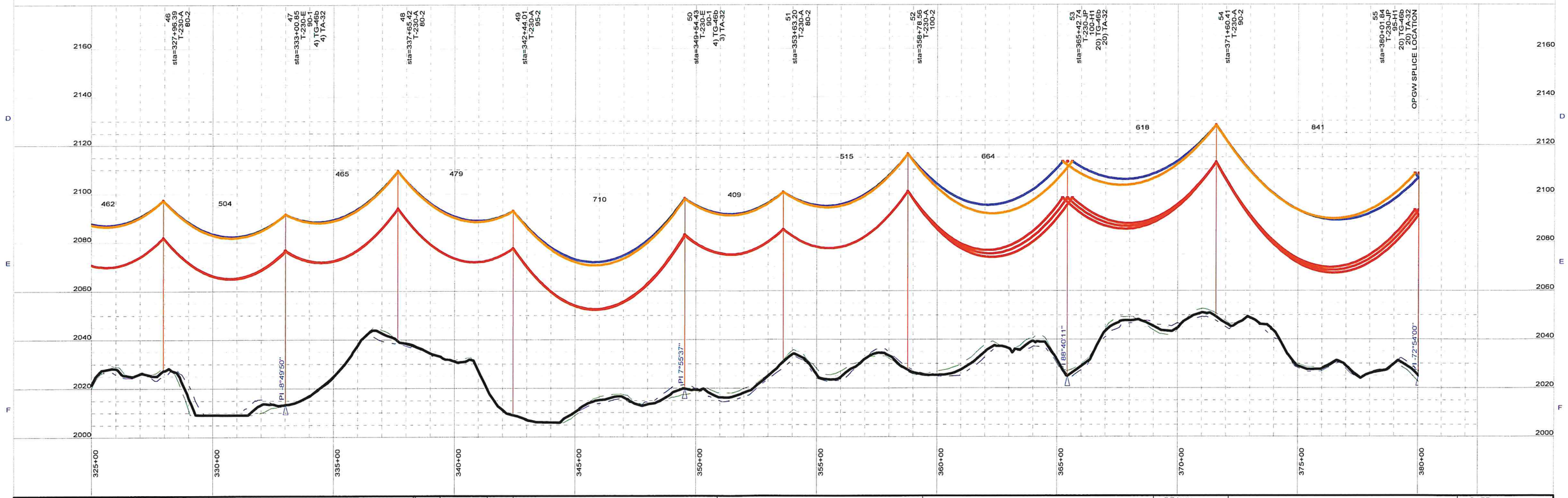
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28' - 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 6 of 29





MONTANA-DAKOTA UTILITIES CO.
In the Community to Serve

NO.	DATE:	BY.	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

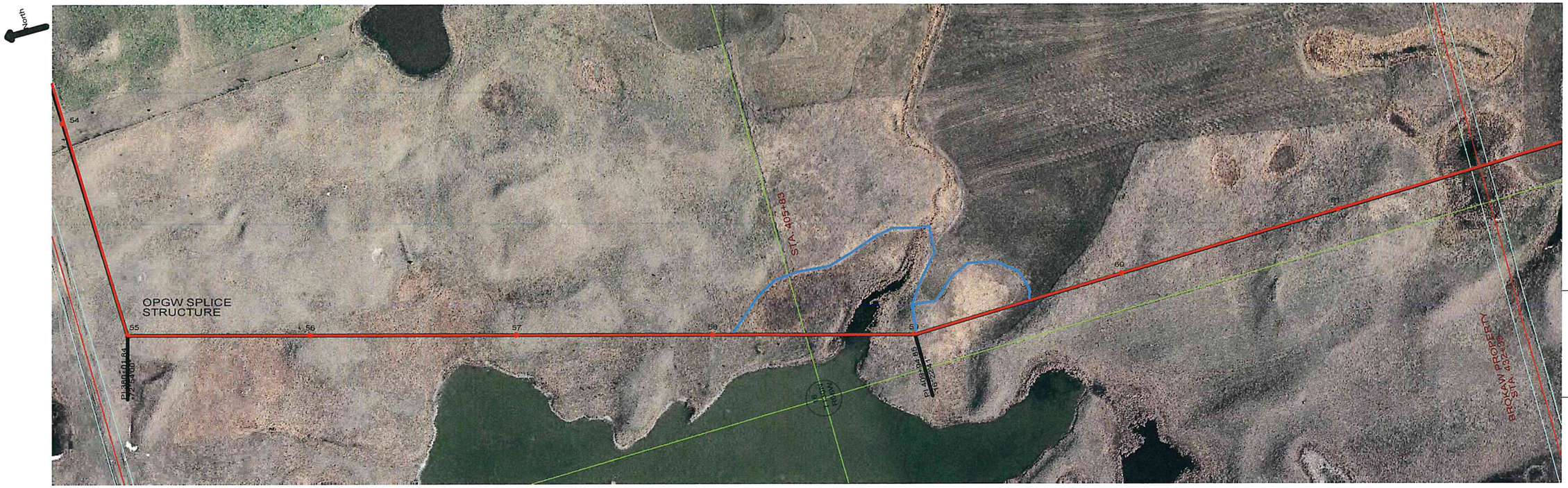
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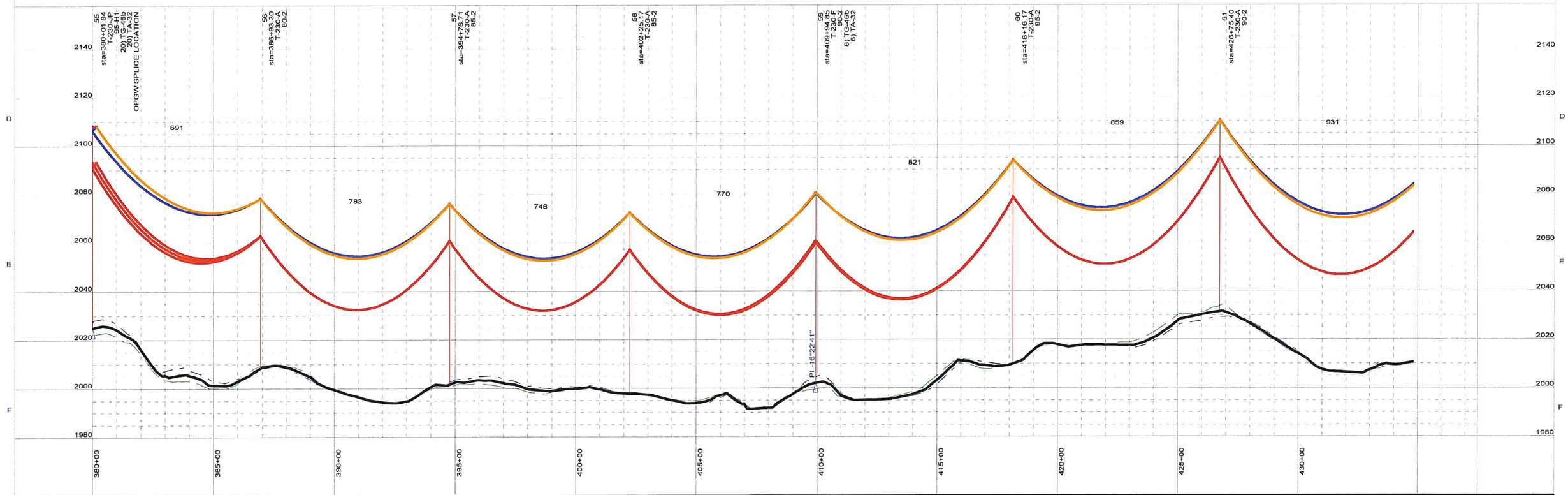
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28' - 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 7 of 29





NO:	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

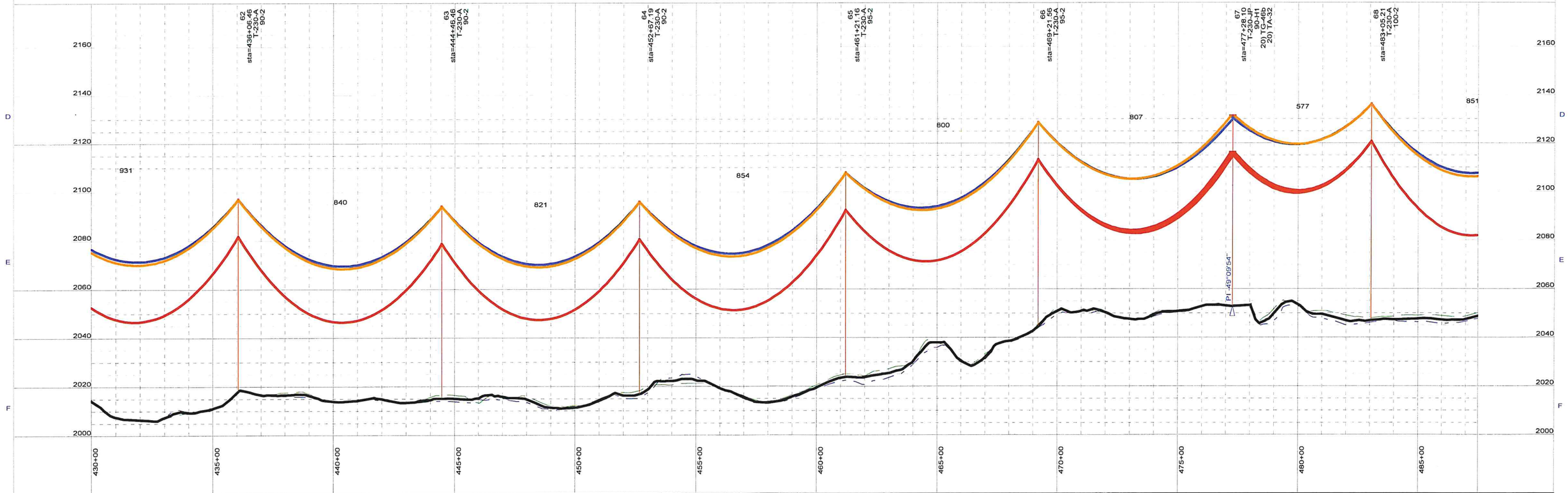
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 8 of 29





MONTANA-DAKOTA UTILITIES CO.
"Serving the Community to Serve"

