

BLANKET (SC150)

HORZ SCALE: 1"=20' VERT SCALE: 1"=10'

— 4' MIN

STREAM RESTORATION SIZE R-4 PROPOSED 20-INCH AND 16-INCH SUNOCO PIPELINES ➤ STREAM RESTORATION SIZE R-4 8854+00 8855+00 8856+00 RESTORED GRADE PROFILE

__ 4' MIN

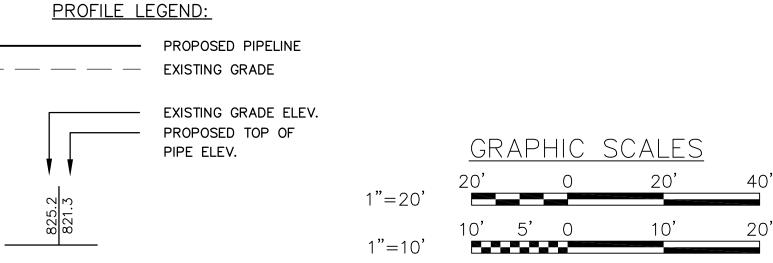
GENERAL NOTES:

- 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.
- 2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5' FOR 16/20" PIPELINE.
- WETLAND CROSSING NOTES:
- REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).
- 2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.
- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

STREAM CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01–ES-0.17).
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).
- 3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).
- 4. THE PIPELINES SHALL MAINTAIN A MINIMUM OF 5 FEET OF COVER UNDER STREAMS FROM THE TOP OF PIPE TO THE STREAM BED. THIS COVER WILL BE MAINTAINED AT A MINIMUM FROM TOP OF BANK TO TOP OF BANK.
- 5. REFERENCE THE STREAM BANK STABILIZATION DETAIL AND STREAM RESTORATION TABLE IN THE NOTES AND DETAILS WHERE RIP-RAP IS PROPOSED (ES-0.18).
- 6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP OF BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).
- 7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.
- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE.

SYMBOL DESCRIPTION PROPOSED 16-INCH & 20-INCH SUNOCO PIPELINES PROPOSED SUNOCO RIGHT-OF-WAY EXISTING SUNOCO PIPELINE MAJOR CONTOUR MINOR CONTOUR MINOR CONTOUR STREAM CENTERLINE TOP/BOTTOM OF BANK EXISTING EDGE OF PAVED ROADWAY EXISTING EDGE OF UNPAVED ROADWAY EXISTING VEGETATION EDGE OF WATER SOIL TYPE BOUNDARY WETLAND PROPOSED ROCK CONSTRUCTION ENTRANCE LIMIT OF DISTURBANCE CONSTRUCTION FENCE -12 - 12 - 12 - 12 - 12 - 12 - 12 - 100 H COMPOST FILTER SOCK -18 - 18 - 18 - 18 - 18 - 18 - 10 H COMPOST FILTER SOCK -24 - 24 - 24 - 24 - 24 - 24 - 100 H COMPOST FILTER SOCK TRENCH PLUG TEMPORARY EQUIPMENT CROSSING SANDBAG DAM PUMP SCREENED INLET ENERGY DISSIPATER DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET STREAM RESTORATION	EV).	. =	ID.
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-18—18—18—18— -24—24—24—24— -32—32—32—32— -32—32—32—32— -32—32—32—		CF CF	CONSTRUCTION FENCE
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PERMANENT WATER BAR W/FILTER SOCK TRENCH PLUG TEMPORARY EQUIPMENT CROSSING SANDBAG DAM PUMP SCREENED INLET ENERGY DISSIPATER DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET	—24	24-24-24-	24-INCH COMPOST FILTER SOCK
W/FILTER SOCK TRENCH PLUG TEMPORARY EQUIPMENT CROSSING SANDBAG DAM PUMP SCREENED INLET ENERGY DISSIPATER DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET	—32 —	32-32-32-	32-INCH COMPOST FILTER SOCK
TEMPORARY EQUIPMENT CROSSING SANDBAG DAM PUMP SCREENED INLET ENERGY DISSIPATER DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET	L ₁₈ _	, 7	
SANDBAG DAM PUMP SCREENED INLET ENERGY DISSIPATER DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET			TRENCH PLUG
PUMP SCREENED INLET ENERGY DISSIPATER DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET			TEMPORARY EQUIPMENT CROSSING
SCREENED INLET ENERGY DISSIPATER DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET	-		SANDBAG DAM
ENERGY DISSIPATER DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET		T	PUMP
DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET			SCREENED INLET
CULVERT PIPE EROSION CONTROL BLANKET			ENERGY DISSIPATER
EROSION CONTROL BLANKET		\bigcirc	DEWATERING FACILITY
EROSION CONTROL BLANKET			CULVERT PIPE
STREAM RESTORATION	×××		EROSION CONTROL BLANKET
			STREAM RESTORATION



BLANKET (SC150)

8853+00

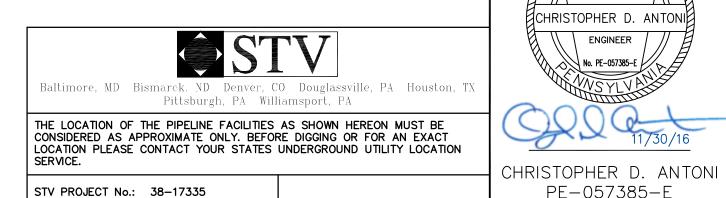
- STREAM RESTORATION SIZE R-4

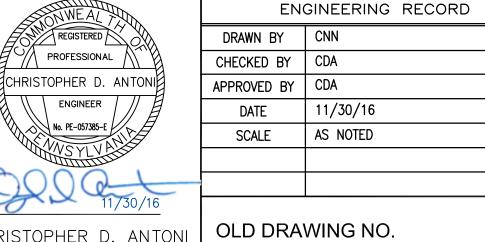
BLANKET (SC150)

_ 5' MIN

8852+00

8851+50





PROFESSIONAL

ENGINEER

No. PE-057385-E

PE-057385-E



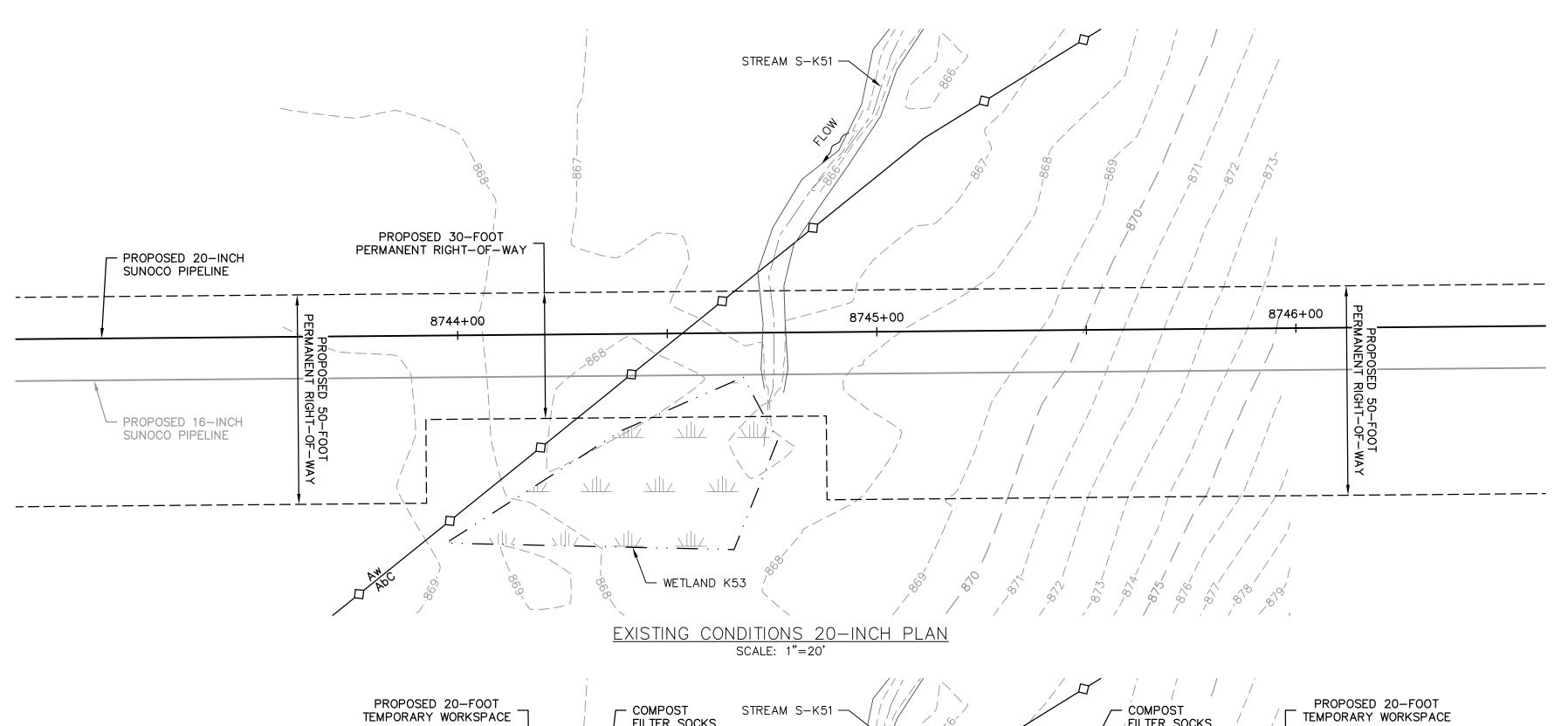
PENNSYLVANIA PIPELINE PROJECT STREAMS S-Q65, S-Q66 & S-Q67 RESTORATION PLAN

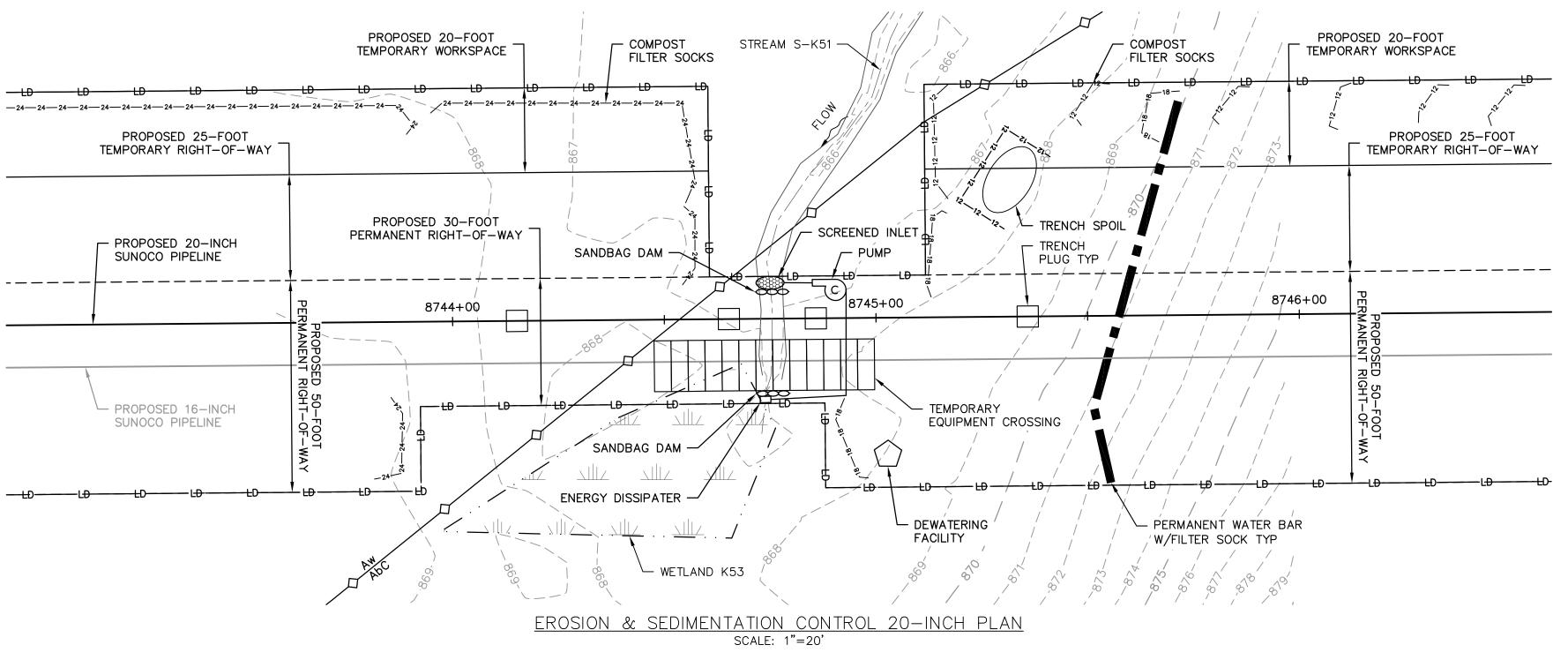
DESCRIPTION

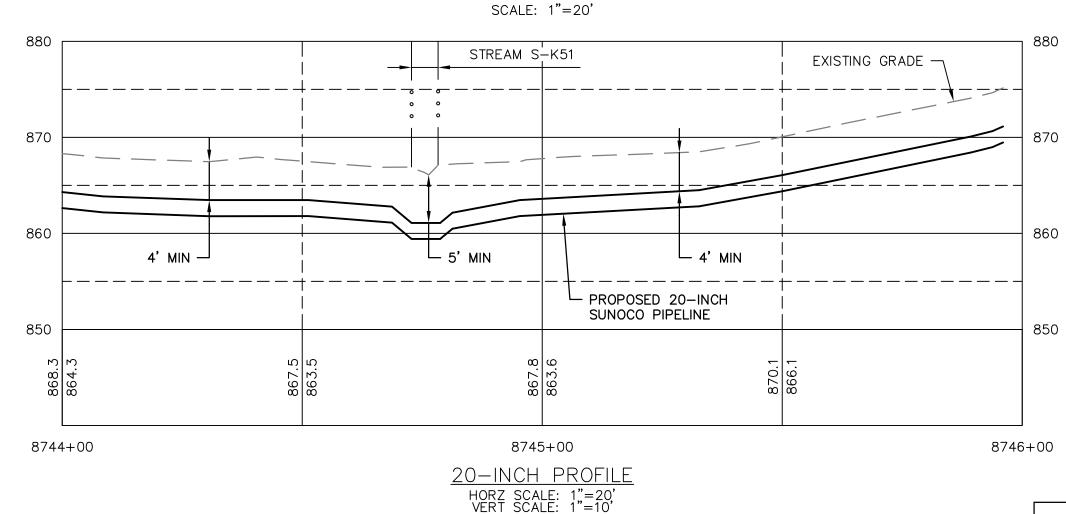
PERRY COUNTY, PA

APPROVAL

REV. NO. S-Q66-B







GRAPHIC SCALES 1"=10

Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION

STV PROJECT No.: 38-17335

CHRISTOPHER D. ANTONI ENGINEER No. PE-057385-E CHRISTOPHER D. ANTONI PE-057385-E

REGISTERED

PROFESSIONAL

ENGINEERING RECORD DRAWN BY RFG CHECKED BY | CDA APPROVED BY | CDA 11/30/16 DATE AS NOTED SCALE

OLD DRAWING NO.

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE ELEV.

PROPOSED TOP OF

REV. DATE APP# **Sunoco Logistics** Partners L.P.

 \times \times \times \times \times

PENNSYLVANIA PIPELINE PROJECT STREAM S-K51 **EXISTING CONDITIONS/EROSION &** SEDIMENTATION CONTROL PLANS

SCREENED INLET

CULVERT PIPE

ENERGY DISSIPATER

DEWATERING FACILITY

EROSION CONTROL BLANKET

STREAM RESTORATION

PERRY COUNTY, PA

DWG. NO. S-K51-A1

DESCRIPTION

GENERAL NOTES: 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.

3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.

4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.

5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.

6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5' FOR 16/20" PIPELINE. WETLAND CROSSING NOTES:

1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).

2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO

2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.

3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)

4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

STREAM CROSSING NOTES:

CONSTRUCTION.

1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).

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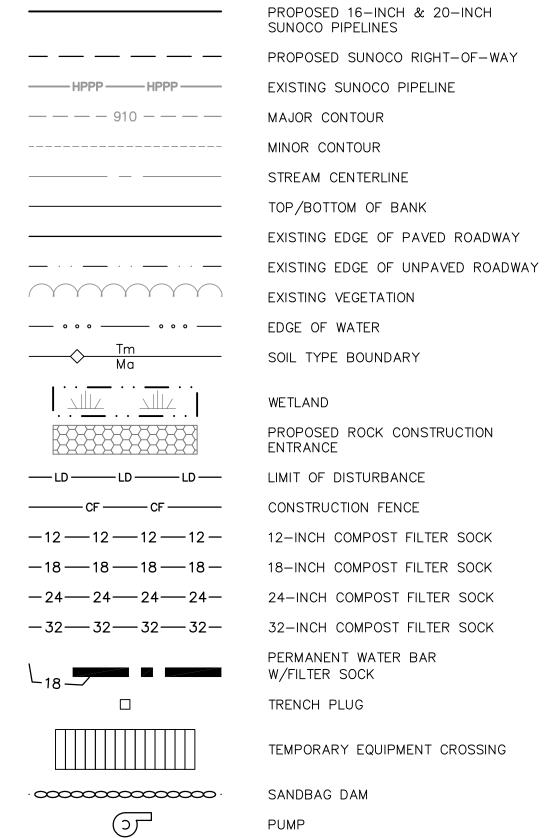
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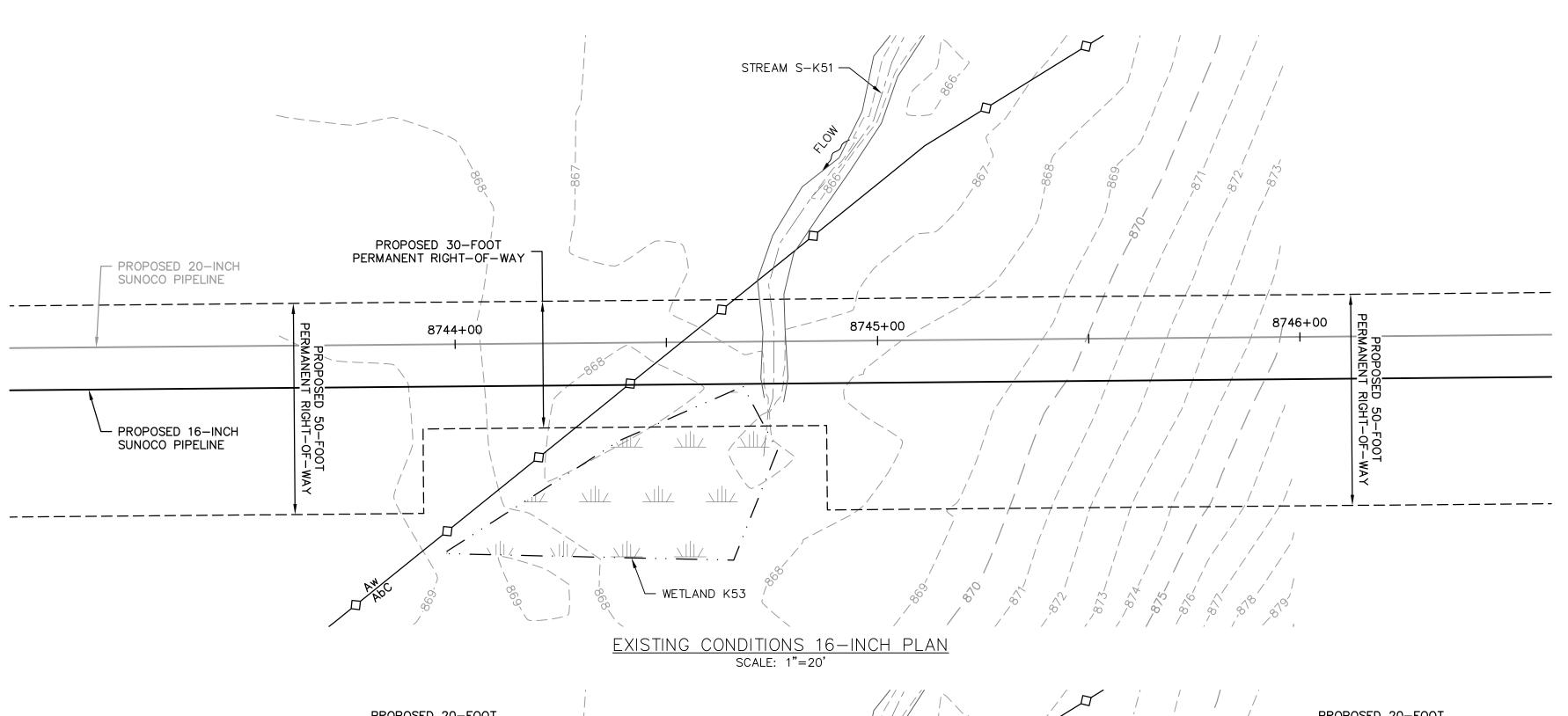
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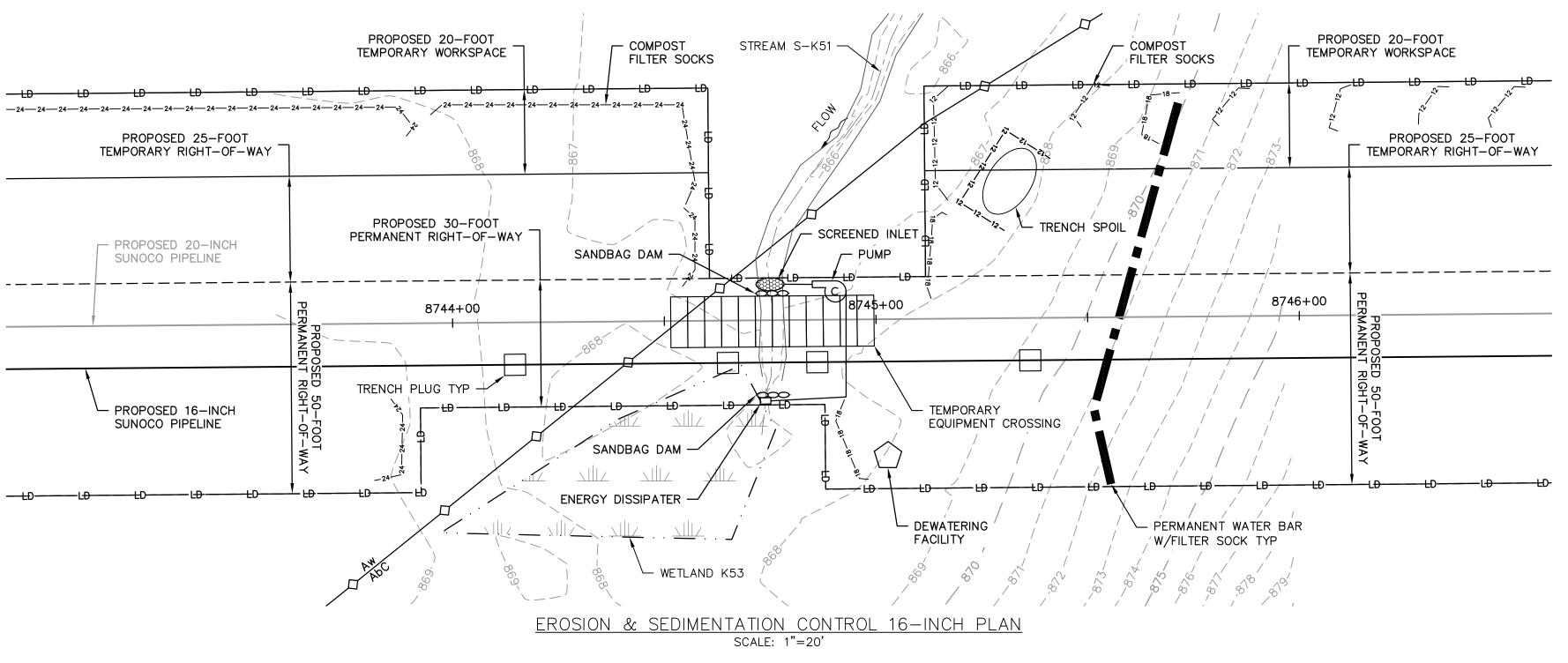
8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE. <u>LEGEND</u>

