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Legend

- Benefitted Area
- Ditch Work Area
- Road Work Area

No.	Revision	Date	By

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9/13/2018
Zachary D. Herrmann
License No. 51125

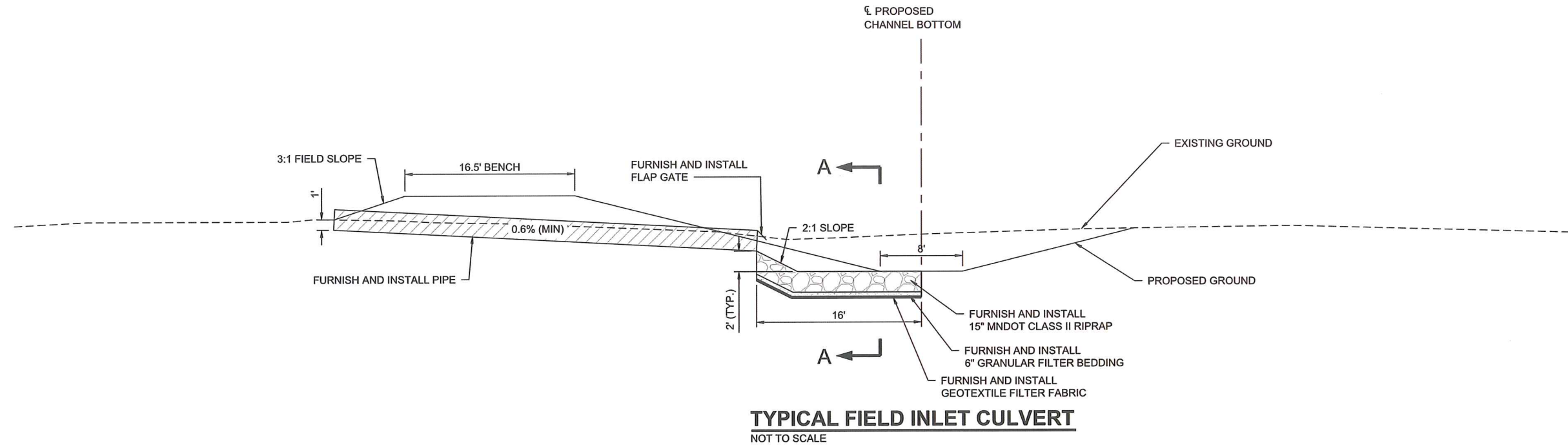
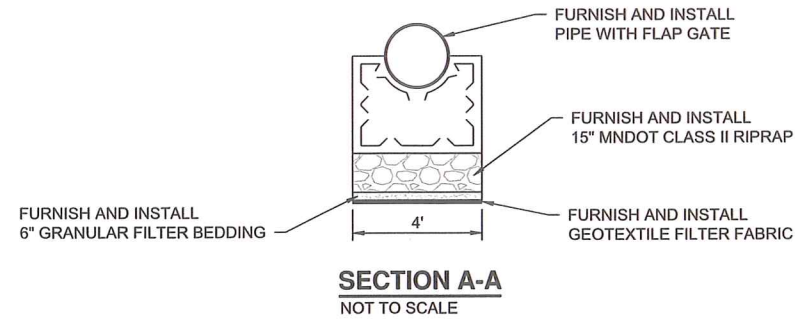
Houston Engineering Inc.

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CJ
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ZOH, JMW

Date
9-13-2018
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POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA	LOCATION MAP PROJECT NO. 1812-057	SHEET G-102
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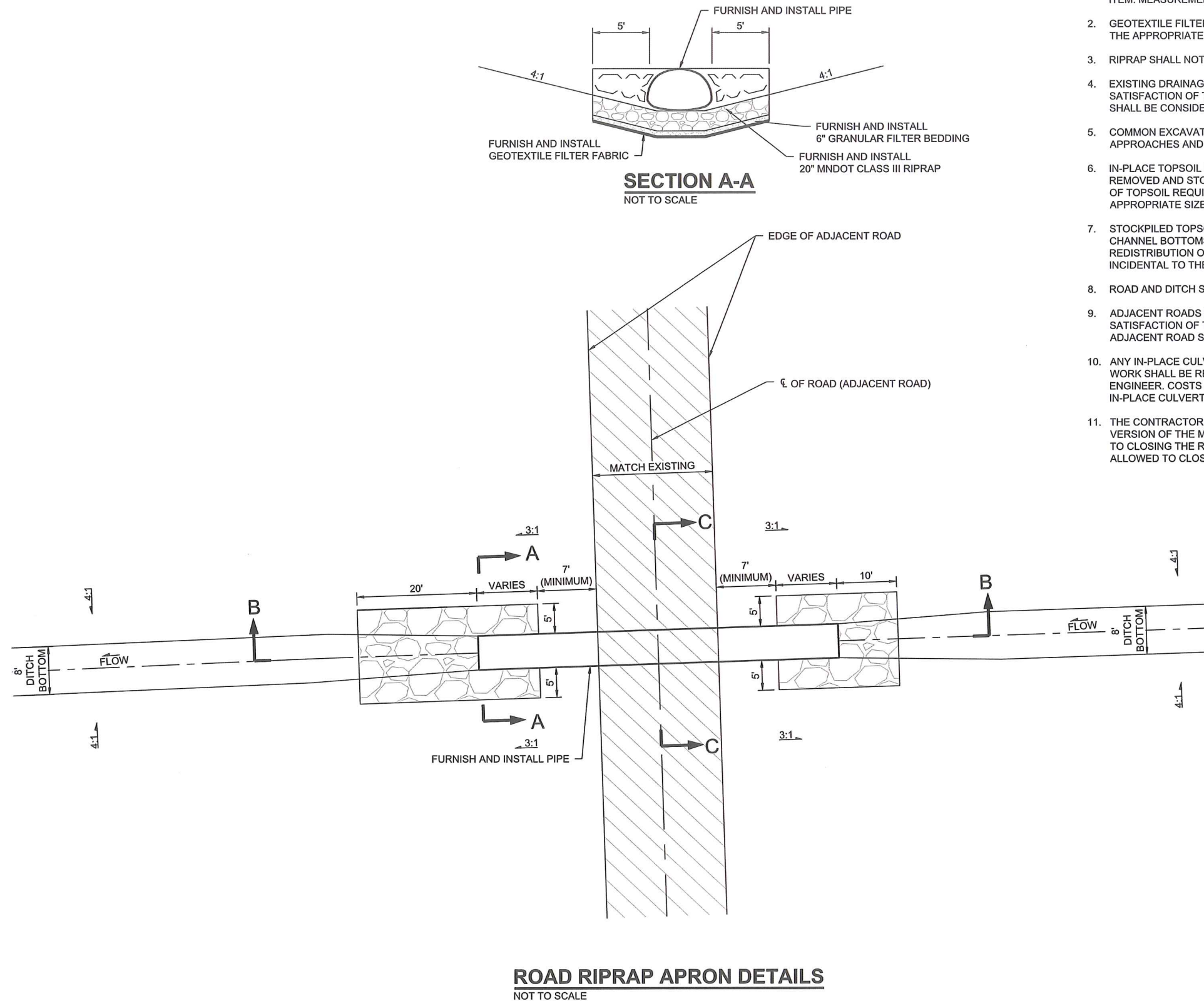
NOTE:

1. RIPRAP SHALL BE MEASURED AND PAID BASED ON THE APPROPRIATE MNDOT RIPRAP GRADATION BID ITEM. MEASUREMENT WILL BE MADE BASED ON PLACED AREA TIMES PLAN DEPTH.
2. GEOTEXTILE FILTER FABRIC AND GRANULAR FILTER BEDDING SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE APPROPRIATE MNDOT RIPRAP GRADATION BID ITEM.
3. COMMON EXCAVATION AND AGGREGATE BEDDING MATERIAL REQUIRED FOR INSTALLATION OF FIELD INLET CULVERTS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT COST OF CMP BID ITEM.
4. UNLESS OTHERWISE SPECIFIED, MATERIAL EXCAVATED TO INSTALL FIELD INLET CULVERTS MAY BE USED TO BACKFILL SIDE INLET CULVERTS.
5. FINISH GRADE OF THE INLET (FIELD) END OF PIPES SHALL GENERALLY BE BLENDED BACK TO EXISTING GRADE OVER 50 FEET HORIZONTALLY AND ENSURE THAT A 1' MINIMUM OF TOPSOIL IS IN-PLACE WITHIN THE 50' HORIZONTAL AREA. GRADING OF THE INLET (FIELD) END OF PIPES MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
6. PROPOSED GROUND MAY VARY FROM GEOMETRY PRESENTED IN THIS DETAIL. FINISH GRADE WILL BE COORDINATED WITH THE ENGINEER.
7. FIELD INLET LOCATIONS WILL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.
8. CULVERTS SHALL HAVE A MINIMUM 2' OF COVER OVER THE TOP OF THE PIPE.

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			I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota. <i>Joshua D. Herrmann</i> 9/13/2018 Joshua D. Herrmann License No. 51125	 Houston Engineering Inc.	Fargo P: 701.237.5065 F: 701.237.5101	Drawn by CJJ	Date 9-13-2018	POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA	FIELD INLET CULVERT INSTALLATION DETAILS PROJECT NO. 1812-057	SHEET C-101
No. Revision	Date	By				Checked by ZOH, JMW	Scale AS SHOWN			

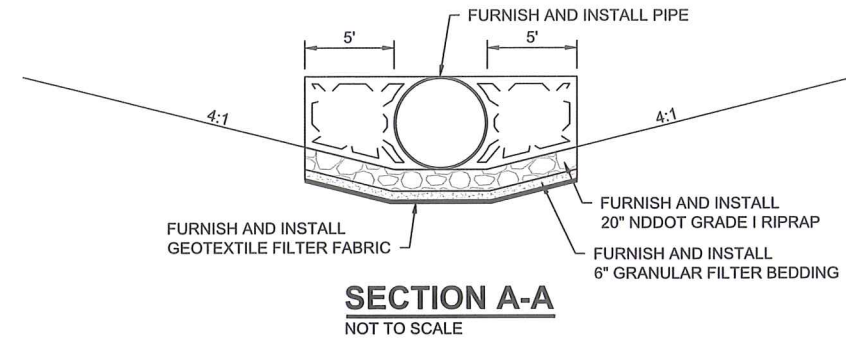
H:\Fargo\B\1000\1812\16_1812_057\PH001 2016 Improvement\CAO\Plans\Preliminary Plans\FIELD APPROACH DETAIL.dwg-RIPRAP APRON UNDERROAD DETAILS (2)-9/13/2018 4:44 PM-(jorgensen)



NOTES:

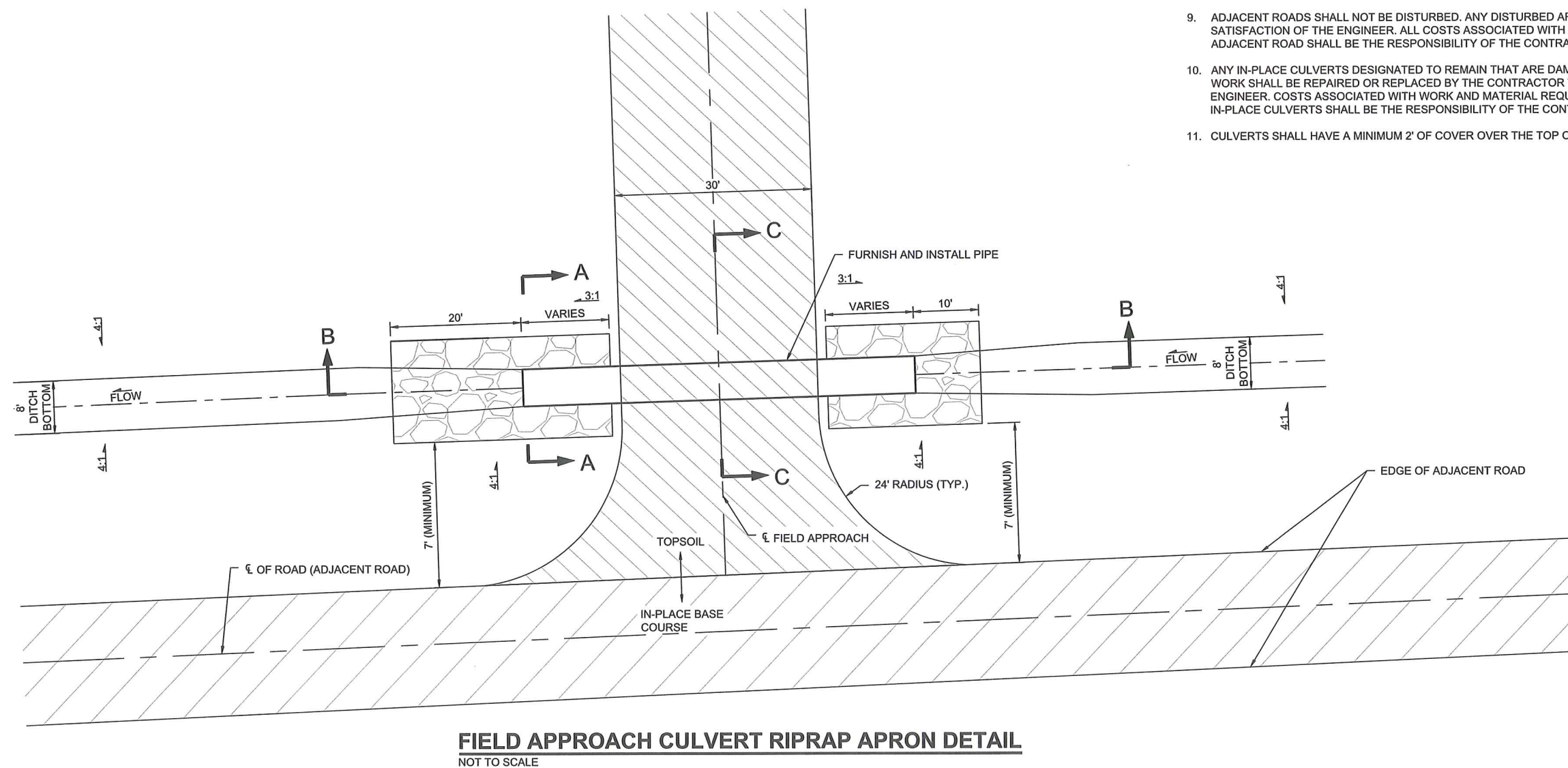
1. RIPRAP SHALL BE MEASURED AND PAID BASED ON THE APPROPRIATE MNDOT RIPRAP GRADATION BID ITEM. MEASUREMENT WILL BE MADE BASED ON PLACED AREA TIMES PLAN DEPTH.
2. GEOTEXTILE FILTER FABRIC AND GRANULAR FILTER BEDDING SHALL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE MNDOT RIPRAP GRADATION BID ITEM.
3. RIPRAP SHALL NOT BE PLACED WITHIN 7' OF THE EDGE OF ROAD.
4. EXISTING DRAINAGE DITCHES SHALL BE REALIGNED TO ENSURE PROPER DRAINAGE TO THE SATISFACTION OF THE ENGINEER. COMMON EXCAVATION REQUIRED TO REALIGN DRAINAGE DITCHES SHALL BE CONSIDERED INCIDENTAL TO CULVERT INSTALLATION.
5. COMMON EXCAVATION MATERIAL SHALL BE USED TO CONSTRUCT ROAD SIDE SLOPES AND FIELD APPROACHES AND SHALL BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS.
6. IN-PLACE TOPSOIL FROM ALL DISTURBED AREAS EXCLUDING THE EXISTING ROADWAY SHALL BE REMOVED AND STOCKPILED IN THE CONSTRUCTION EXTENTS. COSTS FOR REMOVAL AND STOCKPILED OF TOPSOIL REQUIRED FOR THE INSTALLATION OF CULVERTS WILL BE INCIDENTAL TO THE APPROPRIATE SIZE AND TYPE OF CULVERT BID ITEM.
7. STOCKPILED TOPSOIL SHALL BE UNIFORMLY REDISTRIBUTED OVER ALL DISTURBED AREAS EXCEPT CHANNEL BOTTOMS AFTER INSTALLATION OF CULVERTS, RIPRAP, AND OTHER INCIDENTAL ITEMS. REDISTRIBUTION OF TOPSOIL REQUIRED FOR THE INSTALLATION OF CULVERTS SHALL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE SIZE AND TYPE OF CULVERT BID ITEM.
8. ROAD AND DITCH SIDE SLOPES SHALL BE SEEDED AFTER TOPSOIL HAS BEEN REDISTRUBITED.
9. ADJACENT ROADS SHALL NOT BE DISTURBED. ANY DISTURBED AREAS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH REPAIR OF DISTURBED AREAS OF THE ADJACENT ROAD SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. ANY IN-PLACE CULVERTS DESIGNATED TO REMAIN THAT ARE DAMAGED AS RESULT OF CONTRACT WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. COSTS ASSOCIATED WITH WORK AND MATERIAL REQUIRED TO REPAIR OR REPLACE IN-PLACE CULVERTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES LAYOUT 6J-20 PRIOR TO CLOSING THE ROAD FOR CULVERT REMOVAL AND INSTALLATION. THE CONTRACTOR SHALL BE ALLOWED TO CLOSE THE ROADWAY FOR 3 CONSECUTIVE CALENDAR DAYS.

				I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. <i>Zachary O. Herrmann</i> 9/13/2018 Zachary O. Herrmann License No. 51125	 Houston Engineering Inc.	Fargo		Drawn by CJJ	Date 9-13-2018	POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA	ROAD RIPRAP APRON DETAILS PROJECT NO. 1812-057	SHEET C-102
No.	Revision	Date	By	Date		P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW		Scale AS SHOWN			



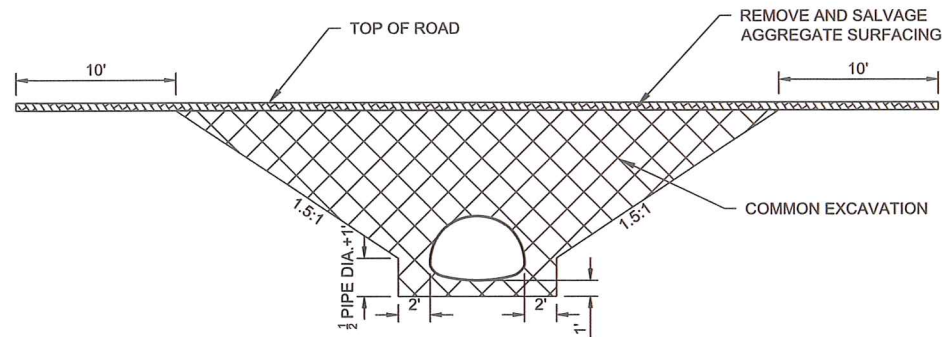
- NOTES:

1. RIPRAP SHALL BE MEASURED AND PAID BASED ON THE APPROPRIATE MNDOT RIPRAP GRADATION BID ITEM. MEASUREMENT WILL BE MADE BASED ON PLACED AREA TIMES PLAN DEPTH.
2. GEOTEXTILE FILTER FABRIC AND GRANULAR FILTER BEDDING SHALL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE MNDOT RIPRAP GRADATION BID ITEM.
3. RIPRAP SHALL NOT BE PLACED WITHIN 7' OF THE EDGE OF ROAD.
4. EXISTING DRAINAGE DITCHES SHALL BE REALIGNED TO ENSURE PROPER DRAINAGE TO THE SATISFACTION OF THE ENGINEER. COMMON EXCAVATION REQUIRED TO REALIGN DRAINAGE DITCHES SHALL BE CONSIDERED INCIDENTAL TO CULVERT INSTALLATION.
5. SUITABLE COMMON EXCAVATION MATERIAL SHALL BE USED TO CONSTRUCT ROAD SIDE SLOPES AND FIELD APPROACHES AND SHALL BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS.
6. IN-PLACE TOPSOIL FROM ALL DISTURBED AREAS EXCLUDING THE EXISTING ROADWAY SHALL BE REMOVED AND STOCKPILED IN THE CONSTRUCTION EXTENTS. COSTS FOR REMOVAL AND STOCKPILING OF TOPSOIL REQUIRED FOR THE INSTALLATION OF CULVERTS WILL BE INCIDENTAL TO THE APPROPRIATE SIZE AND TYPE OF CULVERT BID ITEM.
7. STOCKPILED TOPSOIL SHALL BE UNIFORMLY REDISTRIBUTED OVER ALL DISTURBED AREAS EXCEPT CHANNEL BOTTOMS AFTER INSTALLATION OF CULVERTS, RIPRAP, AND OTHER INCIDENTAL ITEMS. REDISTRIBUTION OF TOPSOIL REQUIRED FOR THE INSTALLATION OF CULVERTS SHALL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE SIZE AND TYPE OF CULVERT BID ITEM.
8. ROAD AND DITCH SIDE SLOPES SHALL BE SEEDED AFTER TOPSOIL HAS BEEN REDISTRIBUTED.
9. ADJACENT ROADS SHALL NOT BE DISTURBED. ANY DISTURBED AREAS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH REPAIR OF DISTURBED AREAS OF THE ADJACENT ROAD SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. ANY IN-PLACE CULVERTS DESIGNATED TO REMAIN THAT ARE DAMAGED AS RESULTS OF CONTRACT WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. COSTS ASSOCIATED WITH WORK AND MATERIAL REQUIRED TO REPAIR OR REPLACE IN-PLACE CULVERTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. CULVERTS SHALL HAVE A MINIMUM 2' OF COVER OVER THE TOP OF THE PIPE.