NO.	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

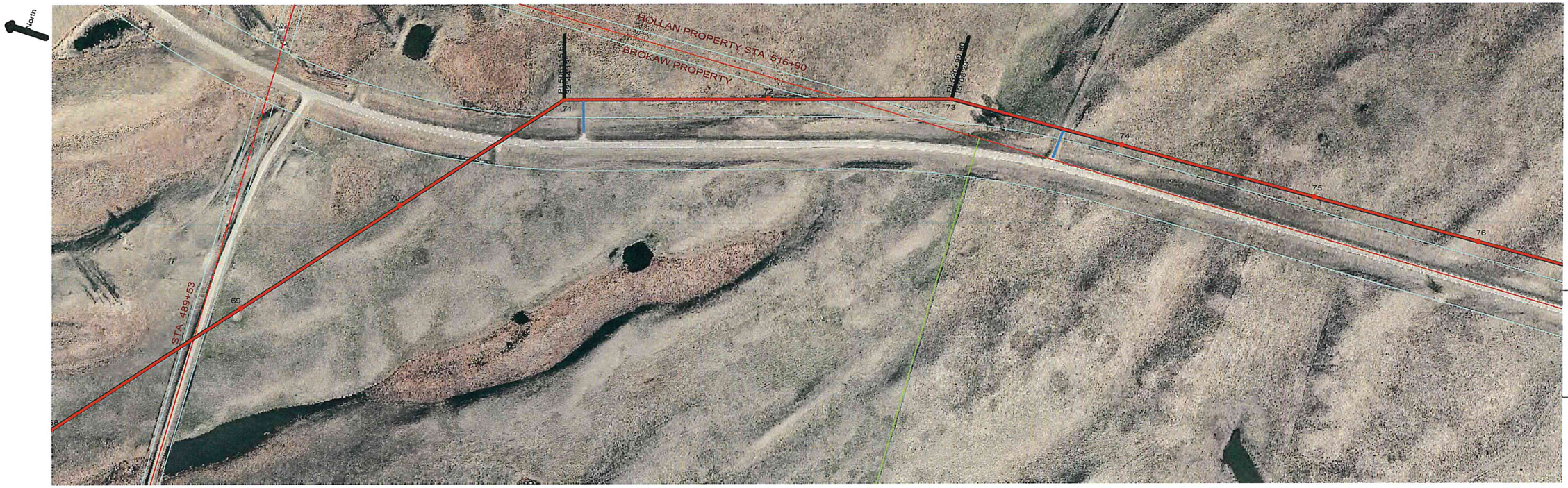
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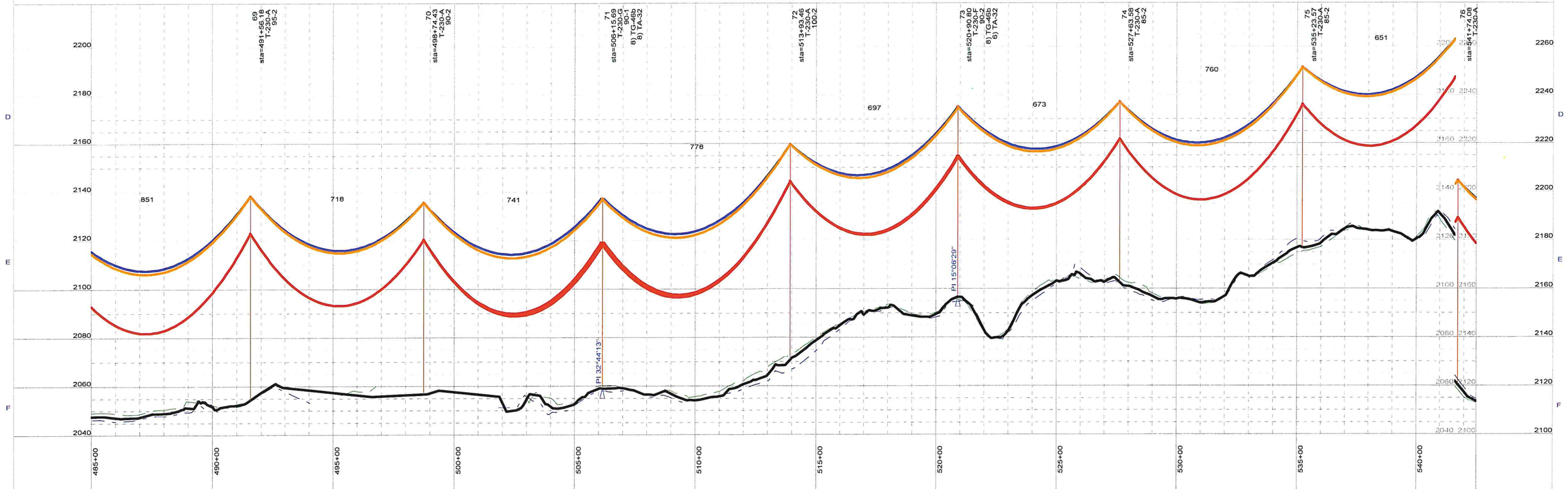
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 9 of 29





MONTANA-DAKOTA UTILITIES CO.
"In the Community to Serve"

NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

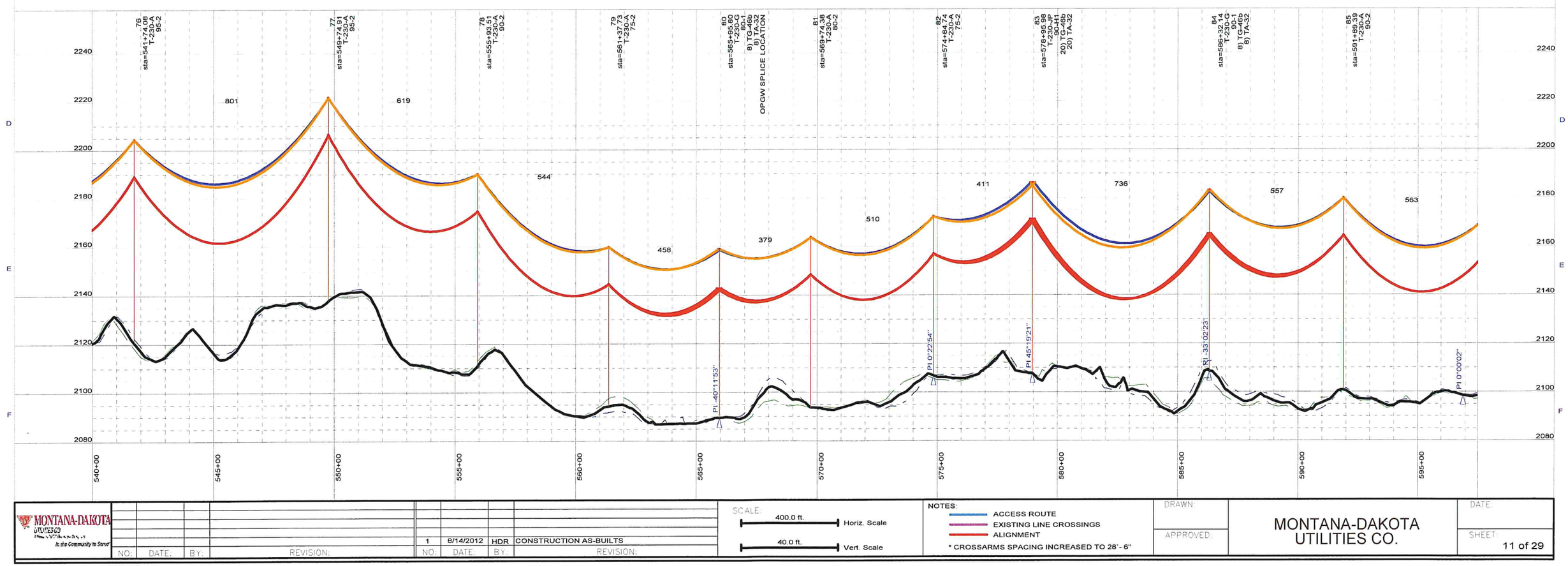
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 10 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

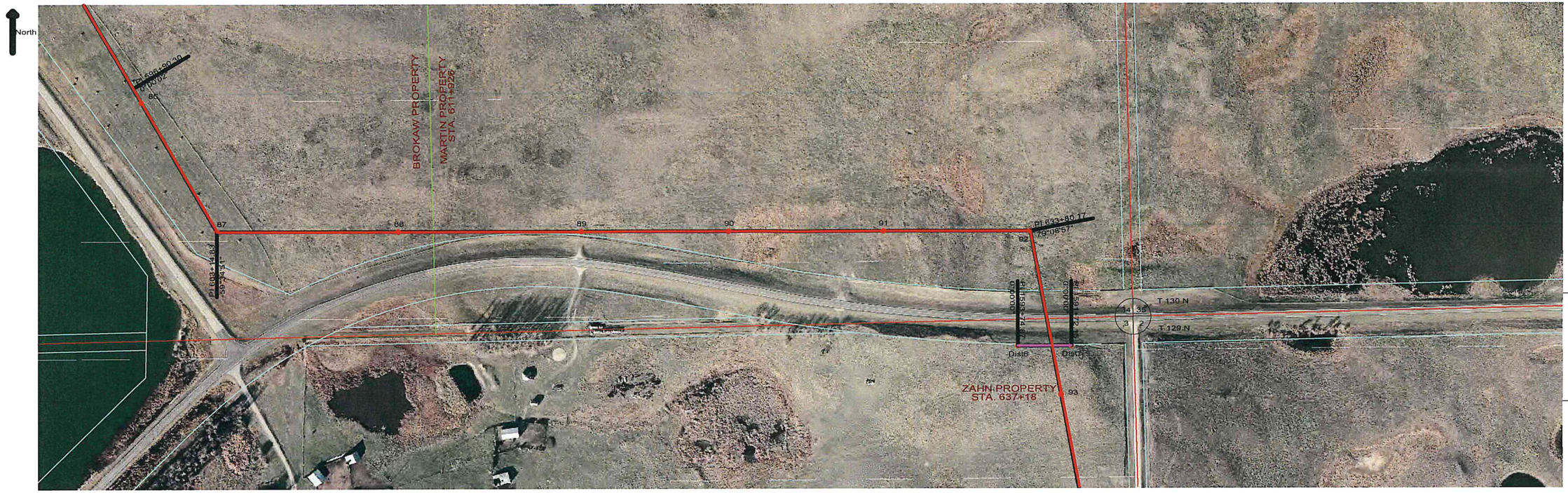
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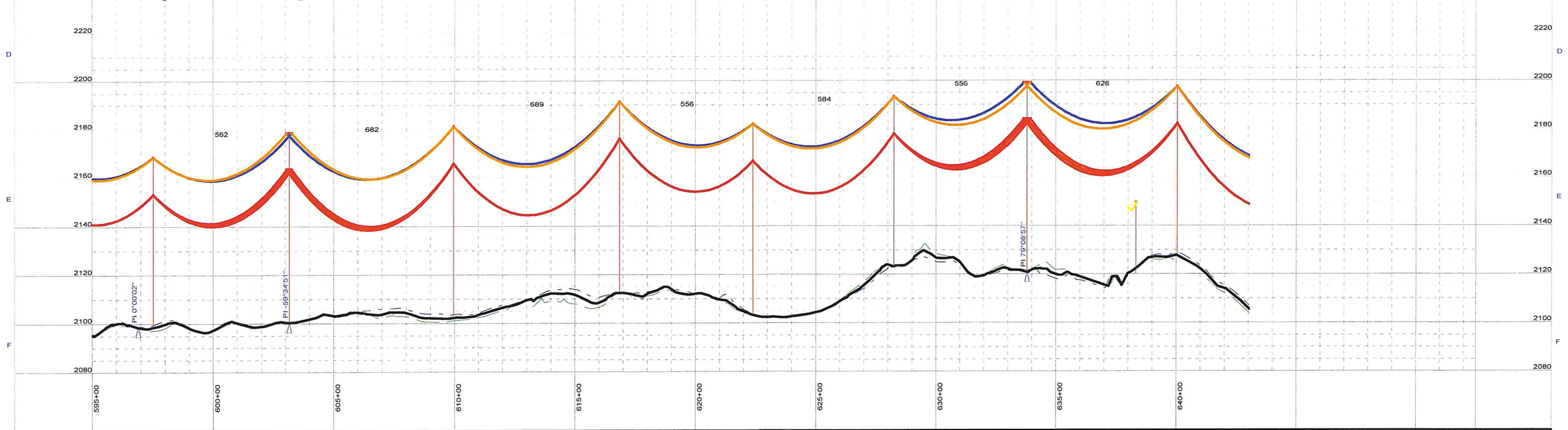
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 11 of 29





