

SHEET NOTES

1. PROVIDE SILT FENCE IN ACCORDANCE WITH DETAIL 1, SHEET C0071.
2. PROVIDE INLET PROTECTION IN ACCORDANCE WITH DETAIL 2 & 3, SHEET C0071.
3. PROVIDE TEMPORARY CONSTRUCTION ENTRANCE IN ACCORDANCE WITH DETAIL 4, SHEET C0071.
4. ALL BMP'S SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE GENERAL STORMWATER PERMIT, ENBRIDGE ENVIRONMENTAL STANDARDS, ENBRIDGE SWPPP, AND ALL LOCAL REGULATIONS.

ESTIMATED QUANTITIES

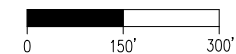
ITEM	QUANTITY
WETLAND IMPACT	4584 YD ²
SILT FENCE	10518 LF
FILTER SOCK	27 @ 20 LF EA
INLET PROTECTION	11 EA
TEMPORARY CONSTRUCTION ENTRANCE	1 EA
RIPRAP	251 YD ³

WARNING
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 CALL BEFORE DIGGING.
 MINNESOTA ONE-CALL SYSTEM
 1-800-252-1166
 REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
 10/19/2020

EROSION AND SEDIMENT CONTROL NOTES

1. ALL PERIMETER SEDIMENT CONTROL BMP'S SHALL BE IN PLACE PRIOR TO ANY LAND DISTURBING ACTIVITY.
2. IF A STOCKPILE IS TO REMAIN IN PLACE FOR MORE THAN 3 DAYS, THEN SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY DURING CONSTRUCTION. COVER STOCKPILE AND PROVIDE PERIMETER CONTROLS SUCH AS FILTER SOCKS OR SILT FENCE.
3. PERIMETER AND SWALE/DITCH EROSION CONTROL BMP'S SHALL REMAIN IN PLACE UNTIL FINAL SURFACING HAS BEEN ESTABLISHED ON ALL DISTURBED AREAS.
4. DEWATER EXCAVATION AS NECESSARY TO PREVENT WASHOUTS DURING LARGE STORM EVENTS. ALL DEWATERING SHALL BE DONE THROUGH A FILTRATION DEVICE PER THIS ENBRIDGE ENVIRONMENTAL PROTECTION PLAN.
5. AT A MINIMUM, DURING CONSTRUCTION, REMOVE SEDIMENT DEPOSITS FROM SEDIMENTATION BASINS WHEN THE DEPTH OF SEDIMENT COLLECTED REACHES ONE-HALF THE STORAGE VOLUME. DISPOSE OF REMOVED SEDIMENT AT AN APPROVED OFFSITE DISPOSAL SITE.
6. UPON FINAL STABILIZATION OF CONTRIBUTING DRAINAGE AREA, CLEAN OUT SEDIMENT FROM CONVEYANCE SYSTEMS AND PERMANENT TREATMENT SYSTEMS. RETURN TO DESIGN CAPACITY.
7. THE CONTRACTOR SHALL STABILIZE TEMPORARY AND/OR PERMANENT DRAINAGE DITCHES OR SWALES WITHIN 200 LINEAL FEET FROM PROPERTY EDGE, OR DISCHARGE POINT(S) WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE.
8. NO AREAS OF EXISTING STEEP SLOPES.
9. NO KARST FEATURES WITHIN 1,000 FEET UPGRADIENT OR 100 FEET DOWNGRADIENT FROM SITE.
10. SITE NOT WITHIN A DWSMA.
11. PORTABLE TOILETS MUST BE POSITIONED AND SECURED TO PREVENT TIPPING.
12. BASED ON PERMIT CONDITION, TOTAL APPLICABLE SITE STABILIZATION TIMEFRAME IS 7 CALENDAR DAYS.
13. THE SWPPP WILL BE AMENDED AS NEEDED AND/OR AS REQUIRED BY PROVISIONS OF THE PERMIT. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMP'S AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER.
14. AMENDMENTS WILL BE APPROVED BY BOTH THE OWNER AND CONTRACTOR AND WILL BE ATTACHED OR OTHERWISE INCLUDED WITH THE SWPPP DOCUMENTS. THE SWPPP AMENDMENTS SHALL BE INITIATED, FACILITATED, AND PROCESSED BY THE CONTRACTOR.
15. ALL SWPPP CHANGES MUST BE DONE BY AN INDIVIDUAL TRAINED IN ACCORDANCE WITH SECTION 21.4 OR 21.5. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.
16. THE CONTRACTOR SHALL ENSURE PIPE OUTLETS HAVE TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER OR PERMANENT STORM WATER TREATMENT SYSTEM.
17. THE CONTRACTOR SHALL NOT UTILIZE HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES AS A FORM OF STABILIZATION FOR TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT.
18. THE CONTRACTOR SHALL NOT LOCATE STOCKPILES WITHIN NATURAL BUFFERS OR SURFACE WATERS, INCLUDING STORM WATER CONVEYANCES (E.G., CURB AND GUTTER SYSTEMS) UNLESS THERE IS A BYPASS.
19. THE CONTRACTOR SHALL ENSURE VEHICLE TRACKING BE MINIMIZED WITH EFFECTIVE BMP'S. WHERE THE BMP'S FAIL TO PREVENT SEDIMENT FROM TRACKING ONTO STREETS THE CONTRACTOR SHALL CONDUCT STREET SWEEPING TO REMOVE ALL TRACKED SEDIMENT WITHIN ONE CALENDAR DAY OF DISCOVERY.
20. THE CONTRACTOR SHALL INSTALL THE PERMANENT CONTAINMENT OVERFLOW STRUCTURE AND DRAIN DOWN IN ACCORDANCE WITH SECTION E, SHEET C0072 TO DEWATER THE TEMPORARY SEDIMENTATION BASIN. PROVIDE A FLEXIBLE HOSE WITH A FLOATING SCREENED INTAKE AND CONNECT TO PERMANENT DRAIN DOWN PIPE. DRAIN THE POND TO AN ELEVATION OF 1296.50 FOLLOWING EACH STORM EVENT.



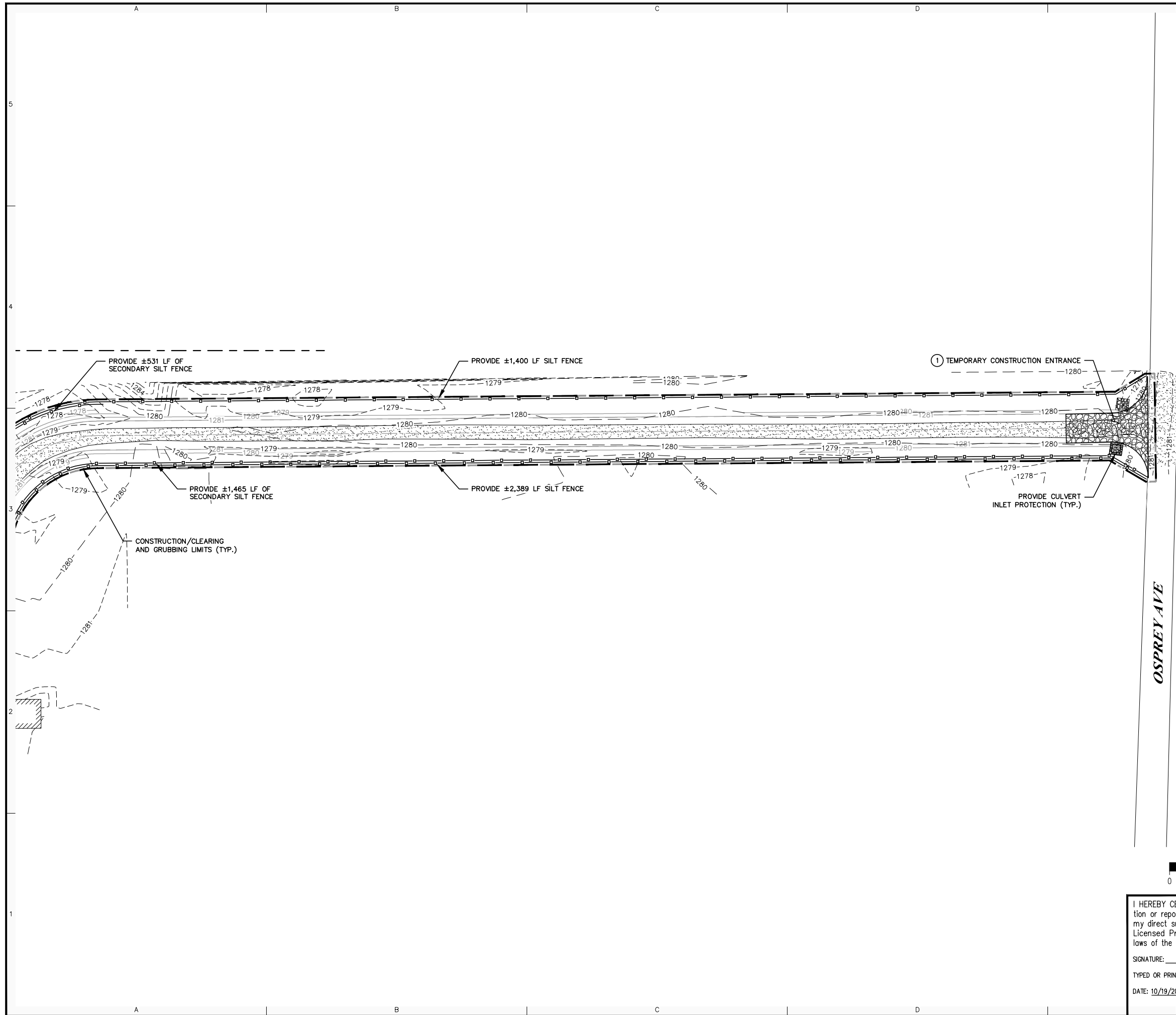
I HEREBY CERTIFY that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 SIGNATURE: *Adam F. Besse*
 TYPED OR PRINTED NAME: ADAM F. BESSE
 DATE: 10/19/2020 REG. NO.: 52597

NO	REVISION	DATE	BY	APPR
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	10/19/20	LHB/MGR	DGS



SWATARA (MN) STATION
 STATION 93
 OVERALL EROSION AND SEDIMENT CONTROL PLAN

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)	SCALE: 1"=150'	DATE: 07/09/2015	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015	
APPR: TM	D-93-1.21-C0011-AP-1356		
APPR: -			



SHEET NOTES

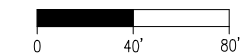
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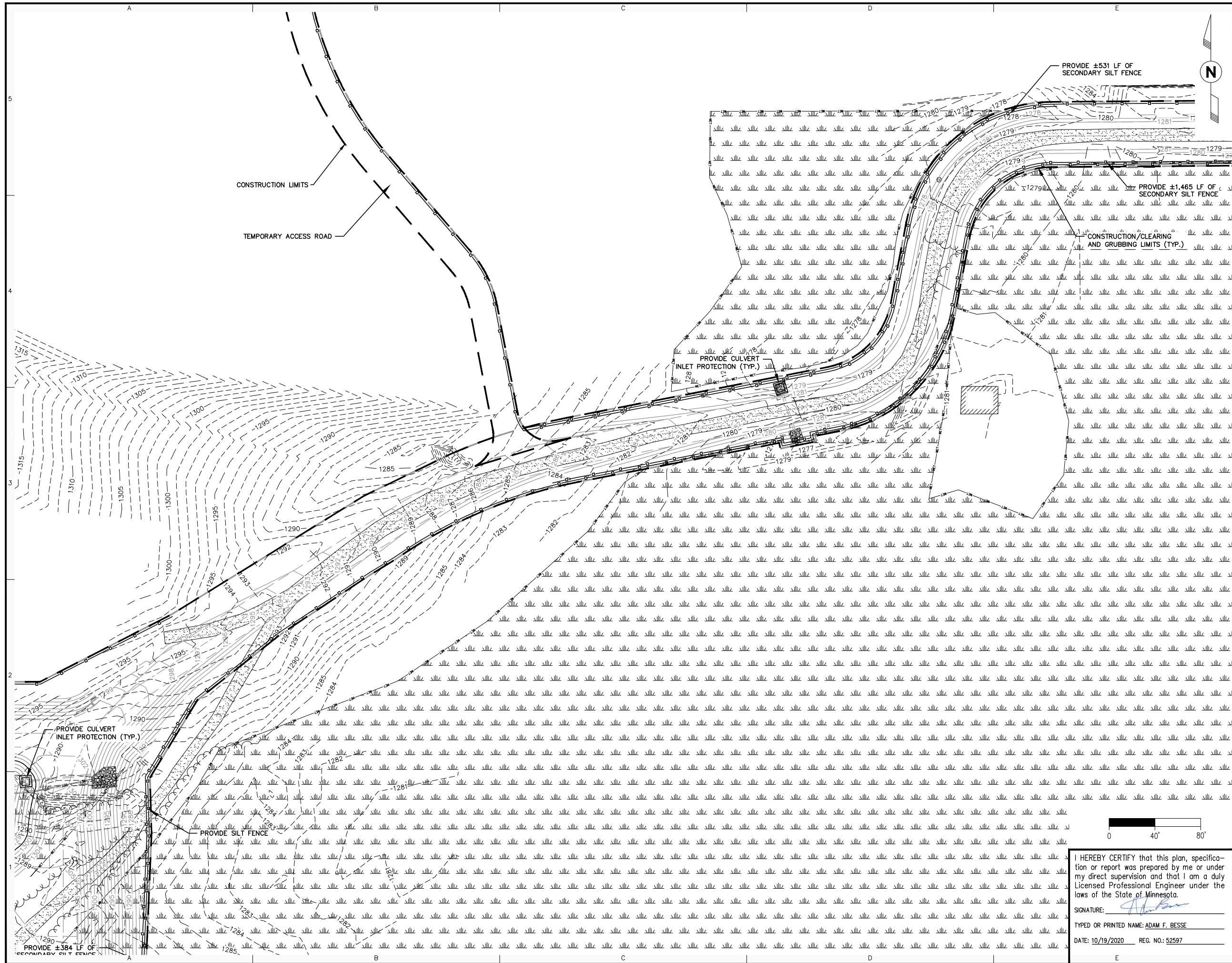
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SWATARA (MN) STATION
 STATION 93
 EROSION AND SEDIMENT CONTROL PLAN

PROJECT: AFE # 1491292100 LINE 3 REPLACEMENT (LINE 93)

SCALE: 1"=40'	DATE: 09/27/2018	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 09/27/2018
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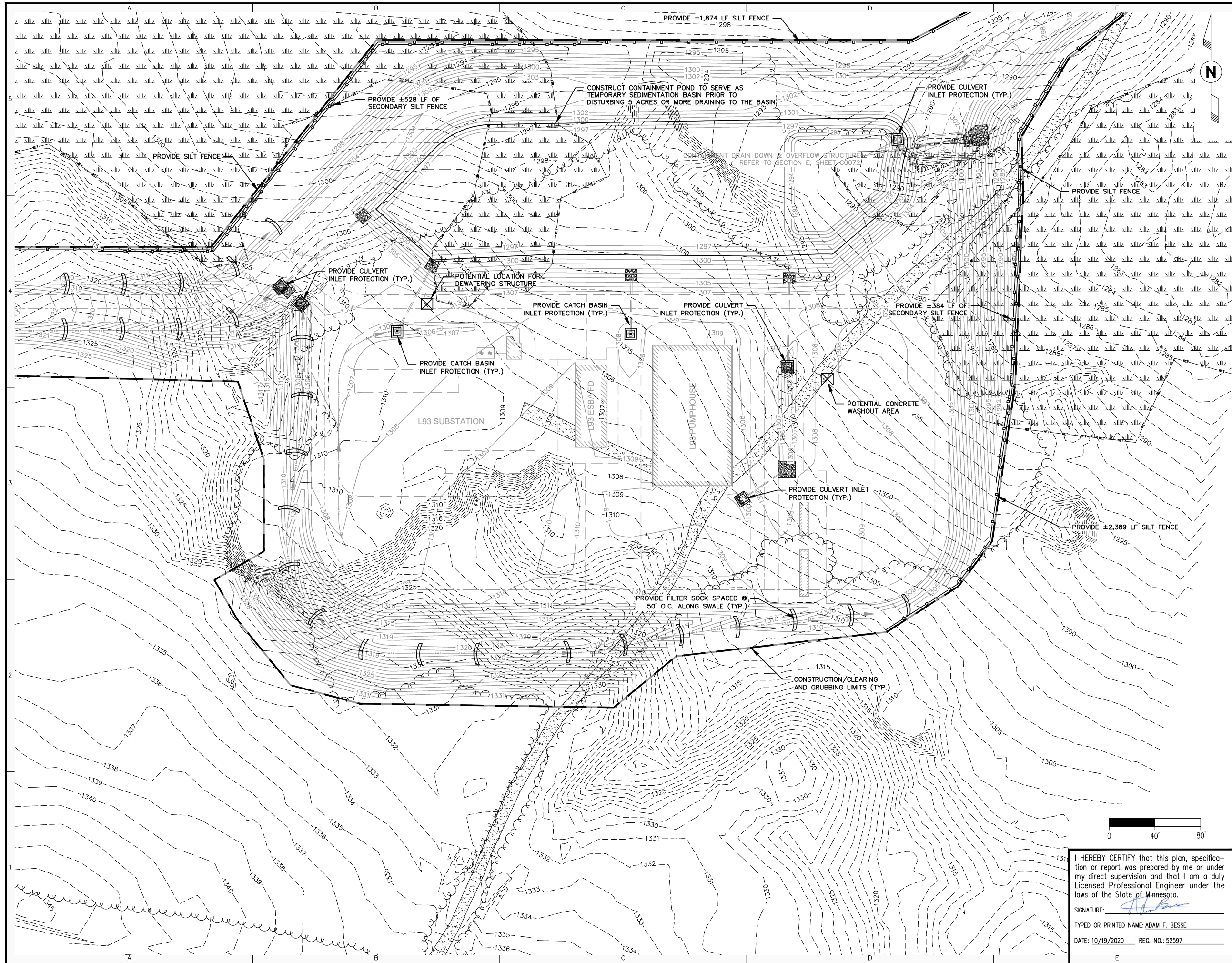
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 EROSION AND SEDIMENT CONTROL PLAN

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)
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 CHECK: LHB/AFB APPR: LHB/DGS DATE: 09/27/2018
 APPR: TM
 APPR: - **D-93-1.21-C0013-AP-1356**

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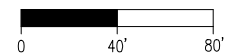
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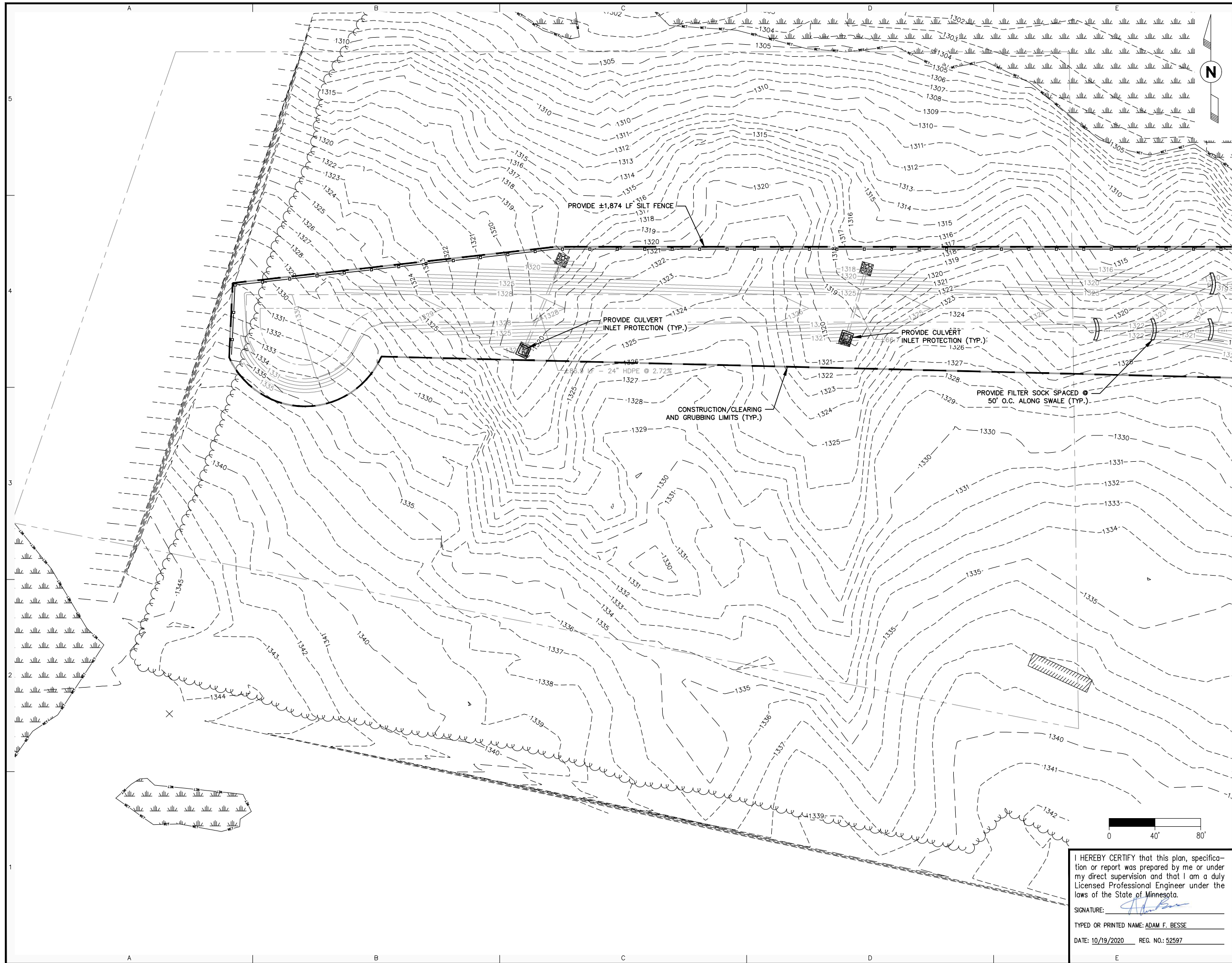
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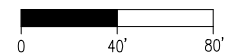
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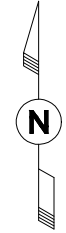
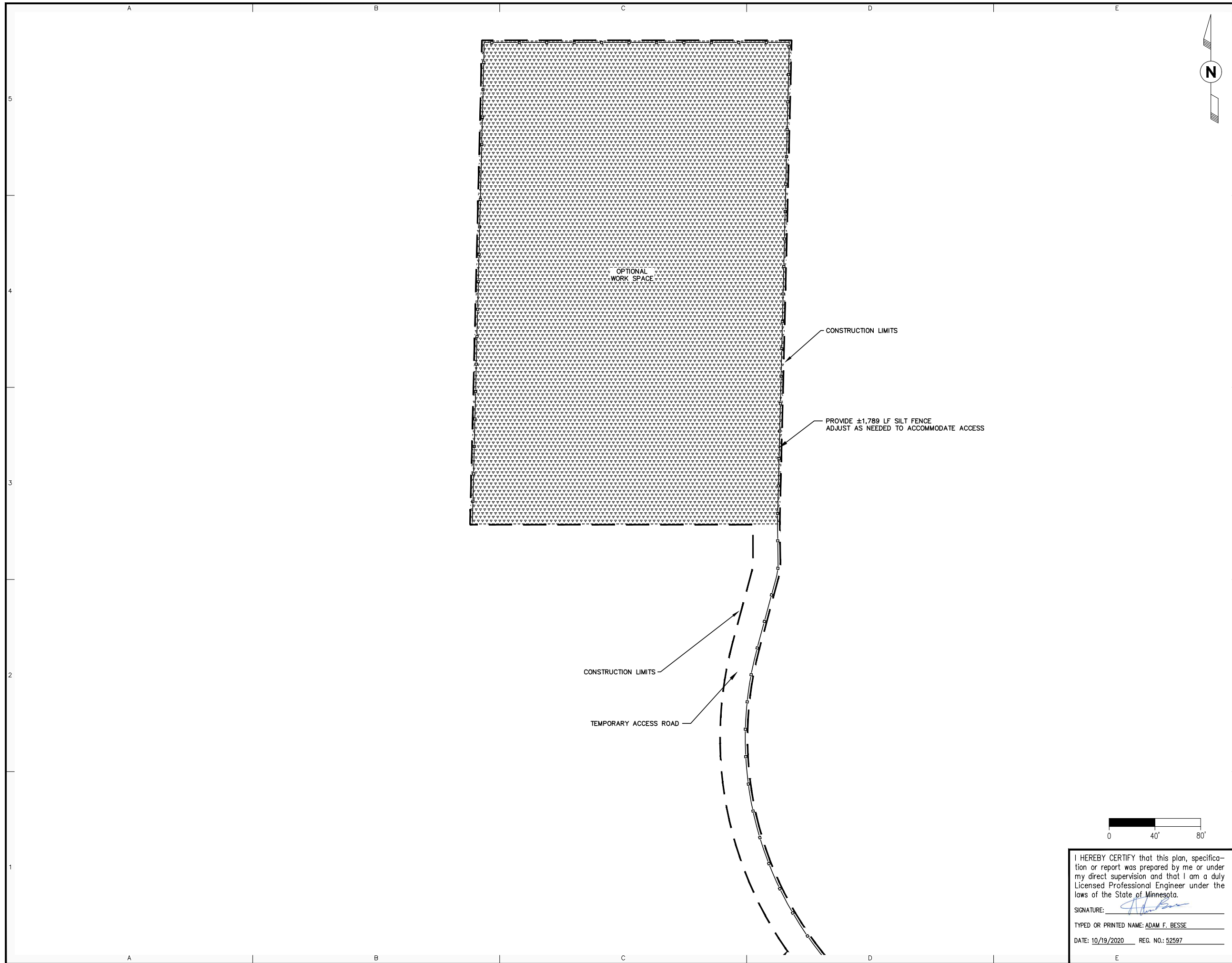
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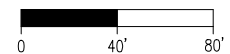
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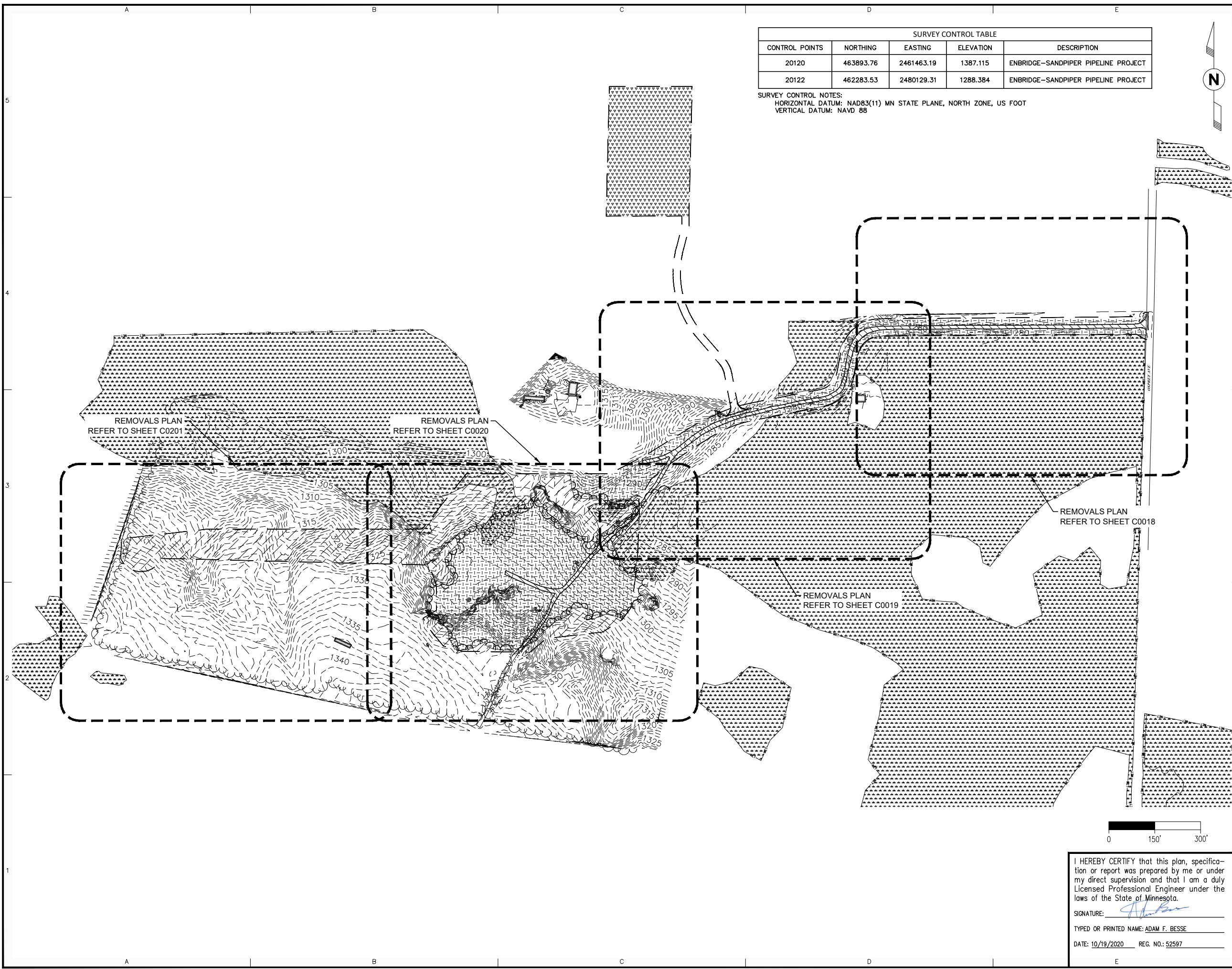
SWATARA (MN) STATION
 STATION 93
 EROSION AND SEDIMENT CONTROL PLAN