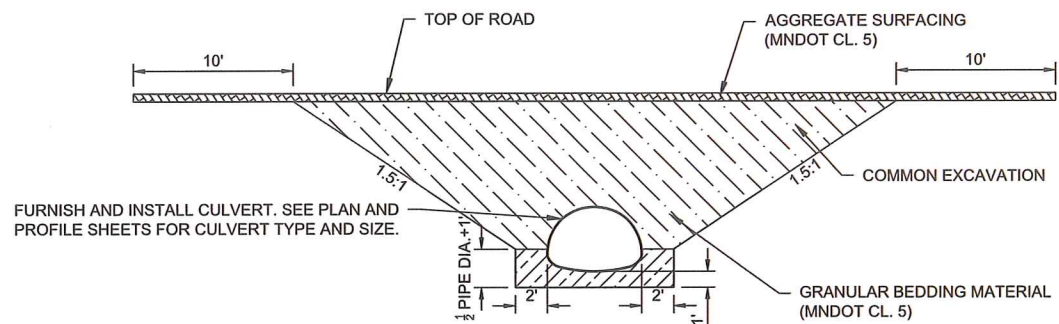


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No.	Revision	Date	By					P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW	Scale AS SHOWN			

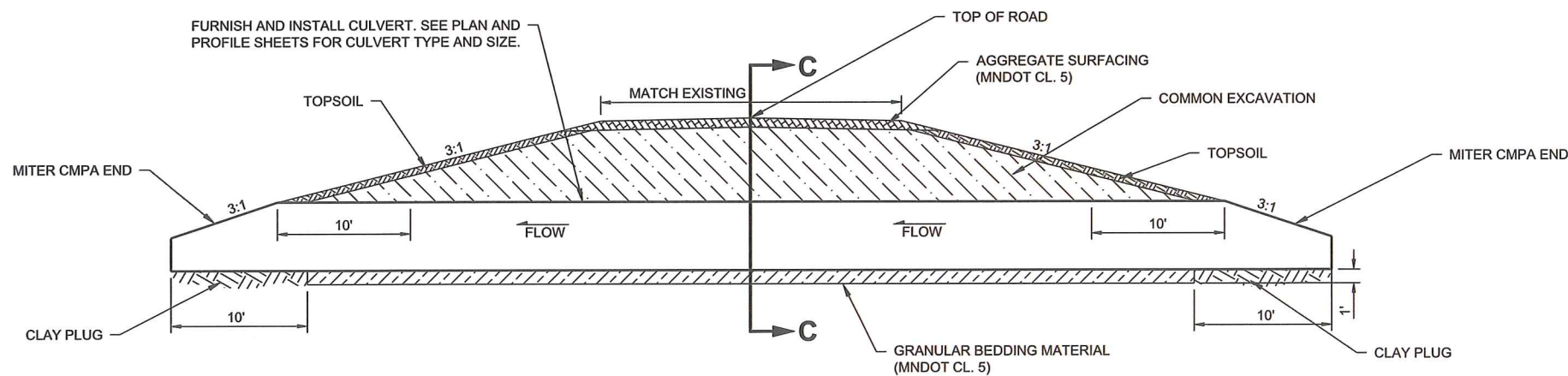
H:\Fargo\BN\1800\1812\16_1812_057\PH001 2016 Improvement\CAO\Plans\Preliminary Plans\FIELD APPROACH DETAIL.dwg FIELD APPROACH INSTALLATION-9/13/2018 4:44 PM-(jorgensen)



SECTION C-C EXCAVATION



SECTION C-C INSTALLATION



SECTION B-B INSTALLATION

TYPICAL CULVERT INSTALLATION AND EXCAVATION DETAILS

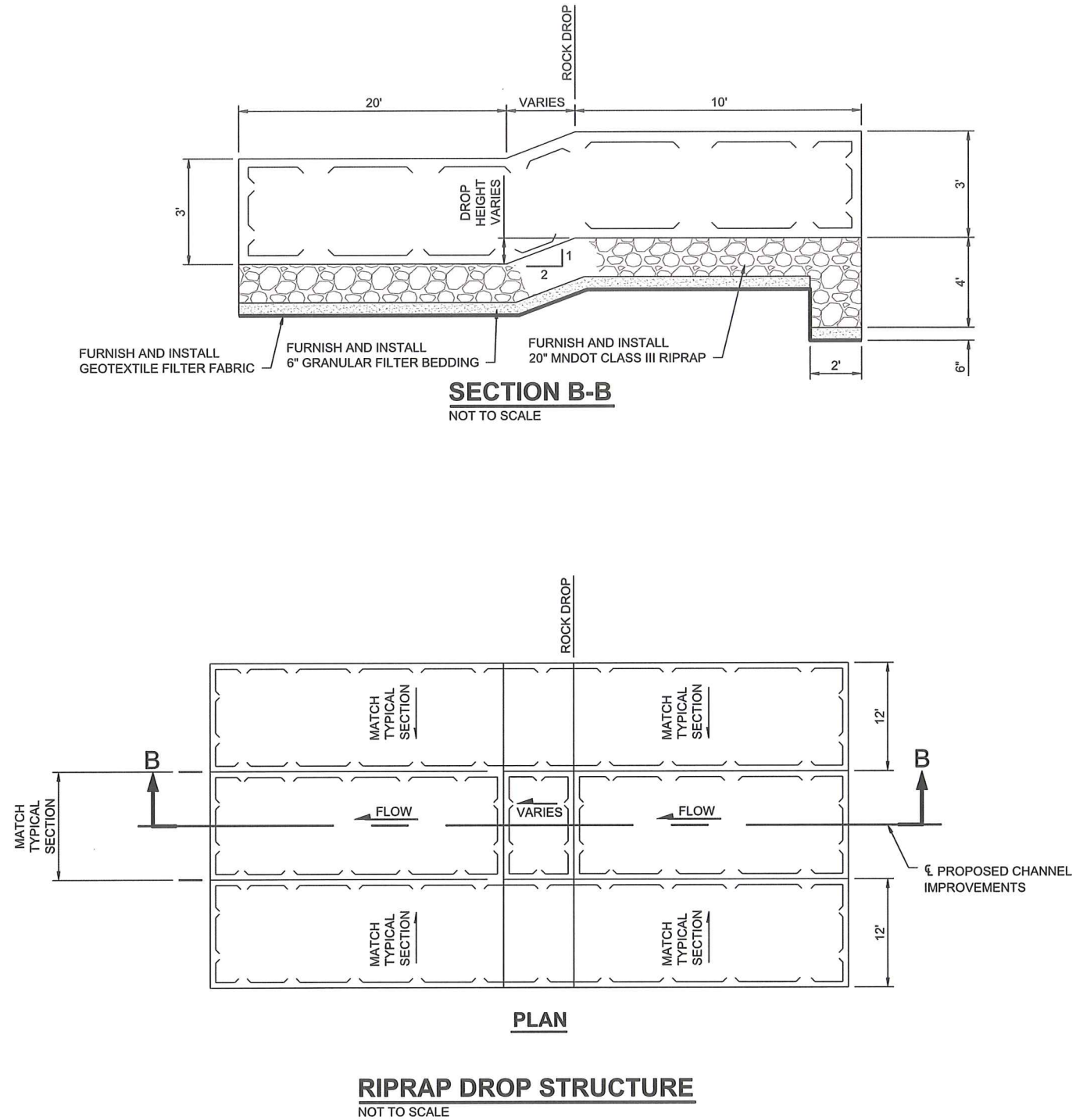
NOT TO SCALE

NOTES:

1. COMMON EXCAVATION AND GRANULAR BEDDING MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THE UNIT COST OF CORRESPONDING PIPE BID ITEM.
2. ALL JOINTS SHALL BE WRAPPED IN THEIR ENTIRETY WITH MNDOT TYPE 1 GEOTEXTILE FABRIC. OVERLAP OF JOINTS SHALL BE ONE WIDTH OF THE FABRIC ROLL AND FASTENED WITH STAPLES. THE GEOTEXTILE FABRIC AND INSTALLATION COSTS SHALL BE CONSIDERED INCIDENTAL TO THE OTHER BID ITEMS REQUIRED FOR THE PIPE INSTALLATION.
3. REMOVAL AND SALVAGE OF AGGREGATE SURFACING AND ALL RELATED INCIDENTAL ITEMS SHALL BE INCIDENTAL TO THE INSTALLATION OF THE RELATED DRAINAGE STRUCTURE INVOLVED. THE SUITABILITY OF REMOVED AGGREGATE SURFACING FOR REUSE SHALL BE AT THE DISCRETION OF THE ENGINEER.
4. TOP OF ROAD WIDTH SHALL GENERALLY CONFORM TO DIMENSION SPECIFIED IN THE PLANS AND GENERALLY MATCH THE EXISTING ROAD WIDTH.
5. CLAY PLUGS SHALL BE CONSTRUCTED WITH SUITABLE CLAY SPOIL MATERIAL FROM COMMON EXCAVATION. ALL COSTS ASSOCIATED WITH CONSTRUCTION OF THE CLAY PLUG SHALL BE INCIDENTAL TO THE INSTALLATION OF THE CORRESPONDING METAL PIPE BID ITEM. SUITABLE COMMON EXCAVATION MATERIAL SHALL BE PLACED AROUND THE CULVERT IN LIEU OF GRANULAR BEDDING MATERIAL.
6. WHEN TWO OR MORE CULVERTS ARE INSTALLED IN LOCATIONS SHOWN ON THE PLANS, THERE SHALL BE A MINIMUM OF 3' BETWEEN CULVERTS.
7. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH MNMUTCD LAYOUT 6J-20 PRIOR TO CLOSING THE ROAD FOR CULVERT REMOVAL AND INSTALLATION. THE CONTRACTOR SHALL BE ALLOWED TO CLOSE THE ROADWAY FOR 3 CONSECUTIVE CALENDAR DAYS.
8. TOPSOIL WILL BE USED IN LIEU OF AGGREGATE SURFACING FOR FIELD APPROACHES. TOP WIDTH FOR ALL FIELD APPROACHES WILL BE EQUAL TO 30'.

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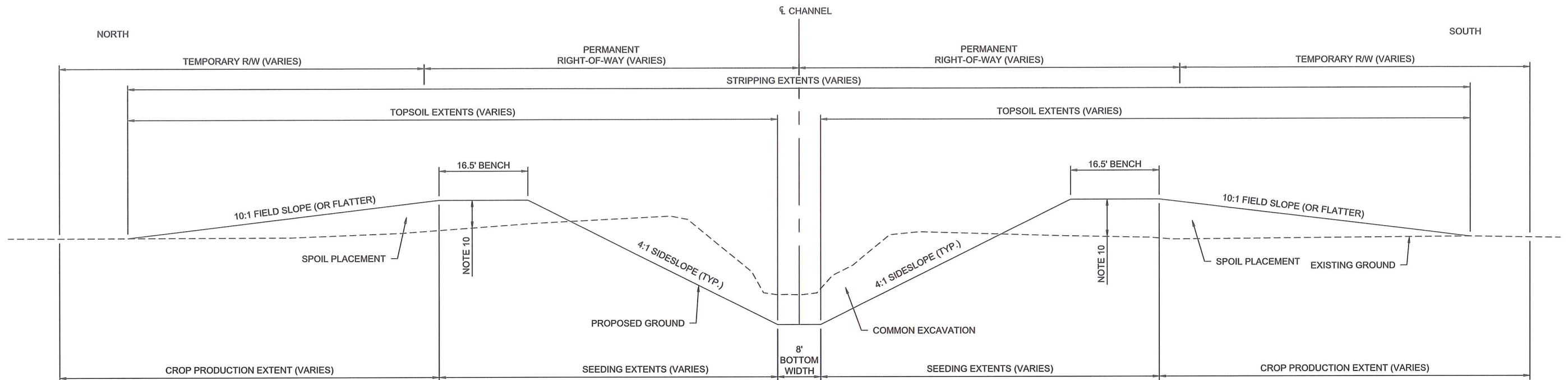
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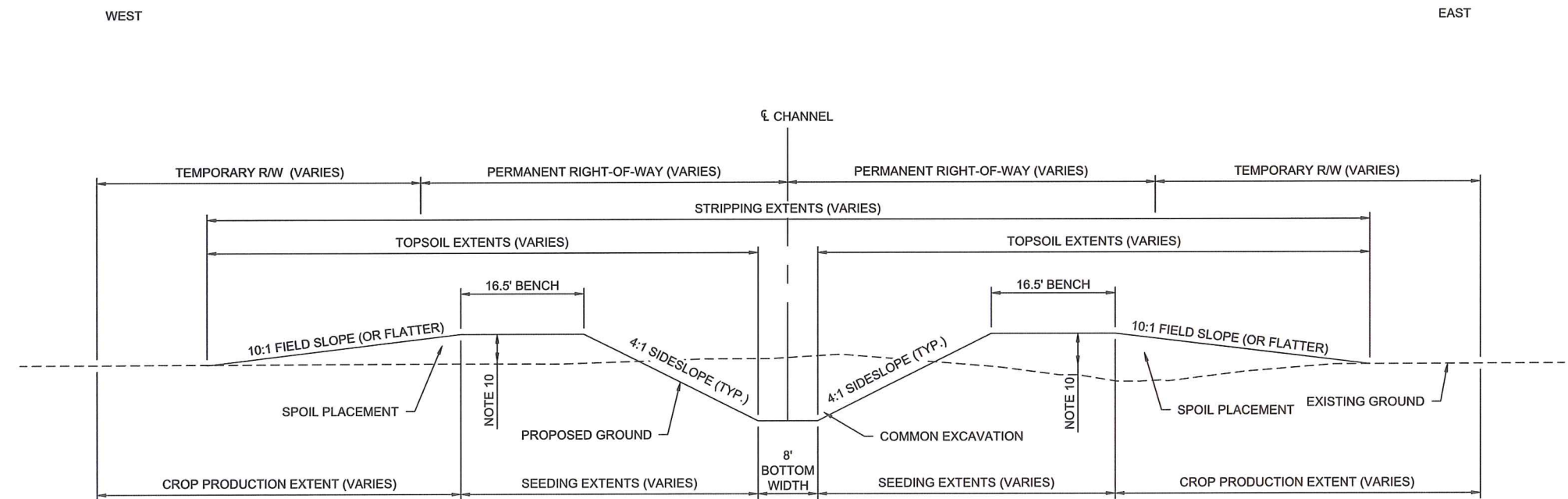
NOTES:

1. RIPRAP SHALL BE MEASURED AND PAID BASED ON THE APPROPRIATE MNDOT RIPRAP GRADATION BID ITEM. MEASUREMENT WILL BE MADE BASED ON PLACED AREA TIMES PLAN DEPTH.
2. COMMON EXCAVATION, GEOTEXTILE FILTER FABRIC, AND GRANULAR FILTER BEDDING MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THE UNIT COST OF RIPRAP BID ITEM.

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P:		701.237.5065		Checked by ZOH, JMW		Scale AS SHOWN		F:		701.237.5101					



COUNTY DITCH 80 TYPICAL SECTION (COUNTY DITCH 80 OUTLET TO STA. 186+52)
NOT TO SCALE

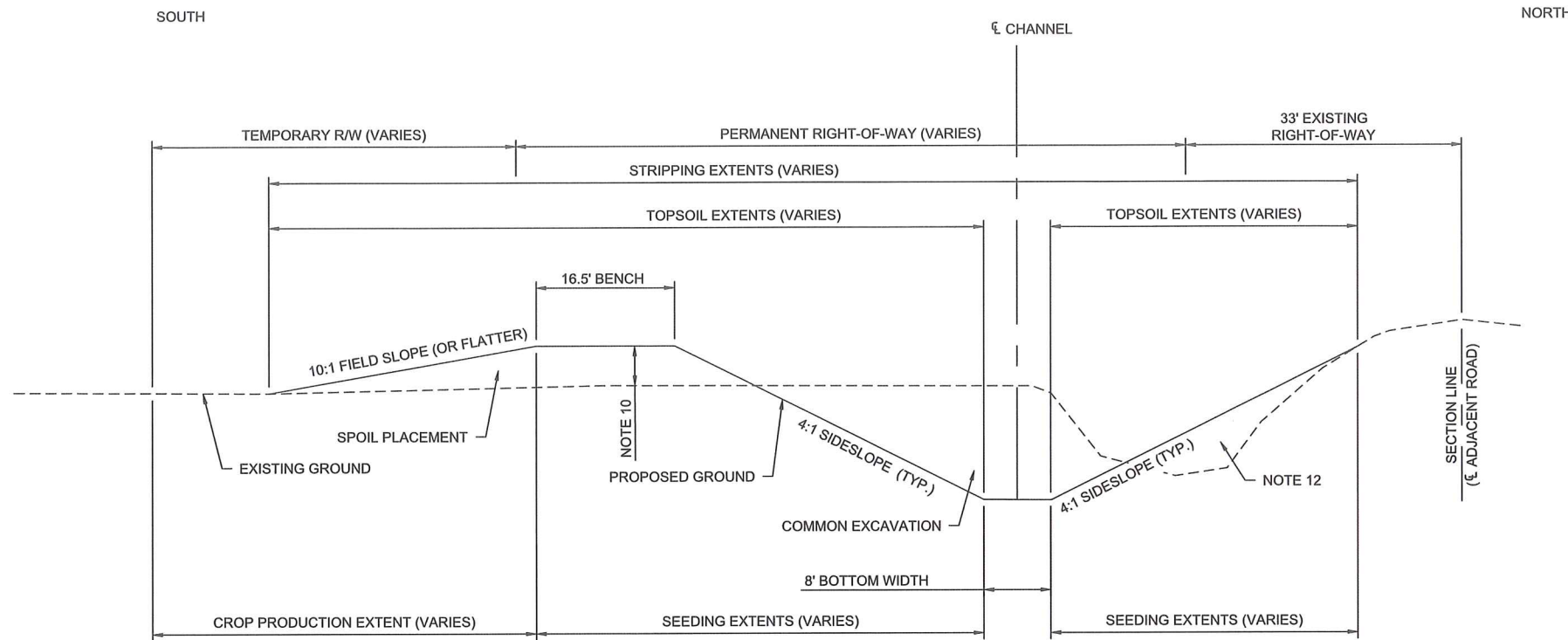


LATERAL 1 TYPICAL SECTION (STA. 1000+45 TO STA. 1025+98)
NOT TO SCALE

- NOTES:
1. STRIPPING SHALL REMOVE ALL TOPSOIL AS REQUIRED BY THE ENGINEER.
 2. TOPSOIL STRIPPING MATERIAL SHALL BE STOCKPILED WITHIN THE TEMPORARY R/W. TOPSOIL SHALL BE PLACED IN THE DESIGNATED TOPSOIL EXTENTS AFTER EXCAVATION AND PLACEMENT OF SPOIL MATERIAL IS COMPLETE.
 3. TOPSOILING IN AREAS OUTSIDE OF DESIGNATED CROP PRODUCTION EXTENTS SHALL BE PLACE AT A UNIFORM DEPTH OF 4". THE REMAINING TOPSOIL SHALL BE PLACED UNIFORMLY IN THE DESIGNATED CROP PRODUCTION EXTENTS AS INDICATED IN THE TYPICAL SECTIONS.
 4. ALL DISTURBED AREAS WITHIN THE PERMANENT AND EXISTING RIGHT-OF-WAY SHALL BE SEEDED EXCEPT CHANNEL BOTTOM (UNLESS OTHERWISE NOTED).
 5. COMMON EXCAVATION SHALL BE PAID FOR BASED ON PLAN QUANTITY AND WILL NOT BE MEASURED FOR PAYMENT.
 6. SPOIL PLACEMENT SHALL BE CONSIDERED INCIDENTAL TO THE "COMMON EXCAVATION" BID ITEM.
 7. SEEDING AND MULCHING WILL BE PAID FOR BASED ON PLAN QUANTITY AND WILL NOT BE MEASURED FOR PAYMENT.
 8. STRIPPING AND TOPSOILING SHALL BE CONSIDERED INCIDENTAL TO THE "COMMON EXCAVATION" BID ITEM.
 9. THE CONTRACTOR SHALL MAKE THE ENGINEER AWARE OF ANY CROP DAMAGES A MINIMUM OF ONE WEEK BEFORE SUCH DAMAGES WILL OCCUR. ANY CROP DAMAGES ARE SUBJECT TO ENGINEER APPROVAL.
 10. WHERE SPOIL IS PLACE ON BOTH SIDES OF THE CHANNEL, SPOIL HEIGHTS SHALL BE WITHIN 0.2 FEET OF THE OTHER SIDE OF THE CHANNEL UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IF DIRECTED BY THE ENGINEER, SPOIL WILL BE REQUIRED TO BE MOVED Laterally ALONG THE CHANNEL TO MINIMIZE CREST AND SAG POINTS IN THE PLACED SPOIL.
 11. ADJACENT ROADS SHALL NOT BE DISTURBED. ANY DISTURBED AREAS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH REPAIR OF DISTURBED AREAS OF THE ADJACENT ROAD SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