MONTANA-DAKOTA UTILITIES CO.
In the Community to Serve

NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

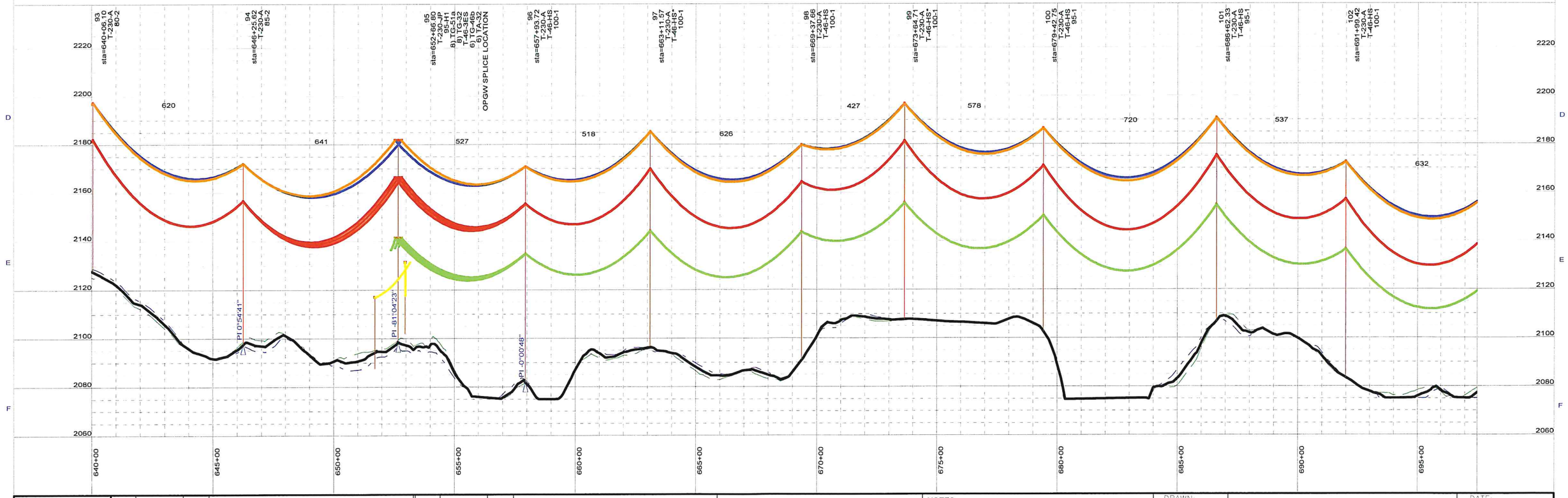
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 12 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

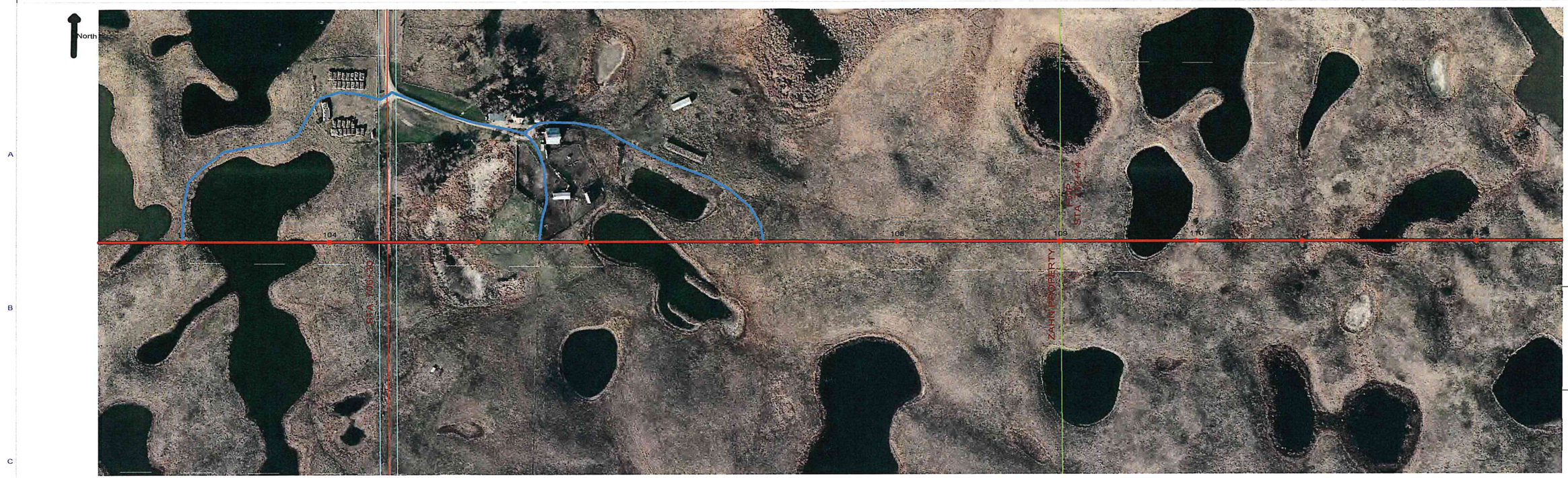
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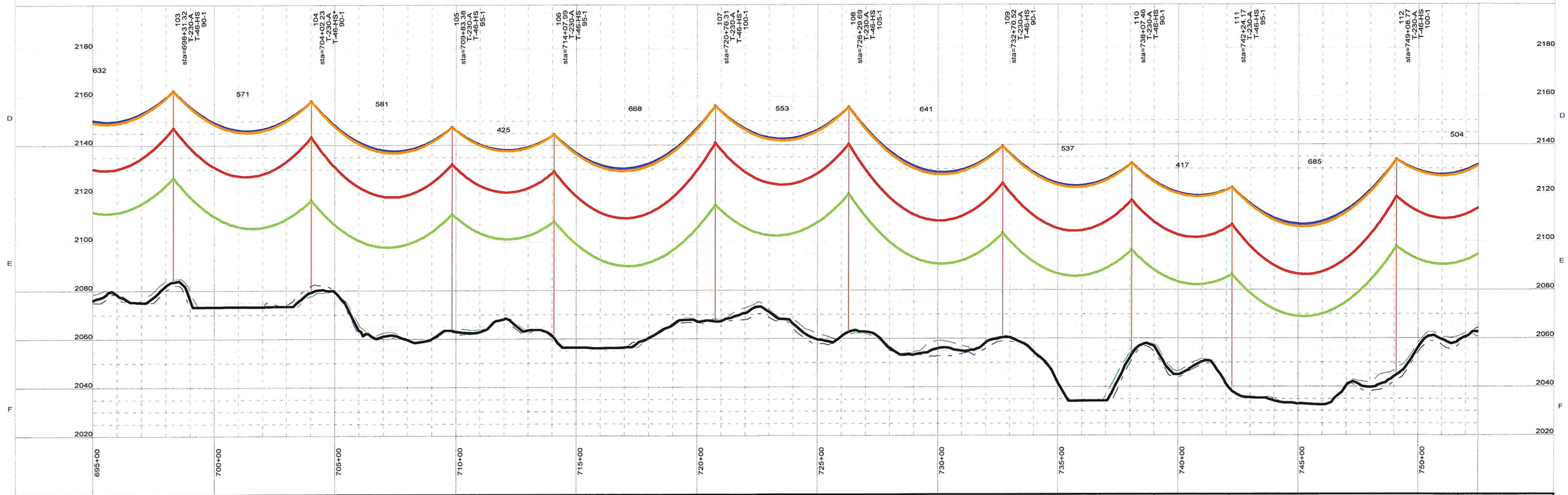
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 13 of 29





NO.	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

NOTES:
- ACCESS ROUTE
- EXISTING LINE CROSSINGS
- ALIGNMENT

* CROSSARMS SPACING INCREASED TO 28'-6"

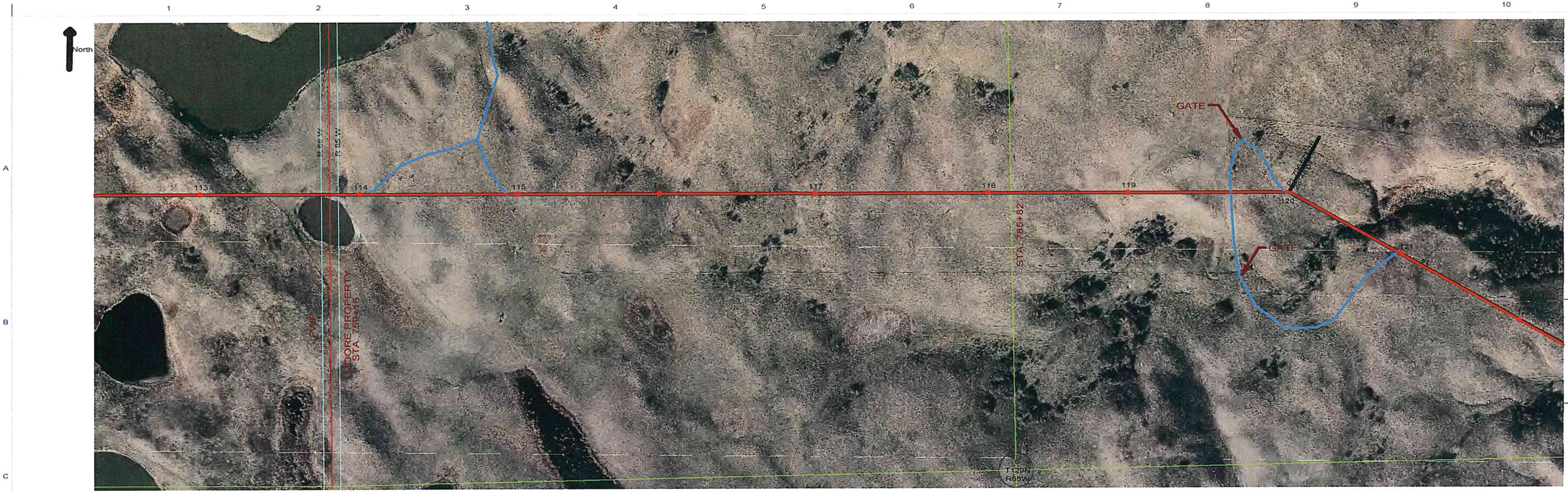
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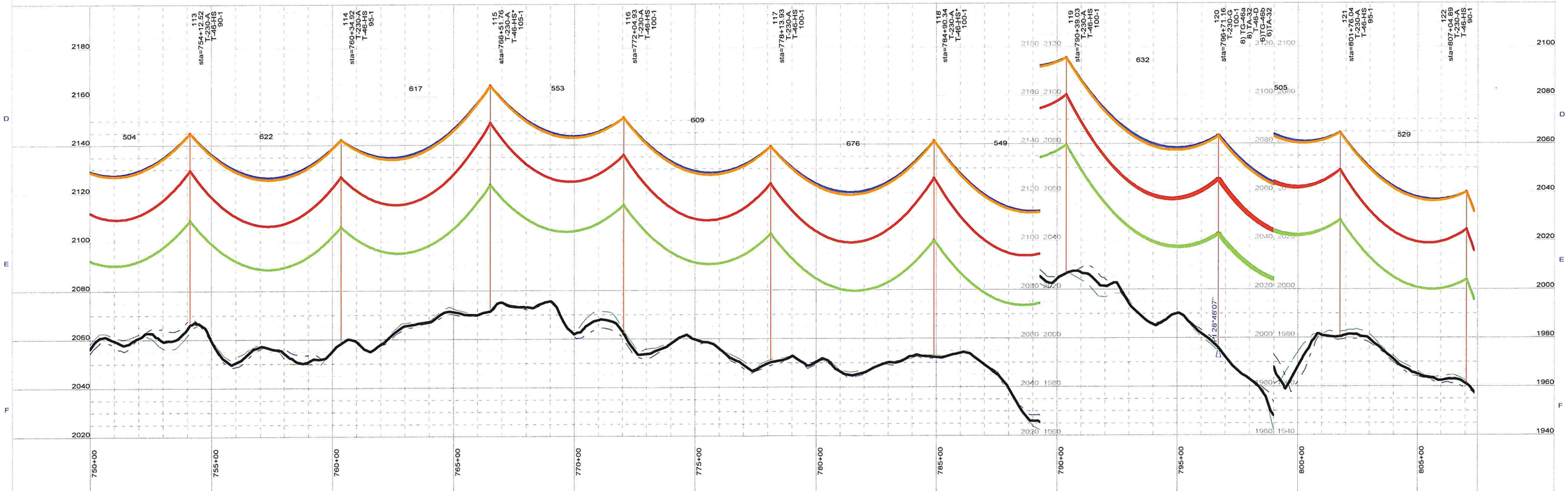
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:

SHEET: 14 of 29





NO.	DATE:	BY	REVISION:	NO.	DATE:	BY	REVISION:
				1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

MONTANA-DAKOTA UTILITIES CO. — In the Community to Serve

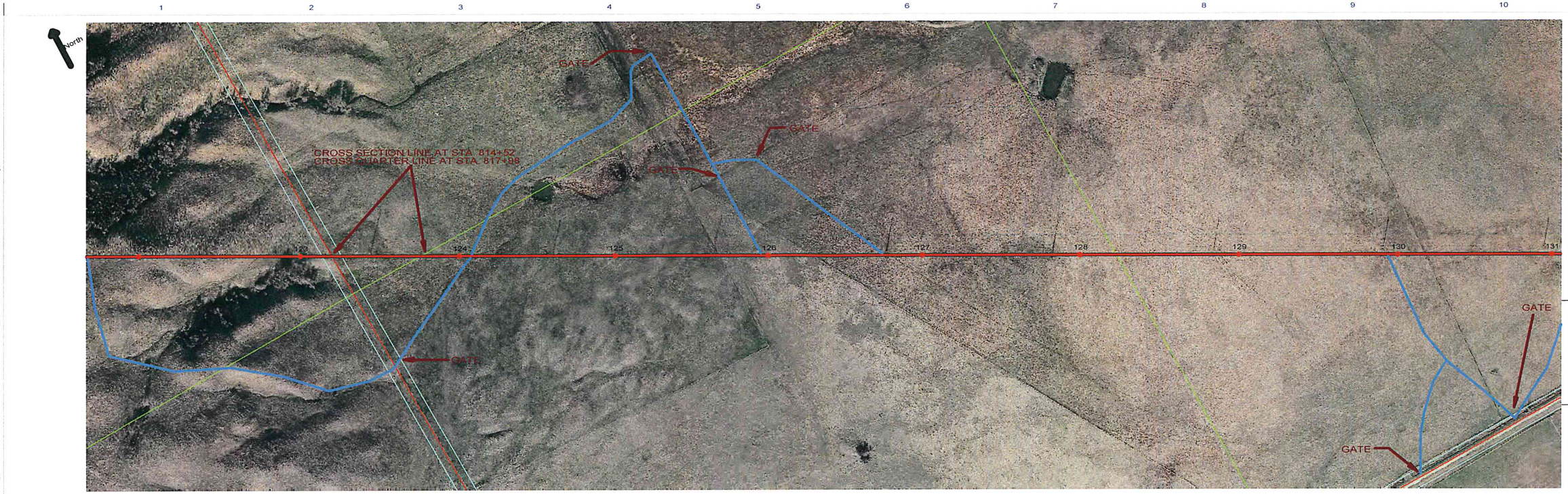
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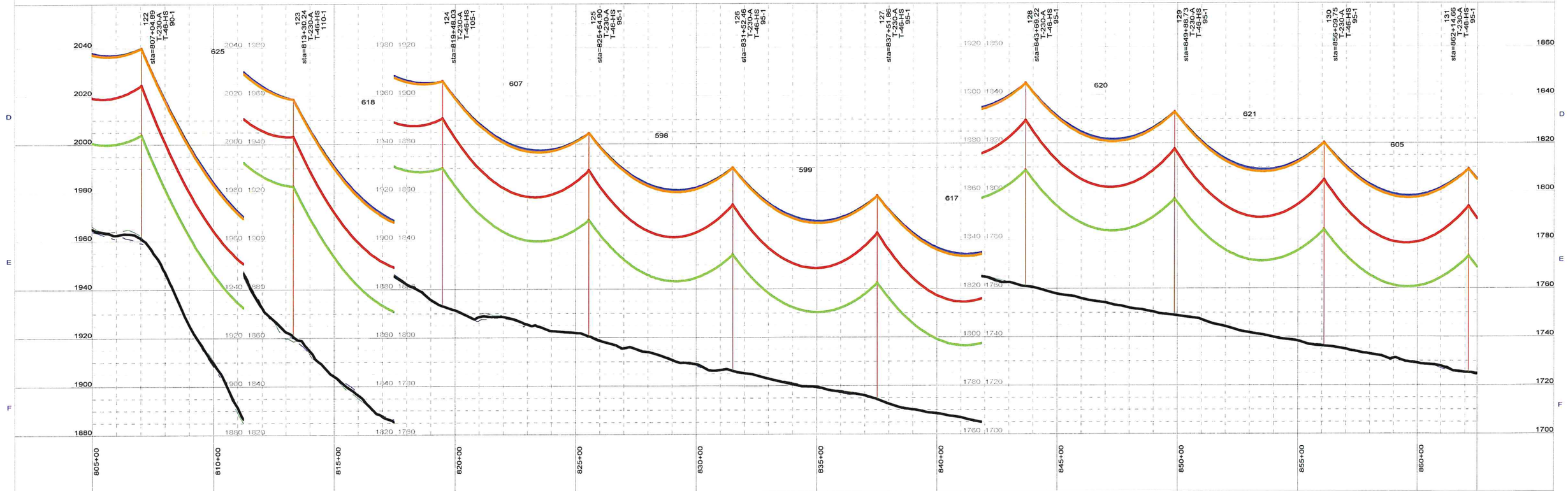
NOTES:
- ACCESS ROUTE
- EXISTING LINE CROSSINGS
- ALIGNMENT
- * CROSSARMS SPACING INCREASED TO 28' - 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 15 of 29





MONTANA-DAKOTA UTILITIES CO.
In the Community to Serve

NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

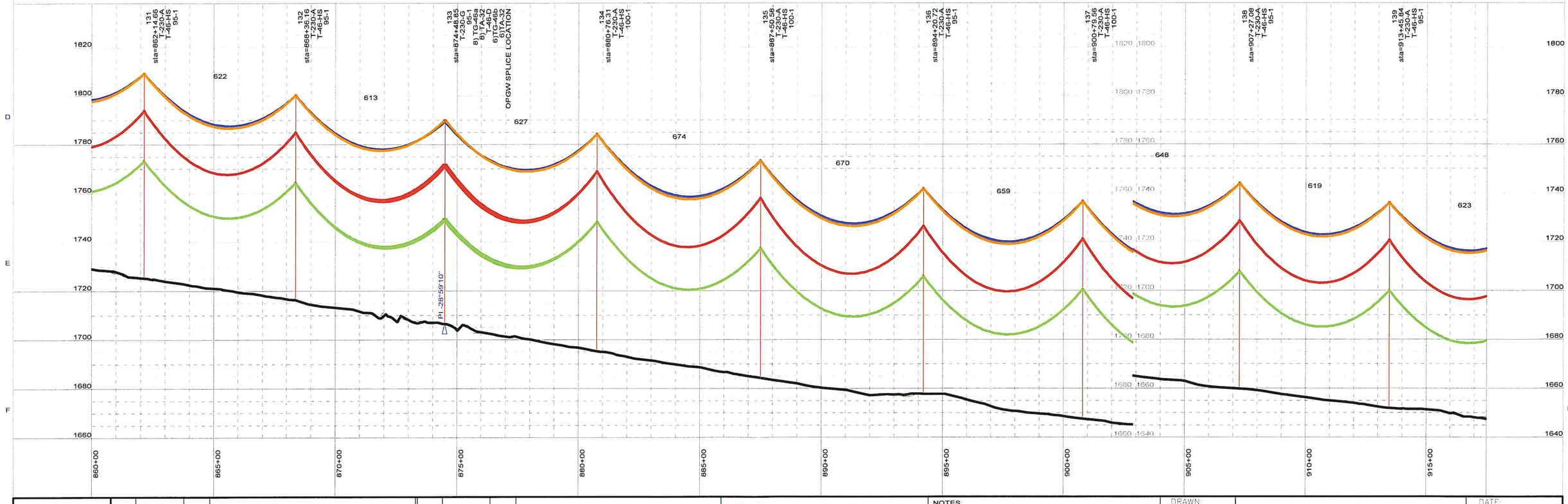
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 16 of 29





MONTANA-DAKOTA UTILITIES CO.
In the Community to Serve

NO:	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

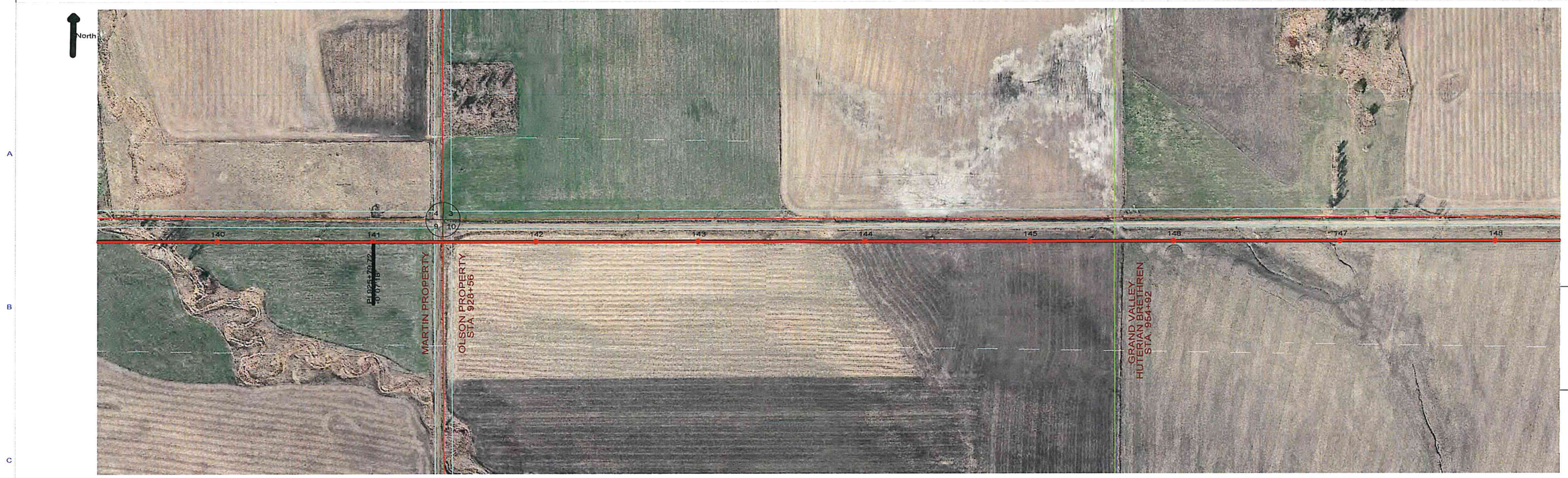
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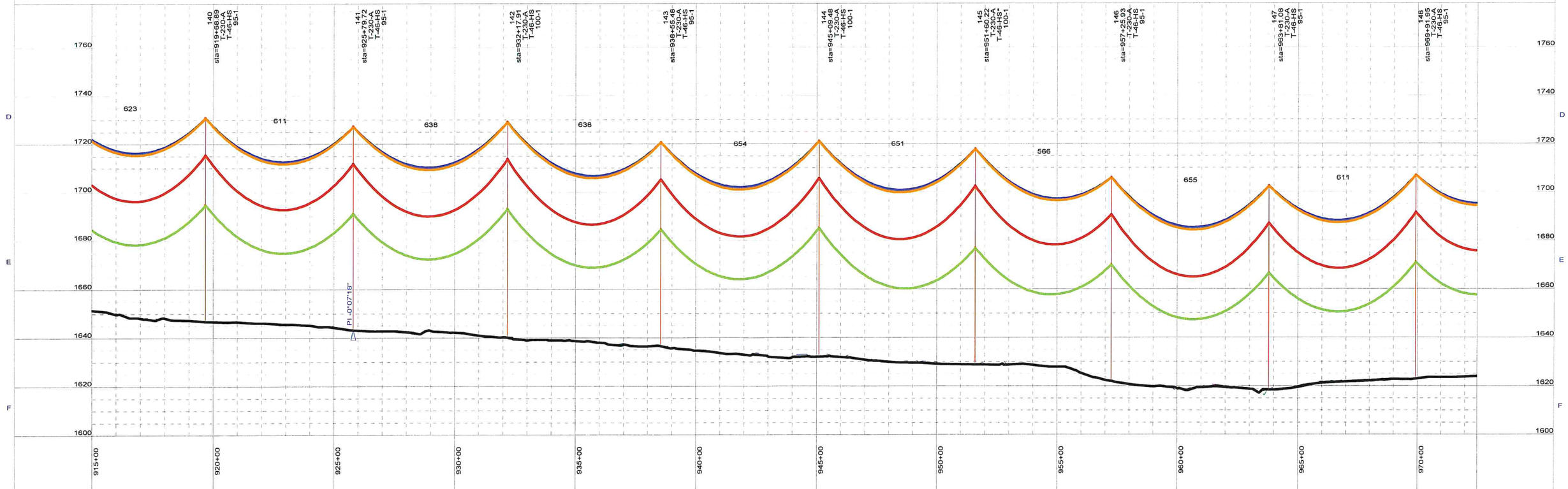
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 26'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 17 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