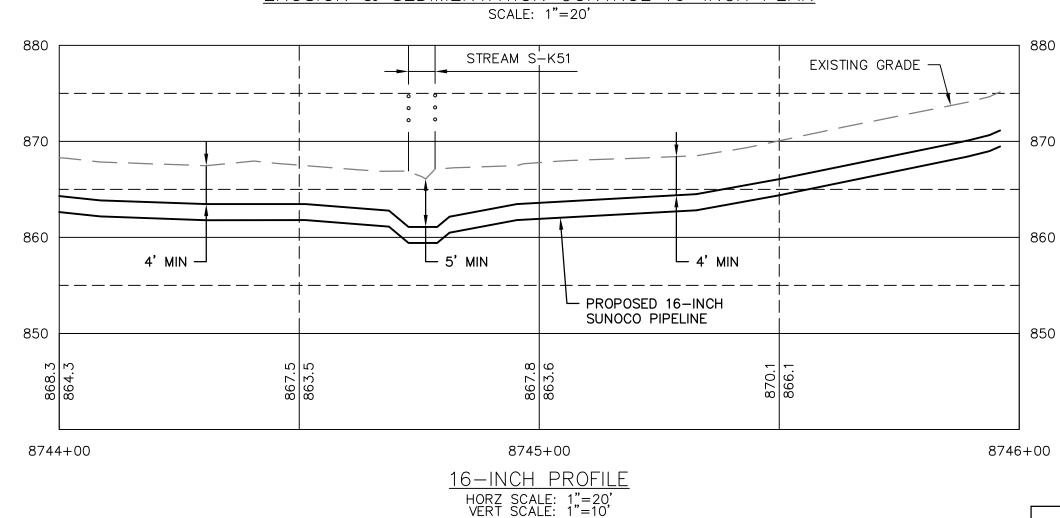
<u>SYMBOL</u>



<u>DESCRIPTION</u>







GRAPHIC SCALES 1"=10

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STV PROJECT No.: 38-17335

GENERAL NOTES:

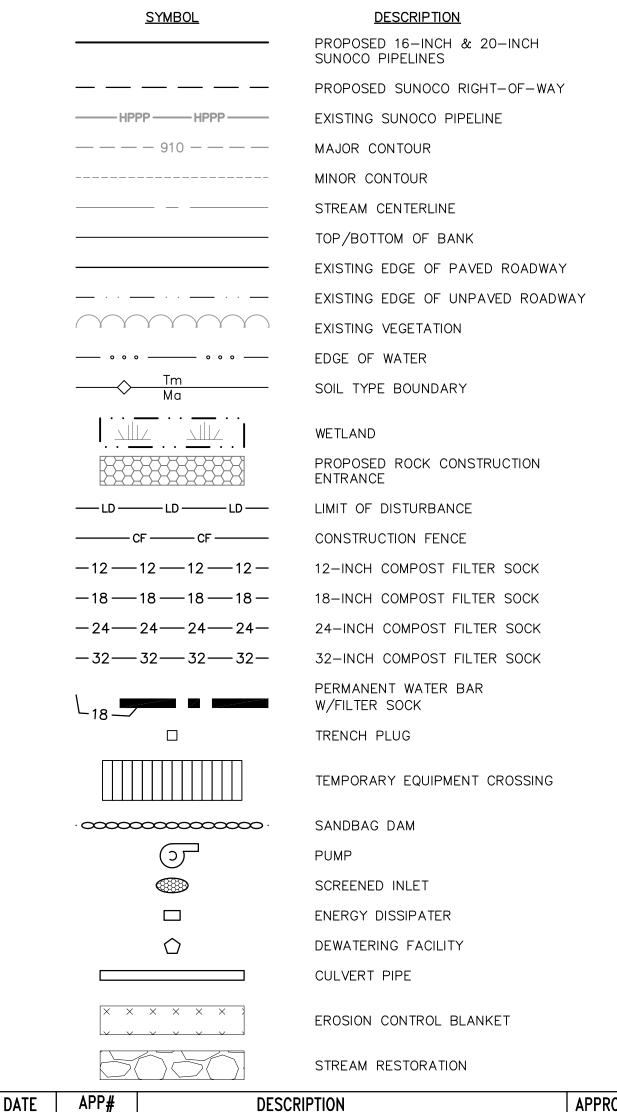
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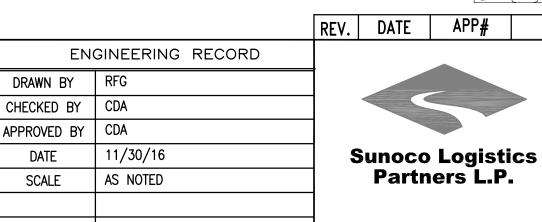
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PENNSYLVANIA PIPELINE PROJECT STREAM S-K51 **EXISTING CONDITIONS/EROSION &** SEDIMENTATION CONTROL PLANS

PERRY COUNTY, PA

DWG. NO. OLD DRAWING NO. CHRISTOPHER D. ANTONI S-K51-A2

PROFILE LEGEND:

— — — EXISTING GRADE

DATE

REGISTERED

PROFESSIONAL

CHRISTOPHER D. ANTONI

ENGINEER

No. PE-057385-E

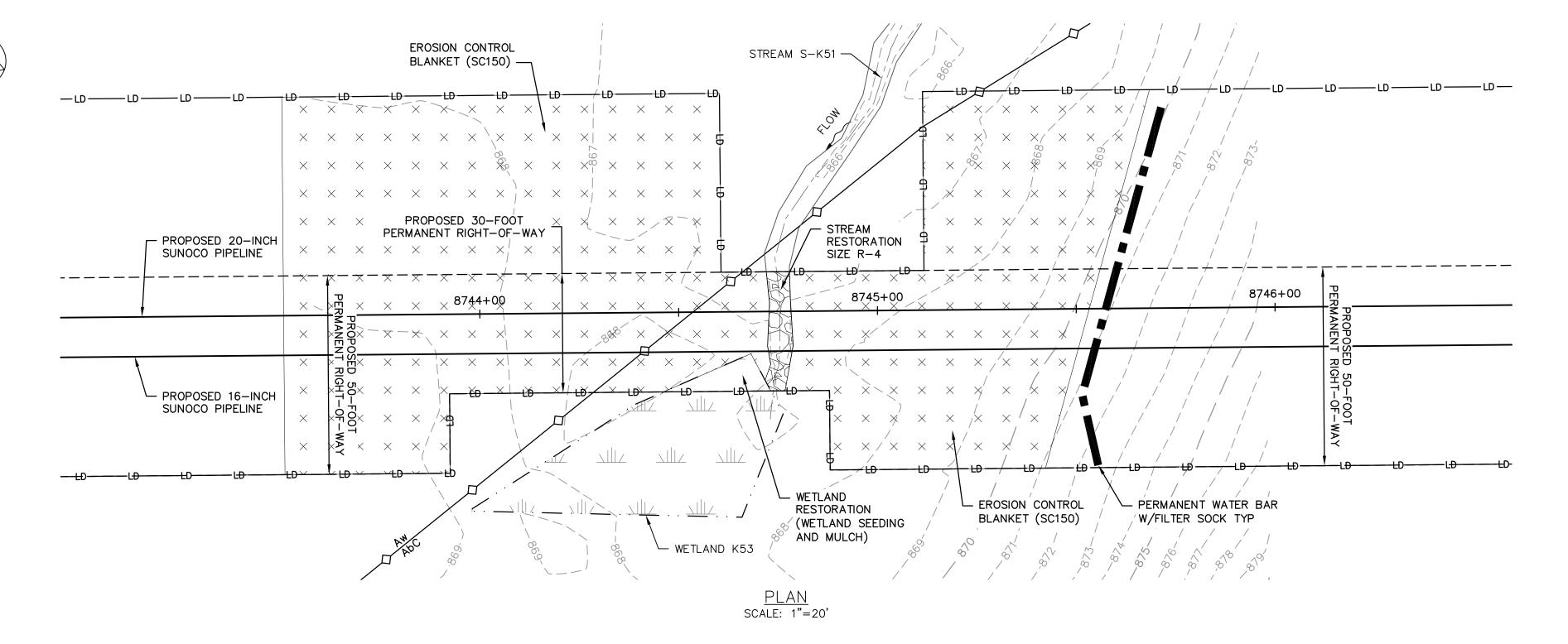
PE-057385-E

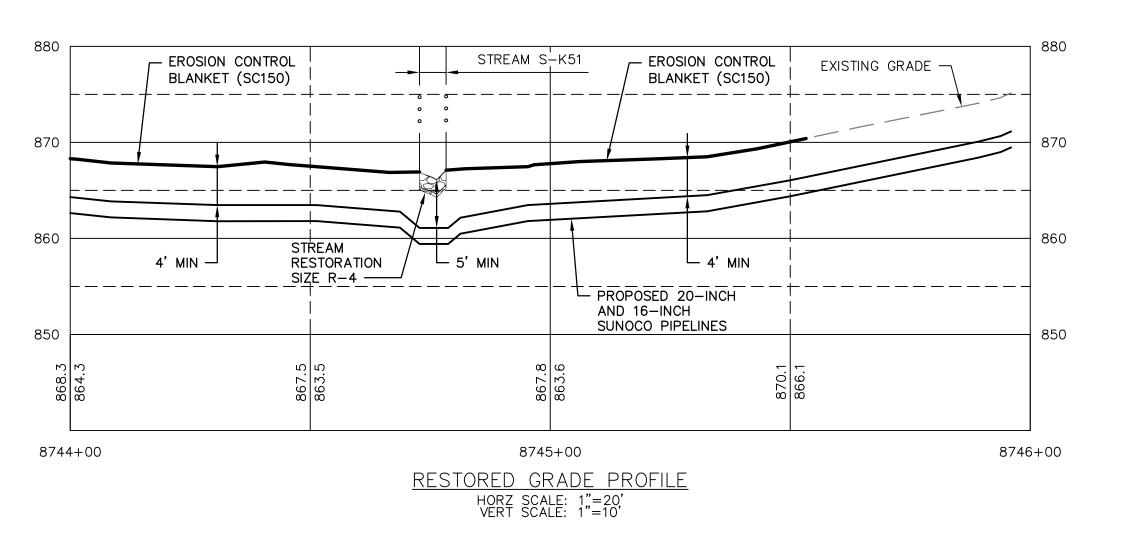
PROPOSED PIPELINE

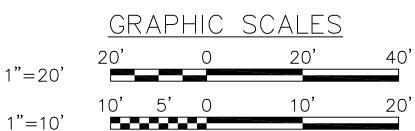
PIPE ELEV.

EXISTING GRADE ELEV.

PROPOSED TOP OF







Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION STV PROJECT No.: 38-17335

REGISTERED PROFESSIONAL CHRISTOPHER D. ANTONI ENGINEER No. PE-057385-E OLD DRAWING NO. CHRISTOPHER D. ANTONI PE-057385-E

ENGINEERING RECORD DRAWN BY RFG CHECKED BY | CDA APPROVED BY | CDA 11/30/16 SCALE AS NOTED

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE ELEV.

PROPOSED TOP OF

REV. DATE APP# DESCRIPTION PENNSYLVANIA PIPELINE PROJECT STREAM S-K51 RESTORATION PLAN **Sunoco Logistics** Partners L.P.

PERRY COUNTY, PA

APPROVA

DWG. NO. REV. NO. S-K51-B

GENERAL NOTES:

- 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.
- 2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5' FOR 16/20" PIPELINE.

WETLAND CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).
- 2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.
- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

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- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE. <u>LEGEND</u>

<u>SYMBOL</u>

— — — — 910 — — — —

-18 --- 18 --- 18 --- 18 --- 18 ---

-24--24--24--24

-32—32—32—32

 \times \times \times \times \times

<u>DESCRIPTION</u>

SUNOCO PIPELINES

MAJOR CONTOUR

MINOR CONTOUR

STREAM CENTERLINE

TOP/BOTTOM OF BANK

EXISTING VEGETATION

SOIL TYPE BOUNDARY

LIMIT OF DISTURBANCE

CONSTRUCTION FENCE

W/FILTER SOCK

TRENCH PLUG

SANDBAG DAM

SCREENED INLET

CULVERT PIPE

ENERGY DISSIPATER

DEWATERING FACILITY

EROSION CONTROL BLANKET

STREAM RESTORATION

PUMP

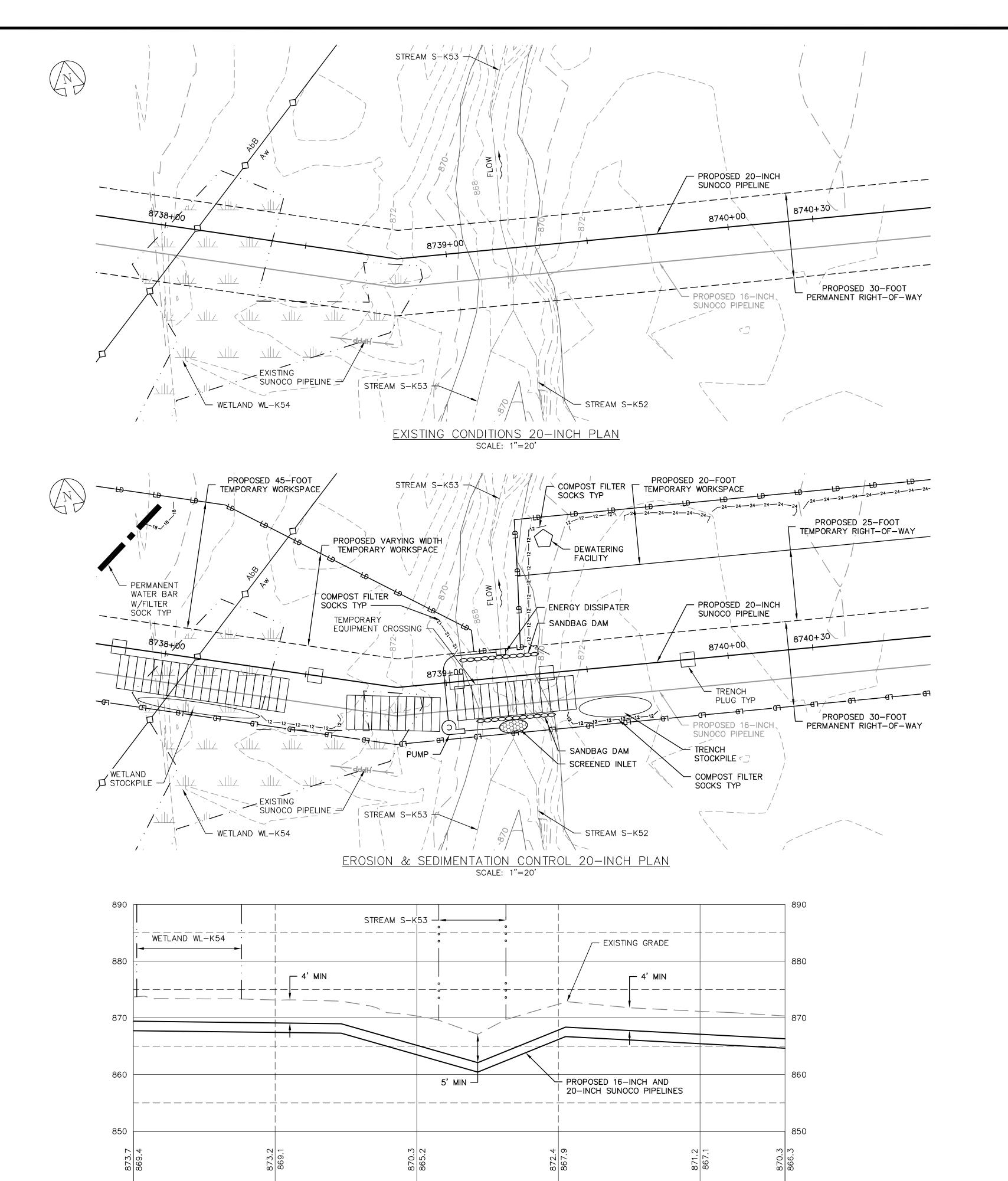
EDGE OF WATER

WETLAND

ENTRANCE

PROPOSED 16-INCH & 20-INCH

PROPOSED SUNOCO RIGHT-OF-WAY EXISTING SUNOCO PIPELINE EXISTING EDGE OF PAVED ROADWAY EXISTING EDGE OF UNPAVED ROADWAY PROPOSED ROCK CONSTRUCTION 12-INCH COMPOST FILTER SOCK 18-INCH COMPOST FILTER SOCK 24-INCH COMPOST FILTER SOCK 32-INCH COMPOST FILTER SOCK PERMANENT WATER BAR TEMPORARY EQUIPMENT CROSSING



8739+00

<u>PROFILE</u>

8740+00

1"=10

GRAPHIC SCALES

8740+30

8738+00

GENERAL NOTES:

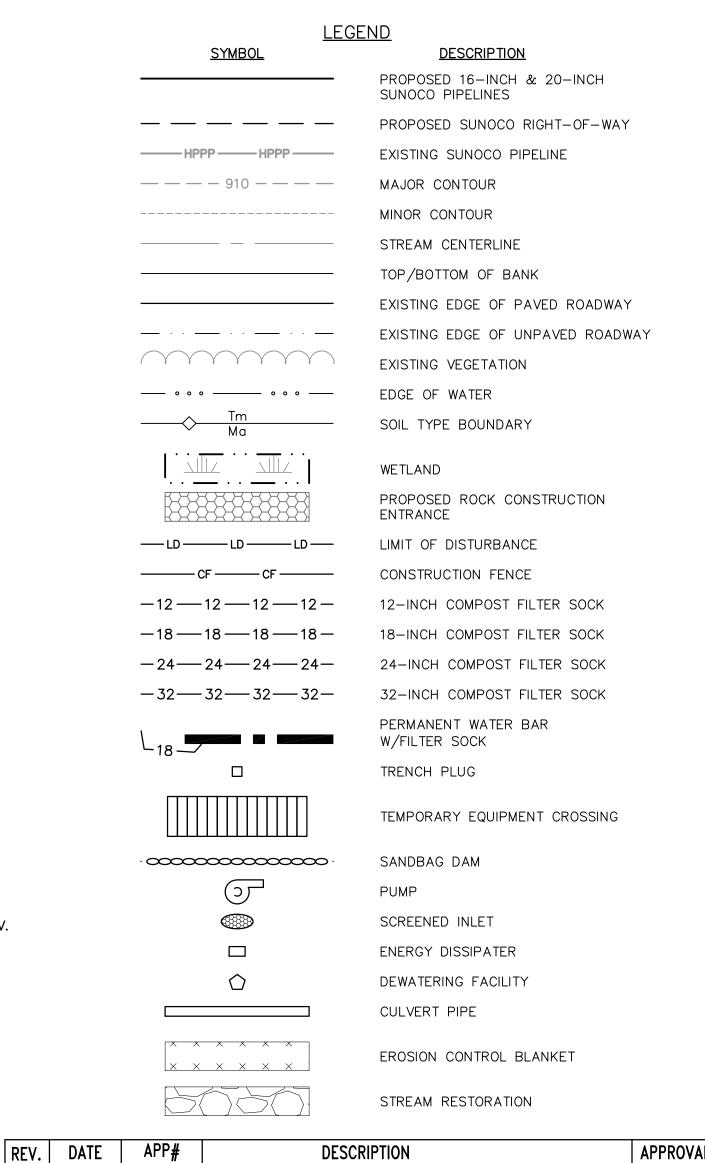
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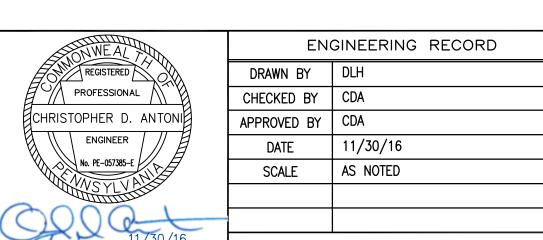
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PENNSYLVANIA PIPELINE PROJECT STREAMS S-K52 AND S-K53 **EXISTING CONDITIONS/EROSION & Sunoco Logistics** SEDIMENTATION CONTROL PLANS

> PERRY COUNTY, PA REV. NO.

OLD DRAWING NO.

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

EXISTING GRADE ELEV. PROPOSED TOP OF

PIPE ELEV.

CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION CHRISTOPHER D. ANTONI PE-057385-E

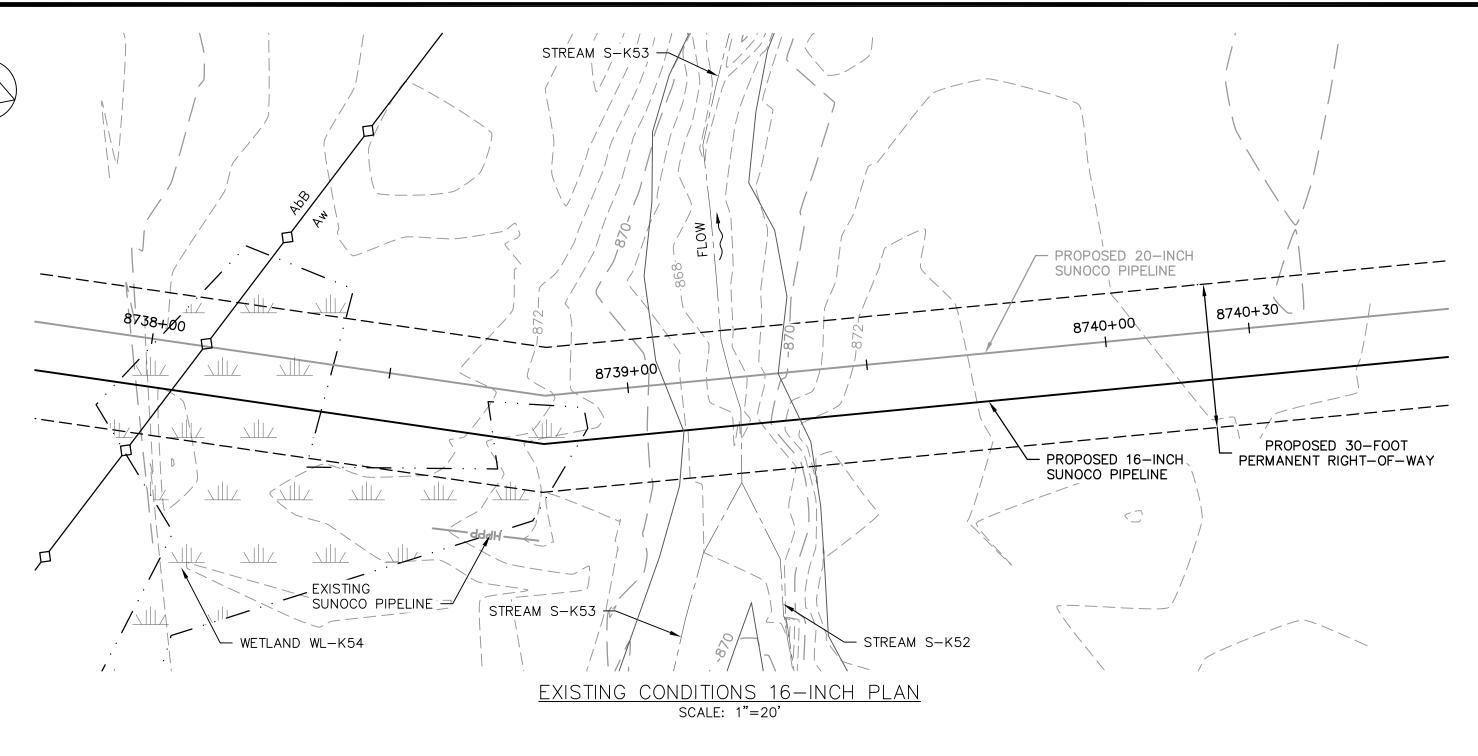
Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA

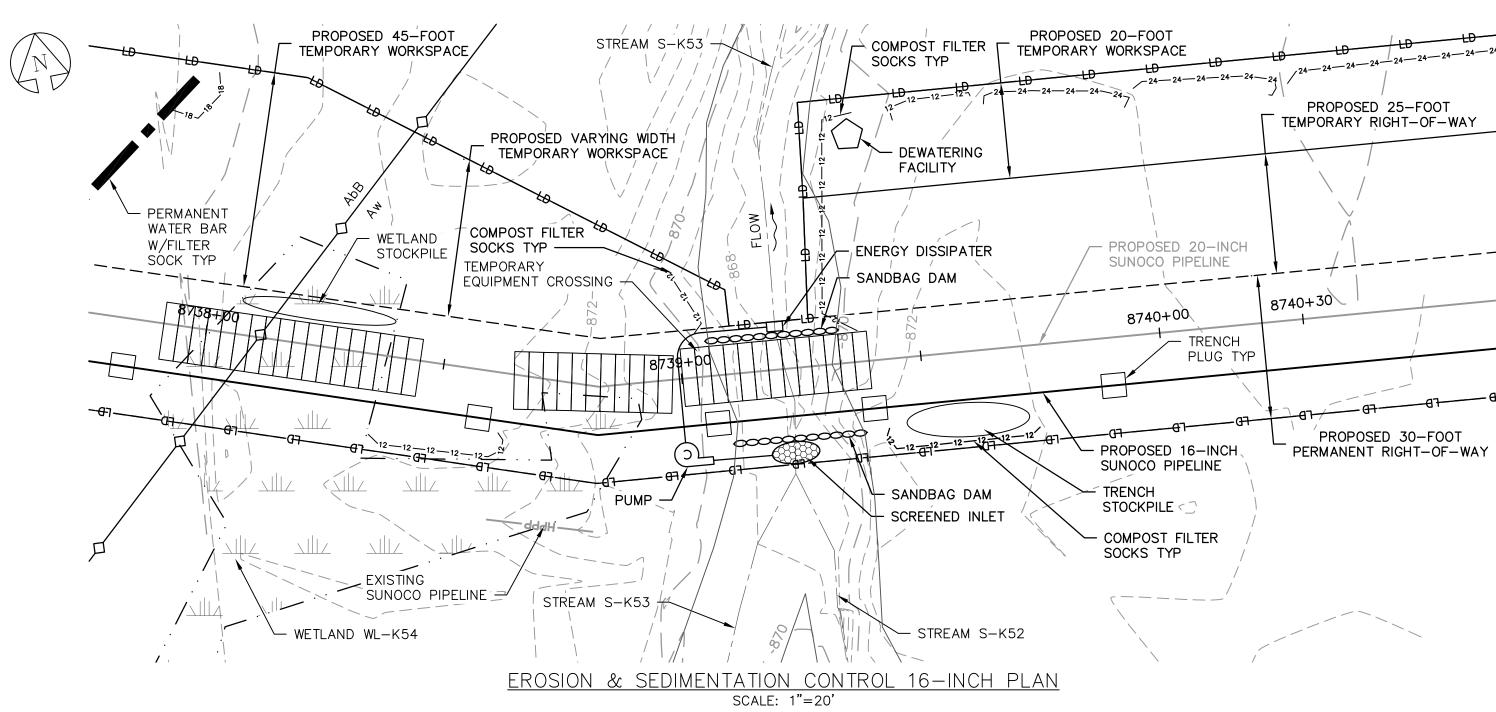
THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE

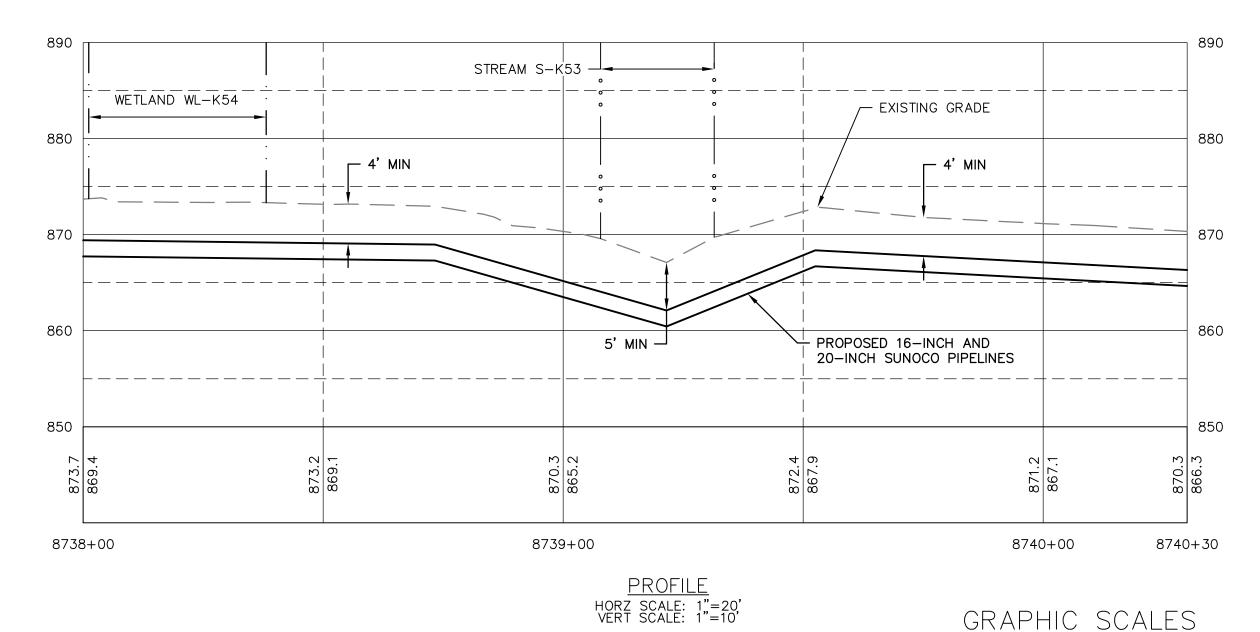
STV PROJECT No.: 38-17335

S-K52-A1

Partners L.P.







1"=10

Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION

STV PROJECT No.: 38-17335

CHRISTOPHER D. ANTONI

GENERAL NOTES:

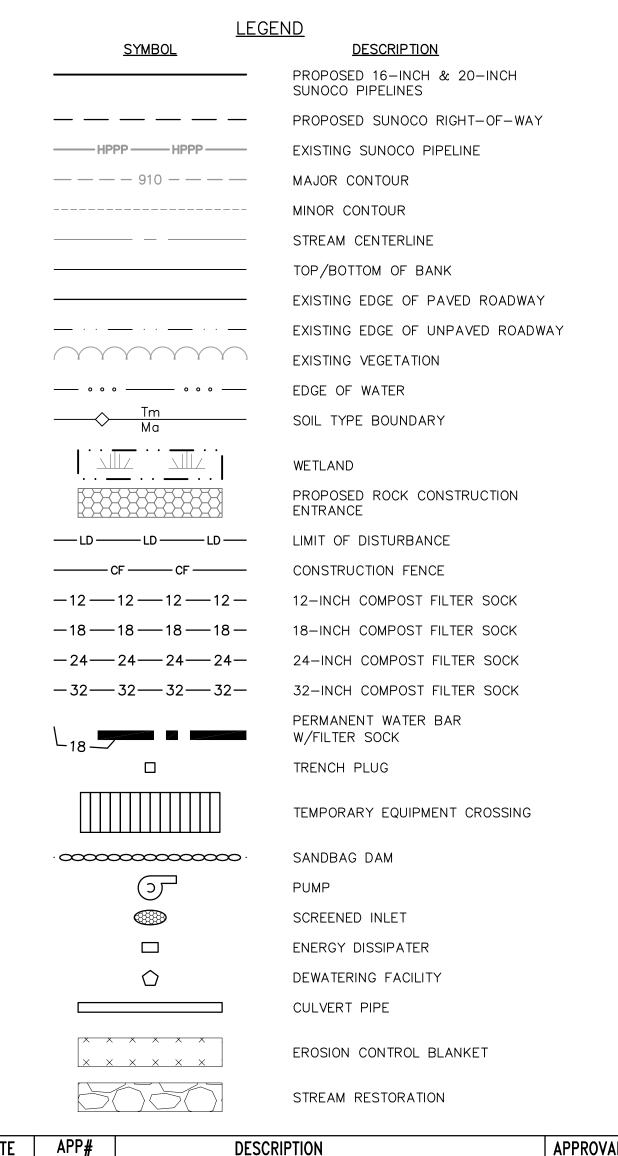
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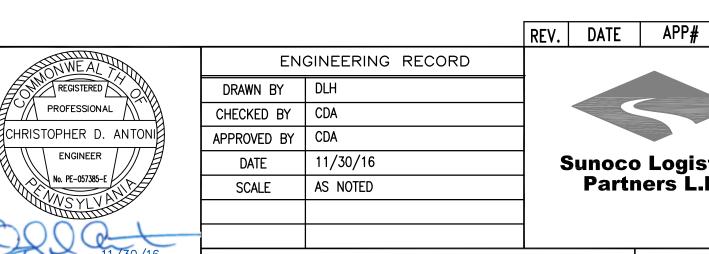
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OLD DRAWING NO.

PE-057385-E

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

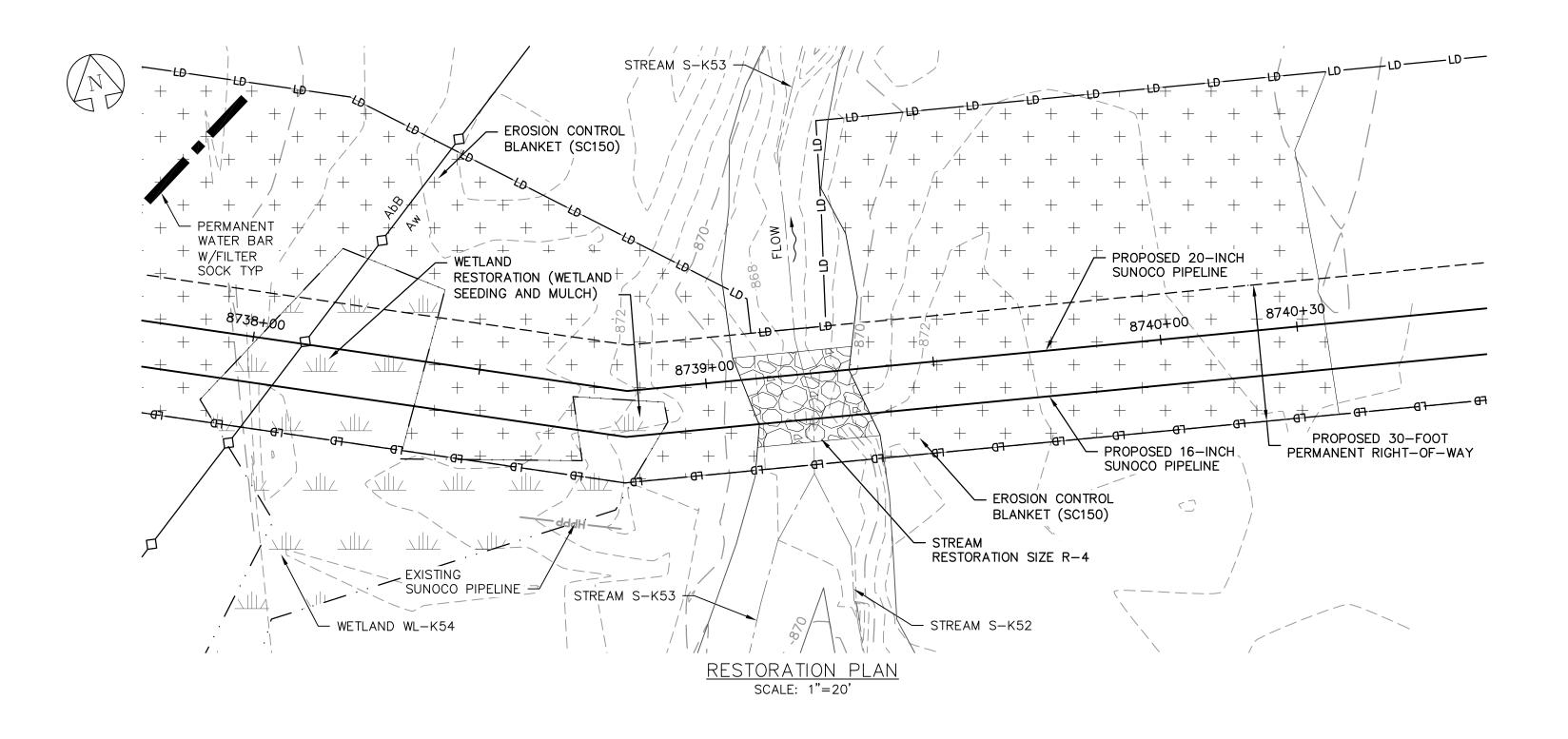
EXISTING GRADE ELEV. PROPOSED TOP OF

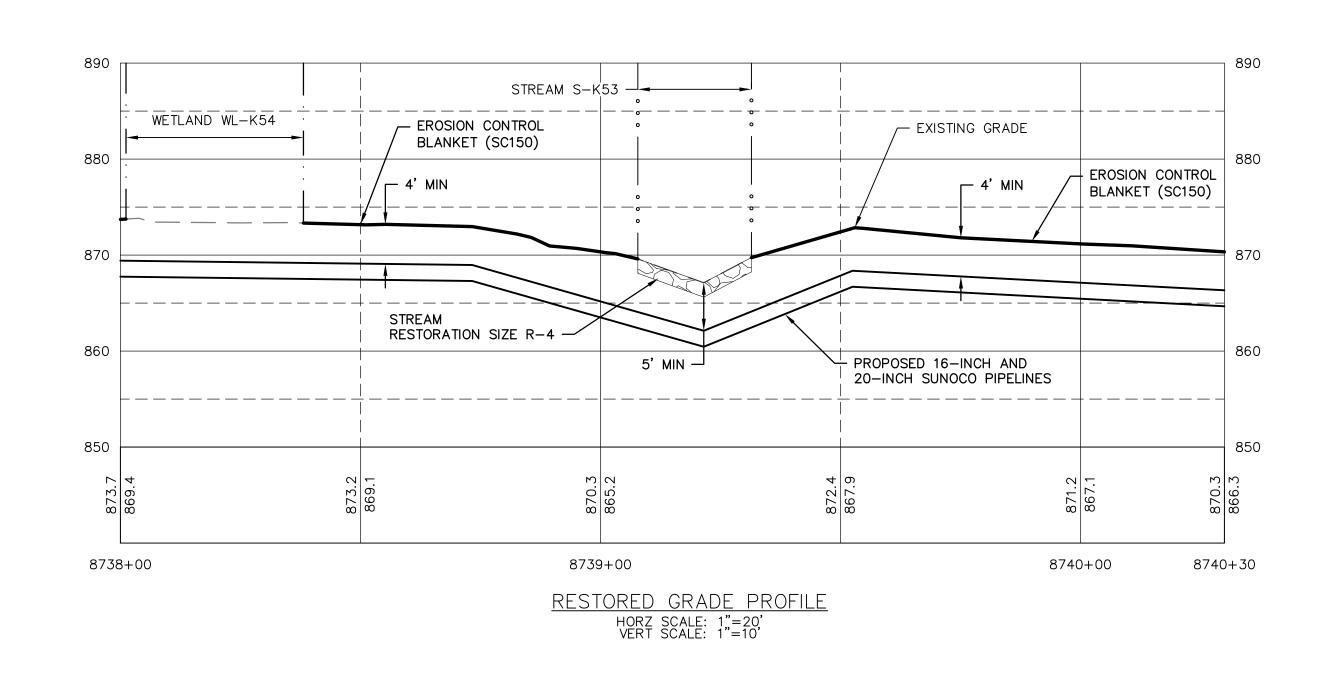
PIPE ELEV.

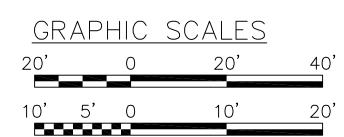
PENNSYLVANIA PIPELINE PROJECT STREAMS S-K52 AND S-K53 **EXISTING CONDITIONS/EROSION & Sunoco Logistics** SEDIMENTATION CONTROL PLANS Partners L.P.

> PERRY COUNTY, PA REV. NO.

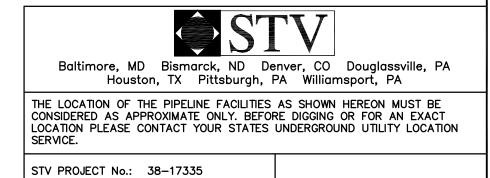
S-K52-A2







1"=10'



GENERAL NOTES:

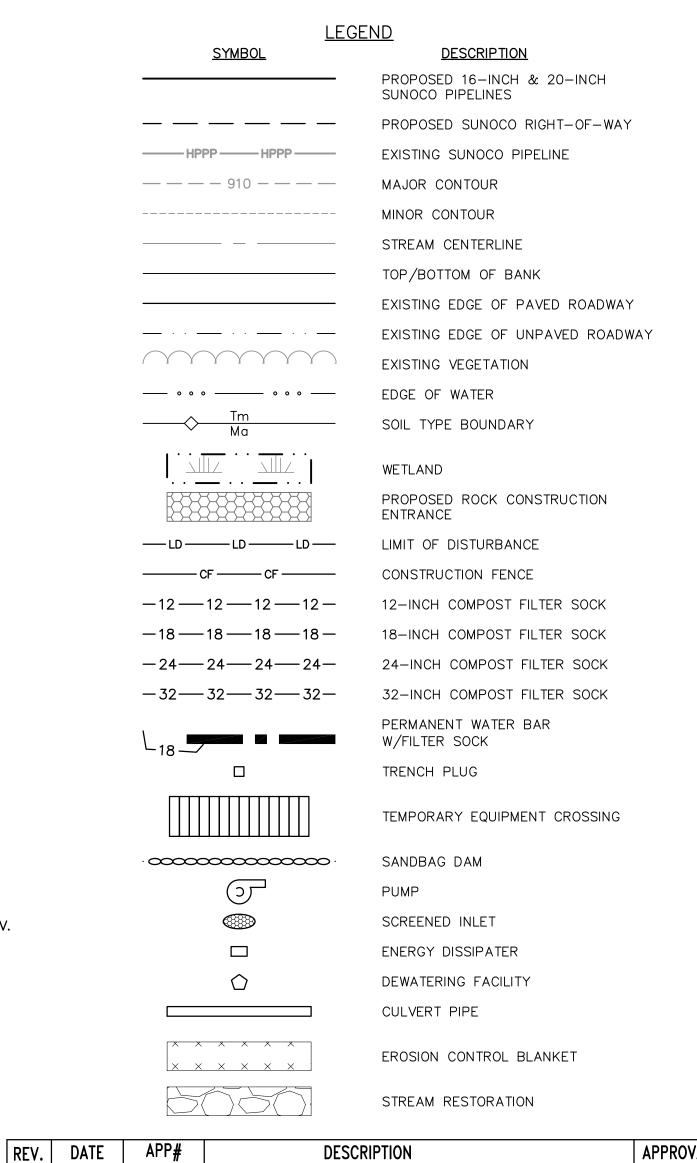
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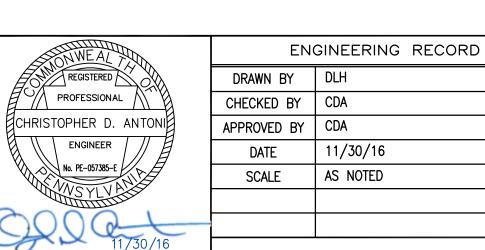
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PENNSYLVANIA PIPELINE PROJECT
STREAMS S-K52 AND S-K53
RESTORATION PLAN

PERRY COUNTY, PA

CHRISTOPHER D. ANTONI PE-057385-E

OLD DRAWING NO.

PROFILE LEGEND:

— — — EXISTING GRADE

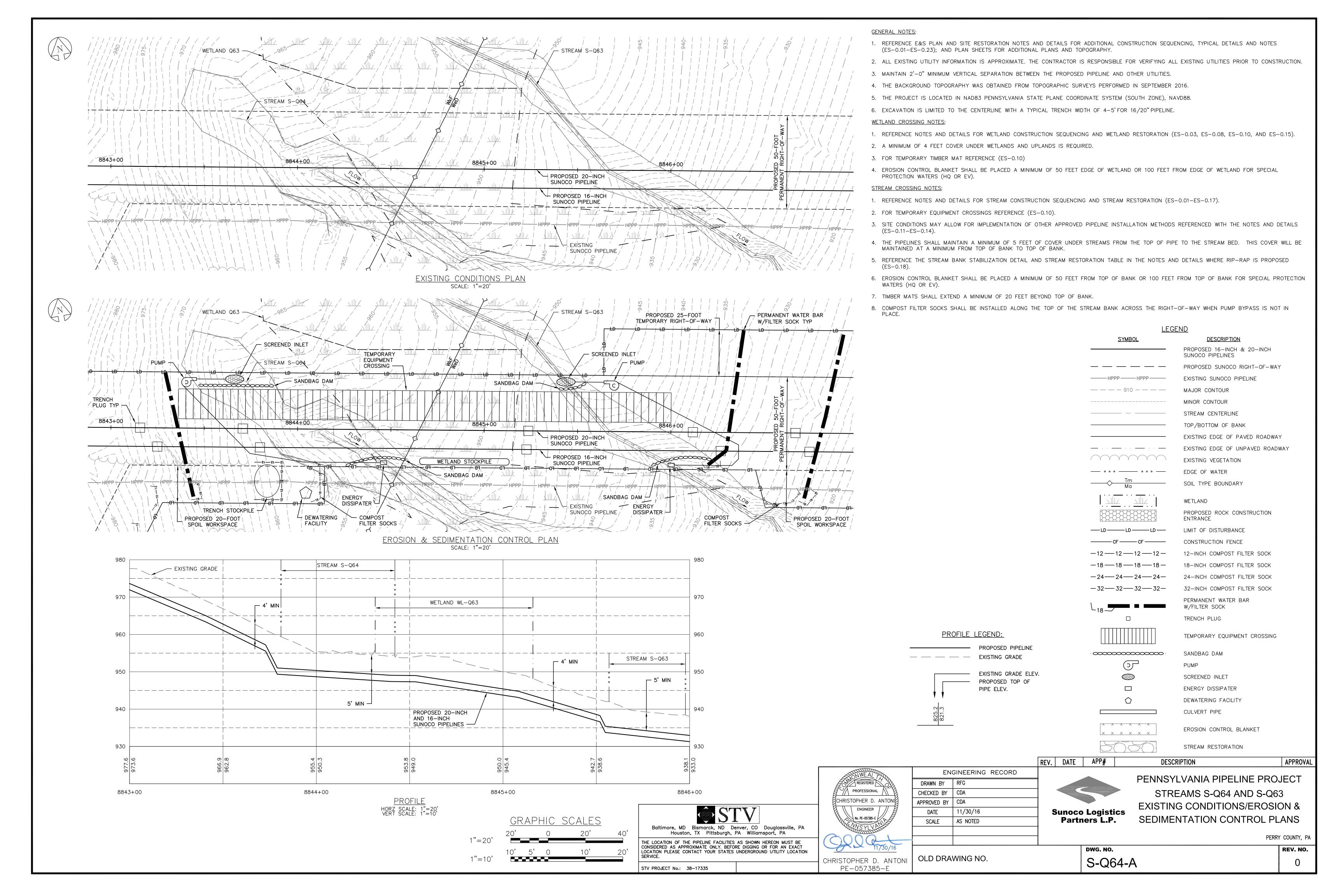
PROPOSED PIPELINE

PIPE ELEV.

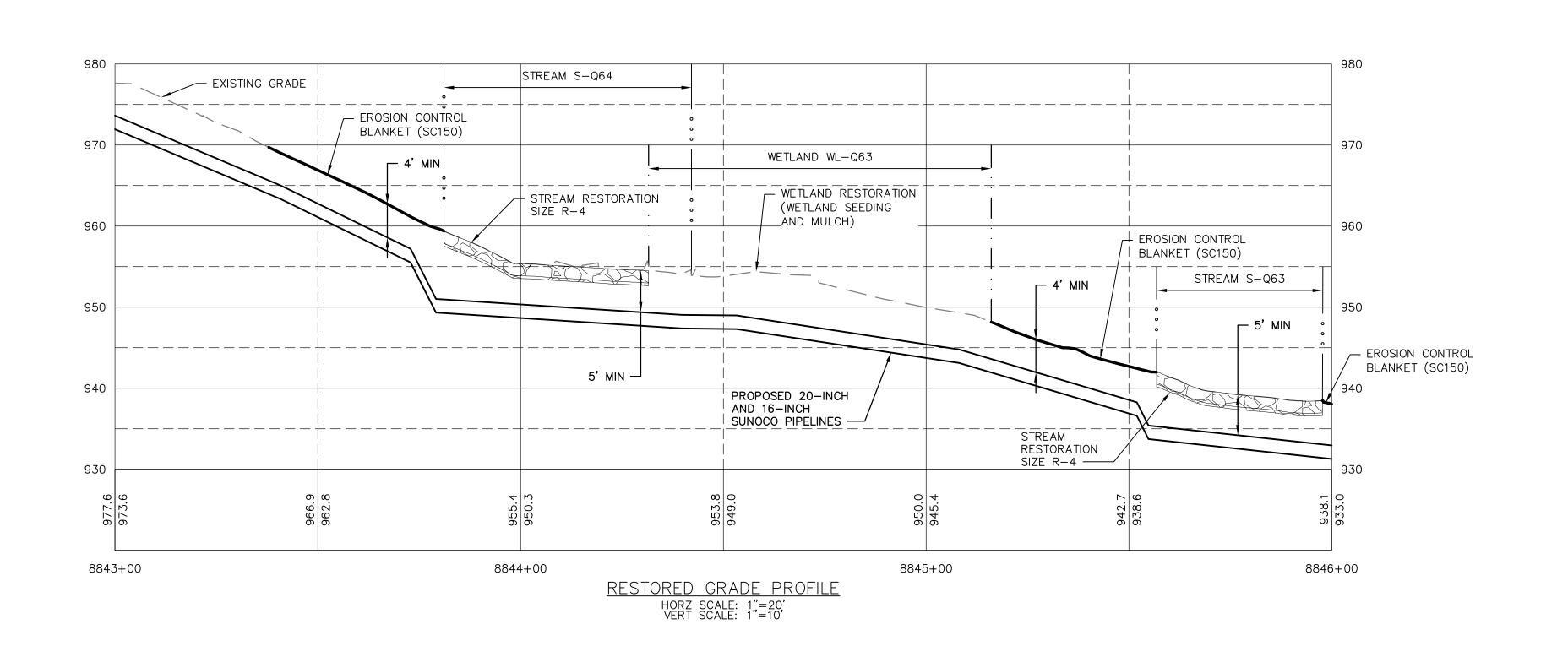
EXISTING GRADE ELEV. PROPOSED TOP OF

DWG. NO. S-K52-B

Partners L.P.



