



**LEGEND**

	EXISTING SUBJECT PROPERTY LINE
	EXISTING INDEX (MAJOR) CONTOUR
	EXISTING INTERMEDIATE (MINOR) CONTOUR
	EXISTING FEMA FLOOD ZONE
	EXISTING CURB
	EXISTING EDGE OF PAVEMENT
	EXISTING STRUCTURE
	EXISTING STORM PIPE
	PROPOSED INDEX CONTOUR
	PROPOSED INTERMEDIATE CONTOUR
	APPROXIMATE EXTENT OF RIPRAP SURFACE REPAIR
	APPROXIMATE EXTENT OF PROPOSED SOIL NAILS
	TOF= TOP OF FACING BOF= BOTTOM OF FACING
	EXISTING STONE BLOCK RETAINING WALL
	PROPOSED GABION BASKETS
	PROPOSED GABION BASKETS

**REVISION RECORD**

NO.	DATE	DESCRIPTION
1	03/20/2024	RESPONSE TO COMMENTS FROM OZA, CEM AND CONSERVATION COMMISSION

**CEC**  
**Civil & Environmental Consultants, Inc.**  
 31 Bellows Road - Raynham, MA 02767  
 Ph: 774.501.2176 - 866.312.2024 - Fax: 774.501.2669  
 www.cecinc.com

**THOMAS P. FITZGERALD**  
 51 HARBORVIEW ROAD  
 HULL, MASSACHUSETTS 02045

**OVERALL PLAN VIEW**

DATE: OCTOBER 2023 DRAWN BY: JAH  
 DWG. SCALE: AS SHOWN CHECKED BY: TES  
 PROJECT NO: 324-891  
 APPROVED BY: KPS

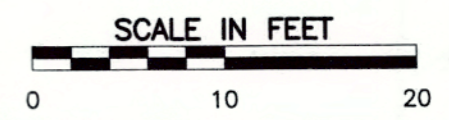
RECEIVED  
 APR 11 2024  
 Conservation Department

ANTONIO E. SOUSA, JR.  
 CIVIL ENGINEER  
 REGISTERED PROFESSIONAL ENGINEER

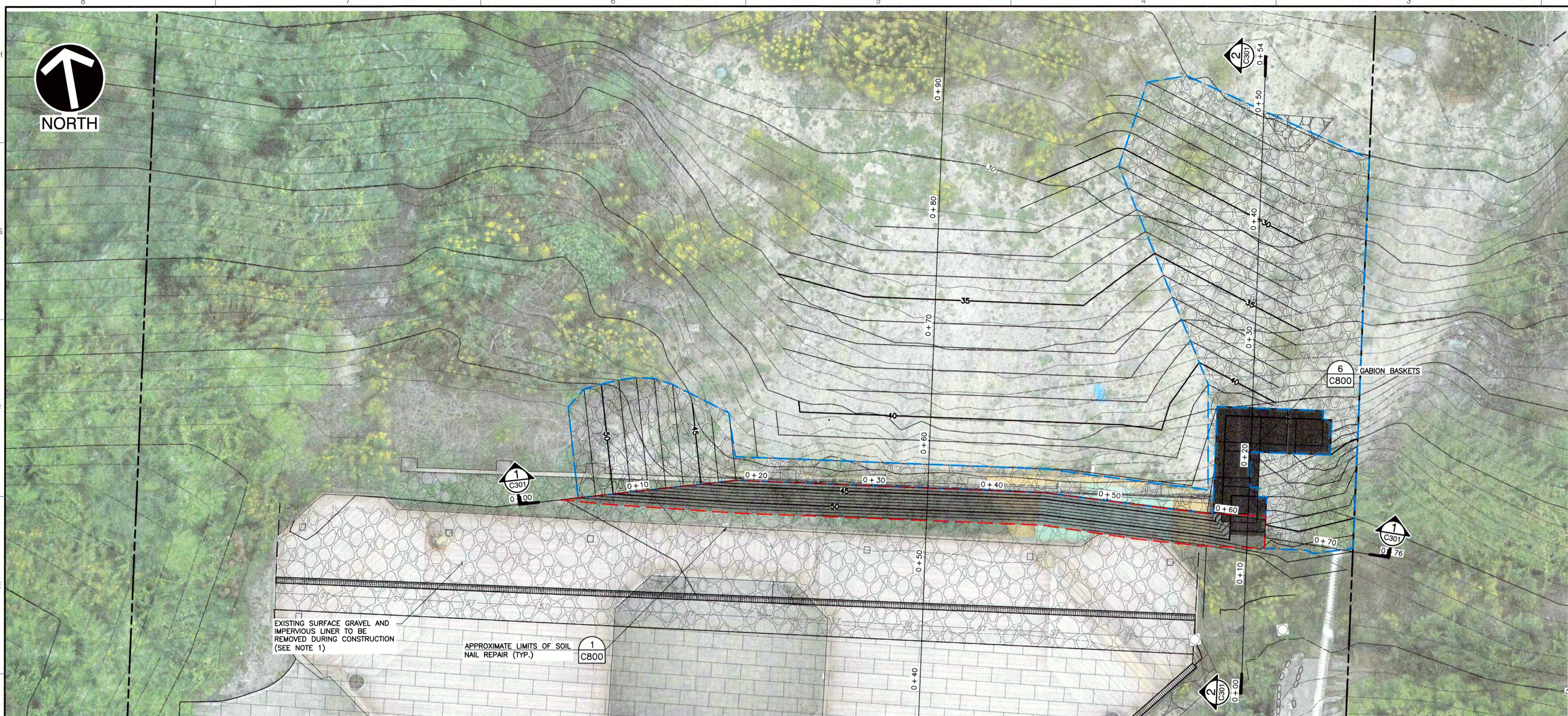
DRAWING NO: **C300**

- NOTES**
- REMOVE EXISTING SURFACE GRAVEL AND IMPERVIOUS LINER BEHIND EXISTING TIMBER WALL AS NEEDED DURING CONSTRUCTION OF THE SOIL NAILS. IMPERVIOUS LINER SHALL BE REPLACED AFTER SOIL NAIL CONSTRUCTION IS COMPLETED.
  - ESTABLISH NEW VEGETATION IN ERODED AREAS IN ACCORDANCE WITH MEMO ENTITLED "51 HARBORVIEW ROAD, HULL MA - SITE RESTORATION AND REVEGETATION" BY WOODS HOLE GROUP, DATED NOVEMBER 19, 2019.

- REFERENCE**
- AERIAL IMAGERY AND SLOPE TOPOGRAPHY DERIVED FROM UNMANNED AERIAL PHOTOGRAMMETRY DATA COLLECTED BY CEC, INC. ON JUNE 22, 2023. TOPOGRAPHY AT TOP OF SLOPE WITHIN EXISTING PATIO AREA WAS COLLECTED BY CEC DURING A FIELD SURVEY PERFORMED ON FEBRUARY 21, 2024. TOPOGRAPHIC CONTOURS MAPPED AT AN INTERVAL OF 1 FOOT.
  - LOCATION OF STONE BLOCK RETAINING WALL AND EXISTING DECK COLUMNS COURTESY OF SURVEY ENTITLED "TOPOGRAPHIC SITE PLAN OF NORTHERLY PORTION OF #51 HARBORVIEW ROAD, HULL, MA" BY WOODS HOLE GROUP, DATED 09/27/2019.



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**SOIL NAIL WITH GABION PLAN VIEW**



**LEGEND**

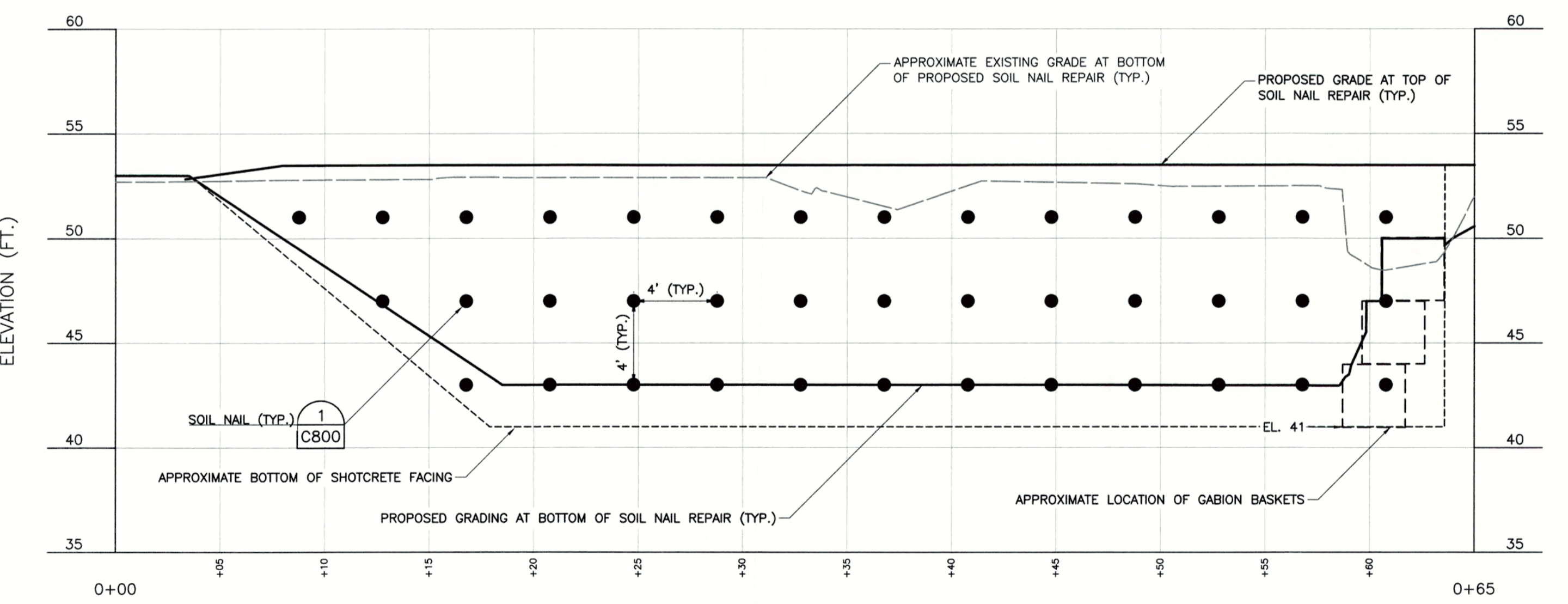
	EXISTING SUBJECT PROPERTY LINE
	EXISTING INDEX (MAJOR) CONTOUR
	EXISTING INTERMEDIATE (MINOR) CONTOUR
	EXISTING STORM PIPE
	PROPOSED INDEX CONTOUR
	PROPOSED INTERMEDIATE CONTOUR
	APPROXIMATE EXTENT OF RIPRAP SURFACE REPAIR
	APPROXIMATE EXTENT OF PROPOSED SOIL NAILS
	EXISTING STONE BLOCK RETAINING WALL
	PROPOSED GABION BASKETS