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)

SCALE: 1"=40'	DATE: 04/30/2020	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 04/30/2020
APPR: TM	D-93-1.21-C0016-AP-1356	
APPR: -		

SURVEY CONTROL TABLE				
CONTROL POINTS	NORTHING	EASTING	ELEVATION	DESCRIPTION
20120	463893.76	2461463.19	1387.115	ENBRIDGE-SANDPIPER PIPELINE PROJECT
20122	462283.53	2480129.31	1288.384	ENBRIDGE-SANDPIPER PIPELINE PROJECT

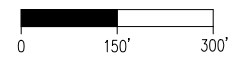
SURVEY CONTROL NOTES:
HORIZONTAL DATUM: NAD83(11) MN STATE PLANE, NORTH ZONE, US FOOT
VERTICAL DATUM: NAVD 88



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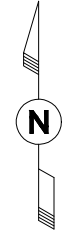
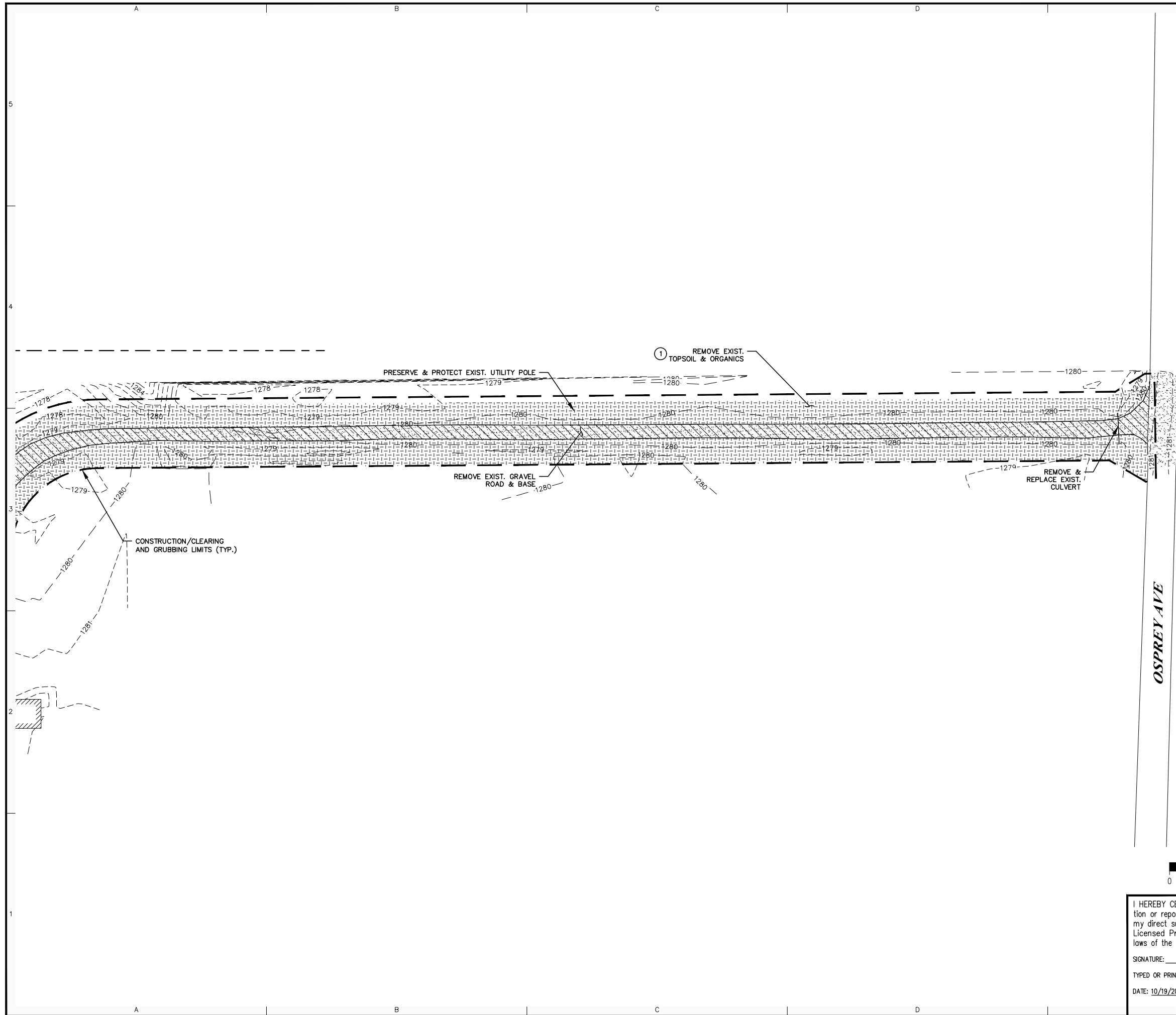
AP	ISSUED FOR PERMITTING	LHB/MGR	DGS	-
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	AFE #1491292100 L3 REPL (LINE 93)	10/19/20		



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SWATARA (MN) STATION		
STATION 93 OVERALL REMOVALS PLAN		
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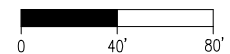
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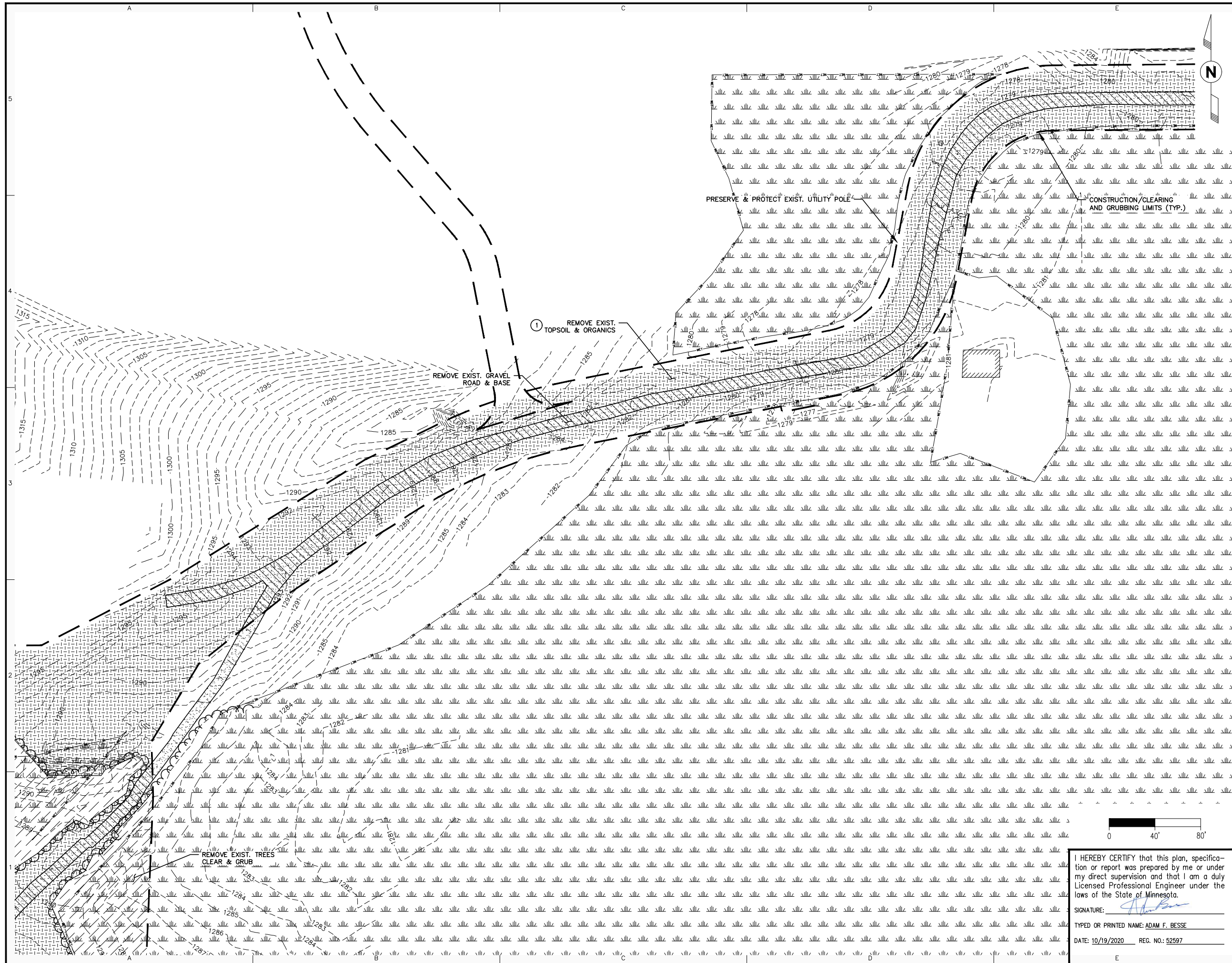
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SWATARA (MN) STATION
 STATION 93
 REMOVALS
 PLAN

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)		
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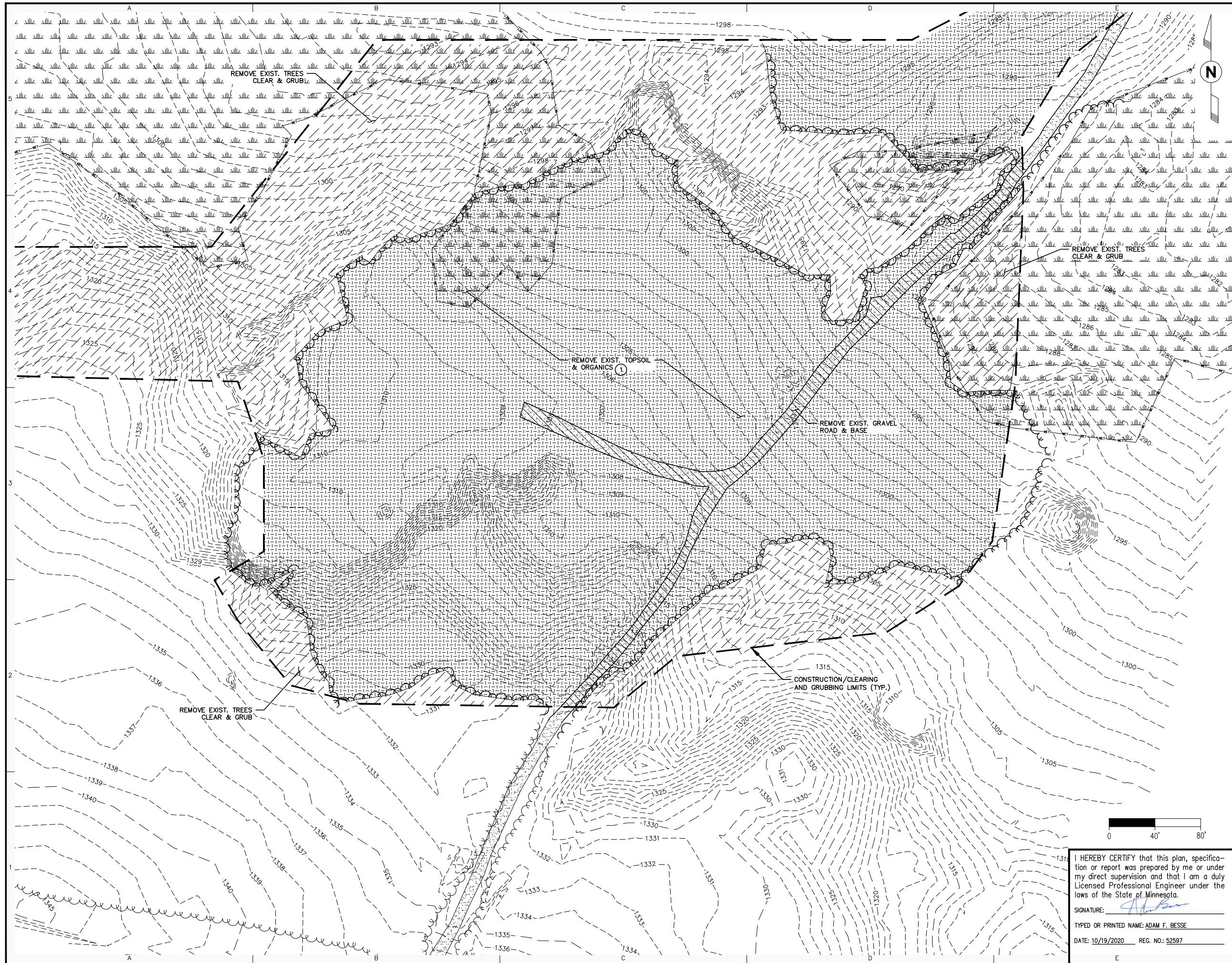
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 STATION 93
 REMOVALS
 PLAN

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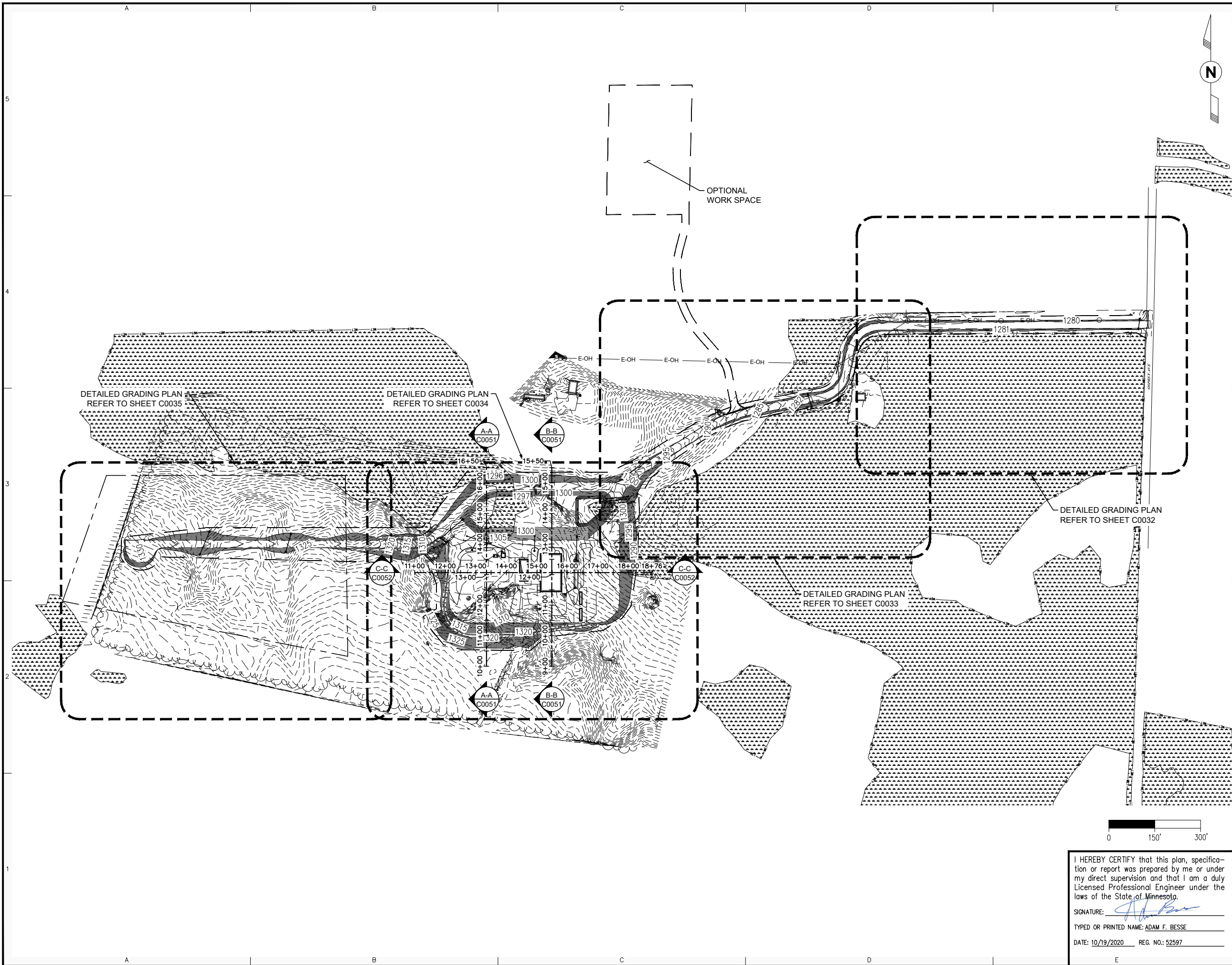
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MINNESOTA
 ONE-CALL SYSTEM
1-800-252-1166
 REQUIRED BY
 MN STATUTE 216D

ISSUED FOR PERMITTING
 10/19/2020

AP	ISSUED FOR PERMITTING	LHB/MGR	DGS	-
	AFE #1491292100 L3 REPL (LINE 93)	10/19/20		
NO	REVISION	BY DATE	APPR	APPR



SWATARA (MN) STATION
 STATION 93
 OVERALL GRADING PLAN

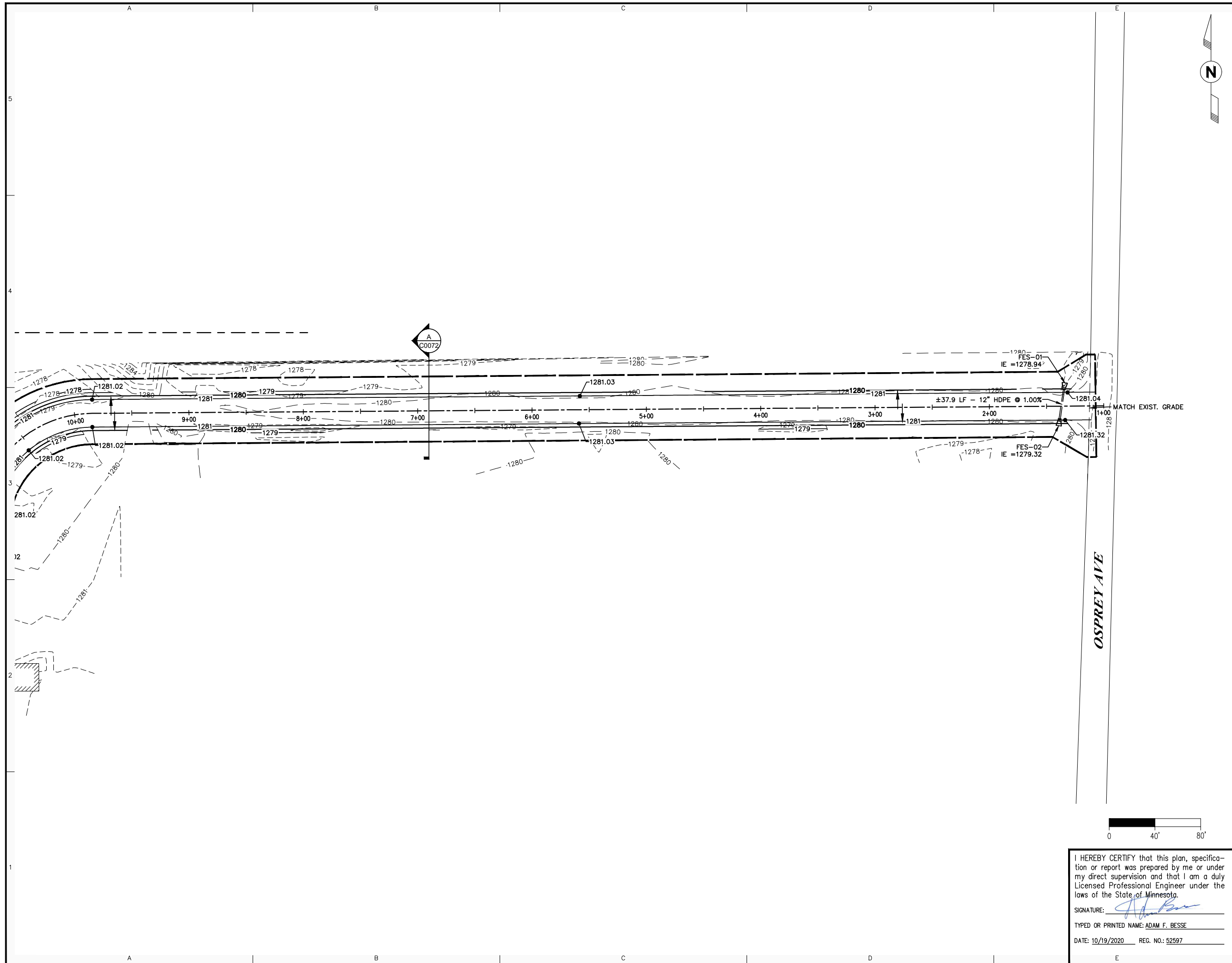
I HEREBY CERTIFY that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