- EROSION CONTROL PERMANENT WATER BAR BLANKET (SC150) W/FILTER SOCK TYP WETLAND RESTORATION STREAM (WETLAND SEEDING EROSION CONTROL RESTORATION BLANKET (SC150) AND MULCH) -SIZE R-4 STREAM S-Q64 8843+00 8845+00 √8846±00[/] PROPOSED 20-INCH *SUNOCO PIPELINE PROPOSED 16-INCH STREAM RESTORATION SUNOÇO PIPELINE SIZE R-4 EROSION CONTROL BLANKET (SC150) SCALE: 1"=20'



1"=10

GENERAL NOTES:

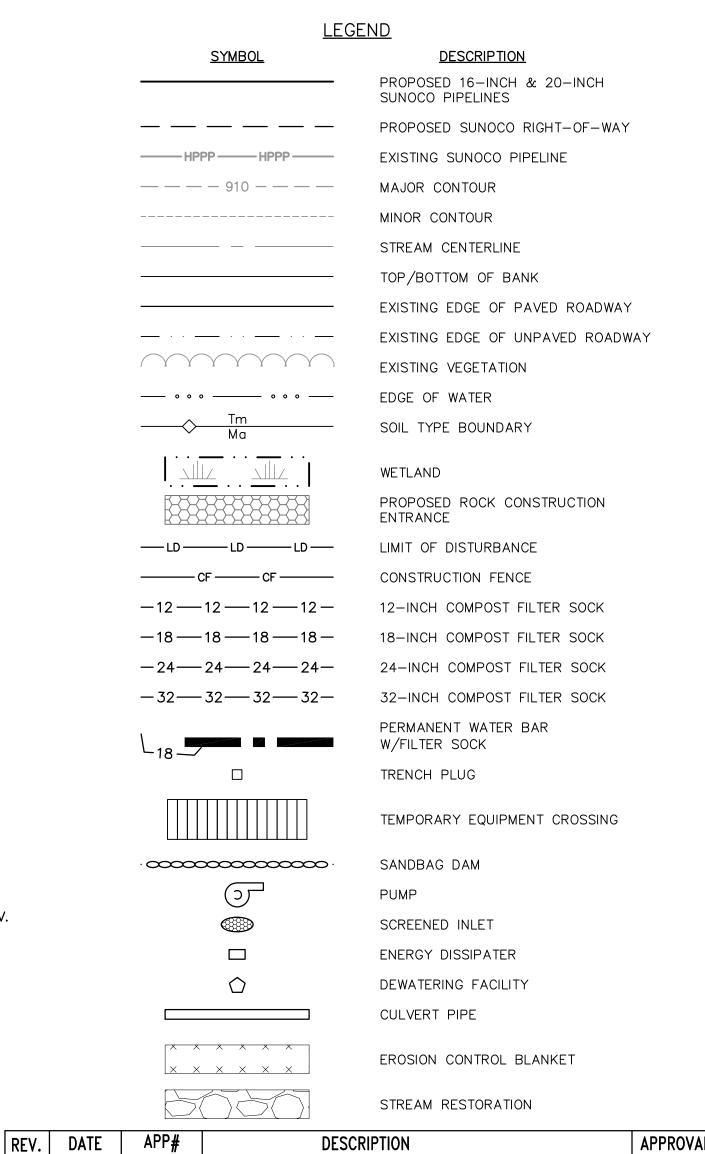
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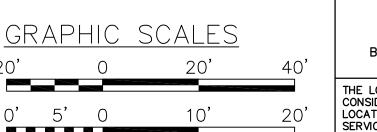
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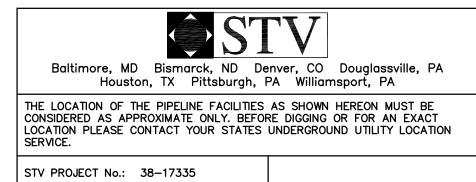
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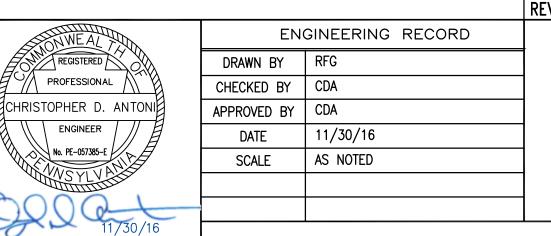
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OLD DRAWING NO.

REGISTERED

PROFESSIONAL

ENGINEER

No. PE-057385-E

CHRISTOPHER D. ANTONI PE-057385-E

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

EXISTING GRADE ELEV.

PROPOSED TOP OF

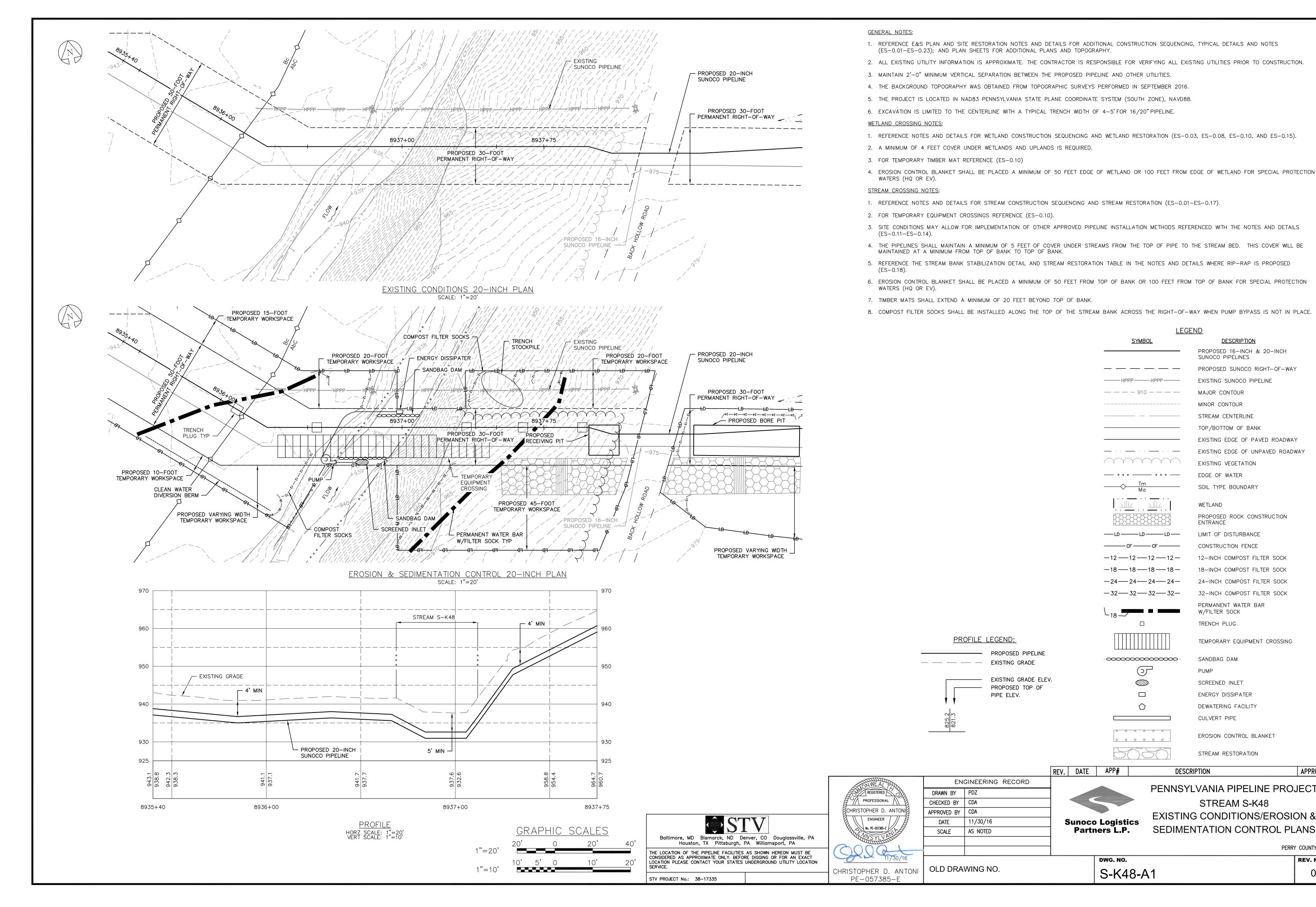
PIPE ELEV.

PENNSYLVANIA PIPELINE PROJECT STREAMS S-Q64 AND S-Q63 **RESTORATION PLAN Sunoco Logistics**

> PERRY COUNTY, PA REV. NO.

S-Q64-B

Partners L.P.



<u>LEGEND</u>

<u>DESCRIPTION</u>

EXISTING SUNOCO PIPELINE

SUNOCO PIPELINES

MAJOR CONTOUR

MINOR CONTOUR

EDGE OF WATER

WETLAND

ENTRANCE

SOIL TYPE BOUNDARY

LIMIT OF DISTURBANCE

CONSTRUCTION FENCE

STREAM CENTERLINE

TOP/BOTTOM OF BANK

PROPOSED 16-INCH & 20-INCH

PROPOSED SUNOCO RIGHT-OF-WAY

EXISTING EDGE OF PAVED ROADWAY

PROPOSED ROCK CONSTRUCTION

12-INCH COMPOST FILTER SOCK

18-INCH COMPOST FILTER SOCK

24-INCH COMPOST FILTER SOCK

32-INCH COMPOST FILTER SOCK

TEMPORARY EQUIPMENT CROSSING

PERMANENT WATER BAR

W/FILTER SOCK

TRENCH PLUG

SANDBAG DAM

SCREENED INLET

CULVERT PIPE

ENERGY DISSIPATER

DEWATERING FACILITY

EROSION CONTROL BLANKET

APPROVA

PERRY COUNTY, PA

REV. NO.

STREAM RESTORATION

PENNSYLVANIA PIPELINE PROJECT

STREAM S-K48

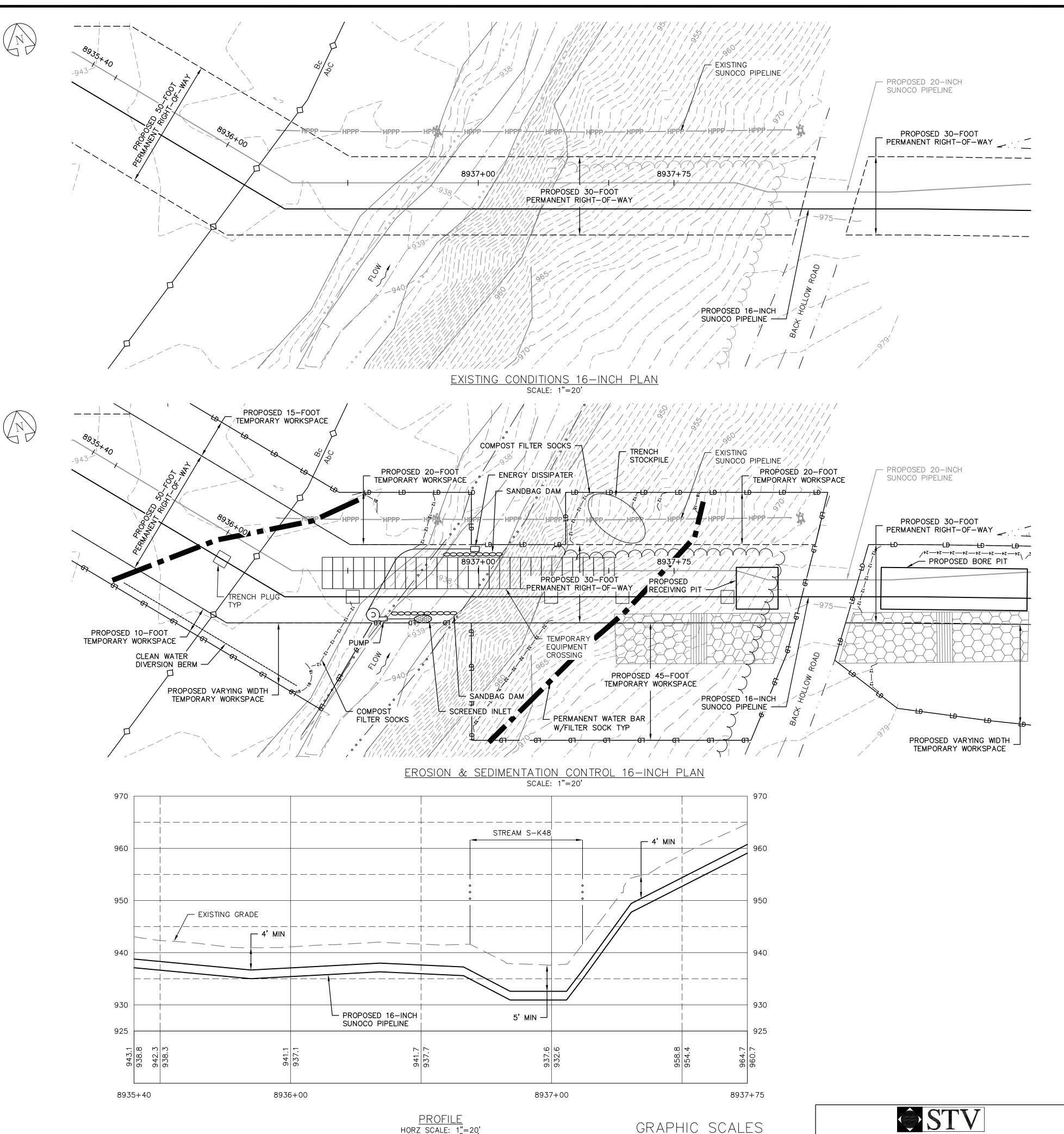
EXISTING CONDITIONS/EROSION &

SEDIMENTATION CONTROL PLANS

PUMP

DESCRIPTION

EXISTING EDGE OF UNPAVED ROADWAY



HORZ SCALE: 1"=20' VERT SCALE: 1"=10'

1"=10

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- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5' FOR 16/20" PIPELINE.

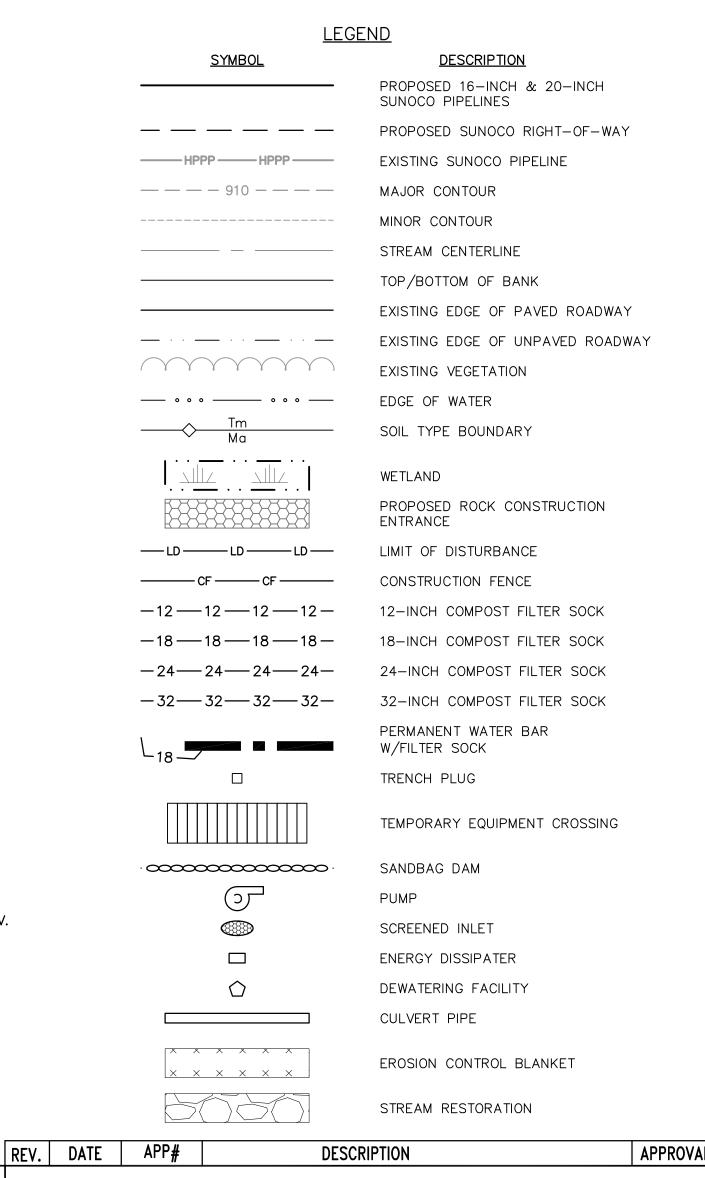
WETLAND CROSSING NOTES:

1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).

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CHRISTOPHER D. ANTONI

PE-057385-E

Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA

THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION

STV PROJECT No.: 38-17335

DRAWN BY PDZ CHECKED BY | CDA APPROVED BY | CDA 11/30/16 AS NOTED SCALE

ENGINEERING RECORD

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

EXISTING GRADE ELEV.

PROPOSED TOP OF

PIPE ELEV.

Sunoco Logistics Partners L.P.

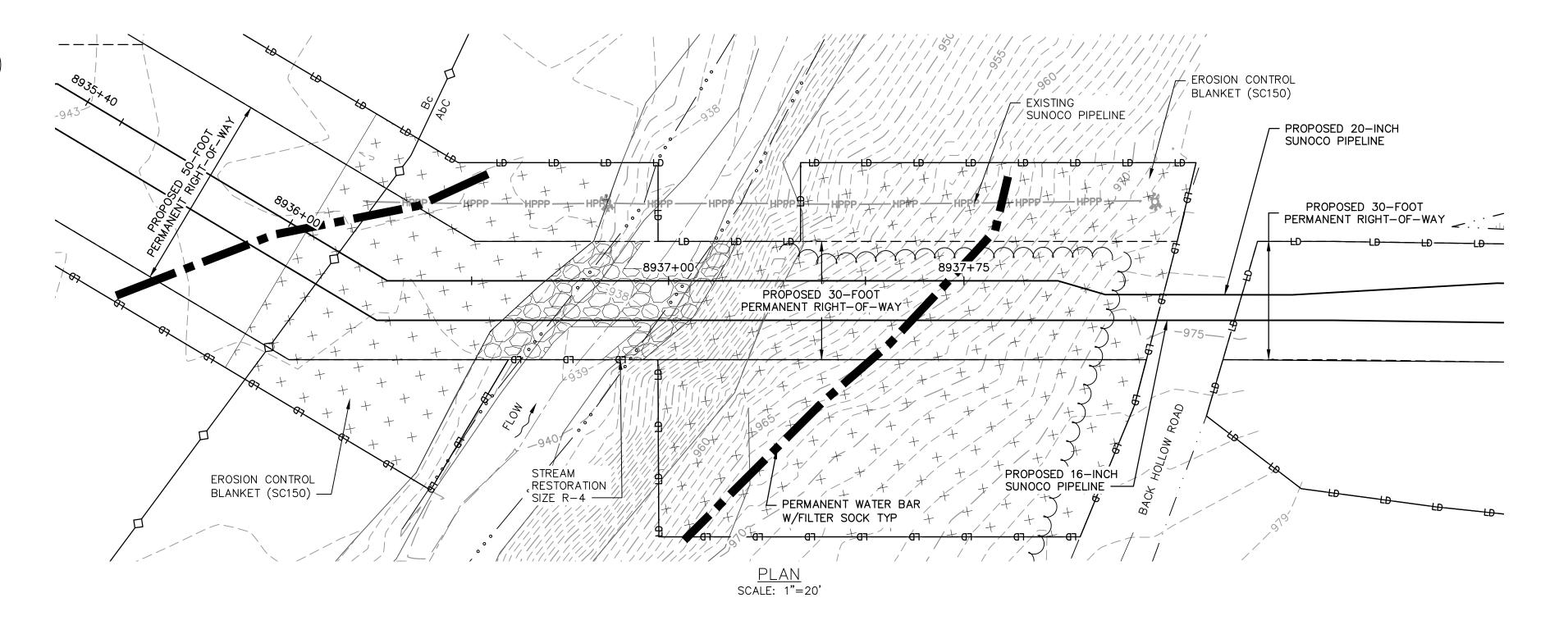
DWG. NO.

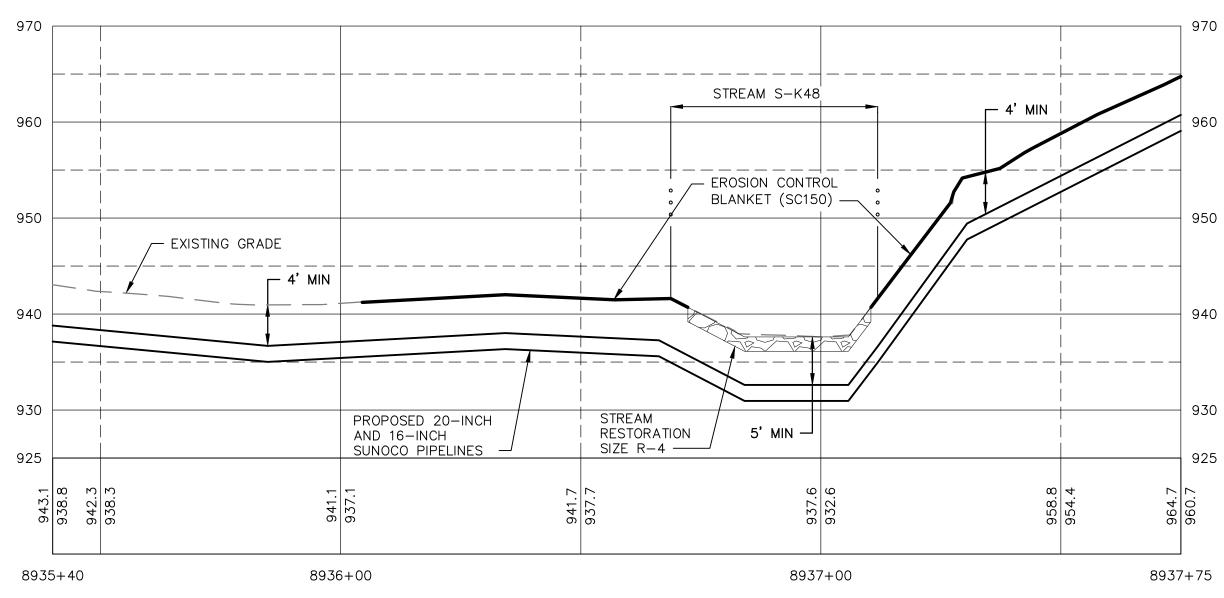
PENNSYLVANIA PIPELINE PROJECT STREAM S-K48 **EXISTING CONDITIONS/EROSION &** SEDIMENTATION CONTROL PLANS

> PERRY COUNTY, PA REV. NO.