**REVISION RECORD**

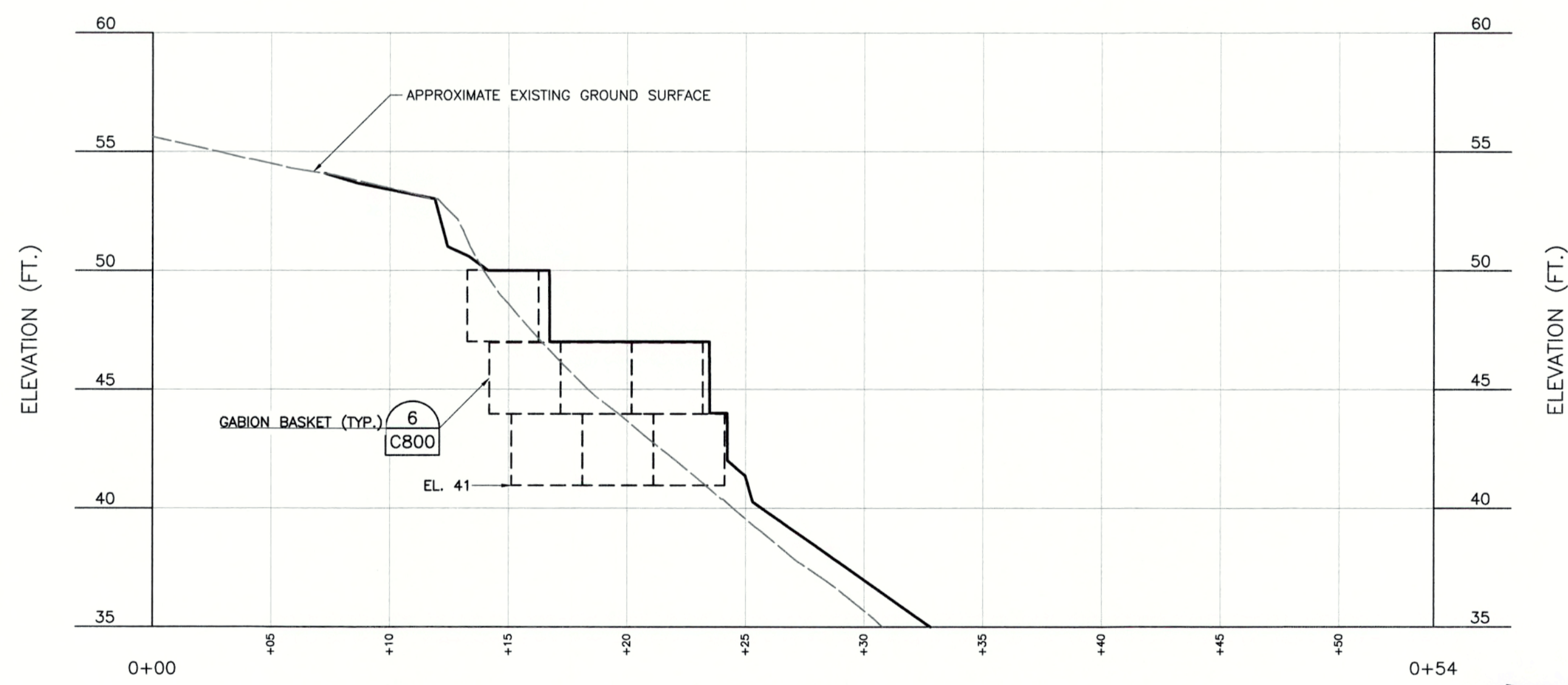
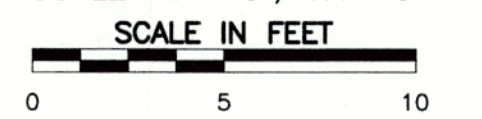
NO.	DATE	DESCRIPTION
1	2/23/2024	RESPONSE TO COMMENTS FROM DCA, CDM AND CONSERVATION COMMISSION

**Civil & Environmental Consultants, Inc.**  
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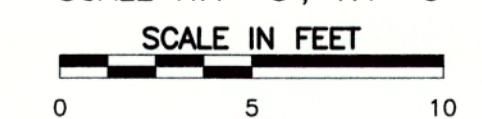
**THOMAS P. FITZGERALD**  
 51 HARBORVIEW ROAD  
 HULL, MASSACHUSETTS 02045



**PROFILE 1**  
 SCALE H:1"=5'; V:1"=5'



**PROFILE 2**  
 SCALE H:1"=5'; V:1"=5'



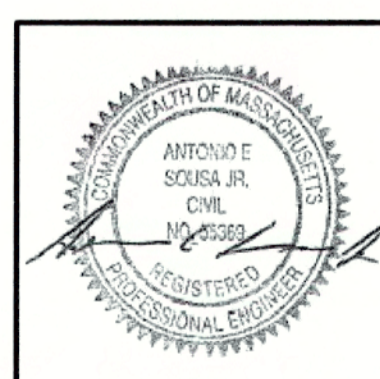
**LEGEND**

	PROPOSED GRADE AT TOP/BOTTOM OF SOIL NAIL REPAIR
	APPROXIMATE EXISTING GRADE AT BOTTOM OF PROPOSED SOIL NAIL REPAIR
	APPROXIMATE BOTTOM OF SHOTCRETE FACING
	GABION BASKET
	SOIL NAIL

**REFERENCE**

1. AERIAL IMAGERY AND SLOPE TOPOGRAPHY DERIVED FROM UNMANNED AERIAL PHOTOGRAMMETRY DATA COLLECTED BY CEC, INC. ON JUNE 22, 2023. TOPOGRAPHY AT TOP OF SLOPE WITHIN EXISTING PATIO AREA WAS COLLECTED BY CEC DURING A FIELD SURVEY PERFORMED ON FEBRUARY 21, 2024. TOPOGRAPHIC CONTOURS MAPPED AT AN INTERVAL OF 1 FOOT.

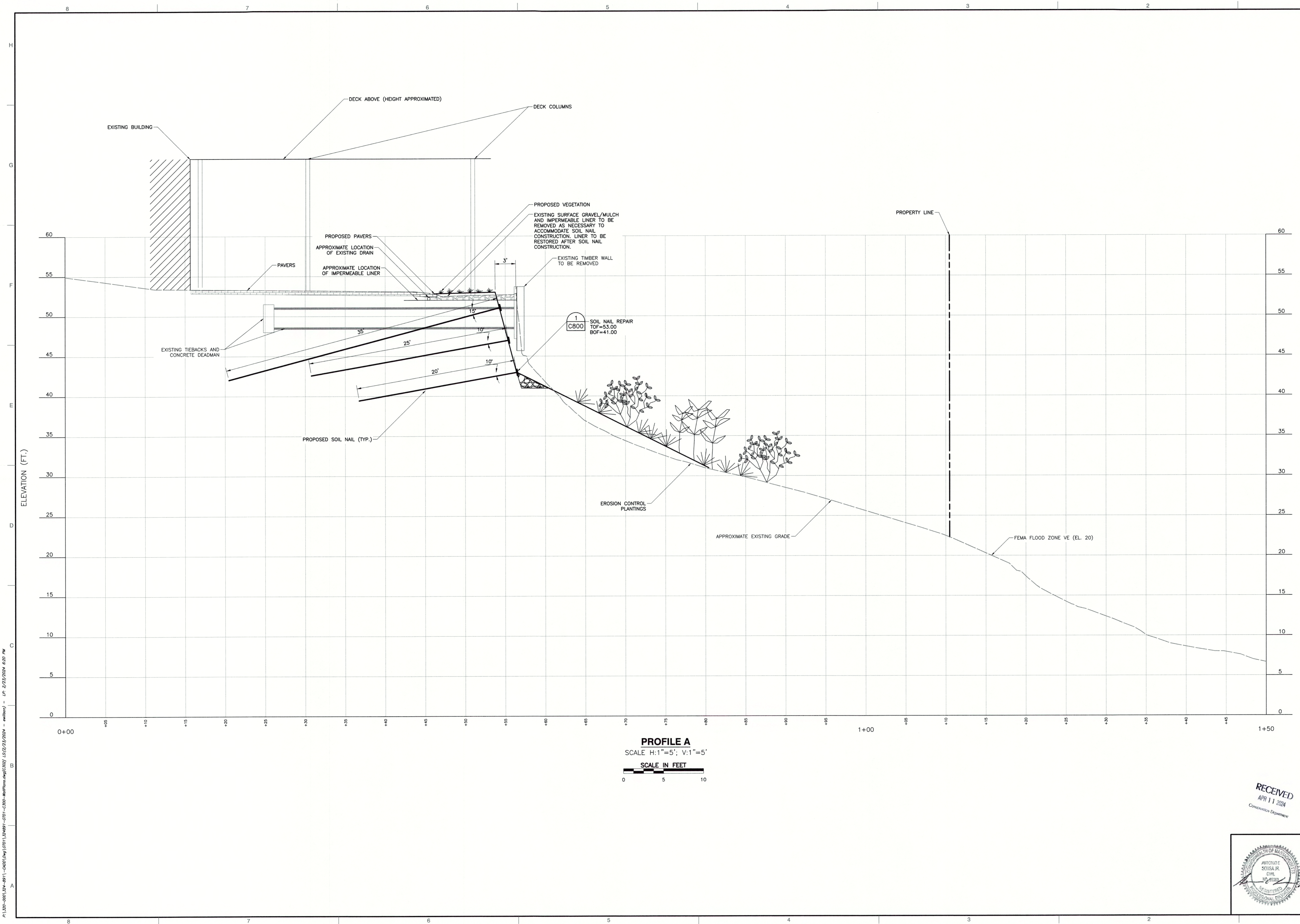
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 CONSERVATION DEPARTMENT



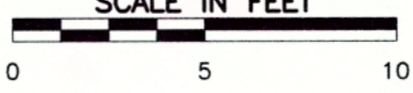
**SOIL NAILS WITH GABIONS PLAN AND PROFILES**

DATE:	OCTOBER 2023	DRAWN BY:	JAH
DWG SCALE:	AS SHOWN	CHECKED BY:	TES
PROJECT NO.:	324-991	APPROVED BY:	KPS

DRAWING NO.: **C301**



**PROFILE A**  
 SCALE H:1"=5'; V:1"=5'  
 SCALE IN FEET



NO.	DATE	DESCRIPTION
1	2/28/24	RESPONSE TO COMMENTS FROM GSA, CDV, AND CONSTRUCTION COMMISSION

**Civil & Environmental Consultants, Inc.**  
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**THOMAS P. FITZGERALD**  
 51 HARBORVIEW ROAD  
 HULL, MASSACHUSETTS 02045