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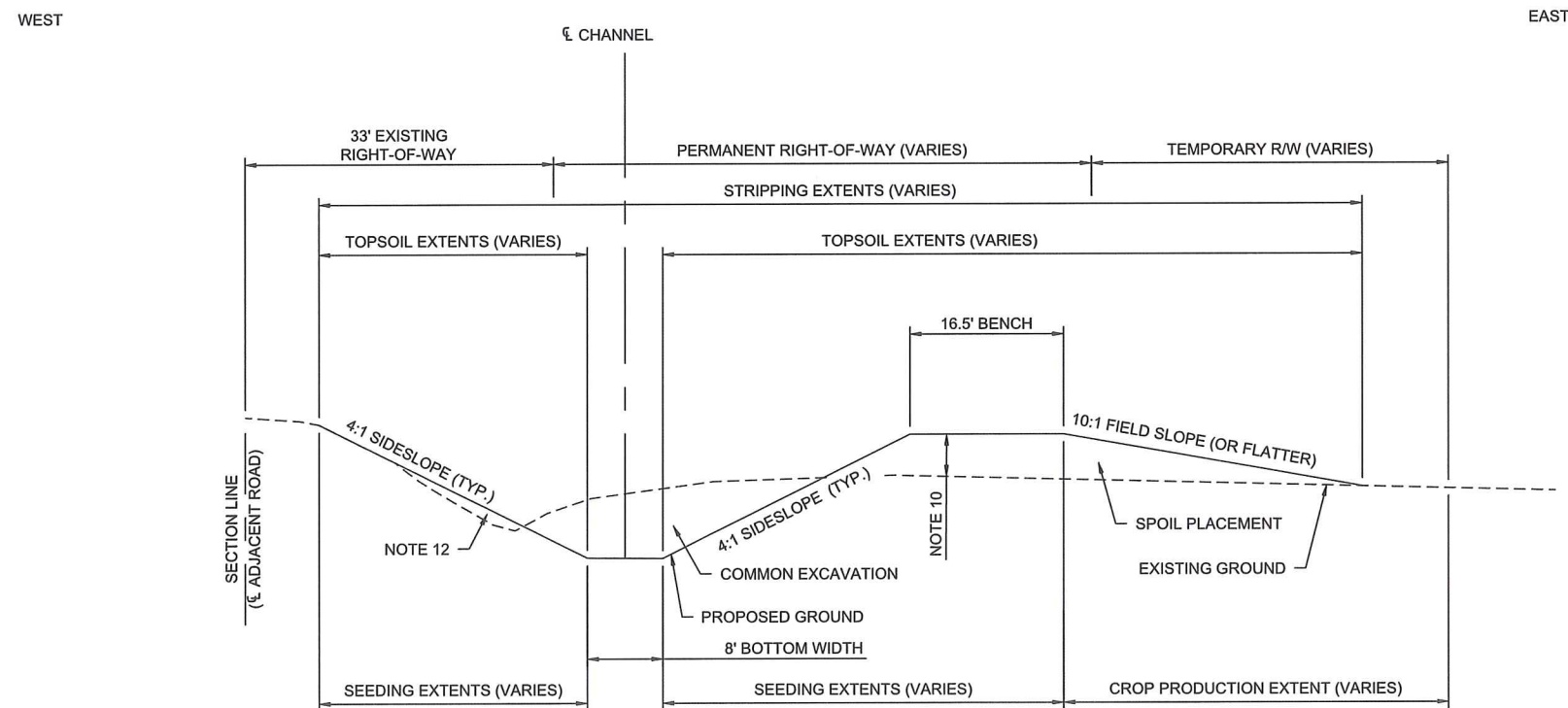
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No.	Revision	Date	By	Date		P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW	Scale AS SHOWN				



LATERAL 2 TYPICAL SECTION (STA. 2000+85 TO STA. 2053+12)
NOT TO SCALE

NOTES:

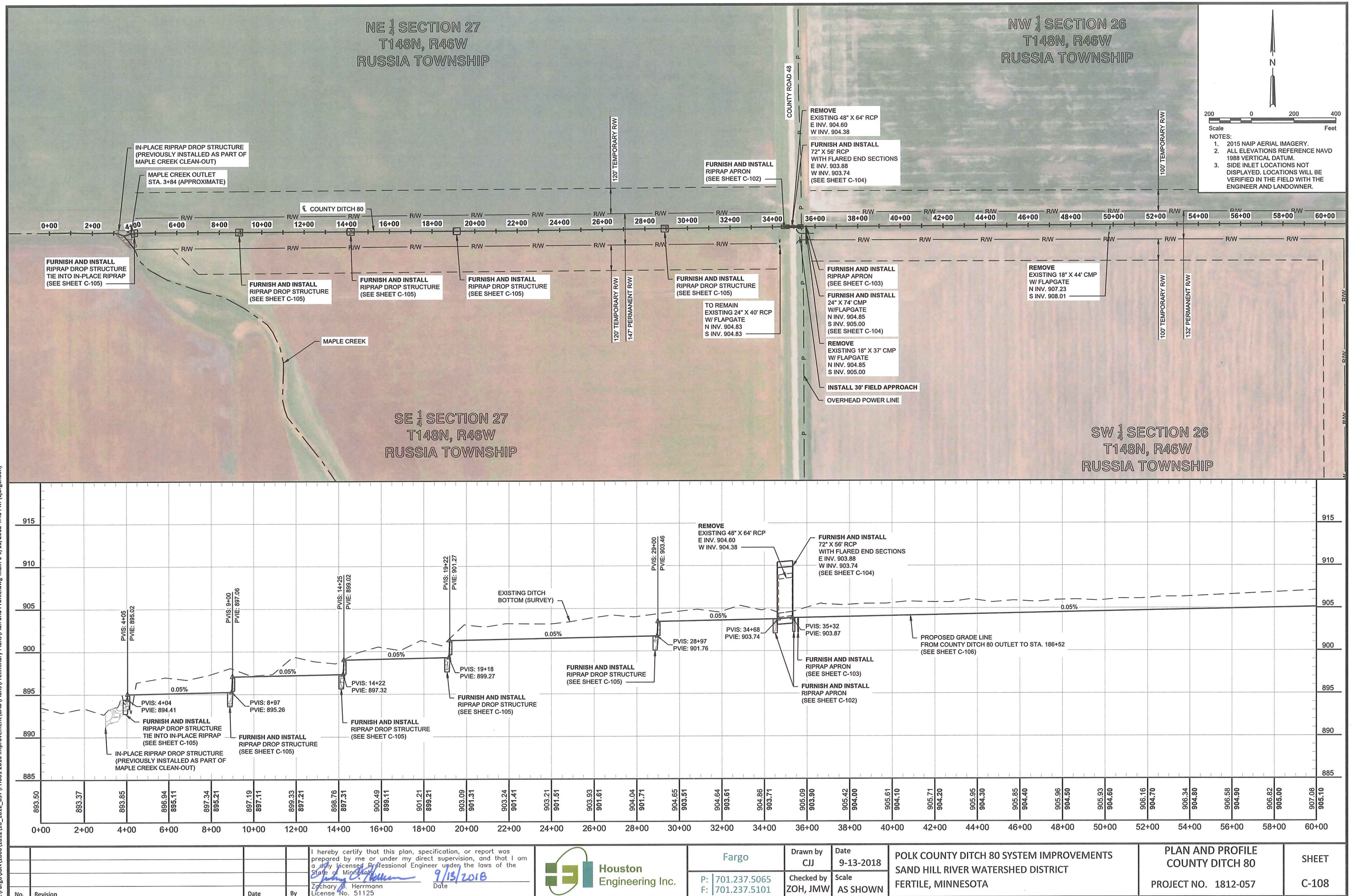
- STRIPPING SHALL REMOVE ALL TOPSOIL AS REQUIRED BY THE ENGINEER.
- TOPSOIL STRIPPING MATERIAL SHALL BE STOCKPILED WITHIN THE TEMPORARY R/W. TOPSOIL SHALL BE PLACED IN THE DESIGNATED TOPSOIL EXTENTS AFTER EXCAVATION AND PLACEMENT OF SPOIL MATERIAL IS COMPLETE.
- TOPSOILING IN AREAS OUTSIDE OF DESIGNATED CROP PRODUCTION EXTENTS SHALL BE PLACE AT A UNIFORM DEPTH OF 4". THE REMAINING TOPSOIL SHALL BE PLACED UNIFORMLY IN THE DESIGNATED CROP PRODUCTION EXTENTS AS INDICATED IN THE TYPICAL SECTIONS.
- ALL DISTURBED AREAS WITHIN THE PERMANENT AND EXISTING RIGHT-OF-WAY SHALL BE SEEDED EXCEPT CHANNEL BOTTOM (UNLESS OTHERWISE NOTED).
- COMMON EXCAVATION SHALL BE PAID FOR BASED ON PLAN QUANTITY AND WILL NOT BE MEASURED FOR PAYMENT.
- SPOIL PLACEMENT SHALL BE CONSIDERED INCIDENTAL TO THE "COMMON EXCAVATION" BID ITEM.
- SEEDING AND MULCHING WILL BE PAID FOR BASED ON PLAN QUANTITY AND WILL NOT BE MEASURED FOR PAYMENT.
- STRIPPING AND TOPSOILING SHALL BE CONSIDERED INCIDENTAL TO THE "COMMON EXCAVATION" BID ITEM.
- THE CONTRACTOR SHALL MAKE THE ENGINEER AWARE OF ANY CROP DAMAGES A MINIMUM OF ONE WEEK BEFORE SUCH DAMAGES WILL OCCUR. ANY CROP DAMAGES ARE SUBJECT TO ENGINEER APPROVAL.
- PROPOSED GROUND HEIGHTS SHALL NOT EXCEED THE ADJACENT TOWNSHIP ROAD ELEVATION MINUS 6" UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IF DIRECTED BY THE ENGINEER, SPOIL WILL BE REQUIRED TO BE MOVED Laterally ALONG THE CHANNEL TO MINIMIZE CREST AND SAG POINTS IN THE PLACED SPOIL.
- ADJACENT ROADS SHALL NOT BE DISTURBED. ANY DISTURBED AREAS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH REPAIR OF DISTURBED AREAS OF THE ADJACENT ROAD SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ROAD SLOPES WILL BE CONSTRUCTED OF SUITABLE COMMON EXCAVATION MATERIAL. ALL SUITABLE MATERIAL WILL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.



LATERAL 2 TYPICAL SECTION (STA. 2053+72 TO STA. 2079+14)
NOT TO SCALE

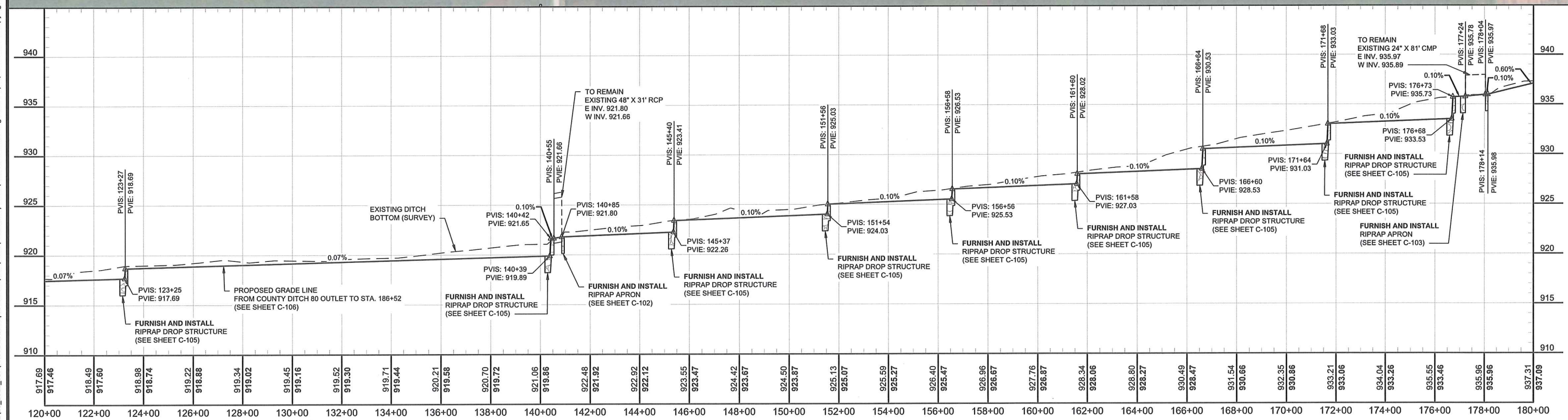
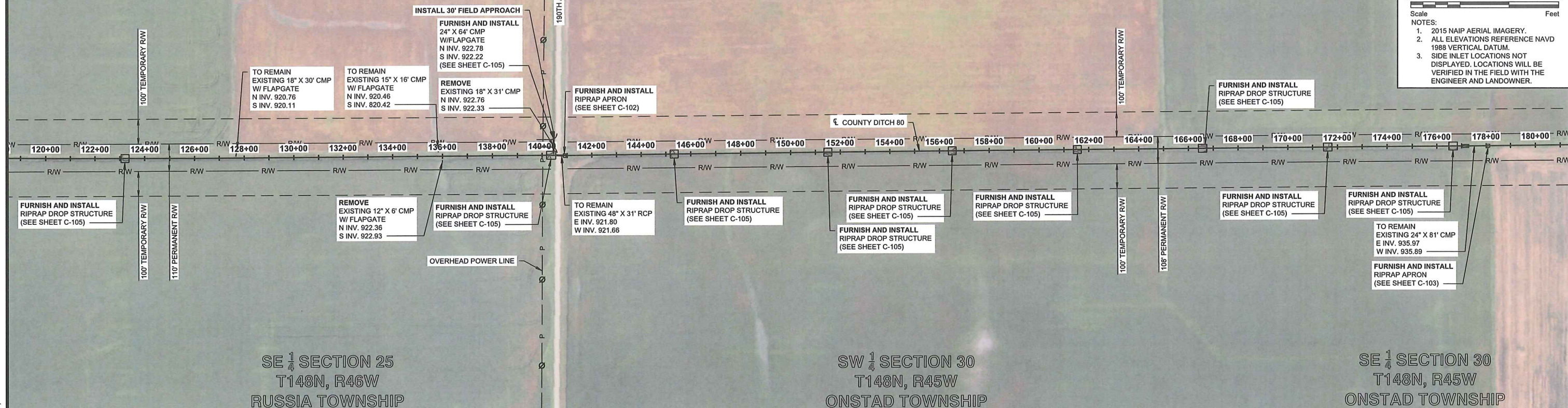
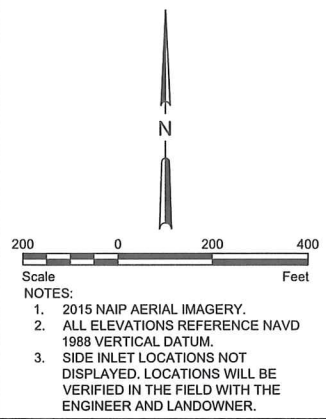
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NW $\frac{1}{4}$ SECTION 30
T148N, R45W
ONSTAD TOWNSHIP



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Zachary C. Herrmann 9/13/2018

Zachary C. Herrmann Date
License No. 51125



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Drawn by
CH

Checked by
ZOH, JMW

Date
0.13.2018

Scale
AS SHOWN

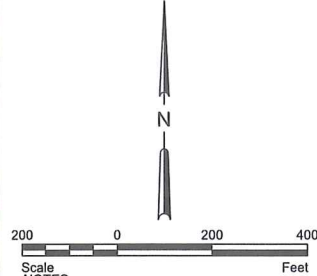
POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS
SAND HILL RIVER WATERSHED DISTRICT
FERTILE, MINNESOTA

PLAN AND PROFILE
COUNTY DITCH 80
PROJECT NO. 1812-057

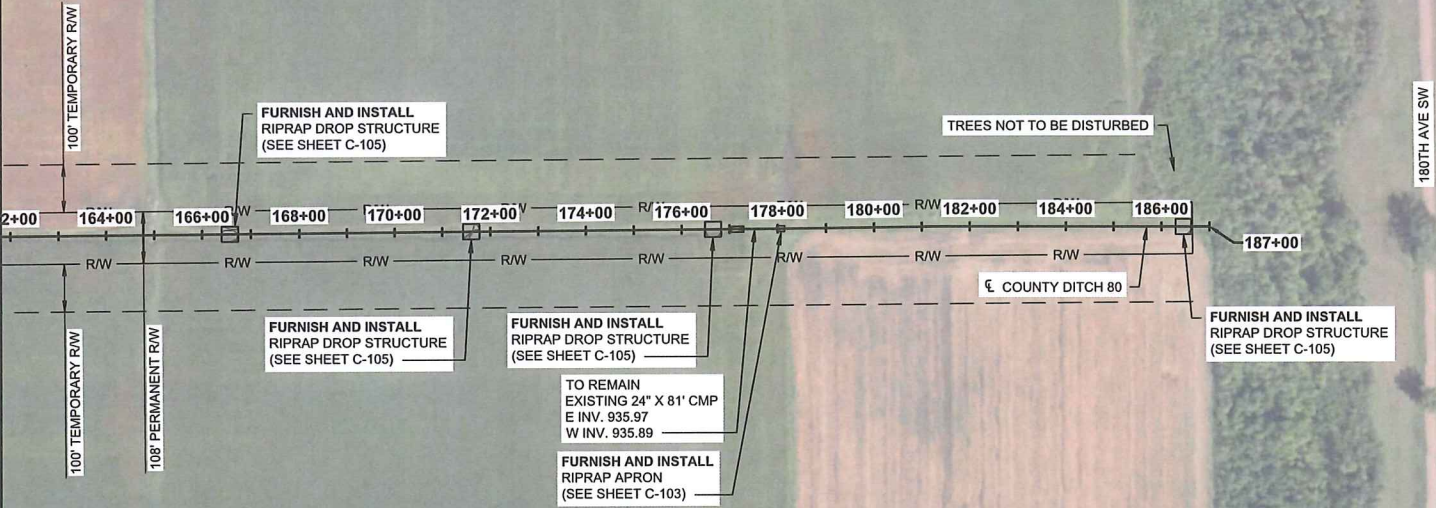
SHEET
C-110

NE 1/4 SECTION 30
T148N, R45W
ONSTAD TOWNSHIP

NE 1/4 SECTION 29
T148N, R45W
ONSTAD TOWNSHIP

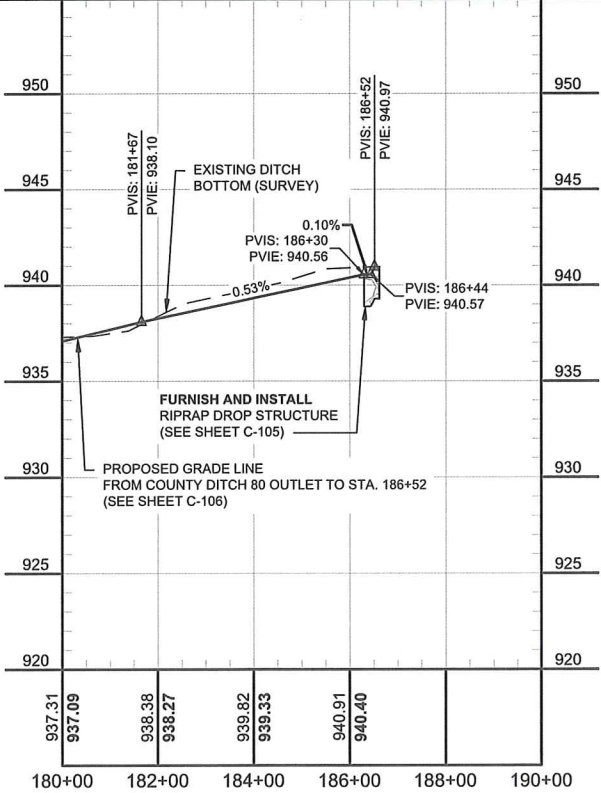


- Scale
NOTES:
1. 2015 NAIP AERIAL IMAGERY.
 2. ALL ELEVATIONS REFERENCE NAVD 1988 VERTICAL DATUM.
 3. SIDE INLET LOCATIONS NOT DISPLAYED. LOCATIONS WILL BE VERIFIED IN THE FIELD WITH THE ENGINEER AND LANDOWNER.