OLD DRAWING NO. S-K48-A2

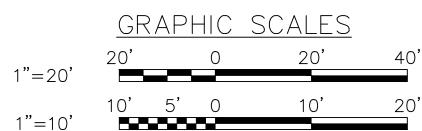


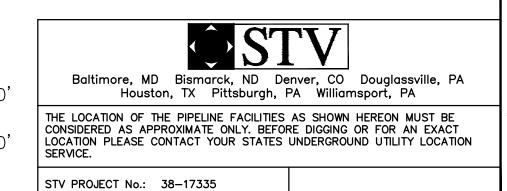




RESTORED GRADE PROFILE

HORZ SCALE: 1"=20',
VERT SCALE: 1"=10'





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PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

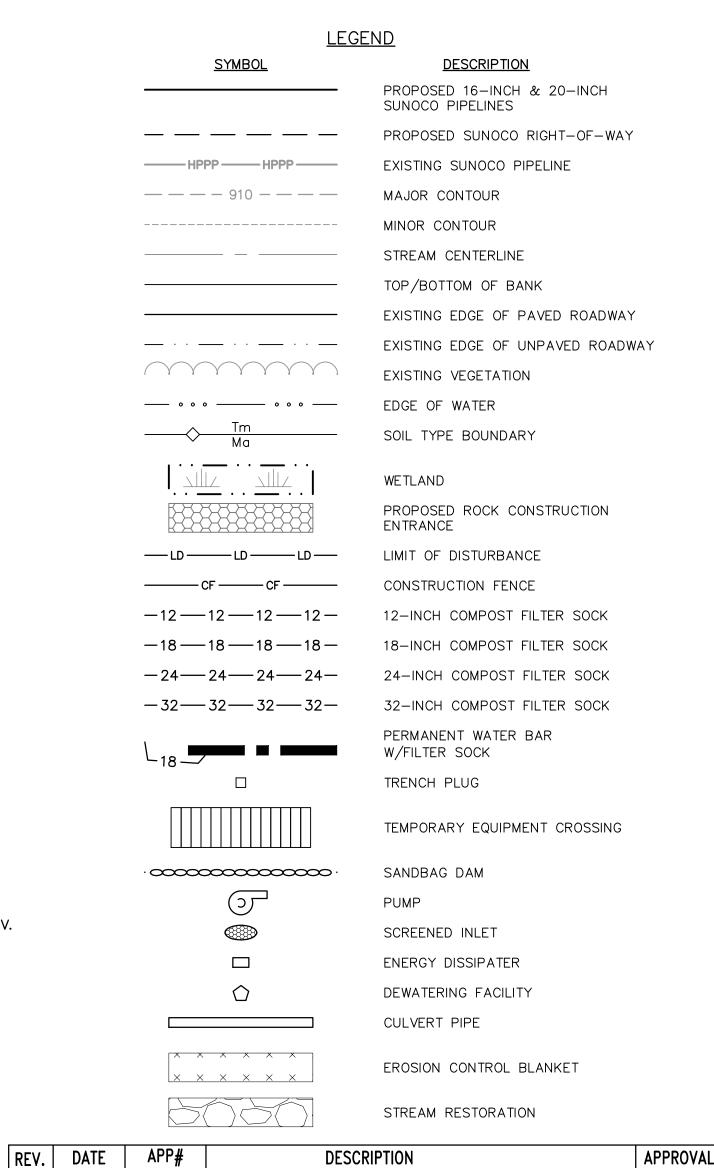
PIPE ELEV.

EXISTING GRADE ELEV.

Partners L.P.

PROPOSED TOP OF

8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN PLACE.



PROFESSIONAL
CHRISTOPHER D. ANTONI
ENGINEER

No. PE-057385-E

DRAWN BY
PDZ

CHECKED BY
CDA

APPROVED BY
DATE

11/30/16

SCALE

AS NOTED

CHRISTOPHER D. ANTONI

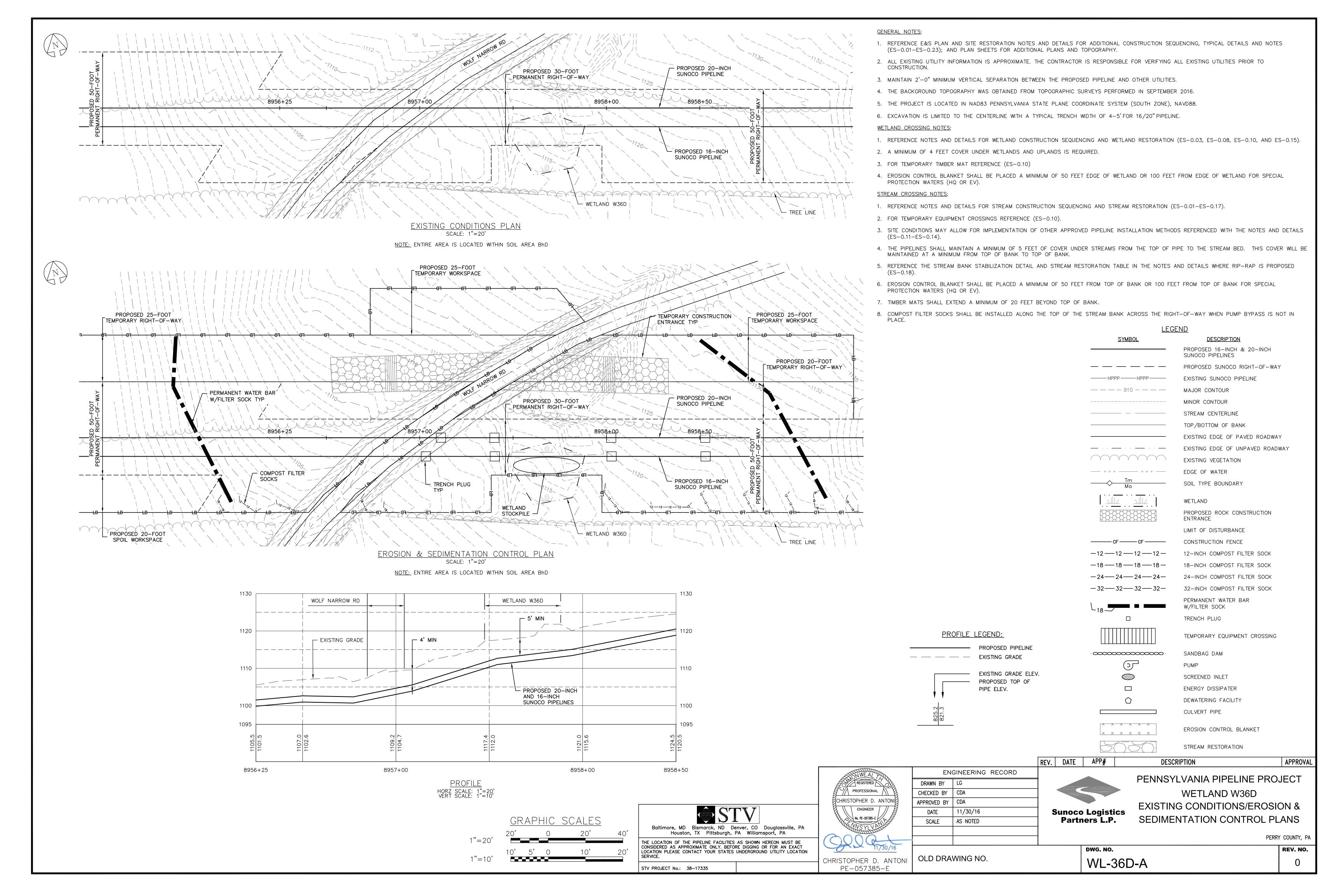
PE-057385-E

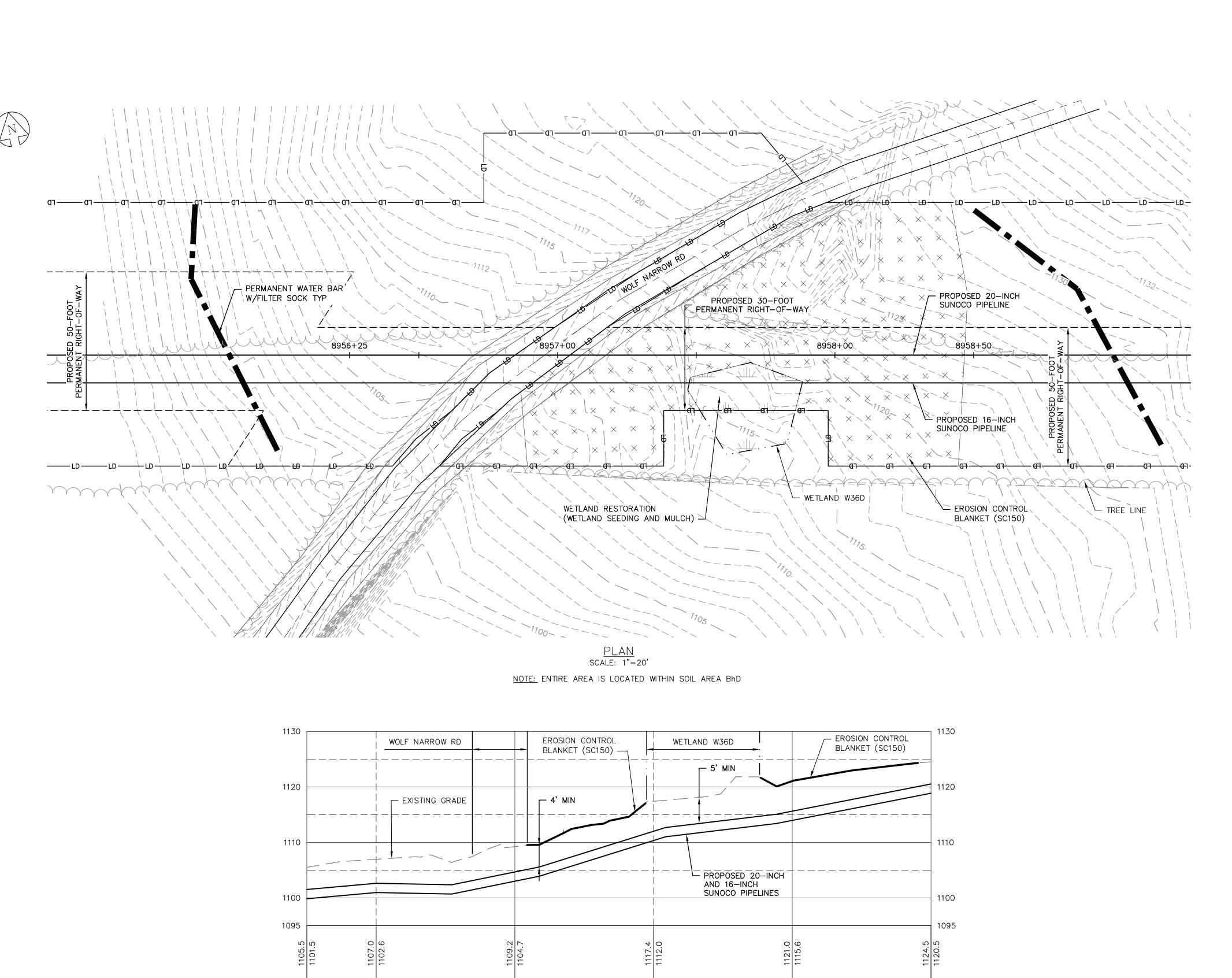
OLD DRAWING NO.

PENNSYLVANIA PIPELINE PROJECT
STREAM S-K48
RESTORATION PLAN

PERRY COUNTY, PA

DWG. NO. REV. NO. 0





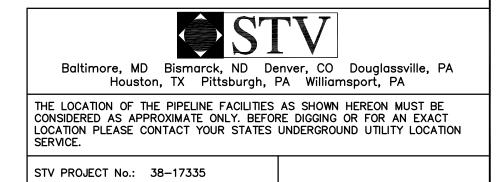
RESTORED GRADE PROFILE

8957+00

8956+25

GRAPHIC SCALES 1"=10

8958+00



8958+50

REGISTERED PROFESSIONAL CHRISTOPHER D. ANTONI ENGINEER No. PE-057385-E OLD DRAWING NO. CHRISTOPHER D. ANTONI PE-057385-E

ENGINEERING RECORD DRAWN BY LG CHECKED BY | CDA APPROVED BY CDA 11/30/16 SCALE AS NOTED

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE ELEV.

PROPOSED TOP OF

REV. DATE APP# DESCRIPTION

APPROVA PENNSYLVANIA PIPELINE PROJECT WETLAND W36D RESTORATION PLAN

32-INCH COMPOST FILTER SOCK

REV. NO.

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<u>SYMBOL</u> <u>DESCRIPTION</u> PROPOSED 16-INCH & 20-INCH SUNOCO PIPELINES PROPOSED SUNOCO RIGHT-OF-WAY EXISTING SUNOCO PIPELINE — — — — 910 — — — — MAJOR CONTOUR MINOR CONTOUR STREAM CENTERLINE TOP/BOTTOM OF BANK EXISTING EDGE OF PAVED ROADWAY EXISTING EDGE OF UNPAVED ROADWAY EXISTING VEGETATION EDGE OF WATER SOIL TYPE BOUNDARY WETLAND PROPOSED ROCK CONSTRUCTION ENTRANCE LIMIT OF DISTURBANCE CONSTRUCTION FENCE —— CF —— CF —— 12-INCH COMPOST FILTER SOCK -18 --- 18 --- 18 --- 18 ---18-INCH COMPOST FILTER SOCK 24-INCH COMPOST FILTER SOCK

-24-24-24-24-

-32—32—32—32

<u>LEGEND</u>

PERMANENT WATER BAR W/FILTER SOCK TRENCH PLUG TEMPORARY EQUIPMENT CROSSING

• SANDBAG DAM \mathcal{I} PUMP

SCREENED INLET

ENERGY DISSIPATER DEWATERING FACILITY

CULVERT PIPE

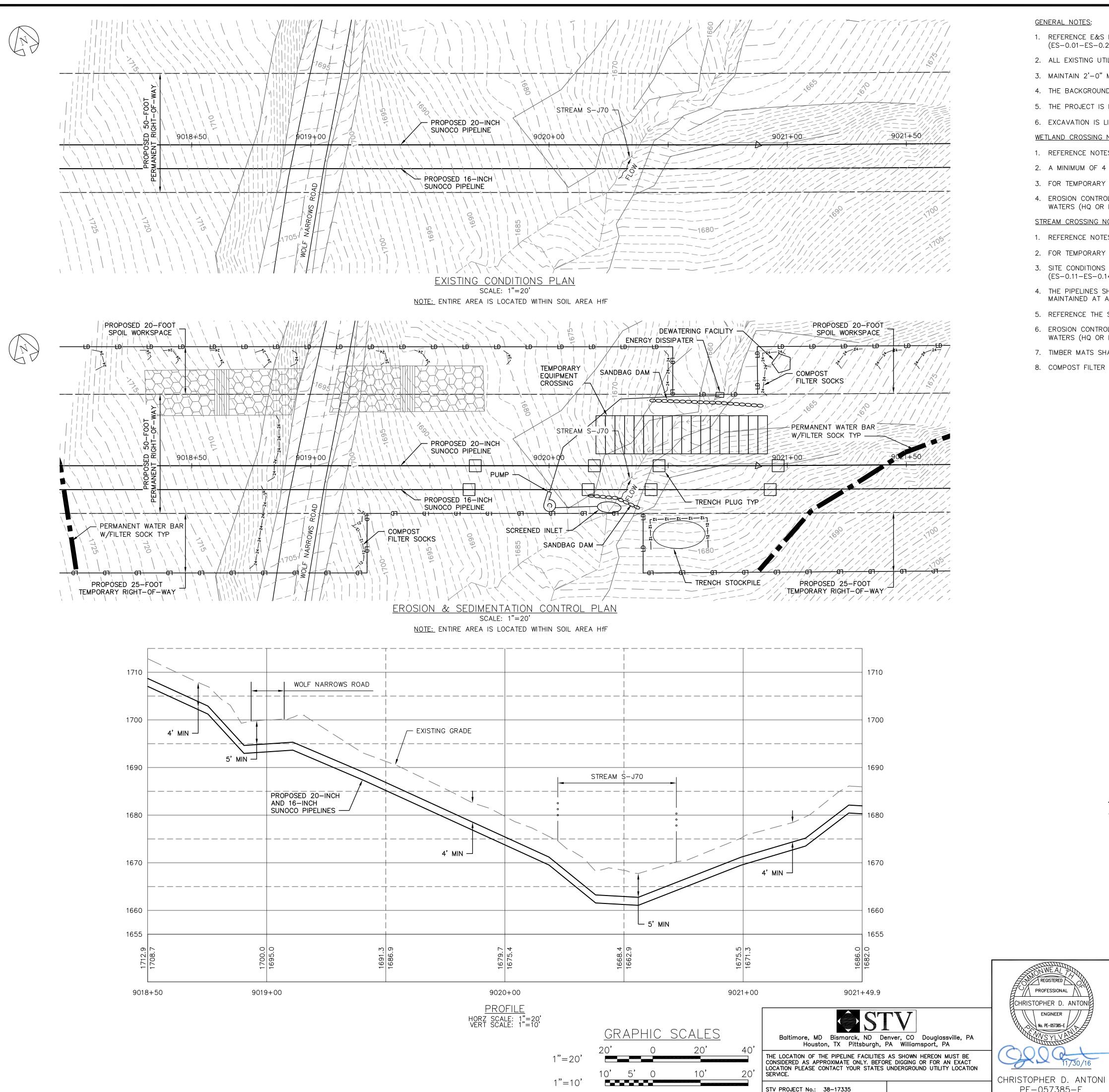
EROSION CONTROL BLANKET \times \times \times \times \times

STREAM RESTORATION

Sunoco Logistics Partners L.P.

PERRY COUNTY, PA

WL-36D-B



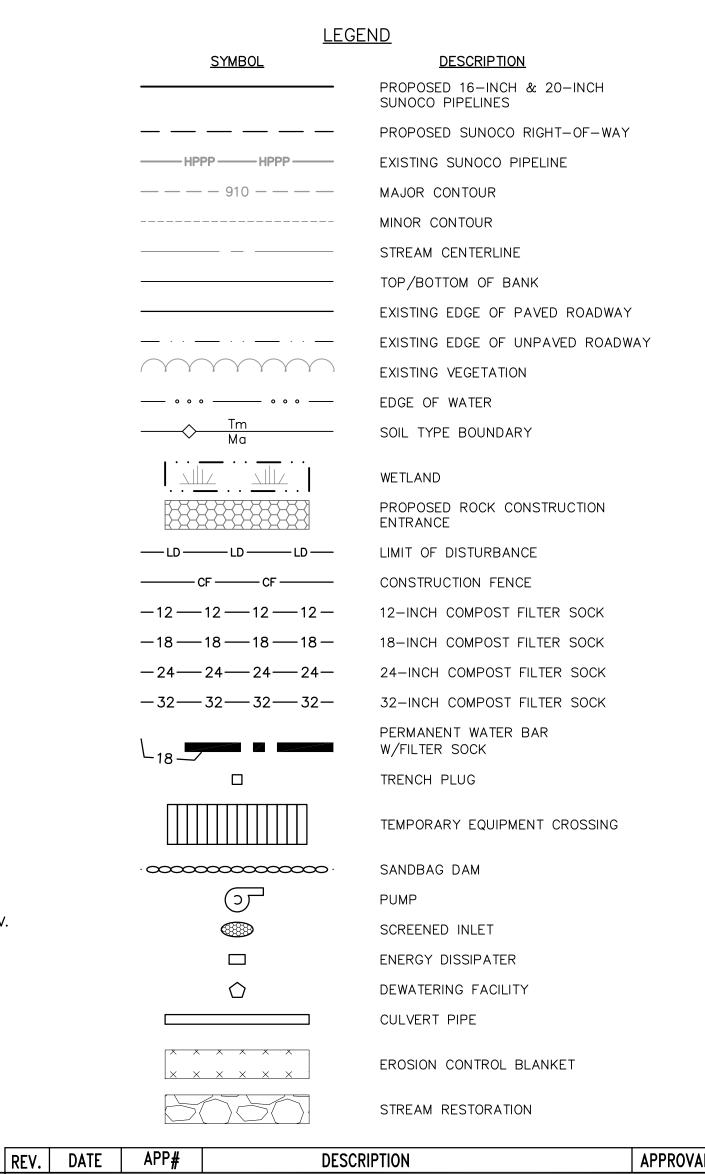
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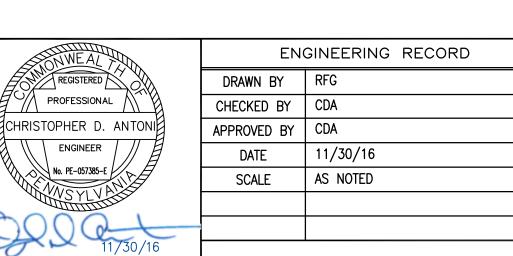
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PE-057385-E

OLD DRAWING NO.

PROFILE LEGEND:

— — — EXISTING GRADE

— PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE ELEV.

PROPOSED TOP OF

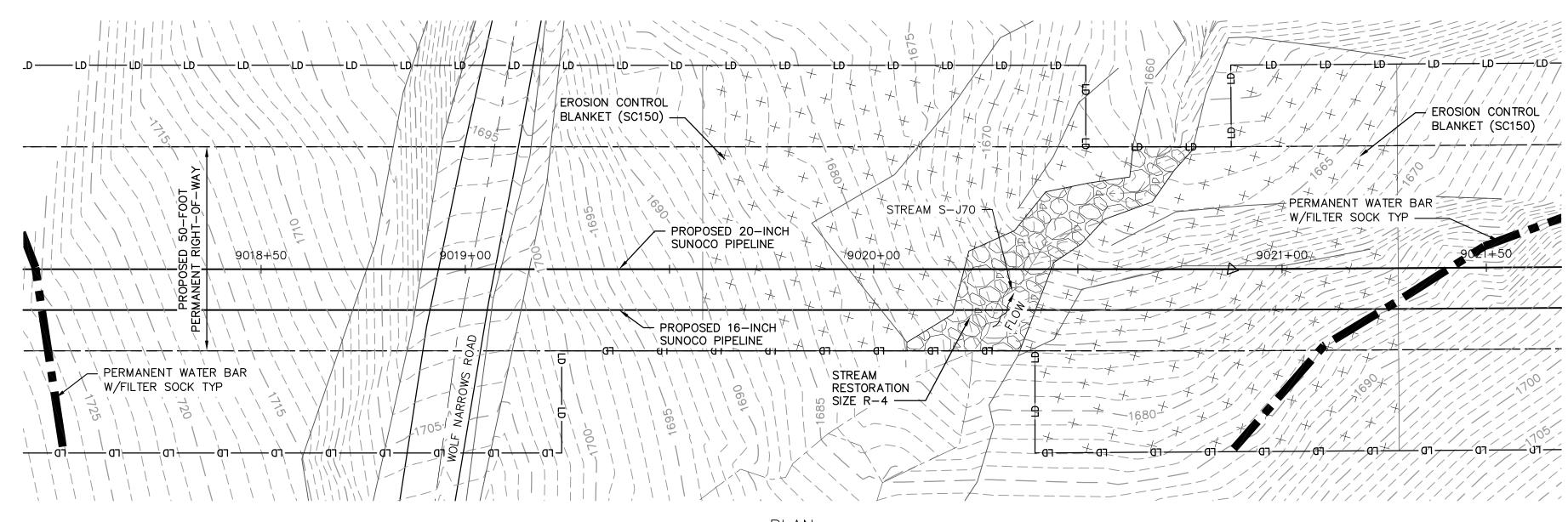
PENNSYLVANIA PIPELINE PROJECT STREAM S-J70 **EXISTING CONDITIONS/EROSION &** Sunoco Logistics SEDIMENTATION CONTROL PLANS

> PERRY COUNTY, PA REV. NO.