NOTES:
- ACCESS ROUTE
- EXISTING LINE CROSSINGS
- ALIGNMENT

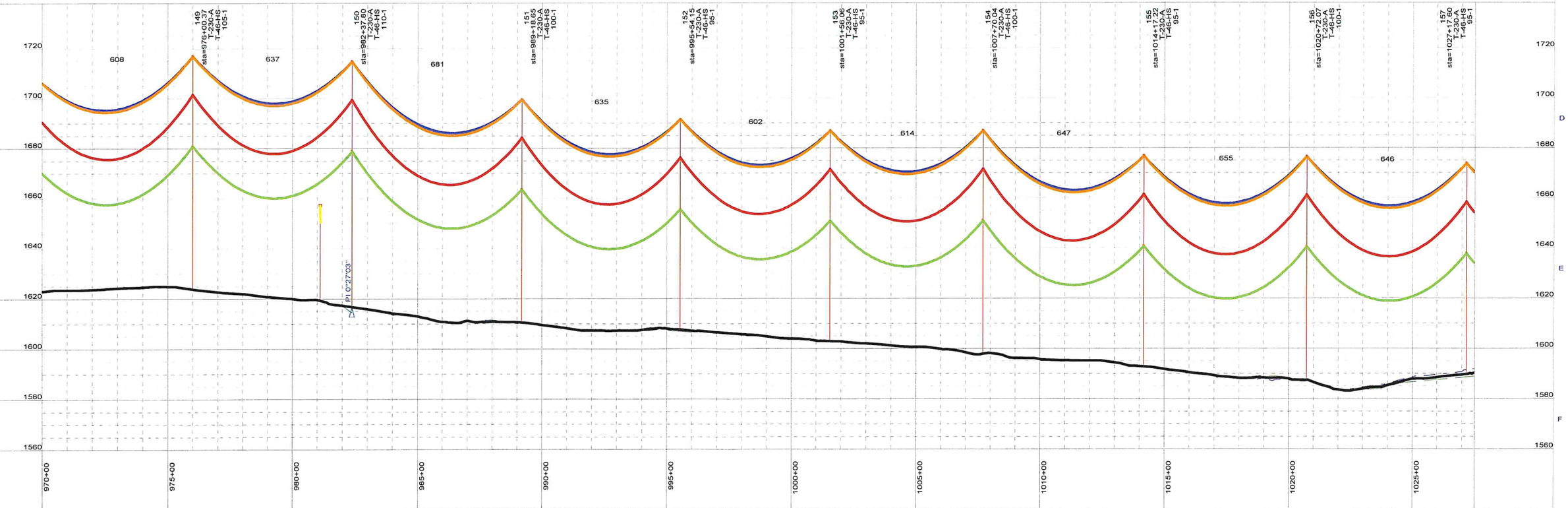
* CROSSARMS SPACING INCREASED TO 28' - 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET 18 of 29





NO:	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

NOTES:
- ACCESS ROUTE
- EXISTING LINE CROSSINGS
- ALIGNMENT

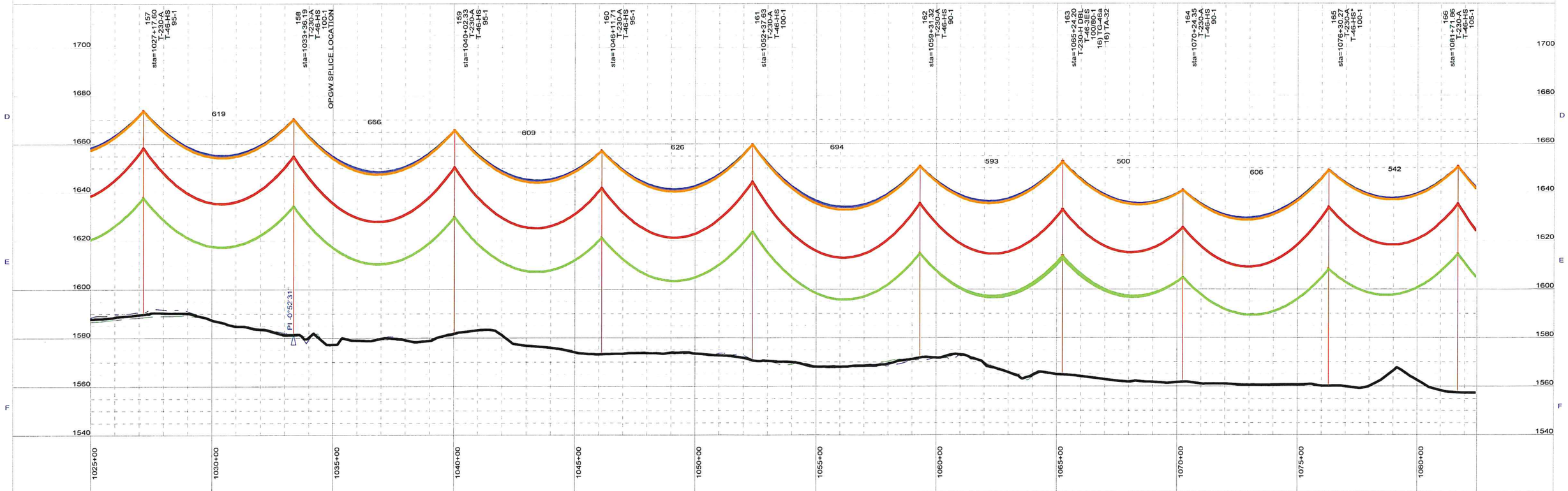
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 19 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

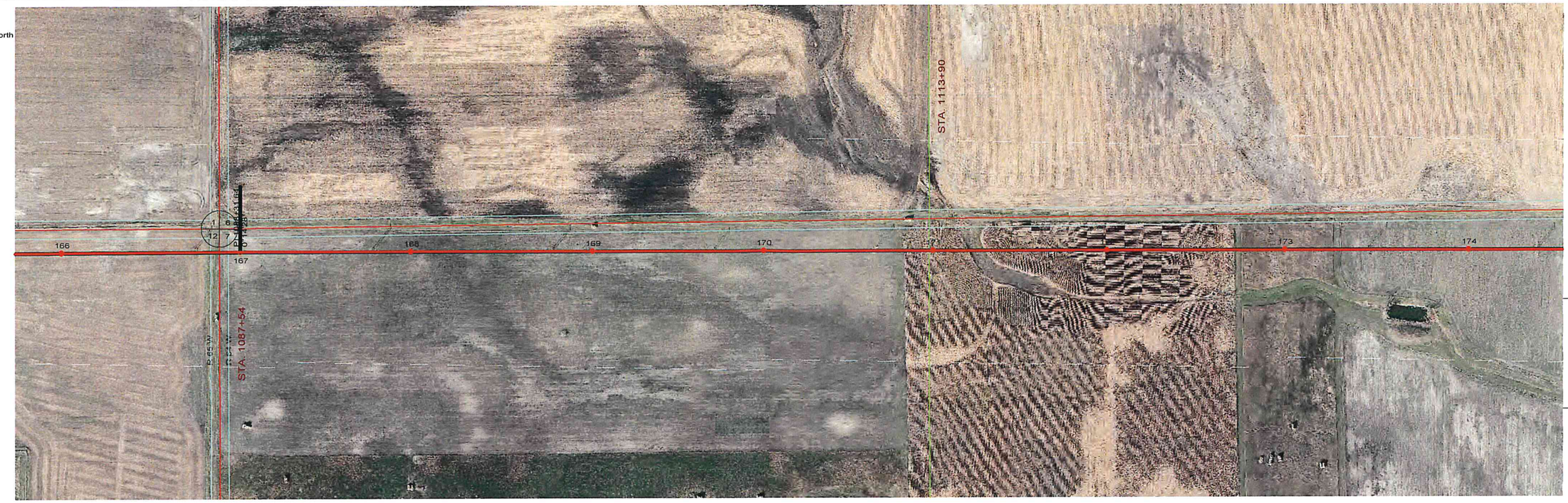
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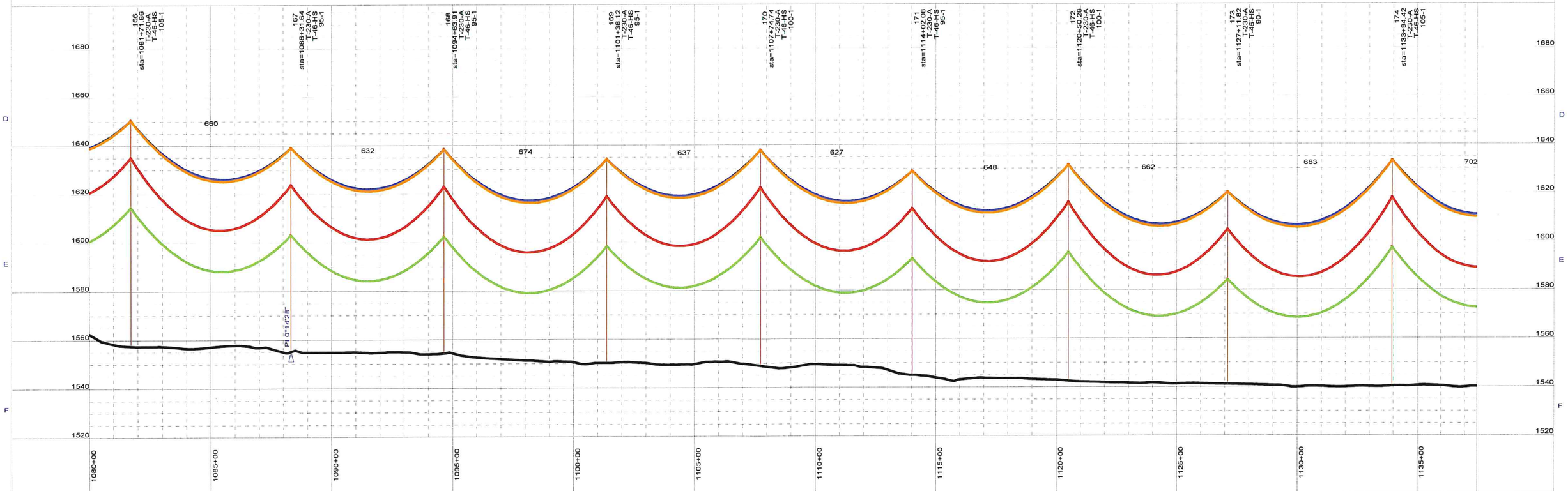
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 20 of 29