SIGNATURE: *Adam F. Besse*

TYPED OR PRINTED NAME: ADAM F. BESSE

DATE: 10/19/2020 REG. NO.: 52597

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE: 1"=150'	DATE: 12/18/2014	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 12/18/2014
APPR: TM	D-93-1.21-C0031-AP-1356	
APPR: -		



WARNING
 LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR. CALL BEFORE DIGGING.
 MINNESOTA ONE-CALL SYSTEM
 1-800-252-1166
 REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
 10/19/2020

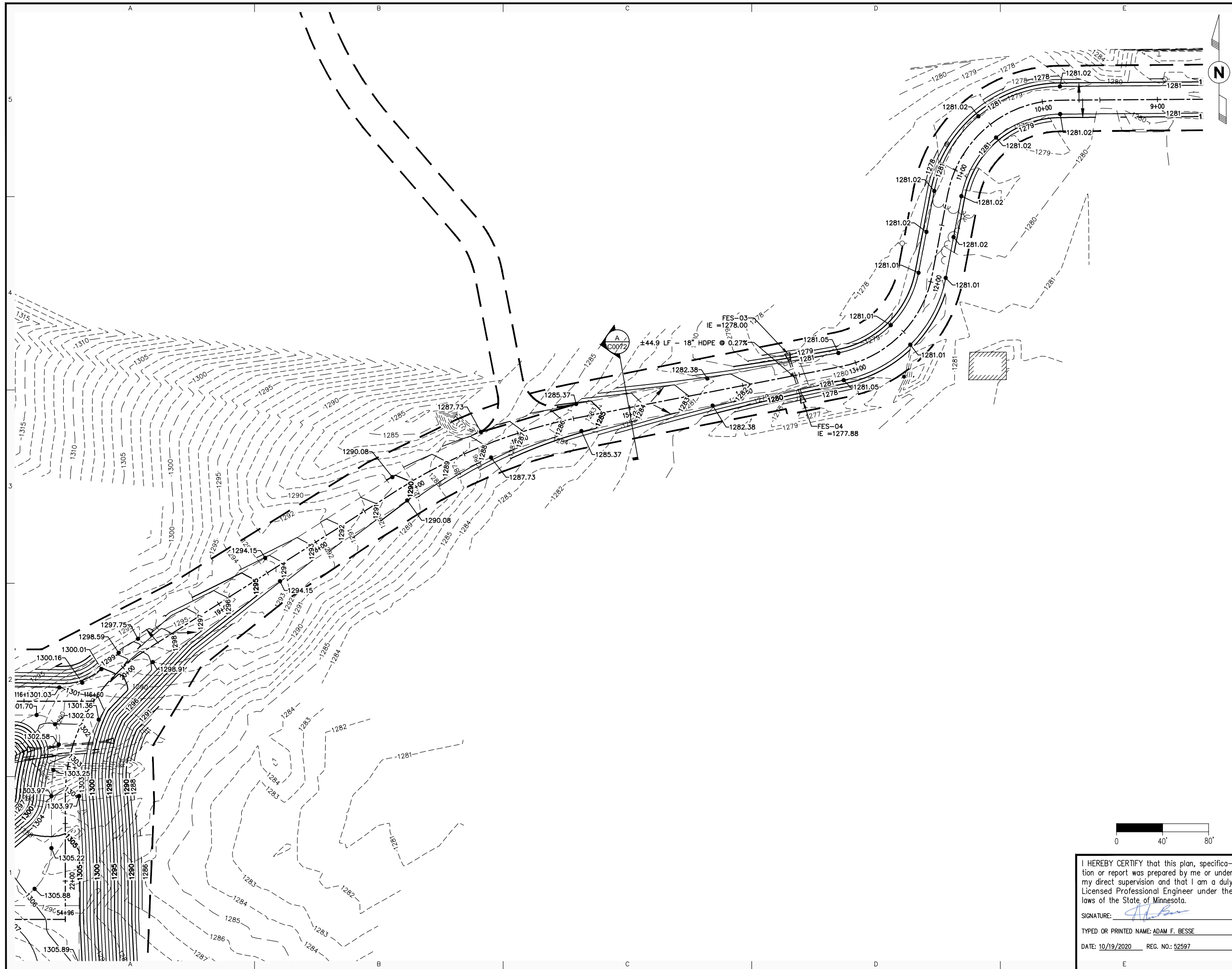
AP	ISSUED FOR PERMITTING	LHB/MGR	DGS	-
	A/E #1491292100 L3 REPL (LINE 93)	10/19/20		
NO	REVISION	BY DATE	APPR	APPR



SWATARA (MN) STATION
 STATION 93
 DETAILED GRADING PLAN

PROJECT: A/E # 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE: 1"=40'	DATE: 07/09/2015	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015
APPR: TM	D-93-1.21-C0032-AP-1356	
APPR: -		

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 DATE: 10/19/2020 REG. NO.: 52597



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 MINNESOTA ONE-CALL SYSTEM
 1-800-252-1166
 REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
 10/19/2020

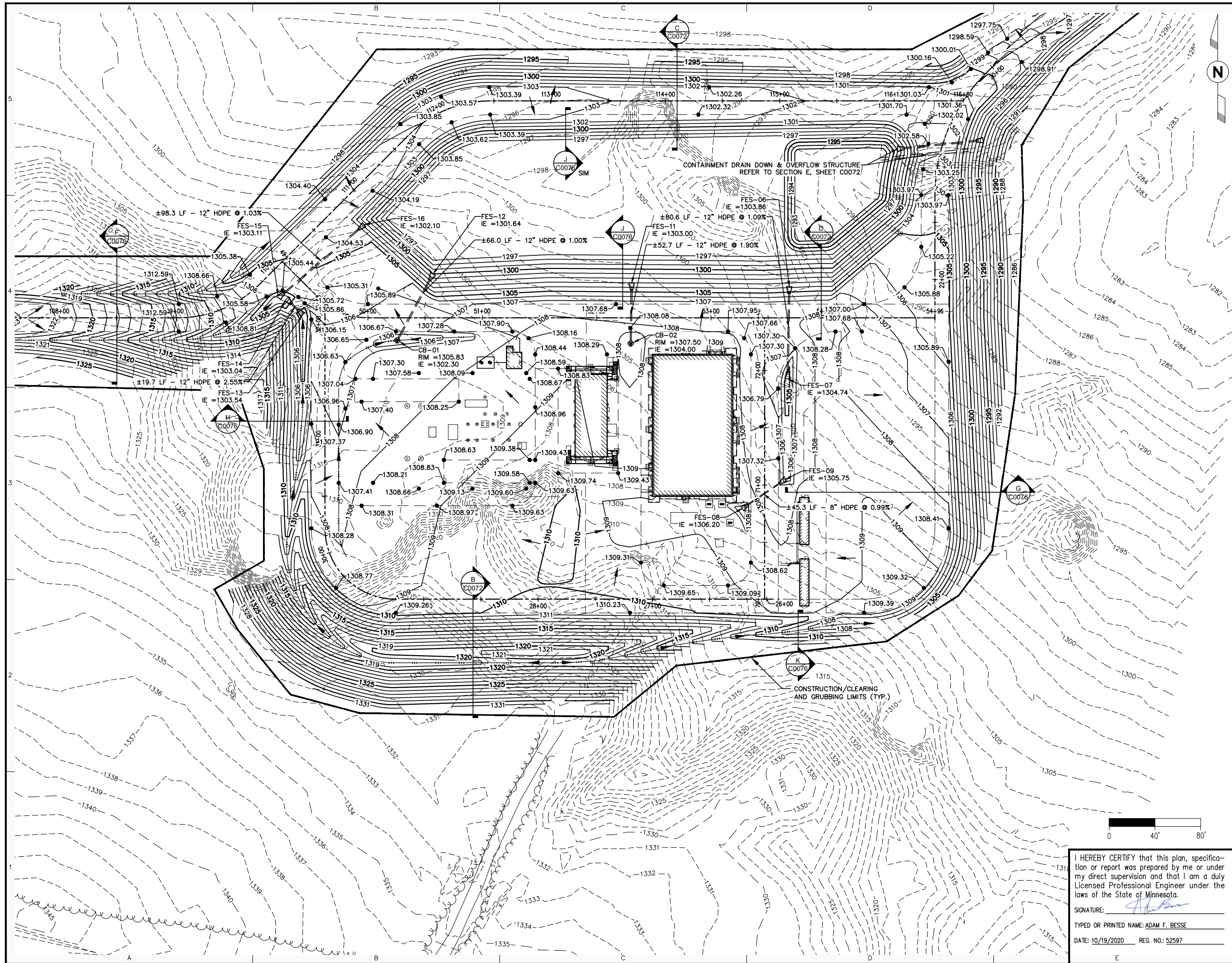
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



SWATARA (MN) STATION
 STATION 93
 DETAILED GRADING
 PLAN

PROJECT:	AFE # 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE:	1" = 40'	DATE:	07/09/2015
CHECK:	LHB/AFB	APPR:	LHB/DGS
DATE:	10/19/2020	REG. NO.:	52597
APPR:	TM	D-93-1.21-C0033-AP-1356	

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 SIGNATURE: *Adam Besse*
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 DATE: 10/19/2020 REG. NO.: 52597



POND VOLUME TABLE		
	ELEVATION (FT)	VOLUME (BBL)
MAX HYDROCARBON VOLUME		10,023
25 YEAR STORM WATER VOLUME		7,049
REQUIRED CONTAINMENT VOLUME		17,072
PROPOSED CONTAINMENT VOLUME	1300.70	34,640
TOP OF FREE BOARD	1301.70	46,752

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 MINNESOTA ONE-CALL SYSTEM
 1-800-252-1166
 REQUIRED BY MN STATUTE 216D

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 10/19/2020

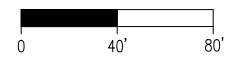
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AP		ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR	10/19/20	DGS	-

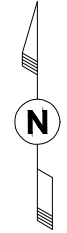
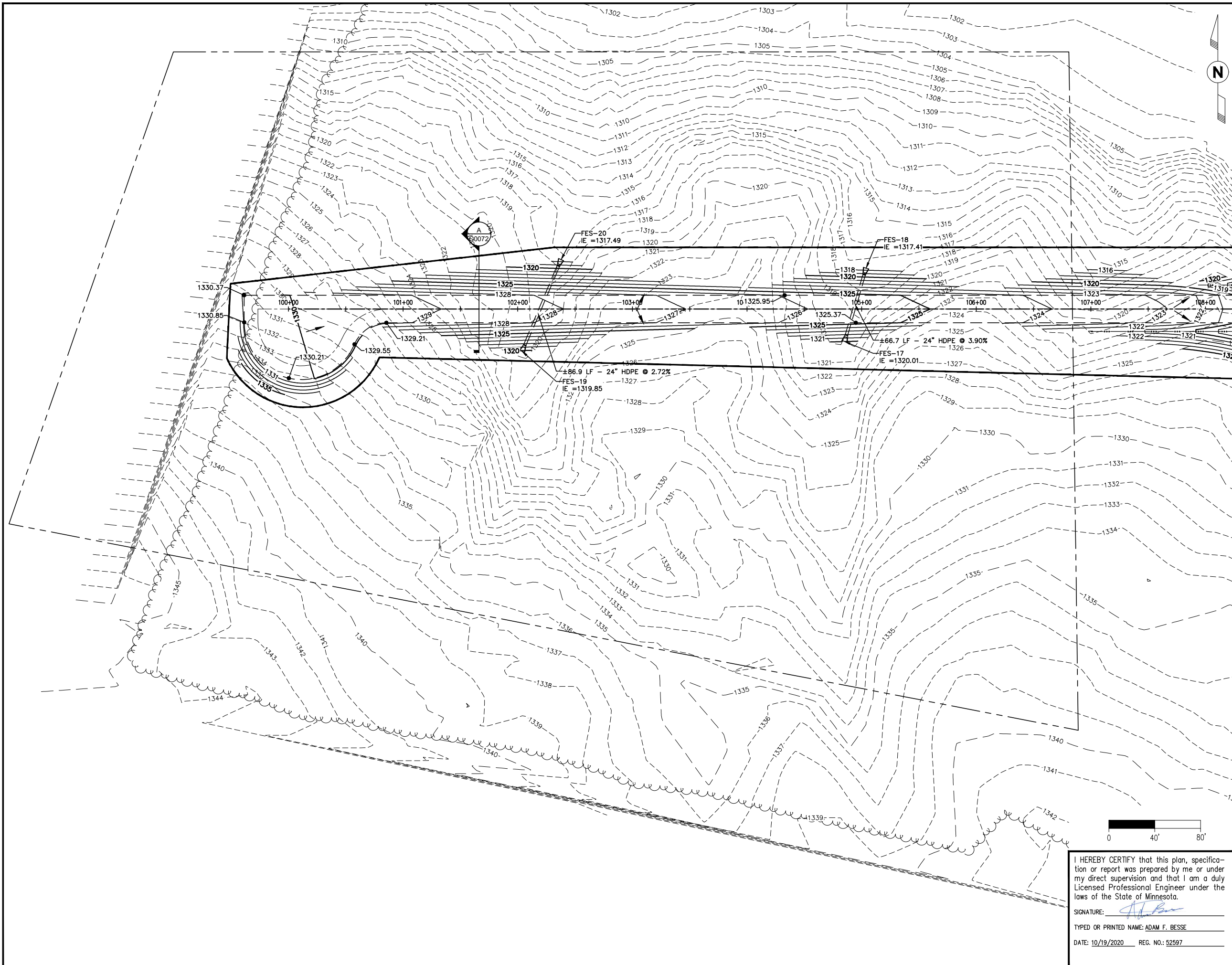


SWATARA (MN) STATION
 STATION 93
 DETAILED GRADING PLAN

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 DATE: 10/19/2020 REG. NO.: 52597

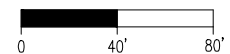
PROJECT:	AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE:	1"=40'	DATE:	09/27/2018
CHECK:	LHB/AFB	APPR:	LHB/DGS
DATE:	09/27/2018	DRAWN:	LHB/JPH
APPR:	TM	DATE:	09/27/2018
APPR:	-	PROJECT NO.:	D-93-1.21-C0034-AP-1356





WARNING
 LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR. CALL BEFORE DIGGING.
 MINNESOTA ONE-CALL SYSTEM
 1-800-252-1166
 REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
 10/19/2020



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 DATE: 10/19/2020 REG. NO.: 52597

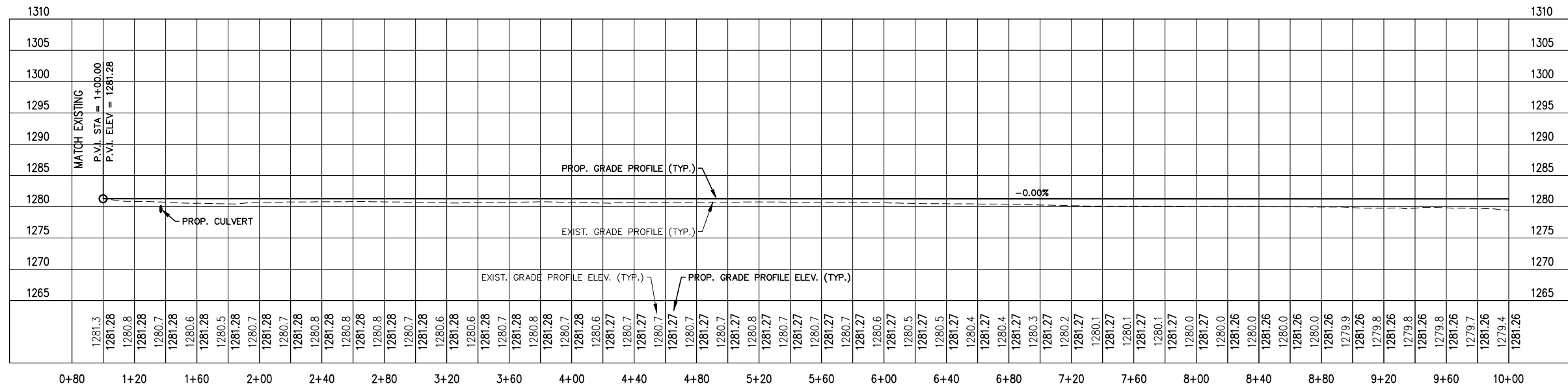
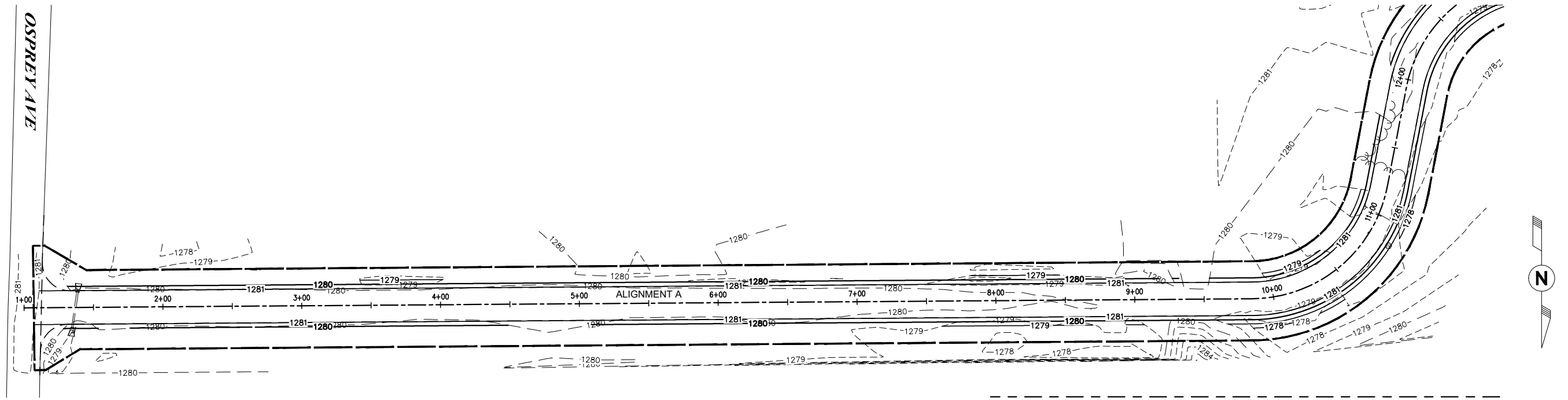
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



SWATARA (MN) STATION
 STATION 93
 DETAILED GRADING PLAN

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE: 1"=40'	DATE: 09/27/2018	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 09/27/2018
APPR: TM	D-93-1.21-C0035-AP-1356	
APPR: -		

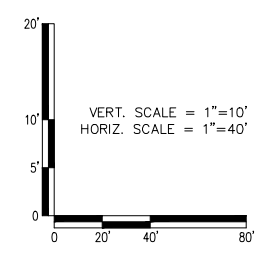
OSPREY AVE



WARNING
 LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR.
 CALL BEFORE DIGGING
 MINNESOTA ONE-CALL SYSTEM
 1-800-252-1166
 REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
 10/19/2020

1 ALIGNMENT A CENTERLINE PROFILE - STA. 1+00 TO STA. 10+00
 FROM DWG D-93-1.21-C0031--1358



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.
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 DATE: 10/19/2020 REG. NO.: 52597

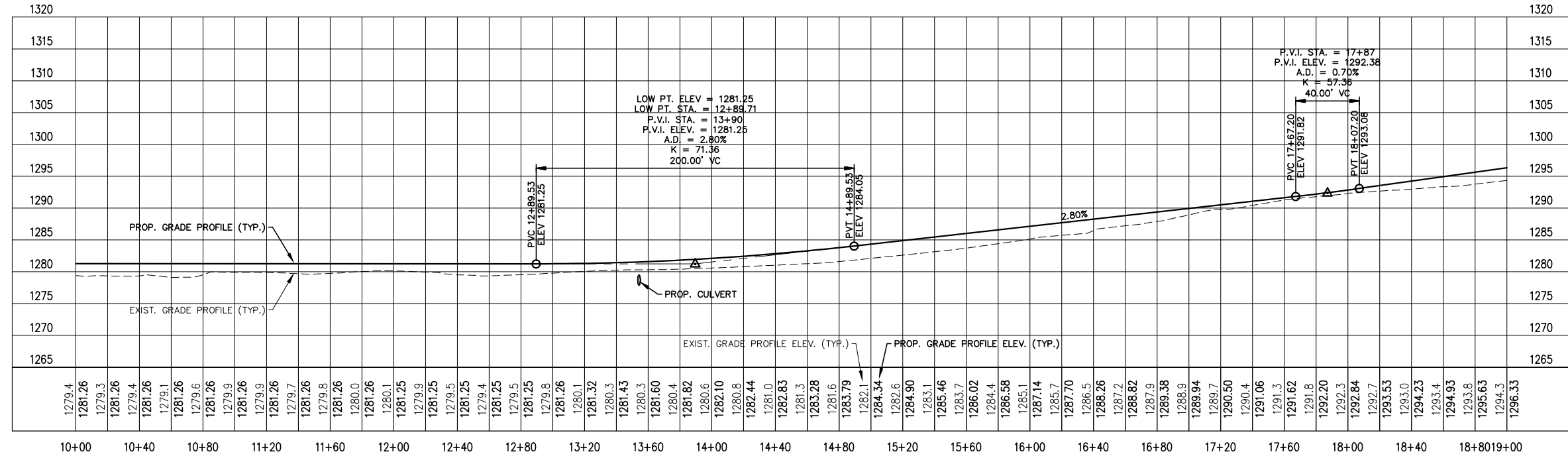
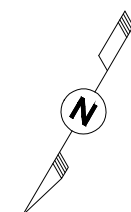
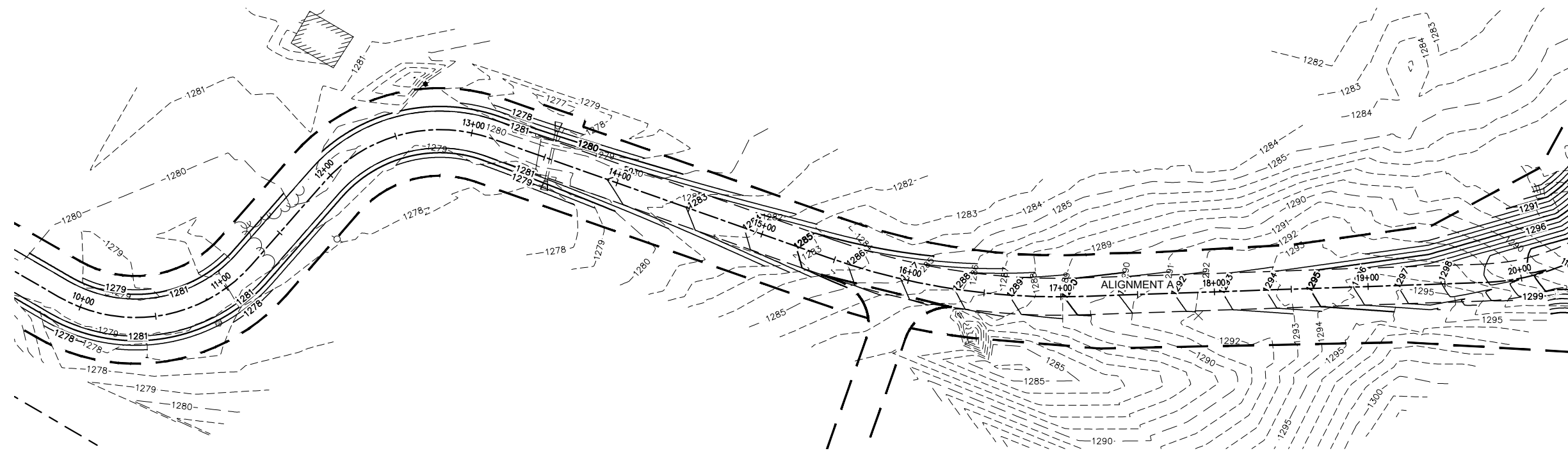
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR

ENBRIDGE

SWATARA (MN) STATION
 STATION 93
 ALIGNMENT A
 PLAN AND PROFILE

PROJECT: AFE # 1491292100 LINE 3 REPLACEMENT (LINE 93)
 SCALE: 1"=40' DATE: 07/09/2015 DRAWN: LHB/JPH
 CHECK: LHB/AFB APPR: LHB/DGS DATE: 07/09/2015
 APPR: TM
 APPR: -

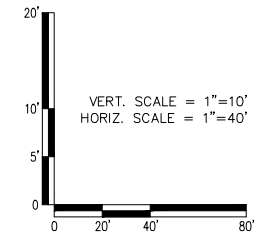
D-93-1.21-C0041-AP-1356



WARNING
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 MINNESOTA ONE-CALL SYSTEM
 1-800-252-1166
 REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
 10/19/2020

2 ALIGNMENT A CENTERLINE PROFILE - STA. 10+00 TO STA. 19+00
 FROM DWG D-93-1.21-C0031-1358

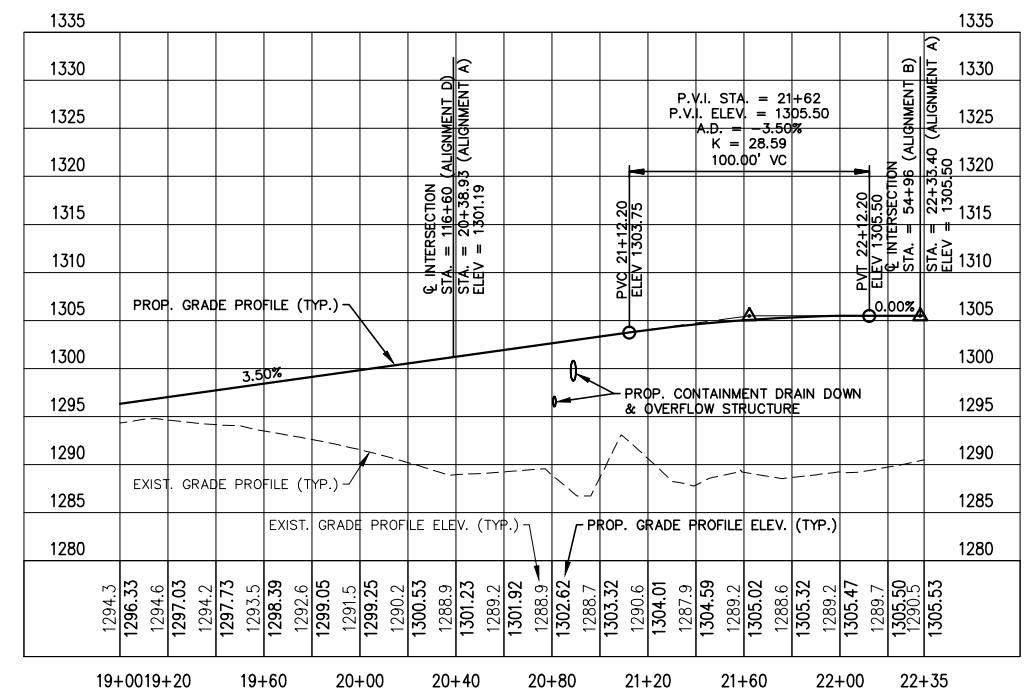
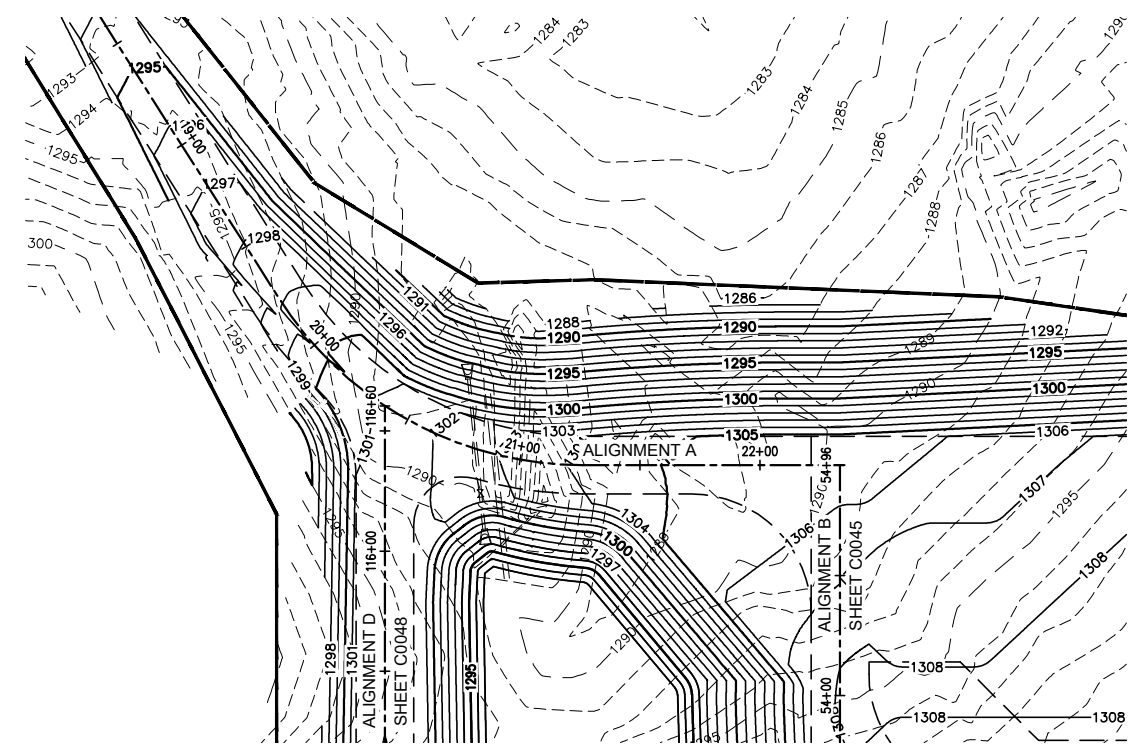


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 SIGNATURE: *Adam F. Besse*
 TYPED OR PRINTED NAME: ADAM F. BESSE
 DATE: 10/19/2020 REG. NO.: 52597

AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



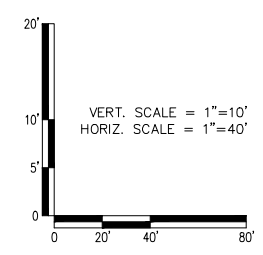
SWATARA (MN) STATION			
STATION 93 ALIGNMENT A PLAN AND PROFILE			
PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)			
SCALE: 1"=40'	DATE: 07/09/2015	DRAWN: LHB/JPH	
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015	
APPR: TM	D-93-1.21-C0042-AP-1356		
APPR: -			



3 ALIGNMENT A CENTERLINE PROFILE - STA. 19+00 TO STA. 22+33.40
FROM DWG D-93-1.21-C0031--1358

WARNING
LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR.
CALL BEFORE DIGGING
MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
10/19/2020



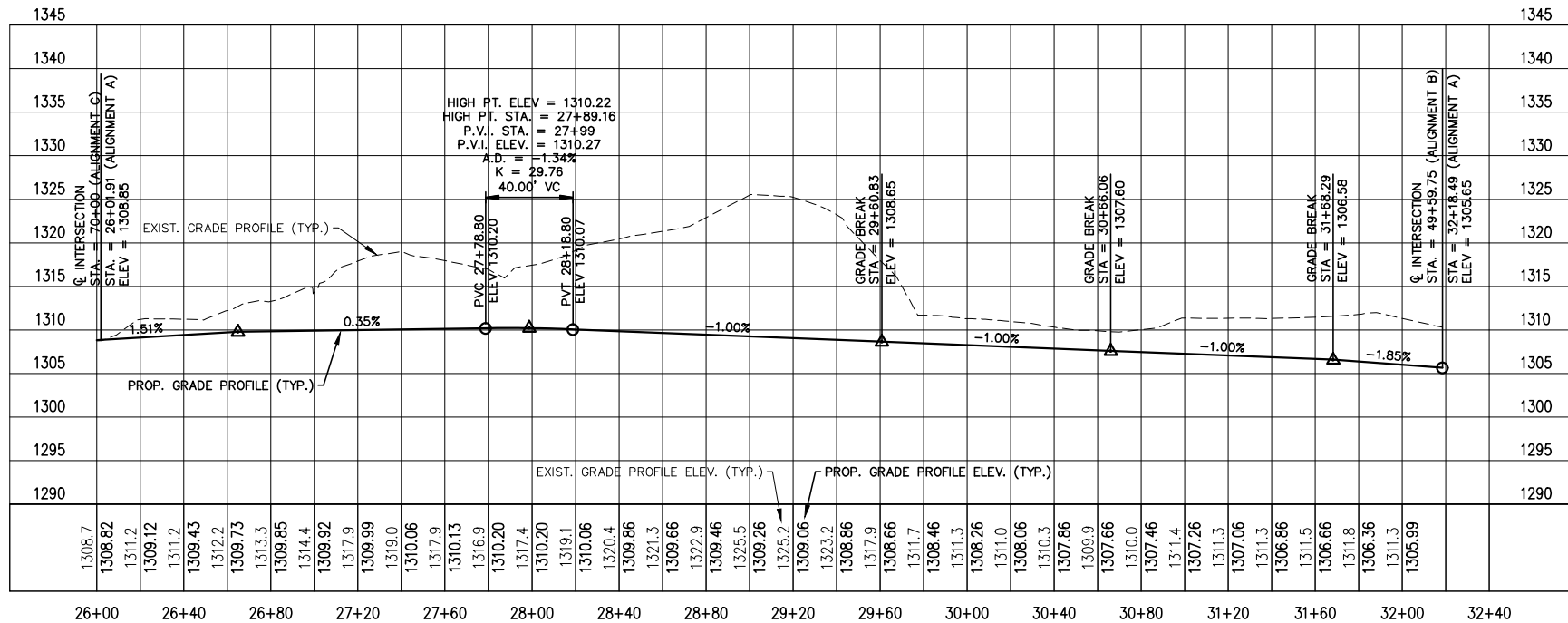
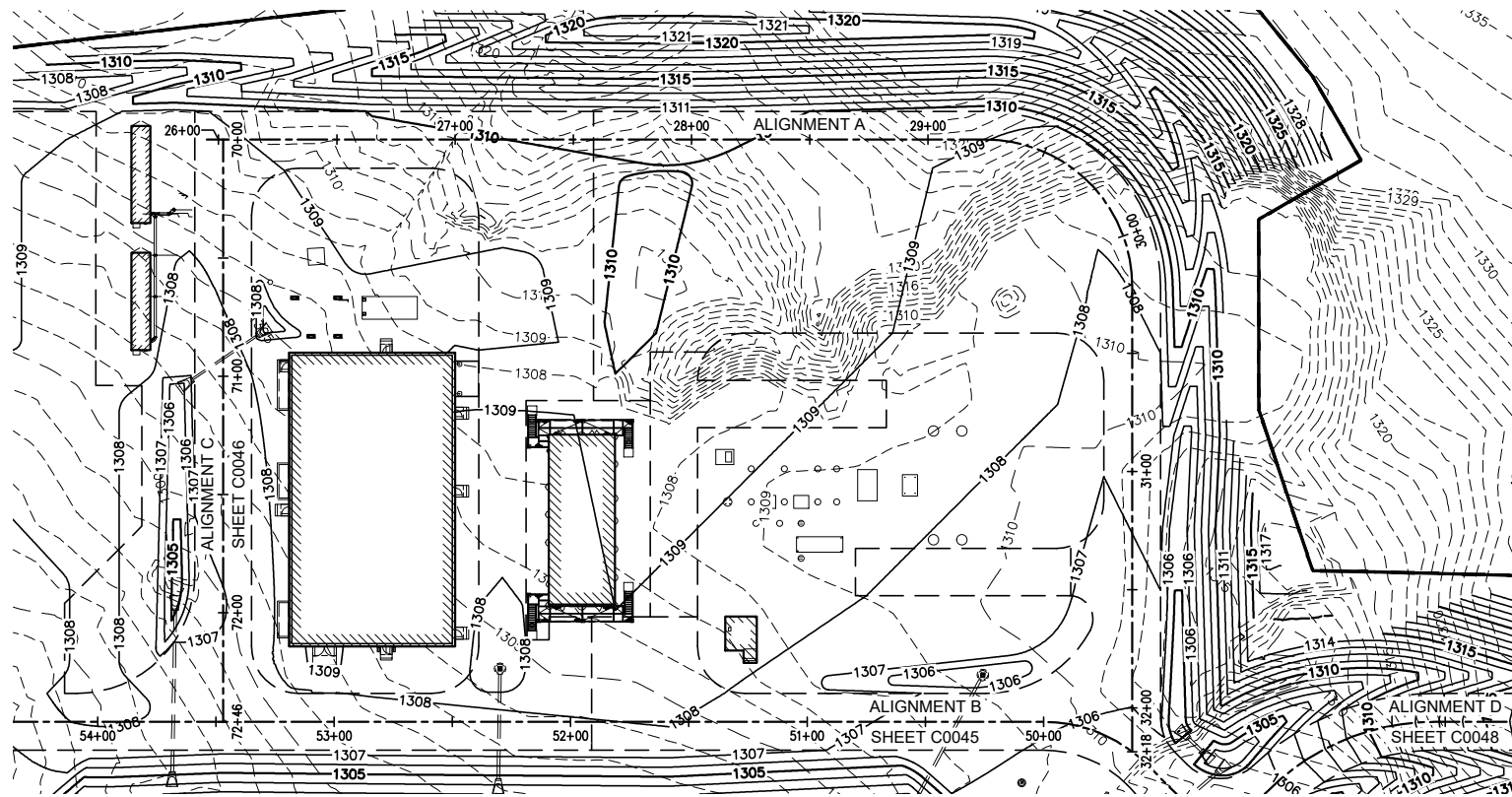
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



SWATARA (MN) STATION
STATION 93
ALIGNMENT A
PLAN AND PROFILE

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SIGNATURE: *Adam F. Besse*
TYPED OR PRINTED NAME: ADAM F. BESSE
DATE: 10/19/2020 REG. NO.: 52597

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE: 1"=40'	DATE: 07/09/2015	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015
APPR: TM	D-93-1.21-C0043-AP-1356	
APPR: -		

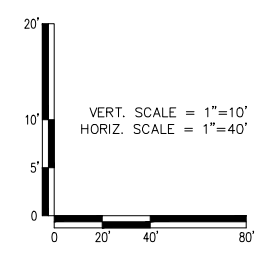


4 ALIGNMENT A CENTERLINE PROFILE - STA. 26+00 TO STA. 32+18.49
FROM DWG D-93-1.21-C0031-1358



WARNING
LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR.
CALL BEFORE DIGGING
MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
10/19/2020

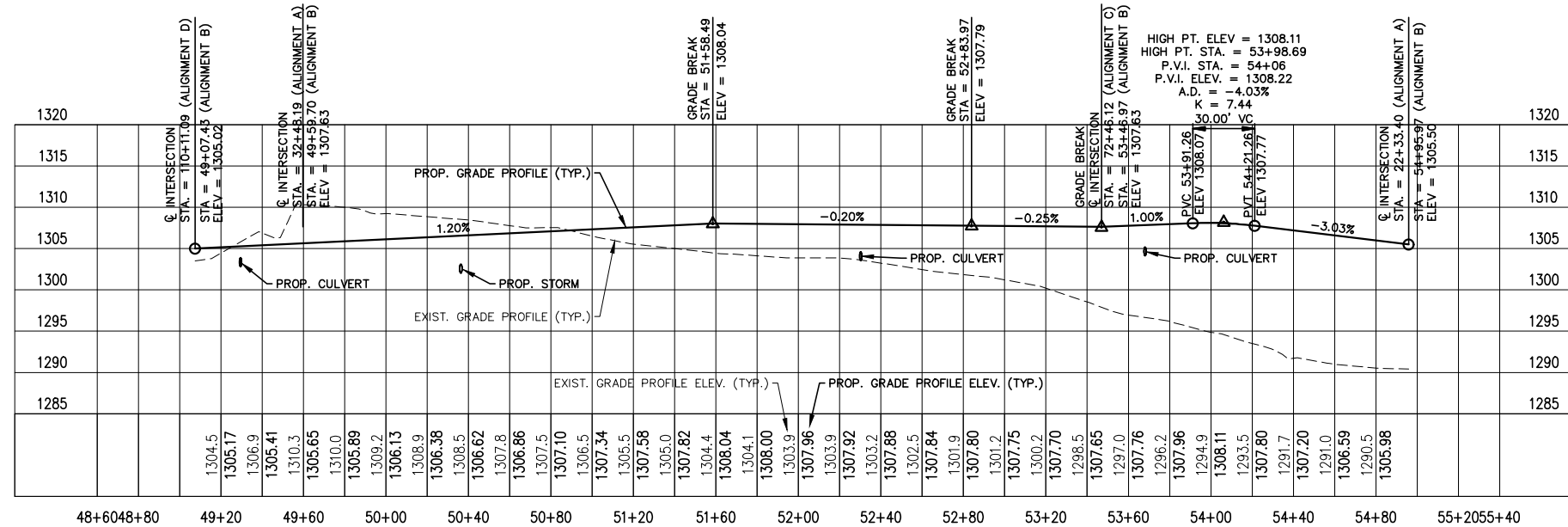
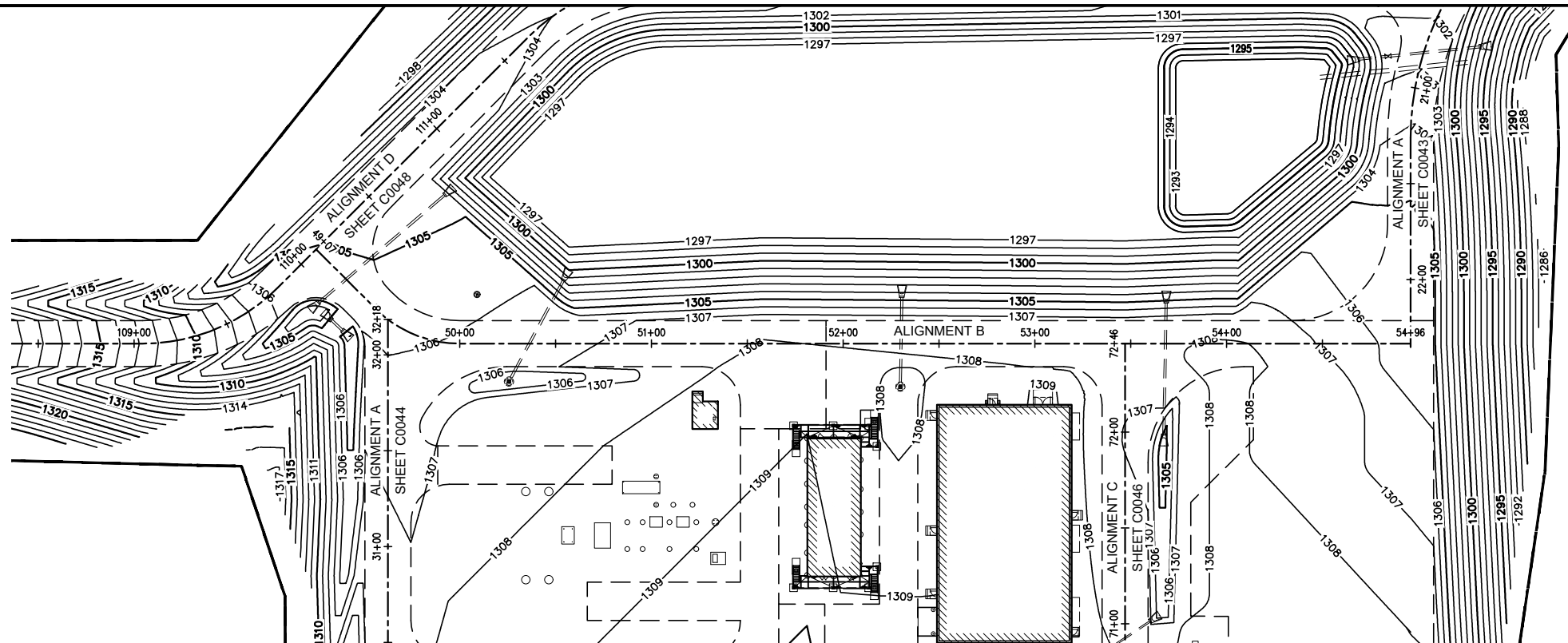


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DATE: 10/19/2020 REG. NO.: 52597

AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



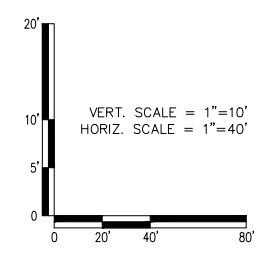
SWATARA (MN) STATION			
STATION 93 ALIGNMENT A PLAN AND PROFILE			
PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)			
SCALE: 1"=40'	DATE: 07/09/2015	DRAWN: LHB/JPH	
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015	
APPR: TM	D-93-1.21-C0044-AP-1356		
APPR: -			



1 ALIGNMENT B CENTERLINE PROFILE - STA. 49+07.43 TO STA. 54+95.97
FROM DWG D-93-1.21-C0031--1358

WARNING
LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR.
CALL BEFORE DIGGING
MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
10/19/2020