**GEOTECHNICAL CROSS SECTION**

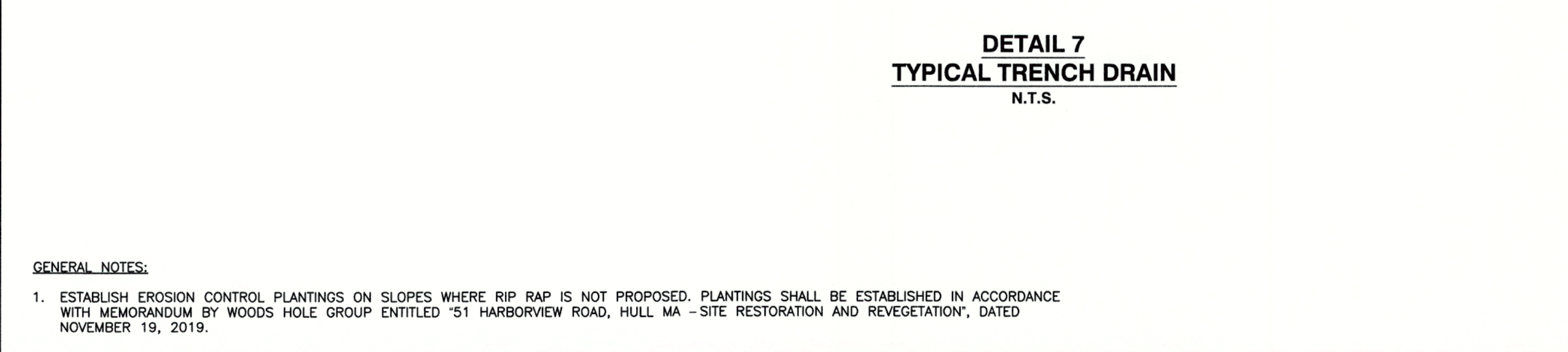
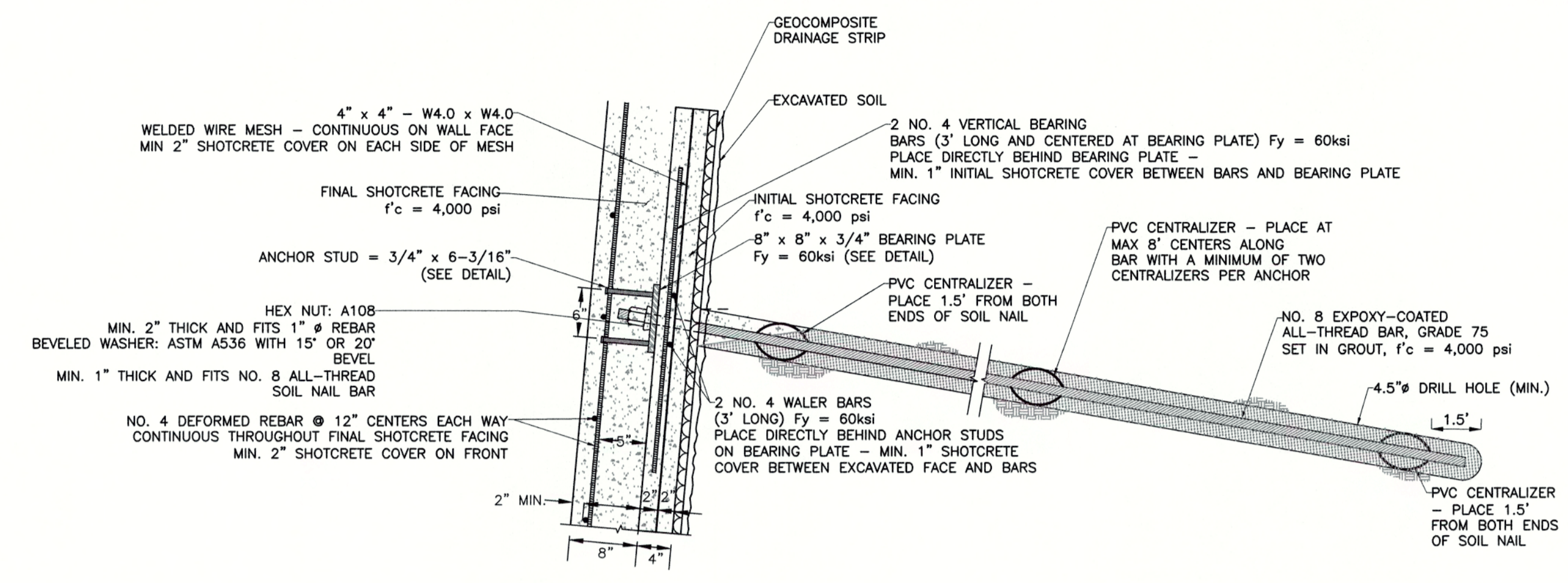
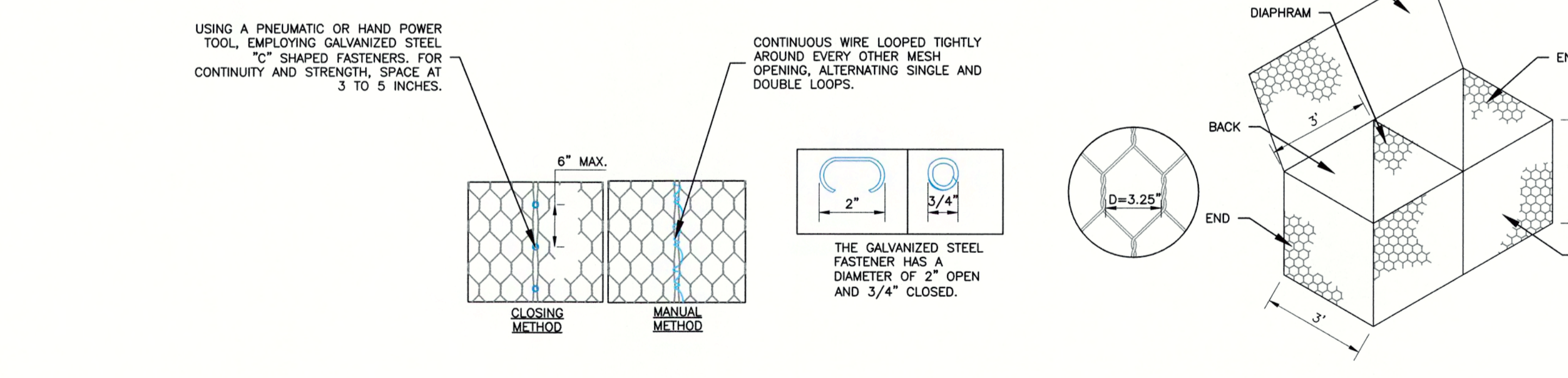
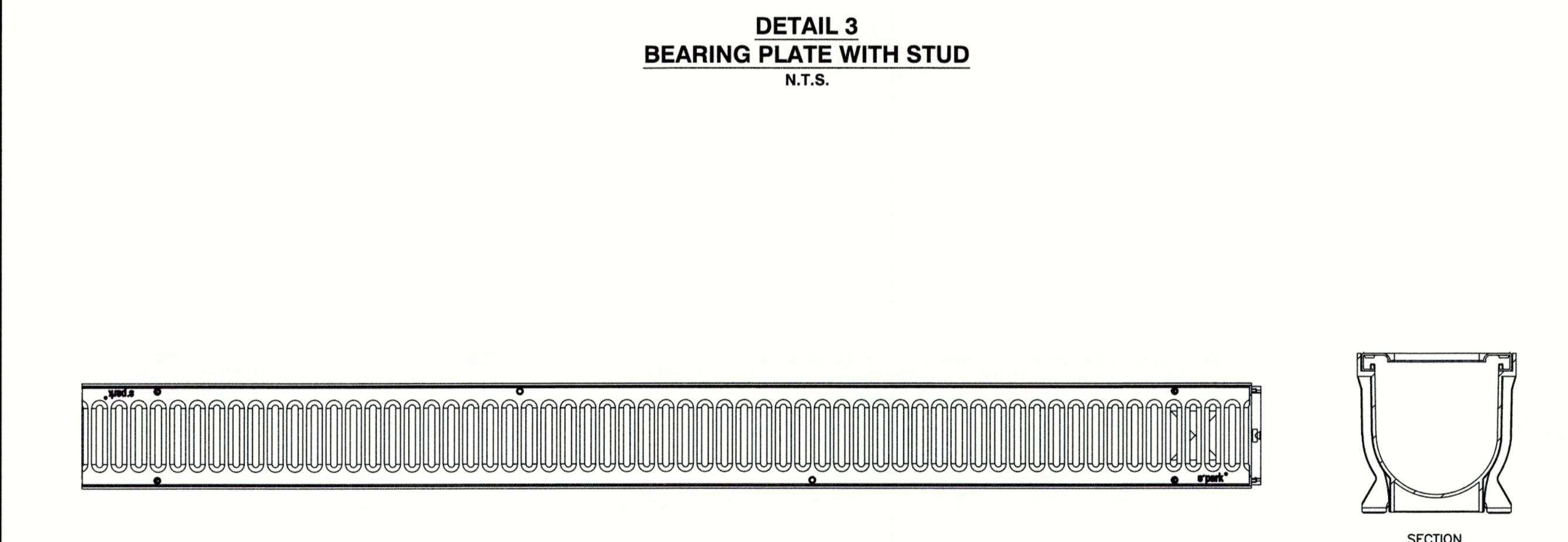
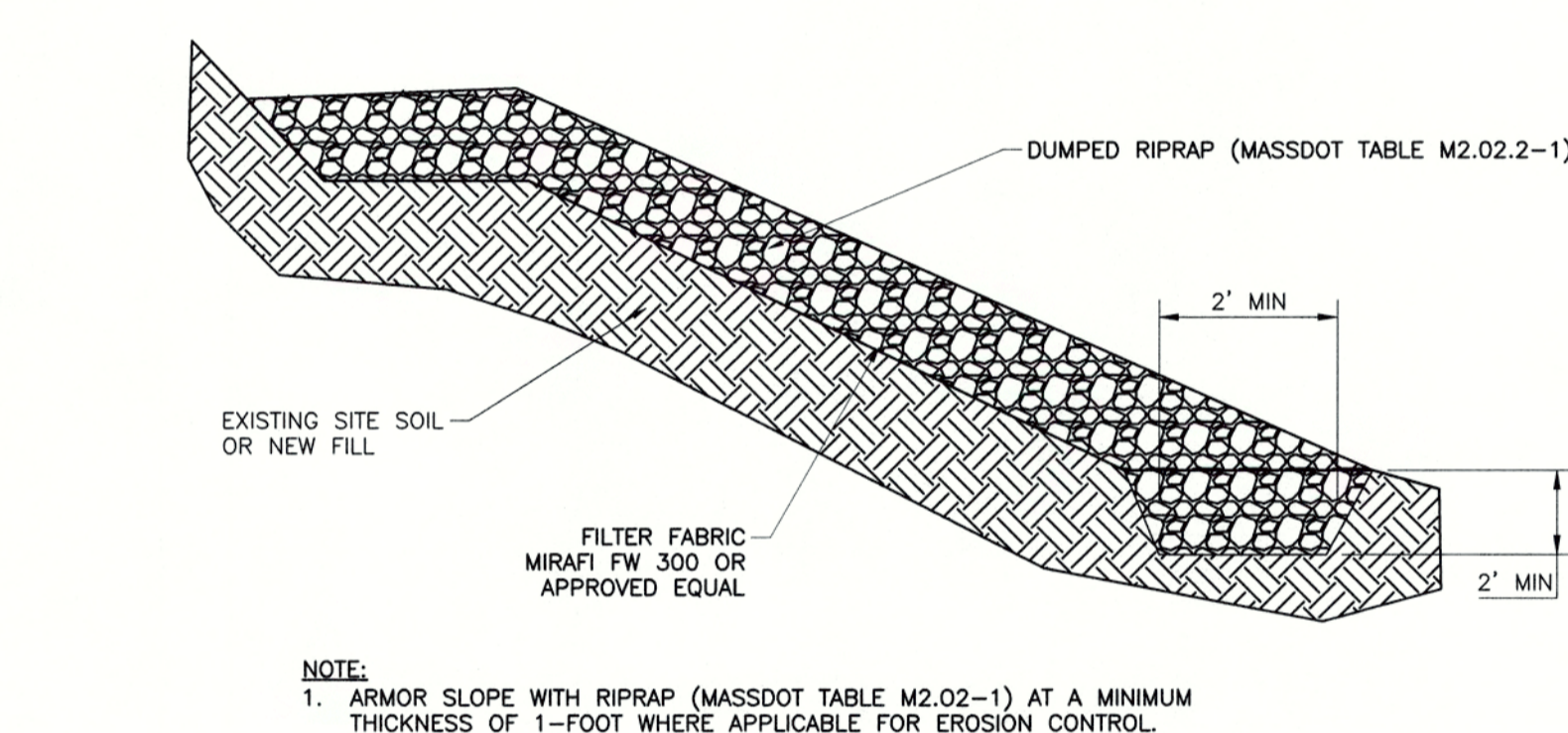