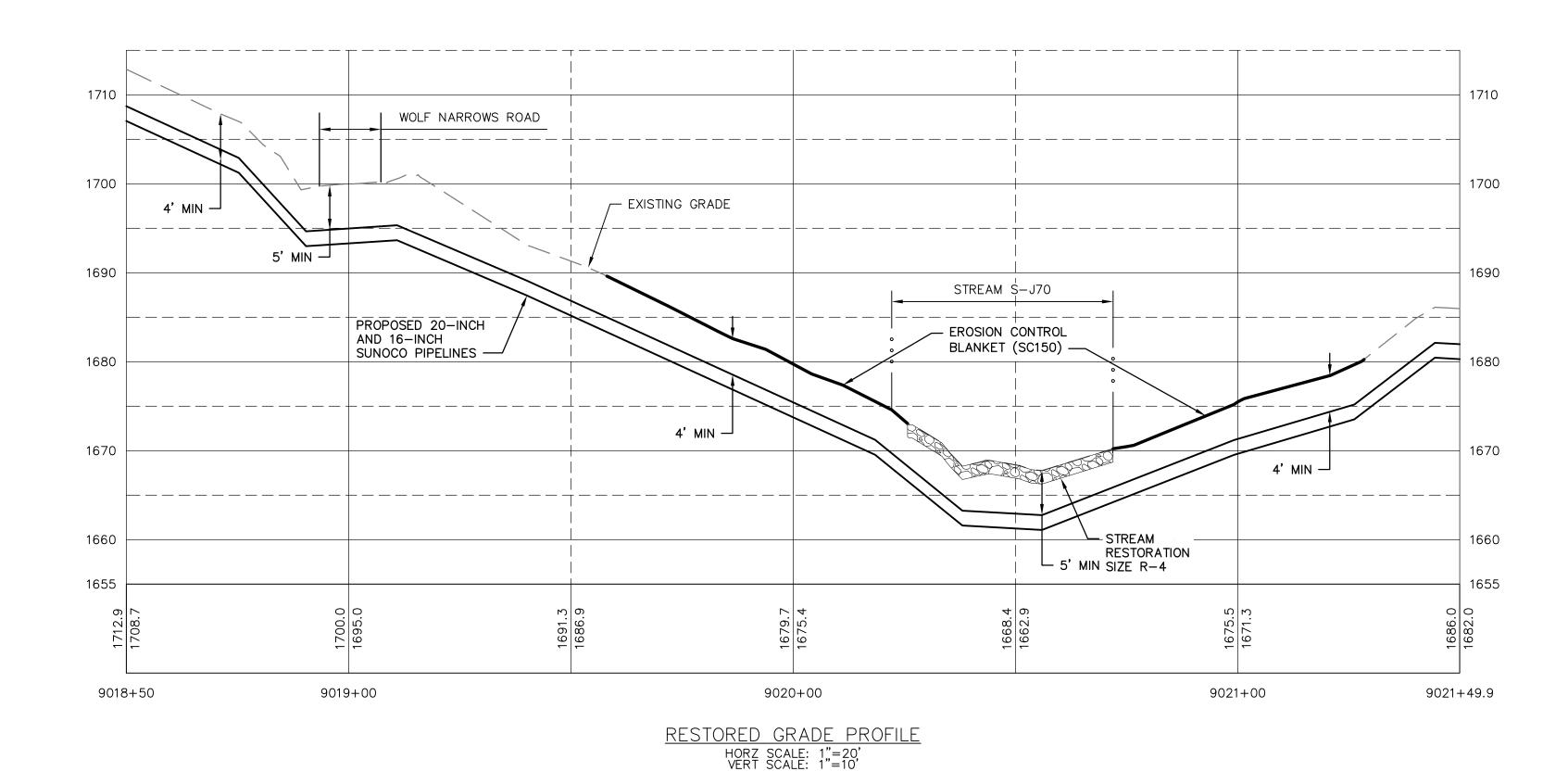
DWG. NO. S-J70-A

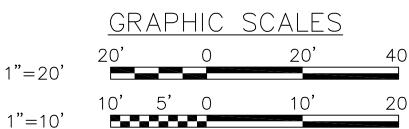
Partners L.P.





SCALE: 1"=20' NOTE: ENTIRE AREA IS LOCATED WITHIN SOIL AREA HFF





Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION STV PROJECT No.: 38-17335

GENERAL NOTES:

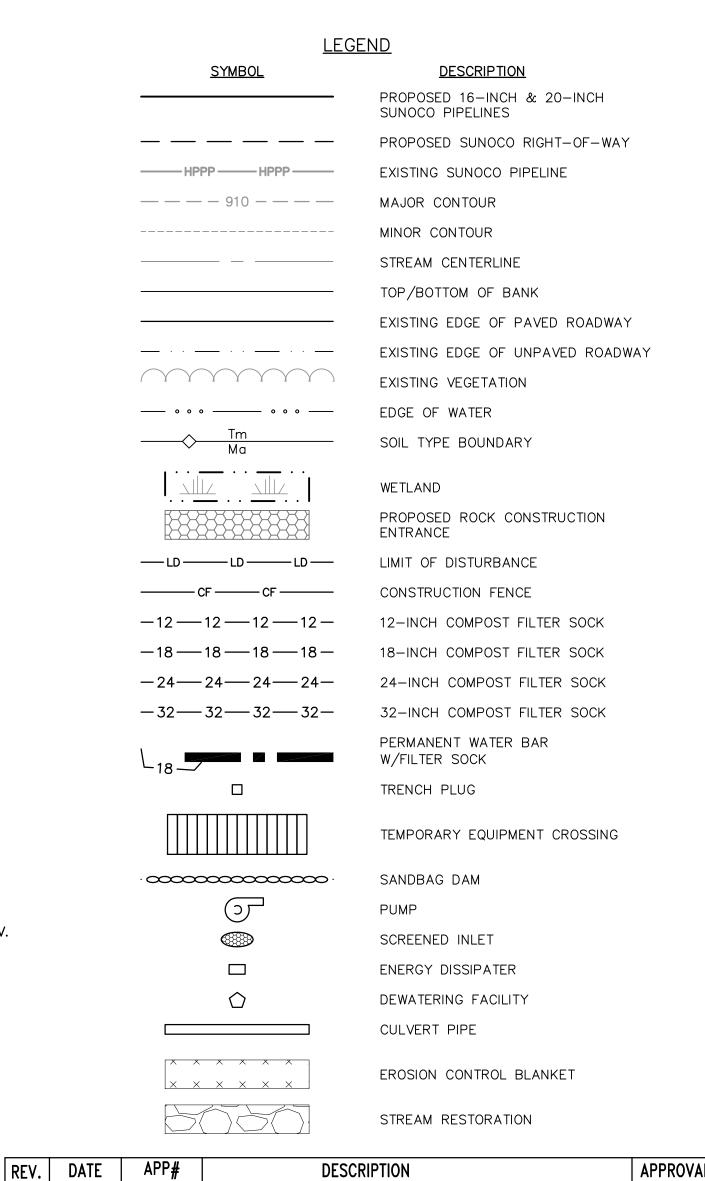
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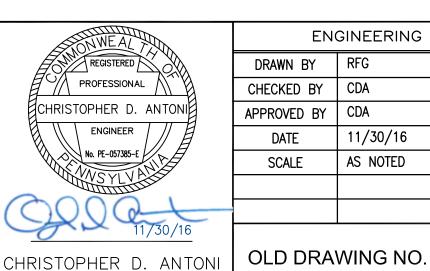
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PE-057385-E

ENGINEERING RECORD DRAWN BY RFG CHECKED BY | CDA APPROVED BY | CDA 11/30/16 AS NOTED

PROFILE LEGEND:

— — — EXISTING GRADE

— PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE ELEV.

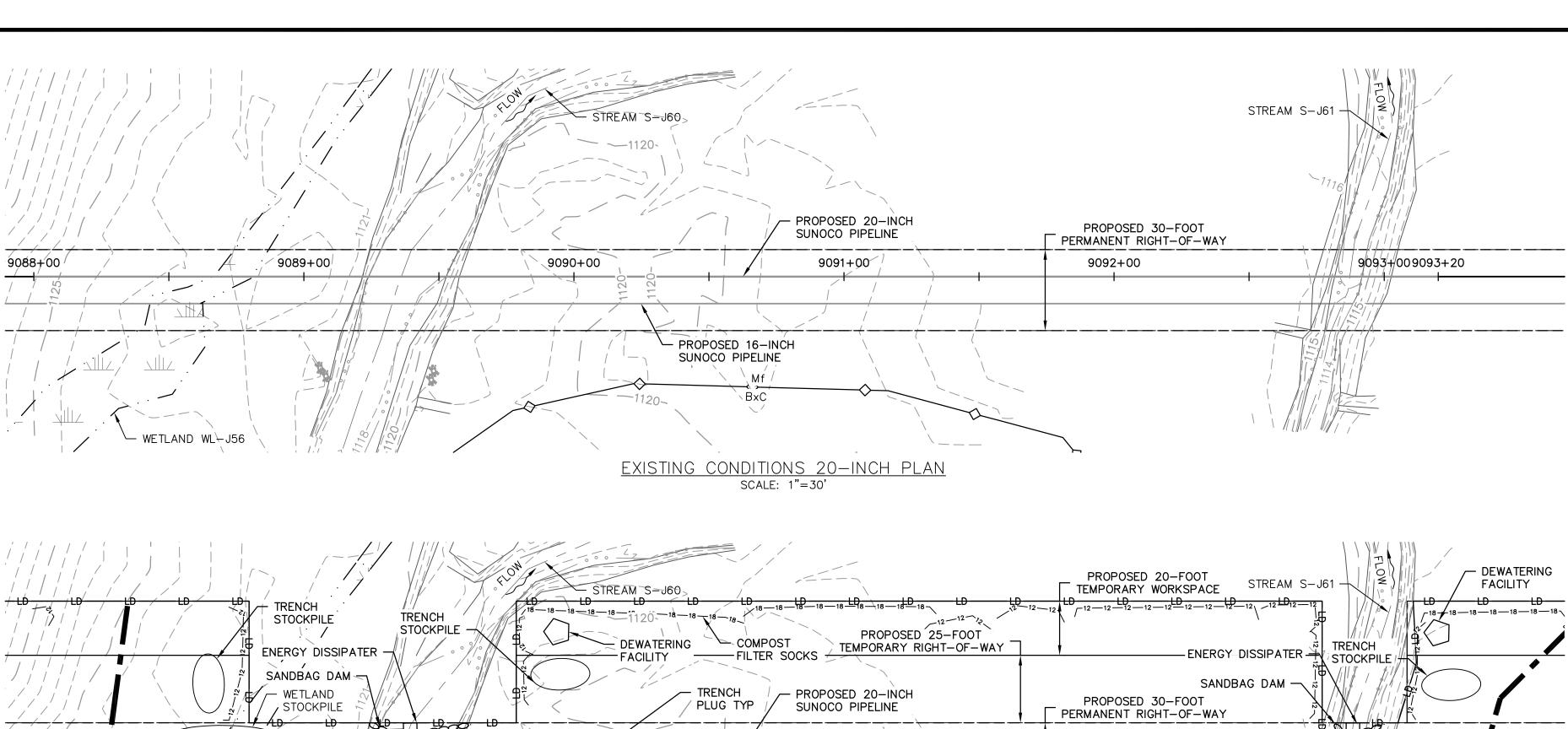
PROPOSED TOP OF

Sunoco Logistics Partners L.P.

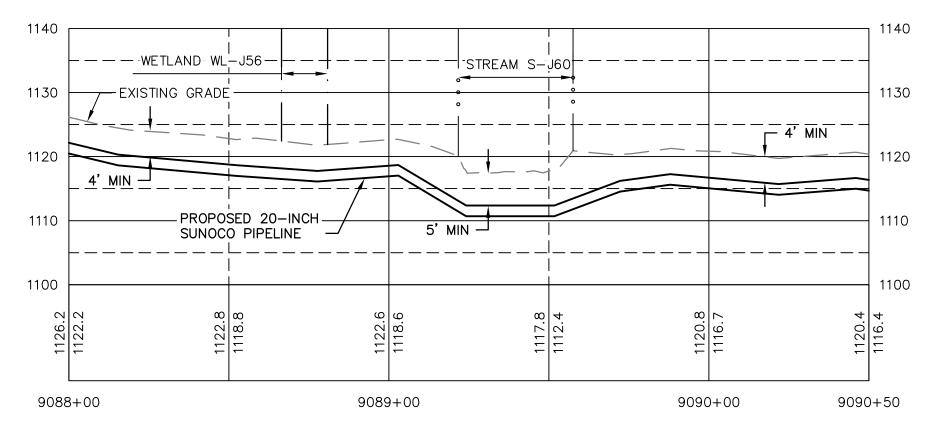
PENNSYLVANIA PIPELINE PROJECT STREAM S-J70 **RESTORATION PLAN**

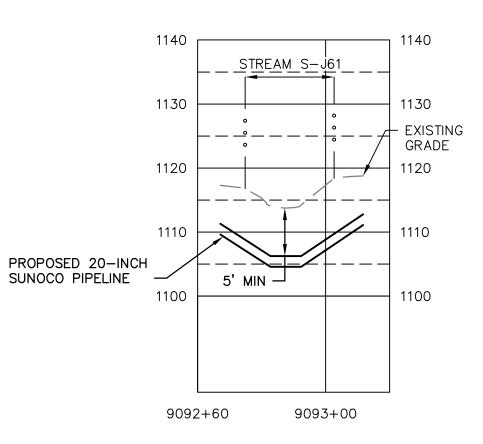
> PERRY COUNTY, PA REV. NO.

DWG. NO. S-J70-B



7 9093 +009093+20 9088+00 > 9089+00 / 9091+00 9092+00 - PROPOSED 16-INCH SUNOCO PIPELINE COMPOST PERMANENT WATER – FILTER TEMPORARY EQUIPMENT SCREENED INLET \ BxC BAR W/FILTER ✓ SANDBAG DAM SOCKS CROSSING TYP SOCK TYP eg screened inlet SANDBAG DAM EROSIOIN & SEDIMENTATION CONTROL 20-INCH PLAN SCALE: 1"=30'





PROFILE

GRAPHIC SCALES

Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION STV PROJECT No.: 38-17335

GENERAL NOTES:

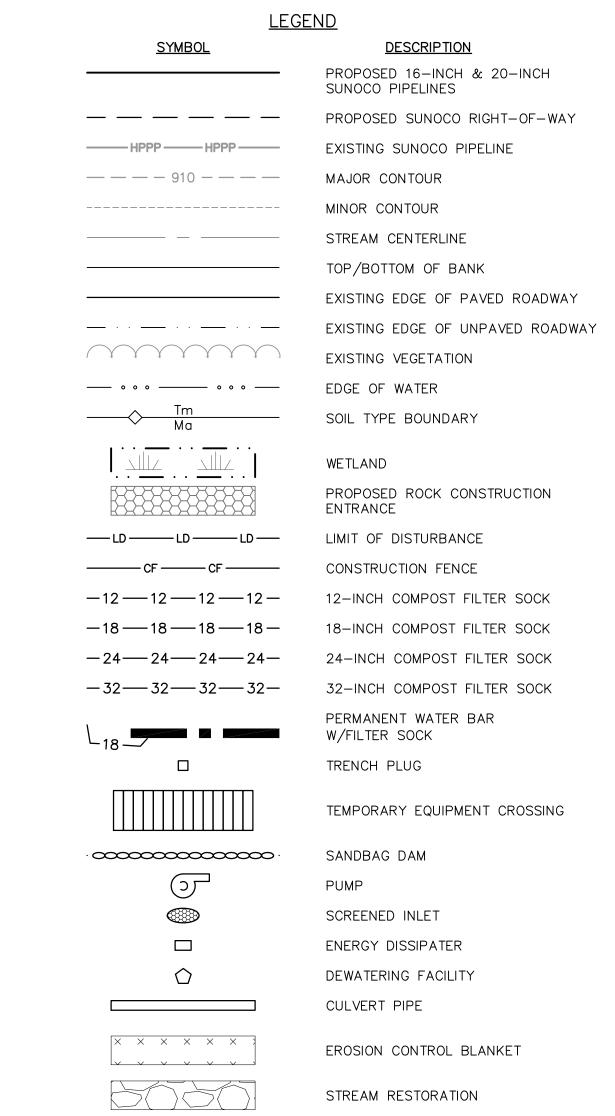
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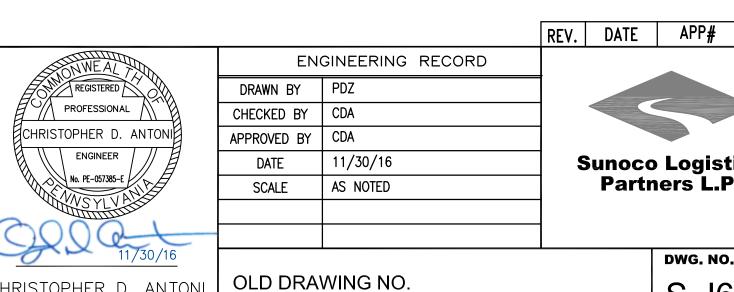
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- 6. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET FROM TOP OF BANK OR 100 FEET FROM TOP OF BANK FOR SPECIAL PROTECTION WATERS (HQ OR EV).
- 7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.
- 8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN



DESCRIPTION



CHRISTOPHER D. ANTONI

PE-057385-E

PROFILE LEGEND:

— — EXISTING GRADE

PROPOSED PIPELINE

EXISTING GRADE ELEV.

PROPOSED TOP OF

PIPE ELEV.

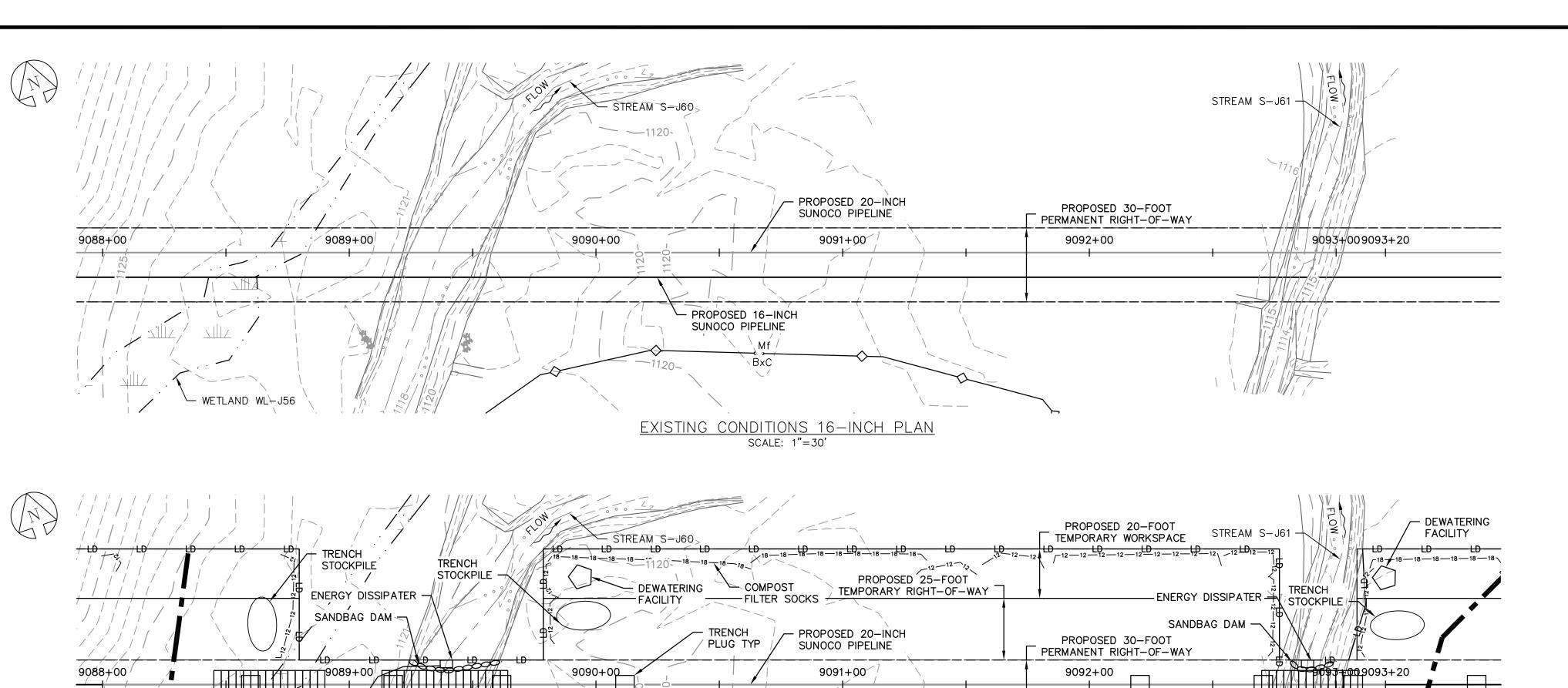
Sunoco Logistics Partners L.P.

PENNSYLVANIA PIPELINE PROJECT STREAMS S-J60 & S-J61 **EXISTING CONDITIONS/EROSION &** SEDIMENTATION CONTROL PLANS

PERRY COUNTY, PA

DWG. NO. S-J60-A1

REV. NO.



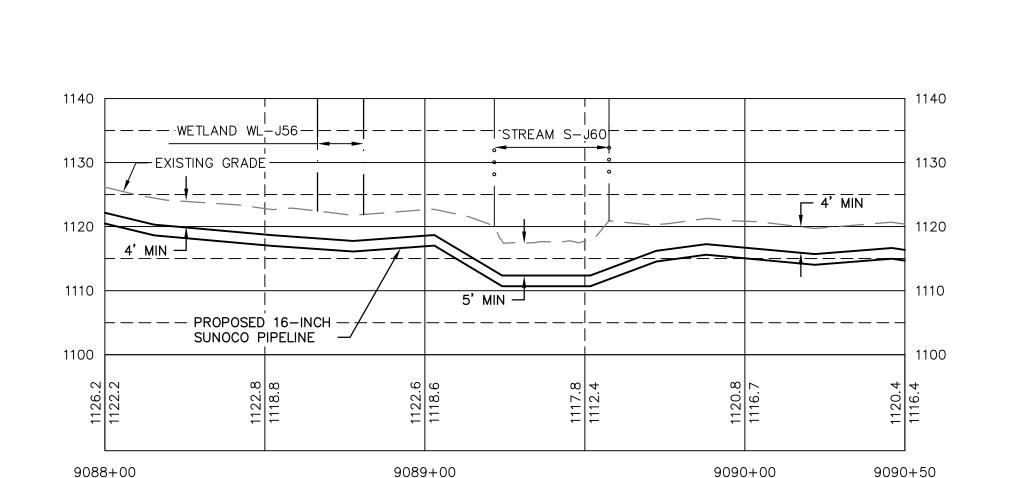
- PROPOSED 16-INCH

\ BxC

EROSION & SEDIMENTATION CONTROL 16-INCH PLAN

SCALE: 1"=30'

SUNOCO PIPELINE



✓ SANDBAG DAM

eg screened inlet

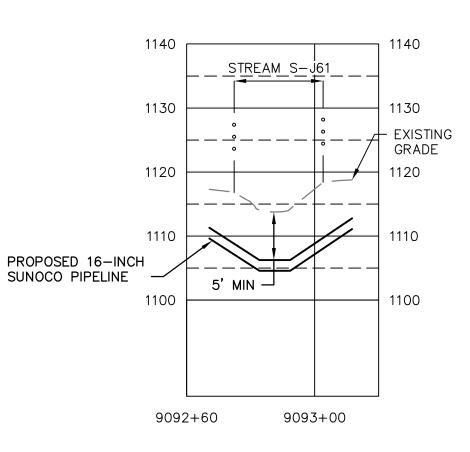
WETLAND

PERMANENT WATER

BAR W/FILTER

SOCK TYP

STOCKPILE



SCREENED INLET

SANDBAG DAM

PROFILE

COMPOST

– FILTER

SOCKS

GRAPHIC SCALES

Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION STV PROJECT No.: 38-17335

GENERAL NOTES:

- 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.
- 2. ALL EXISTING UTILITY INFORMATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.

WETLAND CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).
- 2. A MINIMUM OF 4 FEET COVER UNDER WETLANDS AND UPLANDS IS REQUIRED.
- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
- 4. EROSION CONTROL BLANKET SHALL BE PLACED A MINIMUM OF 50 FEET EDGE OF WETLAND OR 100 FEET FROM EDGE OF WETLAND FOR SPECIAL PROTECTION WATERS (HQ OR EV).

STREAM CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR STREAM CONSTRUCTION SEQUENCING AND STREAM RESTORATION (ES-0.01-ES-0.17).
- 2. FOR TEMPORARY EQUIPMENT CROSSINGS REFERENCE (ES-0.10).
- 3. SITE CONDITIONS MAY ALLOW FOR IMPLEMENTATION OF OTHER APPROVED PIPELINE INSTALLATION METHODS REFERENCED WITH THE NOTES AND DETAILS (ES-0.11-ES-0.14).
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- 7. TIMBER MATS SHALL EXTEND A MINIMUM OF 20 FEET BEYOND TOP OF BANK.

