



New England Wind 2 Connector

Analysis to Support Petition Before the Energy Facilities Siting Board

Docket #EFSB 22-06

Volume II: Attachments

November 1, 2022

Submitted by
Commonwealth Wind, LLC
125 High Street, 6th Floor
Boston, MA 02110

Submitted to
Energy Facilities Siting Board
One South Station
Boston, MA 02114

Prepared by
Epsilon Associates, Inc.
3 Mill & Main Place
Suite 250
Maynard, MA 01754

In Association with
Foley Hoag LLP
Stantec, Inc.
Geo SubSea LLC
Public Archaeology Laboratory

Table of Contents

Volume II – Attachments

Attachment A Detailed Scoring Spreadsheets

Attachment B Preliminary Engineering Plans

Attachment B1: Dowses Beach Landing HDD Landfall Drill Paths

Attachment B2: Onshore 275-Kv Transmission Cable Duct Bank Route

Attachment B3: Onshore 275-Kv Transmission Route 6 Crossing

Attachment B4: 275/345 KV GIS Substation

Attachment C Offshore Export Cable Corridor Map Series

Attachment C1: Benthic Habitat Map Set – Auster

Attachment C2: Benthic Habitat Map Set – Coastal And Marine Ecological Classification Standard (CMECS) System

Attachment D Fisheries Communication Plan (FCP)

Attachment E Sediment Dispersion Modeling

Attachment F RMAAT Climate Resilience Design Standards Tool Report

Attachment G Massachusetts Coastal Zone Management Act Consistency Certification

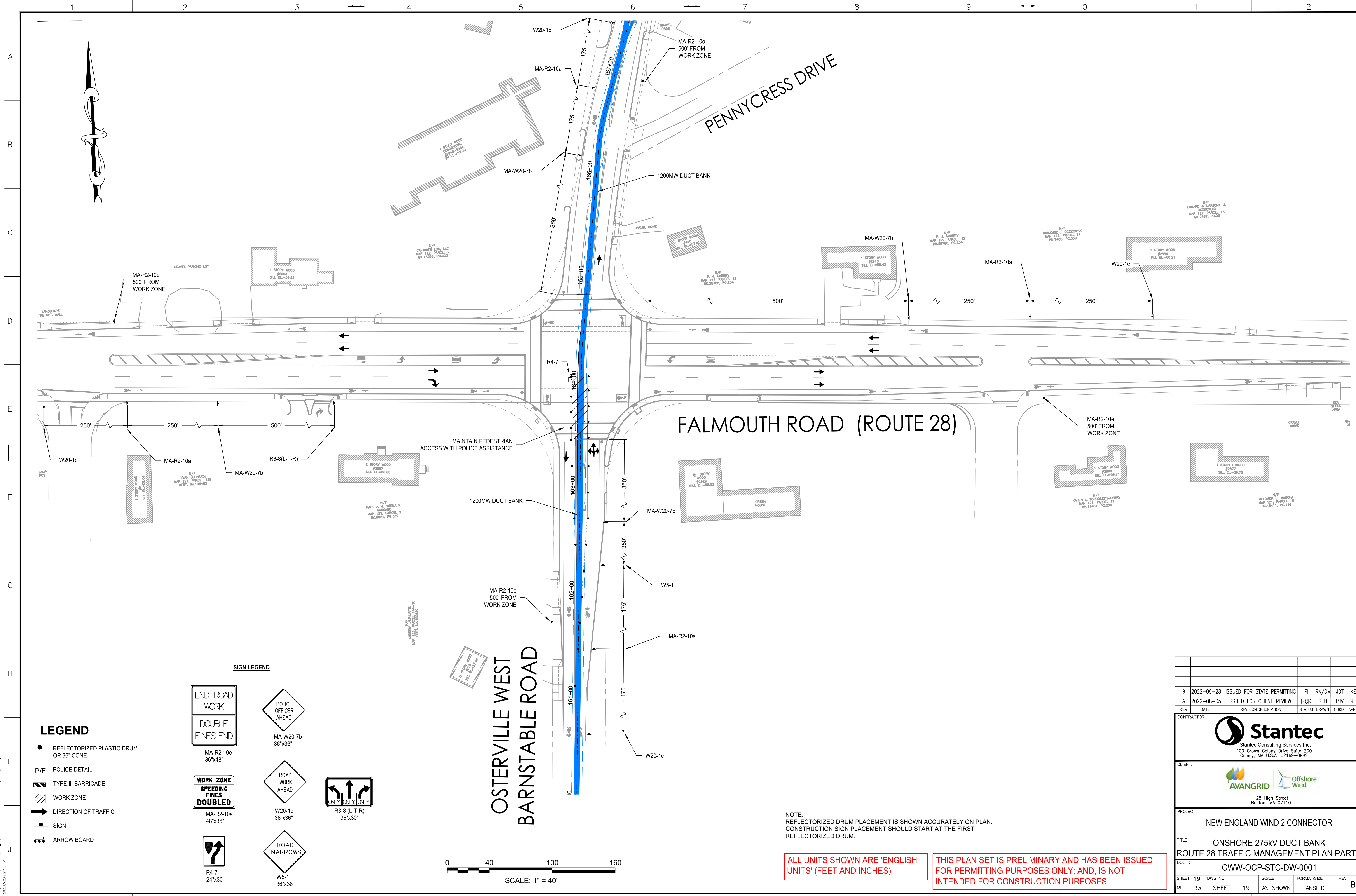
Attachment B

Supporting Plans

Attachment B2

Onshore 275-kV Transmission Cable Duct Bank Route

(Sheets 19 – 33)

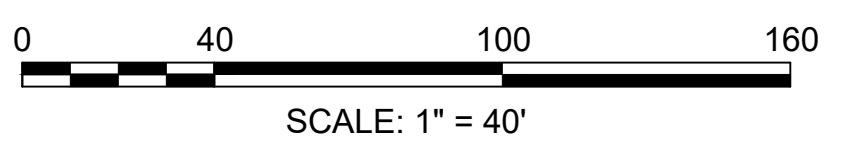


FALMOUTH ROAD (ROUTE 28)

OSTERVILLE WEST BARNSTABLE ROAD

- LEGEND**
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
 - P/F POLICE DETAIL
 - ▨ TYPE III BARRICADE
 - ▨ WORK ZONE
 - ➔ DIRECTION OF TRAFFIC
 - SIGN
 - ➔ ARROW BOARD

- SIGN LEGEND**
- END ROAD
 - DOUBLE FINES END
 - WORK ZONE SPEEDING FINES DOUBLED
 - R4-7 24"x30"
 - MA-R2-10e 36"x48"
 - MA-R2-10a 48"x36"
 - MA-R2-10a 36"x36"
 - MA-W20-7b 36"x36"
 - ROAD WORK AHEAD
 - W20-1c 36"x36"
 - ROAD NARROWS
 - W5-1 36"x36"
 - POLICE OFFICER AHEAD
 - ONLY ONLY ONLY



NOTE:
REFLECTORIZED DRUM PLACEMENT IS SHOWN ACCURATELY ON PLAN.
CONSTRUCTION SIGN PLACEMENT SHOULD START AT THE FIRST REFLECTORIZED DRUM.

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPRVD
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	SEB	PJV	KEF

CONTRACTOR:

Stantec Consulting Services Inc.
400 Crown Colony Drive Suite 200
Quincy, MA U.S.A. 02169-0982

CLIENT:

125 High Street
Boston, MA 02110

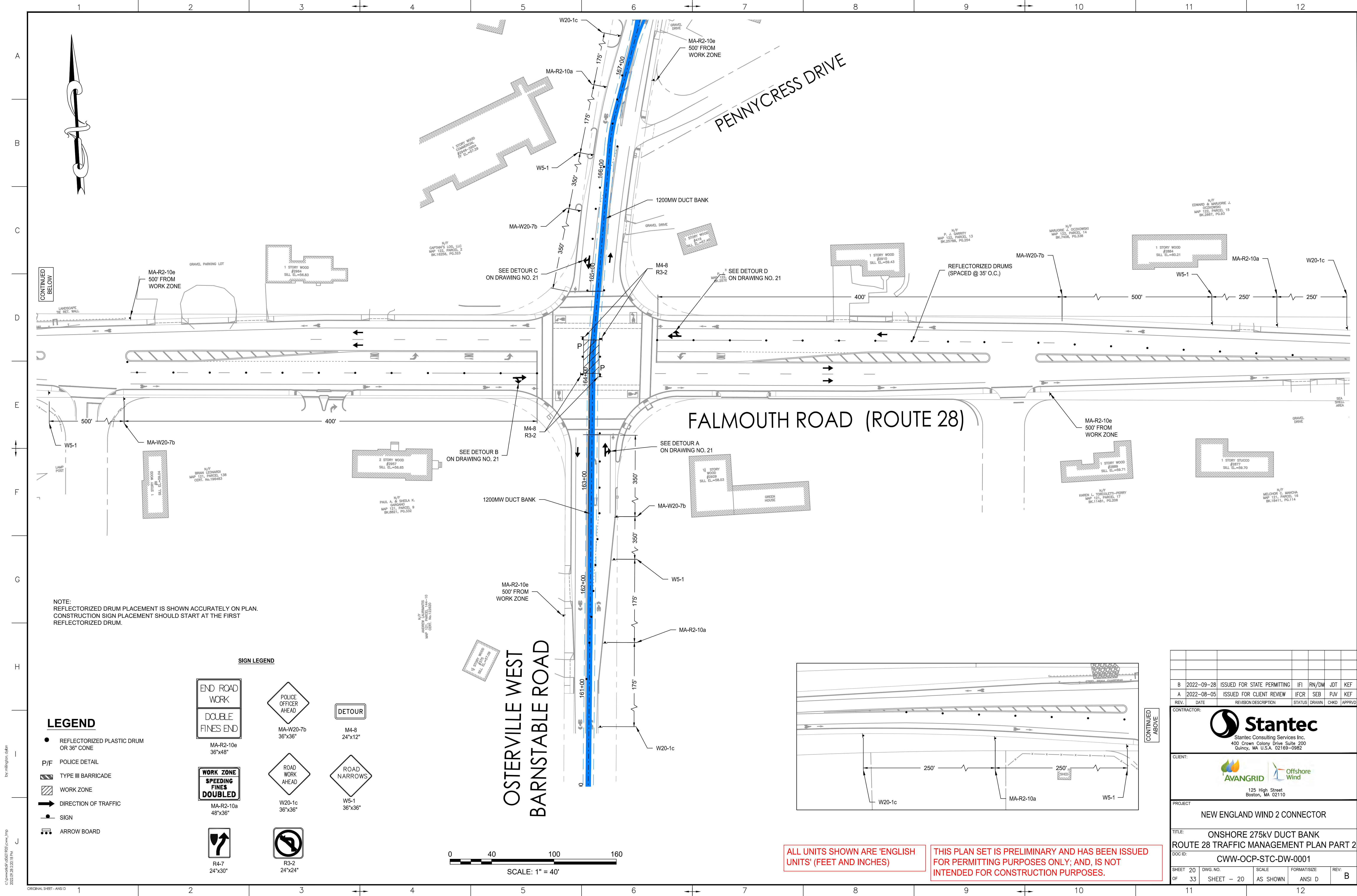
PROJECT: NEW ENGLAND WIND 2 CONNECTOR

TITLE: ONSHORE 275kV DUCT BANK
ROUTE 28 TRAFFIC MANAGEMENT PLAN PART 1

DOCID: CWW-OC-PTC-DW-0001

SHEET OF	DWG. NO.	SCALE	FORMAT/SIZE	REV.
19 OF 33	SHEET - 19	AS SHOWN	ANSI D	B

C:\Users\m\OneDrive\Documents\CWW\Map\20220928_19_25010.dwg
2022.09.28 2:50:10 PM



CONTINUED BELOW







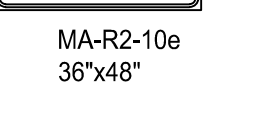
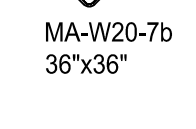
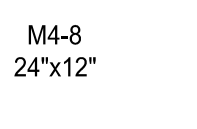
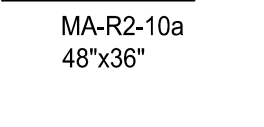
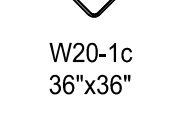
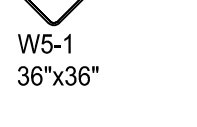


CONTINUED ABOVE

NOTE:
REFLECTORIZED DRUM PLACEMENT IS SHOWN ACCURATELY ON PLAN.
CONSTRUCTION SIGN PLACEMENT SHOULD START AT THE FIRST REFLECTORIZED DRUM.

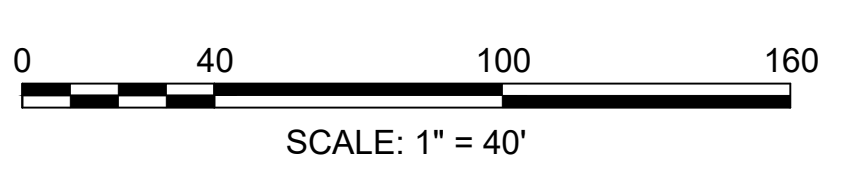
LEGEND

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE DETAIL
- ▨ TYPE III BARRICADE
- ▨ WORK ZONE
- ➔ DIRECTION OF TRAFFIC
- SIGN
- ➔ ARROW BOARD

SIGN LEGEND

- | | | |
|--|---|--|
| 
END ROAD WORK
DOUBLE FINES END | 
POLICE OFFICER AHEAD | 
DETOUR |
| 
WORK ZONE
SPEEDING FINES DOUBLED | 
ROAD WORK AHEAD | 
ROAD NARROWS |
| 
MA-R2-10e
36"x48" | 
MA-W20-7b
36"x36" | 
M4-8
24"x12" |
| 
MA-R2-10a
48"x36" | 
W20-1c
36"x36" | 
W5-1
36"x36" |
| 
R4-7
24"x30" | 
R3-2
24"x24" | |


OSTERVILLE WEST
BARNSTABLE ROAD





ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPROVD
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	SEB	PJV	KEF

CONTRACTOR: 
Stantec Consulting Services Inc.
400 Crown Colony Drive Suite 200
Quincy, MA U.S.A. 02169-0982

CLIENT:  
125 High Street
Boston, MA 02110

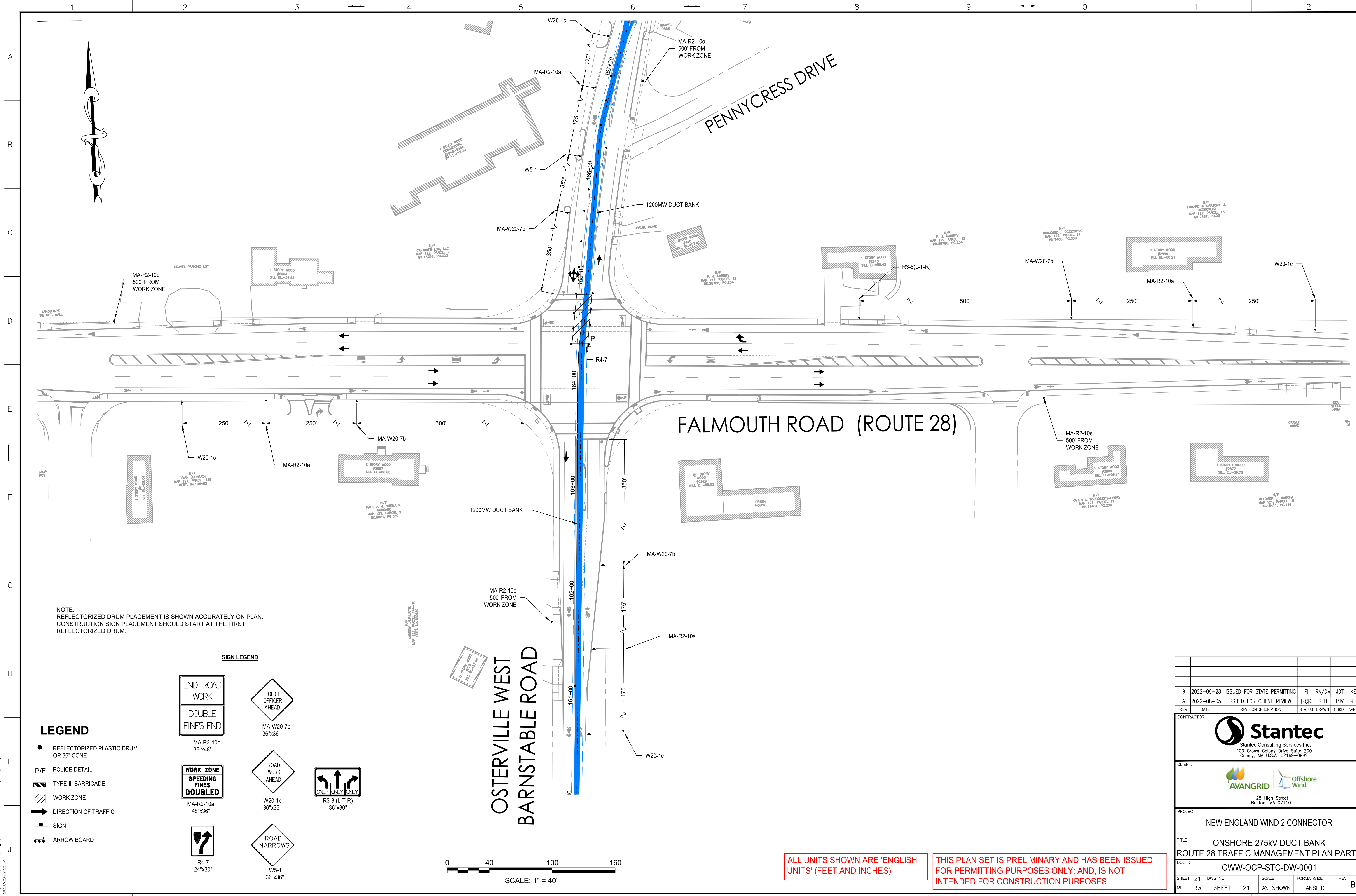
PROJECT: NEW ENGLAND WIND 2 CONNECTOR

TITLE: ONSHORE 275kV DUCT BANK
ROUTE 28 TRAFFIC MANAGEMENT PLAN PART 2

DOCID: CWW-OCP-STC-DW-0001

SHEET 20 OF 33	DWG. NO. SHEET - 20	SCALE AS SHOWN	FORMAT/SIZE ANSI D	REV. B
----------------	---------------------	----------------	--------------------	--------

ORIGINAL SHEET - ANSI D



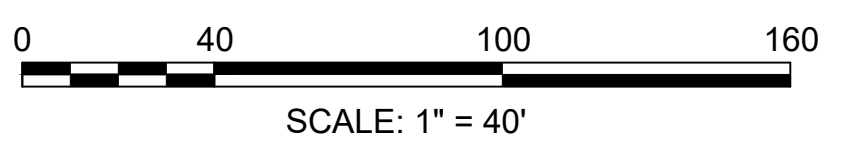
NOTE:
REFLECTORIZED DRUM PLACEMENT IS SHOWN ACCURATELY ON PLAN.
CONSTRUCTION SIGN PLACEMENT SHOULD START AT THE FIRST
REFLECTORIZED DRUM.