MONTANA-DAKOTA UTILITIES CO.
"In the Community to Serve"

NO.	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

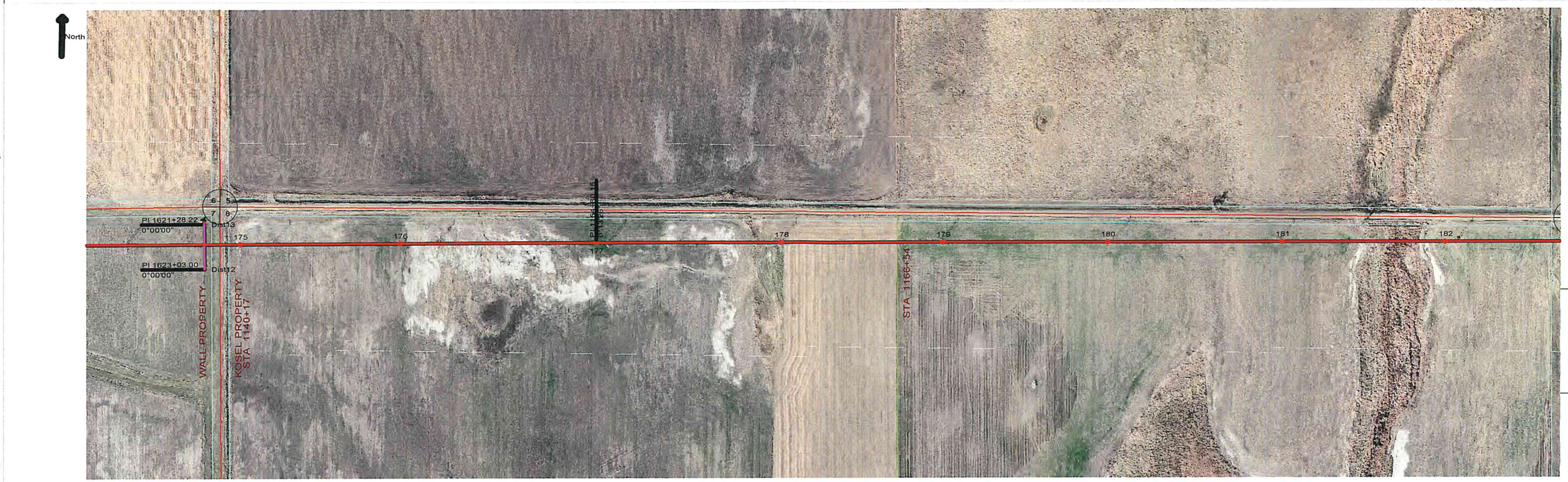
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40.0 ft. Vert. Scale

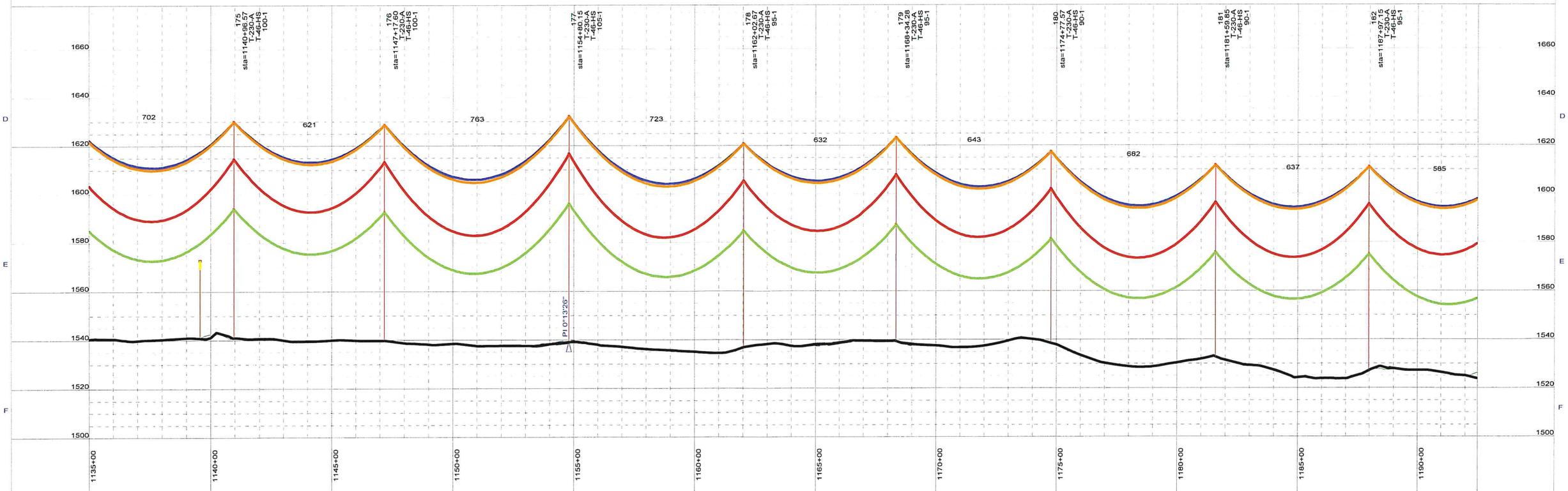
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 21 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

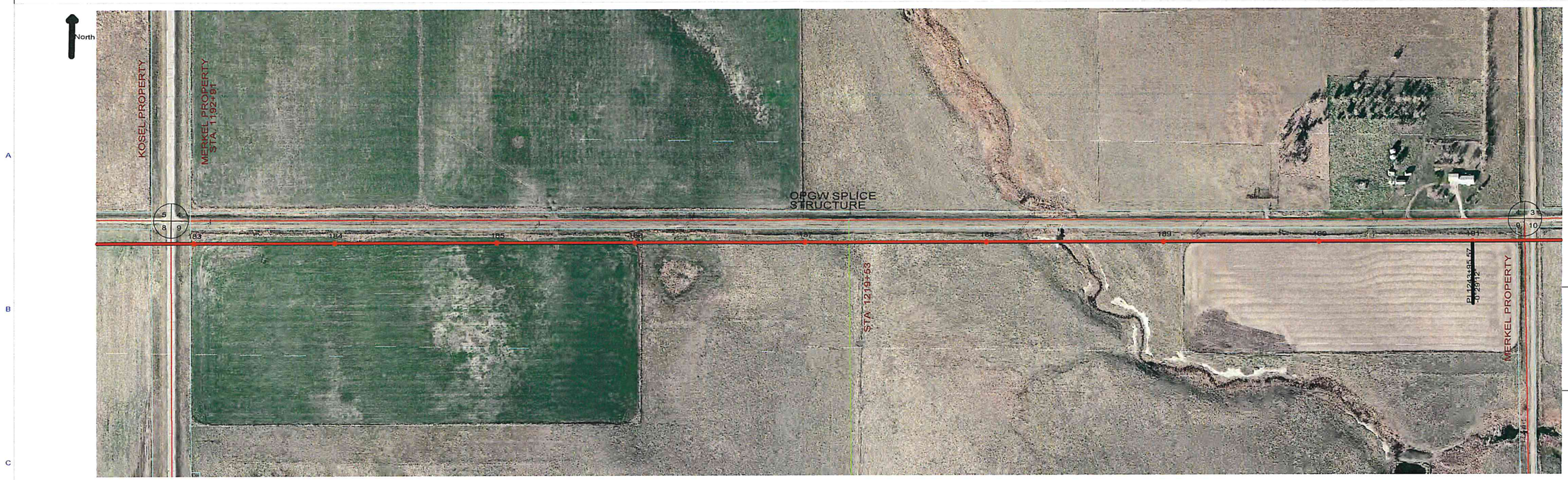
NOTES:
- ACCESS ROUTE
- EXISTING LINE CROSSINGS
- ALIGNMENT

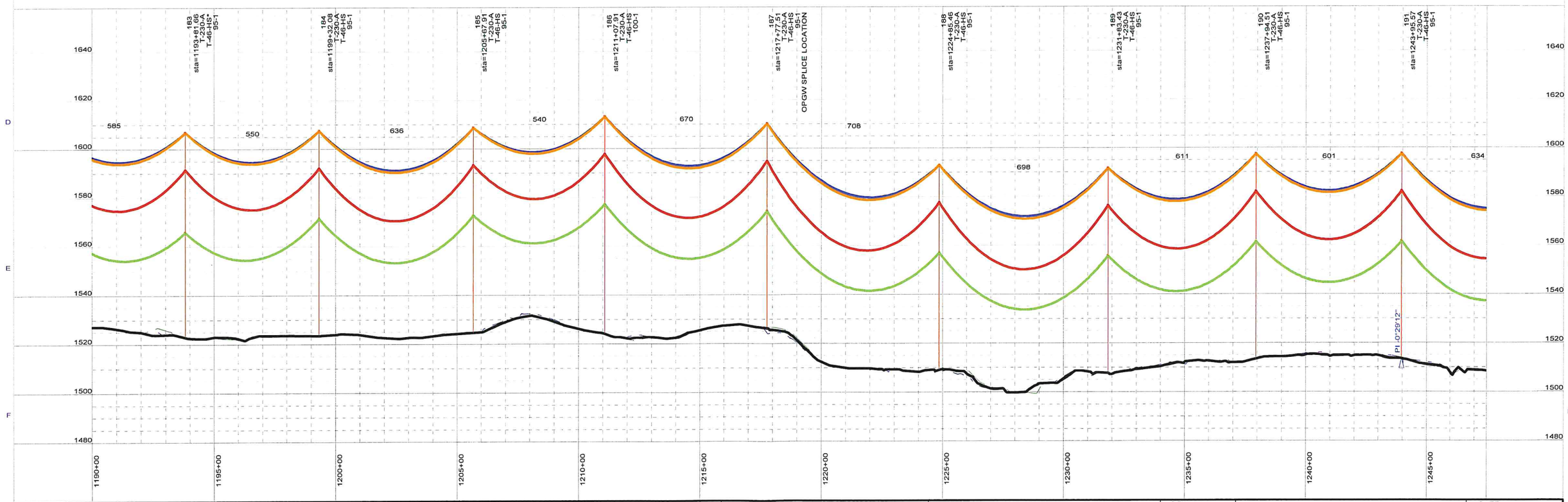
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 22 of 29





MONTANA-DAKOTA UTILITIES CO.
"In the Community to Serve"