PROFILE LEGEND:

PROPOSED PIPELINE

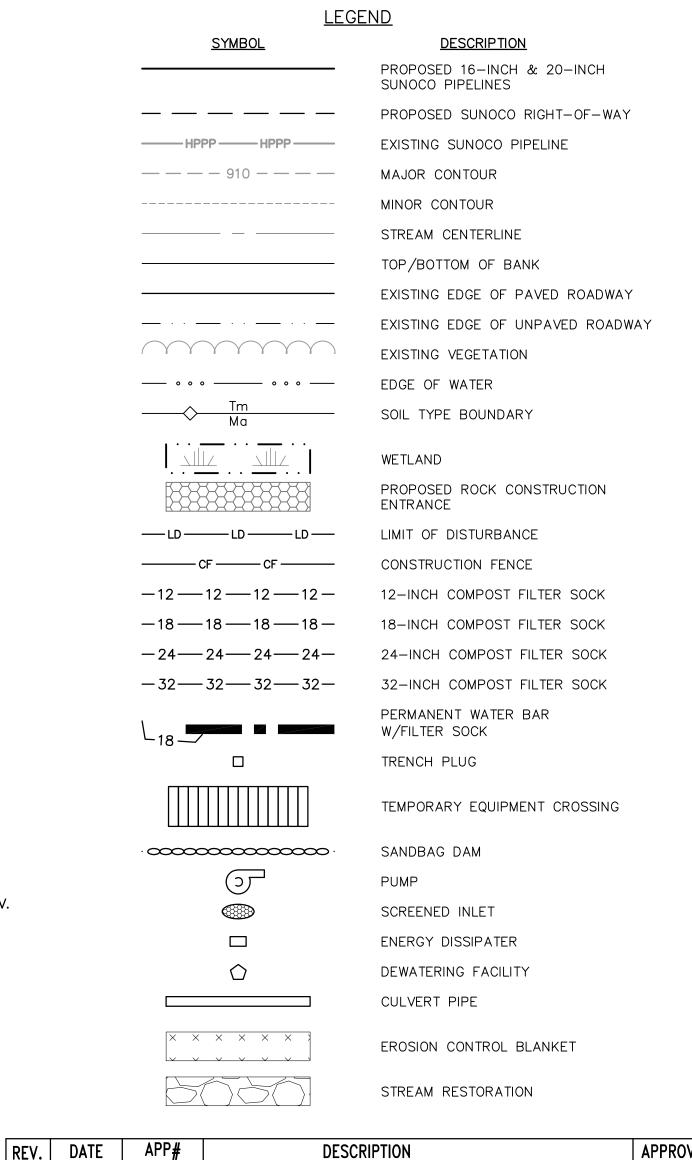
EXISTING GRADE ELEV.

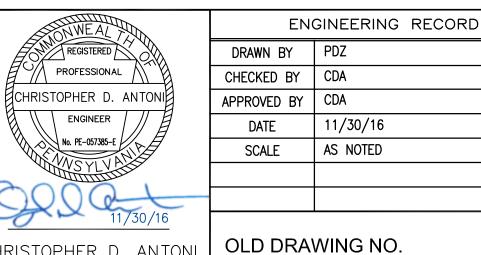
PROPOSED TOP OF

EXISTING GRADE

PIPE ELEV.

8. COMPOST FILTER SOCKS SHALL BE INSTALLED ALONG THE TOP OF THE STREAM BANK ACROSS THE RIGHT-OF-WAY WHEN PUMP BYPASS IS NOT IN





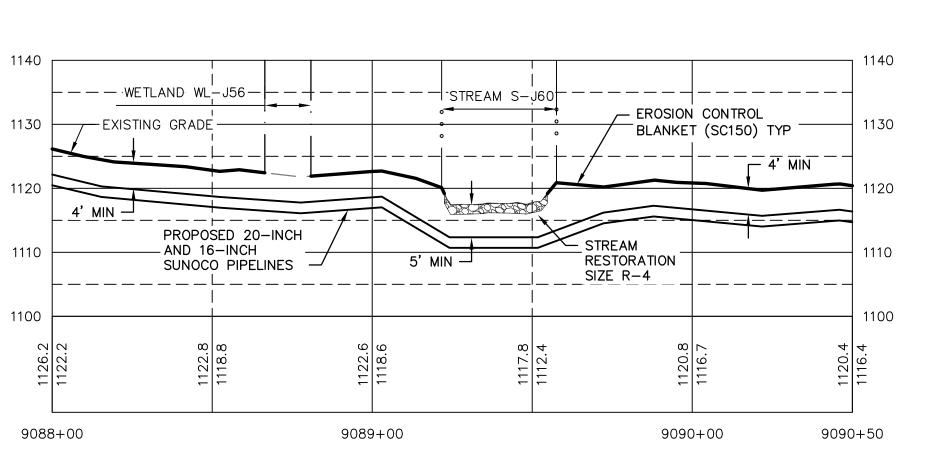
Sunoco Logistics Partners L.P.

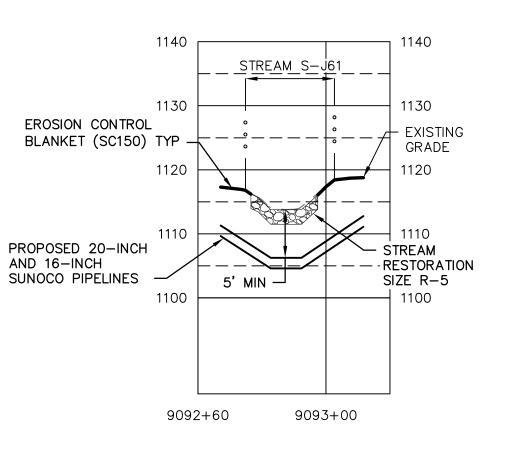
PENNSYLVANIA PIPELINE PROJECT STREAMS S-J60 & S-J61 **EROSION & SEDIMENTATION** CONTROL PLAN AND PROFILE

PERRY COUNTY, PA

DWG. NO. S-J60-A2

CHRISTOPHER D. ANTONI PE-057385-E





RESTORED GRADE PROFILE

HORZ SCALE: 1"=30'
VERT SCALE: 1"=15'

GRAPHIC SCALES

Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION STV PROJECT No.: 38-17335

GENERAL NOTES:

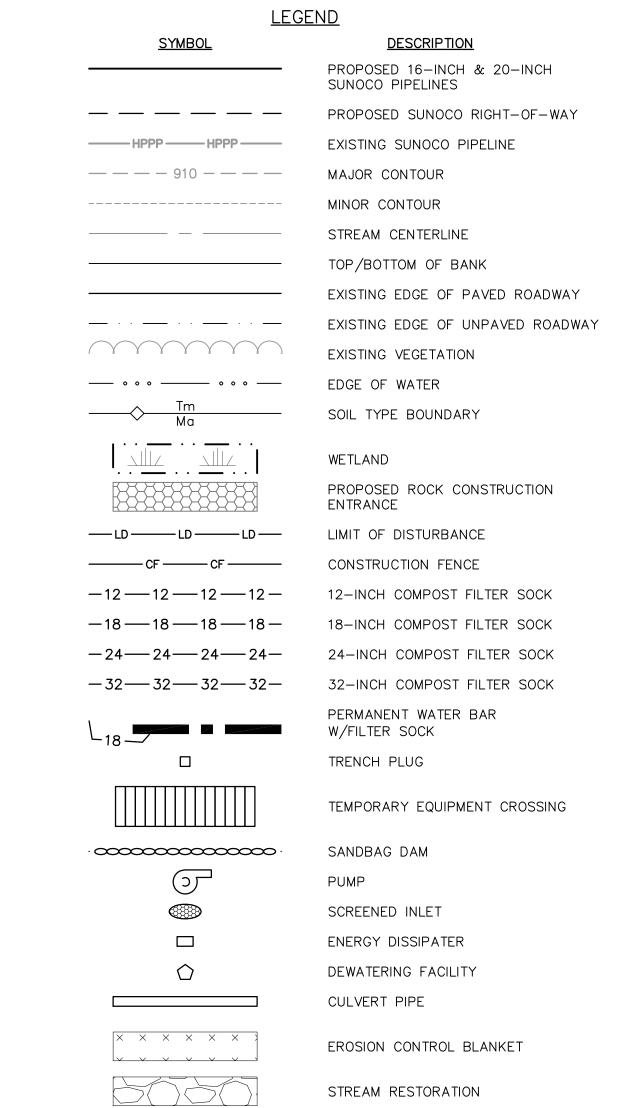
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- 3. MAINTAIN 2'-0" MINIMUM VERTICAL SEPARATION BETWEEN THE PROPOSED PIPELINE AND OTHER UTILITIES.
- 4. THE BACKGROUND TOPOGRAPHY WAS OBTAINED FROM TOPOGRAPHIC SURVEYS PERFORMED IN SEPTEMBER 2016.
- 5. THE PROJECT IS LOCATED IN NAD83 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NAVD88.
- 6. EXCAVATION IS LIMITED TO THE CENTERLINE WITH A TYPICAL TRENCH WIDTH OF 4-5'FOR 16/20"PIPELINE.

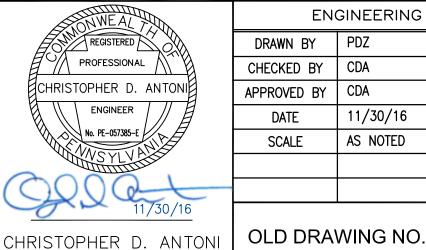
WETLAND CROSSING NOTES:

- 1. REFERENCE NOTES AND DETAILS FOR WETLAND CONSTRUCTION SEQUENCING AND WETLAND RESTORATION (ES-0.03, ES-0.08, ES-0.10, AND ES-0.15).
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- 3. FOR TEMPORARY TIMBER MAT REFERENCE (ES-0.10)
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PE-057385-E

ENGINEERING RECORD DRAWN BY PDZ CHECKED BY CDA APPROVED BY CDA 11/30/16 AS NOTED SCALE

PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

EXISTING GRADE ELEV.

PROPOSED TOP OF

PIPE ELEV.

Sunoco Logistics Partners L.P.

DESCRIPTION

PENNSYLVANIA PIPELINE PROJECT STREAMS S-J60 & S-J61 RESTORATION PLAN

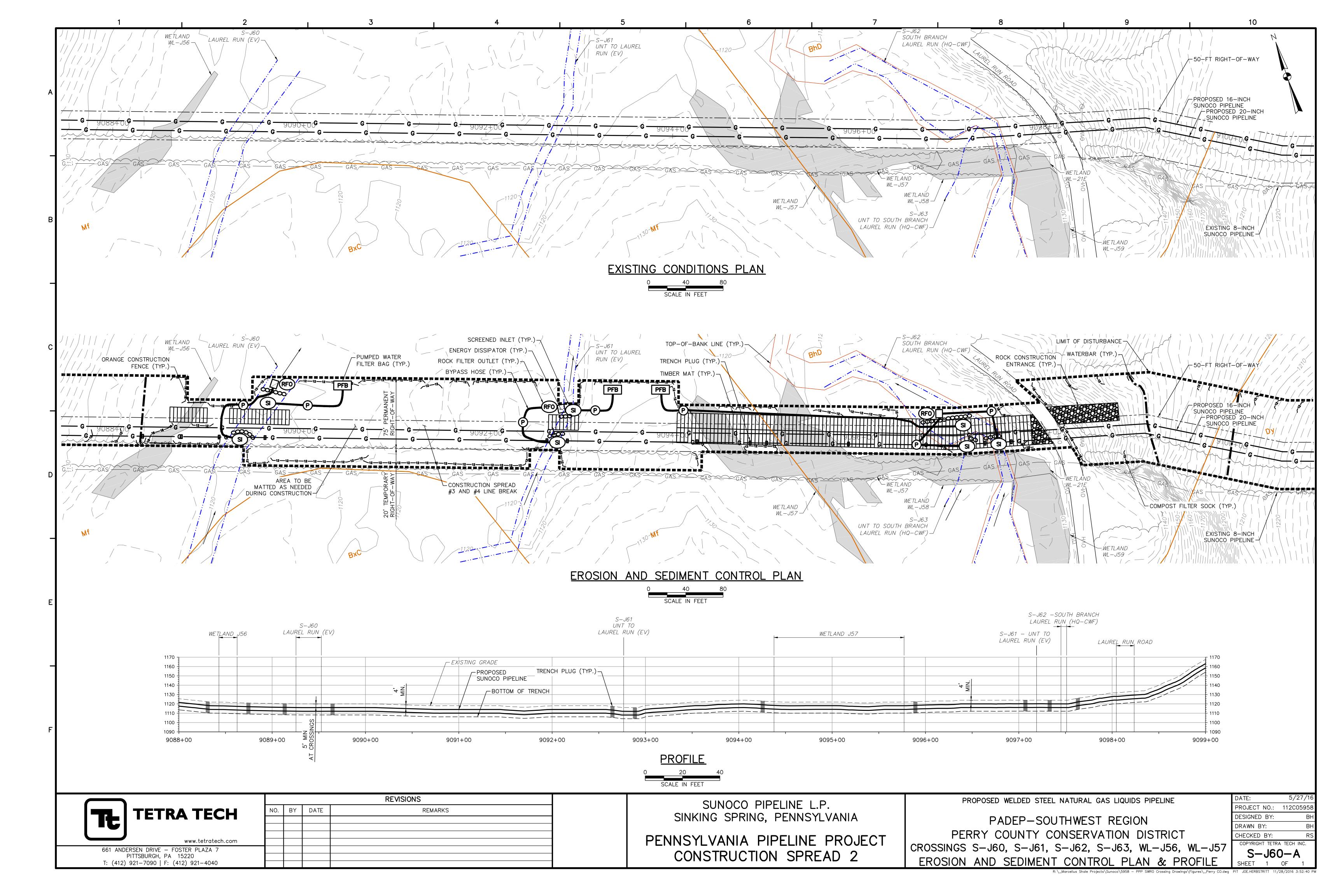
PERRY COUNTY, PA

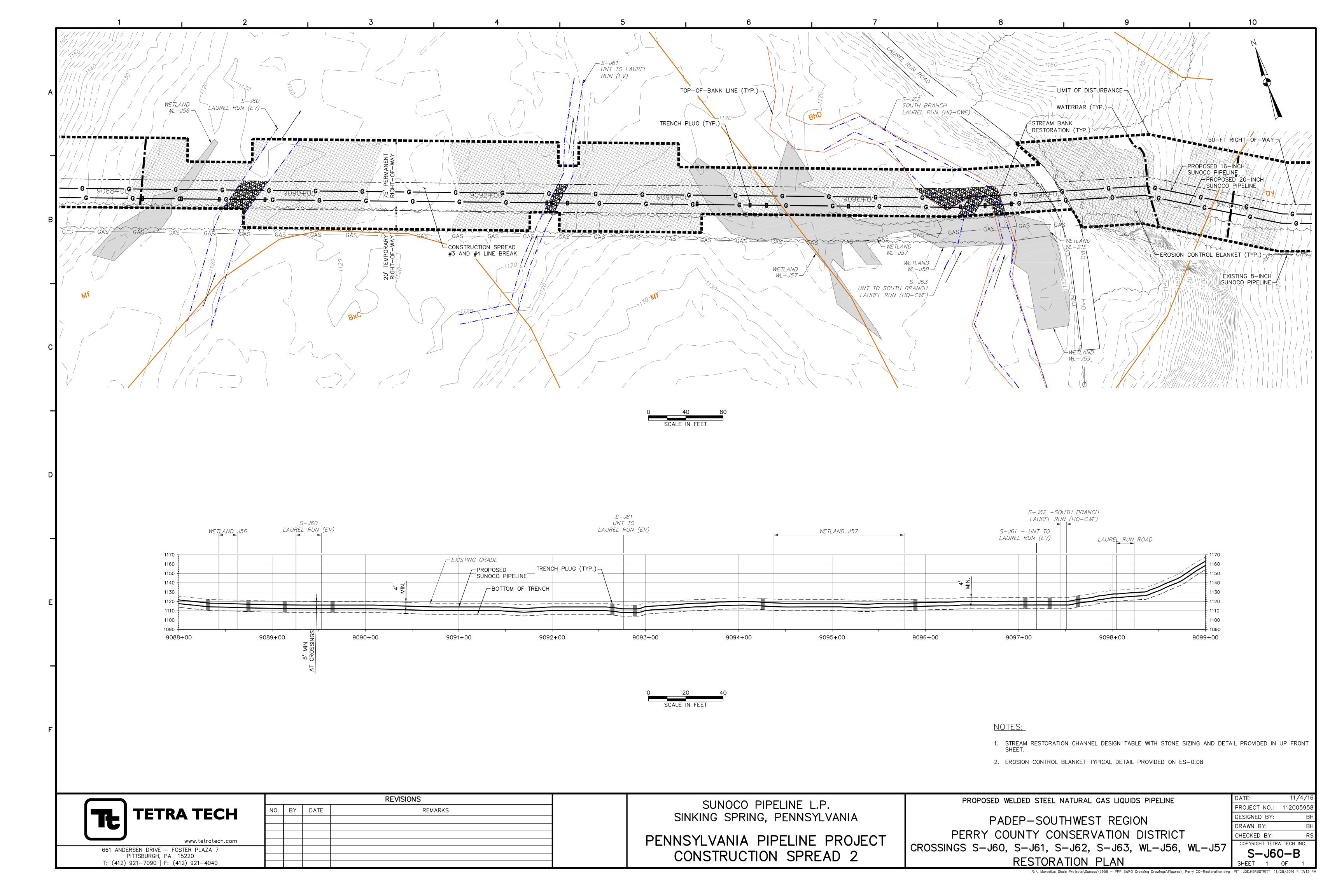
APPROVAL

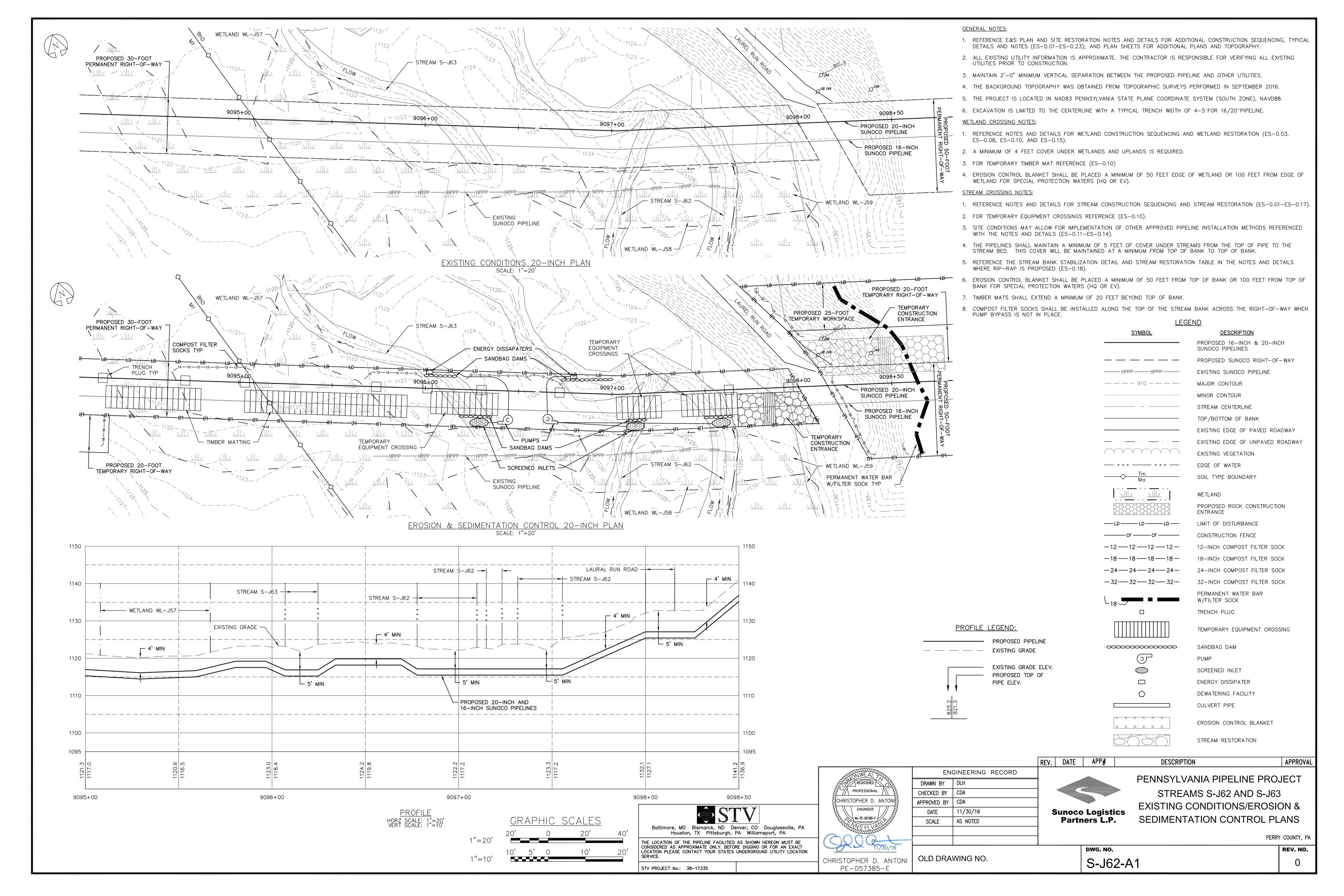
REV. NO.