SIGN LEGEND

- END ROAD WORK
- DOUBLE FINES END
- POLICE OFFICER AHEAD
- MA-R2-10e 36"x48"
- WORK ZONE SPEEDING FINES DOUBLED
- MA-R2-10a 48"x36"
- R4-7 24"x30"
- MA-W20-7b 36"x36"
- ROAD WORK AHEAD
- W20-1c 36"x36"
- ROAD NARROWS
- W5-1 36"x36"

- LEGEND**
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
 - P/F POLICE DETAIL
 - TYPE III BARRICADE
 - WORK ZONE
 - DIRECTION OF TRAFFIC
 - SIGN
 - ARROW BOARD

OSTERVILLE WEST
BARNSTABLE ROAD



ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPROV
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	SEB	PJV	KEF

CONTRACTOR:

Stantec Consulting Services Inc.
400 Crown Colony Drive Suite 200
Quincy, MA U.S.A. 02169-0982

CLIENT:

125 High Street
Boston, MA 02110

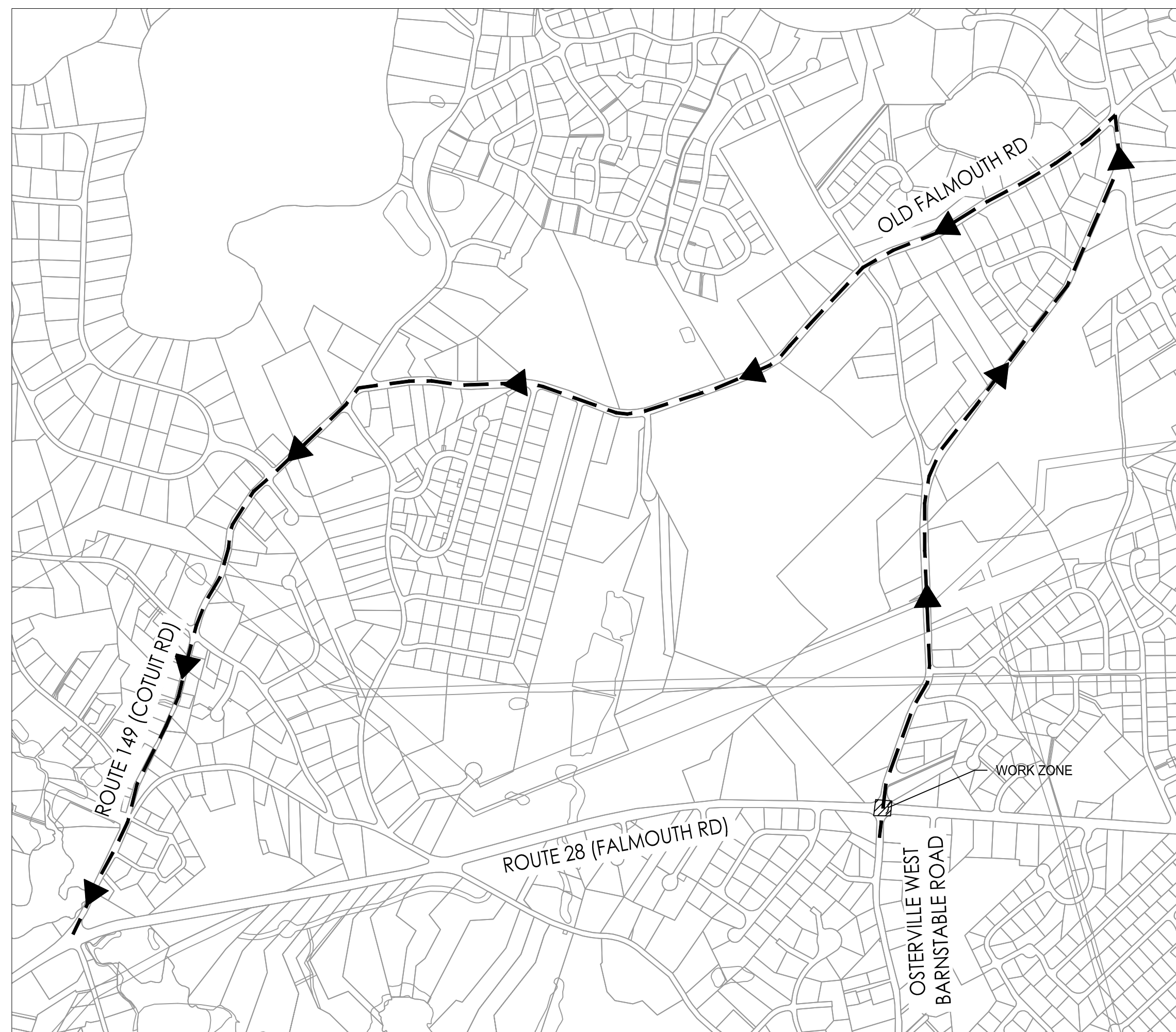
PROJECT: NEW ENGLAND WIND 2 CONNECTOR

TITLE: ONSHORE 275KV DUCT BANK
ROUTE 28 TRAFFIC MANAGEMENT PLAN PART 3

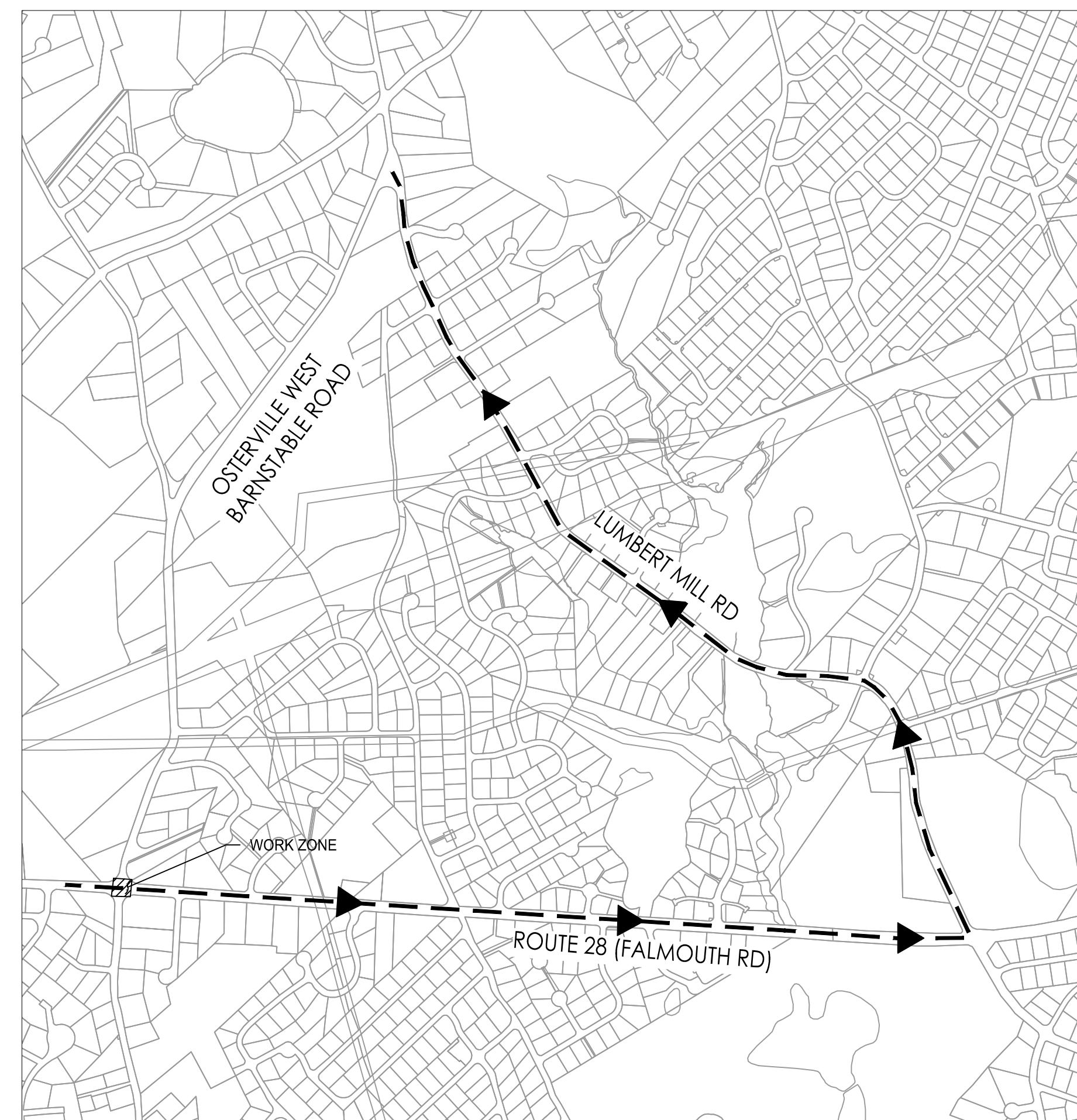
DOCID: CWW-OCF-STC-DW-0001

SHEET OF	DWG. NO.	SCALE	FORMAT/SIZE	REV.
21 OF 33	SHEET - 21	AS SHOWN	ANSI D	B

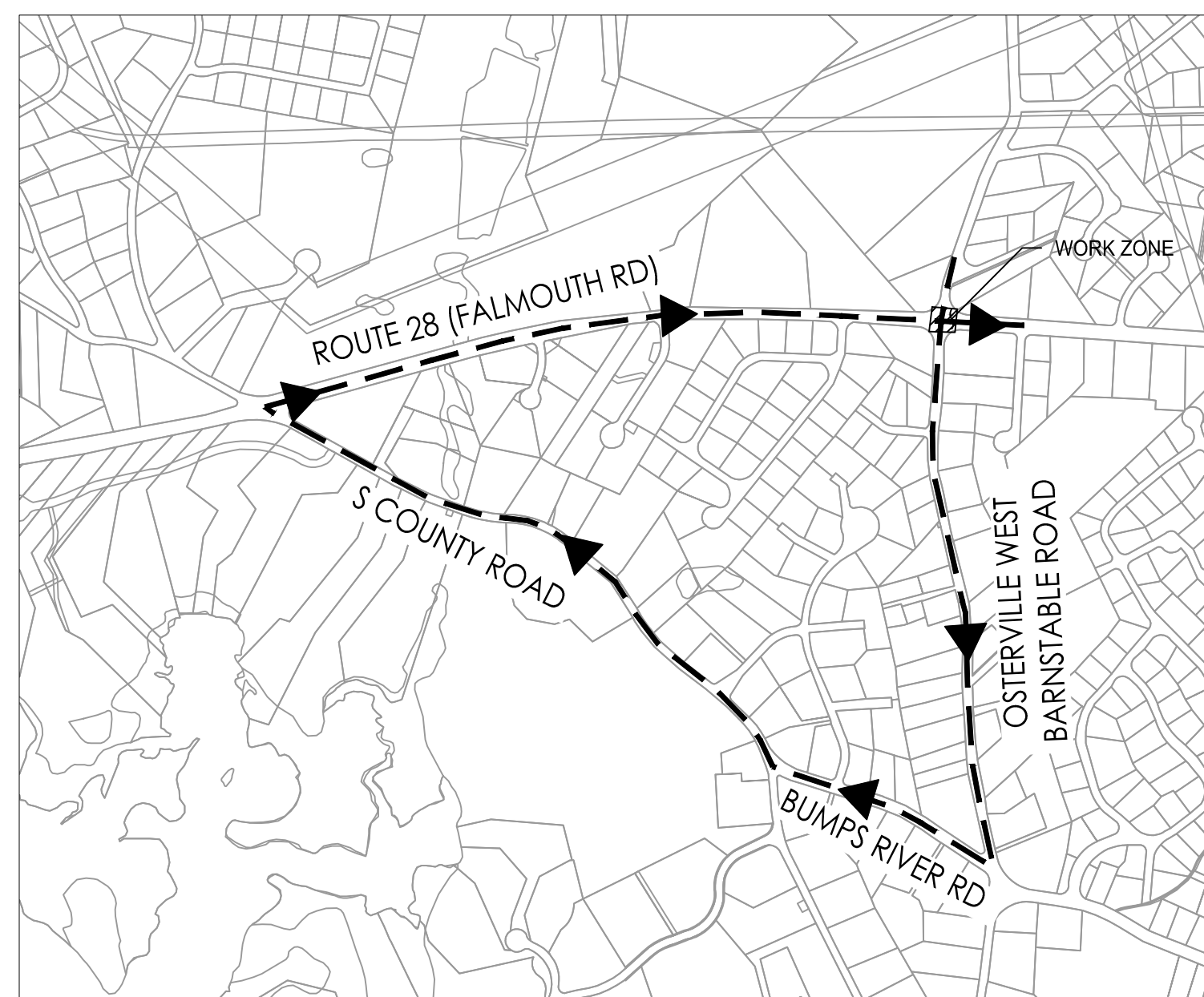
C:\Users\m\OneDrive\Documents\CWW\m\20220928_21_25201.dwg



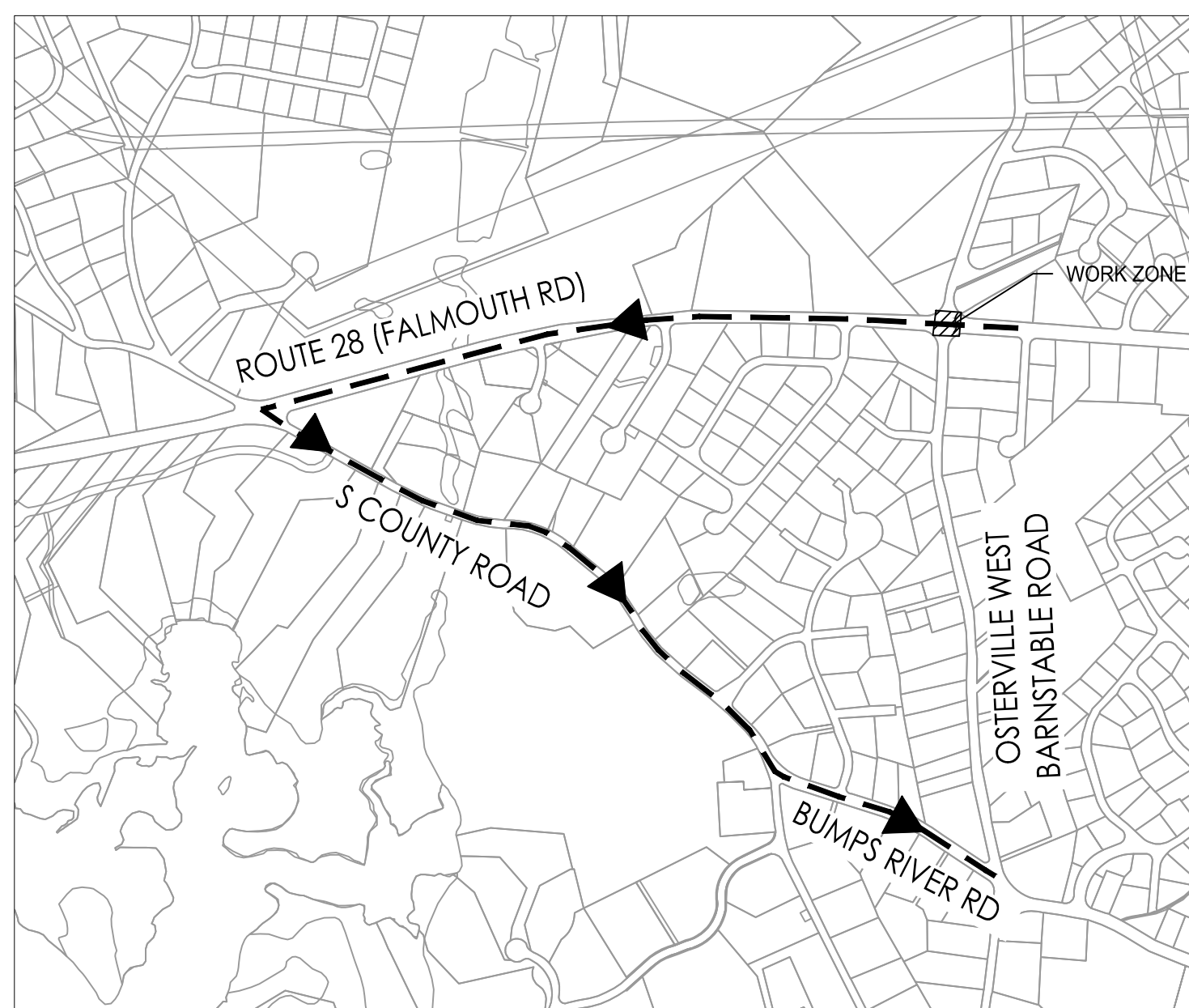
DETOUR A
OSTERVILLE W BARNSTABLE RD NORTHBOUND LEFT TURN
 SCALE: 1" = 750'



DETOUR B
ROUTE 28 EASTBOUND LEFT TURN
 SCALE: 1" = 750'



DETOUR C
OSTERVILLE W BARNSTABLE RD SOUTHBOUND LEFT TURN
 SCALE: 1" = 750'



DETOUR D
ROUTE 28 WESTBOUND LEFT TURN
 SCALE: 1" = 750'

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPRVD
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	SEB	PJV	KEF

CONTRACTOR:

Stantec Consulting Services Inc.
 400 Crown Colony Drive Suite 200
 Quincy, MA U.S.A. 02169-0982

CLIENT:

125 High Street
 Boston, MA 02110

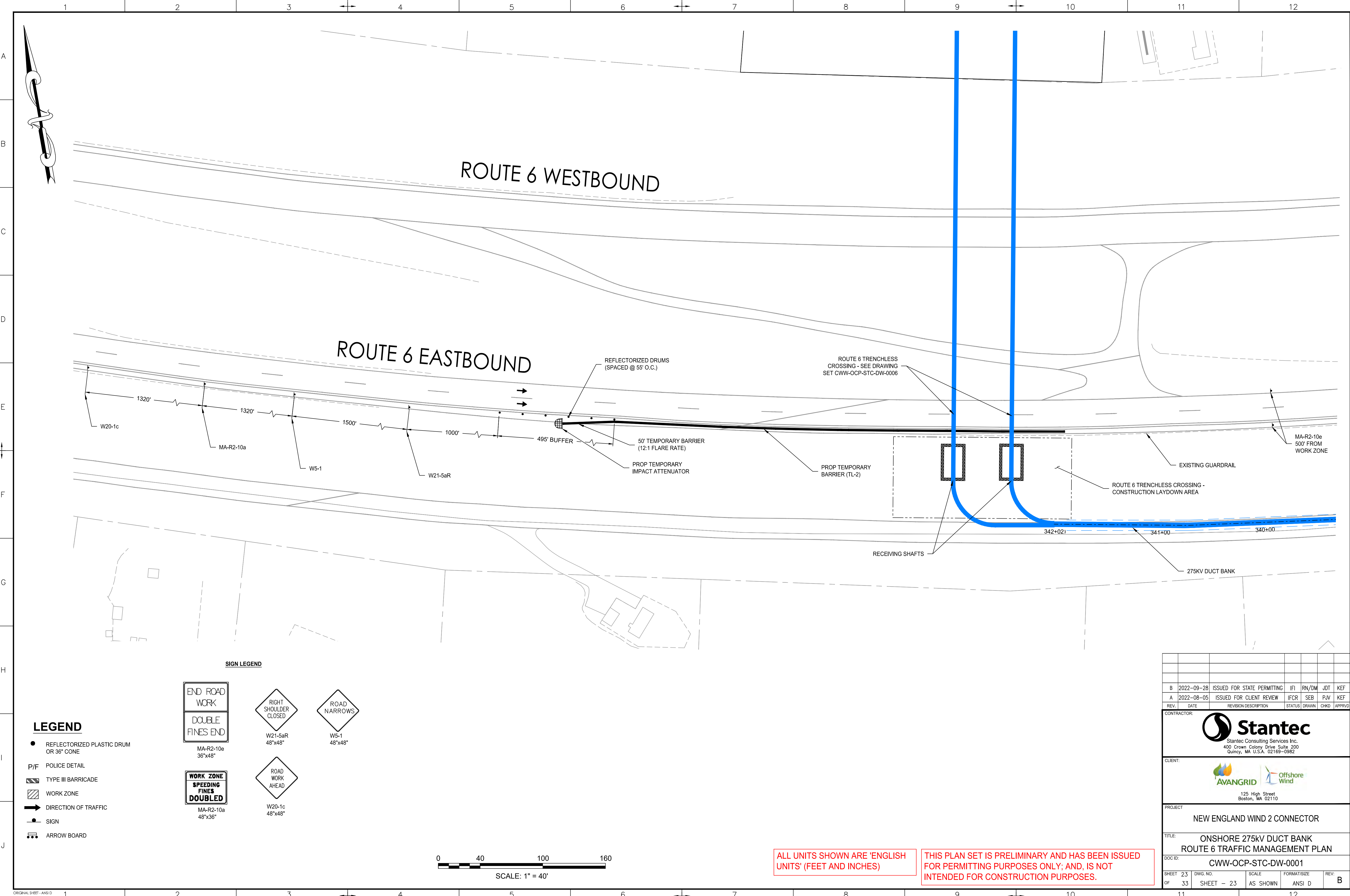
PROJECT: NEW ENGLAND WIND 2 CONNECTOR

TITLE: ONSHORE 275kV DUCT BANK
 ROUTE 28 TRAFFIC MANGEMENT PLAN DETOURS

DOCID: CWW-OCP-STC-DW-0001

SHEET 22 OF 33	DWG. NO. SHEET - 22	SCALE AS SHOWN	FORMAT/SIZE ANSI D	REV. B
----------------	---------------------	----------------	--------------------	--------

C:\Users\jv\OneDrive\Documents\CWW_2022\20220928_22\22044.dwg
 20220928 10:25:44 AM
 by: millington, g/ken

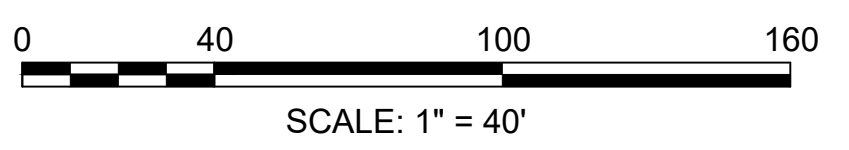


LEGEND

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE DETAIL
- ▨ TYPE III BARRICADE
- ▨ WORK ZONE
- ➔ DIRECTION OF TRAFFIC
- SIGN
- ➔ ARROW BOARD

SIGN LEGEND

END ROAD WORK DOUBLE FINES END MA-R2-10e 36"x48"	RIGHT SHOULDER CLOSED W21-5aR 48"x48"	ROAD NARROWS W5-1 48"x48"
WORK ZONE SPEEDING FINES DOUBLED MA-R2-10a 48"x36"	ROAD WORK AHEAD W20-1c 48"x48"	



ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPRVD
B	2022-09-28	ISSUED FOR STATE PERMITTING	IFI	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	SEB	PJV	KEF

CONTRACTOR:

Stantec Consulting Services Inc.
400 Crown Colony Drive Suite 200
Quincy, MA U.S.A. 02169-0982

CLIENT:

125 High Street
Boston, MA 02110

PROJECT: NEW ENGLAND WIND 2 CONNECTOR

TITLE: ONSHORE 275kV DUCT BANK ROUTE 6 TRAFFIC MANAGEMENT PLAN

DOCID: CWW-OCP-STC-DW-0001

SHEET 23 OF 33	DWG. NO. SHEET - 23	SCALE AS SHOWN	FORMAT/SIZE ANSI D	REV. B
----------------	---------------------	----------------	--------------------	--------

C:\Users\jv\OneDrive\Documents\CWW\mmp_20220928_122654.rvt

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
7. THE FIRST TEN DRUMS OF ANY TAPER SHALL BE EQUIPPED WITH SEQUENTIAL FLASHING LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET (3.3m) UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

LEGEND:

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- ▨ WORK ZONE
- 🚚 WORK VEHICLE
- ➔ DIRECTION OF TRAFFIC
- 🚛 TRUCK MOUNTED ATTENUATOR
- P/F POLICE/FLAGGER DETAIL
- 🚧 IMPACT ATTENUATOR
- 🚦 TRAFFIC OR PEDESTRIAN SIGNAL
- 🚧 TYPE III BARRICADE
- 🚧 MEDIAN BARRIER
- 🚧 SIGN
- 📄 CHANGEABLE MESSAGE SIGN
- 🚧 MEDIAN BARRIER WITH WARNING LIGHTS
- 🚧 ARROW BOARD

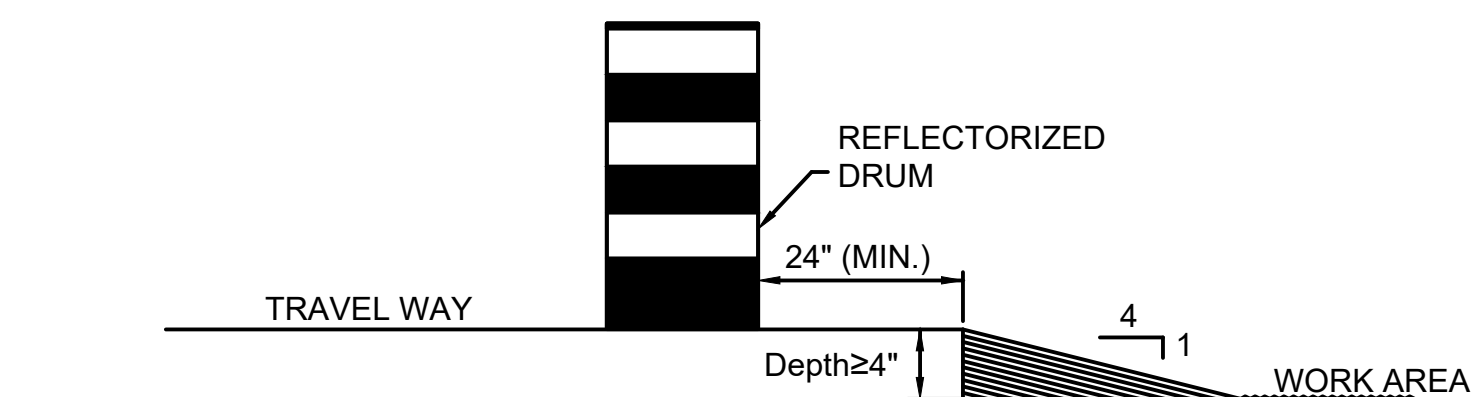
THE IDEAL CAPACITY OF A MAJOR HIGHWAY IS GENERALLY CONSIDERED TO BE 1900 PASSENGER CARS PER HOUR PER LANE (PCPHPL). IN WORK ZONES ON A MULTI-LANE DIVIDED HIGHWAY, THE FOLLOWING VOLUME GUIDELINES HAVE BEEN SUGGESTED:

MEASURED AVERAGE WORK ZONE CAPACITIES

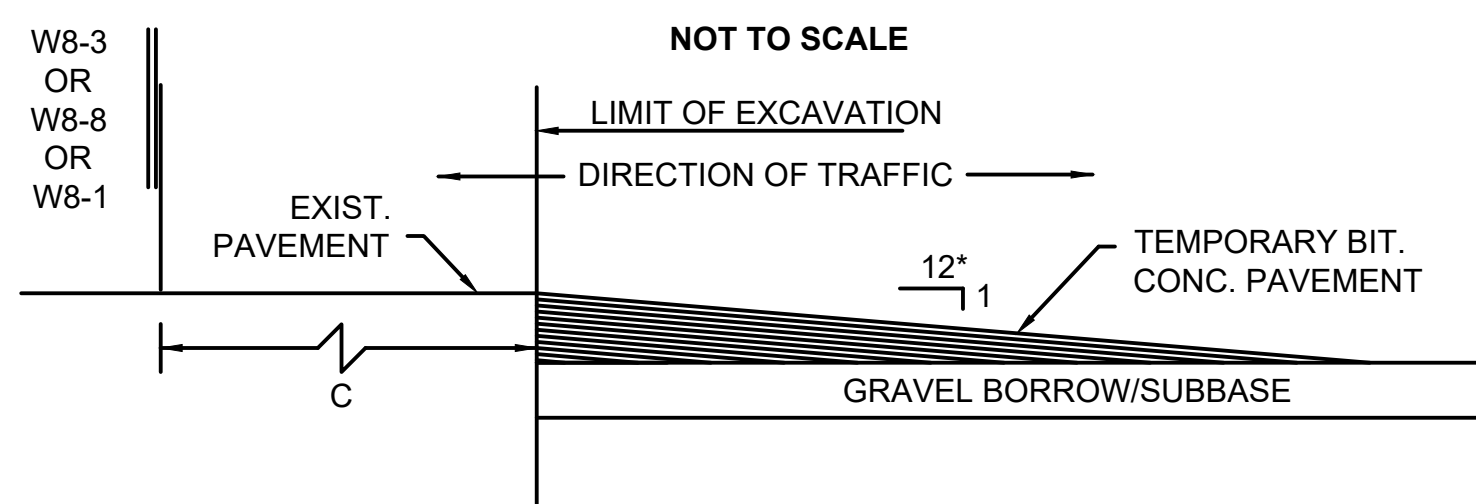
NUMBER OF LANES		NUMBER OF STUDIES	AVERAGE CAPACITY	
NORMAL (EXISTING)	OPEN (TO TRAFFIC)		VPH	VPHPL
3	1	7	1,170	1,170
2	1	8	1,340	1,340
5	2	8	2,740	1,370
4	2	4	2,960	1,480
3	2	9	2,980	1,490
4	3	4	4,560	1,520

Source: Dudek, C., *Notes on Work Zone Capacity and Level of Service*, Texas Transportation Institute, Texas A&M University, College Station, Texas (1984)

BY OBTAINING HOURLY TRAFFIC COUNTS FOR A PARTICULAR ROADWAY (WITH A MINIMUM OF A 48-HOUR AUTOMATIC TRAFFIC RECORDER (ATR) COUNT), THIS WILL HELP TO DETERMINE AT WHAT TIMES OF THE DAY OR NIGHT A CERTAIN NUMBER OF LANES MAY BE CLOSED.



LATERAL DROP-OFF DETAIL



LONGITUDINAL DROP-OFF DETAIL

NOT TO SCALE
* - INCREASE SLOPE RATIO FOR HIGHER SPEEDS
LATERAL AND LONGITUDINAL DROP-OFF DETAILS

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350 (100)	350 (100)	350 (100)
MOST OTHER ROADWAYS*	500 (150)	500 (150)	500 (150)
FREEWAYS AND EXPRESSWAYS*	1,000 (300)	1,500 (450)	2,640 (800)

* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

** DISTANCES ARE SHOWN IN FEET (METERS). THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/ TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTC SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (I.E. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (I.E. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

R2-10a, R2-10e, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

Based on: Table 6C-1 MUTCD LATEST EDITION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED* (mph)	DISTANCE (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

*POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

THESE VALUES MAY BE USED TO DETERMINE THE LENGTH OF LONGITUDINAL BUFFER SPACES.

THE DISTANCES IN THE ABOVE CHART REPRESENT THE MINIMAL VALUES FOR BUFFER SPACING.

Source: Table 6C-2 MUTCD LATEST EDITION

CONVENTIONAL ROADWAY- A STREET OR HIGHWAY OTHER THAN A LOW-VOLUME ROAD, EXPRESSWAY, OR FREEWAY.

EXPRESSWAY- A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.

FREEWAY- A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS.

LOW-VOLUME ROAD- A FACILITY LYING OUTSIDE OF BUILT-UP AREAS OF CITIES, TOWNS, AND COMMUNITIES, AND IT SHALL HAVE A TRAFFIC VOLUME OF LESS THAN 400 AADT. IT SHALL NOT BE A FREEWAY, EXPRESSWAY, INTERCHANGE RAMP, FREEWAY SERVICE ROAD OR A ROAD ON A DESIGNATED STATE HIGHWAY SYSTEM.

Source: MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN. 100 FT MAX.
DOWNSTREAM TAPER	50 FT MIN. 100 FT MAX. PER LANE

Source: Table 6C-3 MUTCD LATEST EDITION

FORMULAS FOR DETERMINING TAPER LENGTHS

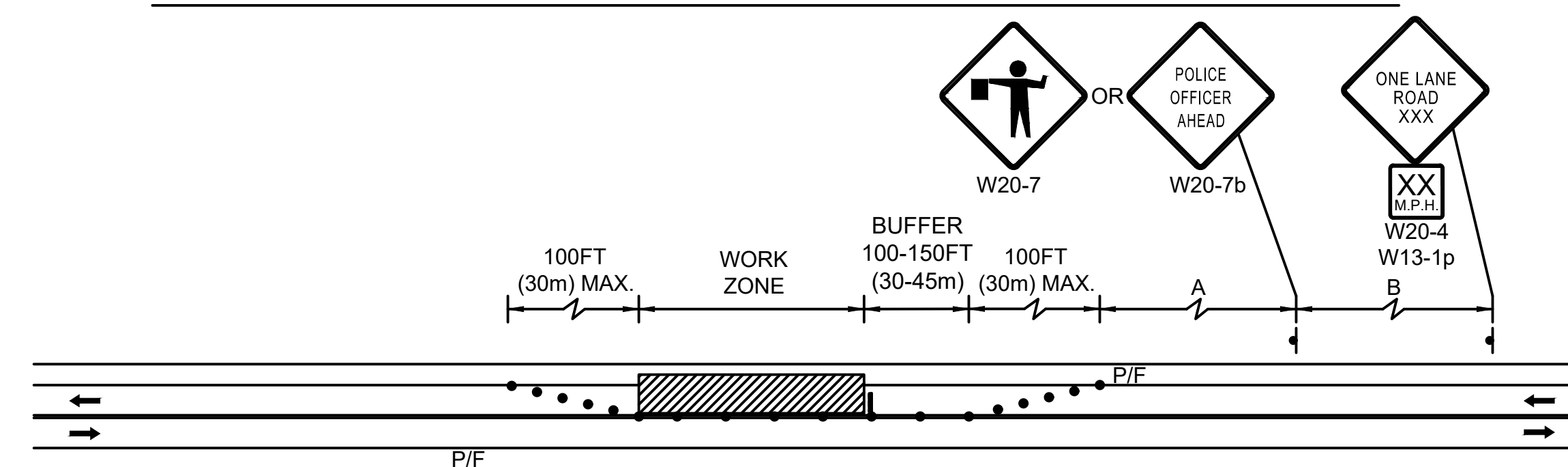
SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

WHERE: L = TAPER LENGTH IN FEET

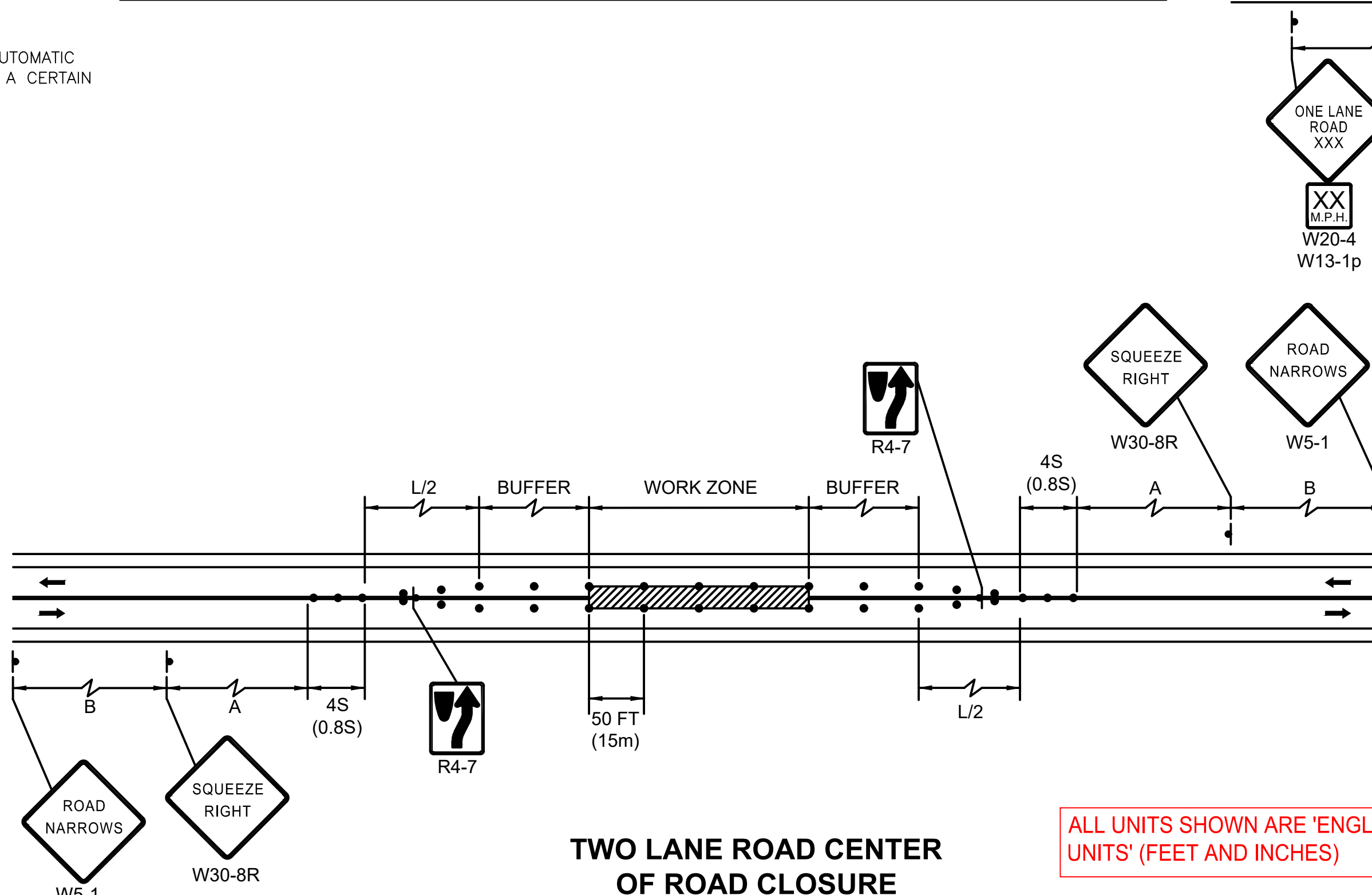
W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