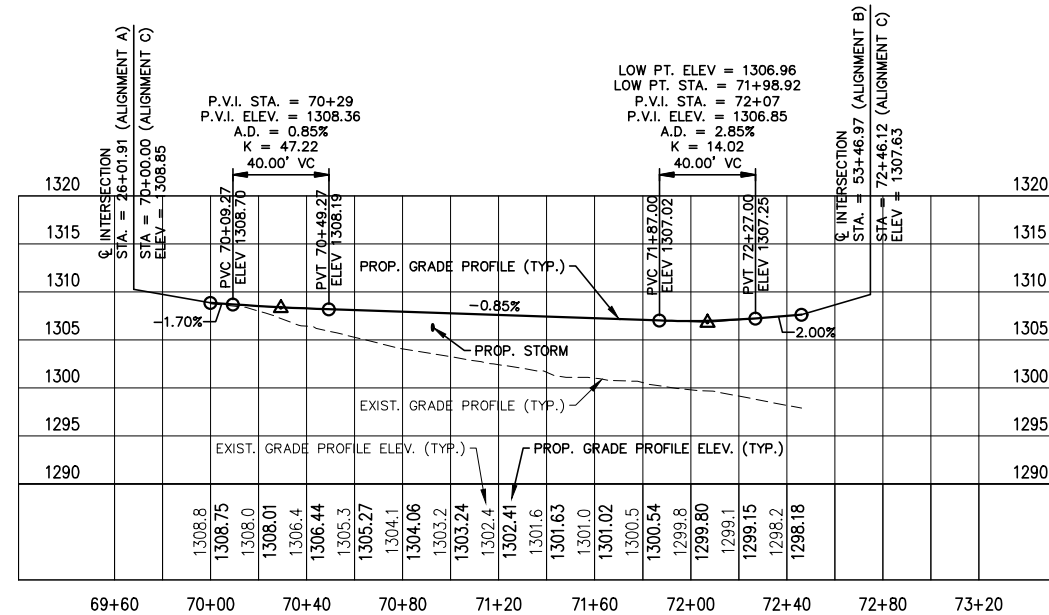
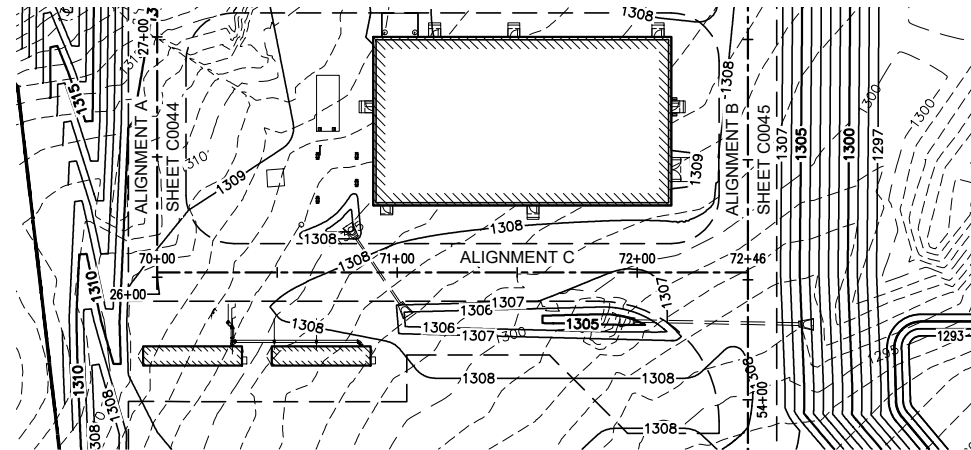


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SIGNATURE: *Adam F. Besse*
TYPED OR PRINTED NAME: ADAM F. BESSE
DATE: 10/19/2020 REG. NO.: 52597

AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



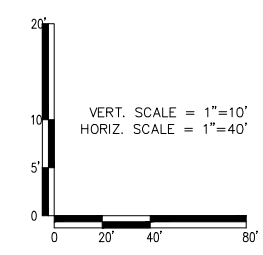
SWATARA (MN) STATION			
STATION 93 ALIGNMENT B PLAN AND PROFILE			
PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)			
SCALE: 1"=40'	DATE: 07/09/2015	DRAWN: LHB/JPH	
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015	
APPR: TM	D-93-1.21-C0045-AP-1356		
APPR: -			



1 ALIGNMENT C CENTERLINE PROFILE - STA. 70+00 TO STA. 72+46.12
FROM DWG D-93-1.21-C0031--1358

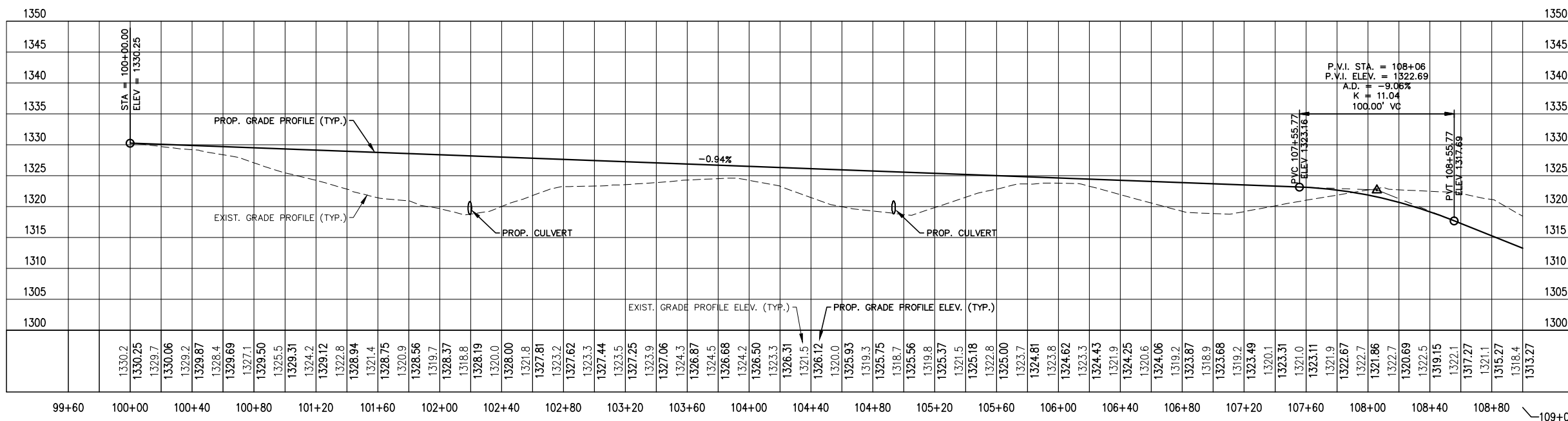
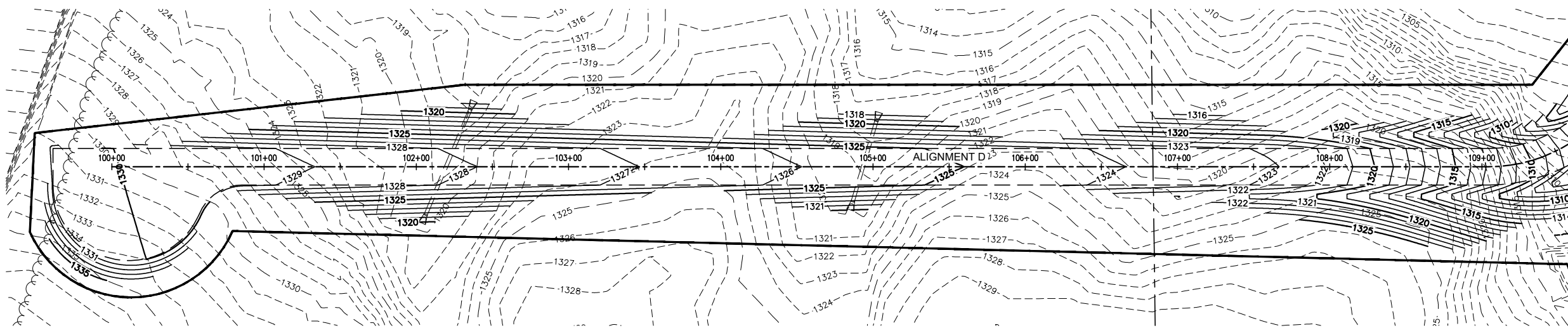
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1-800-252-1166
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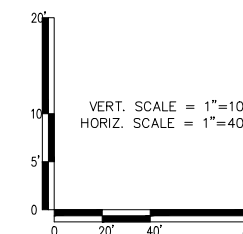
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR
ENBRIDGE				
SWATARA (MN) STATION STATION 93 ALIGNMENT C PLAN AND PROFILE				
PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)				
SCALE: 1"=40'	DATE: 07/09/2015	DRAWN: LHB/JPH		
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015		
APPR: TM	D-93-1.21-C0046-AP-1356			
APPR: -				



1 ALIGNMENT D CENTERLINE PROFILE - STA. 100+00 TO STA. 109+00
FROM DWG D-93-1.21-C0031-1358

WARNING
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DATE: 10/19/2020 REG. NO.: 52597

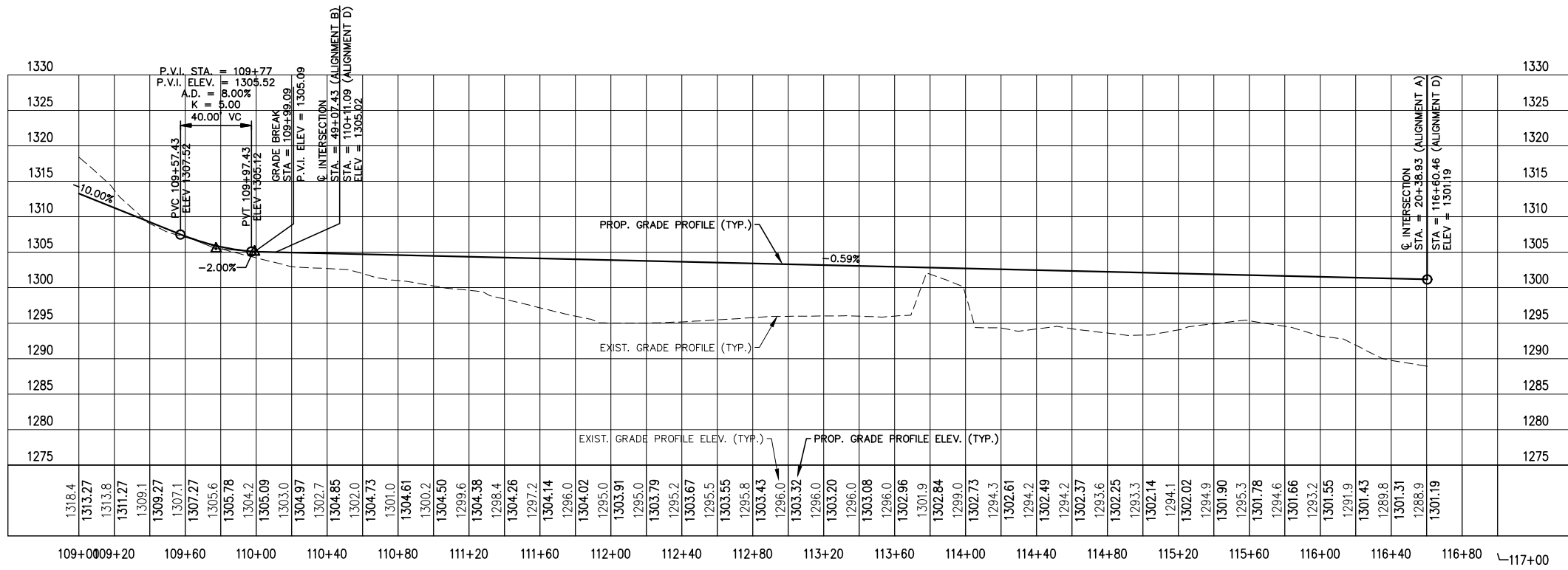
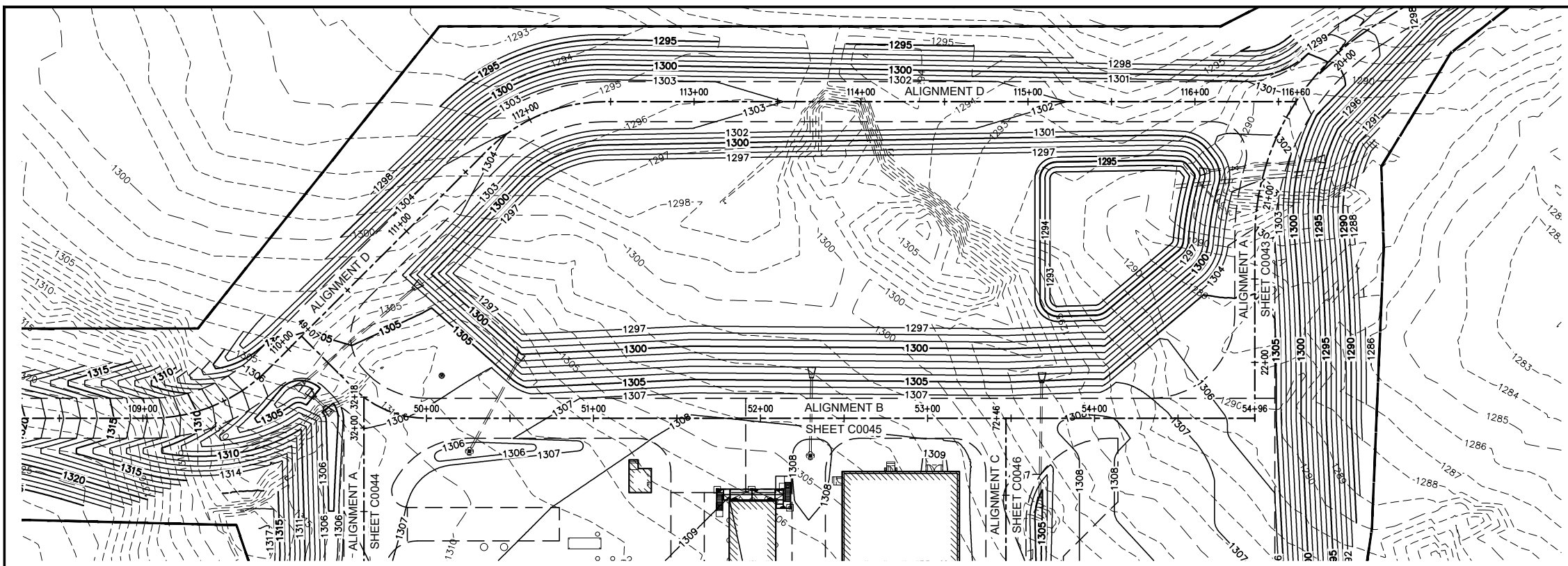
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR

ENBRIDGE

SWATARA (MN) STATION
STATION 93
ALIGNMENT D
PLAN AND PROFILE

PROJECT: AFE # 1491292100 LINE 3 REPLACEMENT (LINE 93)

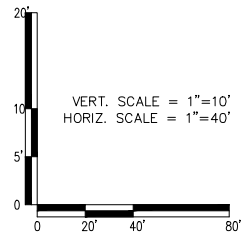
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CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 02/28/2019
APPR: TM	D-93-1.21-C0047-AP-1356	
APPR: -		



2 ALIGNMENT D CENTERLINE PROFILE - STA. 109+00 TO STA. 116+60.46
FROM DWG D-93-1.21-C0031-1358

WARNING
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MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
10/19/2020

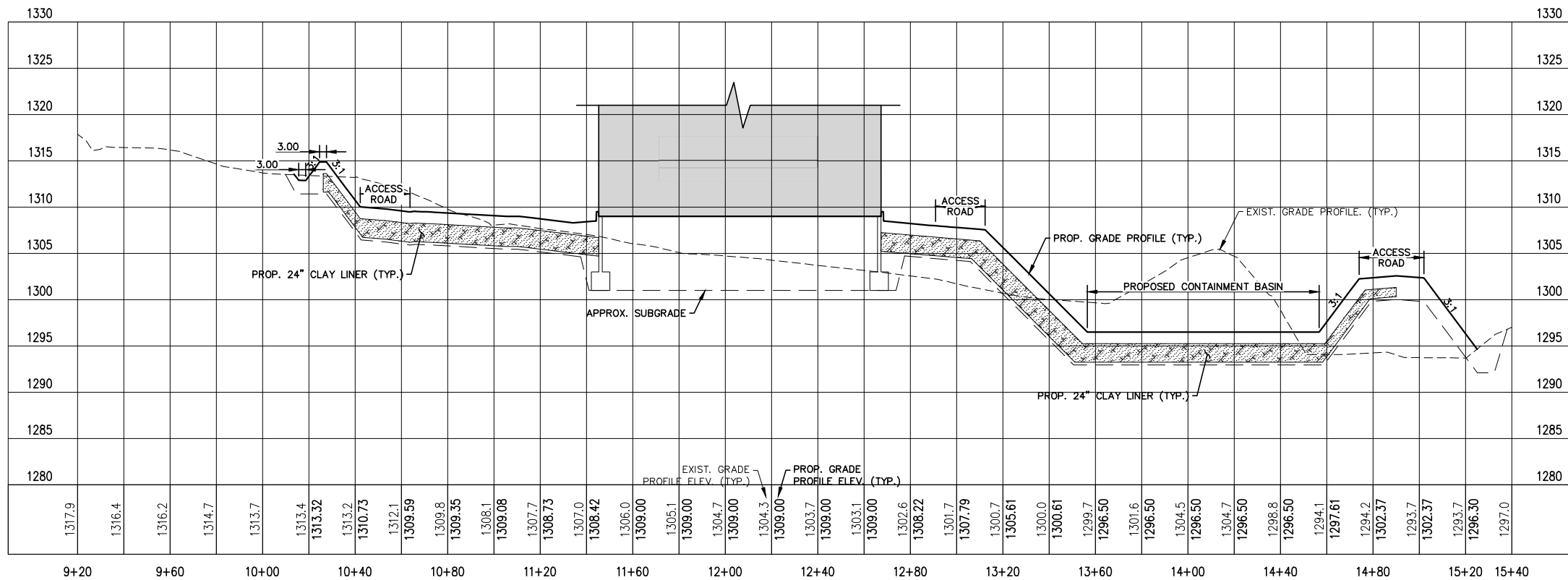


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SIGNATURE: *Adam F. Besse*
TYPED OR PRINTED NAME: ADAM F. BESSE
DATE: 10/19/2020 REG. NO.: 52597

AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



SWATARA (MN) STATION			
STATION 93 ALIGNMENT D PLAN AND PROFILE			
PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)			
SCALE: 1"=40'	DATE: 02/28/2019	DRAWN: LHB/JPH	
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 02/28/2019	
APPR: TM	D-93-1.21-C0048-AP-1356		
APPR: -			

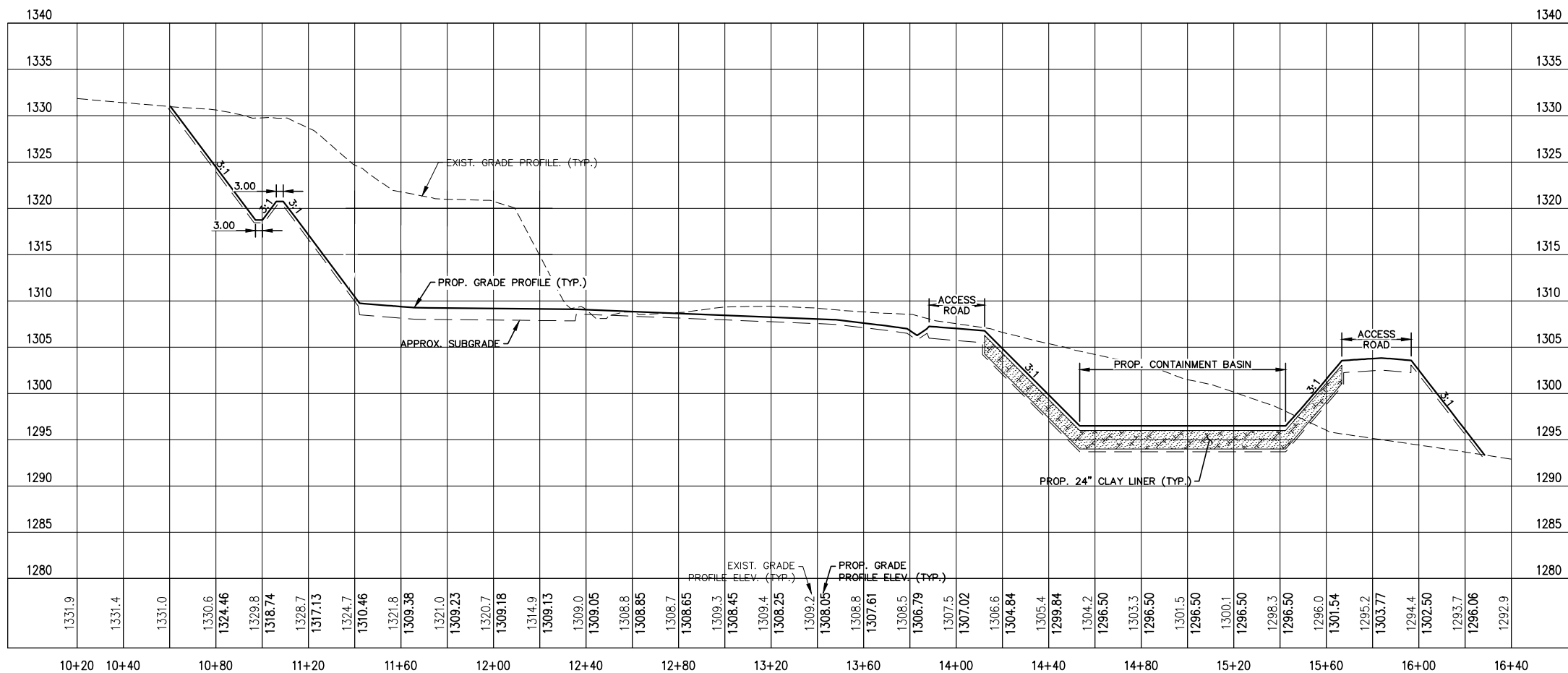


SHEET KEY NOTES

- ① GROUNDWATER IS ANTICIPATED ABOVE THE BOTTOM OF EXCAVATION. THE CONTRACTOR SHALL DEWATER IN ACCORDANCE WITH ENBRIDGE ENVIRONMENTAL GUIDELINES. AS NECESSARY THE CONTRACTOR SHALL BACKFILL WITH 3/4" WASHED ROCK TO NO GREATER THAN 12" ABOVE THE STATIC GROUNDWATER LEVEL. PLACE GEOTEXTILE FABRIC BETWEEN NATIVE SOILS AND WASHED ROCK, AND BETWEEN WASHED ROCK AND ENGINEERED FILL.
- ② REMOVE ALL CLAY AND/OR ORGANICS DOWN TO NATIVE SANDS WITHIN THE 45° BEARING SPLAY OF BUILDING FOUNDATIONS. THE GEOTECHNICAL ENGINEER SHALL INSPECT BUILDING EXCAVATION PRIOR TO ANY FILLING ACTIVITIES. EXCAVATION MUST BE DEWATERED BY THE CONTRACTOR PRIOR TO INSPECTION.

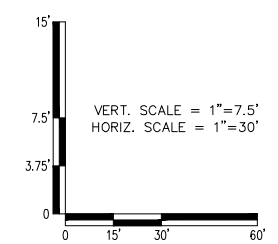
WARNING
 LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR.
CALL BEFORE DIGGING
 MINNESOTA
 ONE-CALL SYSTEM
1-800-252-1166
 REQUIRED BY
 MN STATUTE 216D

B-B SECTION PROFILE
 FROM DWG D-93-1.21-C0031--1358



A-A SECTION PROFILE
 FROM DWG D-93-1.21-C0031--1358

ISSUED FOR PERMITTING
 10/19/2020



AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



SWATARA (MN) STATION
 STATION 93
 SECTION PROFILES

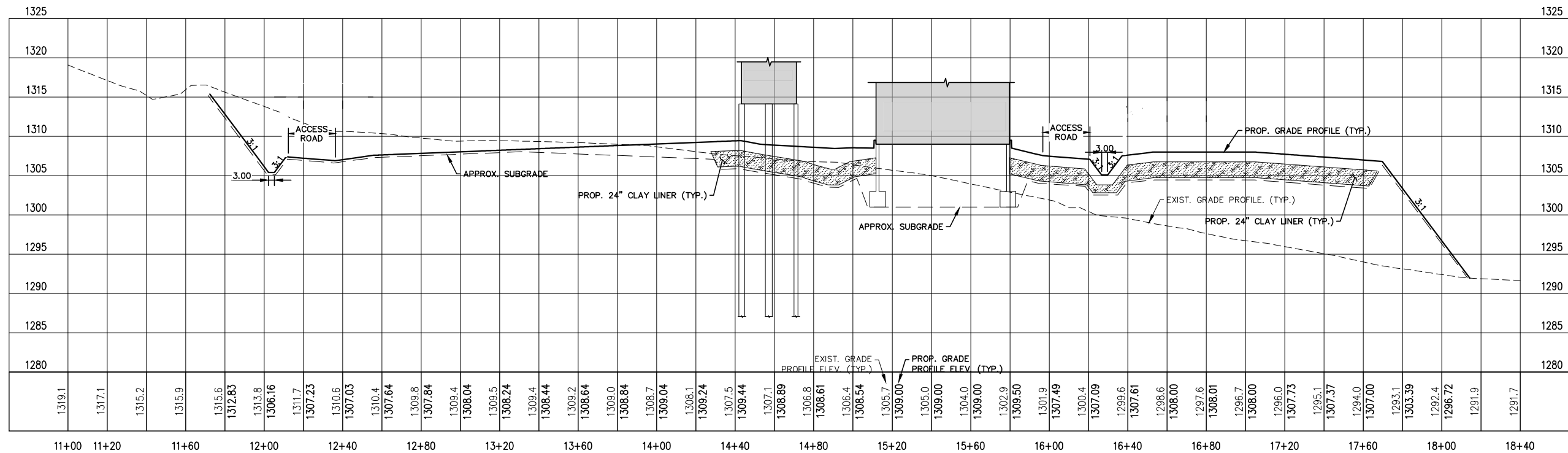
I HEREBY CERTIFY that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

SIGNATURE: *[Signature]*
 TYPED OR PRINTED NAME: ADAM F. BESSE
 DATE: 10/19/2020 REG. NO.: 52597

PROJECT:	AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE:	1"=30'	DATE:	07/09/2015
CHECK:	LHB/AFB	APPR:	LHB/DGS
DATE:	10/19/2020	REG. NO.:	52597
APPR:	TM	DATE:	07/09/2015
APPR:	-	D-93-1.21-C0051-AP-1356	

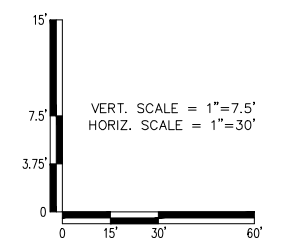
SHEET KEY NOTES

- ① GROUNDWATER IS ANTICIPATED ABOVE THE BOTTOM OF EXCAVATION. THE CONTRACTOR SHALL DEWATER IN ACCORDANCE WITH ENBRIDGE ENVIRONMENTAL GUIDELINES. AS NECESSARY THE CONTRACTOR SHALL BACKFILL WITH 3/4" WASHED ROCK TO NO GREATER THAN 12" ABOVE THE STATIC GROUNDWATER LEVEL. PLACE GEOTEXTILE FABRIC BETWEEN NATIVE SOILS AND WASHED ROCK, AND BETWEEN WASHED ROCK AND ENGINEERED FILL.
- ② REMOVE ALL CLAY AND/OR ORGANICS DOWN TO NATIVE SANDS WITHIN THE 45° BEARING SPLAY OF BUILDING FOUNDATIONS. THE GEOTECHNICAL ENGINEER SHALL INSPECT BUILDING EXCAVATION PRIOR TO ANY FILLING ACTIVITIES. EXCAVATION MUST BE DEWATERED BY THE CONTRACTOR PRIOR TO INSPECTION.