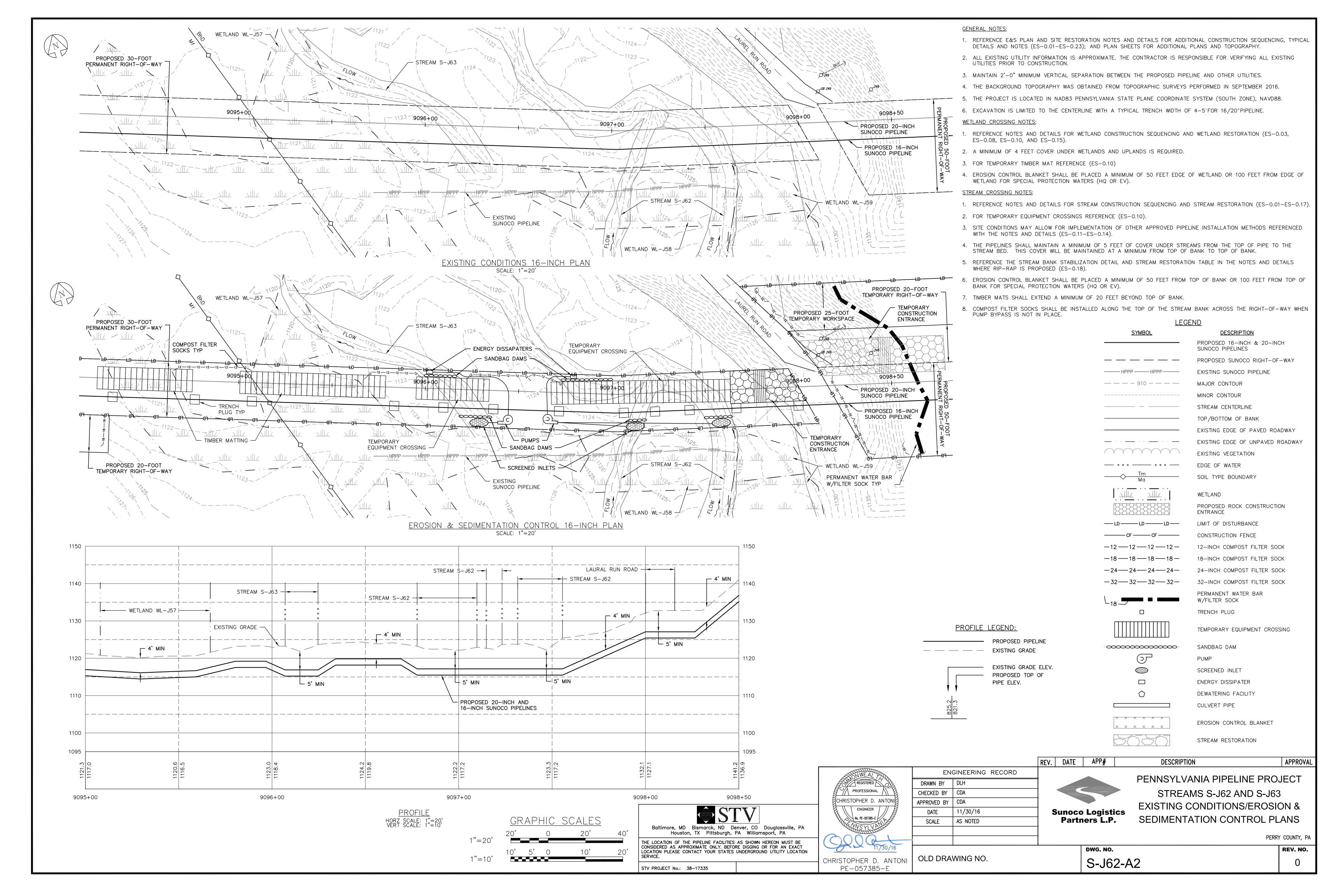
DWG. NO. S-J60-B

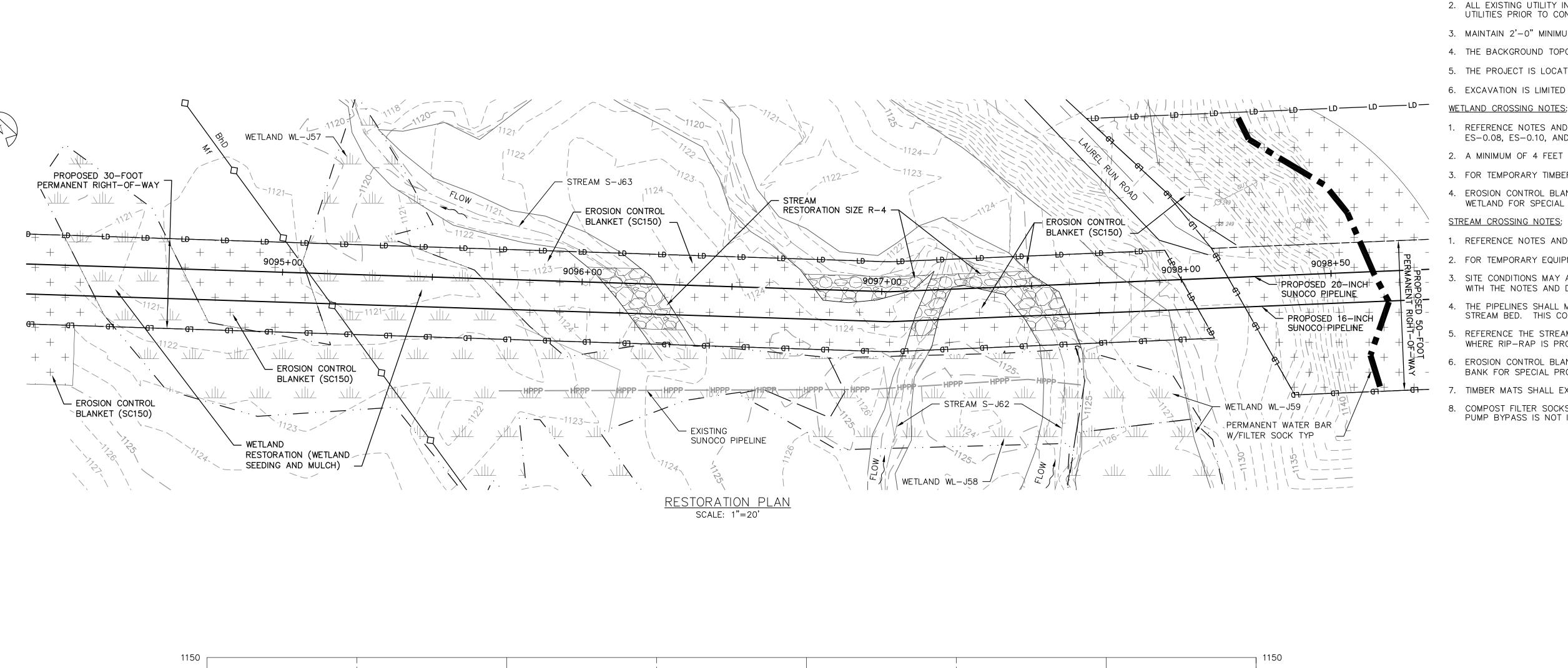
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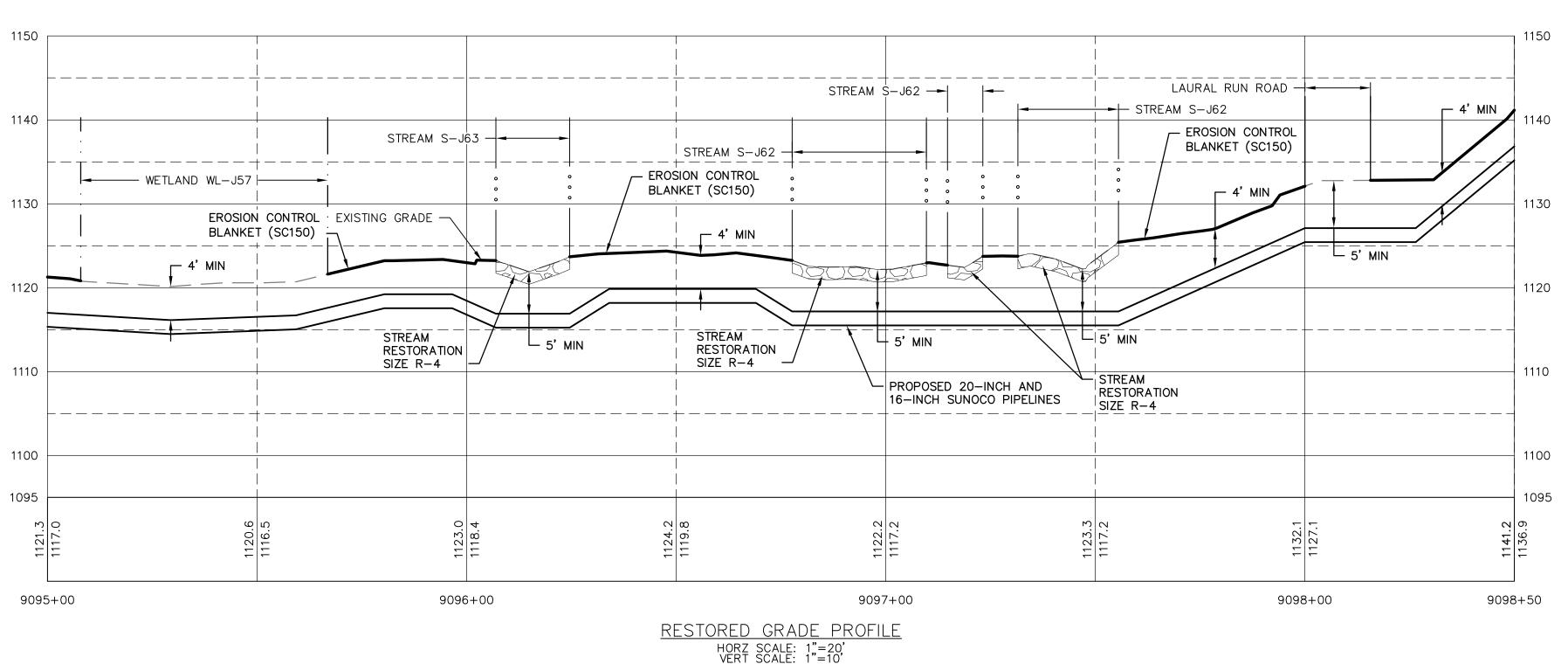












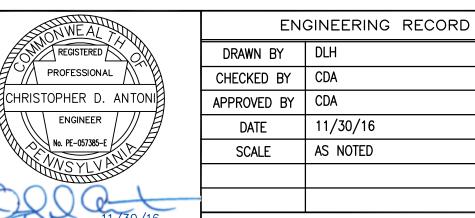
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<u>LEGEND</u> <u>SYMBOL</u> **DESCRIPTION** PROPOSED 16-INCH & 20-INCH SUNOCO PIPELINES PROPOSED SUNOCO RIGHT-OF-WAY EXISTING SUNOCO PIPELINE — — — — 910 — — — — MAJOR CONTOUR MINOR CONTOUR STREAM CENTERLINE TOP/BOTTOM OF BANK EXISTING EDGE OF PAVED ROADWAY EXISTING EDGE OF UNPAVED ROADWAY EXISTING VEGETATION SOIL TYPE BOUNDARY WETLAND PROPOSED ROCK CONSTRUCTION ENTRANCE LIMIT OF DISTURBANCE —LD——LD——LD— CONSTRUCTION FENCE 12-INCH COMPOST FILTER SOCK -18 - 18 - 18 - 18 - 18 -18-INCH COMPOST FILTER SOCK 24-INCH COMPOST FILTER SOCK -24 -24 -24 -24 -2432-INCH COMPOST FILTER SOCK PERMANENT WATER BAR W/FILTER SOCK TRENCH PLUG TEMPORARY EQUIPMENT CROSSING SANDBAG DAM • $\overline{\mathcal{I}}$ PUMP SCREENED INLET ENERGY DISSIPATER \bigcirc DEWATERING FACILITY CULVERT PIPE EROSION CONTROL BLANKET \times \times \times \times \times STREAM RESTORATION

Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION



PROFILE LEGEND:

— — — EXISTING GRADE

PROPOSED PIPELINE

PIPE ELEV.

EXISTING GRADE ELEV.

PROPOSED TOP OF

REV. DATE APP# **Sunoco Logistics** Partners L.P.

PENNSYLVANIA PIPELINE PROJECT STREAMS S-J62 AND S-J63 **RESTORATION PLAN**

DESCRIPTION

PERRY COUNTY, PA REV. NO.

APPROVA

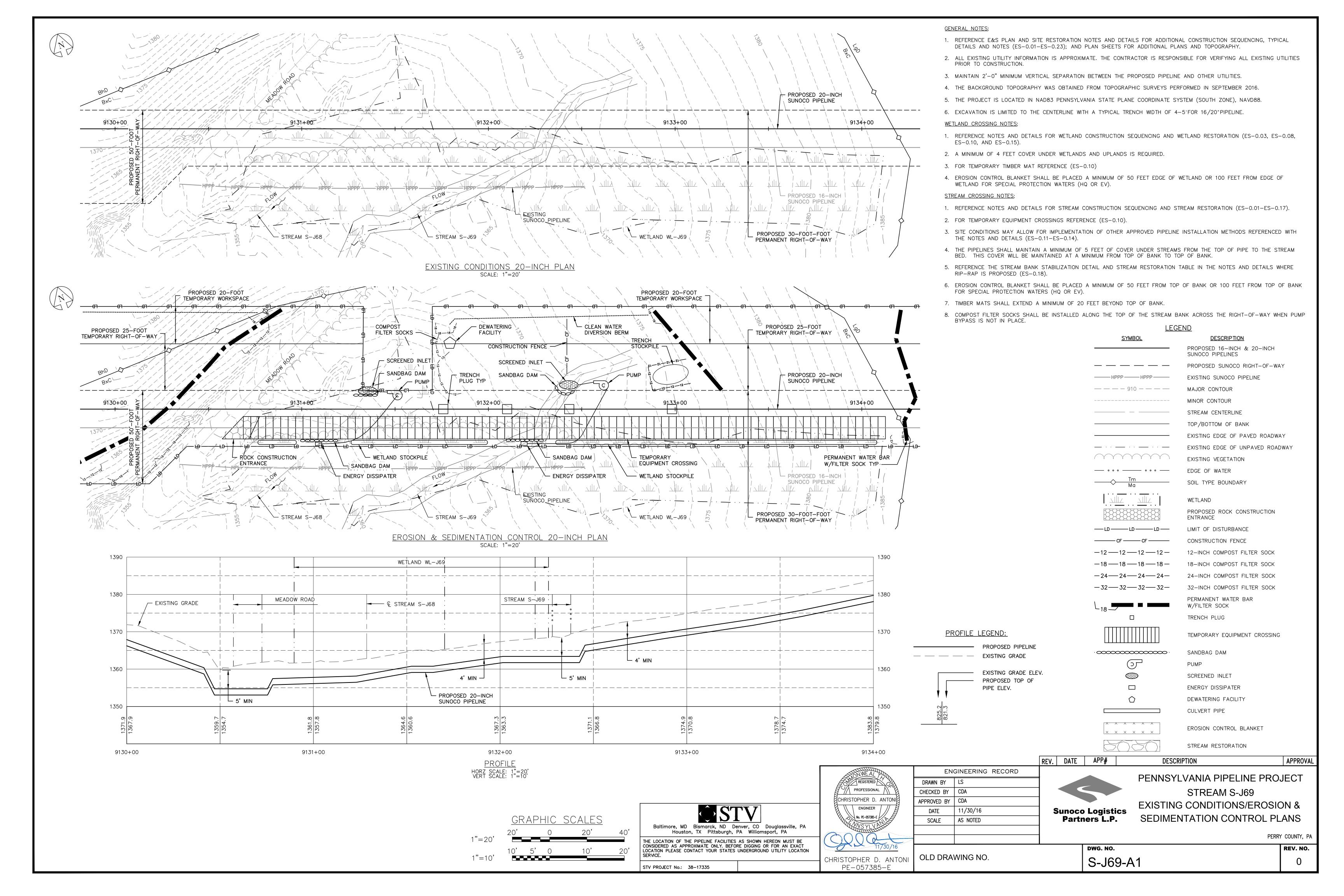
OLD DRAWING NO. CHRISTOPHER D. ANTONI PE-057385-E

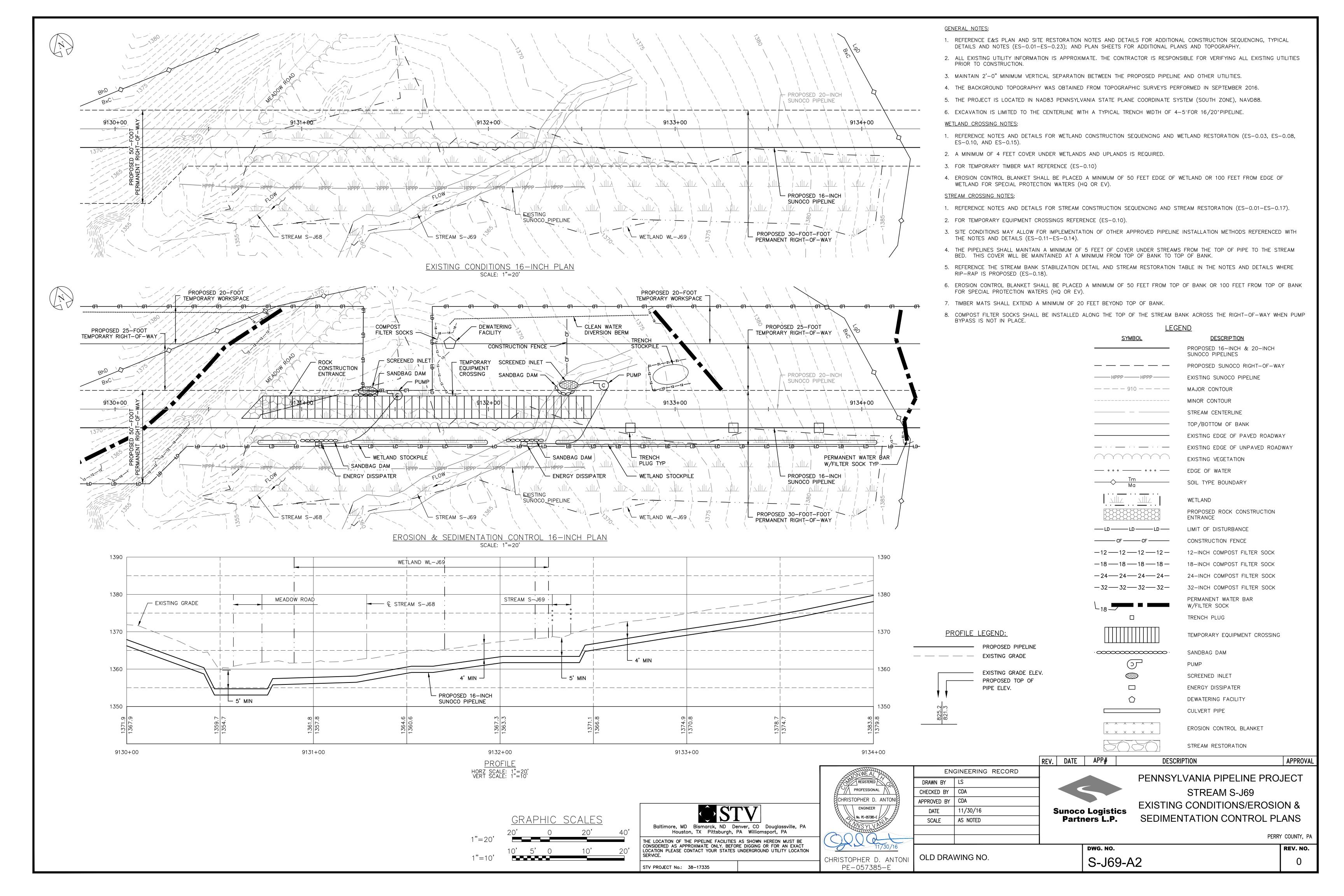
DWG. NO. S-J62-B

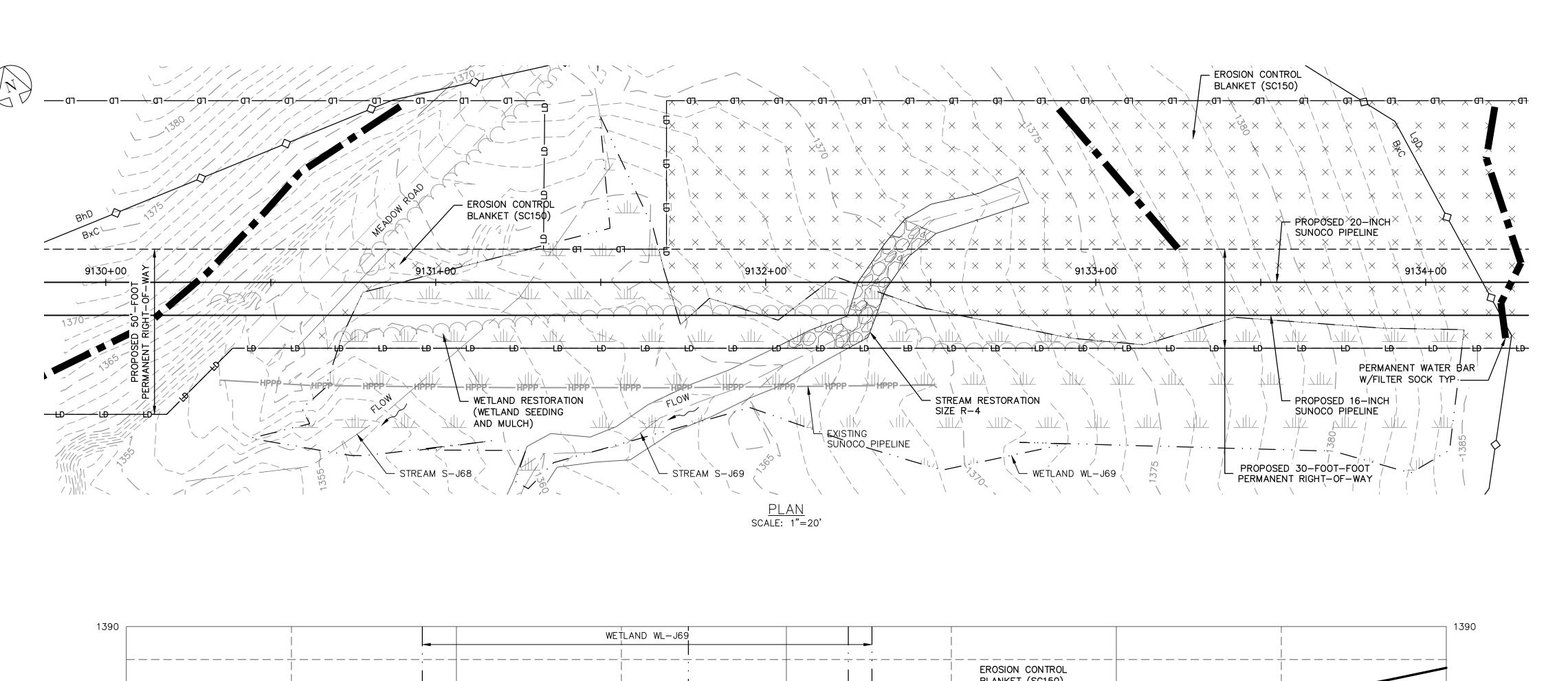
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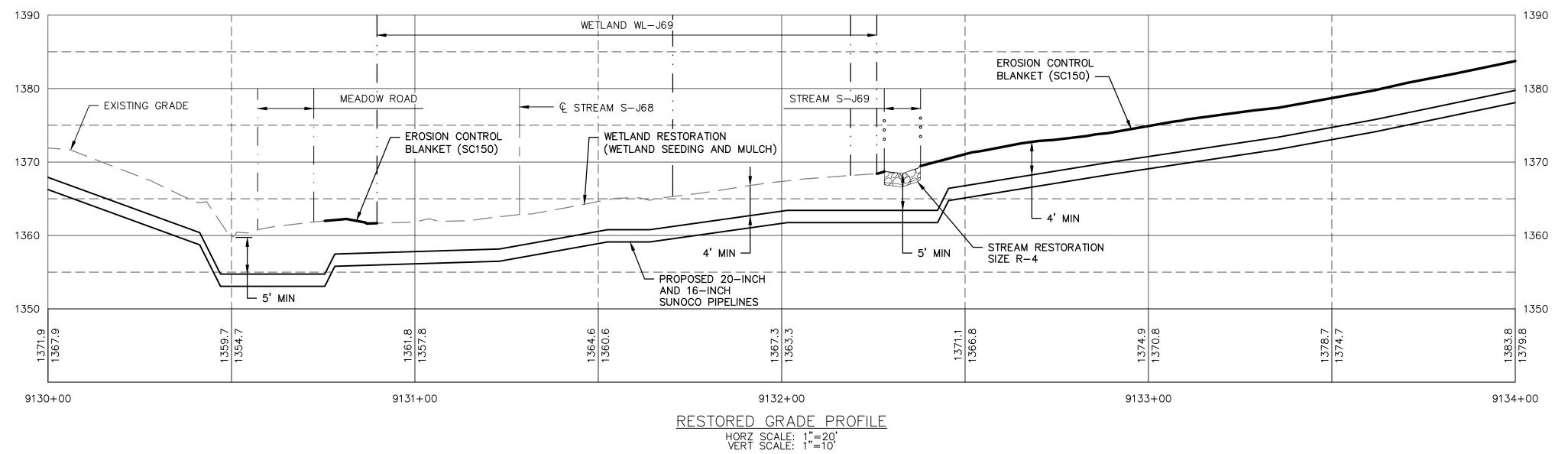
STV PROJECT No.: 38-17335

GRAPHIC SCALES









- 1. REFERENCE E&S PLAN AND SITE RESTORATION NOTES AND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING, TYPICAL DETAILS AND NOTES (ES-0.01-ES-0.23); AND PLAN SHEETS FOR ADDITIONAL PLANS AND TOPOGRAPHY.
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<u>SYMBOL</u>

<u>LEGEND</u>

PROPOSED 16-INCH & 20-INCH SUNOCO PIPELINES PROPOSED SUNOCO RIGHT-OF-WAY ——— HPPP ——— HPPP ——— EXISTING SUNOCO PIPELINE — — — — 910 — — — — MAJOR CONTOUR MINOR CONTOUR STREAM CENTERLINE TOP/BOTTOM OF BANK

<u>DESCRIPTION</u>

EXISTING EDGE OF PAVED ROADWAY

PROPOSED ROCK CONSTRUCTION

EXISTING EDGE OF UNPAVED ROADWAY EXISTING VEGETATION

— · · · · — · · · · — EDGE OF WATER SOIL TYPE BOUNDARY WETLAND

ENTRANCE LIMIT OF DISTURBANCE —LD——LD——LD—

CONSTRUCTION FENCE -12 --- 12 --- 12 --- 12 ---12-INCH COMPOST FILTER SOCK -18 - 18 - 18 - 18 - 18 -18-INCH COMPOST FILTER SOCK

-24—24—24—24— 24-INCH COMPOST FILTER SOCK -32—32—32—3232-INCH COMPOST FILTER SOCK

PERMANENT WATER BAR W/FILTER SOCK TRENCH PLUG

TEMPORARY EQUIPMENT CROSSING

 \cdot SANDBAG DAM PUMP SCREENED INLET

ENERGY DISSIPATER \bigcirc DEWATERING FACILITY

CULVERT PIPE \times \times \times \times \times EROSION CONTROL BLANKET \times \times \times \times \times

STREAM RESTORATION

DESCRIPTION

PENNSYLVANIA PIPELINE PROJECT STREAM S-J69 **RESTORATION PLAN**

PERRY COUNTY, PA

APPROVA

REV. NO.

Baltimore, MD Bismarck, ND Denver, CO Douglassville, PA Houston, TX Pittsburgh, PA Williamsport, PA THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION

STV PROJECT No.: 38-17335

HRISTOPHER D. ANTONI ENGINEER No. PE-057385-E CHRISTOPHER D. ANTONI

PE-057385-E

REGISTERED

PROFESSIONAL

OLD DRAWING NO.

11/30/16

AS NOTED

DRAWN BY LS

CHECKED BY CDA

APPROVED BY CDA

DATE

SCALE

PROFILE LEGEND:

PROPOSED PIPELINE

EXISTING GRADE ELEV.

PROPOSED TOP OF

EXISTING GRADE

PIPE ELEV.

ENGINEERING RECORD

DWG. NO. S-J69-B

REV. DATE APP#

Sunoco Logistics

Partners L.P.

1"=20'

GRAPHIC SCALES