NO:	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

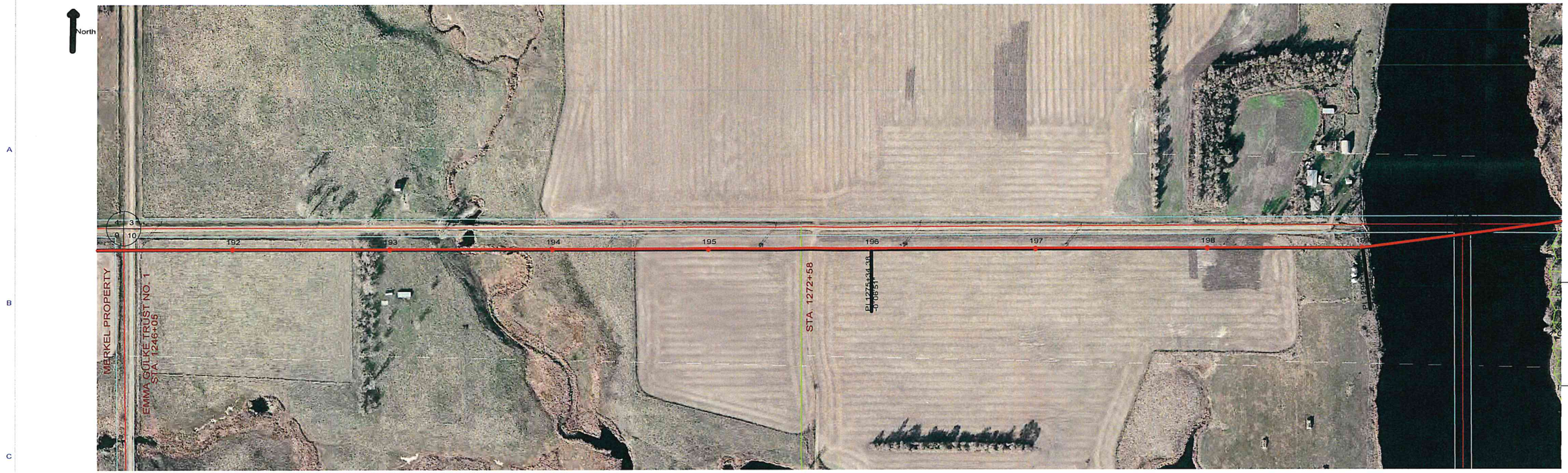
NOTES:
- ACCESS ROUTE
- EXISTING LINE CROSSINGS
- ALIGNMENT

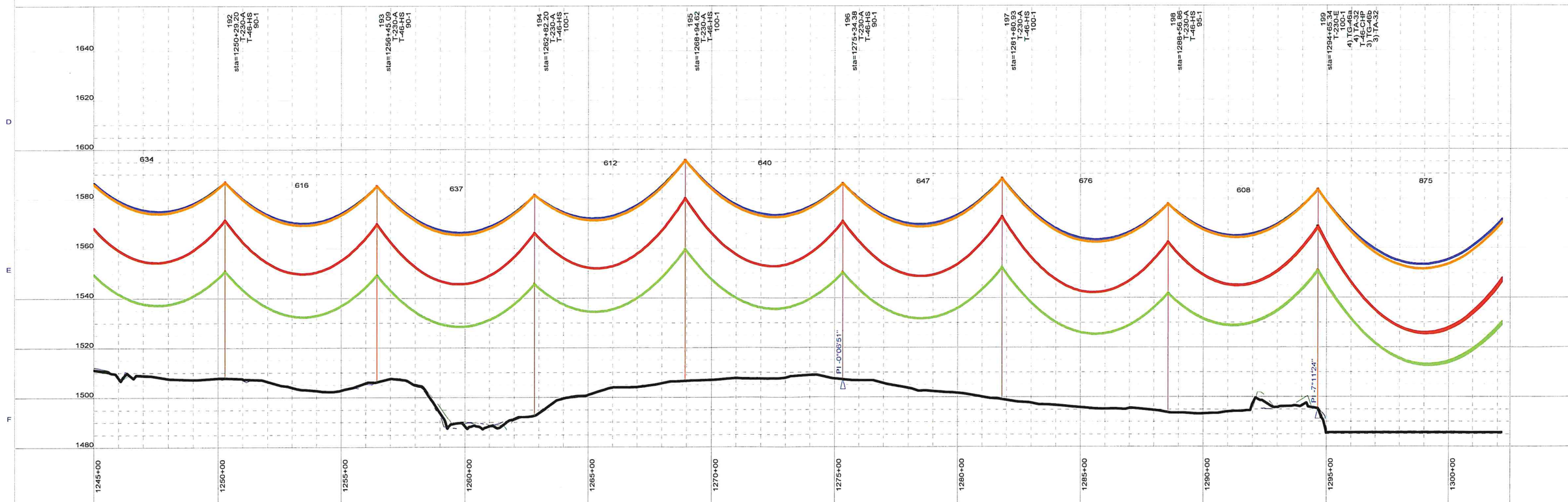
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 23 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

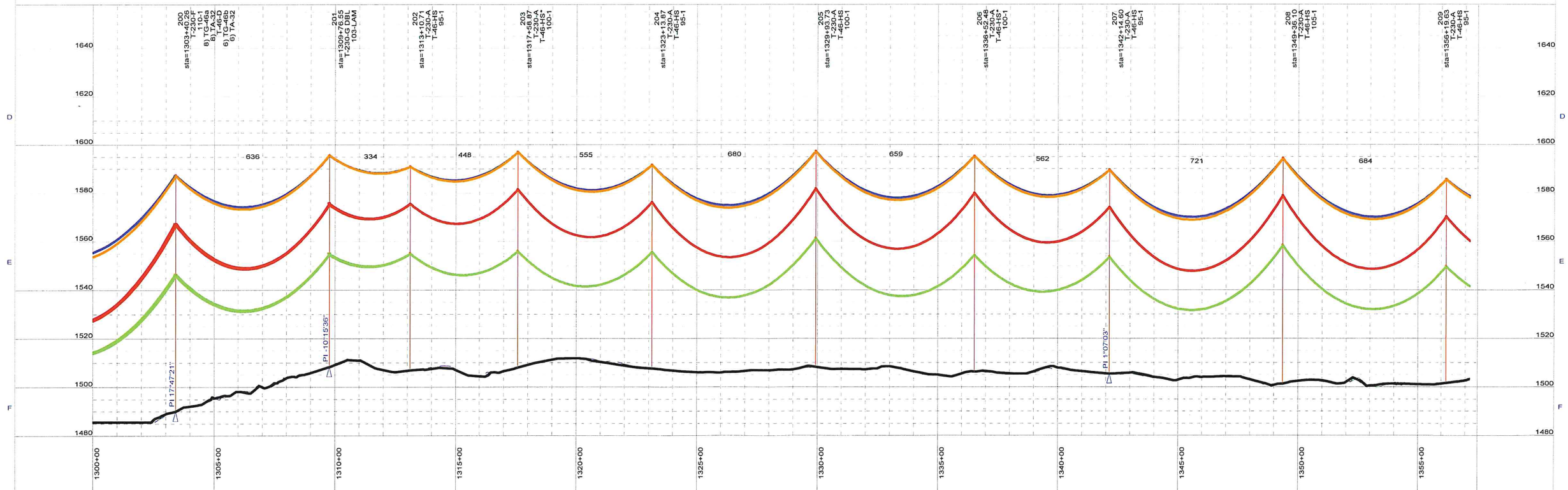
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 24 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

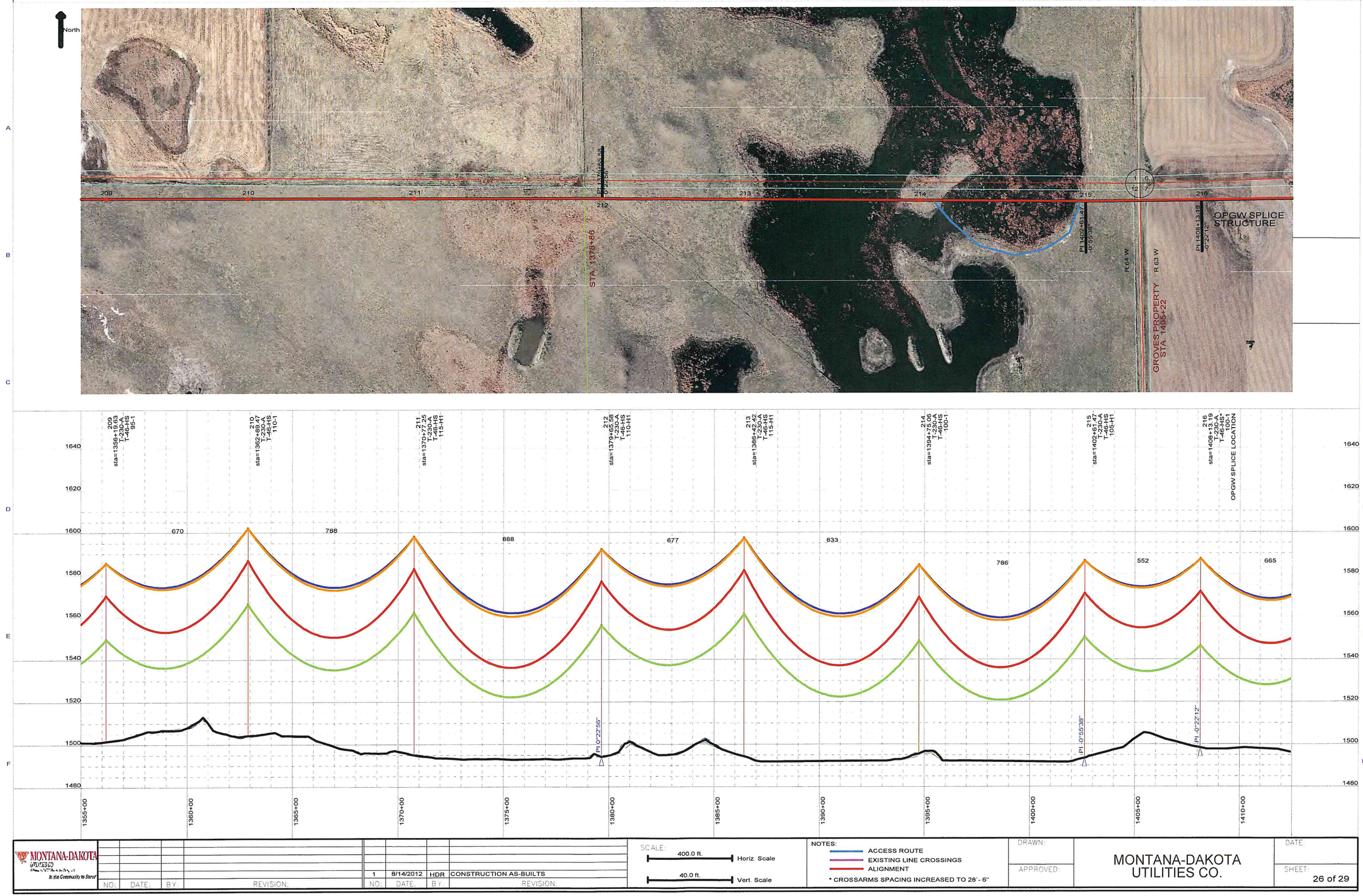
SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 25 of 29