Source: Table 6C-4 MUTCD LATEST EDITION



TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC



TWO LANE ROAD CENTER OF ROAD CLOSURE

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPROV
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	SEB	PJV	KEF

CONTRACTOR: **Stantec**
Stantec Consulting Services Inc.
400 Crown Colony Drive Suite 200
Quincy, MA U.S.A. 02169-0982

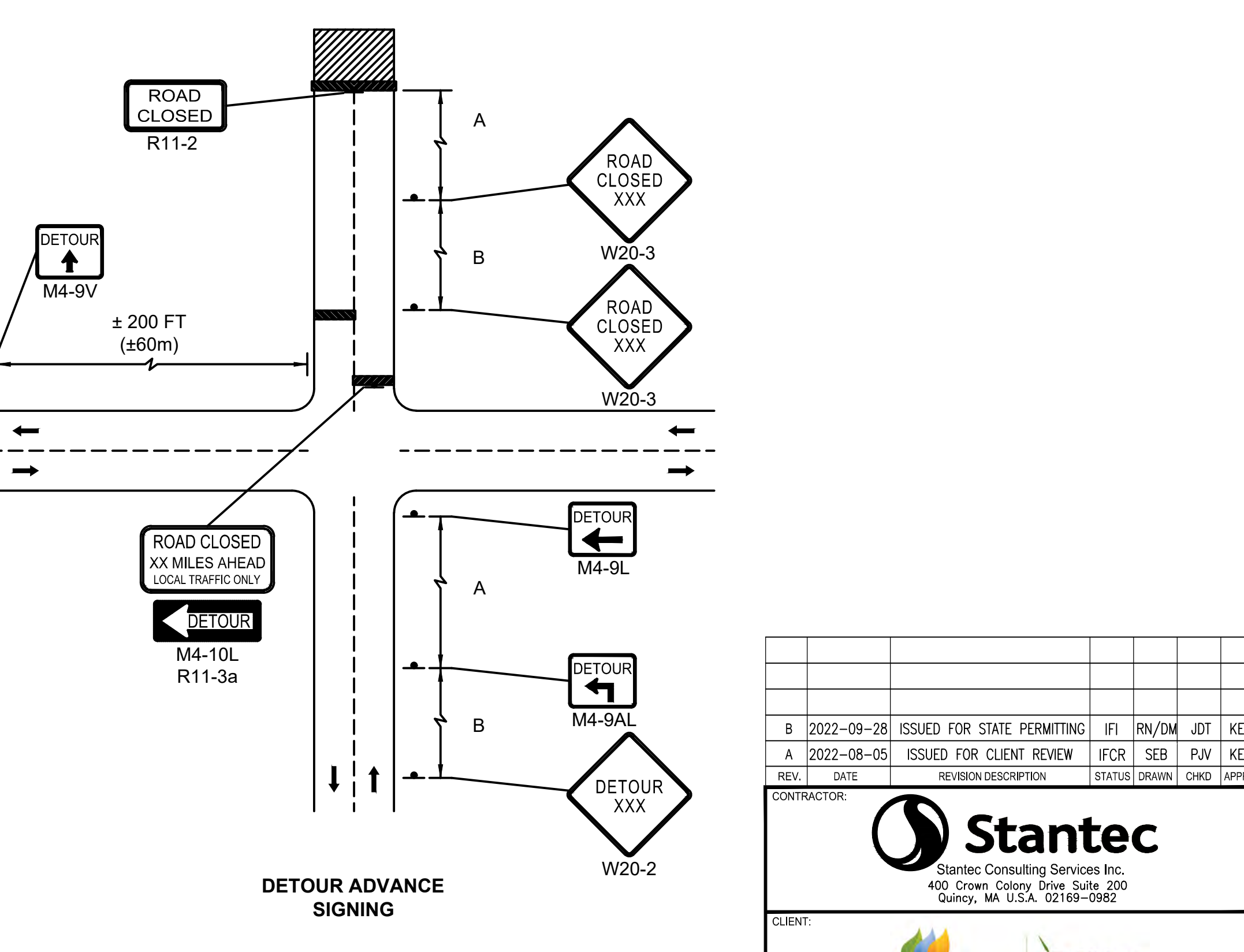
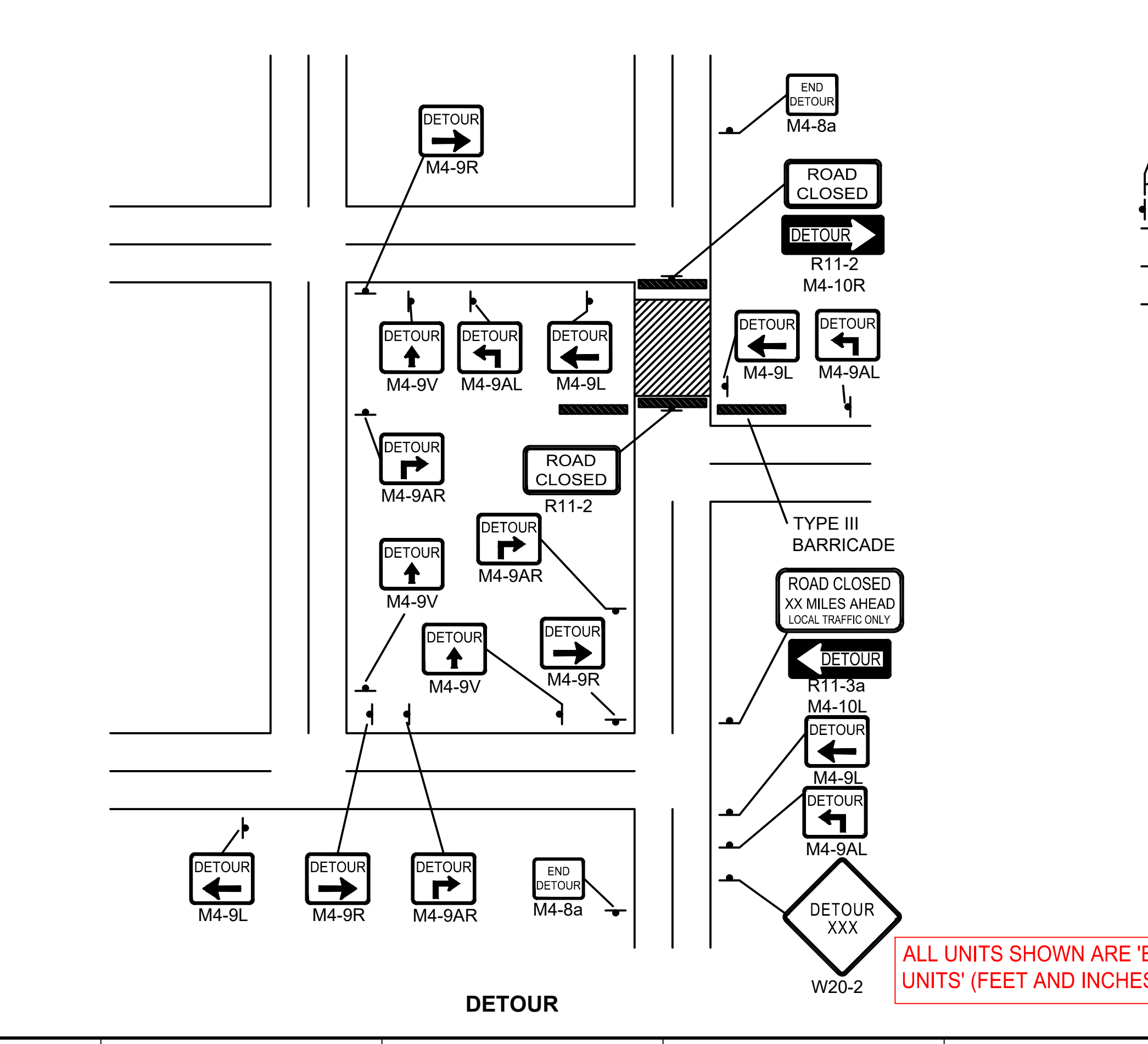
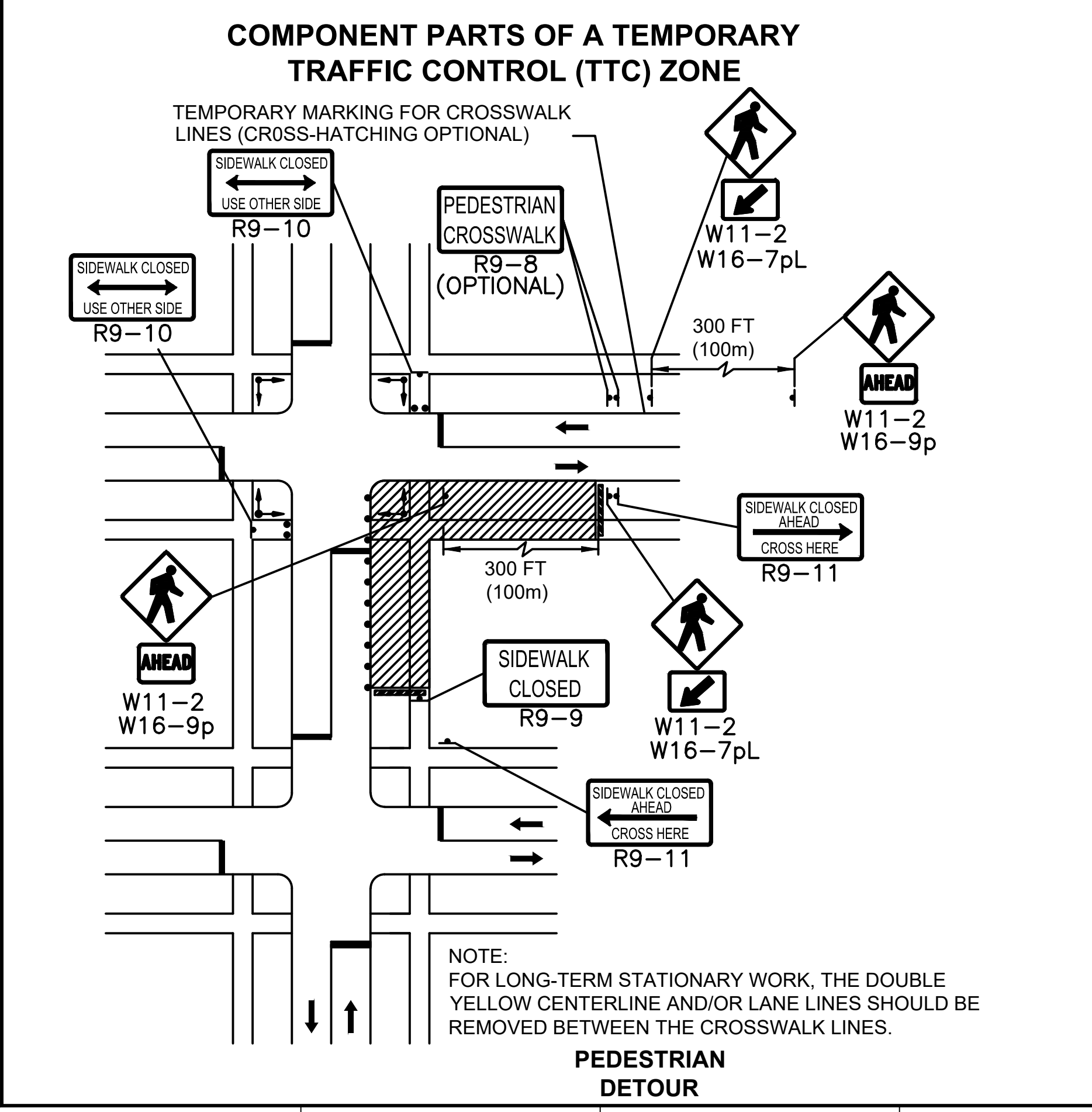
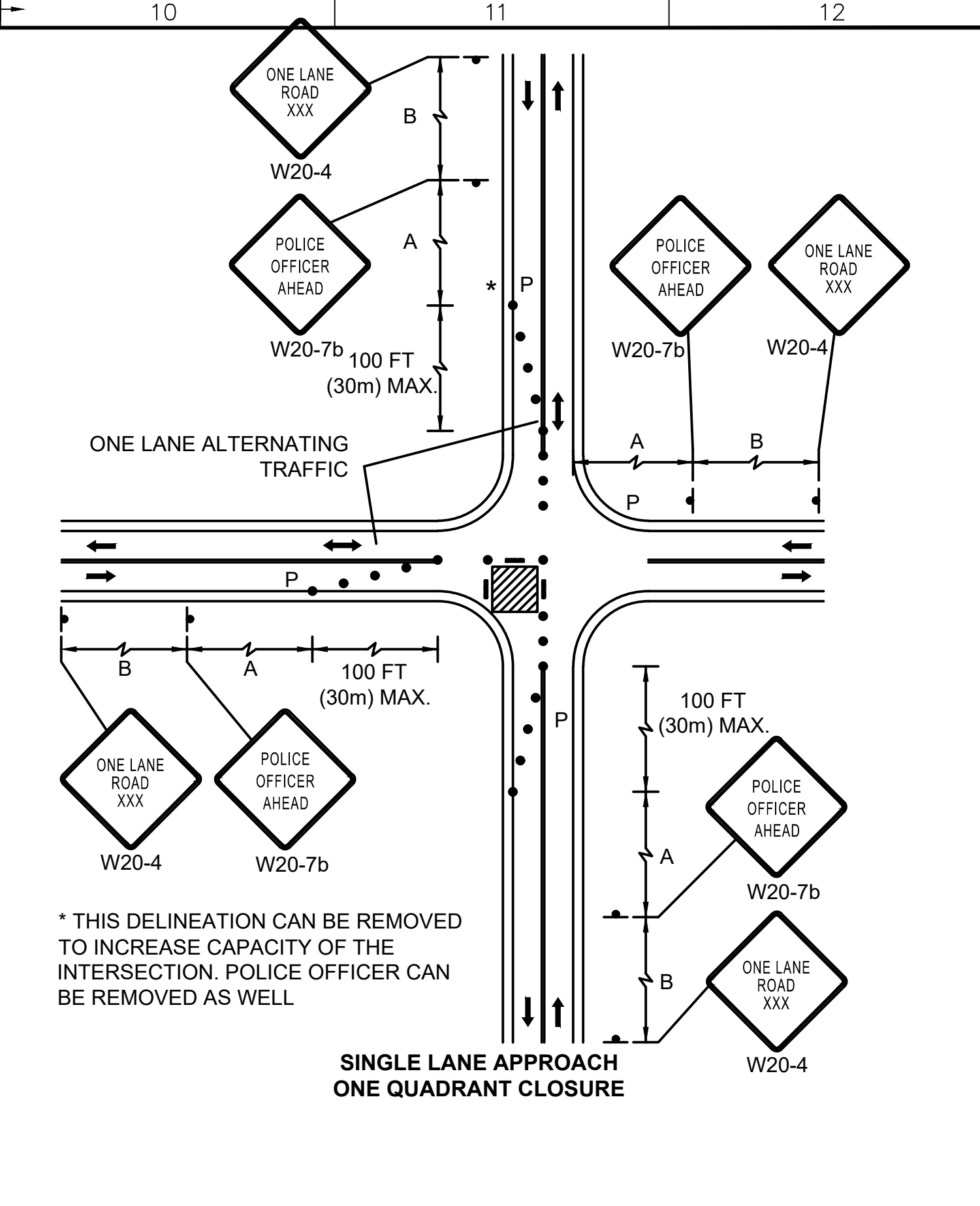
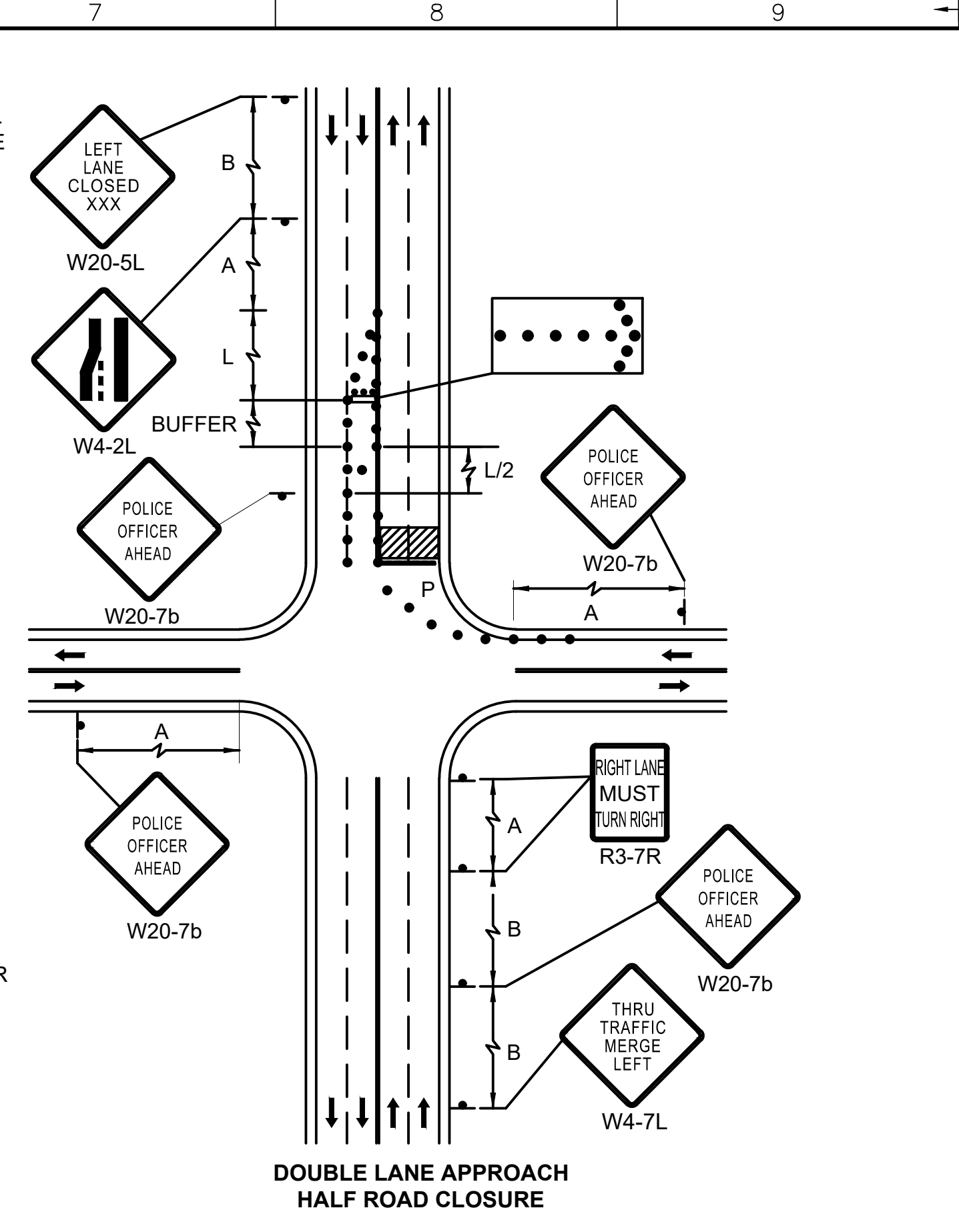
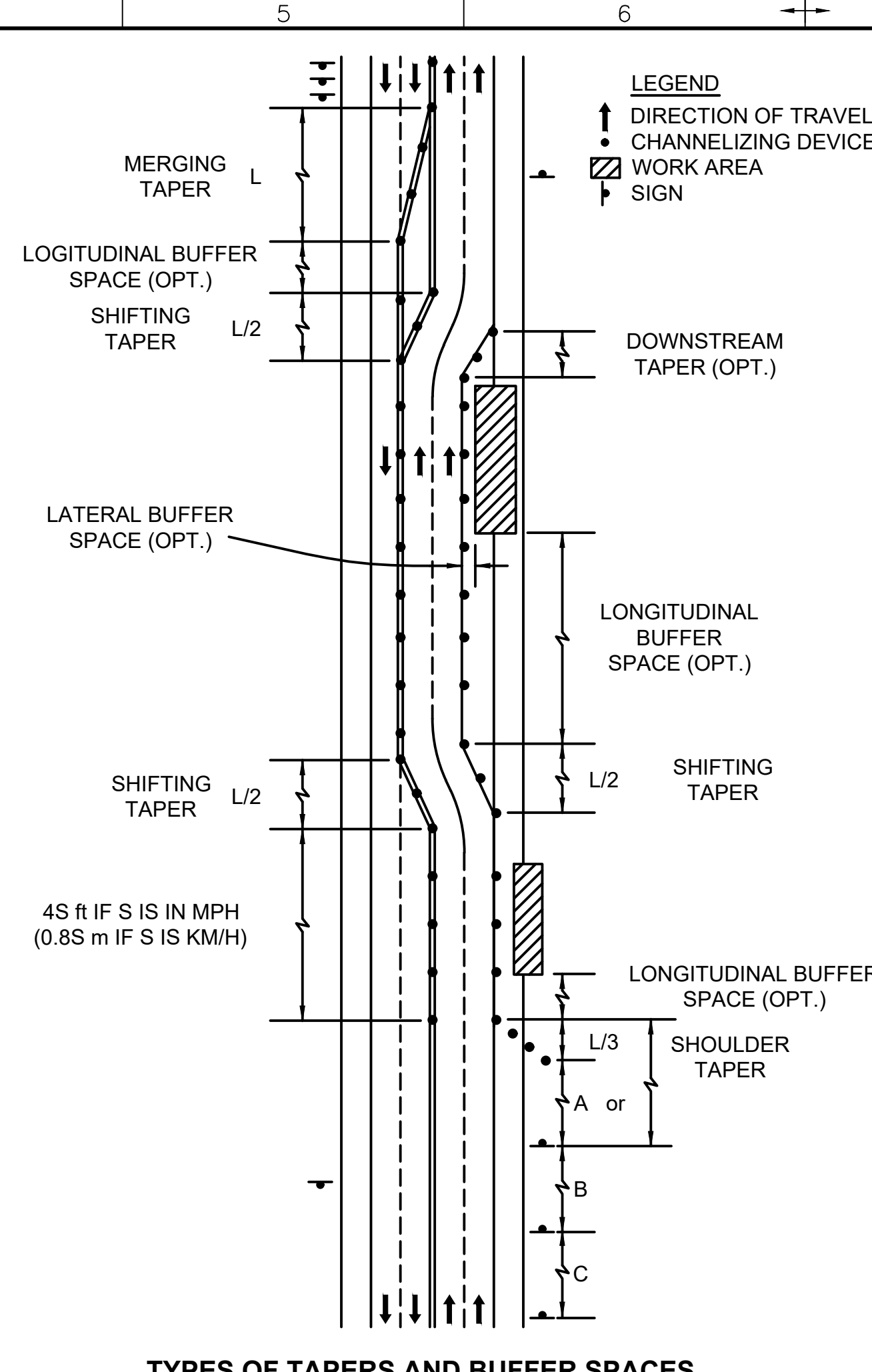
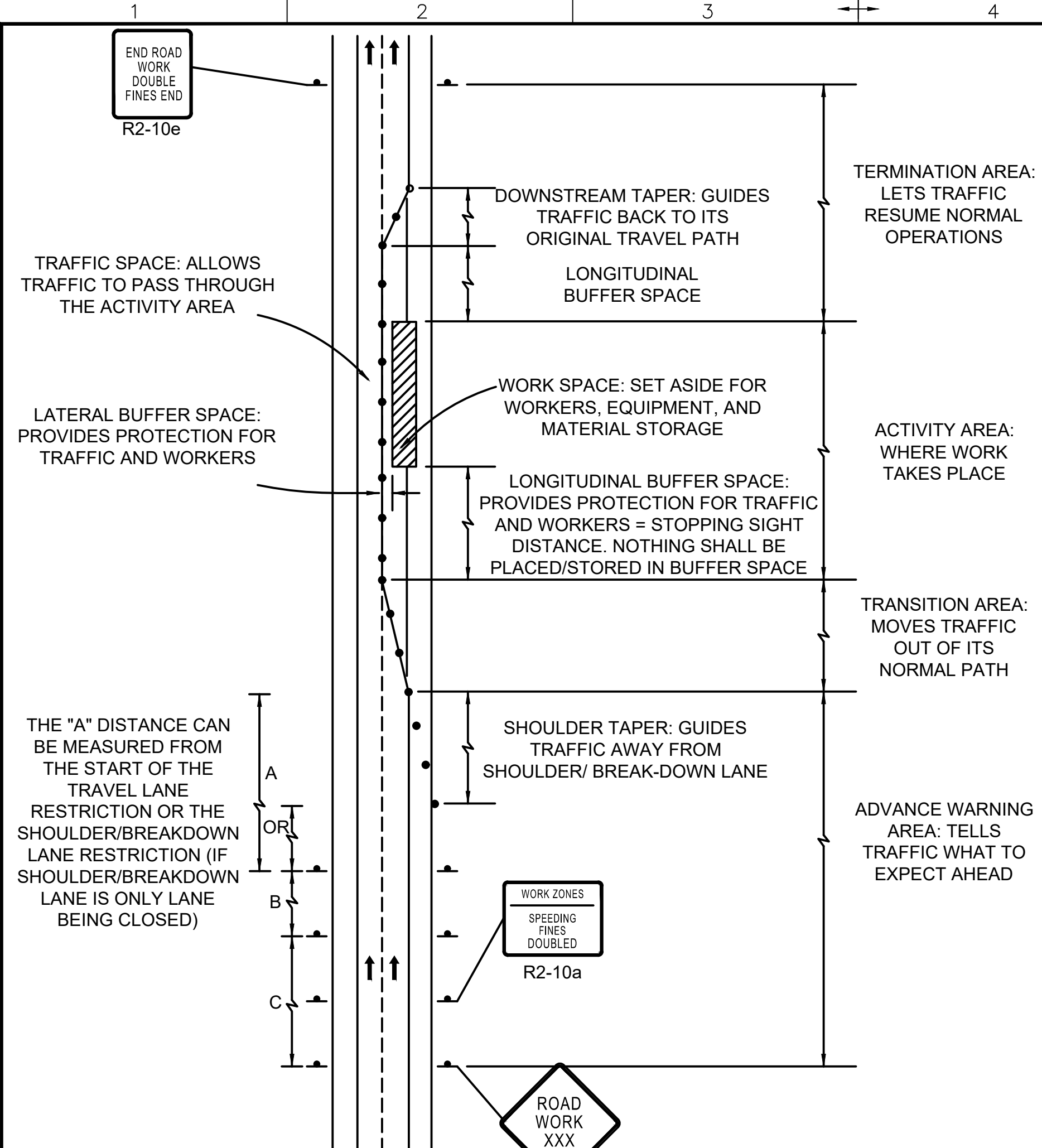
CLIENT: **AVANGRID** Offshore Wind
125 High Street
Boston, MA 02110