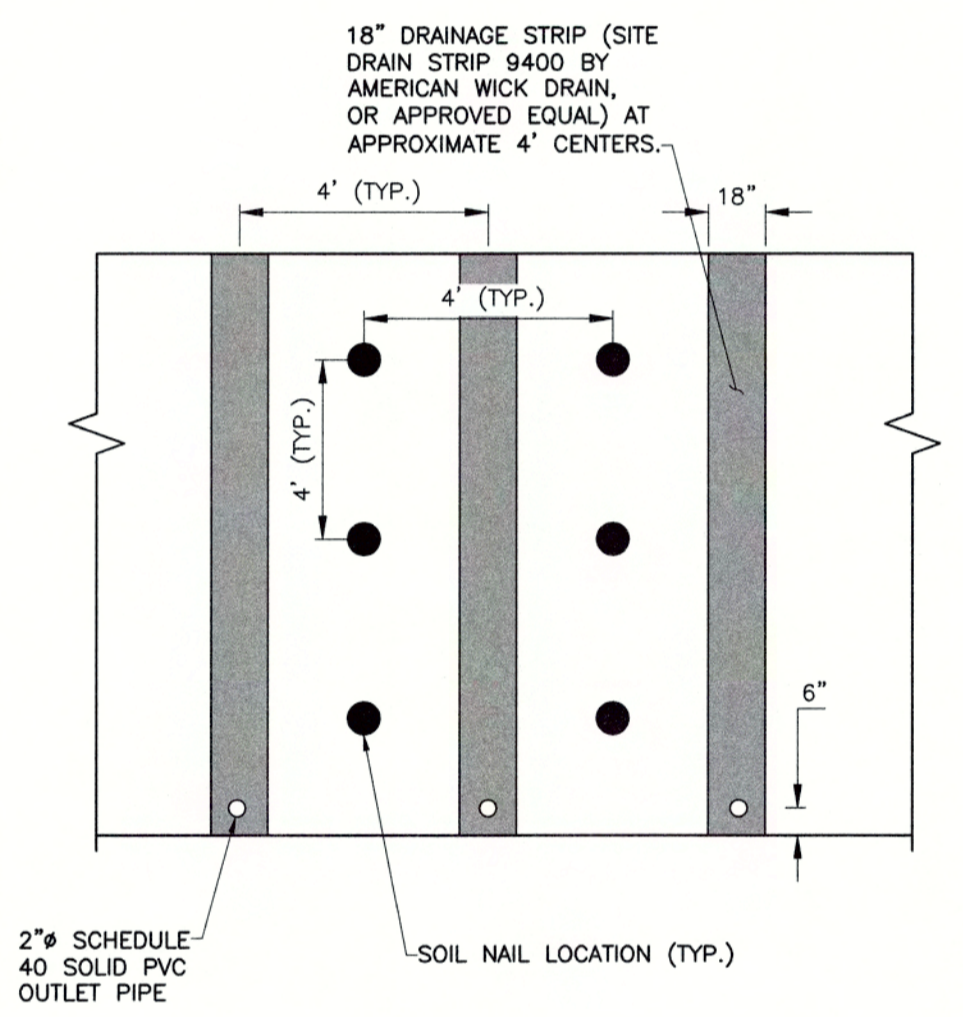
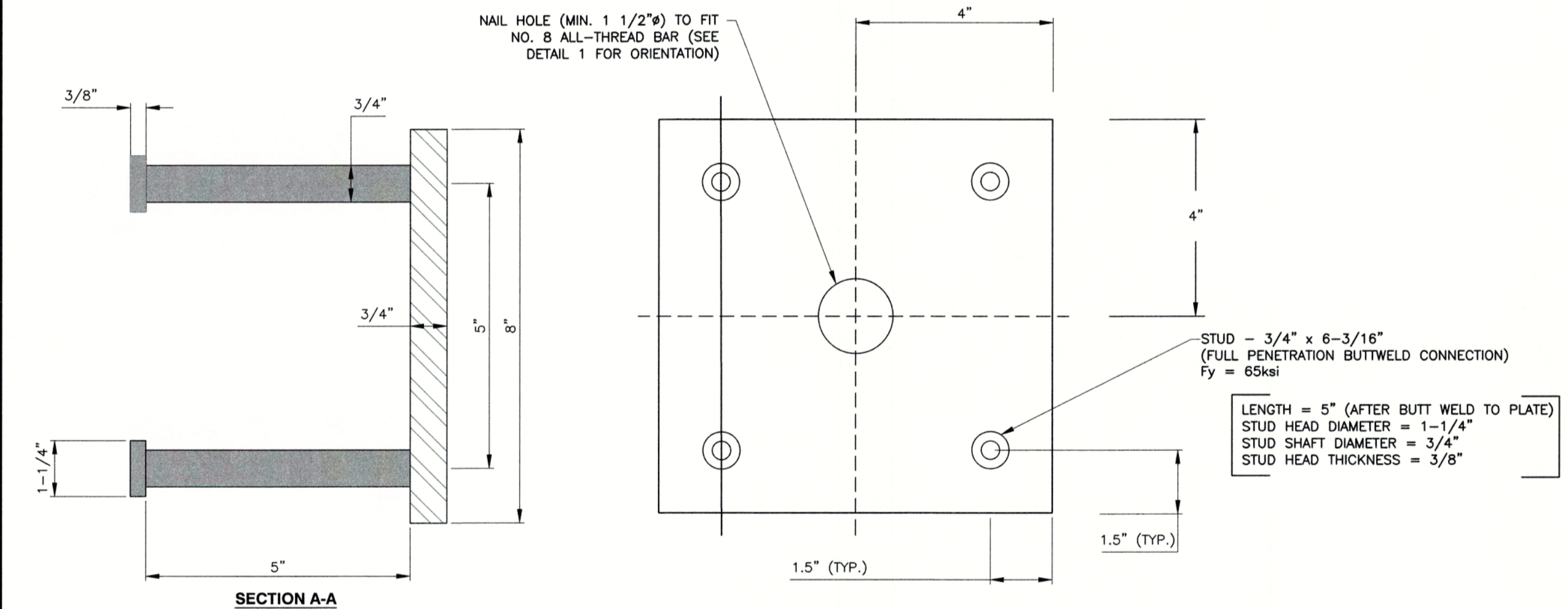
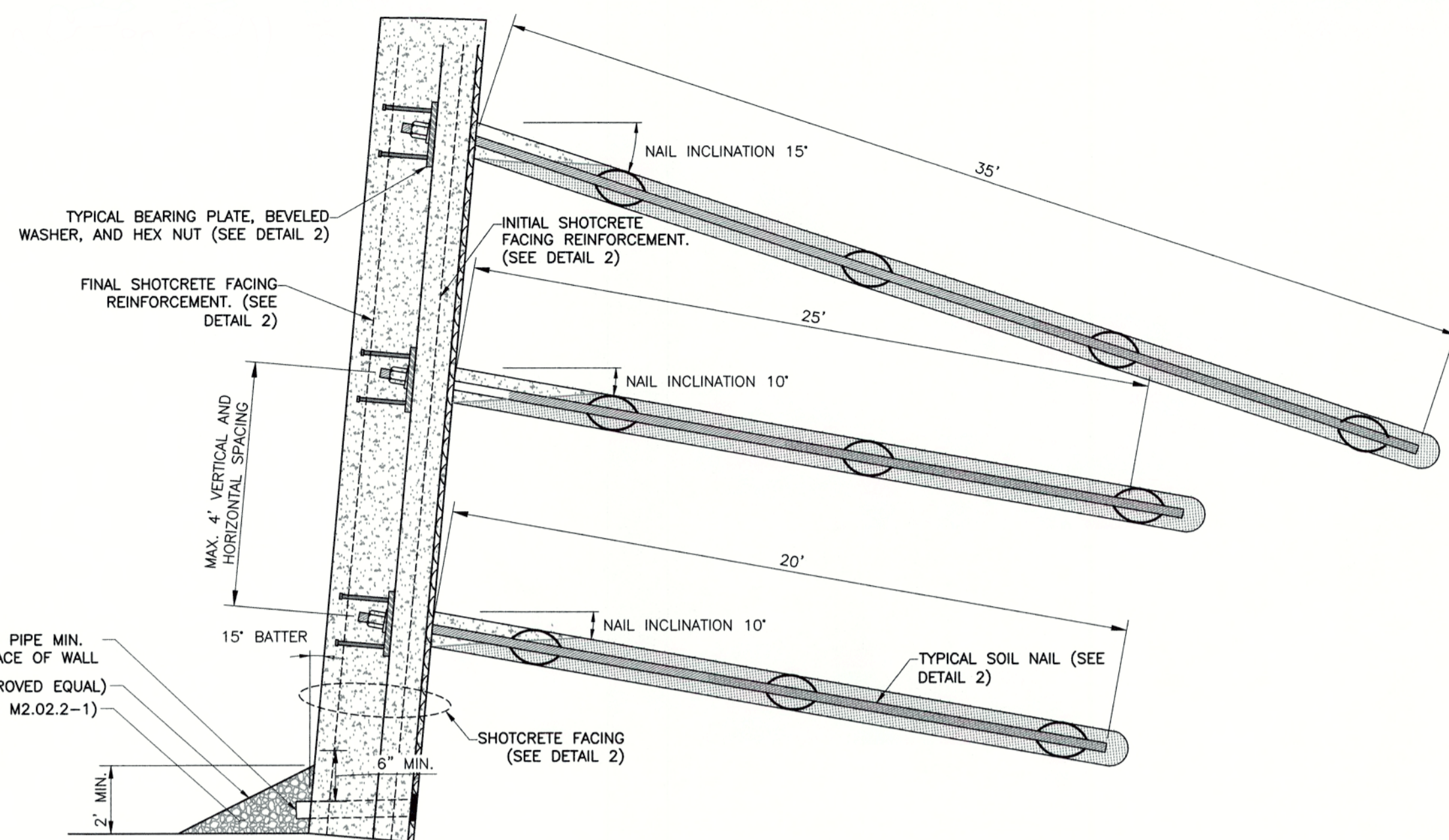
DATE:	OCTOBER 2023	DRAWN BY:	JAH
DWG SCALE:	AS SHOWN	CHECKED BY:	TES
PROJECT NO.:	324-981	APPROVED BY:	KPS