WARNING
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 MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
 REQUIRED BY MN STATUTE 216D

ISSUED FOR PERMITTING
 10/19/2020



C-C SECTION PROFILE
 FROM DWG D-93-1.21-C0031-1358

AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR

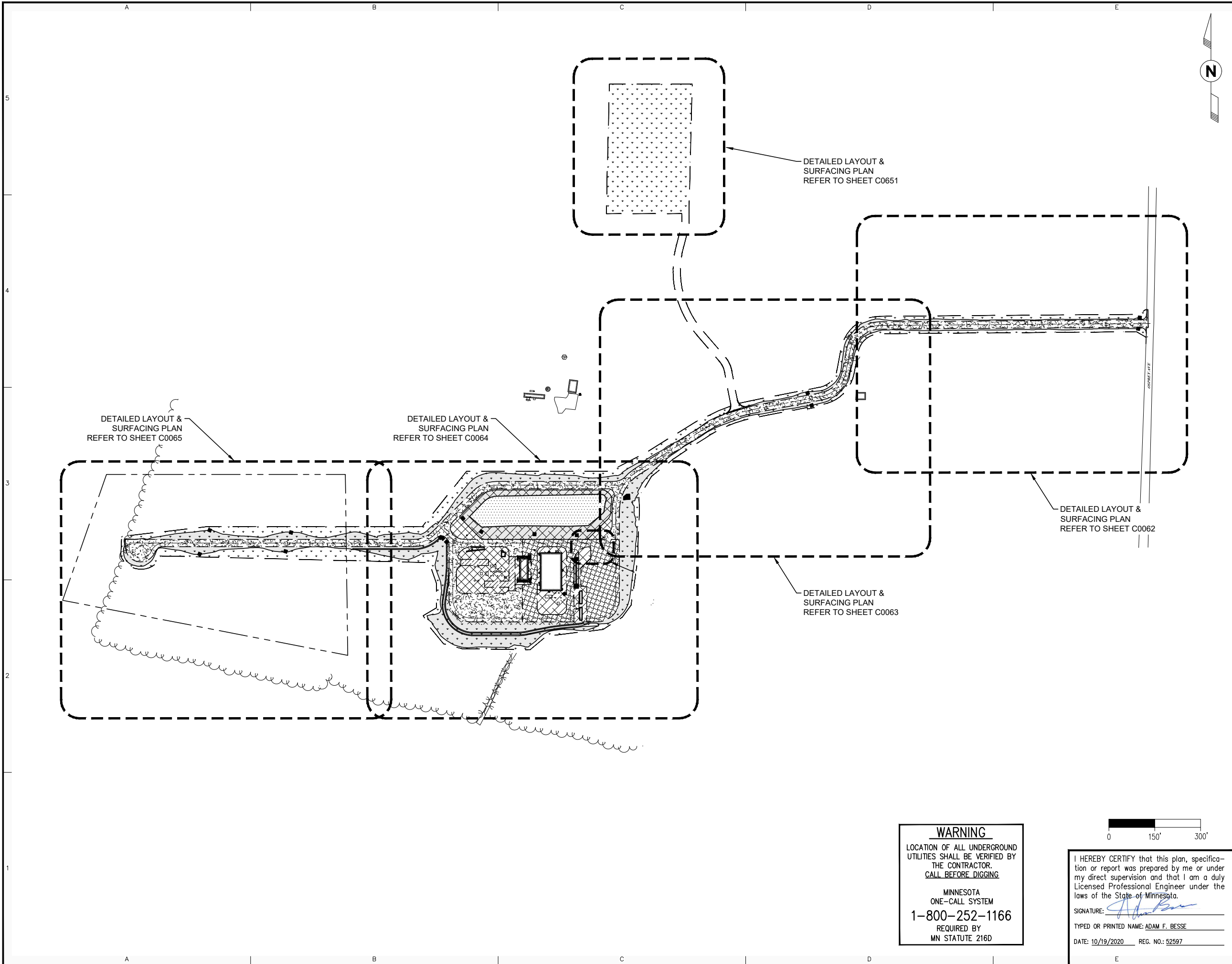


SWATARA (MN) STATION
 STATION 93
 SECTION PROFILES





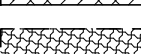
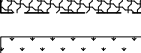
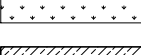
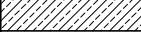



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PROJECT:	AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE:	1"=30'	DATE:	07/09/2015
CHECK:	LHB/AFB	APPR:	LHB/DGS
DATE:	07/09/2015	DRAWN:	LHB/JPH
APPR:	TM	D-93-1.21-C0052-AP-1356	
APPR:	-		



SHEET LEGEND


-  EXIST. PROPERTY LINE
-  PROP. GRAVEL ROAD
(INSET A, SHEET C0071)
-  PROP. CRUSHED ROCK
(INSET B, SHEET C0071)
-  PROP. CRUSHED ROCK W/CLAY LINER
(INSET C, SHEET C0071)
-  PROP. GRAVEL ROAD W/CLAY LINER
(INSET D, SHEET C0071)
-  PROP. TOPSOIL & SEED
(INSET E, SHEET C0071)
-  PROP. SUBSTATION ROAD
(INSET F, SHEET C0071)
-  PROP. WET
SEDIMENTATION/CONTAINMENT BASIN
6" CLEAN SAND
-  PROP. AREAS OF 3:1
OR GREATER SLOPE
-  PROP. RIP RAP
12' X 12' AREA
(UNLESS NOTED OTHERWISE)
-  CONSTRUCTION LIMITS

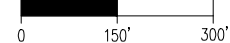
ISSUED FOR PERMITTING
10/19/2020

NO	REVISION	BY DATE	APPR	APPR
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-

WARNING
LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR.
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MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY MN STATUTE 216D

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SIGNATURE: 
TYPED OR PRINTED NAME: ADAM F. BESSE
DATE: 10/19/2020 REG. NO.: 52597

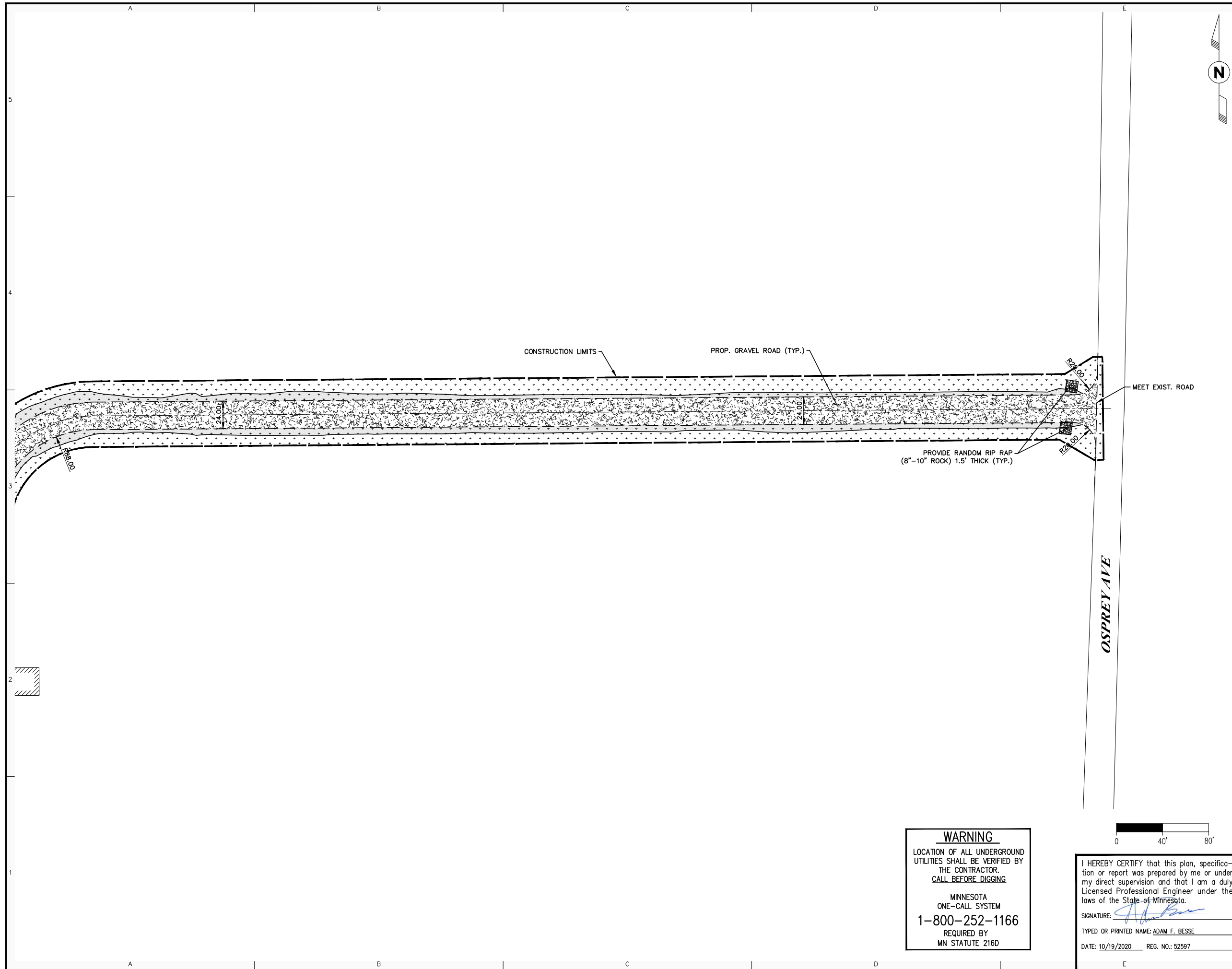


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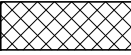








SWATARA (MN) STATION
STATION 93
OVERALL LAYOUT AND SURFACING PLAN

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)

SCALE: 1"=150'	DATE: 12/18/2014	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 12/18/2014
APPR: TM	D-93-1.21-C0061-AP-1356	
APPR: -		



SHEET LEGEND

-  EXIST. PROPERTY LINE
-  PROP. GRAVEL ROAD (INSET A, SHEET C0071)
-  PROP. CRUSHED ROCK (INSET B, SHEET C0071)
-  PROP. CRUSHED ROCK W/CLAY LINER (INSET C, SHEET C0071)
-  PROP. GRAVEL ROAD W/CLAY LINER (INSET D, SHEET C0071)
-  PROP. TOPSOIL & SEED (INSET E, SHEET C0071)
-  PROP. SUBSTATION ROAD (INSET F, SHEET C0071)
-  PROP. WET SEDIMENTATION/CONTAINMENT BASIN 6" CLEAN SAND
-  PROP. AREAS OF 3:1 OR GREATER SLOPE
-  PROP. RIP RAP 12' X 12' AREA (UNLESS NOTED OTHERWISE)
-  CONSTRUCTION LIMITS

ISSUED FOR PERMITTING
 10/19/2020

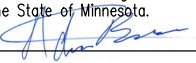
NO	REVISION	BY DATE	APPR	APPR
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-

WARNING

LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR. CALL BEFORE DIGGING

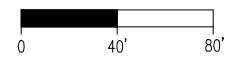
MINNESOTA ONE-CALL SYSTEM
 1-800-252-1166
 REQUIRED BY MN STATUTE 216D

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.

SIGNATURE: 

TYPED OR PRINTED NAME: ADAM F. BESSE

DATE: 10/19/2020 REG. NO.: 52597

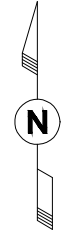
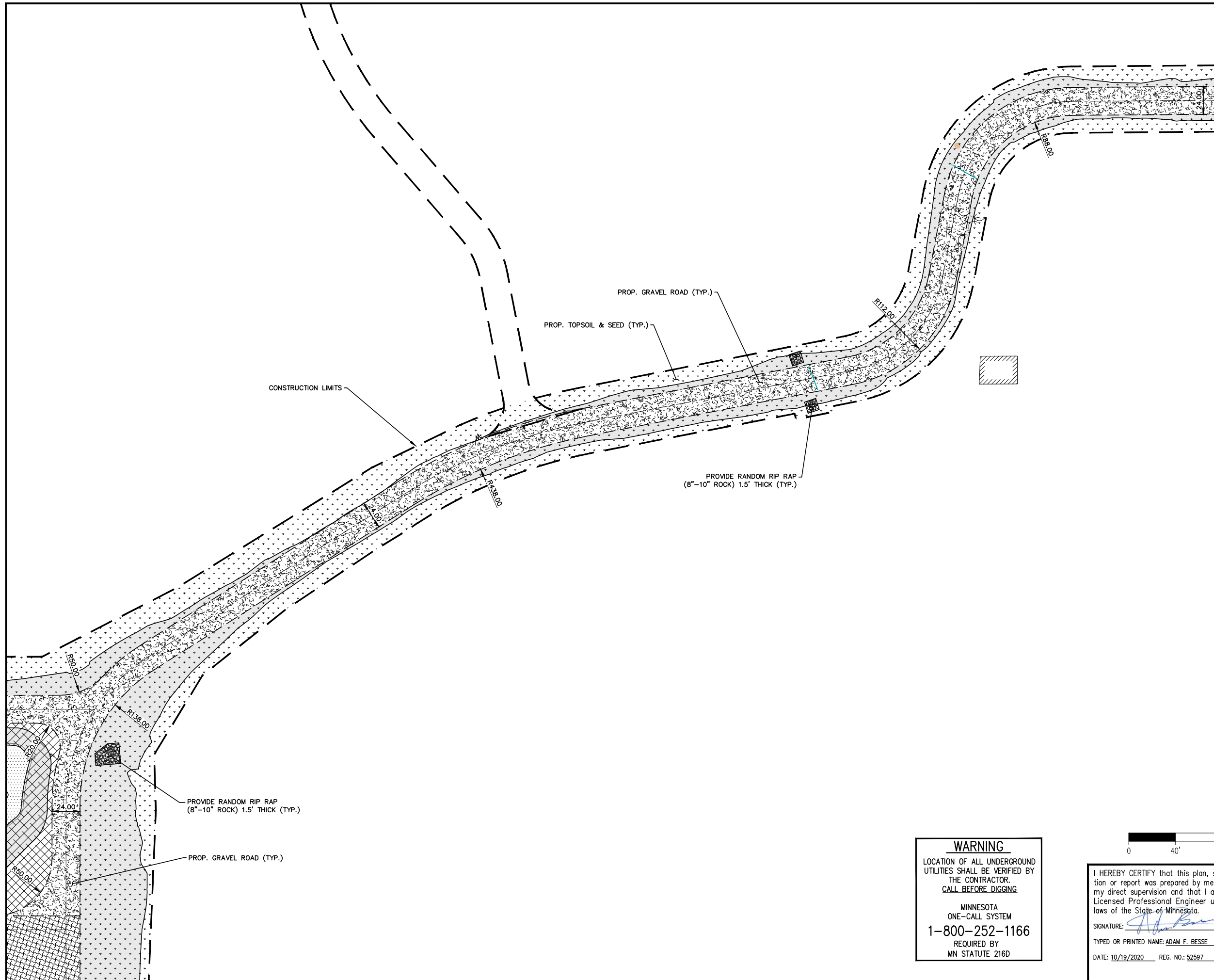


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SWATARA (MN) STATION
 STATION 93
 DETAILED LAYOUT AND SURFACING PLAN

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)

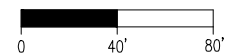
SCALE: 1"=40'	DATE: 09/27/2018	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 09/27/2018
APPR: TM	D-93-1.21-C0062-AP-1356	
APPR: -		



SHEET LEGEND	
	EXIST. PROPERTY LINE
	PROP. GRAVEL ROAD (INSET A, SHEET C0071)
	PROP. CRUSHED ROCK (INSET B, SHEET C0071)
	PROP. CRUSHED ROCK W/CLAY LINER (INSET C, SHEET C0071)
	PROP. GRAVEL ROAD W/CLAY LINER (INSET D, SHEET C0071)
	PROP. TOPSOIL & SEED (INSET E, SHEET C0071)
	PROP. SUBSTATION ROAD (INSET F, SHEET C0071)
	PROP. WET SEDIMENTATION/CONTAINMENT BASIN 6" CLEAN SAND
	PROP. AREAS OF 3:1 OR GREATER SLOPE
	PROP. RIP RAP 12' X 12' AREA (UNLESS NOTED OTHERWISE)
	CONSTRUCTION LIMITS

ISSUED FOR PERMITTING
10/19/2020

AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



WARNING
LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR.
CALL BEFORE DIGGING

MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY MN STATUTE 216D

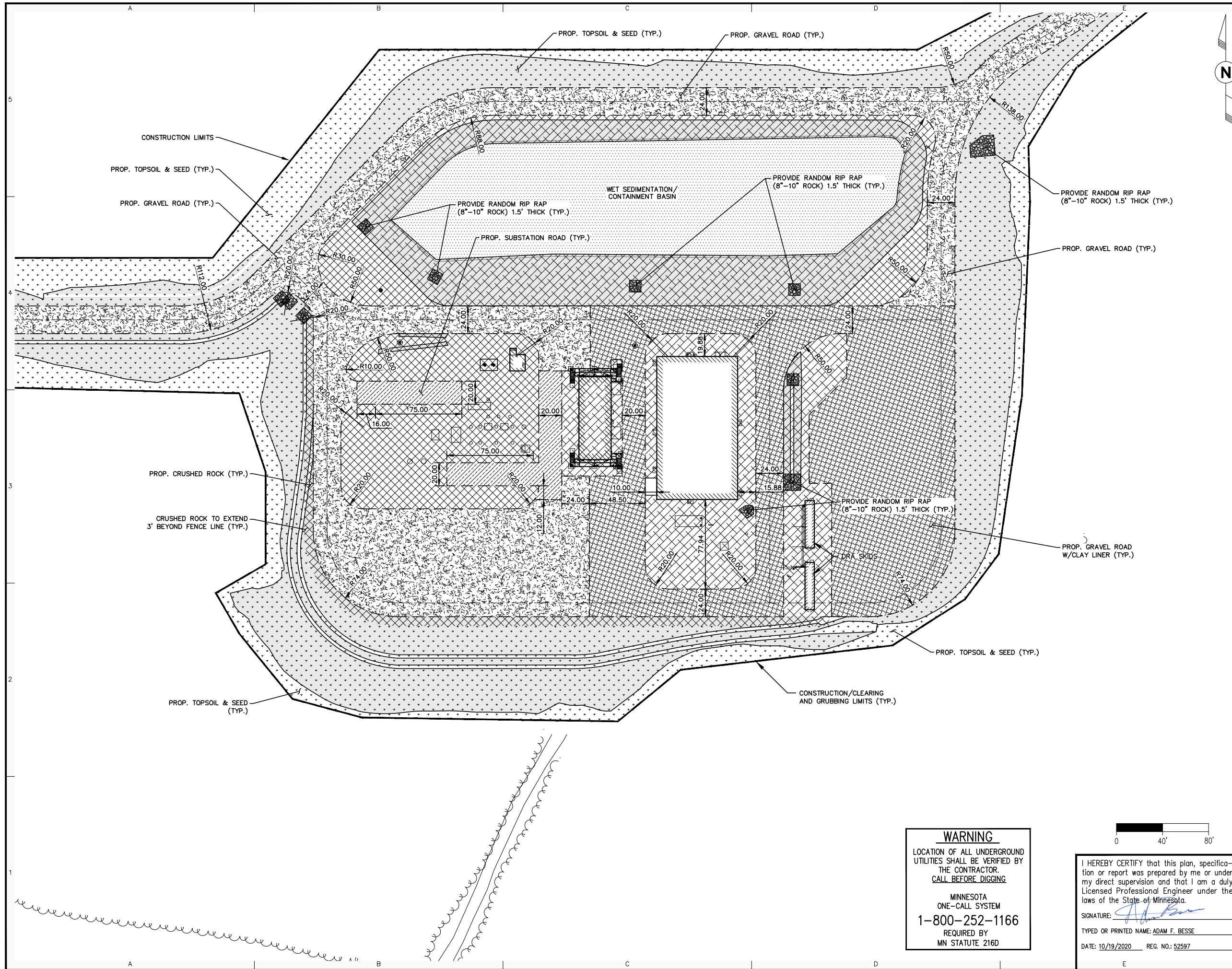
I HEREBY CERTIFY that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
SIGNATURE:
TYPED OR PRINTED NAME: ADAM F. BESSE
DATE: 10/19/2020 REG. NO.: 52597

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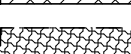
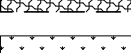
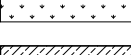


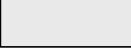

SWATARA (MN) STATION
STATION 93
DETAILED LAYOUT AND SURFACING PLAN

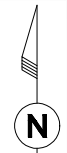
PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)

SCALE: 1"=40'	DATE: 09/27/2018	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 09/27/2018
APPR: TM	D-93-1.21-C0063-AP-1356	
APPR: -		



SHEET LEGEND

-  EXIST. PROPERTY LINE
-  PROP. GRAVEL ROAD (INSET A, SHEET C0071)
-  PROP. CRUSHED ROCK (INSET B, SHEET C0071)
-  PROP. CRUSHED ROCK W/CLAY LINER (INSET C, SHEET C0071)
-  PROP. GRAVEL ROAD W/CLAY LINER (INSET D, SHEET C0071)
-  PROP. TOPSOIL & SEED (INSET E, SHEET C0071)
-  PROP. SUBSTATION ROAD (INSET F, SHEET C0071)
-  PROP. WET SEDIMENTATION/CONTAINMENT BASIN 6" CLEAN SAND
-  PROP. AREAS OF 3:1 OR GREATER SLOPE
-  PROP. RIP RAP 12' X 12' AREA (UNLESS NOTED OTHERWISE)
-  CONSTRUCTION LIMITS



ISSUED FOR PERMITTING
 10/19/2020


AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR	DGS	-
NO	REVISION	BY DATE	APPR	APPR

WARNING

LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR.
CALL BEFORE DIGGING

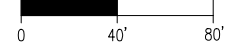
MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY MN STATUTE 216D

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TYPED OR PRINTED NAME: ADAM F. BESSE