PROJECT: **NEW ENGLAND WIND 2 CONNECTOR**

TITLE: **ONSHORE 275kV DUCT BANK TRAFFIC MANAGEMENT PLAN DETAILS PART 1**

DOCID: **CWW-OCP-STC-DW-0001**

SHEET 24 OF 33 | DWG. NO. SHEET - 24 | SCALE AS SHOWN | FORMAT/SIZE ANSI D | REV. B

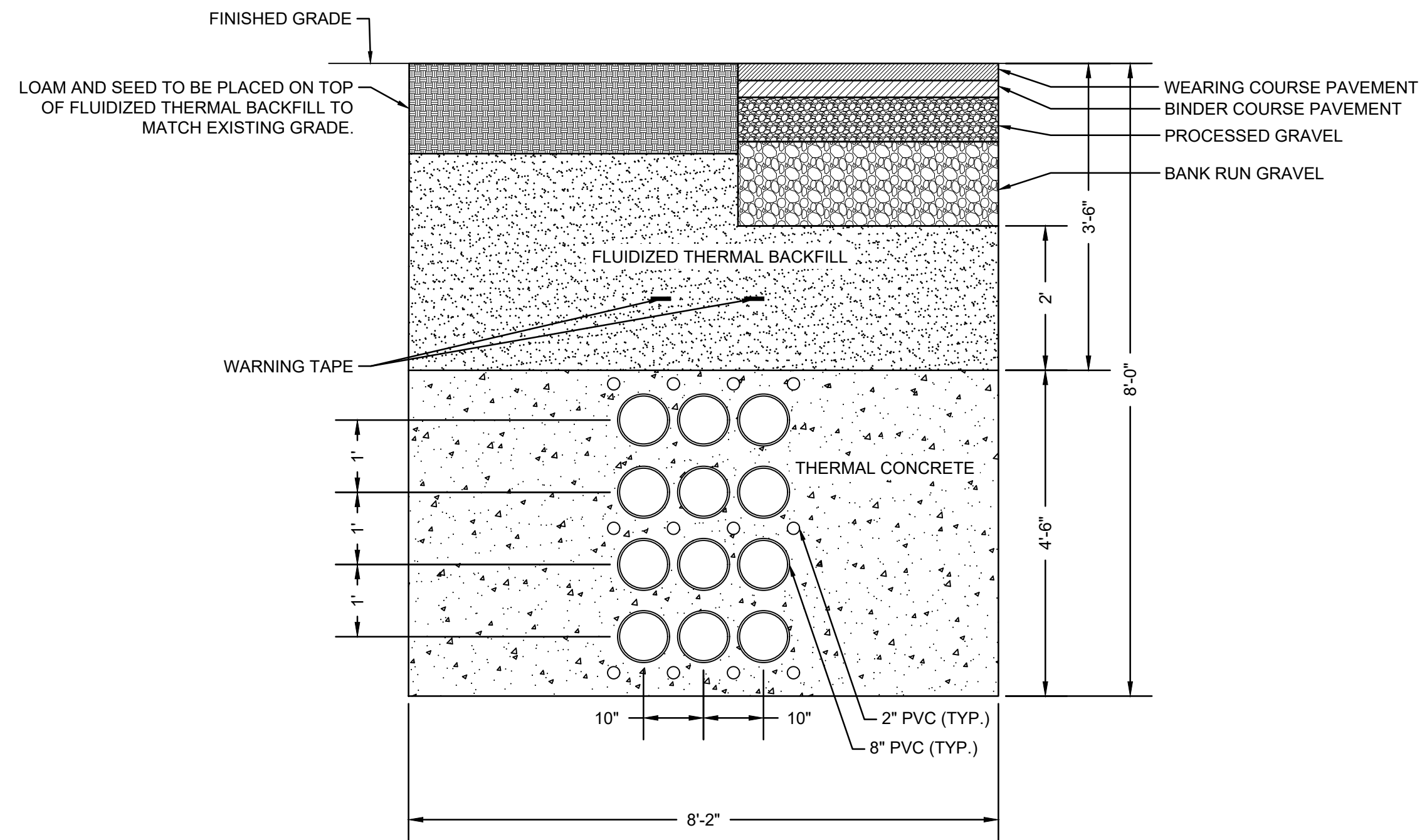


ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

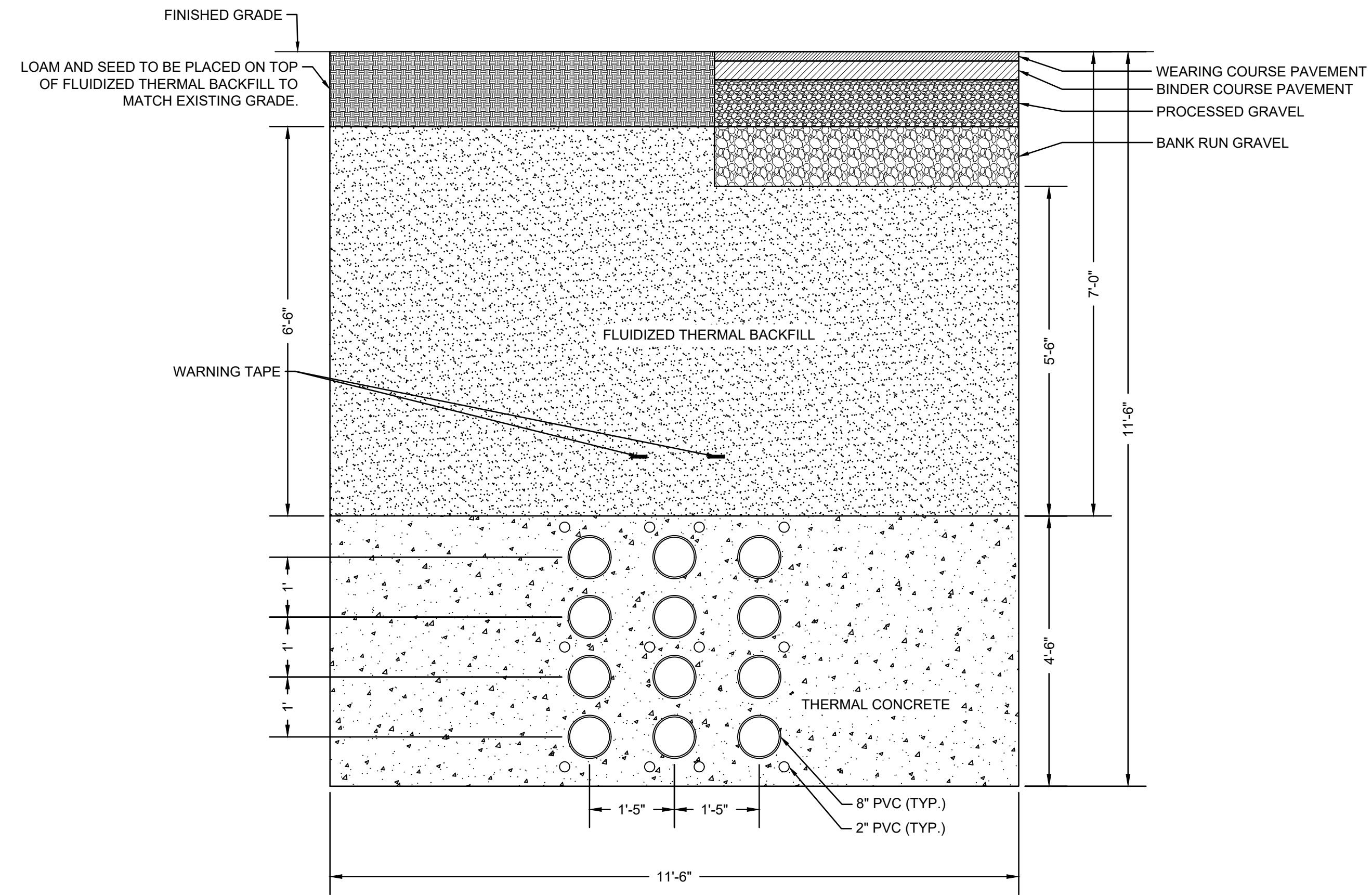
THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPROVD
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	SEB	PJV	KEF
CONTRACTOR:						
CLIENT:						
PROJECT: NEW ENGLAND WIND 2 CONNECTOR						
TITLE: ONSHORE 275KV DUCT BANK TRAFFIC MANAGEMENT PLAN DETAILS PART 2						
DOCID: CWW-OCP-STC-DW-0001						
SHEET 25 OF 33	DWG. NO. SHEET - 25	SCALE AS SHOWN	FORMAT/SIZE ANSI D	REV. B		

C:\Users\m\OneDrive\Documents\20220928_25.21.04.rvt
 2022.09.28 11:21:04 AM



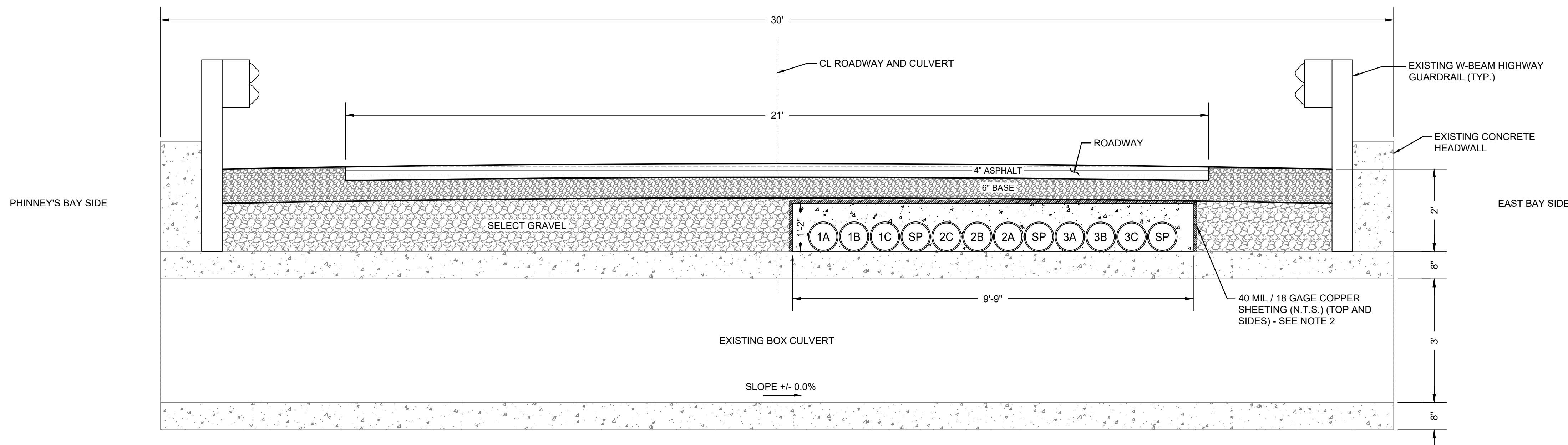
1 1200 MW TRANSMISSION DUCT BANK - 3X4 ARRAY AT 3.5' DEPTH
NOT TO SCALE (SEE NOTE 1)



2 1200 MW TRANSMISSION DUCT BANK - 3X4 ARRAY AT 7.0' DEPTH
NOT TO SCALE (SEE NOTE 1)

NOTES:

- 8" CONDUIT FOR POWER CABLE, 2" CONDUIT FOR FIBER OPTIC COMMUNICATION, DTS MONITORING AND GROUNDING.
- MAGNETIC FIELD (MF) MITIGATION IS REQUIRED AND REQUIRES FURTHER ANALYSIS. FOR PRELIMINARY DESIGN, COPPER SHEET TO BE INSTALLED ON TOP AND SIDES. ANY COPPER SEAMS SHALL BE WELDED FOR A CONTINUOUS ELECTROMAGNETIC PATH. CONFIRMATION REQUIRED.