SE 1/4 SECTION 30
T148N, R45W
ONSTAD TOWNSHIP

SE 1/4 SECTION 29
T148N, R45W
ONSTAD TOWNSHIP



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				I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  Zachary O. Herrmann License No. 51125	 Houston Engineering Inc.	Fargo	Drawn by CJJ	Date 9-13-2018	POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA	PLAN AND PROFILE COUNTY DITCH 80 PROJECT NO. 1812-057	SHEET C-111
No.	Revision	Date	By	Date		P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW	Scale AS SHOWN			

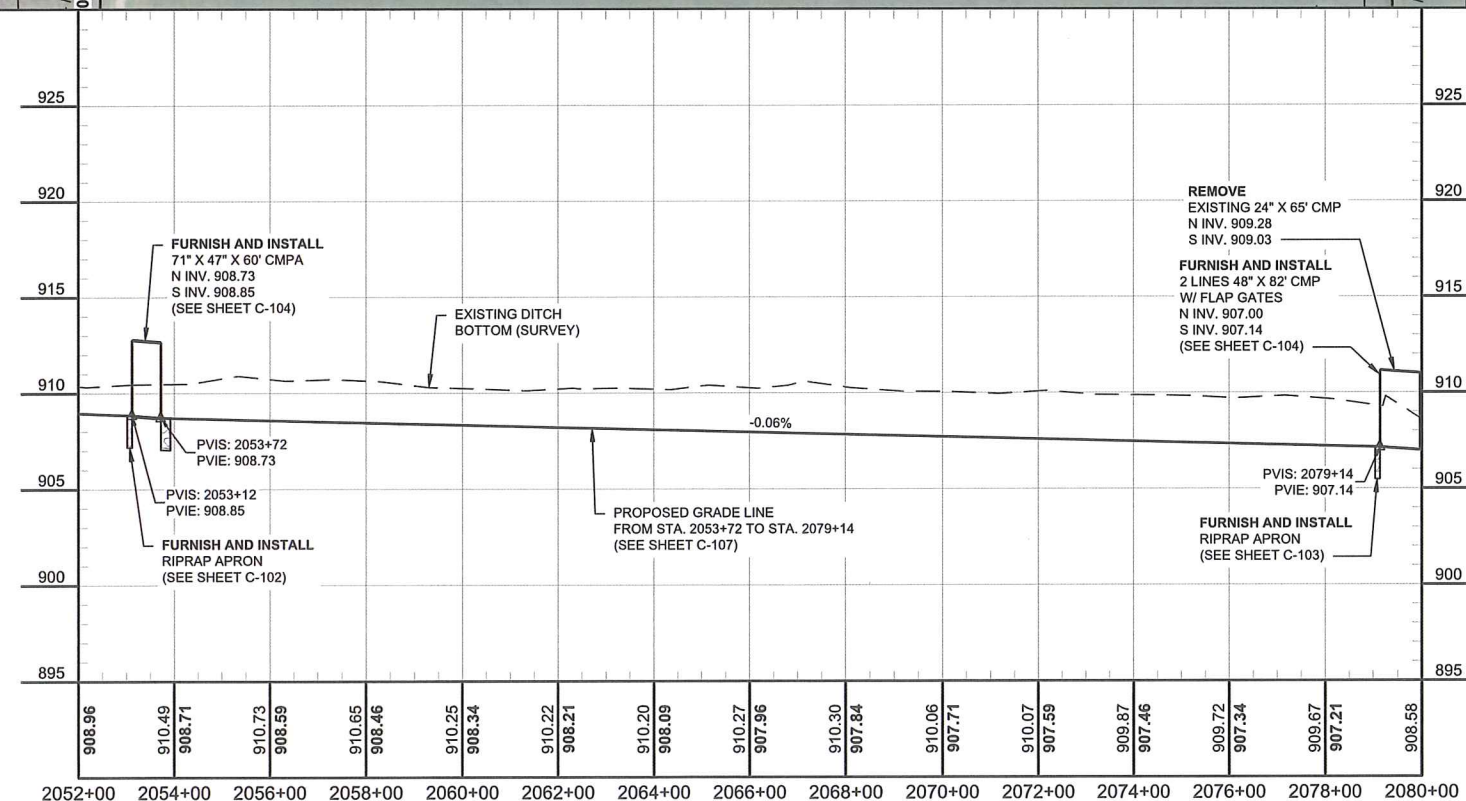
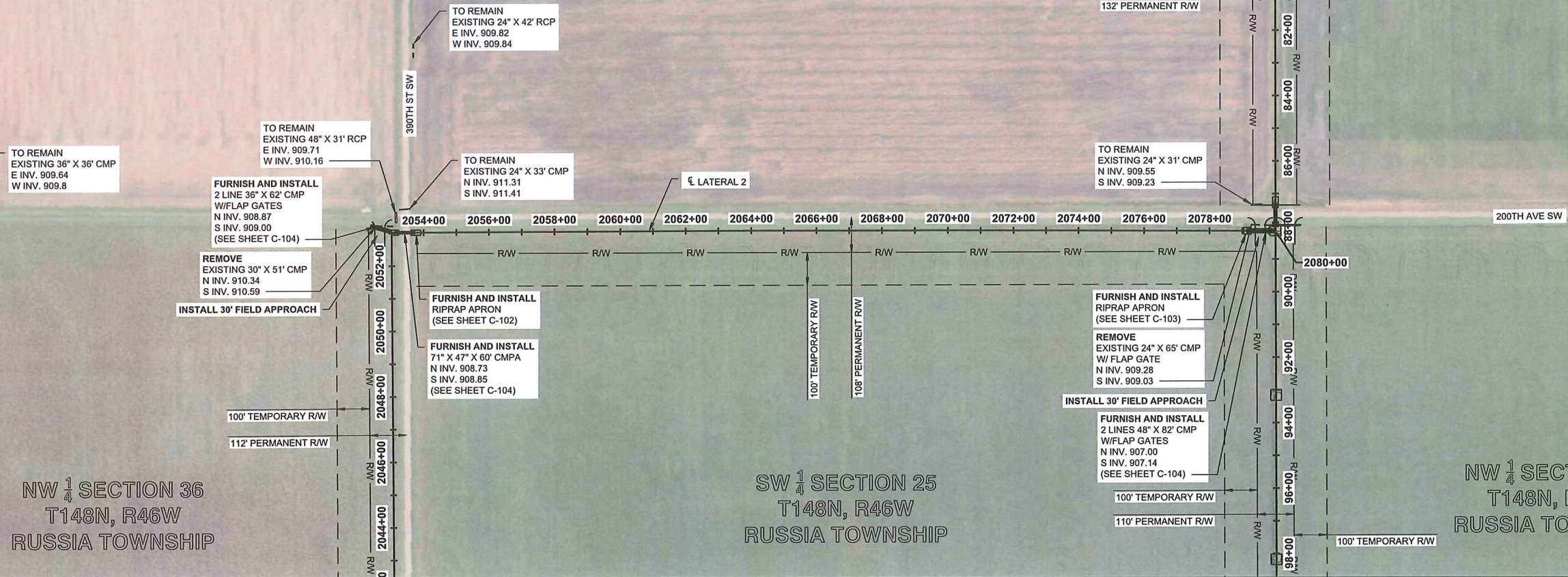
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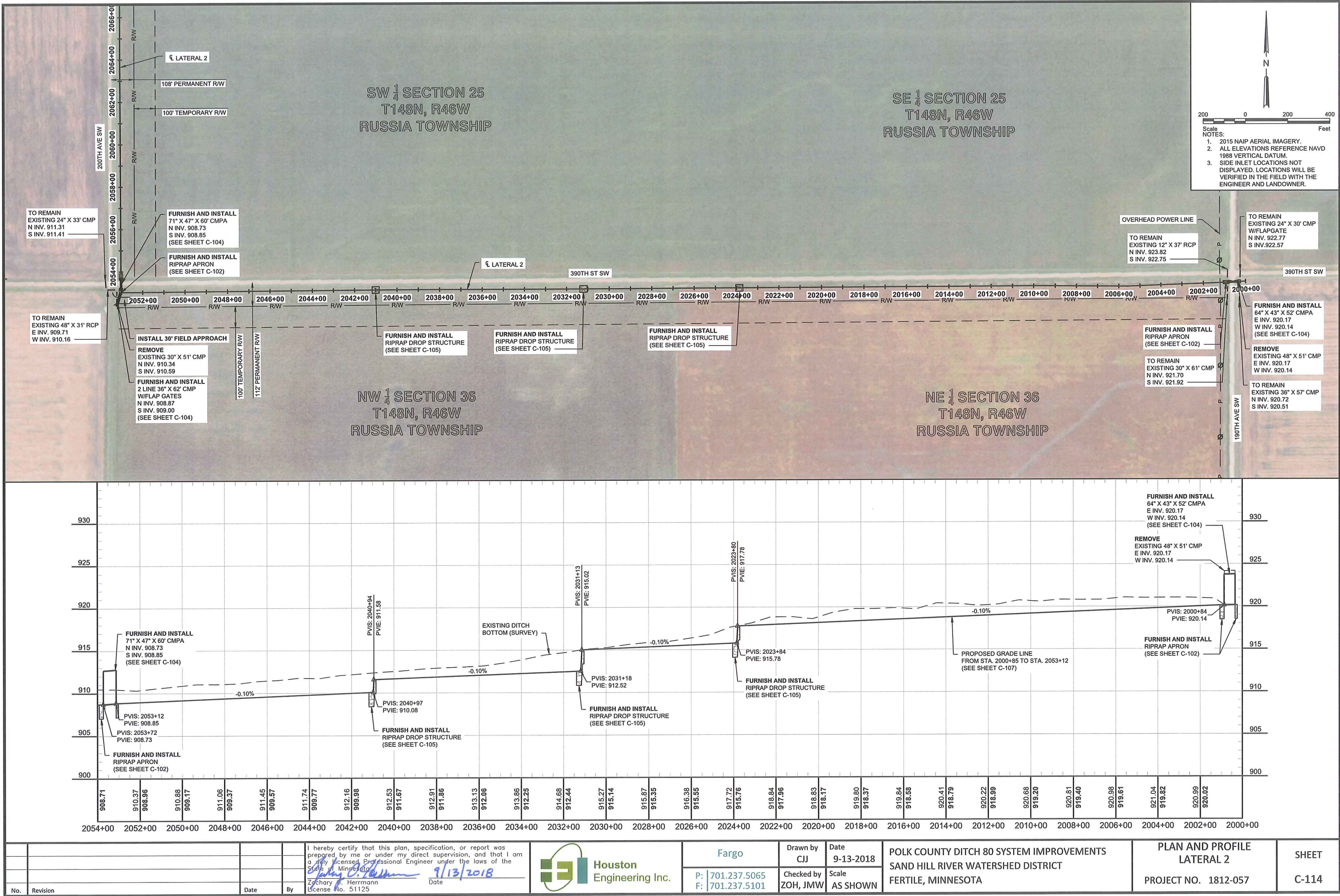
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2. ALL ELEVATIONS REFERENCE NAVD 1988 VERTICAL DATUM.
3. SIDE INLET LOCATIONS NOT DISPLAYED. LOCATIONS WILL BE VERIFIED IN THE FIELD WITH THE ENGINEER AND LANDOWNER.



NE $\frac{1}{4}$ SECTION 26
T148N, R46W
RUSSIA TOWNSHIP



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Zachary J. Herrmann 9/13/2018
Zachary J. Herrmann
License No. 51125



Fargo

P: 701.237.5065
F: 701.237.5101

Drawn by
CJJ

Checked by
ZOH, JMW

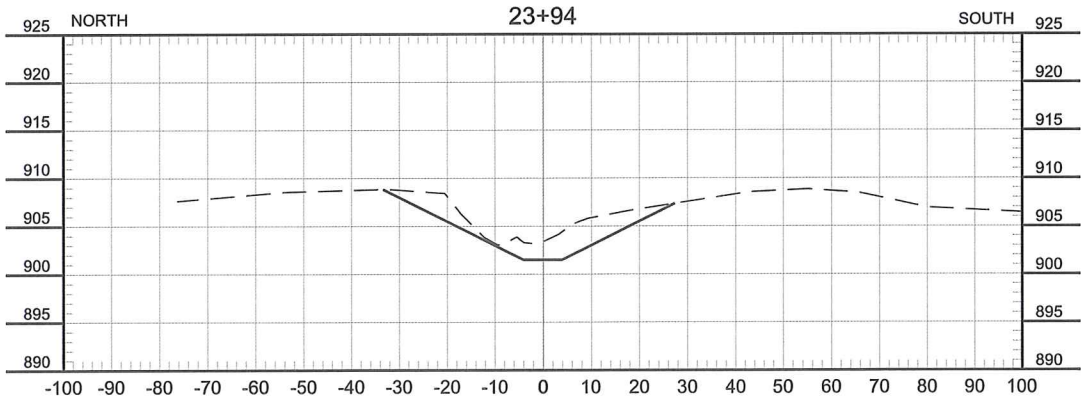
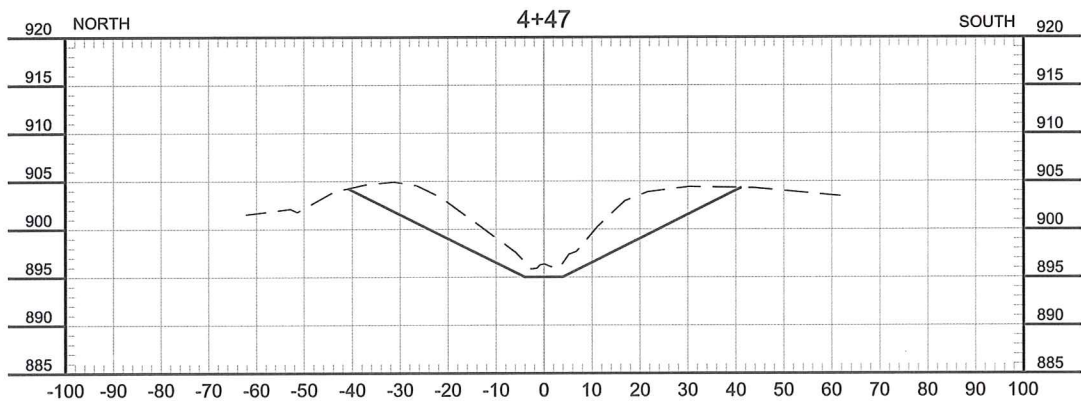
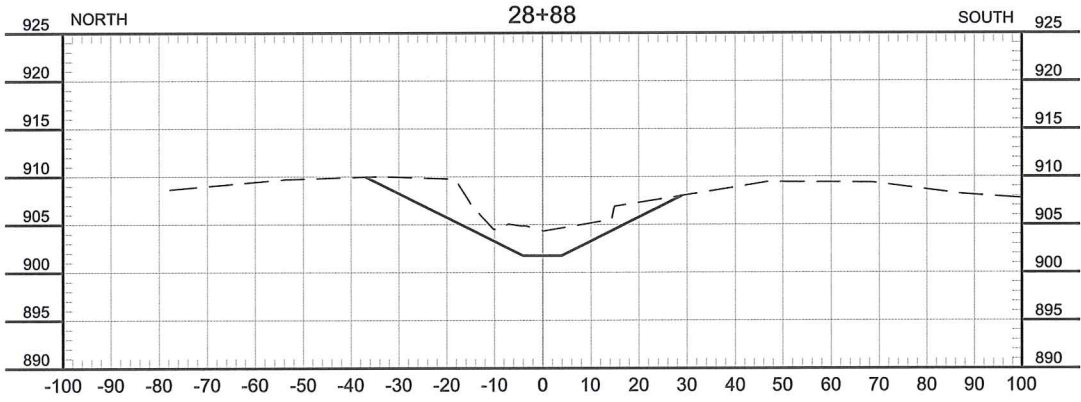
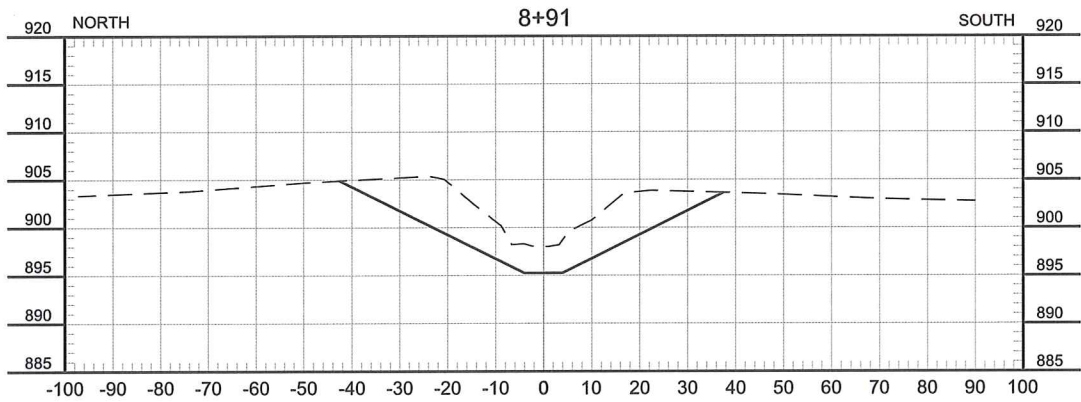
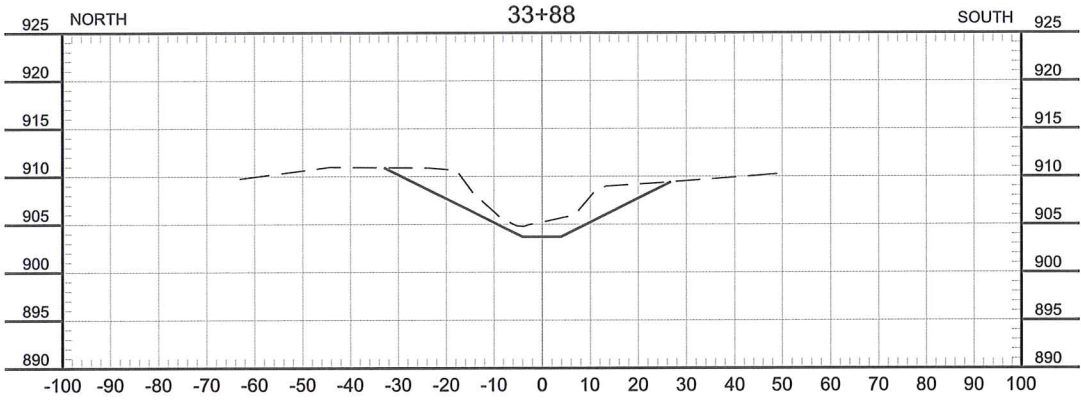
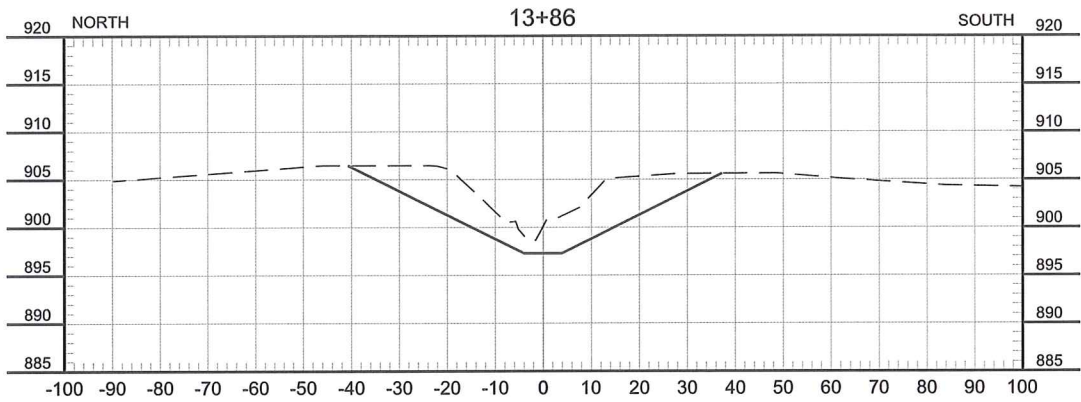
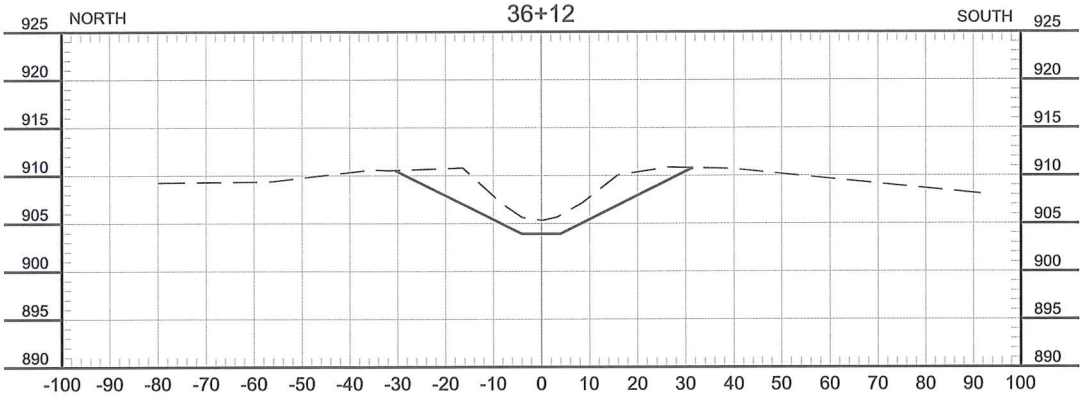
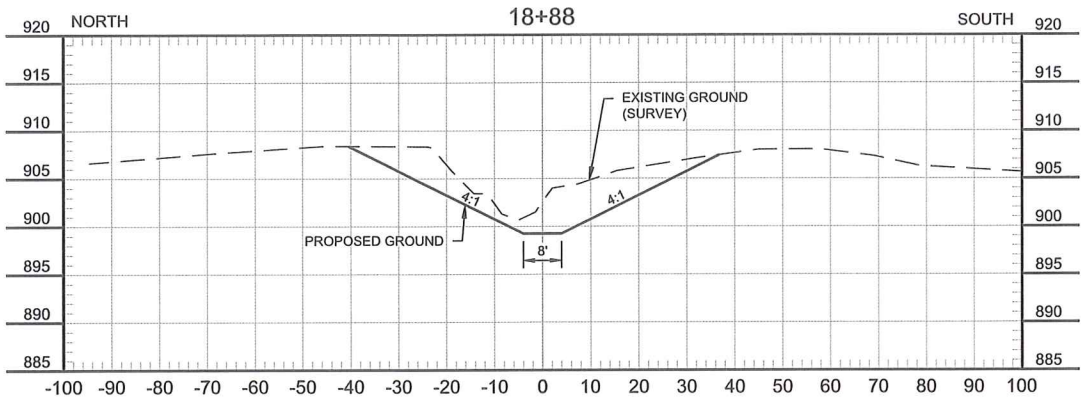
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Scale
AS SHOWN

POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS
SAND HILL RIVER WATERSHED DISTRICT
FERTILE, MINNESOTA

PLAN AND PROFILE
LATERAL 2
PROJECT NO. 1812-057

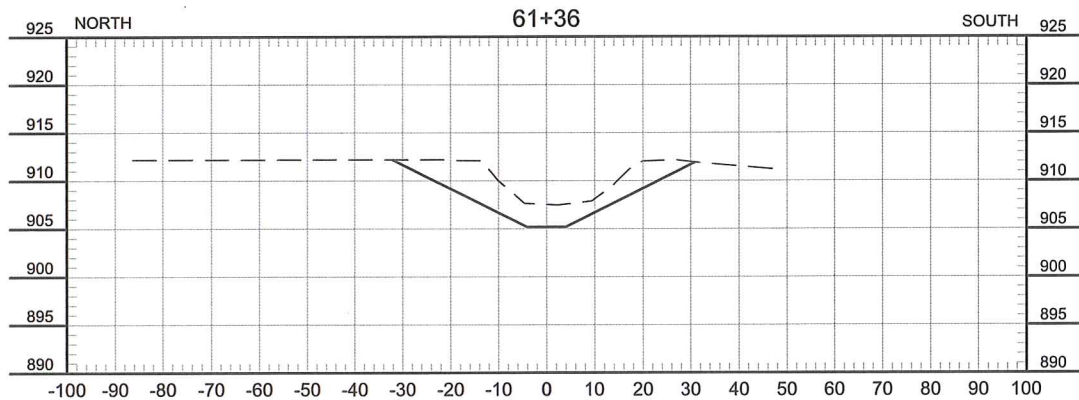
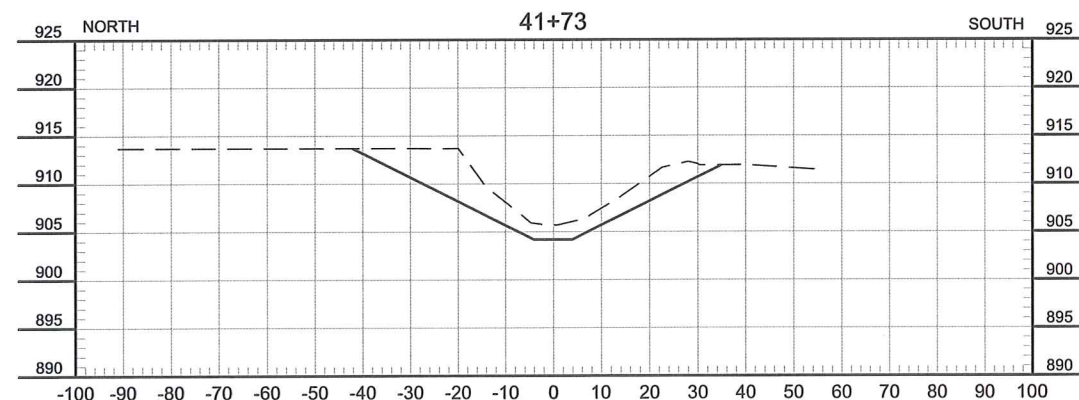
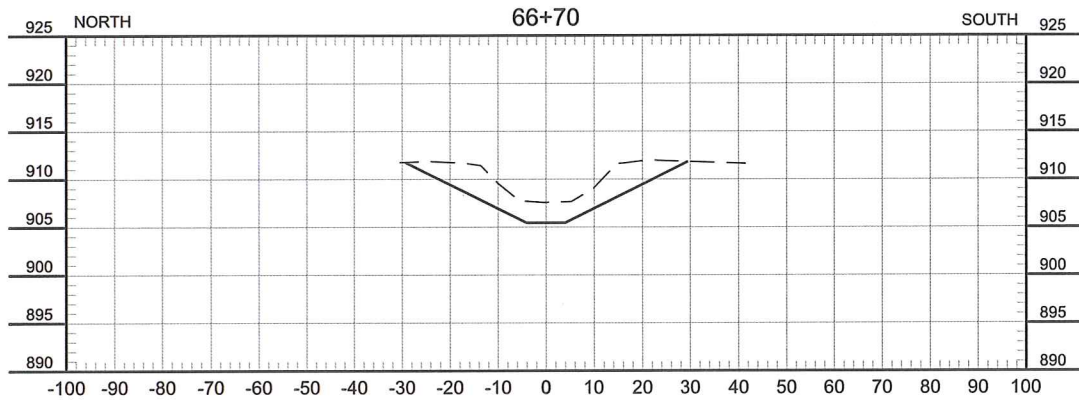
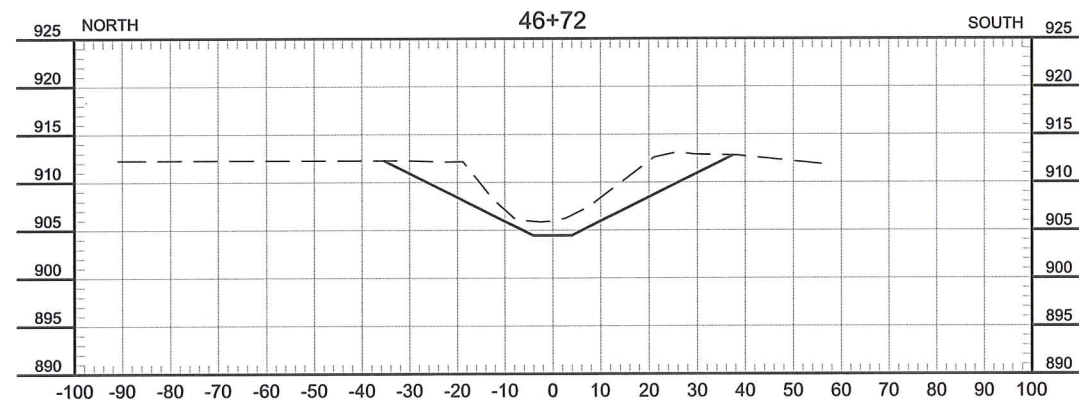
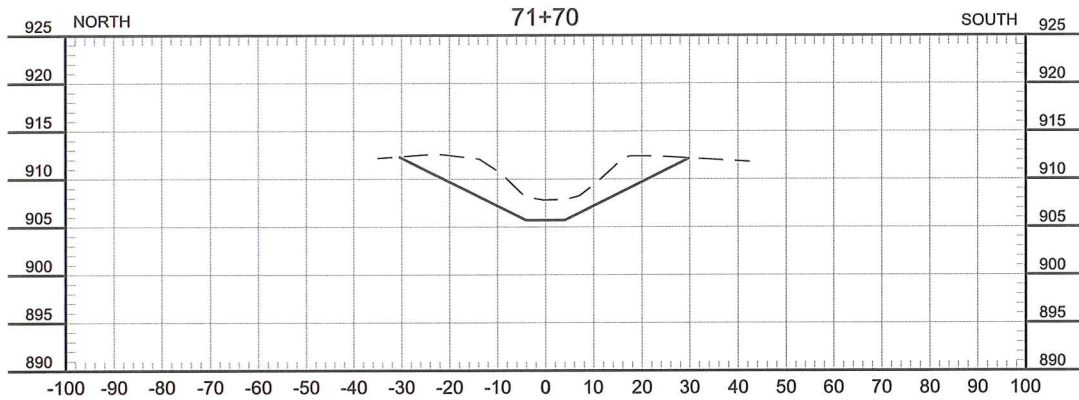
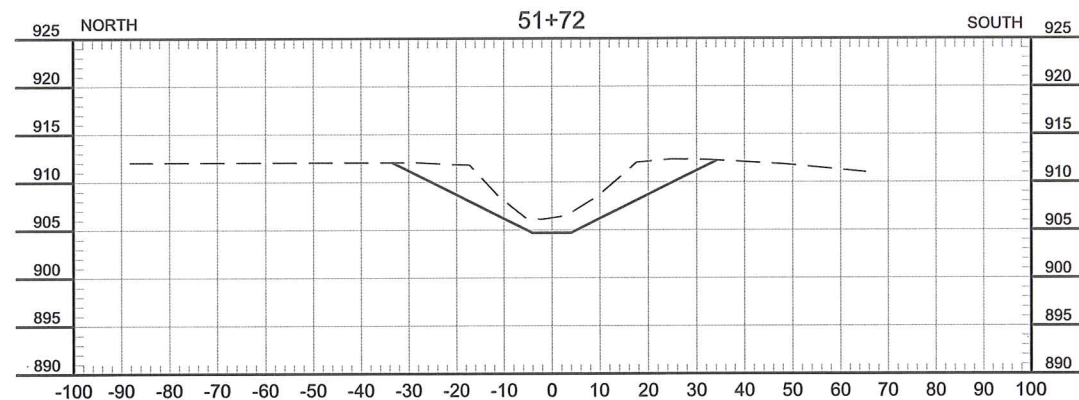
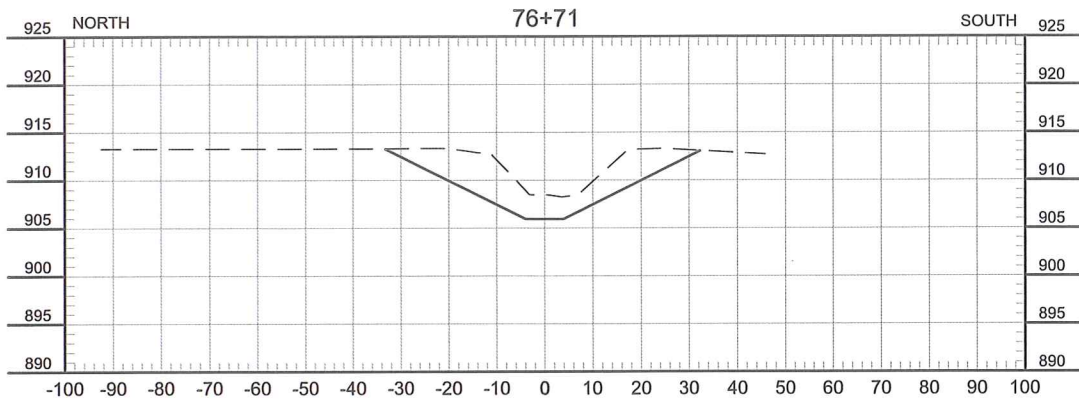
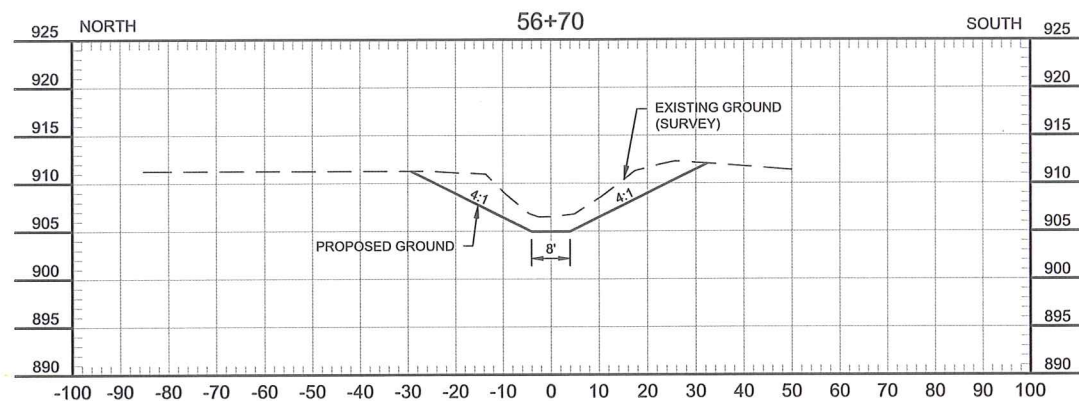
SHEET
C-114



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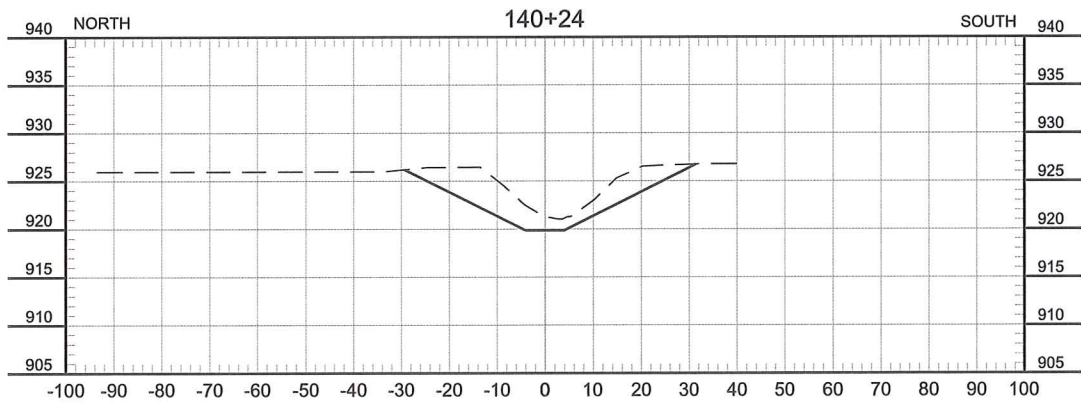
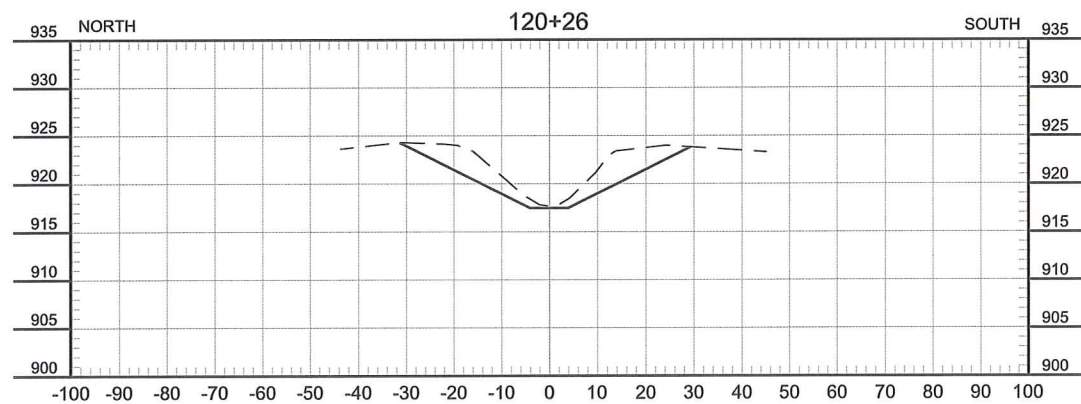
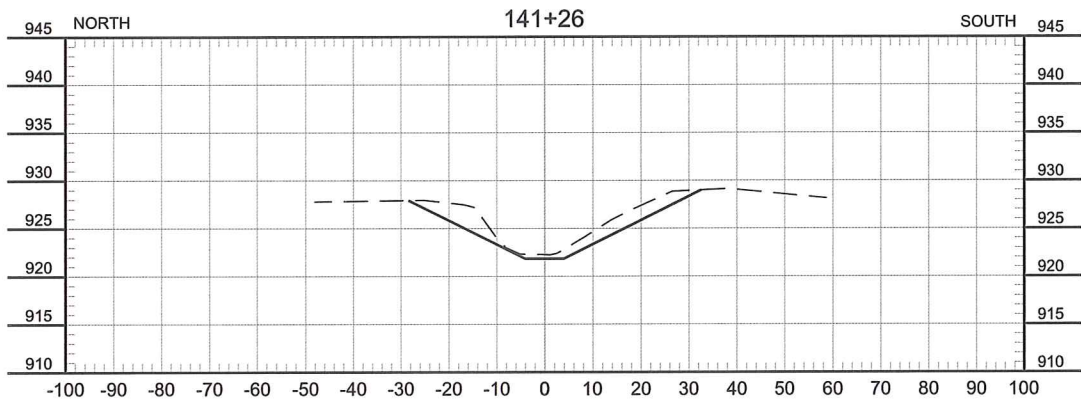
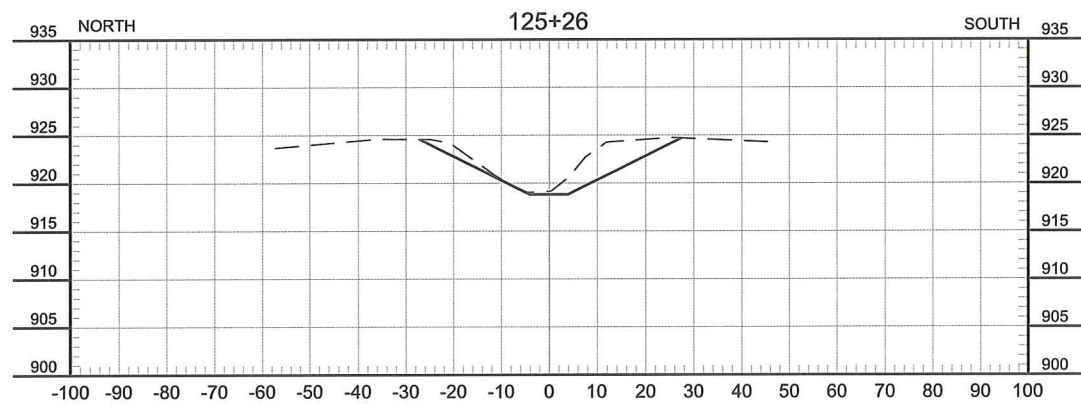
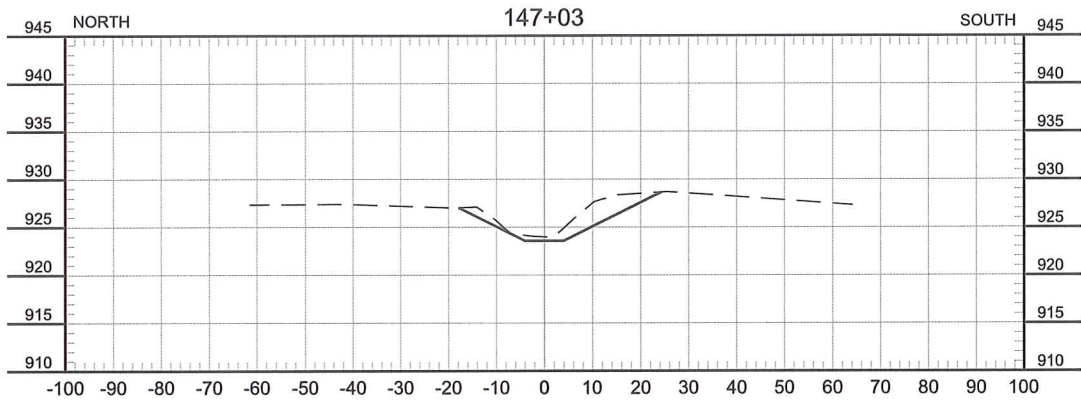
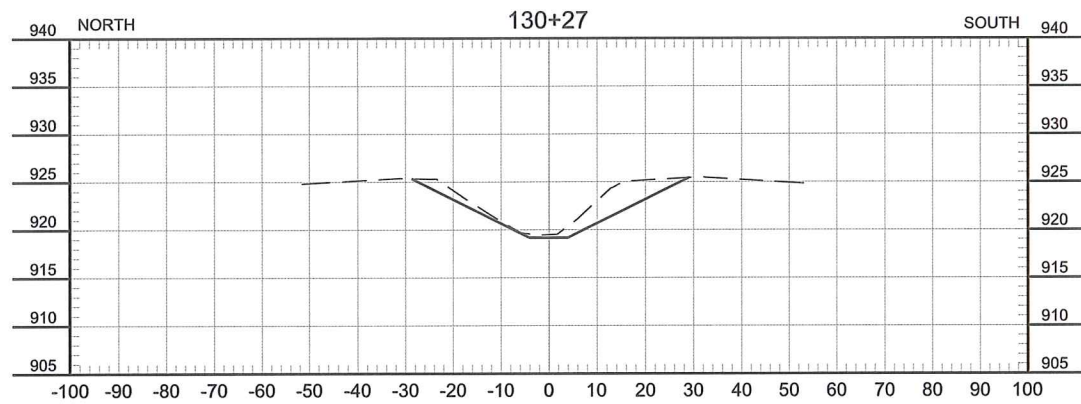
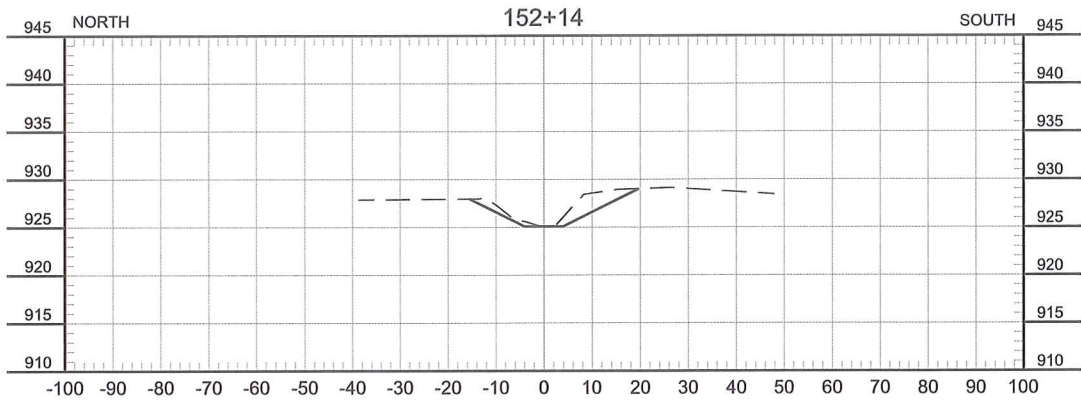
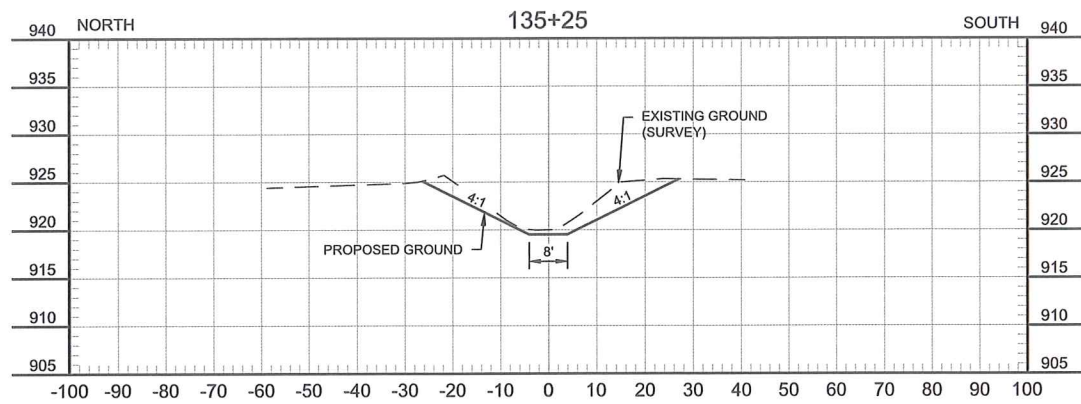
				I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. <i>Zachary O. Hermann</i> 9/13/2018 Zachary O. Hermann License No. 51125		Fargo		Drawn by CJJ	Date 9-13-2018	POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA	CROSS SECTIONS COUNTY DITCH 80 PROJECT NO. 1812-057	SHEET C-115
No.	Revision	Date	By			P: 701.237.5065 F: 701.237.5101		Checked by ZOH, JMW	Scale AS SHOWN			