DATE: 10/19/2020 REG. NO.: 52597








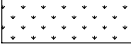





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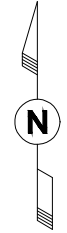
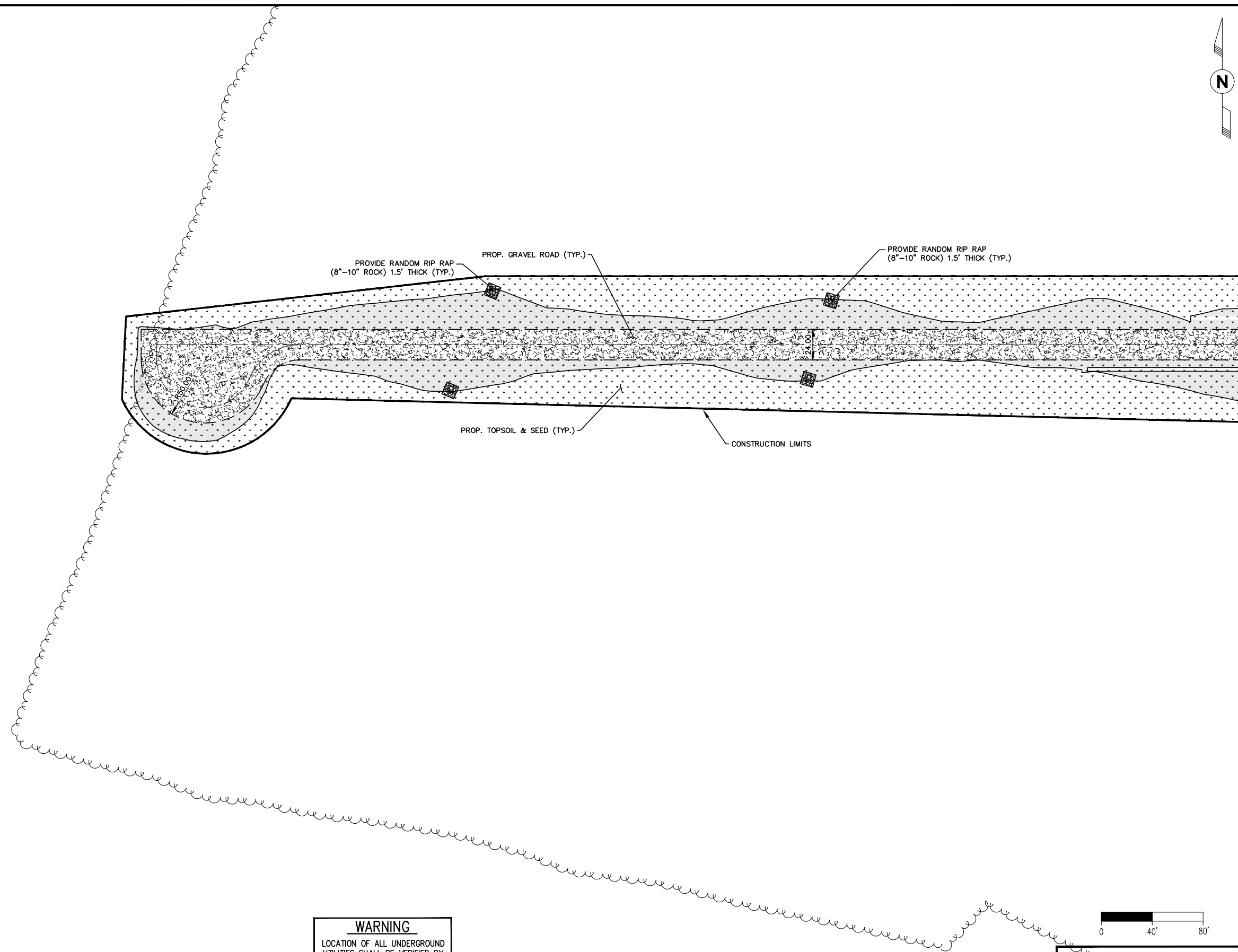
SWATARA (MN) STATION
STATION 93
DETAILED LAYOUT AND SURFACING PLAN

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)

SCALE: 1"=40'	DATE: 09/27/2018	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 09/27/2018
APPR: TM	D-93-1.21-C0064-AP-1356	
APPR: -		

SHEET LEGEND

-  EXIST. PROPERTY LINE
-  PROP. GRAVEL ROAD (INSET A, SHEET C0071)
-  PROP. CRUSHED ROCK (INSET B, SHEET C0071)
-  PROP. CRUSHED ROCK W/CLAY LINER (INSET C, SHEET C0071)
-  PROP. GRAVEL ROAD W/CLAY LINER (INSET D, SHEET C0071)
-  PROP. TOPSOIL & SEED (INSET E, SHEET C0071)
-  PROP. SUBSTATION ROAD (INSET F, SHEET C0071)
-  PROP. WET SEDIMENTATION/CONTAINMENT BASIN 6" CLEAN SAND
-  PROP. AREAS OF 3:1 OR GREATER SLOPE
-  PROP. RIP RAP 12' X 12' AREA (UNLESS NOTED OTHERWISE)
-  CONSTRUCTION LIMITS




ISSUED FOR PERMITTING
10/19/2020

WARNING
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MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY MN STATUTE 216D

0 40' 80'

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SIGNATURE: 

TYPED OR PRINTED NAME: ADAM F. BESSE

DATE: 10/19/2020 REG. NO.: 52597

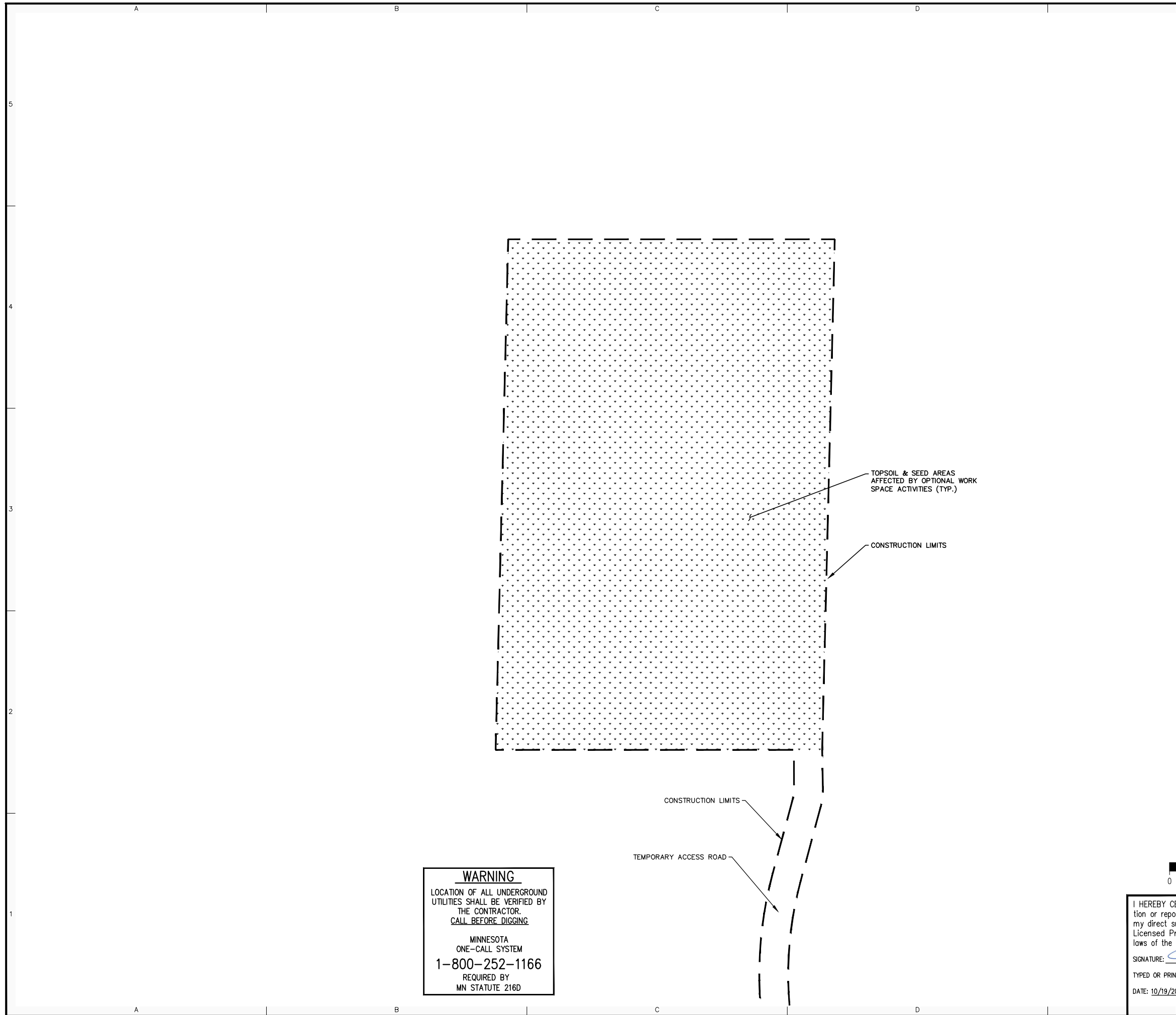
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/MGR	DGS	-
NO	REVISION	BY DATE	APPR	APPR

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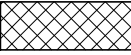


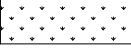




SWATARA (MN) STATION
STATION 93
DETAILED LAYOUT AND SURFACING PLAN

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)

SCALE: 1"=40'	DATE: 09/27/2018	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 09/27/2018
APPR: TM	D-93-1.21-C0065-AP-1356	
APPR: -		



SHEET LEGEND

-  EXIST. PROPERTY LINE
-  PROP. GRAVEL ROAD
(INSET A, SHEET C0071)
-  PROP. CRUSHED ROCK
(INSET B, SHEET C0071)
-  PROP. CRUSHED ROCK W/CLAY LINER
(INSET C, SHEET C0071)
-  PROP. GRAVEL ROAD W/CLAY LINER
(INSET D, SHEET C0071)
-  PROP. TOPSOIL & SEED
(INSET E, SHEET C0071)
-  PROP. SUBSTATION ROAD
(INSET F, SHEET C0071)
-  PROP. WET
SEDIMENTATION/CONTAINMENT BASIN
6" CLEAN SAND
-  PROP. AREAS OF 3:1
OR GREATER SLOPE
-  PROP. RIP RAP
12' X 12' AREA
(UNLESS NOTED OTHERWISE)
- CONSTRUCTION LIMITS

ISSUED FOR PERMITTING
10/19/2020

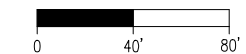
WARNING
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MINNESOTA ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY MN STATUTE 216D

CONSTRUCTION LIMITS

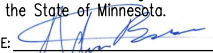
TEMPORARY ACCESS ROAD

TOPSOIL & SEED AREAS AFFECTED BY OPTIONAL WORK SPACE ACTIVITIES (TYP.)

CONSTRUCTION LIMITS



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.

SIGNATURE: 

TYPED OR PRINTED NAME: ADAM F. BESSE

DATE: 10/19/2020 REG. NO.: 52597

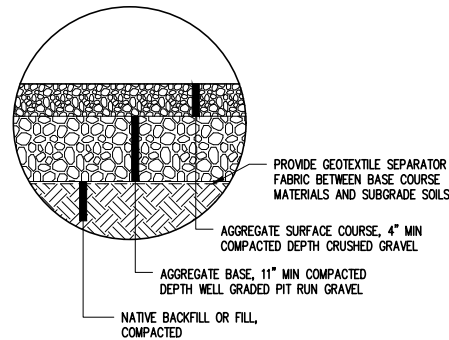
AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/JPH 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR



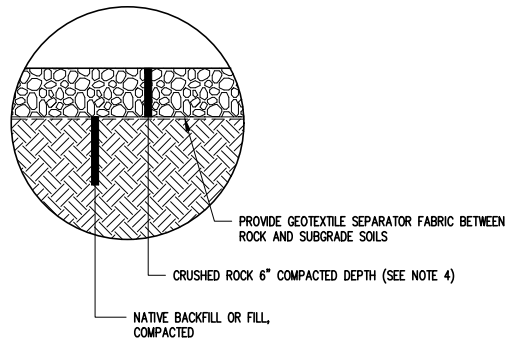
SWATARA (MN) STATION		
STATION 93 DETAILED LAYOUT AND SURFACING PLAN		
PROJECT: AFE # 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE: 1"=40'	DATE: 04/30/2020	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 04/30/2020
APPR: TM	D-93-1.21-C0651-AP-1356	
APPR: -		

GENERAL NOTES

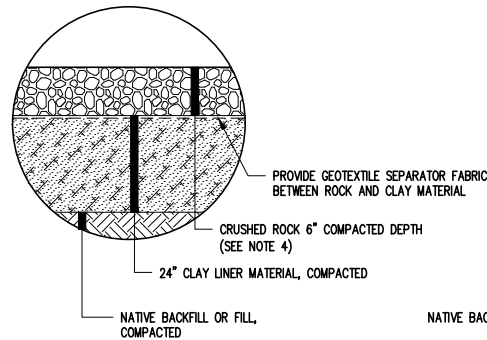
- CONTRACTOR SHALL STRIP OFF ALL TOPSOIL AND SURFACING PRIOR TO GRADING AND COMPACTING SUBGRADES. THIS INCLUDES ROAD TOP AND BASE COURSES, ROCK, AND GRAVEL SURFACING AND ORGANICS. REFER TO GEOTECHNICAL INVESTIGATION REPORT FOR TOPSOIL THICKNESS.
- ALL FILL MATERIALS SHALL CONFORM TO ENBRIDGE SPECIFICATIONS UNLESS OTHERWISE NOTED IN THE DRAWINGS.
- COMPACTION REQUIREMENTS SHALL CONFORM TO ENBRIDGE SPECIFICATIONS UNLESS OTHERWISE NOTED IN THE DRAWINGS.
- WITHIN SUBSTATION AREA AND 3 FEET BEYOND GROUND GRID, CRUSHED ROCK SHALL BE TESTED TO MEET THE RESISTIVITY VALUES SPECIFIED ON THE ELECTRICAL SUBSTATION AREA GROUNDING DETAILS. (DWG. D-93-4.2-E1062).



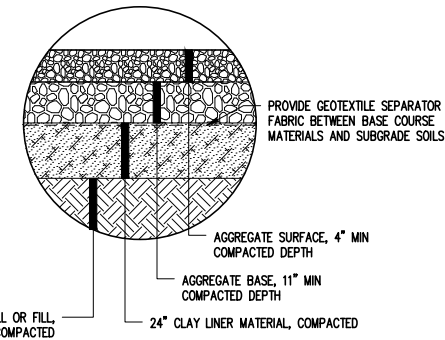
INSET A -
GRAVEL ROAD
NOT TO SCALE
D-93-1.21-C0061--1356



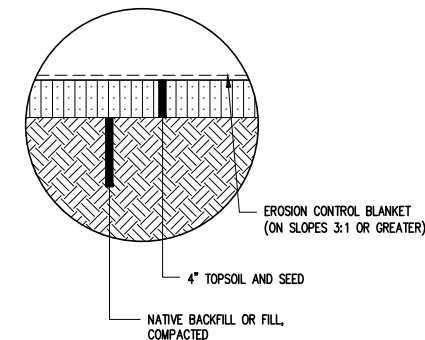
INSET B -
CRUSHED ROCK
NOT TO SCALE



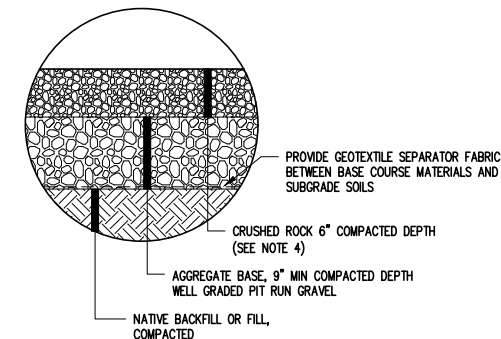
INSET C -
CRUSHED ROCK W / CLAY LINER
NOT TO SCALE
D-93-1.21-C0061--1356



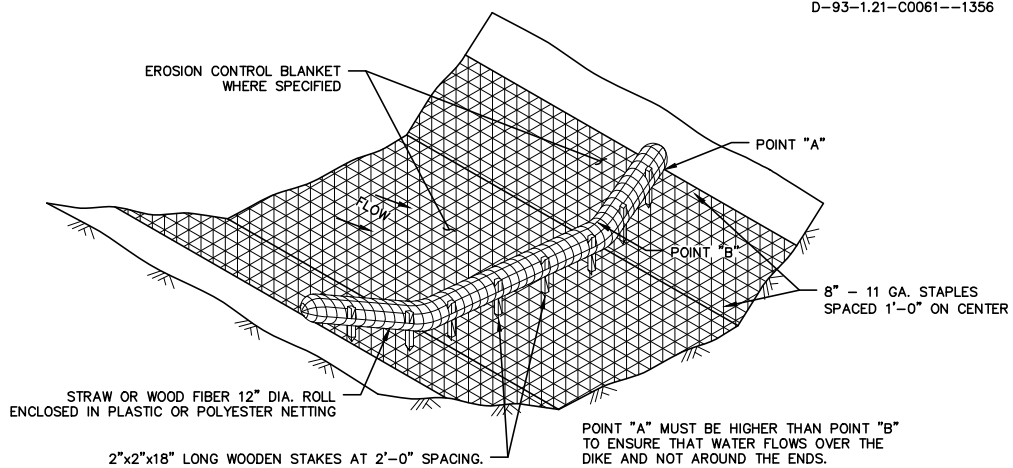
INSET D -
GRAVEL ROAD W / CLAY LINER
NOT TO SCALE
D-93-1.21-C0061--1356



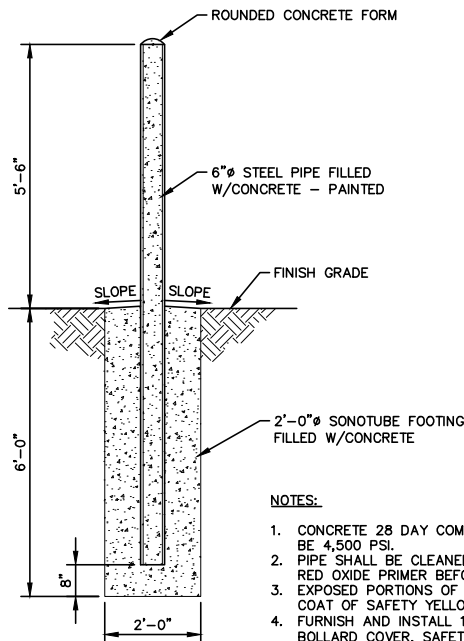
INSET E -
TOPSOIL & SEED
NOT TO SCALE
D-93-1.21-C0061--1356



INSET F -
SUBSTATION ROAD
NOT TO SCALE
D-93-1.21-C0061--1356

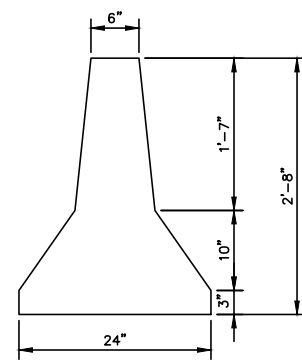


DETAIL 7: TYPICAL FILTER SOCK INSTALLATION
NOT TO SCALE



DETAIL 6: CONCRETE FILLED STEEL BOLLARD
NOT TO SCALE

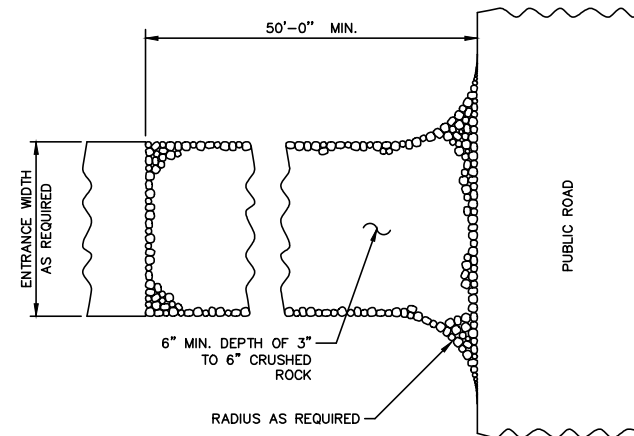
- NOTES:**
- CONCRETE 28 DAY COMPRESSIVE STRENGTH SHALL BE 4,500 PSI.
 - PIPE SHALL BE CLEANED & GIVEN ONE COAT OF RED OXIDE PRIMER BEFORE PLACING IN CONCRETE.
 - EXPOSED PORTIONS OF PIPE SHALL BE GIVEN ONE COAT OF SAFETY YELLOW PAINT.
 - FURNISH AND INSTALL 1/8" HDPE DOME-TOP BOLLARD COVER, SAFETY YELLOW.



NOTE:

- LENGTH SHALL BE MINIMUM 8', UNLESS NOTED OTHERWISE ON THE PLAN

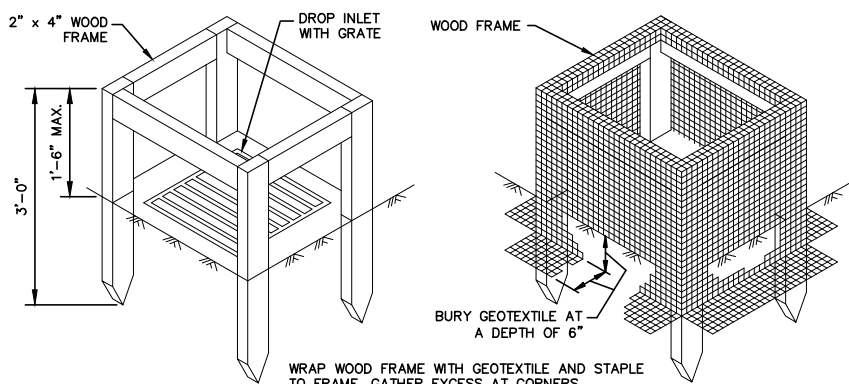
DETAIL 5: CONCRETE JERSEY BARRIER
NOT TO SCALE



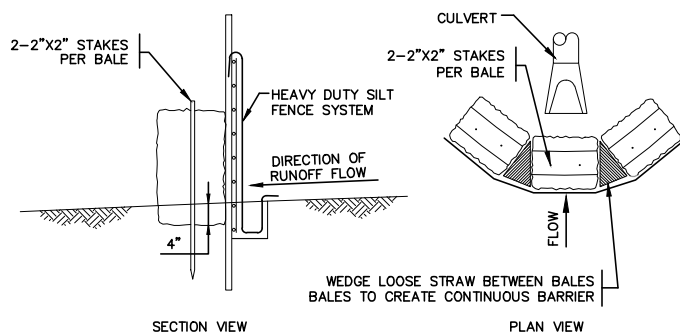
DETAIL 4: TEMPORARY CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE

TEMPORARY CONSTRUCTION ENTRANCE SPECIFICATIONS

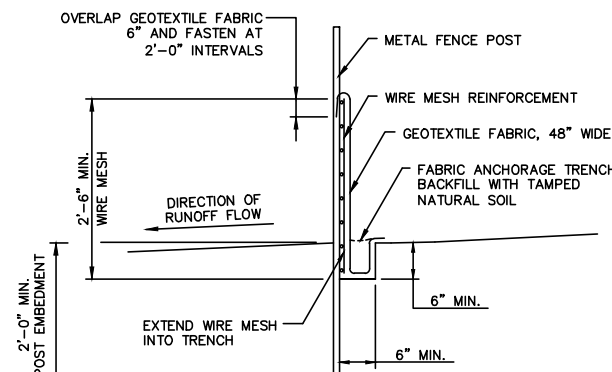
- * STONE SIZE: USE 3"-6" CRUSHED ROCK OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- * THICKNESS: NOT LESS THAN 6-INCHES.
- * FILTER CLOTH: SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
- * MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
- * WASHING: WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- * PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.
- * IF MULTIPLE SITE ENTRANCES WILL BE UTILIZED BY VEHICULAR TRAFFIC DURING CONSTRUCTION, INSTALL TEMPORARY CONSTRUCTION ENTRANCES AT ALL LOCATIONS.



DETAIL 3: CATCH BASIN INLET PROTECTION
NOT TO SCALE



DETAIL 2: CULVERT INLET PROTECTION DETAIL
NOT TO SCALE



DETAIL 1: SILT FENCE DETAIL
NOT TO SCALE

ISSUED FOR PERMITTING
10/19/2020

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.