LONGITUDINAL SECTION - BOX CULVERT

3 BRIDGE CROSSING DETAIL
1"=20'

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPRVD
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	RN/DM	JDT	KEF

CONTRACTOR: **Stantec**
Stantec Consulting Services Inc.
400 Crown Colony Drive Suite 200
Quincy, MA U.S.A. 02169-0982

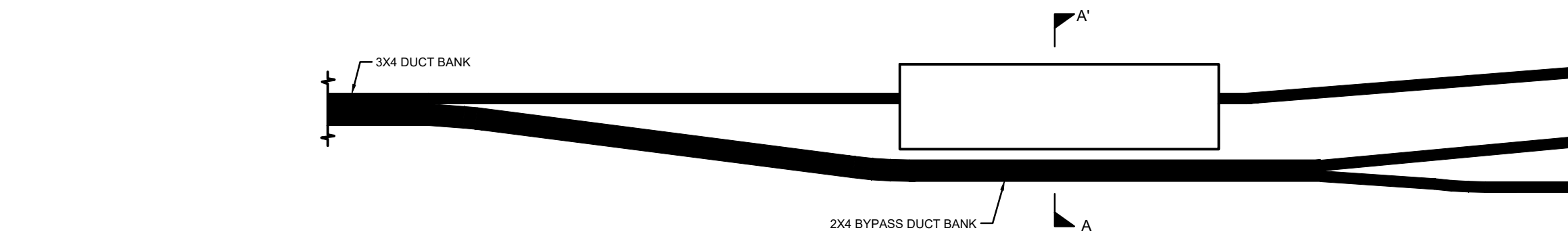
CLIENT: **AVANGRID** Offshore Wind
125 High Street
Boston, MA 02110

PROJECT: **NEW ENGLAND WIND 2 CONNECTOR**

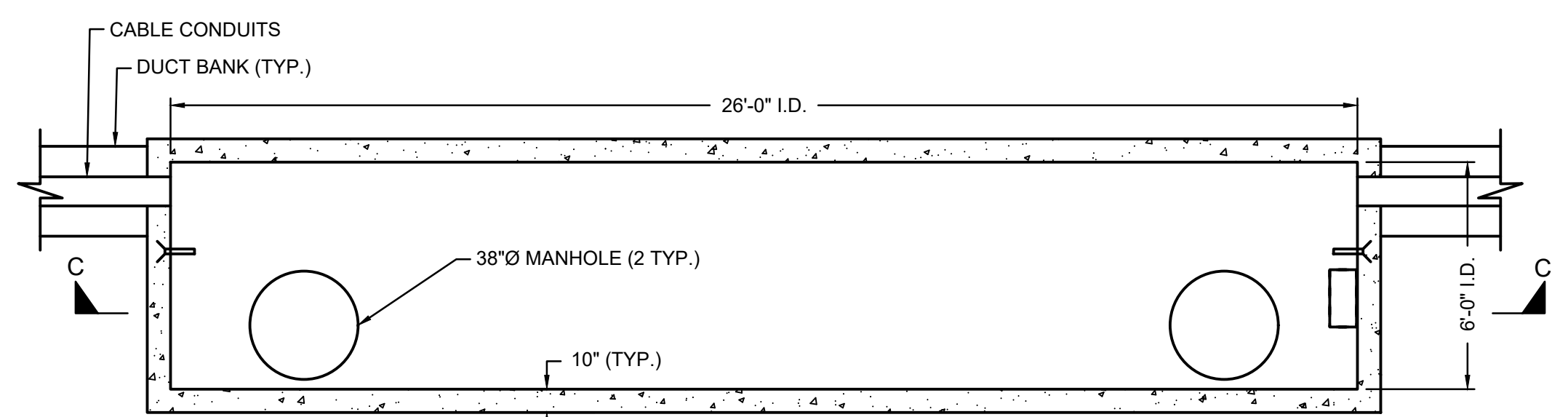
TITLE: **ONSHORE 275kV DUCT BANK ELECTRICAL DETAILS - SHEET 1**

DOCID: **CWW-OCP-STC-DW-0001**

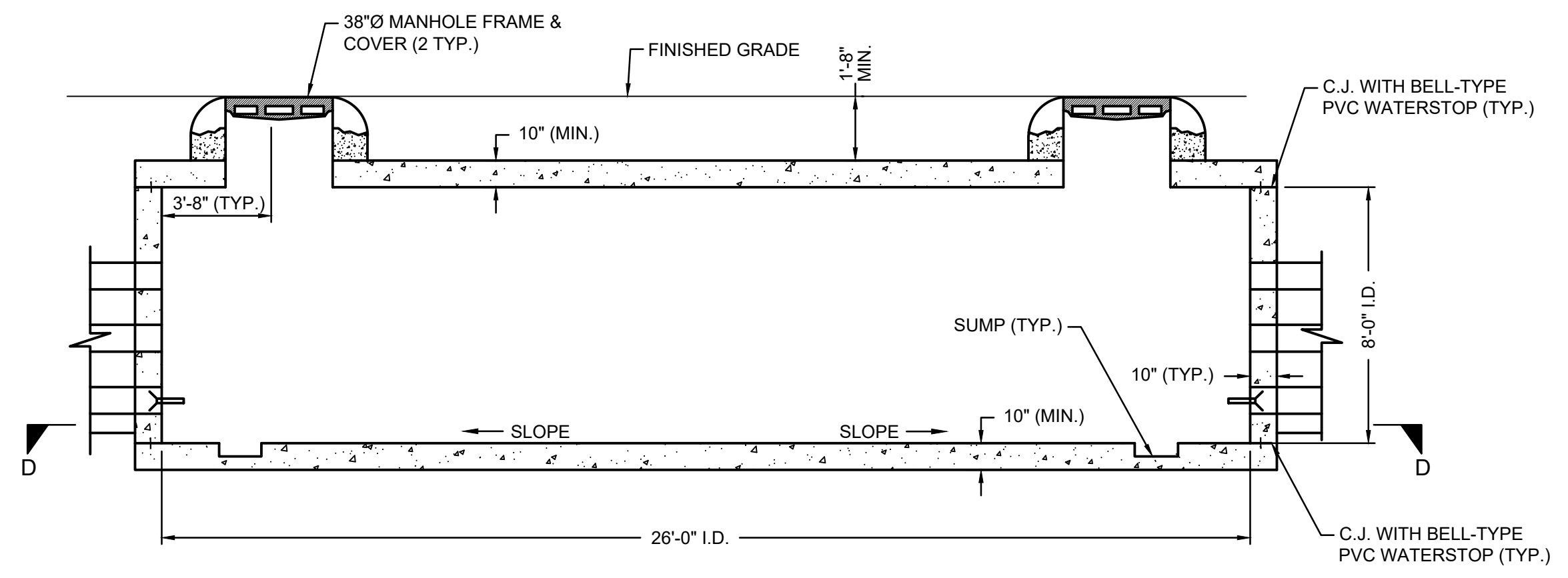
SHEET	DWG. NO.	SCALE	FORMAT/SIZE	REV.
26				
OF 33	SHEET - 26	AS SHOWN	ANSI D	B



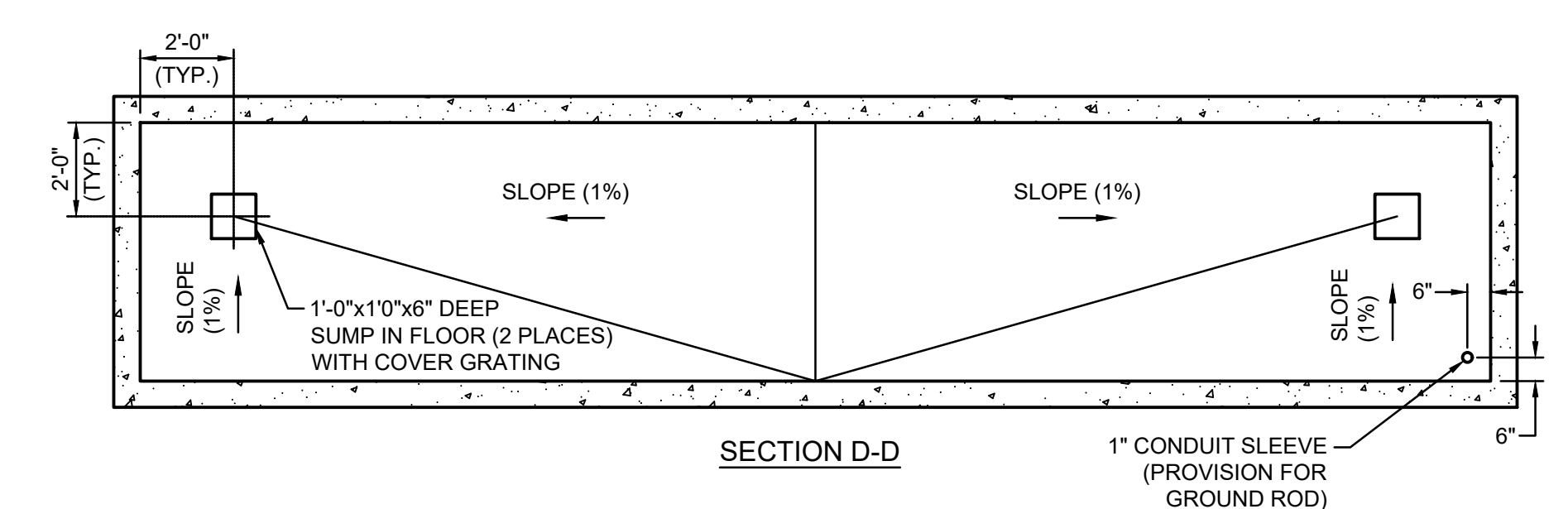
PLAN VIEW



PLAN VIEW

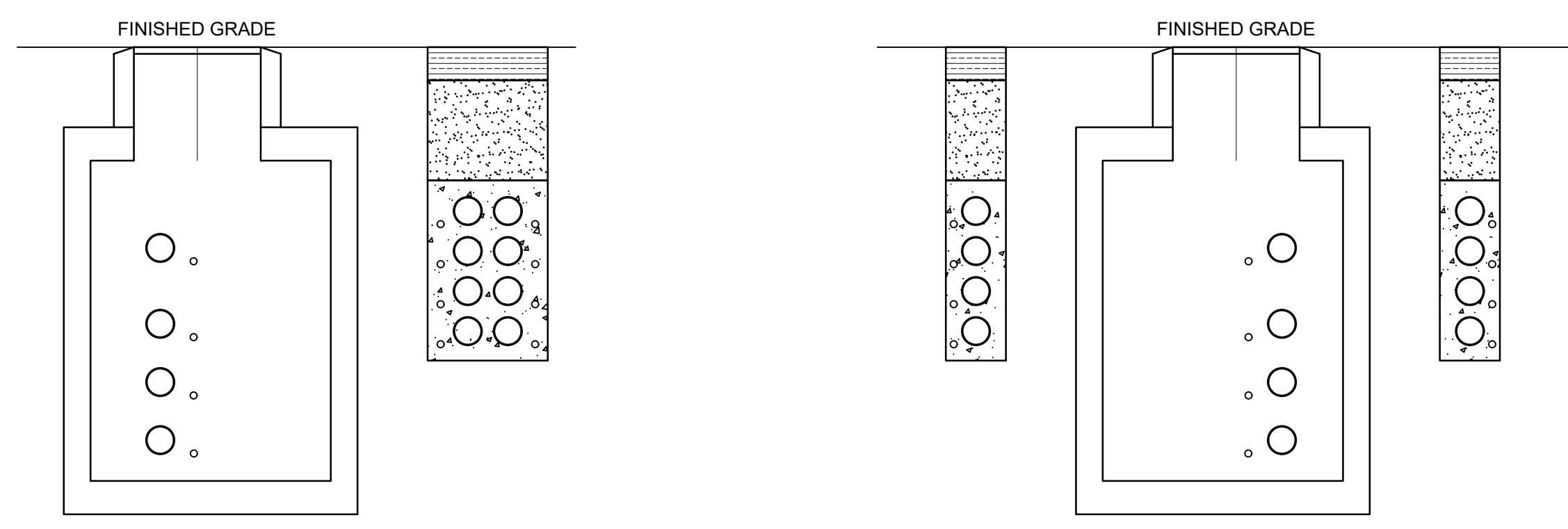


SECTION C-C



SECTION D-D

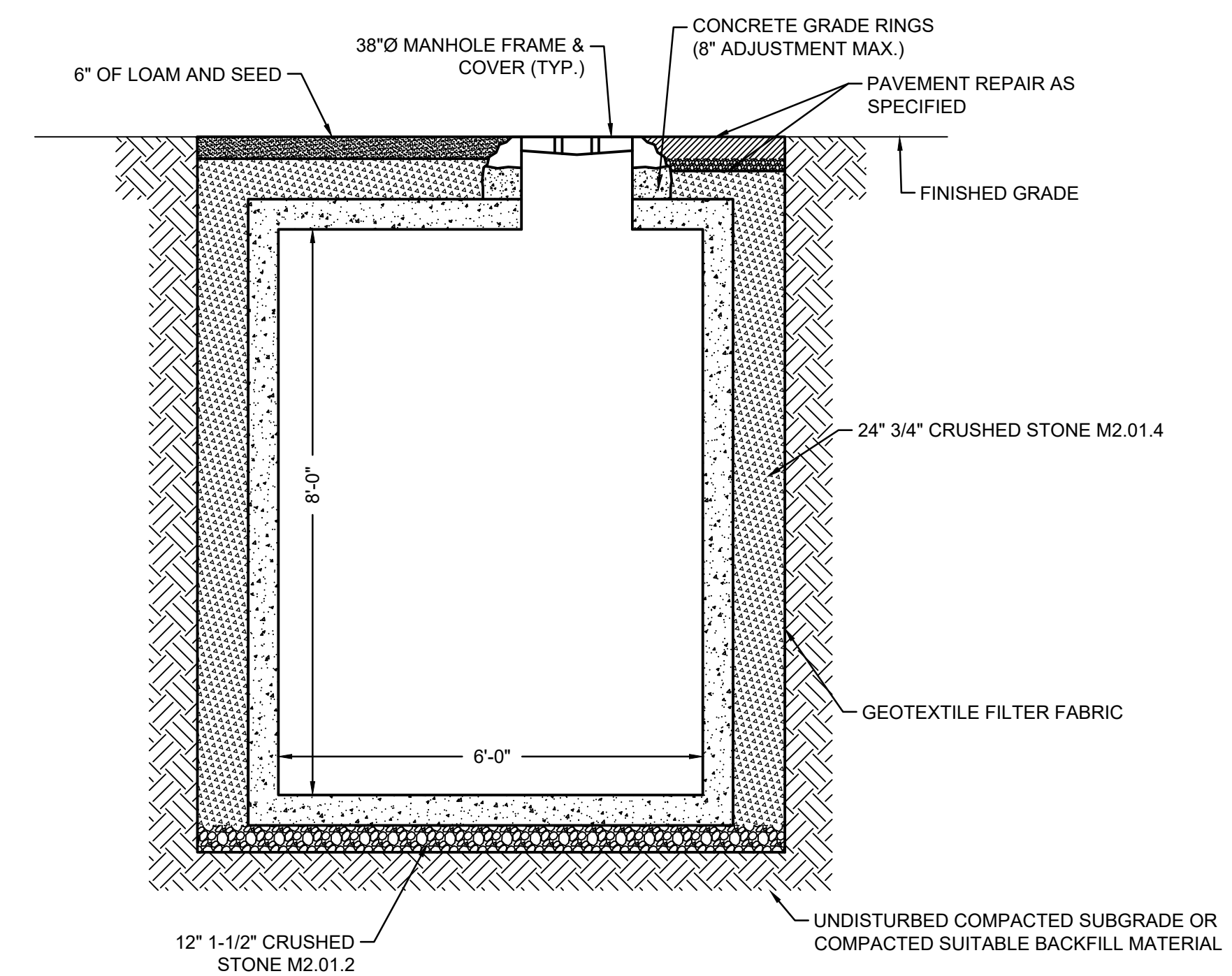
4 PRECAST SPLICE VAULTS
NOT TO SCALE



SECTION A-A'

SECTION B-B'

5 TYPICAL SPLICE VAULT BYPASS ARRANGEMENT
NOT TO SCALE



6 TYPICAL VAULT INSTALLATION DETAIL
NOT TO SCALE

- NOTES**
1. ALL DETAILS ON THIS SHEET ARE TYPICAL. THIS INFORMATION WILL BE REFINED AS THE DESIGN PROGRESSES.
 2. THE PRECAST SPLICE VAULTS AND TYPICAL SPLICE VAULT BYPASS ARRANGEMENTS ARE SHOWN FOR VISUAL REPRESENTATION ONLY. THIS INFORMATION WILL BE REFINED AS THE DESIGN PROGRESSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPROV
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	RN/DM	JDT	KEF

CONTRACTOR:
Stantec
 Stantec Consulting Services Inc.
 400 Crown Colony Drive Suite 200
 Quincy, MA U.S.A. 02169-0982