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 APR 11 2024  
 Construction Department



DRAWING NO.:  
**C302**

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REVISION RECORD	
NO.	DESCRIPTION
1	RESPONSE TO COMMENTS FROM EIA, CEM, AND CONSERVATION COMMISSION.
DATE	2/23/2024

**Civil & Environmental Consultants, Inc.**  
 31 Bellows Road • Raynham, MA 02767  
 Ph: 774.501.2176 • 866.312.2024 • Fax: 774.501.2669  
 www.cecinc.com

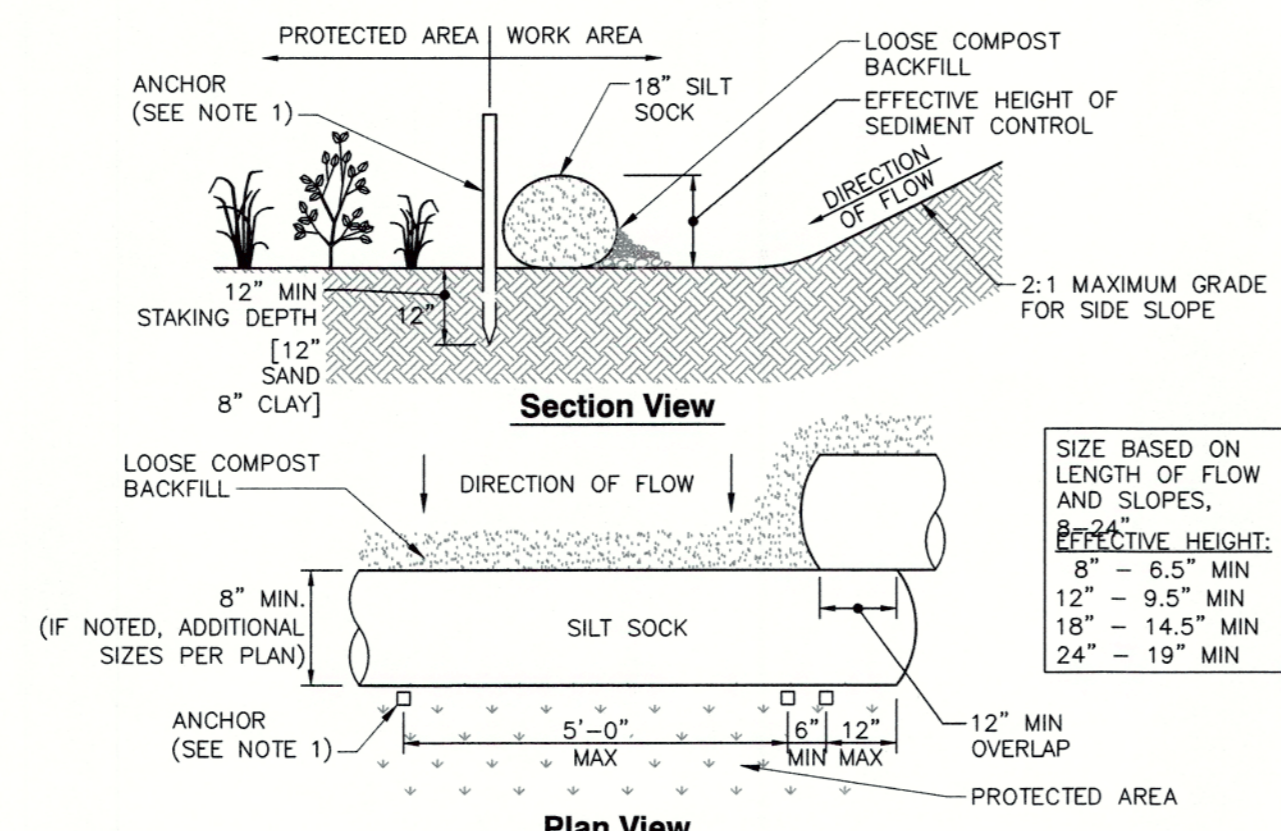
**THOMAS P. FITZGERALD**  
 51 HARBORVIEW ROAD  
 HULL, MASSACHUSETTS 02045

DETAILS	
DATE:	OCTOBER 2023
DRAWN BY:	JAH
CHECKED BY:	TES
PROJECT NO.:	324-891
APPROVED BY:	KPS

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 APR 11 2024  
 Commonwealth University

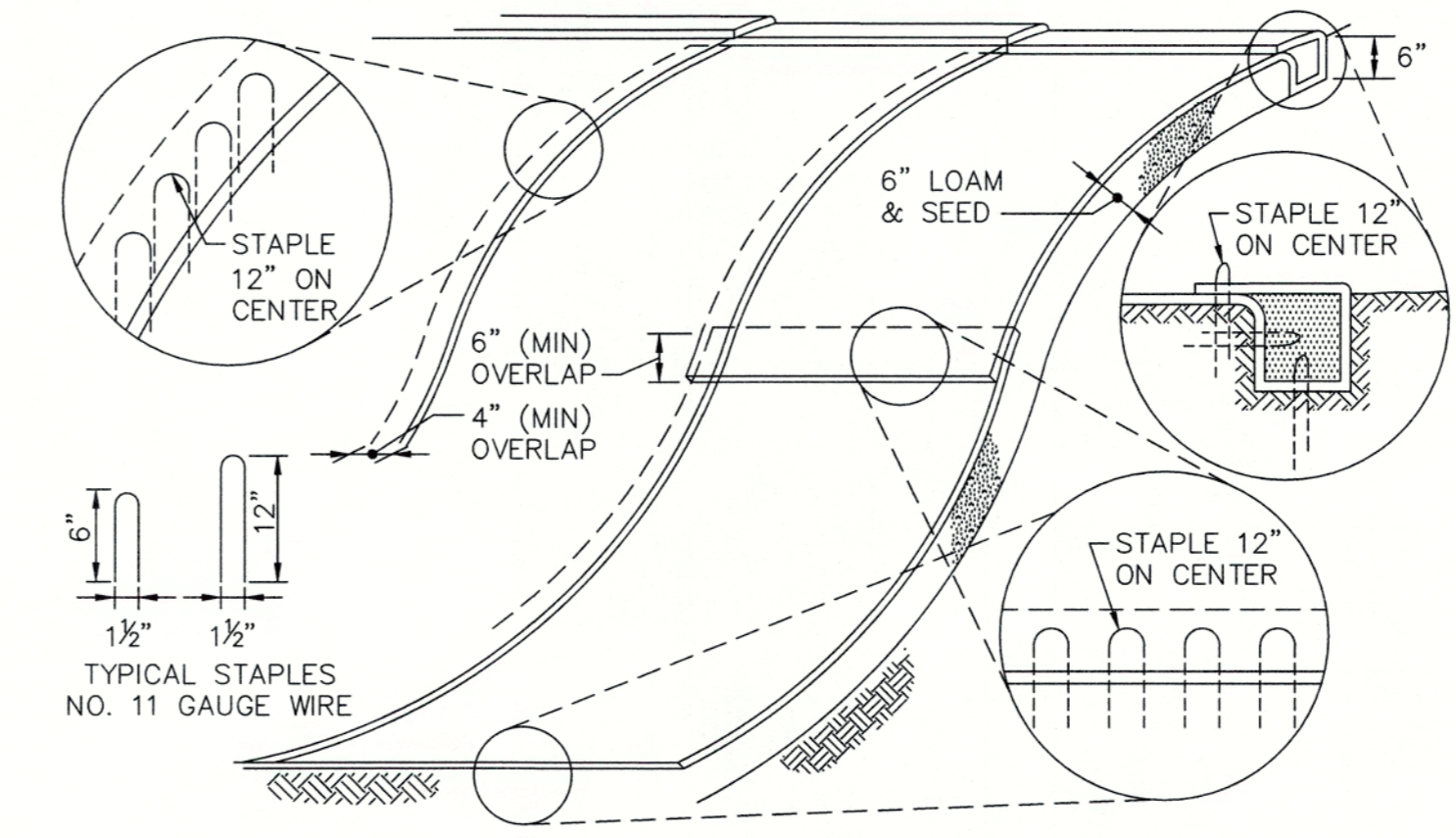


DRAWING NO.: **C800**



- NOTES**
- ANCHOR TO BE A 2" X 2" X 36" HARD WOOD STAKE, OR APPROVED EQUAL.
  - COMPOST FOR SILT SOCK FILL MATERIAL TO BE PROVIDED BY THE MANUFACTURER IN CONJUNCTION WITH THE ENGINEER TO PROVIDE THE REQUIRED REMOVAL OF SEDIMENT OR OTHER POLLUTANTS FROM RUNOFF.
  - COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE LOCAL CONSERVATION AGENT OR THE DESIGN ENGINEER.
  - SILT SOCK SHALL BE INSPECTED PER LOCAL AND STATE REQUIREMENTS, REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY, AS NEEDED.
  - METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.

**DETAIL 8  
 SILT SOCK  
 N.T.S.**



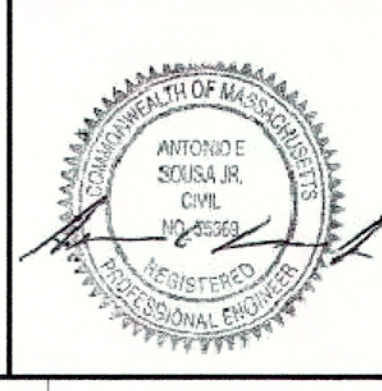
- CONSTRUCTION NOTES**
- BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A SIX (6) INCH DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.
  - ROLL THE BLANKET DOWN THE SLOPE IN THE DIRECTION OF THE WATER FLOW.
  - THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROXIMATELY FOUR (4) INCH OVERLAP WHERE TWO (2) OR MORE STRIP WIDTHS ARE REQUIRED.
  - WHEN BLANKETS MUST BE SPICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH SIX (6) INCH MINIMUM OVERLAP AND STAPLE BOTH TOGETHER.
  - MORE FASTENERS MAY BE REQUIRED DUE TO BLANKET COMPOSITION, SOIL TYPE, SURFACE UNIFORMITY AND SLOPE STEEPNESS. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
  - TO BE PLACED ON SLOPES 3:1 OR GREATER, AS SHOWN ON PLANS.

**DETAIL 9  
 EROSION CONTROL BLANKET  
 N.T.S.**

**GENERAL NOTES:**

- ESTABLISH EROSION CONTROL PLANTINGS ON SLOPES WHERE RIP RAP IS NOT PROPOSED. PLANTINGS SHALL BE ESTABLISHED IN ACCORDANCE WITH MEMORANDUM BY WOODS HOLE GROUP ENTITLED "51 HARBORVIEW ROAD, HULL, MA - SITE RESTORATION AND REVEGETATION", DATED NOVEMBER 19, 2019.