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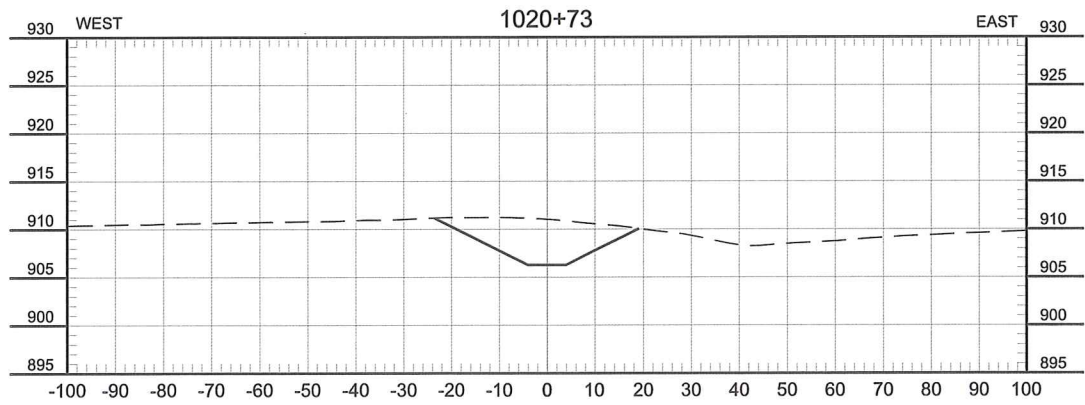
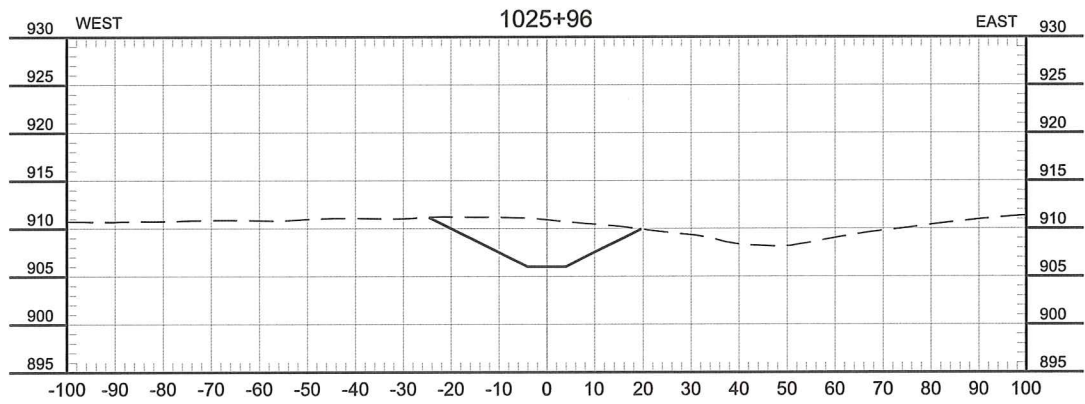
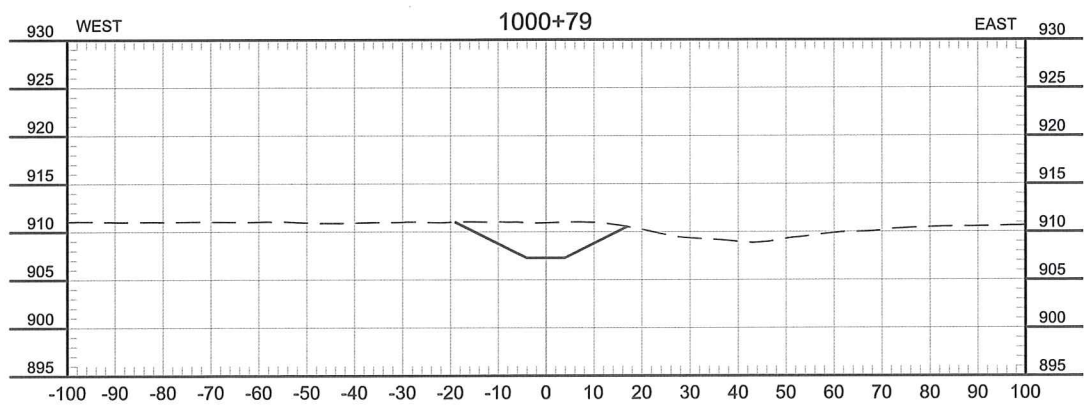
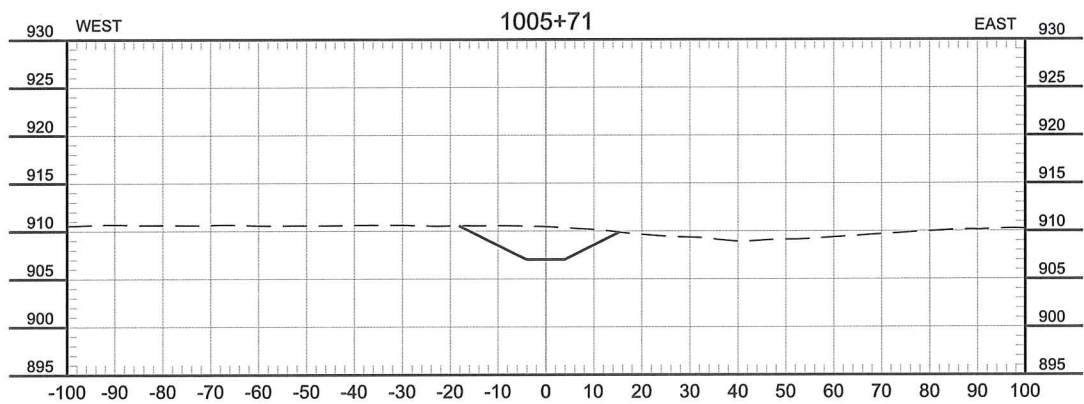
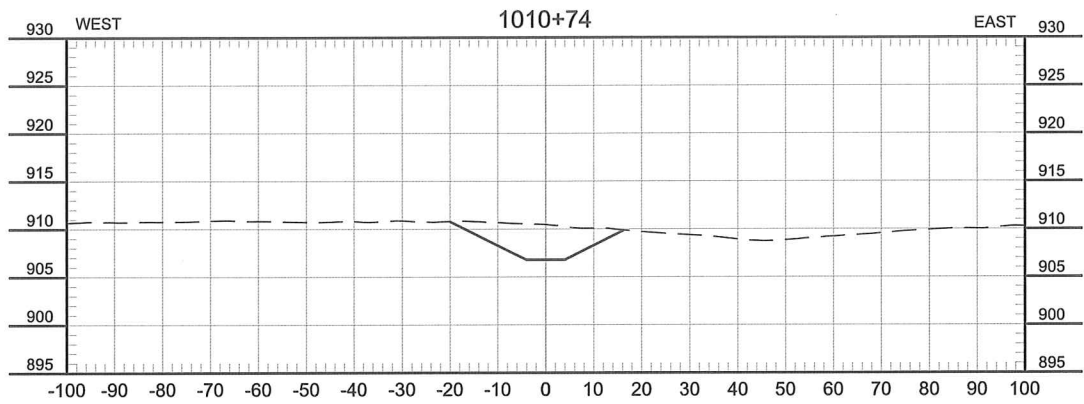
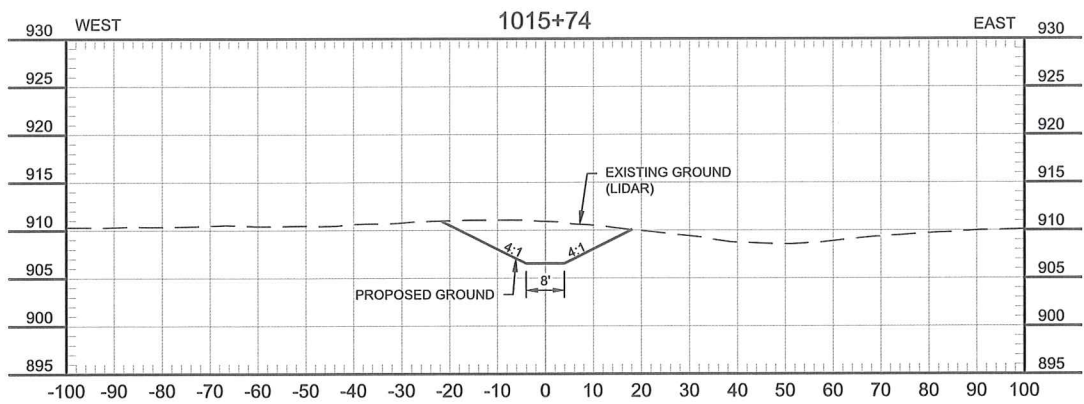


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No.	Revision	Date	By	Date 9/13/2018		P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW	Scale AS SHOWN			

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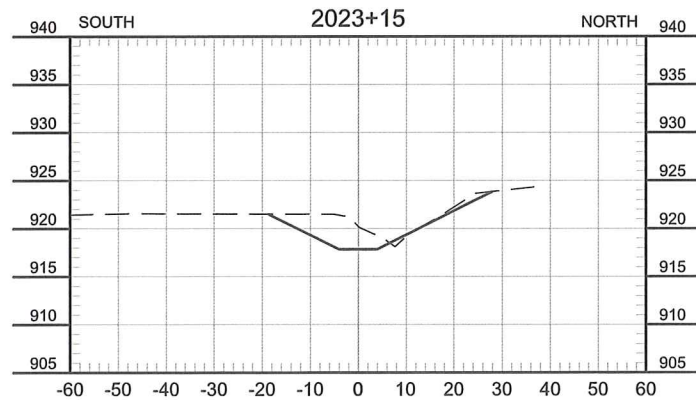
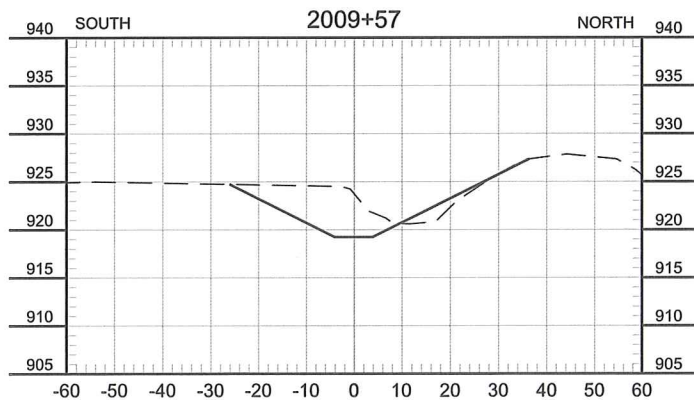
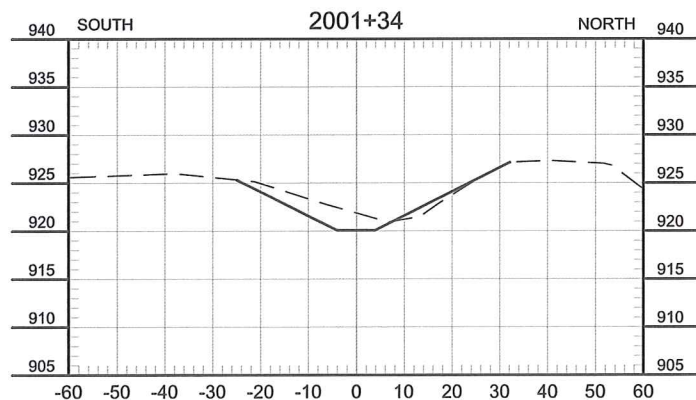
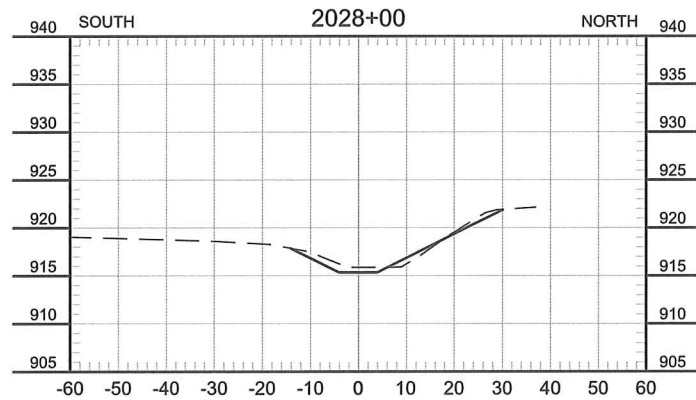
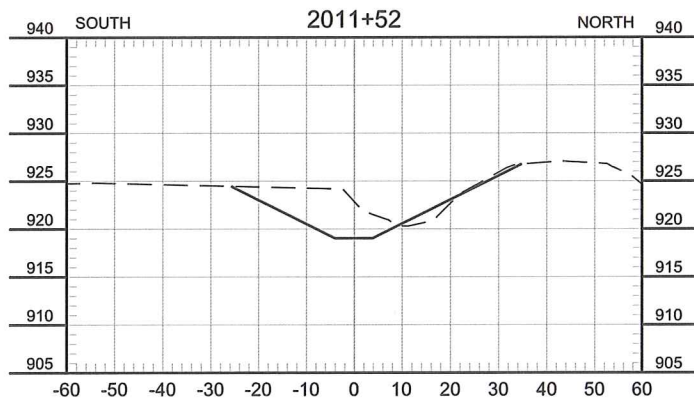
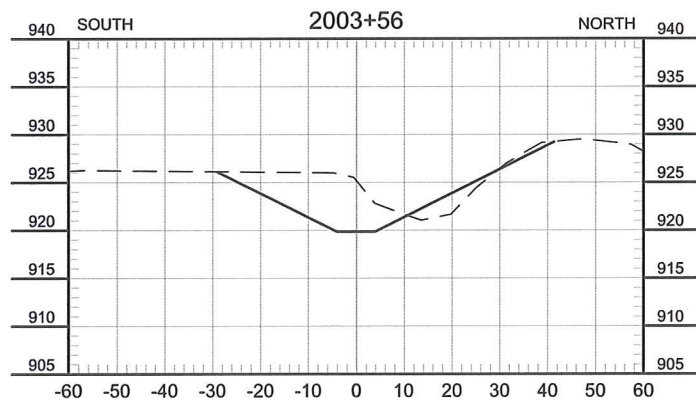
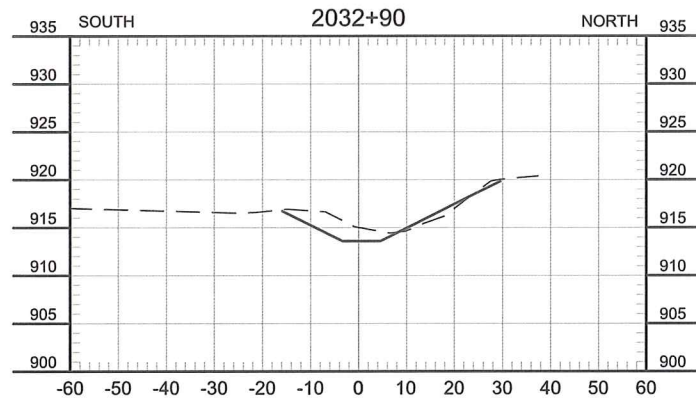
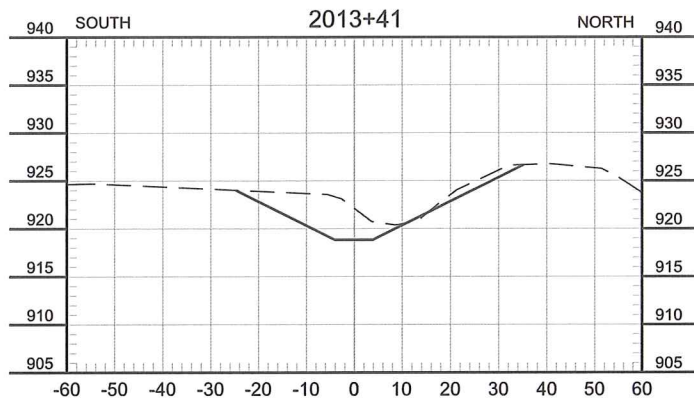
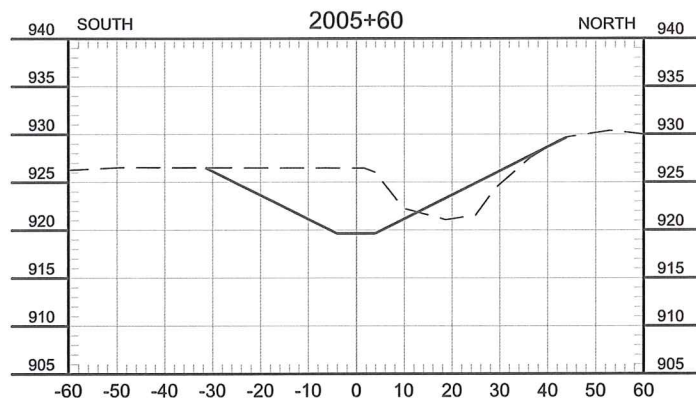
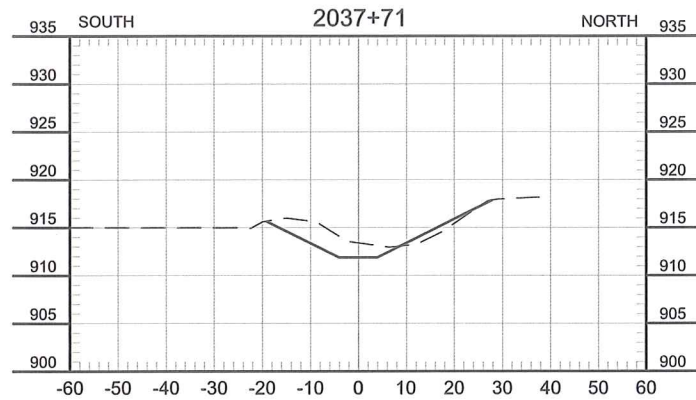
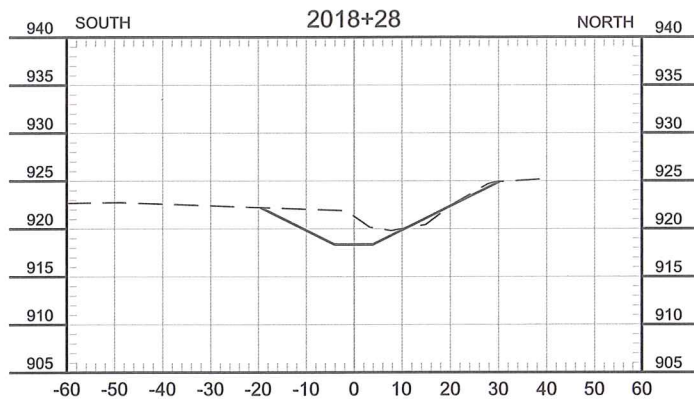
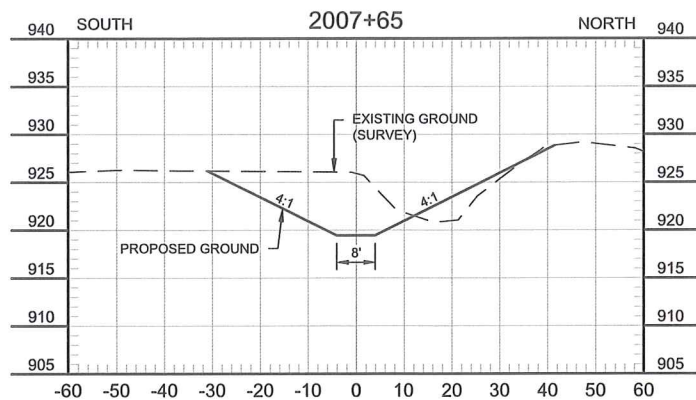
				I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. <i>Zechariah O. Herrmann</i> 7/13/2018 Zechariah O. Herrmann License No. 51125		Fargo		Drawn by CJJ	Date 9-13-2018	POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA	CROSS SECTIONS COUNTY DITCH 80 PROJECT NO. 1812-057	SHEET C-118
No.	Revision	Date	By			P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW	Scale AS SHOWN				