CLIENT:
AVANGRID **Offshore Wind**
 125 High Street
 Boston, MA 02110

PROJECT
NEW ENGLAND WIND 2 CONNECTOR

TITLE
ONSHORE 275kV DUCT BANK ELECTRICAL DETAILS - SHEET 2

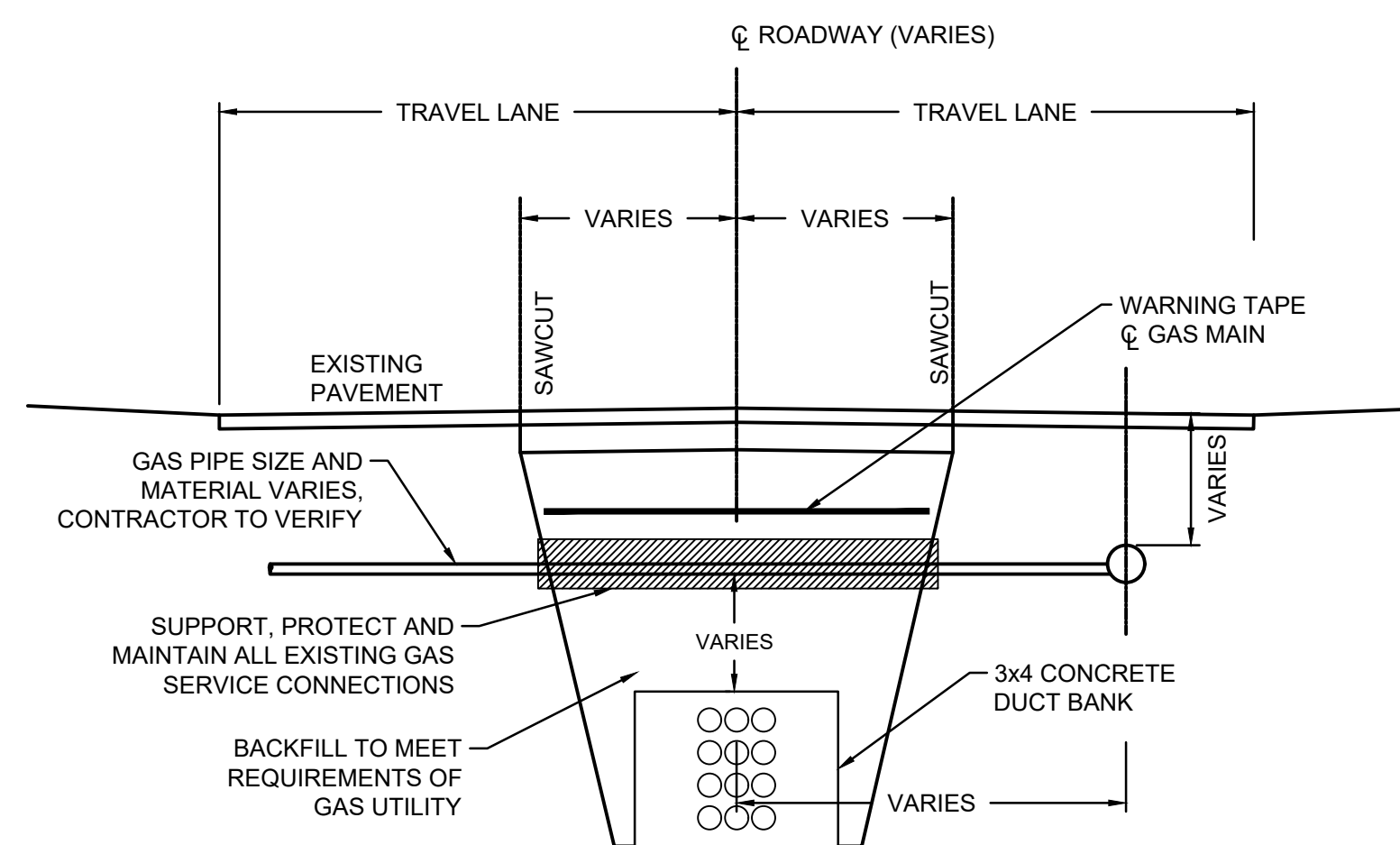
DOCID:
CWW-OCP-STC-DW-0001

SHEET	DWG. NO.	SCALE	FORMAT/SIZE	REV.
27				
OF 33	SHEET - 27	AS SHOWN	ANSI D	B

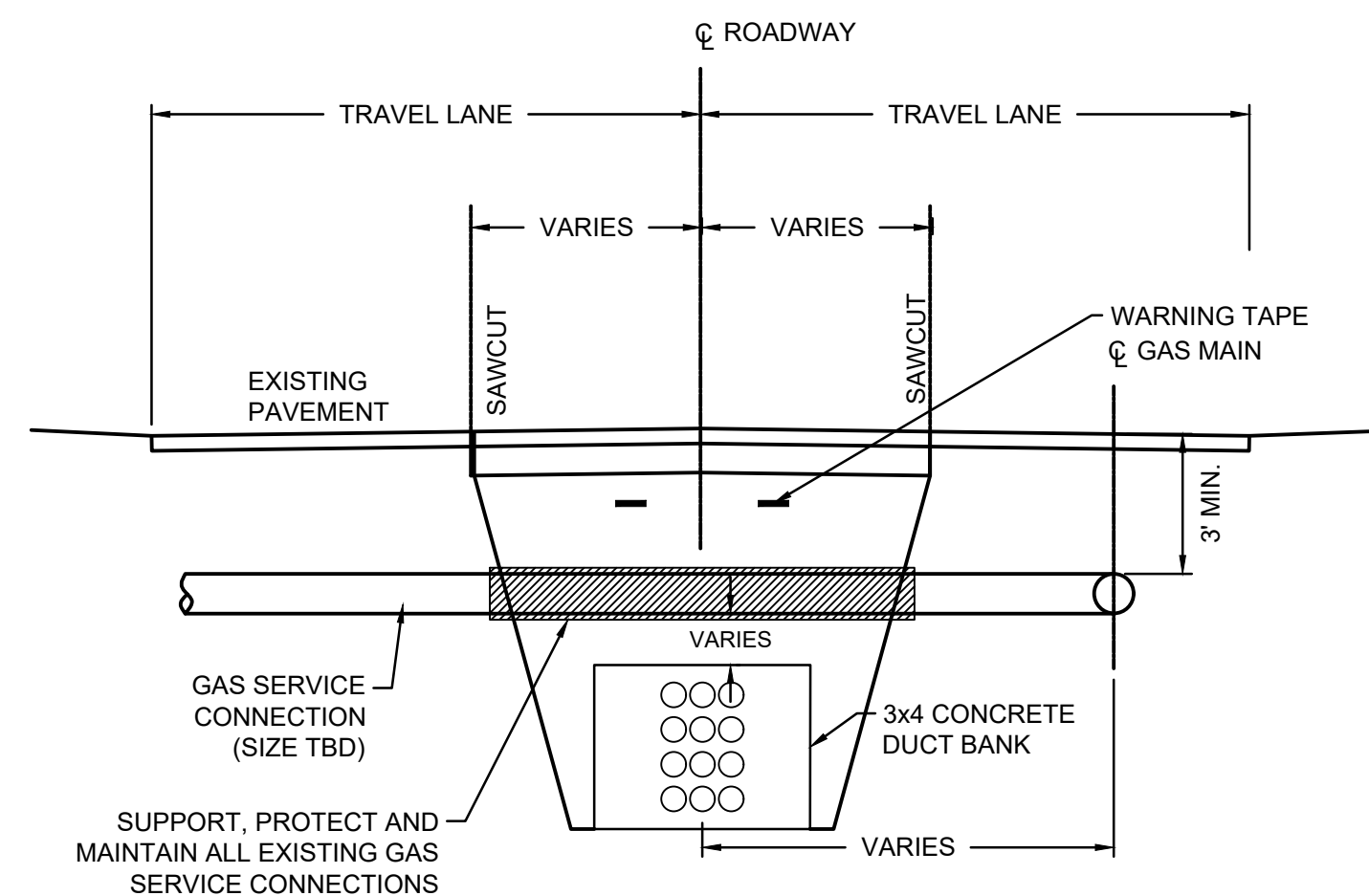
ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

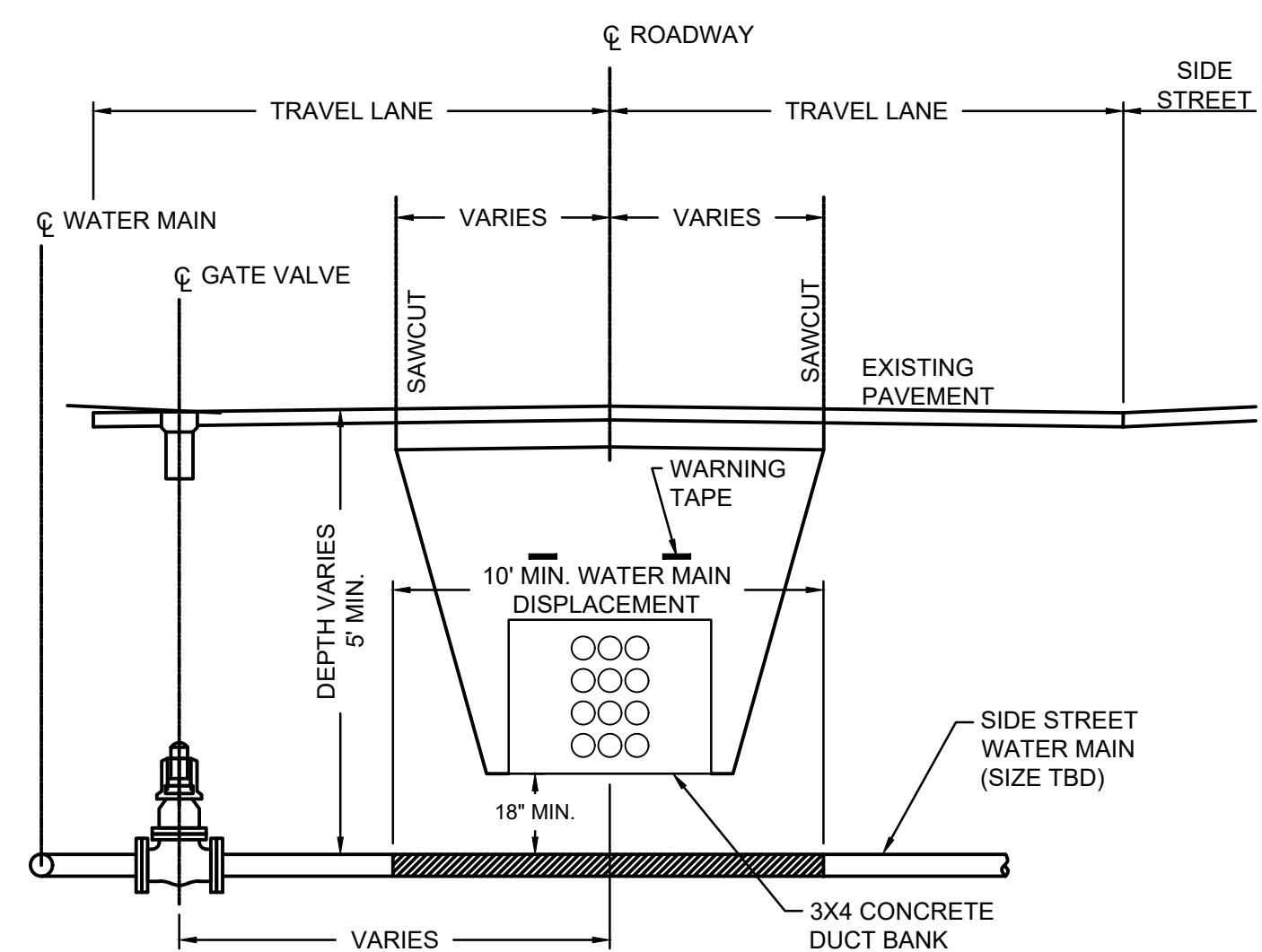
C:\Users\kvd59900\OneDrive\Documents\wind-draws
 2022-09-28 12:24 PM
 by: millington, g/ken



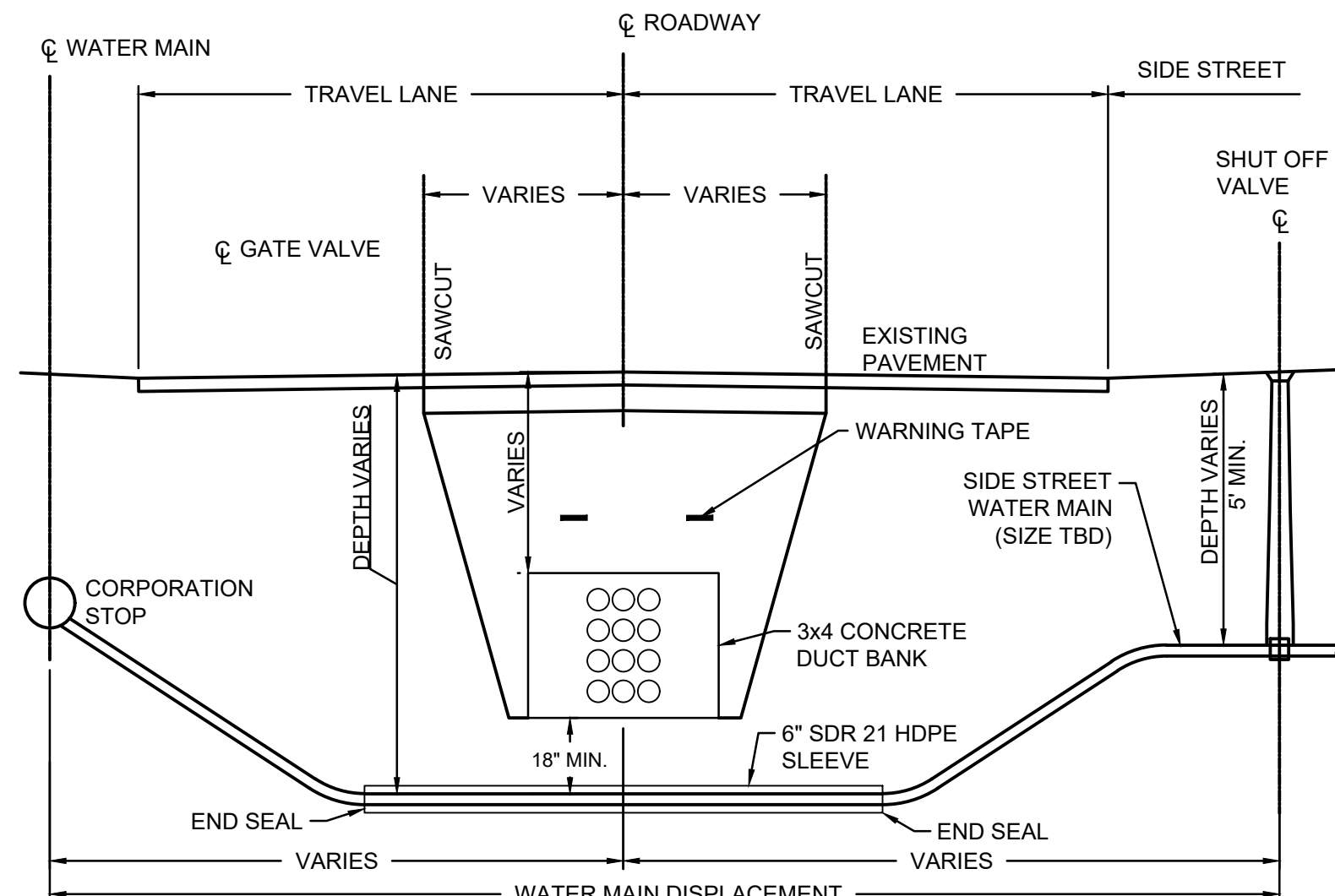
7 UTILITY CROSSING
LOW PRESSURE GAS DISTRIBUTION MAINS AND SERVICES
NOT TO SCALE



8 UTILITY CROSSING - SIDE STREET GAS MAIN
NOT TO SCALE



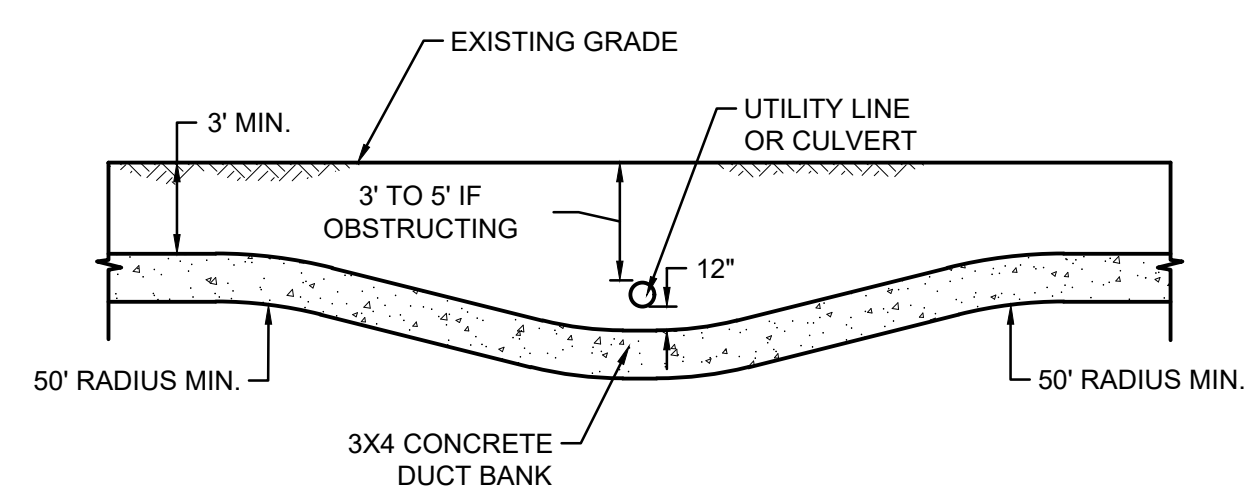
9 UTILITY CROSSING - SIDE STREET WATER MAIN
NOT TO SCALE



10 UTILITY CROSSING - WATER SERVICE CONNECTION
NOT TO SCALE

NOTES

1. WARNING TAPE TO BE PLACED HALF WAY BETWEEN FINISHED GRADE AND TOP OF DUCT BANK.
2. ALL DETAILS ON THIS SHEET ARE TYPICAL. THIS INFORMATION WILL BE REFINED AS THE DESIGN PROGRESSES.