RECEIVED  
 APR 11 2024  
 CONSERVATION DEPARTMENT



**DETAILS**

DATE:	OCTOBER 2023	DRAWN BY:	JAH
DWG SCALE:	AS SHOWN	CHECKED BY:	TES
PROJECT NO.:	324-891	APPROVED BY:	NPS

DRAWING NO.:  
**C801**

**Civil & Environmental Consultants, Inc.**  
 31 Bellows Road - Raynham, MA 02767  
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 www.cedcinc.com

**THOMAS P. FITZGERALD**  
 51 HARBORVIEW ROAD  
 HULL, MASSACHUSETTS 02045

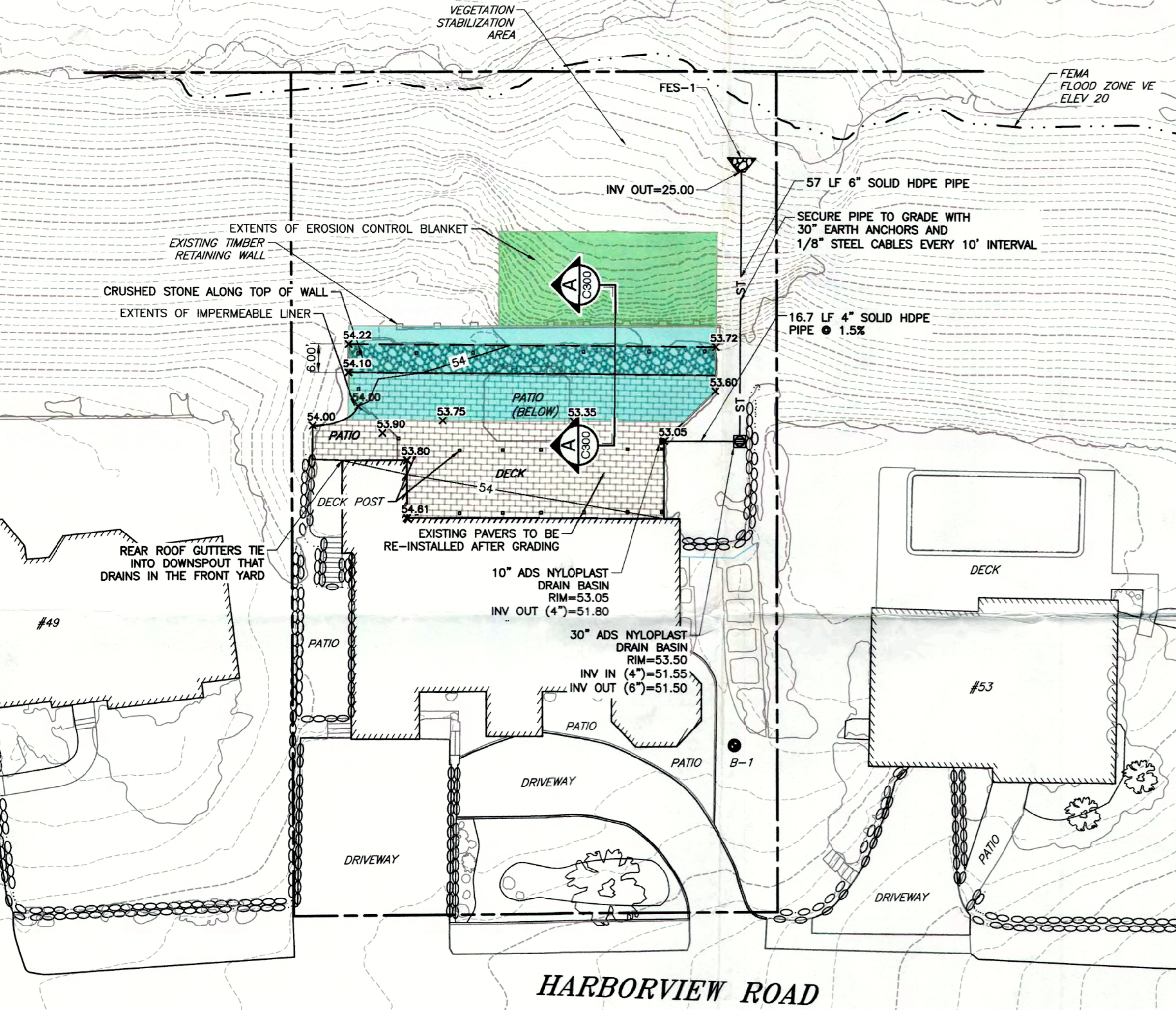
**REVISION RECORD**

NO	DATE	DESCRIPTION
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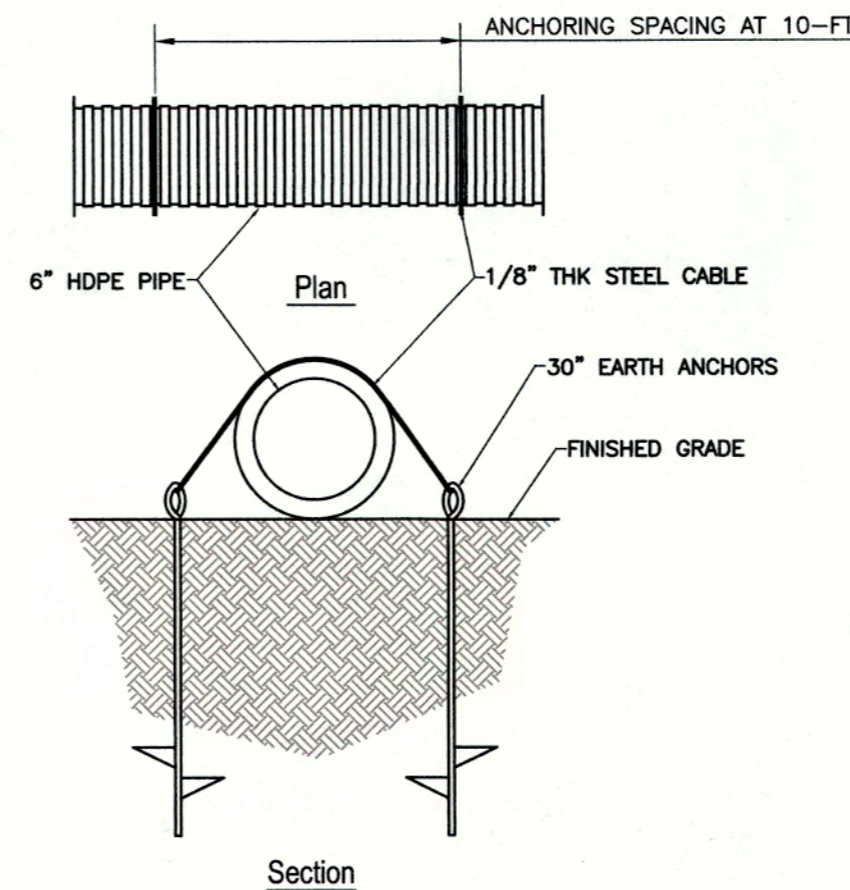
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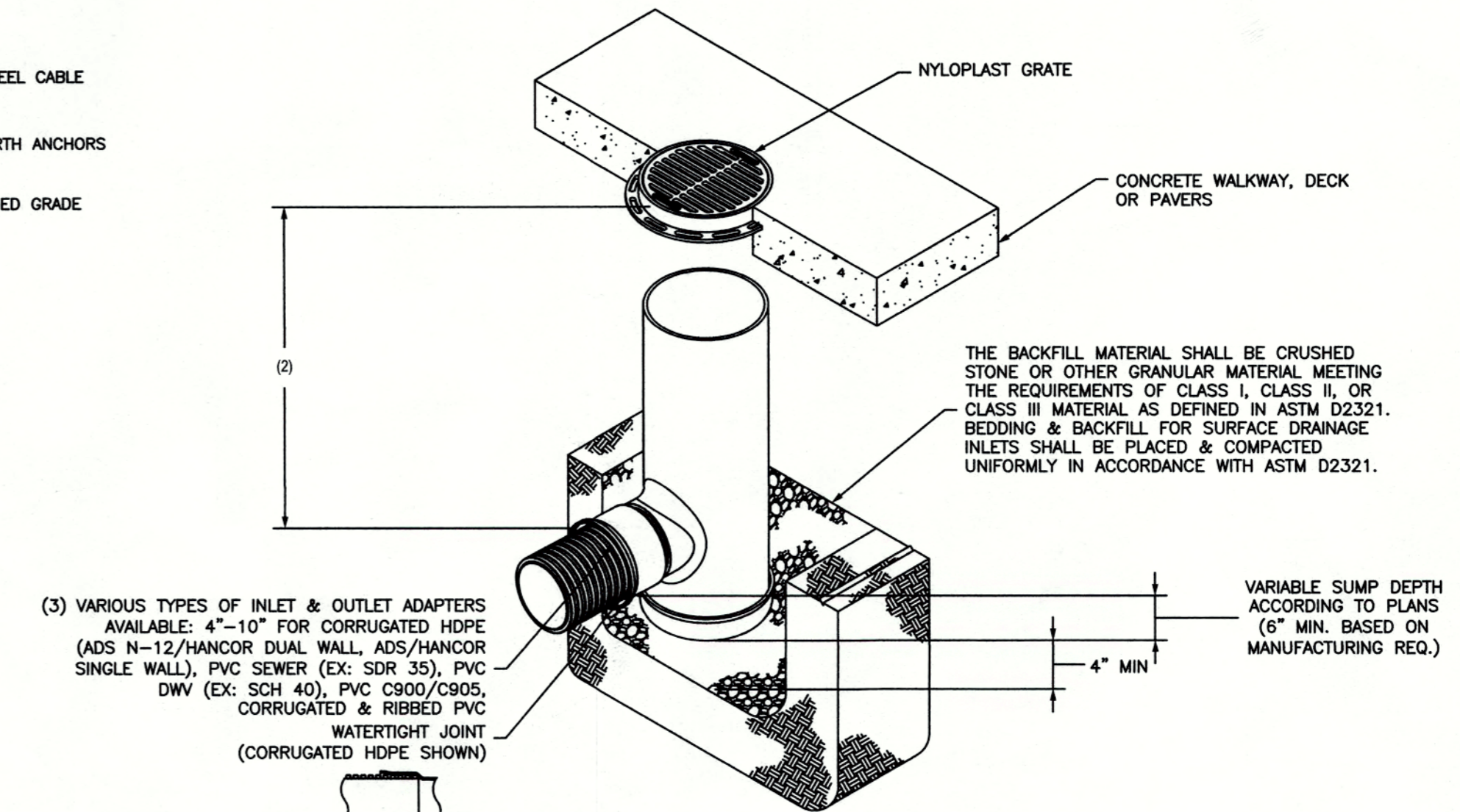
# STONY BEACH



- LEGEND**
- EXISTING SUBJECT PROPERTY LINE
  - - - EXISTING EASEMENT
  - - - EXISTING RIGHT-OF-WAY
  - - - 100 EXISTING INDEX (MAJOR) CONTOUR
  - - - 99 EXISTING INTERMEDIATE (MINOR) CONTOUR
  - - - EXISTING FENCE LINE
  - - - EXISTING STRUCTURE
  - - - PROPOSED STORM PIPE
  - PROPOSED CATCH BASIN
  - EXTENTS OF EROSION CONTROL BLANKET
  - EXTENTS OF IMPERMEABLE LINER