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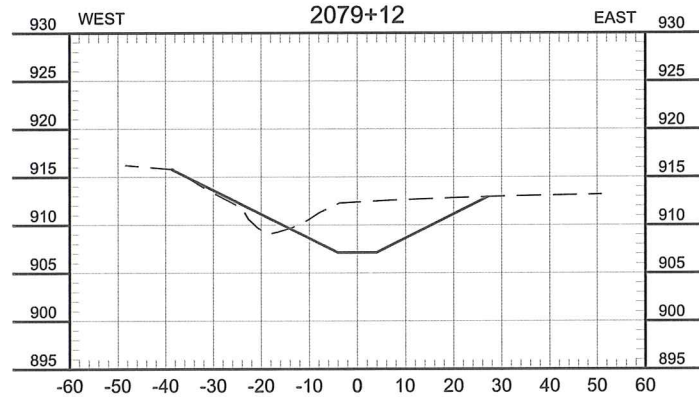
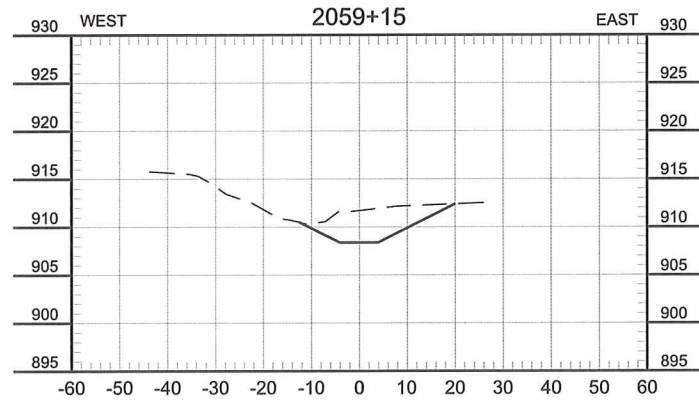
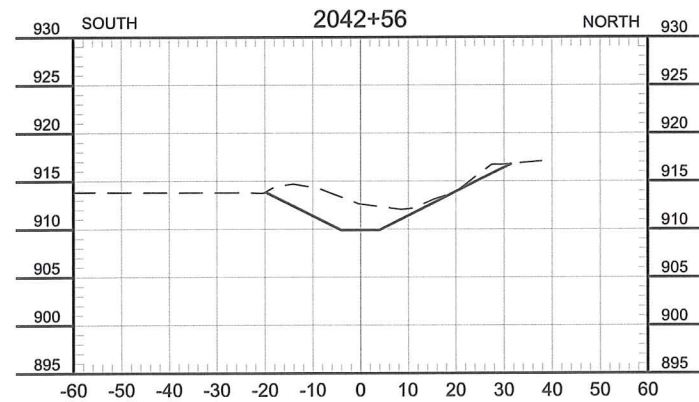
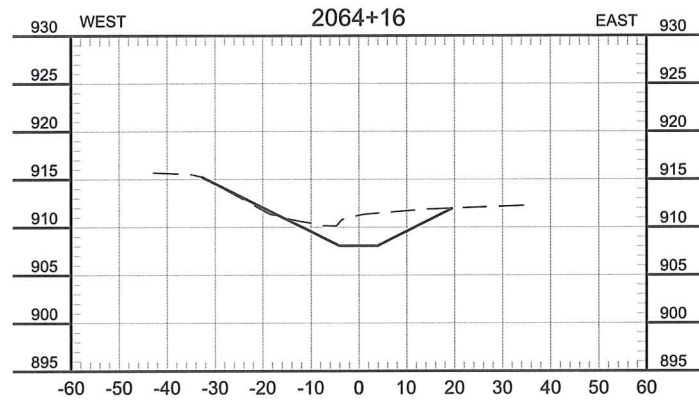
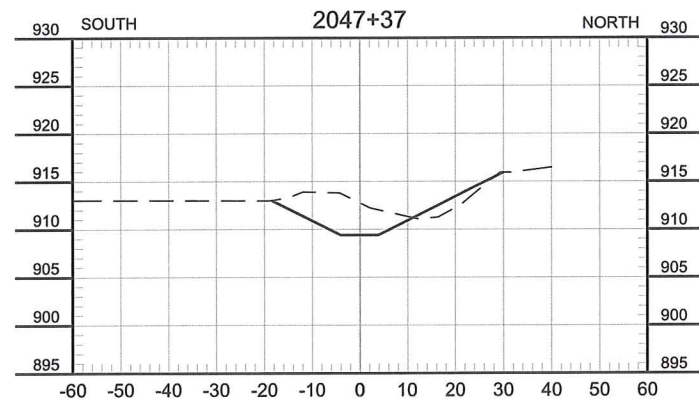
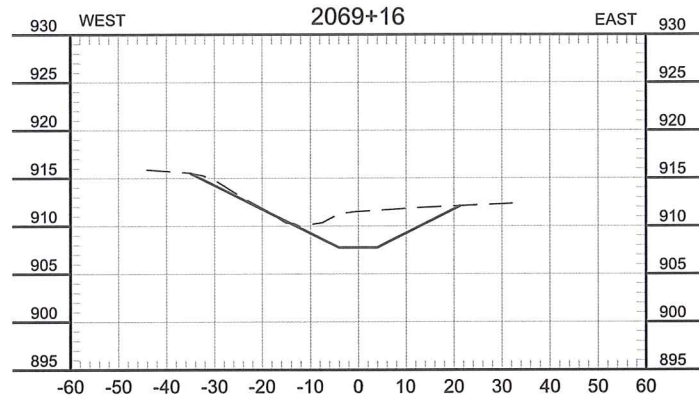
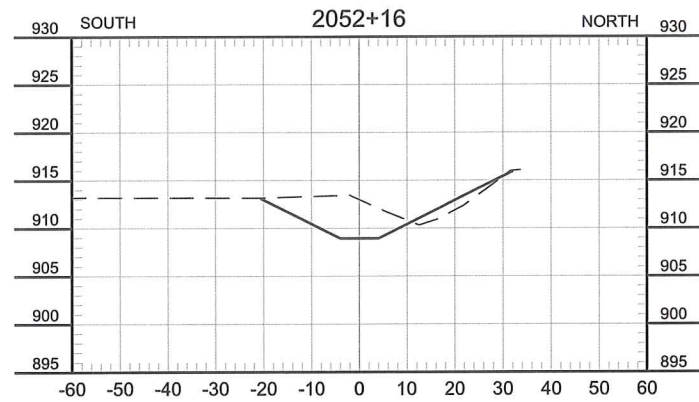
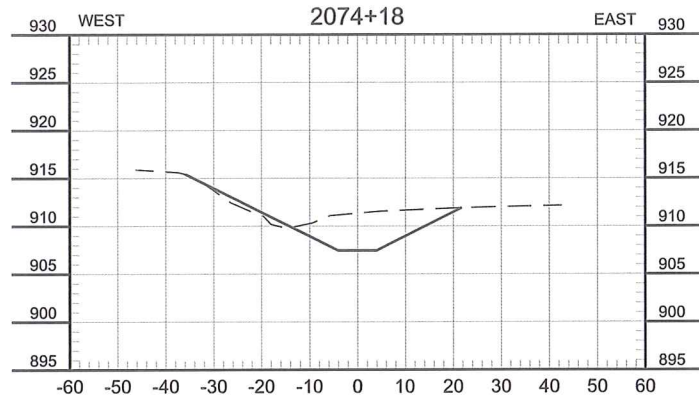
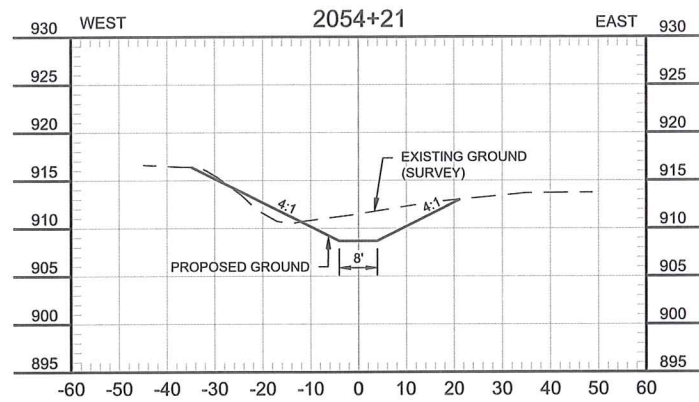
				I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. <i>Zachary J. Herrmann</i> 9/13/2018 Zachary J. Herrmann License No. 51125		Fargo P: 701.237.5065 F: 701.237.5101	Drawn by CJJ	Date 9-13-2018	POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA	CROSS SECTIONS LATERAL 1 PROJECT NO. 1812-057	SHEET C-120
No.	Revision	Date	By				Checked by ZOH, JMW	Scale AS SHOWN			

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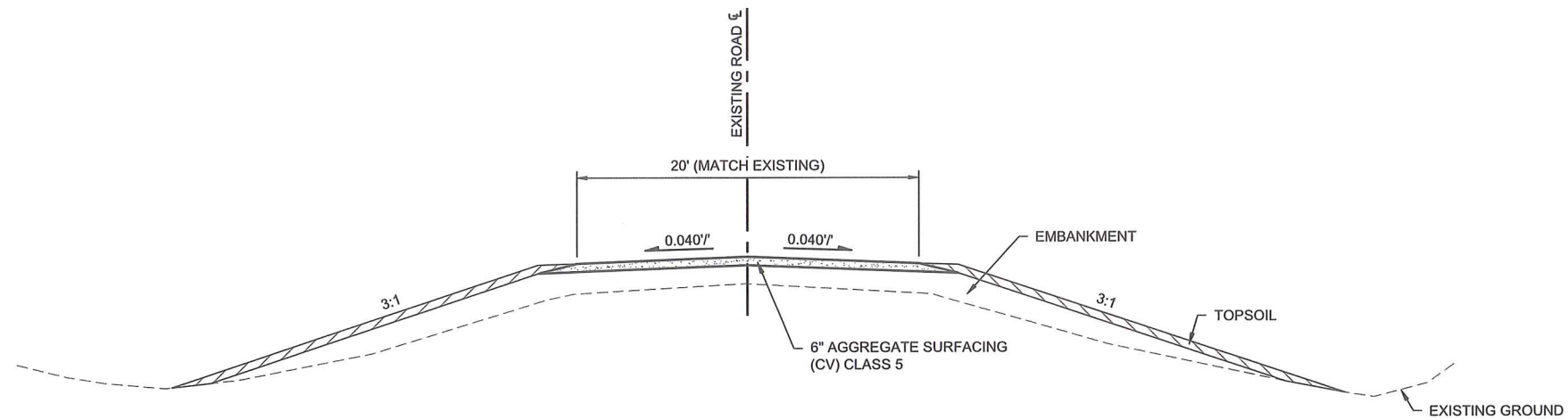


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No.	Revision	Date	By			P: 701.237.5065 F: 701.237.5101		Checked by ZOH, JMW	Scale AS SHOWN			

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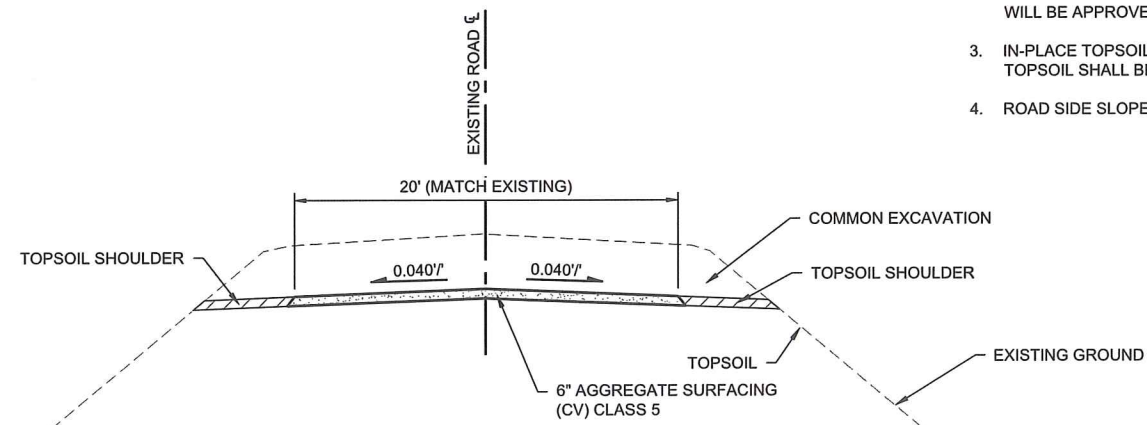


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No.	Revision	Date	By	Date 9/13/2018		P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW	Scale AS SHOWN			



- NOTES:

1. EXISTING ROAD AGGREGATE SURFACING MATERIAL SHALL BE SALVAGED, STOCKPILED, AND REINSTALLED ON THE NEW ROAD SECTION.
2. THE ROAD RAISE SHALL BE CONSTRUCTED WITH SUITABLE MATERIAL MEETING THE REQUIREMENTS OF SECTION 2106 OF THE 2018 MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. ALL SUITABLE MATERIAL WILL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.
3. IN-PLACE TOPSOIL SHALL BE REMOVED AND STOCKPILED IN THE CONSTRUCTION EXTENTS. STOCKPILED TOPSOIL SHALL BE UNIFORMLY REDISTRIBUTED IN THE TOPSOIL AREAS.
4. ROAD SIDE SLOPES SHALL BE SEEDED AFTER TOPSOIL HAS BEEN DISTRIBUTED.

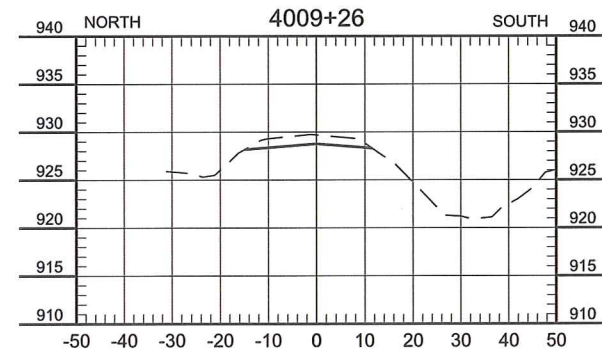
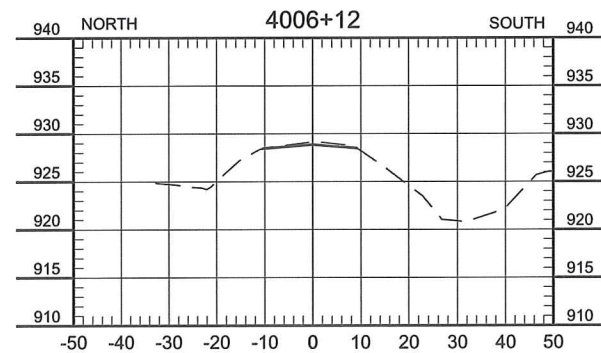
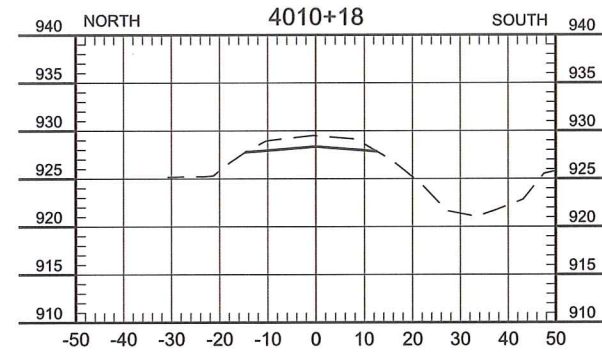
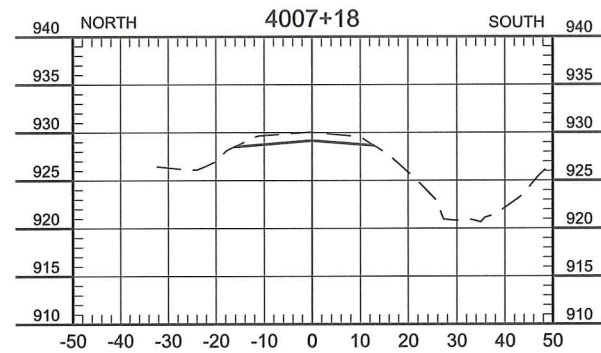
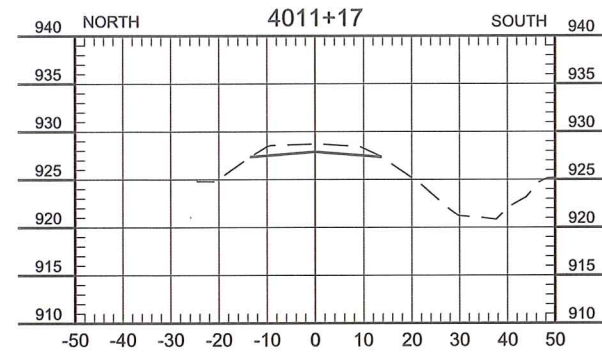
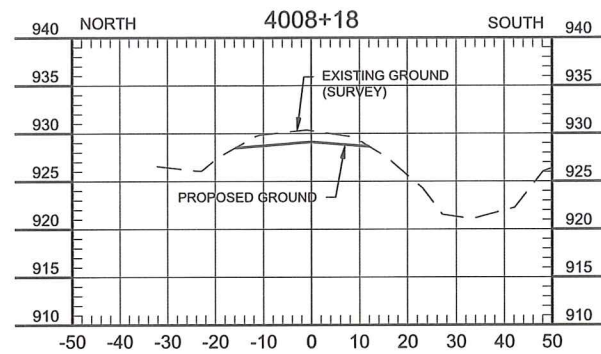


			I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.			Fargo	Drawn by CJJ	Date 9-13-2018	POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA	TYPICAL SECTIONS ROAD	SHEET
No.	Revision	Date	By <i>Zachary A. Herrmann</i> Zachary A. Herrmann License No. 51125	Date 9/13/2018		P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW	Scale AS SHOWN		PROJECT NO. 1812-057	C-201

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No.	Revision	Date	By			P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW	Scale AS SHOWN				

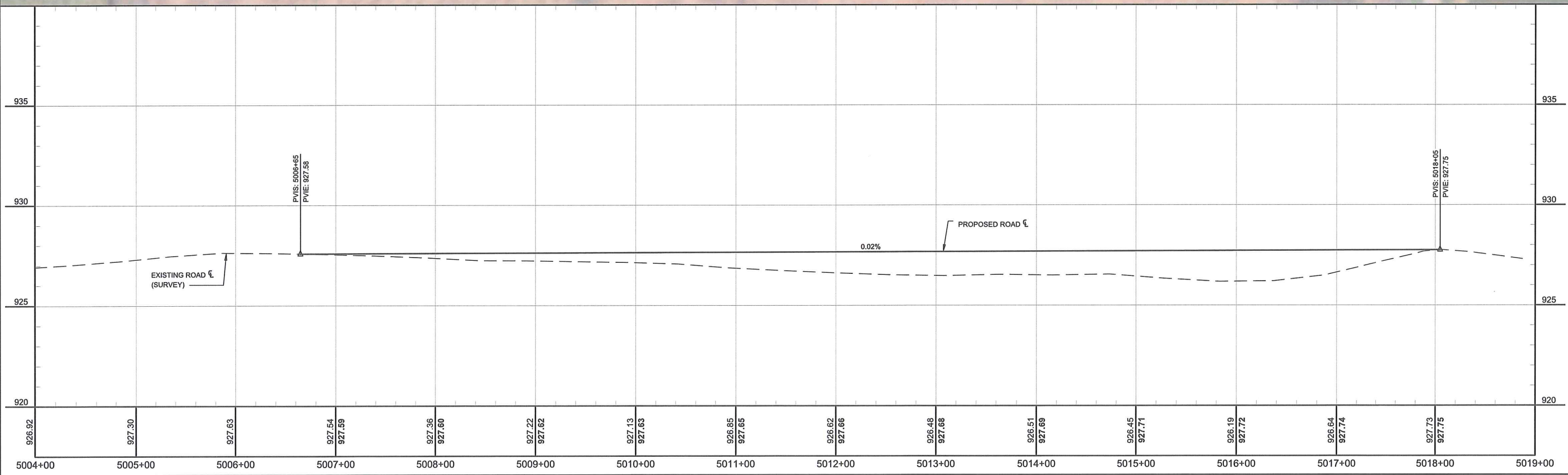
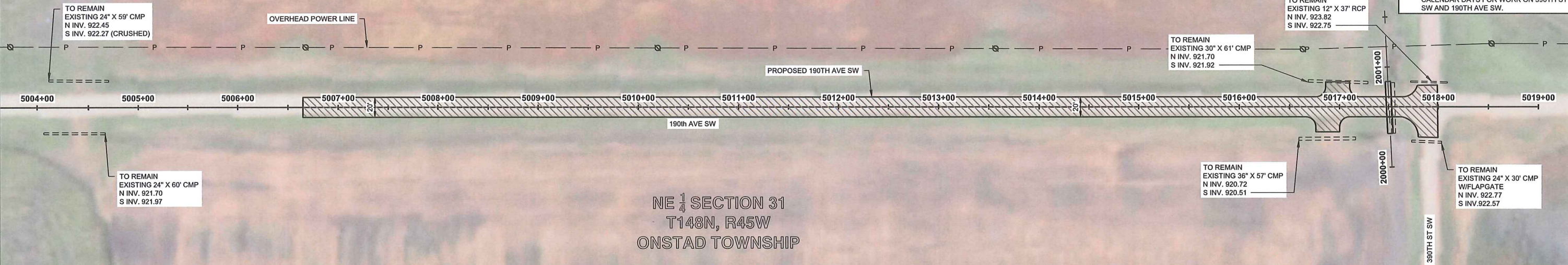
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RUSSIA TOWNSHIP

NE 1/4 SECTION 31
T148N, R45W
ONSTAD TOWNSHIP

Scale: 50 0 50 100 Feet

NOTES:

1. 2015 NAIP AERIAL IMAGERY.
2. ALL ELEVATIONS REFERENCE NAVD 1988 VERTICAL DATUM.
3. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES LAYOUT 6J-20 PRIOR TO CLOSING THE ROADS FOR THE ROAD LOWERING AND RAISING WORK. THE CONTRACTOR SHALL BE ALLOWED TO CLOSE THE ROADWAY FOR 14 CONSECUTIVE CALENDAR DAYS FOR WORK ON 390TH ST SW AND 190TH AVE SW.



No.		Revision	Date	By	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota. <i>Zachary O. Herrmann</i> Zachary O. Herrmann License No. 51125		Date 9/13/2018		Houston Engineering Inc.		Fargo P: 701.237.5065 F: 701.237.5101		Drawn by CJJ		Date 9-13-2018		Checked by ZOH, JMW		Scale AS SHOWN		POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA		PLAN AND PROFILE 190TH AVE SW PROJECT NO. 1812-057		SHEET C-204	
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No.		Revision	Date	By	<p>I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.</p> <p><i>Zachary W. Herrmann</i> 9/13/2018</p> <p>Zachary W. Herrmann License No. 51125</p>	 <p>Houston Engineering Inc.</p>	<table border="1"> <tr> <td>Fargo</td> <td>Drawn by CJ</td> <td>Date 9-13-2018</td> </tr> <tr> <td> P: 701.237.5065 F: 701.237.5101 </td> <td> Checked by ZOH, JMW </td> <td> Scale AS SHOWN </td> </tr> </table>	Fargo	Drawn by CJ	Date 9-13-2018	P: 701.237.5065 F: 701.237.5101	Checked by ZOH, JMW	Scale AS SHOWN	POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS SAND HILL RIVER WATERSHED DISTRICT FERTILE, MINNESOTA	CROSS SECTIONS 190TH AVE SW PROJECT NO. 1812-057	SHEET C-205
Fargo	Drawn by CJ	Date 9-13-2018														
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THE POLK COUNTY DITCH 80 PROJECT CONSISTS OF CHANNEL EXCAVATION AND INSTALLATION OF SIDE INLET CULVERTS, FLAP GATES, AND ROCK DROP STRUCTURES. THE PROJECT IS LOCATED WITHIN ONSTAD AND RUSSIA TOWNSHIP, POLK COUNTY, MINNESOTA.