NO:	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

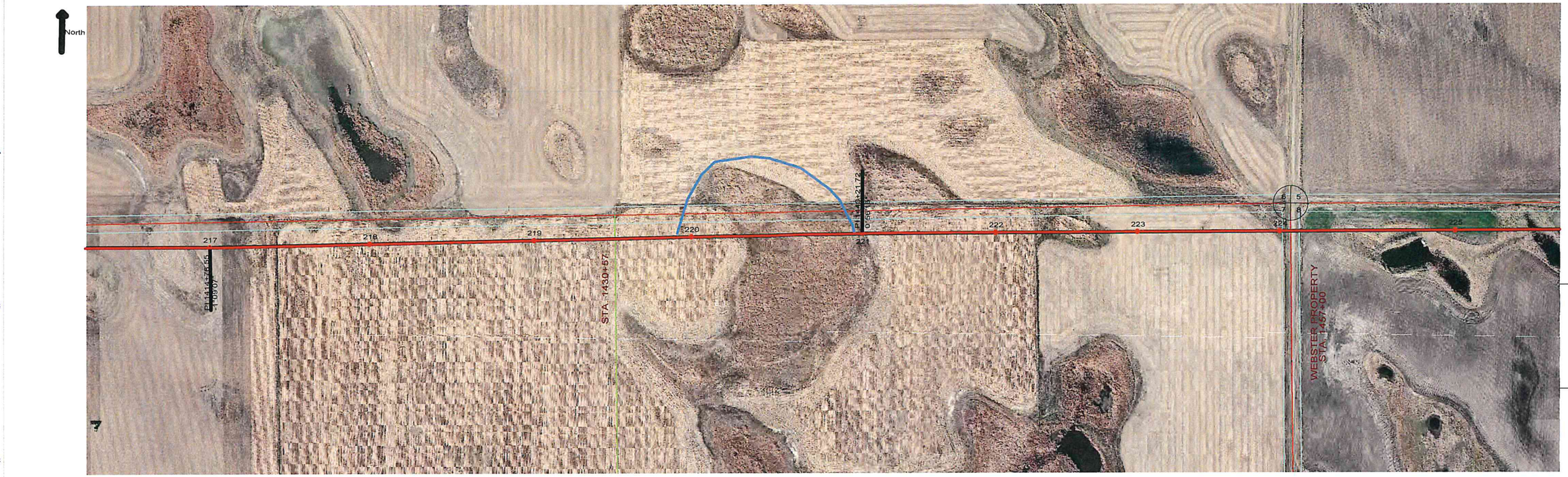
NOTES:
- ACCESS ROUTE
- EXISTING LINE CROSSINGS
- ALIGNMENT

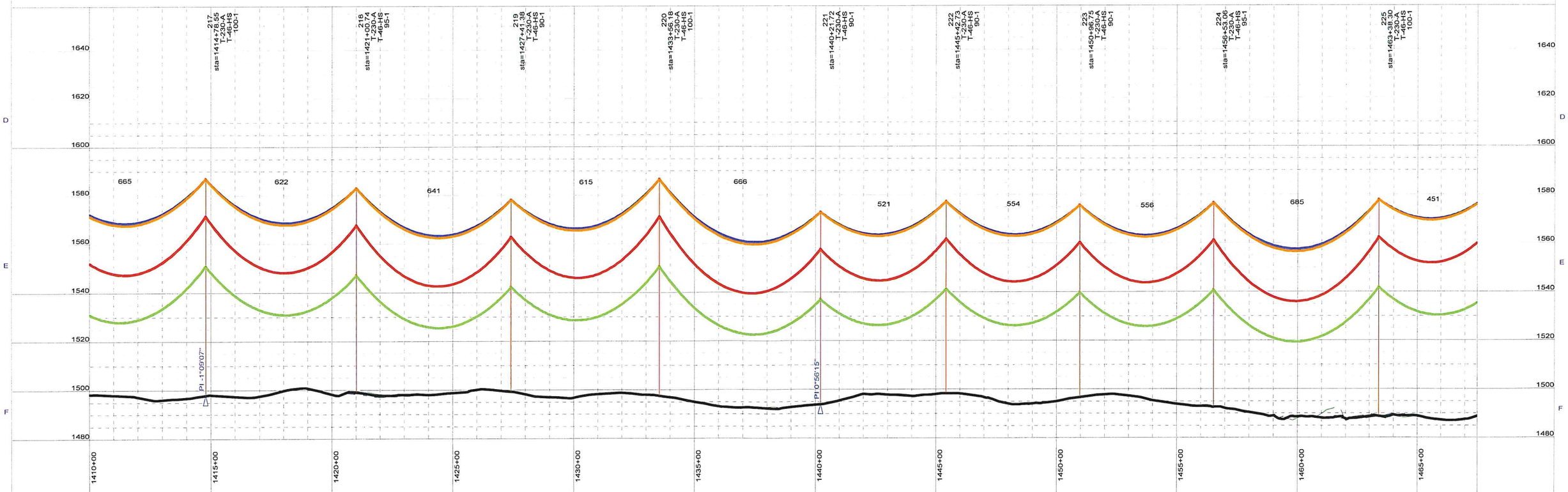
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 26 of 29





NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

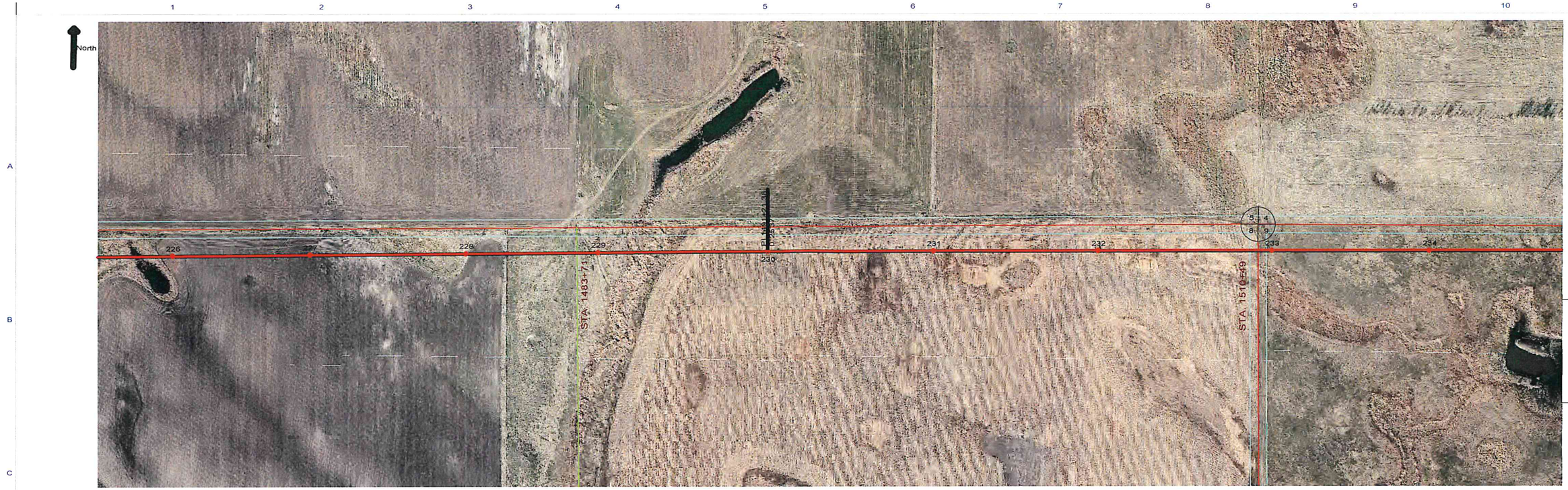
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400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

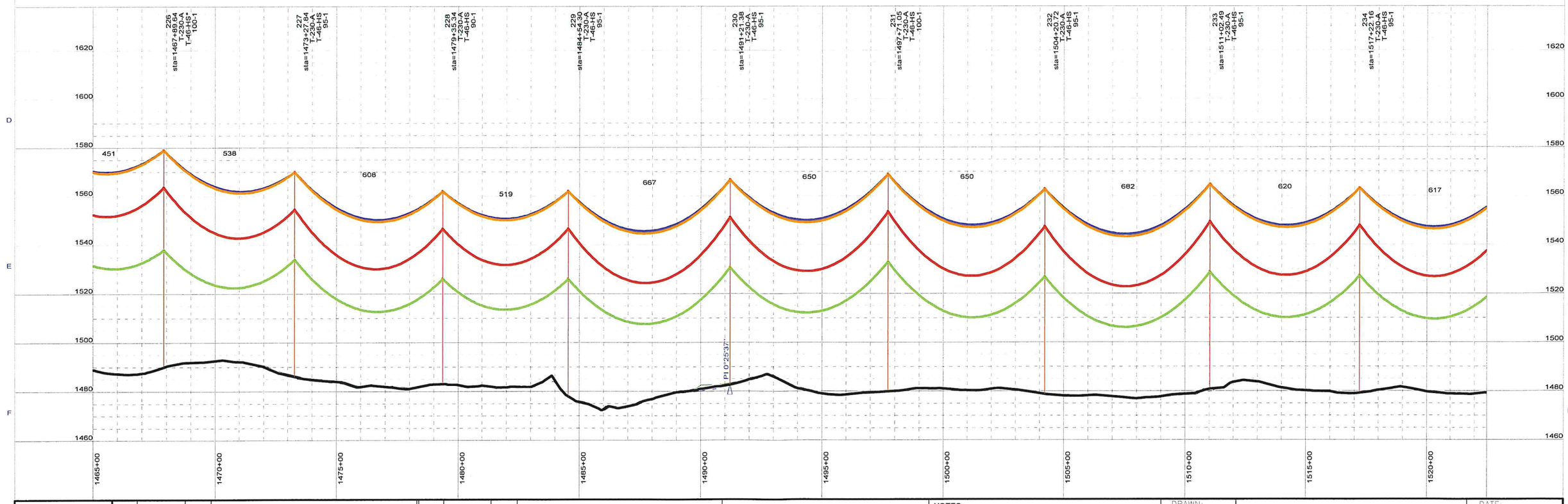
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'-6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 27 of 29





MONTANA-DAKOTA UTILITIES CO.
A MDU RESOURCES Company
In the Community to Serve

NO.	DATE	BY	REVISION
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

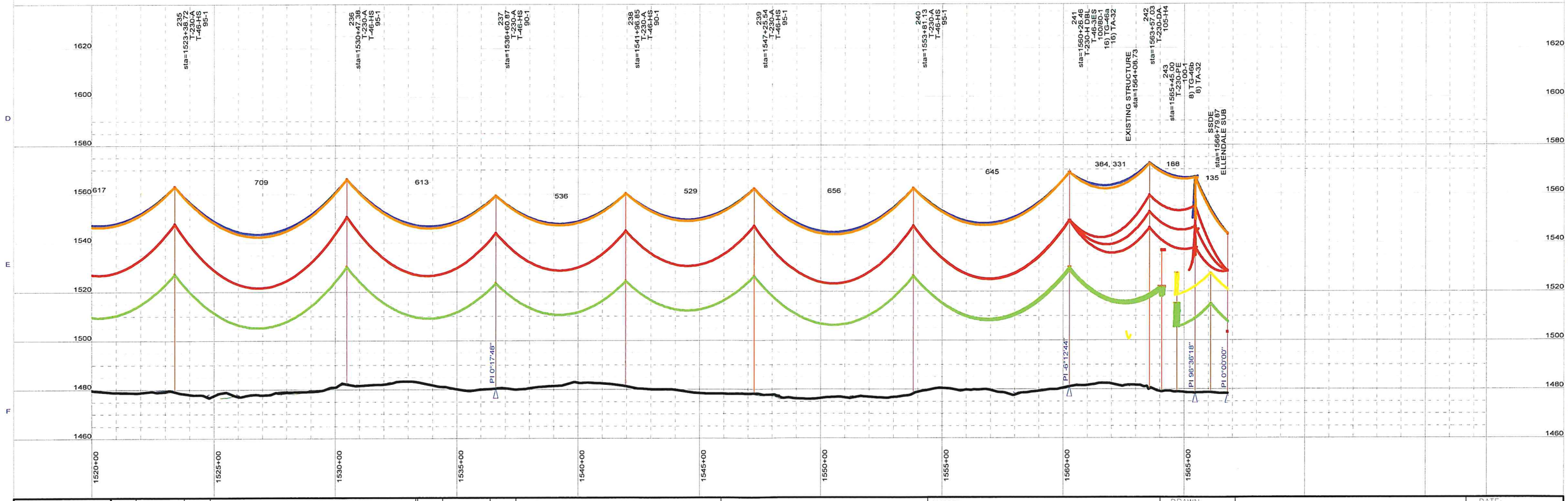
NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 28 of 29





NO:	DATE:	BY:	REVISION:
1	8/14/2012	HDR	CONSTRUCTION AS-BUILTS

SCALE:
400.0 ft. Horiz. Scale
40.0 ft. Vert. Scale

NOTES:
ACCESS ROUTE
EXISTING LINE CROSSINGS
ALIGNMENT
* CROSSARMS SPACING INCREASED TO 28'- 6"

DRAWN:
APPROVED:

MONTANA-DAKOTA UTILITIES CO.

DATE:
SHEET: 29 of 29