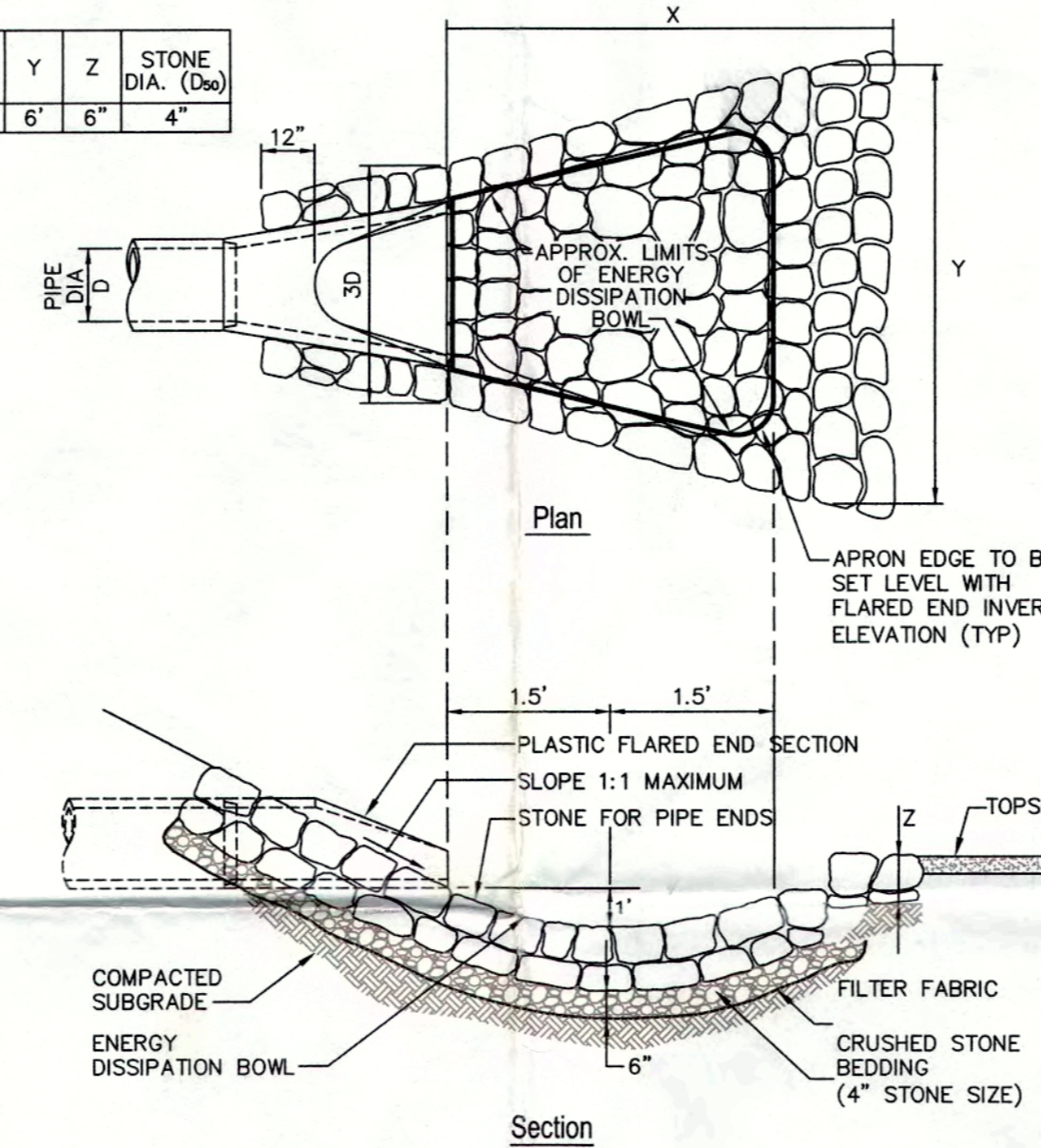


**PIPE ANCHORING DETAIL**  
N.T.S.

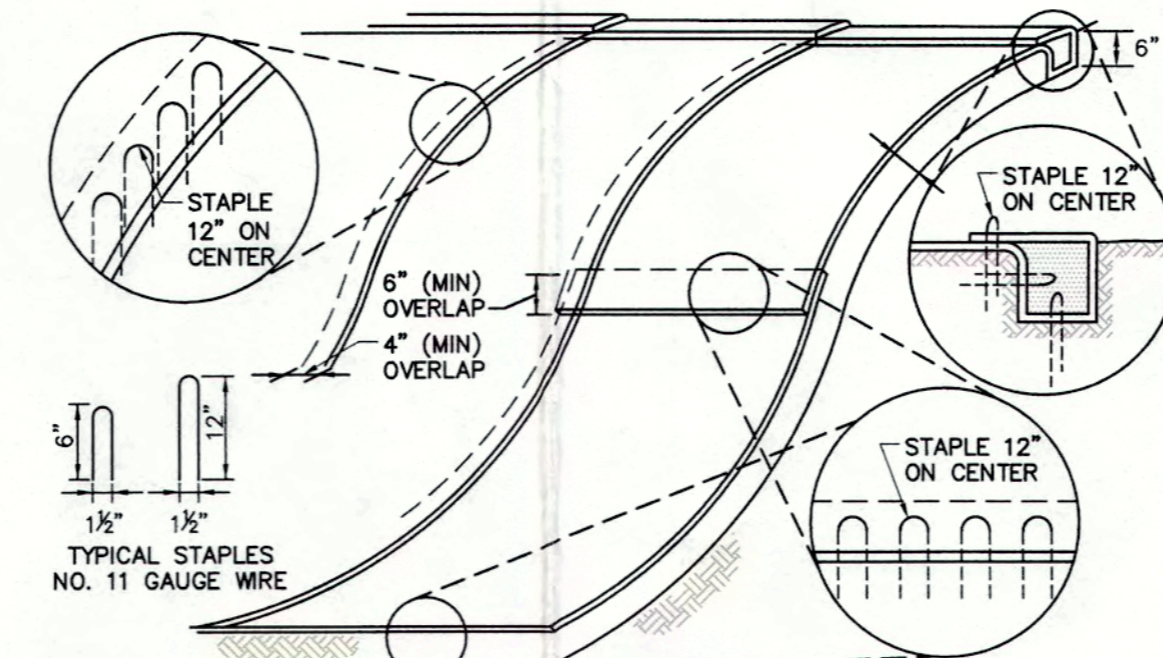


- (3) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE: 4"-10" FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL, ADS/HANCOR SINGLE WALL), PVC SEWER (EX: SDR 35), PVC DWV (EX: SCH 40), PVC C900/C905, CORRUGATED & RIBBED PVC WATER TIGHT JOINT (CORRUGATED HDPE SHOWN)
- 1 - CUSTOM DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
  - 2 - STANDARD DRAIN BASIN HAS FIXED ADAPTER LOCATIONS OF 0 & 180 DEGREES. CUSTOM DRAIN BASIN ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0 TO 360 DEGREES TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
  - 3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3213 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL) & PVC SEWER (4"-10").

**10" ADS NYLOPLAST DRAIN BASIN W/ GRATE**  
N.T.S.



**FLARED END SECTION WITH STONE PROTECTION**  
N.T.S.



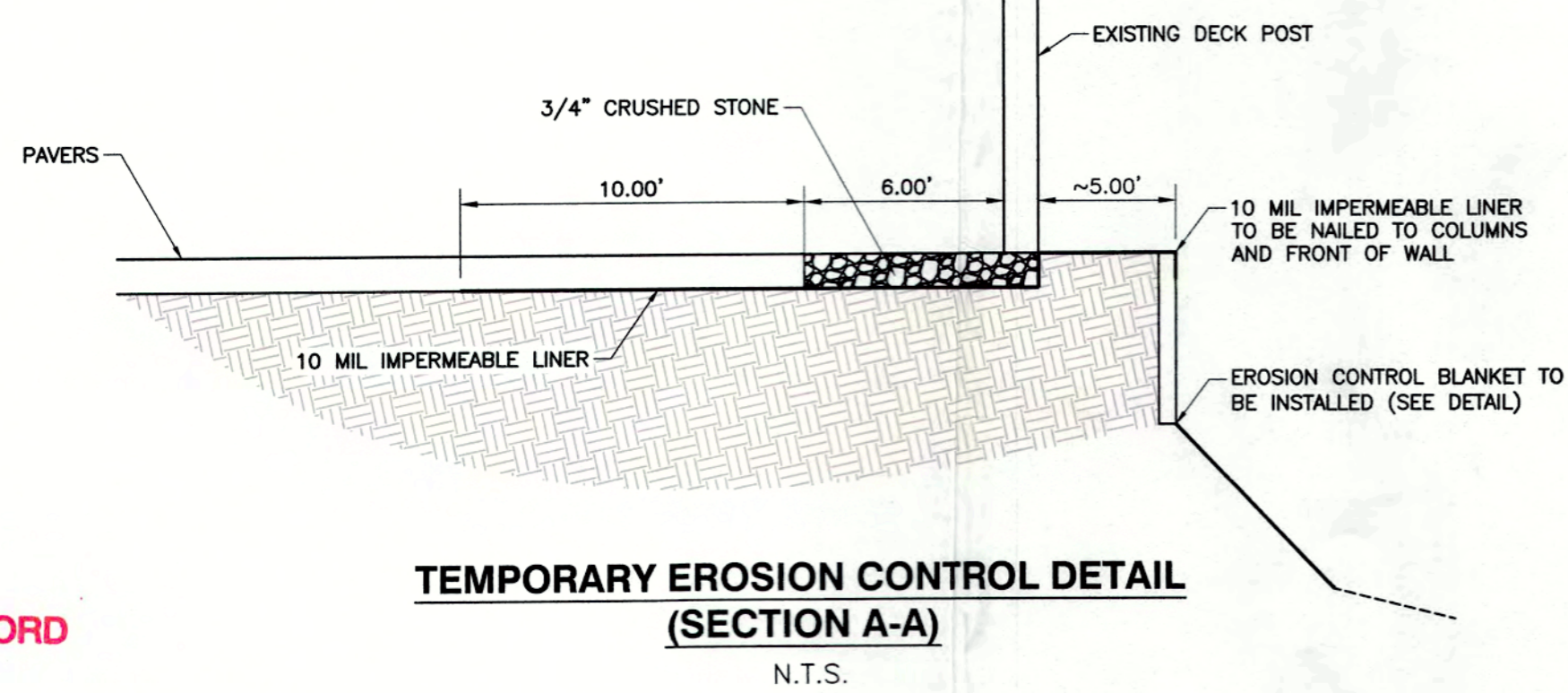
**EROSION CONTROL BLANKET ON SLOPE**  
N.T.S.

- NOTES:**
1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A SIX (6) INCH DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.
  2. ROLL THE BLANKET DOWN THE SLOPE IN THE DIRECTION OF THE WATER FLOW.
  3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROXIMATELY FOUR (4) INCH OVERLAP WHERE TWO (2) OR MORE STRIP WIDTHS ARE REQUIRED.
  4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH SIX (6) INCH MINIMUM OVERLAP AND STAPLE BOTH TOGETHER.
  5. MORE FASTENERS MAY BE REQUIRED DUE TO BLANKET COMPOSITION, SOIL TYPE, SURFACE UNIFORMITY AND SLOPE STEEPNESS. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.