THE ON-SITE SOILS ARE ANTICIPATED TO BE CLAY LOAM OR SILTY CLAY LOAM TYPICAL FOR THE AREA AND SHOULD BE ONLY MODERATELY SUSCEPTIBLE TO WIND EROSION IF KEPT MOIST. POLK COUNTY DITCH 80 PROJECT HAS A DRAINAGE AREA OF 4.2 SQUARE MILES. THE DISCHARGE POINT FOR THE PROJECT IS THE SHRWD DITCH PROJECT 17 AND IS NOT AN IMPAIRED WATER FOR ANY CONSTRUCTION-RELATED ACTIVITIES. THE PROJECT WILL DISTURB APPROXIMATELY 75.8 ACRES OF LAND. THERE WILL BE NO OFF-SITE BORROW AREAS. THERE ARE NO WETLAND AREAS WITHIN THE PROJECT LIMITS.

THE CONTRACTOR SHALL SUBMIT A NOTICE OF INTENT AND EROSION CONTROL PLAN TO THE OWNER FOR REVIEW 5 DAYS PRIOR TO THE START OF CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE SWPPP AS REQUIRED BY THE MPCA. THE PLAN PROVIDES STRUCTURAL CONTROLS AND/OR STABILIZATION PRACTICES DESIGNED TO MINIMIZE POLLUTANTS IN THE STORMWATER DISCHARGE (INCLUDING SOIL SEDIMENT), TO MINIMIZE EROSION ON THE SITE, AND TO ELIMINATE TRACKING OF SOIL OFF SITE BY VEHICLES.

THE CONTRACTOR AND THE OWNER ARE JOINTLY REQUIRED TO SUBMIT TO THE MPCA A NOTICE OF TERMINATION (NOT) AFTER THE SITE HAS BEEN STABILIZED, CONSTRUCTION HAS ENDED, AND TEMPORARY EROSION CONTROL MEASURES HAVE BEEN REMOVED.

THE FOLLOWING IS A SUGGESTED SEQUENCE OF CONSTRUCTION FOR THE INSTALLATION OF EROSION AND SEDIMENT CONTROLS AND IS NOT INTENDED TO BE A DEFINITIVE CONSTRUCTION SCHEDULE.

- TITLE: PROJECT MANAGER

THE CONTRACTOR (OPERATOR) AS SHOWN ON THE NOTICE IS LISTED BELOW. THE CONTRACTOR SHALL HAVE OPERATIONAL CONTROL OF THE SWPPP AND IS RESPONSIBLE FOR ITS IMPLEMENTATION.

1. ONLY NEEDED PRODUCTS WILL BE STORED ON-SITE BY THE CONTRACTOR.
2. EXCEPT FOR BULK MATERIALS, THE CONTRACTOR WILL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS.
3. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED.
4. MATERIAL MIXING WILL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. WHEN POSSIBLE, ALL PRODUCTS WILL BE COMPLETELY USED BEFORE PROPERLY DISPOSING OF THE CONTAINERS OFF SITE.
6. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS WILL BE FOLLOWED.
7. THE CONTRACTOR'S SITE SUPERINTENDENT WILL INSPECT MATERIAL STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.
8. DUST GENERATED WILL BE CONTROLLED IN AN ENVIRONMENTALLY SAFE MANNER.
9. VEGETATION AREAS NOT ESSENTIAL TO THE CONSTRUCTION PROJECT WILL BE PRESERVED AND MAINTAINED AS NOTED ON THE PLANS.

5. IF A SPILL OCCURS, THE SUPERINTENDENT OR THE SUPERINTENDENT'S DESIGNEE WILL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE MPCA.

6. THE PLAN SHALL HAVE PROVISIONS FOR UPDATING THE PLAN IN THE EVENT CHANGES TO THE PROJECT OCCUR AND RESUBMITTAL OF THE PLAN TO THE PROJECT ENGINEER.

[illegible]

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EROSION AND SEDIMENT CONTROL NOTES:

1. NO EARTHWORK OPERATIONS SHALL BEGIN PRIOR TO ALL TEMPORARY PERIMETER EROSION AND SEDIMENT CONTROL MEASURES BEING INSTALLED.
2. AGGREGATE CONSTRUCTION ENTRANCES SHALL BE PROVIDED AT ALL ACCESS POINTS TO THE CONSTRUCTION SITE. LOCATIONS OF CONSTRUCTION ENTRANCES ARE APPROXIMATE AND SHALL BE FIELD LOCATED. ANY SEDIMENT TRACKED OR DEPOSITED ONTO OFF-SITE PAVED SURFACES SHALL BE REMOVED WITHIN 24 HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STREET SWEEPING AND/OR SCRAPING TO REMOVE ANY ACCUMULATED SEDIMENT FROM OFF-SITE PAVED SURFACES.
3. SEDIMENT ACCUMULATED BEHIND FIBER ROLLS AND SILT FENCE SHALL BE REMOVED WHEN IT REACHES 1/3 THE HEIGHT OF THE FIBER ROLL OR SILT FENCE. ANY INEFFECTIVE (DECOMPOSED, TORN, COLLAPSED) FIBER ROLLS OR SILT FENCE SHALL BE REPLACED IMMEDIATELY.
4. ALL STORM DRAIN INLETS WITHIN THE PROJECT LIMITS AND IN THE IMMEDIATE VICINITY OF THE SITE SHALL HAVE SEDIMENT PROTECTION MEASURES. THIS INCLUDES INLETS AFFECTED BY SEDIMENT TRACKED FROM THE SITE.
5. VEGETATIVE BUFFERS SHALL HAVE A MINIMUM WIDTH OF 25 FEET FOR EVERY 125 FEET OF DISTURBED AREA THAT DRAINS TO THE BUFFER. FOR EACH ADDITIONAL 5 FEET OF DISTURBANCE, AN ADDITIONAL 1 FOOT OF BUFFER MUST BE ADDED. THE BUFFER SHALL HAVE A MAXIMUM 5 PERCENT SLOPE AND CONCENTRATED FLOWS TO THE BUFFER SHALL BE MINIMIZED.
6. VEGETATIVE BUFFER SHALL CONSIST OF DENSE GRASS VEGETATION 3 TO 12 INCHES TALL WITH UNIFORM COVERAGE OVER 90 PERCENT OF THE BUFFER. NO MORE THAN 10 PERCENT OF THE BUFFER MAY CONSIST OF WOODY VEGETATION.
7. ALL DISTURBED AREAS THAT HAVE BEEN FINAL GRADED OR ARE NOT ACTIVELY BEING WORKED SHALL BE STABILIZED AS SOON AS POSSIBLE BUT NO LATER THAN 14 DAYS AFTER COMPLETION OF THE WORK. USE SEEDING AND MULCHING, EROSION CONTROL MATTING, AND/OR SODDING AND STAKING IN GREEN SPACE AREAS. USE EARLY APPLICATION OF GRAVEL BASE IN PAVED AREAS.
8. AREAS WHERE CONSTRUCTION ACTIVITY WILL RESUME WITHIN 15 DAYS OF THE TIME CONSTRUCTION ACTIVITY TEMPORARILY CEASES NEED NOT BE STABILIZED.
9. FIBER ROLLS OR SILT FENCE SHALL BE INSTALLED ON ALL DISTURBED AREAS WITH SLOPES STEEPER THAN 3:1 AND LENGTHS GREATER THAN 75 FEET. ANY SLOPE EXHIBITING RILLS, SIGNIFICANT EROSION, OR EVIDENCE OF CONCENTRATED FLOW SHALL BE REGRADED TO PLAN GRADES AND FIBER ROLLS OR OTHER TEMPORARY EROSION CONTROL MEASURE INSTALLED TO PREVENT FUTURE EROSION.
10. ALL TEMPORARY OR PERMANENT DRAINAGE DITCHES, SWALES, OR STORM SEWER DISCHARGE POINTS SHALL HAVE THEIR NORMAL WETTED PERIMETER STABILIZED WITHIN 200 LINEAL FEET OF THE PROPERTY EDGE OR POINT OF DISCHARGE TO A SURFACE WATER. STABILIZATION SHALL BE ACCOMPLISHED BY THE USE OF EROSION CONTROL BLANKETS, SODDING, APPLICATION OF RIPRAP, OR OTHER METHOD OF STABILIZATION.
11. ALL TEMPORARY OR PERMANENT DRAINAGE DITCHES, SWALES, OR STORM SEWER DISCHARGE POINTS SHALL BE STABILIZED WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, INCLUDING STORM SEWER SYSTEMS.
12. TEMPORARY SOIL STOCKPILES SHALL BE SURROUNDED BY SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND SHALL NOT BE PLACED IN SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER.
13. DEWATERING OR BASIN DRAINAGE RELATED TO CONSTRUCTION SHALL BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN. IF THE WATER CANNOT BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN, IT SHALL BE TREATED WITH ONE OF THE DEWATERING STRUCTURES SHOWN. ALL WATER FROM DEWATERING OR BASIN DRAINING ACTIVITIES MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING CHANNELS OR ON DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING SIGNIFICANT ADVERSE IMPACT OT THE WETLAND.
14. DEWATERING IS LIMITED TO STORMWATER AND GROUNDWATER THAT MAY COLLECT ON SITE, AND THE FOLLOWING ALLOWABLE NON-STORMWATER SOURCES: FIRE-FIGHTING, FIRE HYDRANT FLUSHING, POTABLE WATER LINE FLUSHING, INFREQUENT BUILDING AND EQUIPMENT WASH DOWN WITHOUT DETERGENTS, UNCONTAMINATED FOUNDATION DRAINS, SPRINGS, LAWN WATERING, AND AIR CONDITIONING CONDENSATE. THE OPERATION MUST NOT LEAD TO SEDIMENT DEPOSITS WITHIN STORM SEWERS, DITCHES, AND SURFACE WATERS. THE OPERATION MUST NOT CAUSE OR POTENTIALLY CAUSE A VISIBLE PLUME IN A SURFACE WATER.
15. TEMPORARY SEDIMENTATION BASINS SHALL BE PROVIDED WHEN 10 OR MORE ACRES OF DISTURBED AREA DRAIN TO A COMMON LOCATION. THE BASIN MUST BE PROVIDE PRIOR TO RUNOFF LEAVING THE SITE OR ENTERING SURFACE WATERS.
16. ANY SEDIMENT ACCUMULATION IN SURFACE WATERS, INCLUDING DRAINAGEWAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS, SHALL BE REMOVED AND THE AREA STABILIZED WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOILS. THE REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS AFTER THE DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. ALL REASONABLE EFFORTS MUST BE USED TO OBTAIN ACCESS. ONCE ACCESS IS OBTAINED, REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS LATER. THE CONTRACTOR IS RESPONSIBLE FOR CONTRACTING ALL OF THE APPROPRIATED AUTHORITIES AND RECEIVING THE APPLICABLE PERMITS PRIOR TO CONDUCTING ANY WORK.
17. TEMPORARY EROSION AND SEDIMENT CONTROLS IN ADDITION TO THOSE SHOWN ON THE PLANS SHALL BE INSTALLED IF DEEMED NECESSARY OR AT THE DIRECTION OF THE ENGINEER/OWNER'S REPRESENTATIVE.
18. REMOVE ALL TEMPORARY SYNTHETIC, STRUCTURAL, NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION AND PERMANENT VEGETATION HAS BEEN ESTABLISHED. MINIMUM VEGETATION ESTABLISHMENT IS 70% COVER. MAINTAIN ALL TEMPORARY EROSION CONTROL DEVICES UNTIL 70% ESTABLISHED COVER IS ACHIEVED.
19. STORMWATER CONTROLS ARE EXPECTED TO WITHSTAND AND FUNCTION PROPERLY UP TO A TWO-YEAR, 24-HOUR PRECIPITATION EVENT. VISIBLE EROSION AND/OR OFF-SITE SEDIMENT DEPOSITS SHOULD BE MINIMAL.

FINAL STABILIZATION

1. ALL SOIL-DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A MINIMUM DENSITY OF 70 PERCENT OF THE NATIVE COVER FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIPRAP, GABIONS, OR GEOTEXTILES) HAVE BEEN ACHIEVED.
2. FOR SOIL-DISTURBING ACTIVITIES ON LAND USED FOR AGRICULTURAL PURPOSES, FINAL STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO ITS PRE-DISTURBANCE AGRICULTURAL USE. AREAS DISTURBED THAT WERE NOT PREVIOUSLY USED FOR AGRICULTURAL ACTIVITIES, SUCH AS BUFFER STRIPS IMMEDIATELY ADJACENT TO WATERS OF THE STATES, AND AREAS NOT BEING RETURNED TO THEIR PRE-DISTURBANCE AGRICULTURAL USE MUST MEET THE FINAL STABILIZATION CRITERIA ABOVE.
3. FINAL STABILIZATION HAS BEEN ACHIEVED WHEN THE ABOVE CRITERIA HAS BEEN MET AND:

3.1 ALL DRAINAGE DITCHES CONSTRUCTED TO DRAIN WATER FROM THE SITE FOLLOWING CONSTRUCTION HAVE BEEN STABILIZED TO PREVENT EROSION.

3.2 ALL TEMPORARY, SYNTHETIC, AND STRUCTURAL EROSION AND SEDIMENT CONTROLS HAVE BEEN REMOVED.

3.3 ANY ACCUMULATED SEDIMENT HAS BEEN REMOVED FROM ALL STORMWATER CONVEYANCES AND BASINS USED FOR PERMANENT WATER QUALITY MANAGEMENT. ANY REMOVED SEDIMENT THAT EXPOSES SOIL MUST BE STABILIZED TO PREVENT EROSION.

INSPECTION AND MONITORING

1. A COPY OF THE COMPLETED AND SIGNED NOTICE OF INTENT, COVERAGE LETTER FROM THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA), STORMWATER POLLUTION PREVENTION PLAN (SWPPP), SITE INSPECTION RECORDS, AND THE GENERAL PERMIT SHALL BE KEPT ON SITE DURING CONSTRUCTION. IF NO REASONABLE ON-SITE LOCATION IS AVAILABLE, THE DOCUMENTS MAY BE RETAINED AT A READILY AVAILABLE ALTERNATIVE LOCATION. ALL RECORDS SHALL BE RETAINED FOR A PERIOD OF THREE YEARS AFTER THE SUBMISSION OF THE NOTICE OF TERMINATION.
2. THE CONTRACTOR SHALL PROVIDE AT LEAST ONE INDIVIDUAL PRESENT ON THE PERMITTED PROJECT SITE (OR AVAILABLE TO THE PROJECT SITE IN 72 HOURS) THAT IS TRAINED BY LOCAL, STATE, OR FEDERAL AGENCIES; PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, OR PERMANENT STORMWATER MANAGEMENT. THE INDIVIDUAL SHALL BE KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) AND SHALL BE FAMILIAR WITH THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs.
3. INSPECTION SHALL BE PERFORMED BY, OR UNDER THE DIRECTION OF, THE PERMITTEE AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.50 INCHES OF RAIN PER 24-HOUR PERIOD DURING ACTIVE CONSTRUCTION. THE PERMITTEE SHALL USE A RAIN GAUGE NEAR THE SITE OR UTILIZE THE NEAREST NATIONAL WEATHER SERVICE PRECIPITATION GAUGE STATION. ANY GAUGE USED SHALL BE LOCATED WITHIN 5 MILES OF THE STORMWATER DISCHARGE.
4. ALL INSPECTION AND MAINTENANCE CONDUCTED DURING CONSTRUCTION SHALL BE RECORDED IN WRITING AND THESE RECORDS SHALL BE RETAINED. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:

4.1 DATE AND TIME OF INSPECTION.

4.2 NAME OF PERSON(S) CONDUCTING INSPECTIONS.

4.3 FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS.

4.4 CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES).

4.5 DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.50 INCHES IN 24 HOURS.

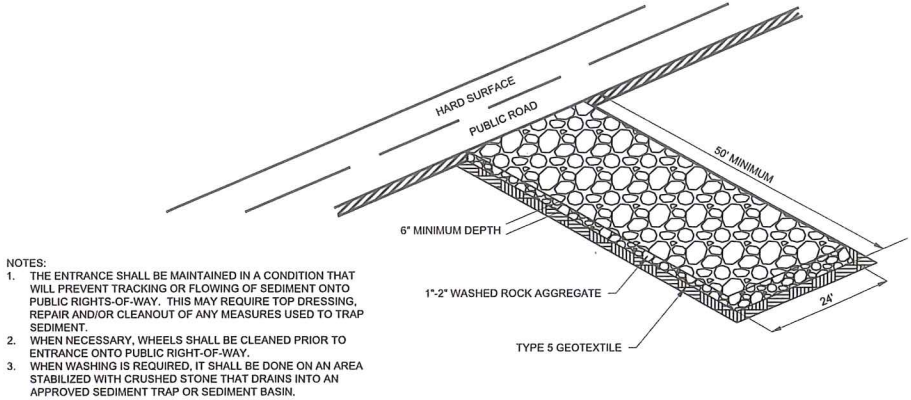
4.6 DOCUMENTATION THAT THE SWPPP PLAN HAS BEEN AMENDED WHEN SUBSTANTIAL CHANGES ARE MADE TO THE EROSION AND SEDIMENT CONTROLS OR OTHER BMPs IN RESPONSE TO INSPECTIONS.
5. INSPECTIONS SHALL INCLUDE THE FOLLOWING:

5.1 ALL EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWPPP MUST BE INSPECTED TO ENSURE THEY ARE OPERATING CORRECTLY AND IN SERVICEABLE CONDITIONS.

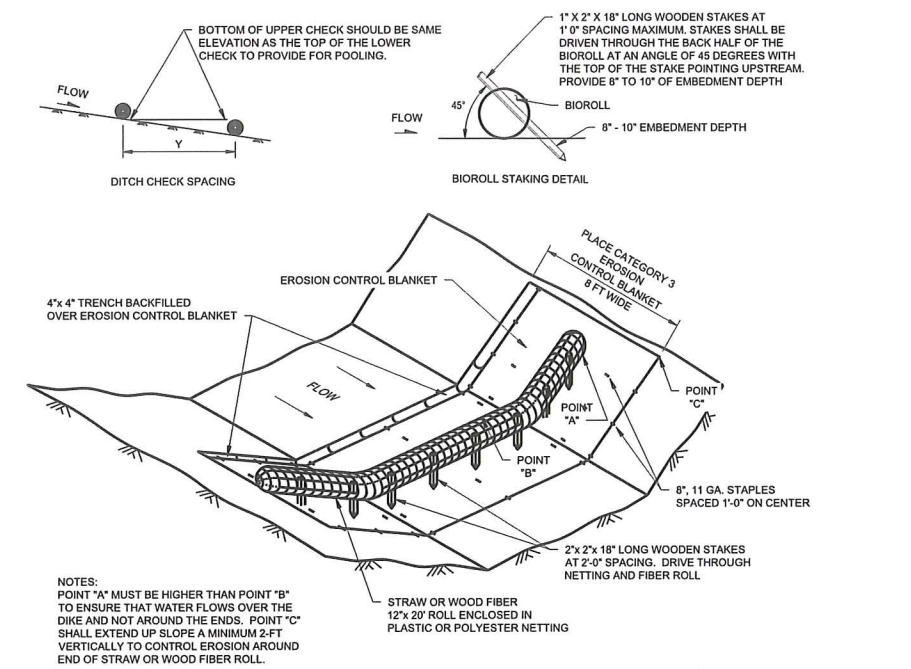
5.2 SURFACE WATERS, DRAINAGE DITCHES, AND CONVEYANCE SYSTEMS, INCLUDING STORM SEWER, MUST BE INSPECTED FOR SEDIMENT DEPOSITS AND/OR VISIBLE PLUMES.

5.3 EXIT POINTS FROM THE CONSTRUCTION SITE ONTO PAVED SURFACES MUST BE INSPECTED FOR SEDIMENT BEING TRACKED BY VEHICLES OR EQUIPMENT.

5.4 VEGETATIVE BUFFERS MUST BE INSPECTED FOR PROPER DISTRIBUTION OF FLOWS, SEDIMENT ACCUMULATION, AND SIGNS OF RILL FORMATION.
6. EROSION AND SEDIMENT CONTROLS FOUND IN NEED OF MAINTENANCE BETWEEN INSPECTIONS NEED TO BE REPAIRED OR SUPPLEMENTED WITH APPROPRIATE MEASURES WITHIN 48 HOURS OF DISCOVERY.



TEMPORARY ROCK OR WOOD CHIP
CONSTRUCTION ENTRANCE
NOT TO SCALE



TEMPORARY DITCH CHECK
NOT TO SCALE

BIOROLL LOCATION AND STORAGE TABLE			
BIOROLL NO.	STATION	BIOROLL NO.	STATION
1	4+20	16	145+55
2	9+15	17	151+71
3	14+40	18	156+73
4	19+37	19	161+75
5	29+15	20	166+79
6	35+75	21	171+83
7	61+50	22	176+88
8	88+34	23	178+19
9	93+37	24	1025+83
10	98+39	25	2023+65
11	103+41	26	2030+98
12	110+13	27	2040+79
13	118+40	28	2052+97
14	123+42	29	2078+99
15	141+00		

No.	Revision	Date	By	



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Drawn by
CJ

Checked by
ZOH, JMW

Date
9-13-2018

Scale
AS SHOWN

POLK COUNTY DITCH 80 SYSTEM IMPROVEMENTS
SAND HILL RIVER WATERSHED DISTRICT
FERTILE, MINNESOTA

SWPPP NOTES
PROJECT NO. 1812-057

SHEET
C-302