SIGNATURE: *Adam Besse*

TYPED OR PRINTED NAME: ADAM BESSE

DATE: 10/19/2020 REG. NO.: 52597

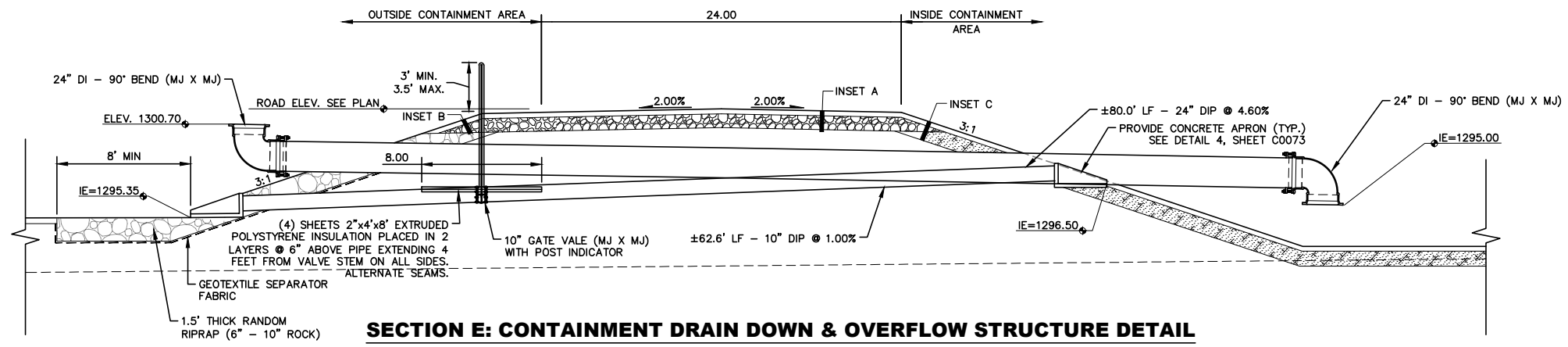
AP	ISSUED FOR PERMITTING	LHB/JPH	DGS	-
NO	REVISION	BY DATE	APPR	APPR
	AFE #1491292100 L3 REPL (LINE 93)	10/19/20		

ENBRIDGE

SWATARA (MN) STATION
STATION 93
CONSTRUCTION DETAILS

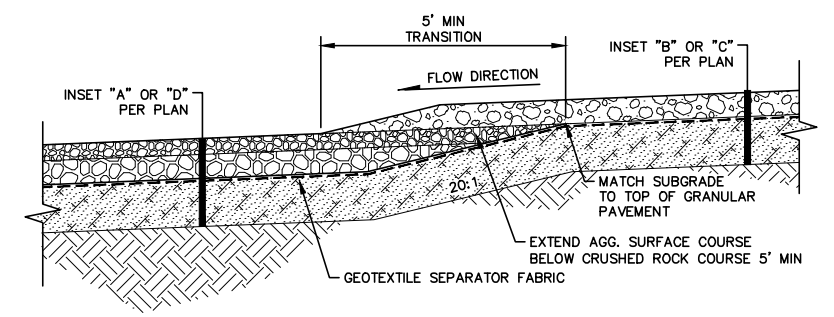
PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)

SOURCE: AS NOTED	DATE: 07/09/2015	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015
APPR: TM		
APPR: -		D-93-1.21-C0071-AP-1356



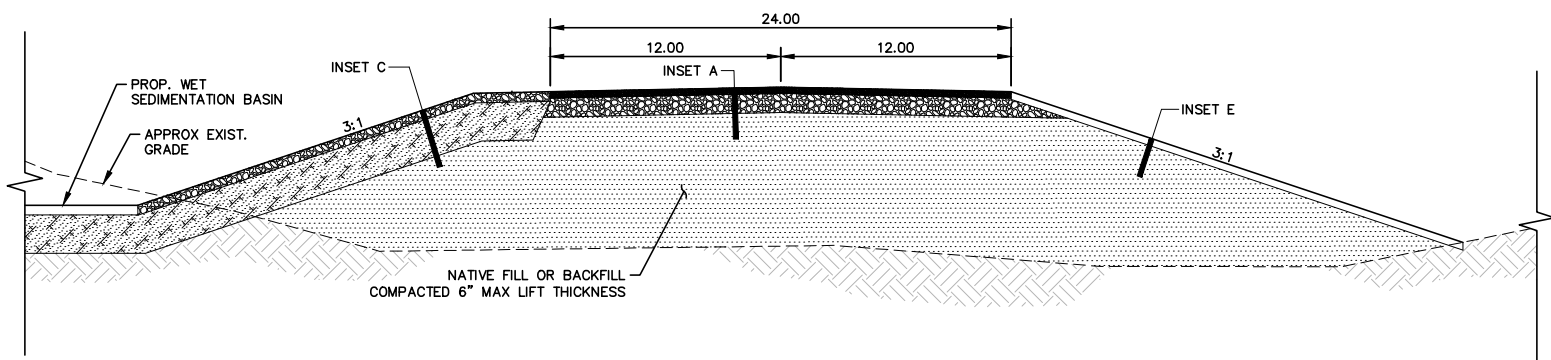
SECTION E: CONTAINMENT DRAIN DOWN & OVERFLOW STRUCTURE DETAIL

NOT TO SCALE



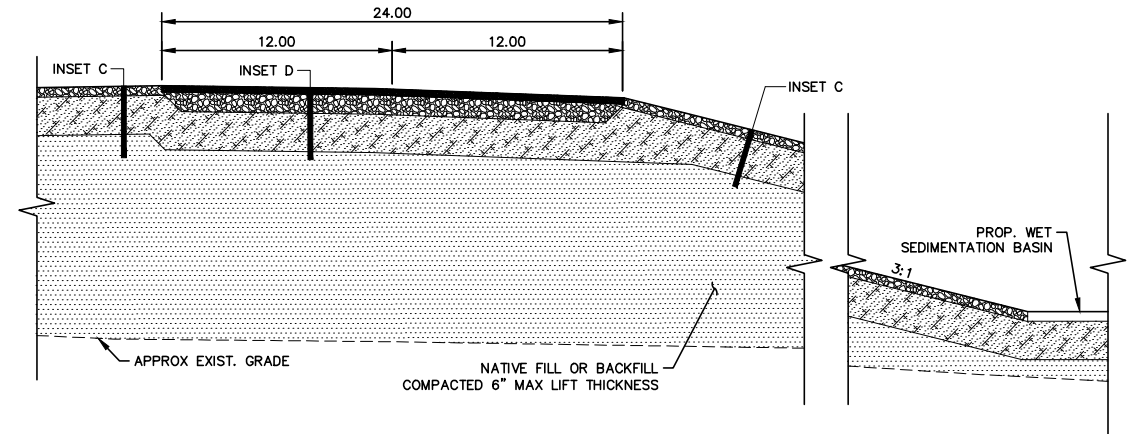
DETAIL 1: TYPICAL TRANSITION BETWEEN CRUSHED ROCK AND GRANULAR PAVEMENT

NOT TO SCALE



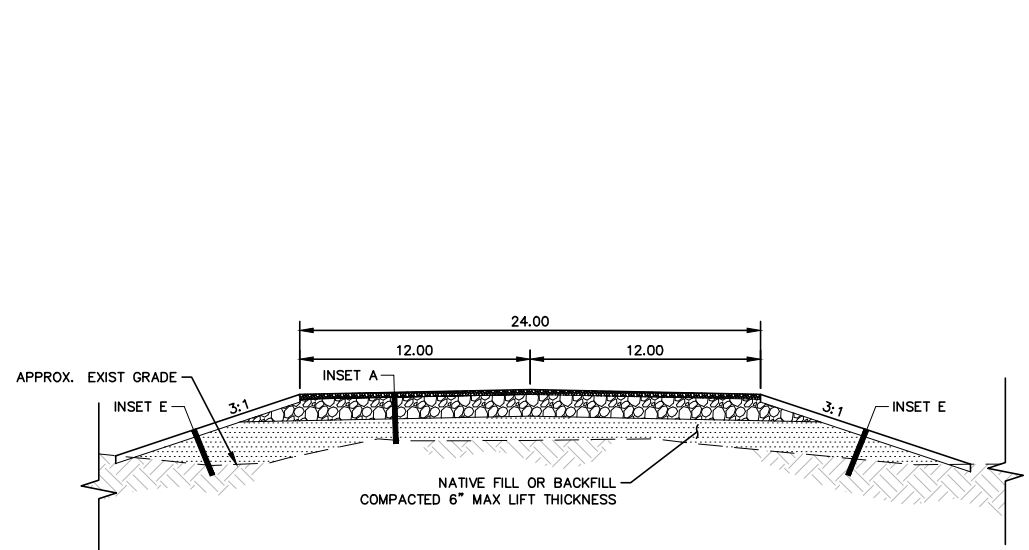
SECTION C: TYPICAL CONTAINMENT/WET SEDIMENTATION BASIN & ROAD SECTION

NOT TO SCALE



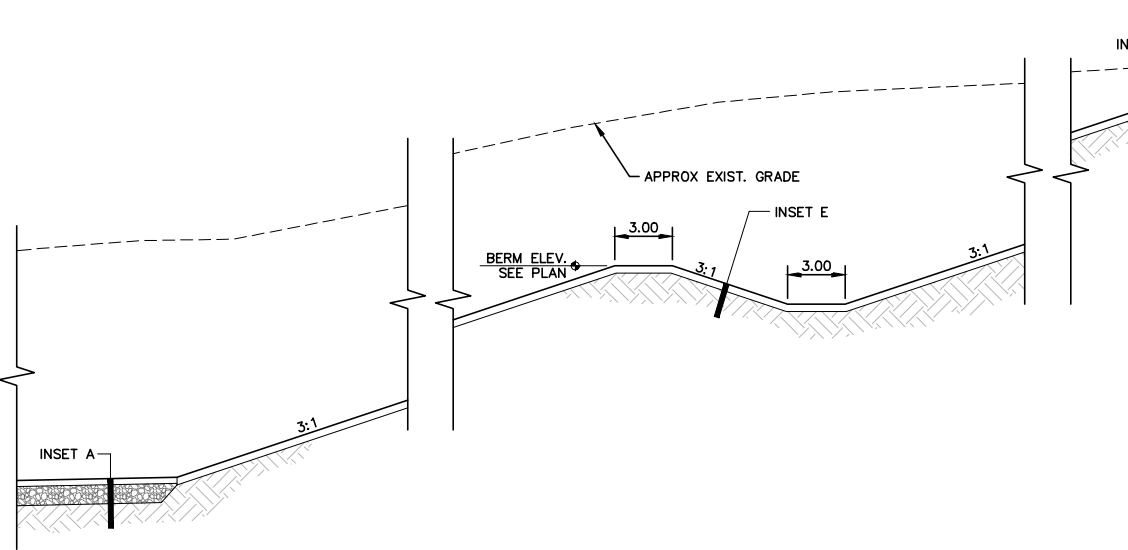
SECTION D: TYPICAL ROAD SECTION

NOT TO SCALE



SECTION A: TYPICAL ROAD SECTION

NOT TO SCALE



SECTION B: TYPICAL BERM/SWALE SECTION

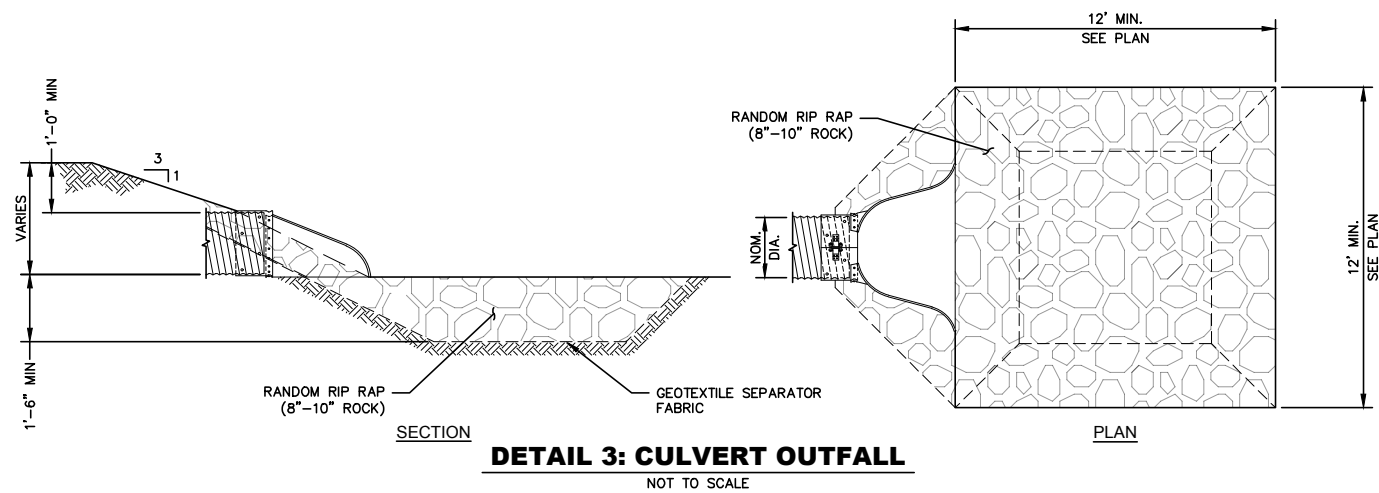
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ISSUED FOR PERMITTING
10/19/2020

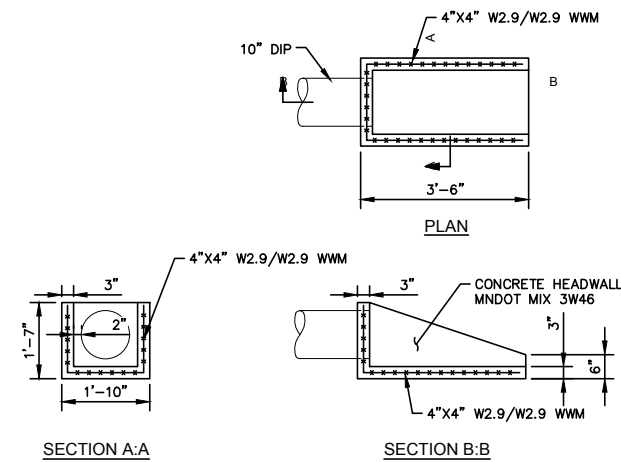
I HEREBY CERTIFY that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
SIGNATURE: *[Signature]*
TYPED OR PRINTED NAME: ADAM BESSE
DATE: 10/19/2020 REG. NO.: 52597

AP	ISSUED FOR PERMITTING AFE #1491292100 L3 REPL (LINE 93)	LHB/JPH 10/19/20	DGS	-
NO	REVISION	BY DATE	APPR	APPR

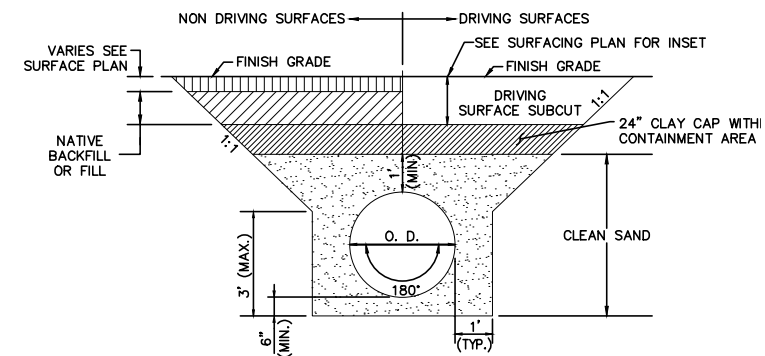
ENBRIDGE®			
SWATARA (MN) STATION			
STATION 93 CONSTRUCTION DETAILS			
PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)			
SCALE: AS NOTED	DATE: 07/09/2015	DRAWN: LHB/JPH	
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015	
APPR: TM	D-93-1.21-C0072-AP-1356		
APPR: -			



DETAIL 3: CULVERT OUTFALL
NOT TO SCALE



DETAIL 4: TYPICAL CONCRETE APRON 12\"/>



NOTE:

1. THIS DETAIL SHALL APPLY TO ALL BELOW GRADE PIPING TO INCLUDE BUT NOT LIMITED TO STATION OIL PIPING, DRAIN LINES, STORM SEWER, SANITARY SEWER, CULVERTS AND WATER.

DETAIL 2: PIPE BEDDING DETAIL
NOT TO SCALE

ISSUED FOR PERMITTING
10/19/2020

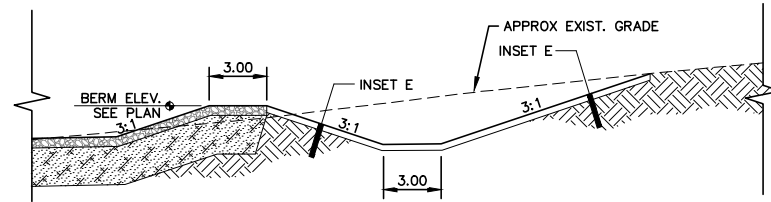
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NO	REVISION	BY DATE	APPR	APPR



SWATARA (MN) STATION
STATION 93
CONSTRUCTION DETAILS

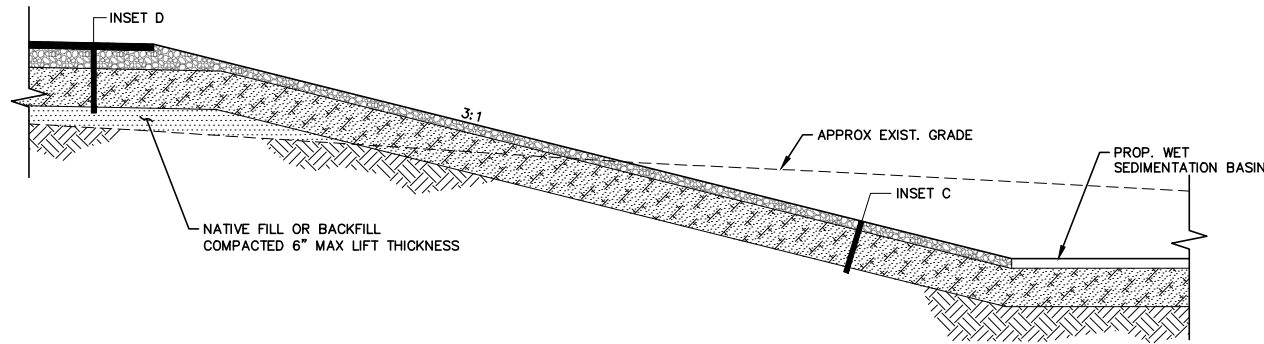
PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE: AS NOTED	DATE: 07/09/2015	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 07/09/2015
APPR: TM	D-93-1.21-C0073-AP-1356	
APPR: -		

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.
SIGNATURE: *[Signature]*
TYPED OR PRINTED NAME: ADAM BESSE
DATE: 10/19/2020 REG. NO.: 52597



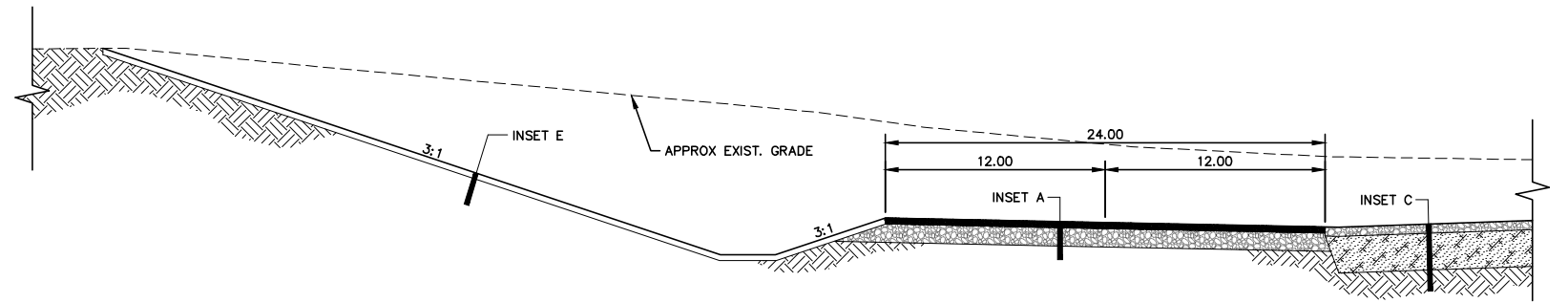
SECTION K: TYPICAL SWALE SECTION

NOT TO SCALE



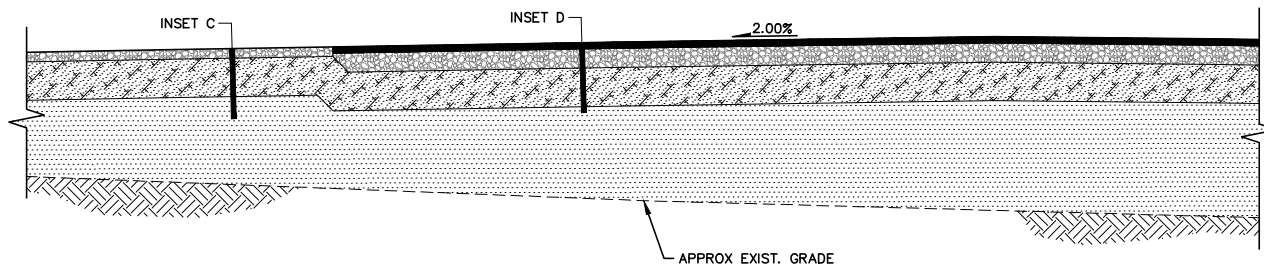
SECTION J: TYPICAL CONTAINMENT / DEFLECTION BERM

NOT TO SCALE



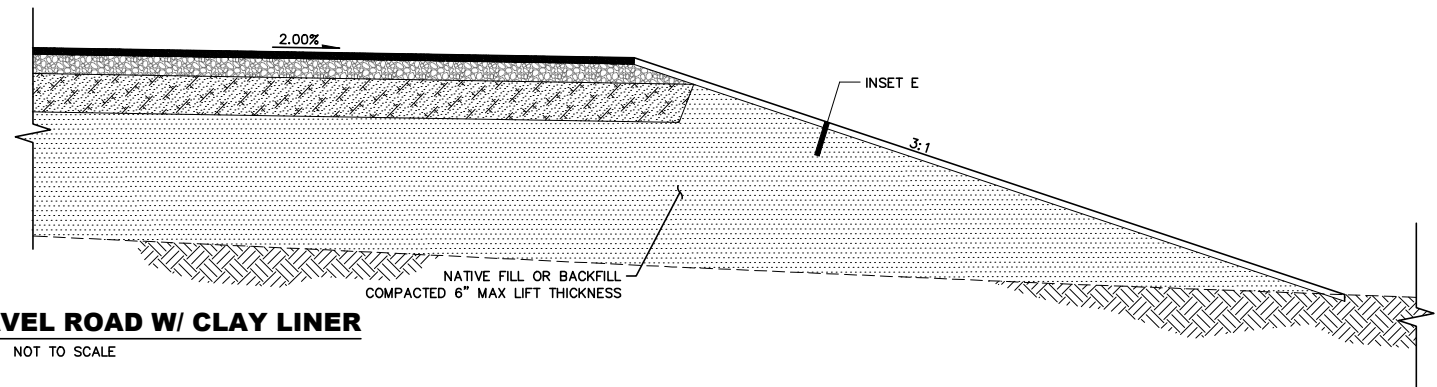
SECTION H: TYPICAL ROAD SECTION

NOT TO SCALE



SECTION G: GRAVEL ROAD W/ CLAY LINER

NOT TO SCALE



SECTION F: TYPICAL ROAD SECTION

NOT TO SCALE

ISSUED FOR PERMITTING
10/19/2020

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.

SIGNATURE: *Adam Besse*

TYPED OR PRINTED NAME: ADAM BESSE

DATE: 10/19/2020 REG. NO.: 52597

AP	ISSUED FOR PERMITTING	LHB/JPH	DGS	-
NO	REVISION	BY DATE	APPR	APPR
	AFE #1491292100 L3 REPL (LINE 93)	10/19/20		



SWATARA (MN) STATION
STATION 93
CONSTRUCTION DETAILS

PROJECT: AFE# 1491292100 LINE 3 REPLACEMENT (LINE 93)		
SCALE: AS NOTED	DATE: 01/28/2016	DRAWN: LHB/JPH
CHECK: LHB/AFB	APPR: LHB/DGS	DATE: 01/28/2016
APPR: TM	D-93-1.21-C0076-AP-1356	
APPR: -		