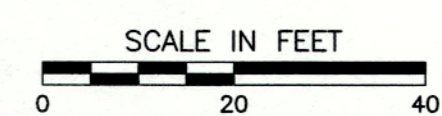
**MAINTENANCE NOTES**

- FLARED END SECTION**
- INSPECT AFTER THE FIRST SEVERAL RAINFALL EVENTS AND AFTER ANY MAJOR STORM EVENTS WITHIN THE FIRST YEAR. AFTER THE FIRST YEAR, INSPECT REGULARLY ON AN ANNUAL BASIS.
  - REMOVE ANY SEDIMENT, TRASH, DEBRIS, LEAVES AND GRASS CLIPPINGS. REMOVE ANY TREE SEEDLINGS BEFORE THEY BECOME FIRMLY ESTABLISHED.
  - NOTE AND REPAIR ANY EROSION OR LOW SPOTS IN THE LEVEL SPREADER.
- DRAIN BASIN**
- ALL BASINS SHALL BE INSPECTED A MINIMUM OF AT LEAST FOUR TIMES A YEAR.
  - ANY STRUCTURAL DAMAGE OR OTHER INDICATION OF MALFUNCTION WILL BE REPORTED TO THE ENGINEER AND SHOULD BE REPAIRED AS NECESSARY.
  - DURING COLDER PERIODS, THE BASIN GRATES MUST BE KEPT FREE OF SNOW AND ICE.
  - DURING WARMER PERIODS, THE BASIN GRATES MUST BE KEPT FREE OF LEAVES, LITTER, SAND AND DEBRIS.

**30" ADS NYLOPLAST DRAIN BASIN W/ GRATE**  
N.T.S.



**TEMPORARY EROSION CONTROL DETAIL (SECTION A-A)**  
N.T.S.



**REVISION RECORD**

NO.	DATE	DESCRIPTION
1	8/14/2023	PER REVIEW RESPONSE TO COMMENTS

**Civil & Environmental Consultants, Inc.**  
31 Bellows Road - Raynham, MA 02767  
Ph: 774.501.2176 - 866.312.2024 - Fax: 774.501.2669  
www.cedinc.com

**THOMAS P. FITZGERALD**  
51 HARBORVIEW ROAD  
HULL, MA 02045

**GRADING AND DRAINAGE PLAN**

DATE:	AUGUST 2023	DRAWN BY:	KLP
DWG SCALE:	1"=20'	CHECKED BY:	AES
PROJECT NO.:	324-891	APPROVED BY:	KPS

DRAWING NO. **C300**  
SHEET 1 OF 1

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PLAN OF RECORD

PLAN OF RECORD



NORTH

STONY BEACH

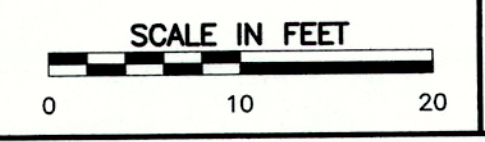
**LEGEND**

	EXISTING SUBJECT PROPERTY LINE
	EXISTING INDEX (MAJOR) CONTOUR
	EXISTING INTERMEDIATE (MINOR) CONTOUR
	EXISTING FEMA FLOOD ZONE
	EXISTING CURB
	EXISTING EDGE OF PAVEMENT
	EXISTING STRUCTURE
	EXISTING STORM PIPE
	PROPOSED INDEX CONTOUR
	PROPOSED INTERMEDIATE CONTOUR
	APPROXIMATE EXTENT OF PROPOSED SOIL NAILS
	TOP = TOP OF FACING
	BOF = BOTTOM OF FACING
	EXISTING STONE BLOCK RETAINING WALL



- NOTES**
- IMPROVEMENTS PROPOSED ON 51 HARBORVIEW ROAD PROPERTY PROPOSED UNDER MASSDEP NOI 035-1743 SHOWN FOR REFERENCE
  - ESTABLISH NEW VEGETATION IN ERODED AREAS IN ACCORDANCE WITH MEMO ENTITLED "51 HARBORVIEW ROAD, HULL, MA - SITE RESTORATION AND REVEGETATION" BY WOODS HOLE GROUP, DATED NOVEMBER 19, 2019.

- REFERENCE**
- AERIAL IMAGERY AND SLOPE TOPOGRAPHY DERIVED FROM UNMANNED AERIAL PHOTOGRAMMETRY DATA COLLECTED BY CEC, INC. ON JUNE 22, 2023. TOPOGRAPHY AT TOP OF SLOPE WITHIN EXISTING PATIO AREA WAS COLLECTED BY CEC DURING A FIELD SURVEY PERFORMED ON FEBRUARY 21, 2024. TOPOGRAPHIC CONTOURS MAPPED AT AN INTERVAL OF 1 FOOT.
  - LOCATION OF STONE BLOCK RETAINING WALL AND EXISTING DECK COLUMNS COURTESY OF SURVEY ENTITLED "TOPOGRAPHIC SITE PLAN OF NORTHERLY PORTION OF 51 HARBORVIEW ROAD, HULL, MA" BY WOODS HOLE GROUP, DATED 09/27/2019.



**REVISION RECORD**

NO	DATE	DESCRIPTION

**CEC**  
**Civil & Environmental Consultants, Inc.**  
 31 Bellows Road - Raynham, MA 02767  
 Ph: 774.501.2176 - 866.312.2024 - Fax: 774.501.2669  
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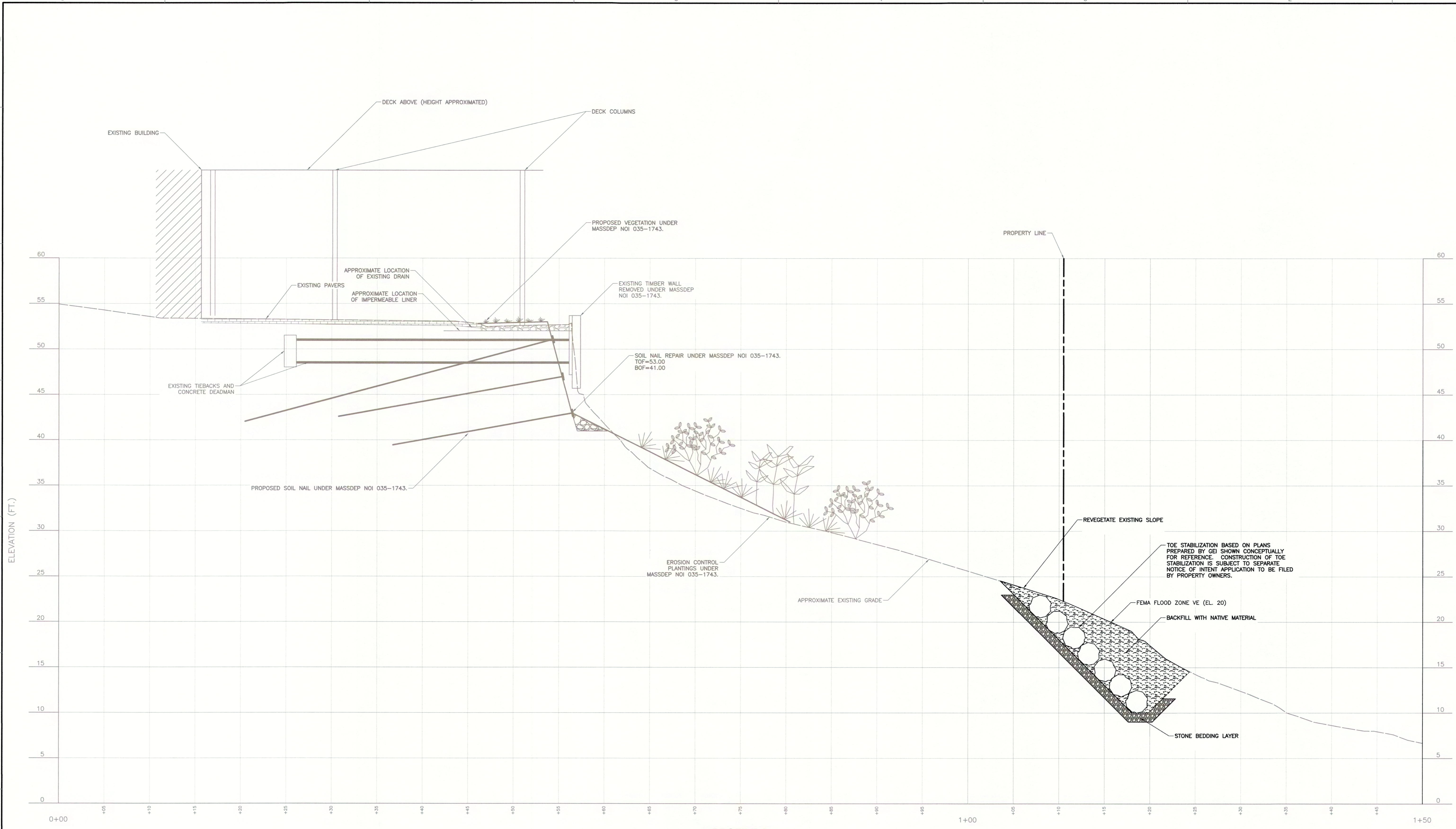
**THOMAS P. FITZGERALD**  
 51 HARBORVIEW ROAD  
 HULL, MASSACHUSETTS 02045

**CONCEPTUAL ADDITIONAL WORK**  
**IN CONJUNCTION WITH TOWN PROJECT**  
**OVERALL PLAN VIEW**

DRAWING NO.: **A-1**  
 SHEET 1 OF 2

DATE: MARCH 19, 2024 DRAWN BY: AC  
 DWG SCALE: AS SHOWN CHECKED BY: KFS  
 PROJECT NO.: 324-891  
 APPROVED BY: KFS

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**PROFILE A**  
 SCALE H:1"=5'; V:1"=5'  
 SCALE IN FEET  
 0 5 10

- NOTES**
- IMPROVEMENTS PROPOSED ON 51 HARBORVIEW ROAD PROPERTY PROPOSED UNDER MASSDEP NOI 035-1743 SHOWN FOR REFERENCE.
  - ESTABLISH NEW VEGETATION IN ERODED AREAS IN ACCORDANCE WITH MEMO ENTITLED "51 HARBORVIEW ROAD, HULL, MA - SITE RESTORATION AND REVEGETATION" BY WOODS HOLE GROUP, DATED NOVEMBER 19, 2019.

- REFERENCE**
- AERIAL IMAGERY AND SLOPE TOPOGRAPHY DERIVED FROM UNMANNED AERIAL PHOTOGRAMMETRY DATA COLLECTED BY CEC, INC. ON JUNE 22, 2023. TOPOGRAPHY AT TOP OF SLOPE WITHIN EXISTING PATIO AREA WAS COLLECTED BY CEC DURING A FIELD SURVEY PERFORMED ON FEBRUARY 21, 2024. TOPOGRAPHIC CONTOURS MAPPED AT AN INTERVAL OF 1 FOOT.

REVISION RECORD	
NO.	DATE

  
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**51 HARBORVIEW ROAD**  
**HULL, MASSACHUSETTS 02045**

<b>CONCEPTUAL ADDITIONAL WORK IN CONJUNCTION WITH TOWN PROJECT TYPICAL SECTION</b>	
DATE:	MARCH 19, 2024
DWG. SCALE:	AS SHOWN
PROJECT NO.:	324-891
APPROVED BY:	KPS

DRAWING NO.: **A-2**  
 SHEET 2 OF 2

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