11 CROSSING DETAIL - IF PASSING
UNDER DRAIN OR CABLE DUCT BANK
NOT TO SCALE

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPRVD
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	RN/DM	JDT	KEF

CONTRACTOR:
Stantec
 Stantec Consulting Services Inc.
 400 Crown Colony Drive Suite 200
 Quincy, MA U.S.A. 02169-0982

CLIENT:
AVANGRID **Offshore Wind**
 125 High Street
 Boston, MA 02110

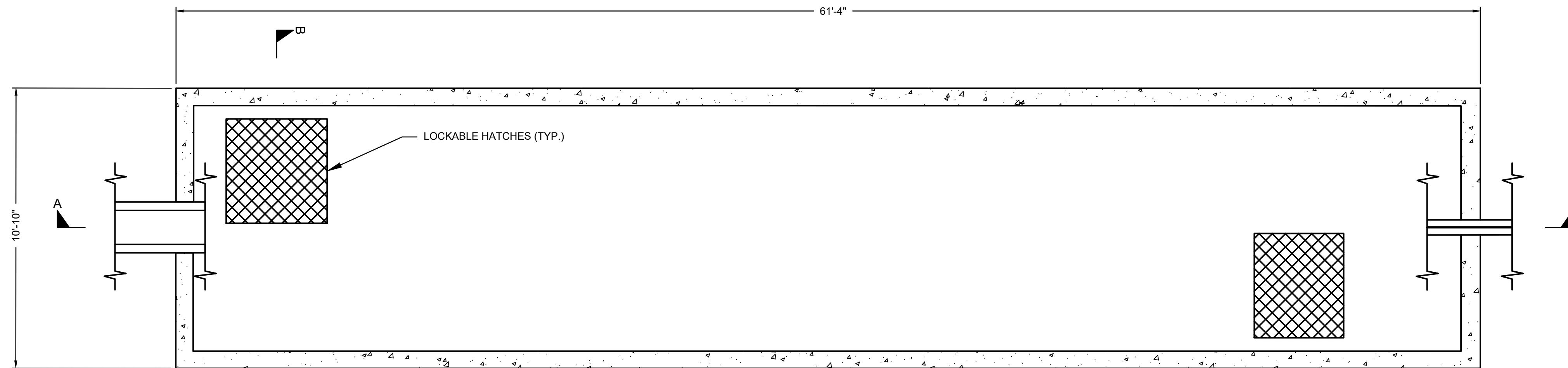
PROJECT
NEW ENGLAND WIND 2 CONNECTOR

TITLE
ONSHORE 275kV DUCT BANK ELECTRICAL DETAILS - SHEET 3

DOCID:
CWW-OCP-STC-DW-0001

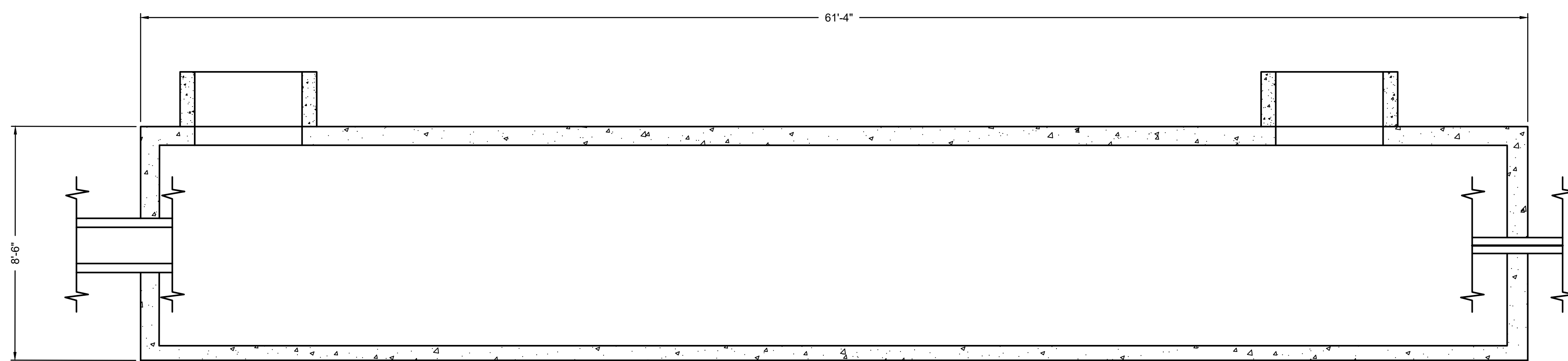
SHEET	DWG. NO.	SCALE	FORMAT/SIZE	REV.
28				
OF 33	SHEET - 28	AS SHOWN	ANSI D	B

C:\pwworking\04589903\COMMON\sheet\wind-drawings
 2022/09/28 12:28 PM
 by: millington, e/ken

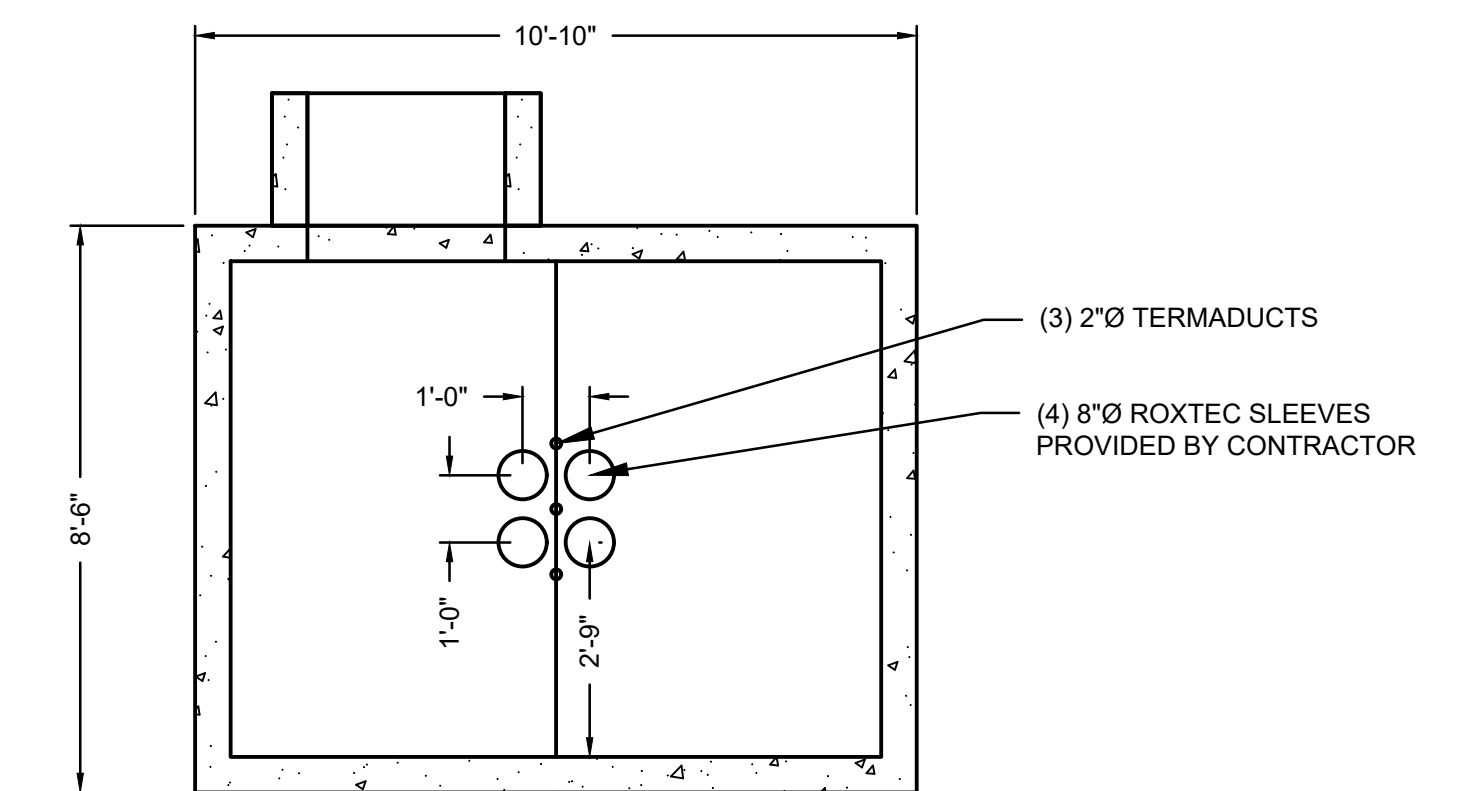


PLAN VIEW

- NOTES**
1. ALL DETAILS ON THIS SHEET ARE TYPICAL. THIS INFORMATION WILL BE REFINED AS THE DESIGN PROGRESSES.
 2. FIBER OPTIC PIT AND LINK BOX (NOT SHOWN) SHALL BE CO-LOCATED WITH EACH JOINT BAY.



SECTION A-A'



SECTION B-B'

12 LANDFALL DIRECT BURIAL JOINT BAY DETAIL
NOT TO SCALE

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPRVD
B	2022-09-28	ISSUED FOR STATE PERMITTING	IFI	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	RN/DM	JDT	KEF

CONTRACTOR:
Stantec
 Stantec Consulting Services Inc.
 400 Crown Colony Drive Suite 200
 Quincy, MA U.S.A. 02169-0982

CLIENT:
AVANGRID **Offshore Wind**
 125 High Street
 Boston, MA 02110

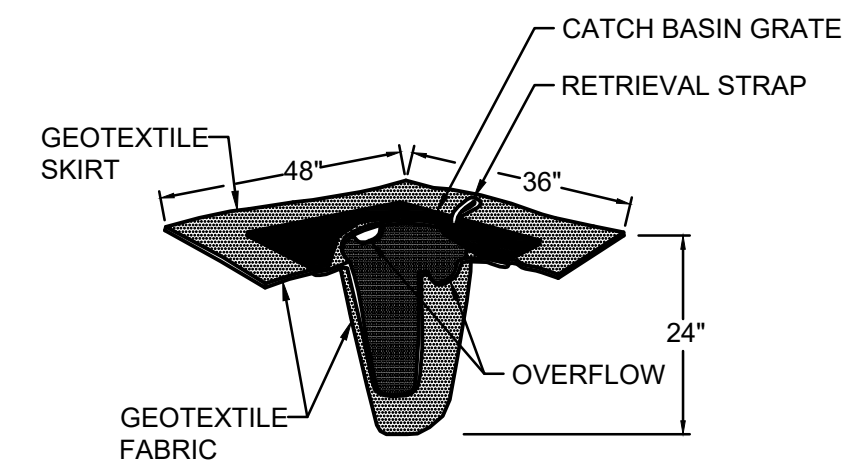
PROJECT:
 NEW ENGLAND WIND 2 CONNECTOR

TITLE:
 ONSHORE 275kV DUCT BANK
 ELECTRICAL DETAILS - SHEET 4

DOCID:
 CWW-OCP-STC-DW-0001

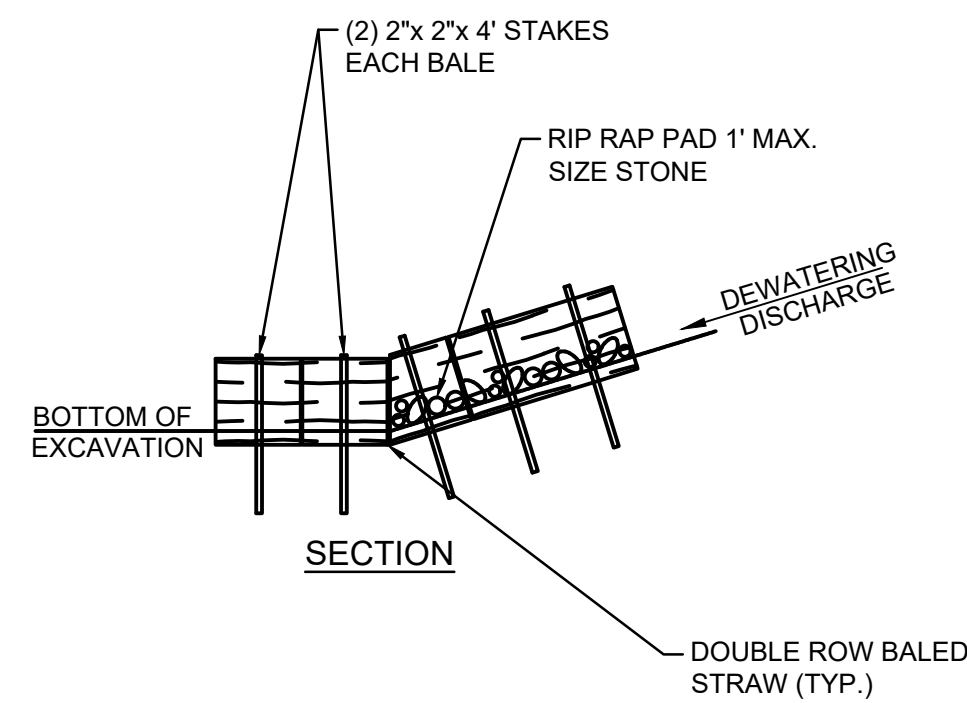
SHEET 29	DWG. NO.	SCALE	FORMAT/SIZE	REV.
OF 33	SHEET - 29	AS SHOWN	ANSI D	B

c:\pwworking\04589903\common\wind-draw\...
 2022/09/28 12:33 PM
 by: millington, e/ken



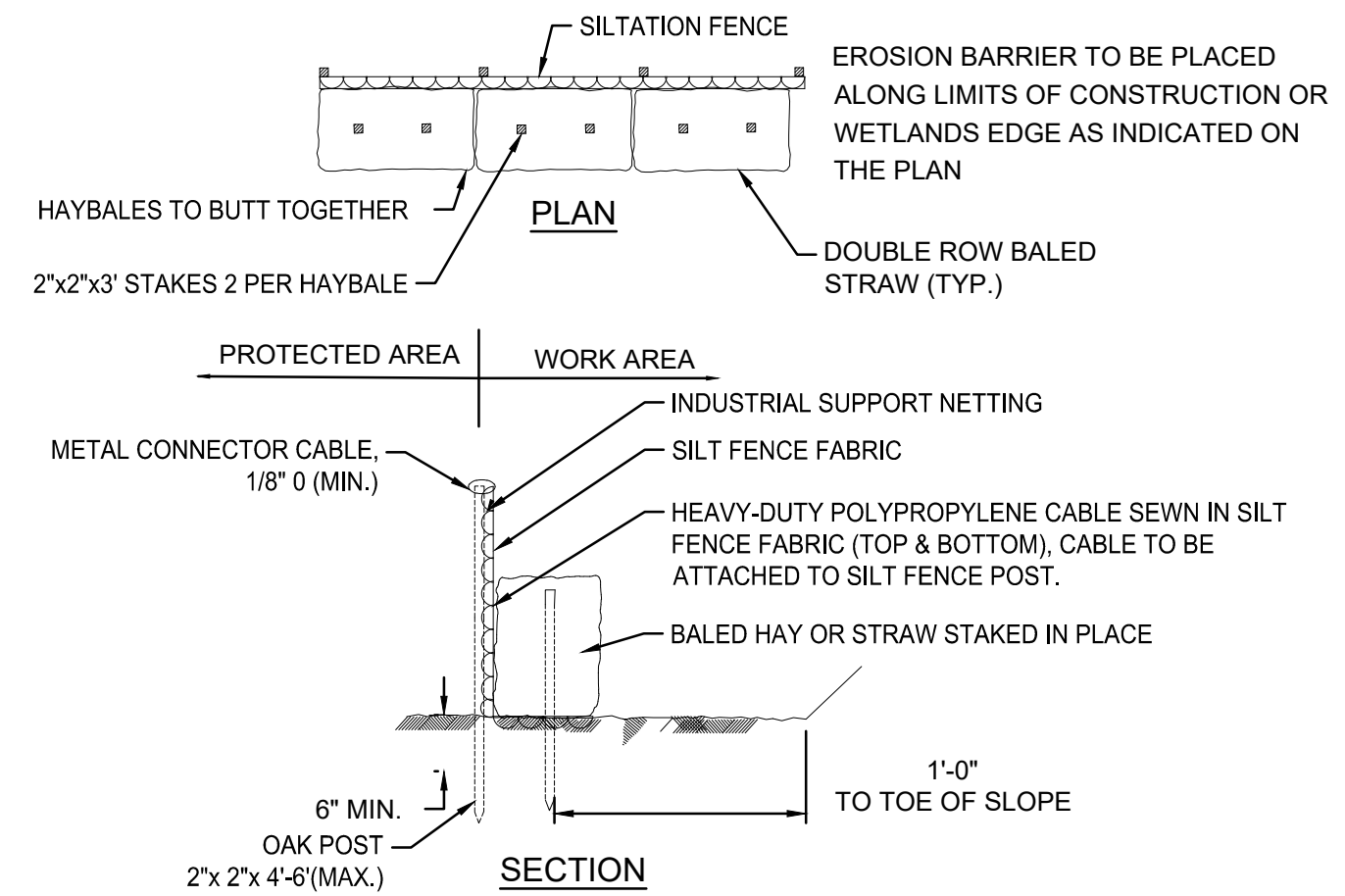
13 CATCH BASIN INSERT FOR SEDIMENT CONTROL

NOT TO SCALE



14 TEMPORARY SEDIMENT TRAP

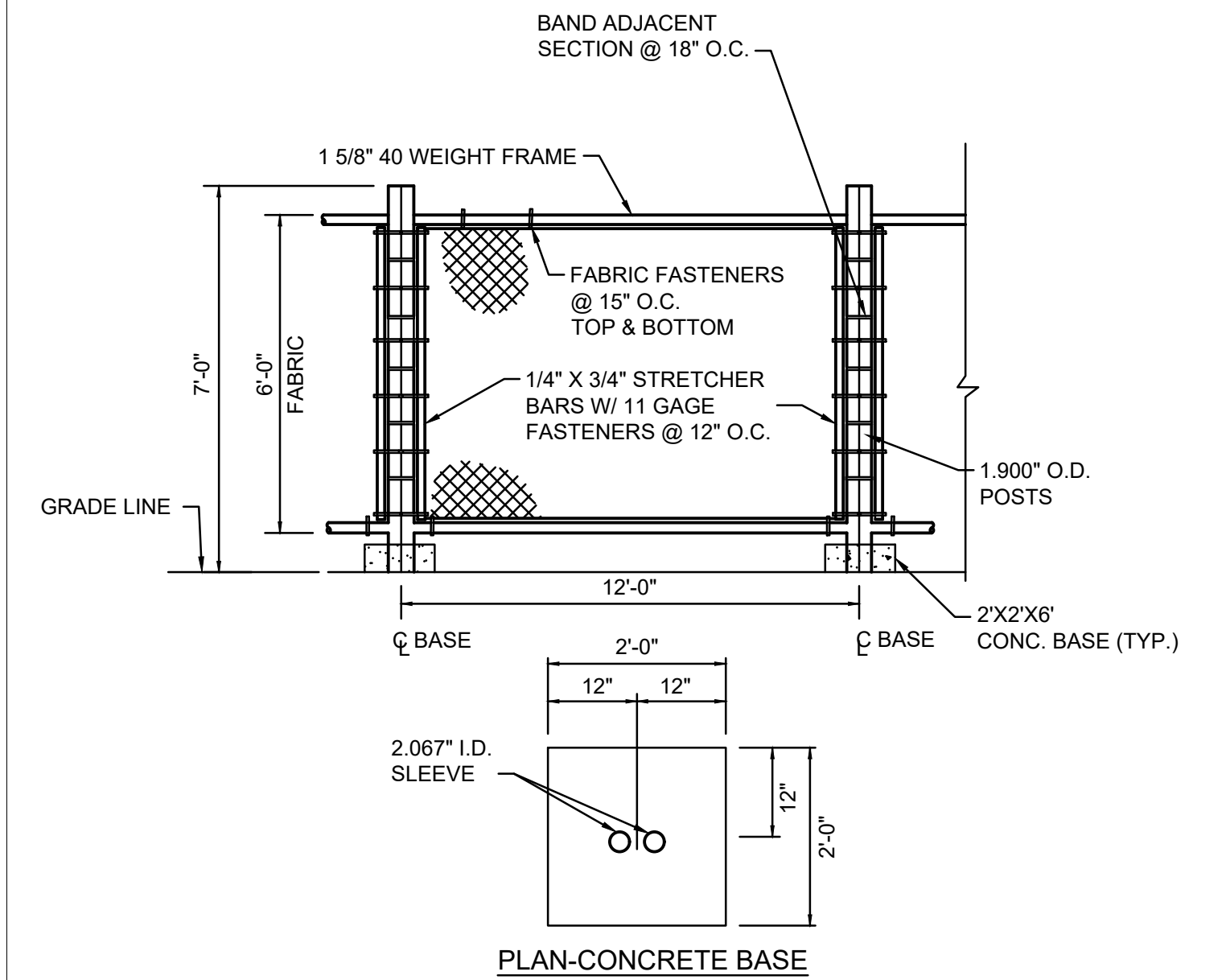
NOT TO SCALE



BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 3". BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY PLACED BALE TO FORCE THE BALES TOGETHER. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS DIRECTED BY THE ENGINEER. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

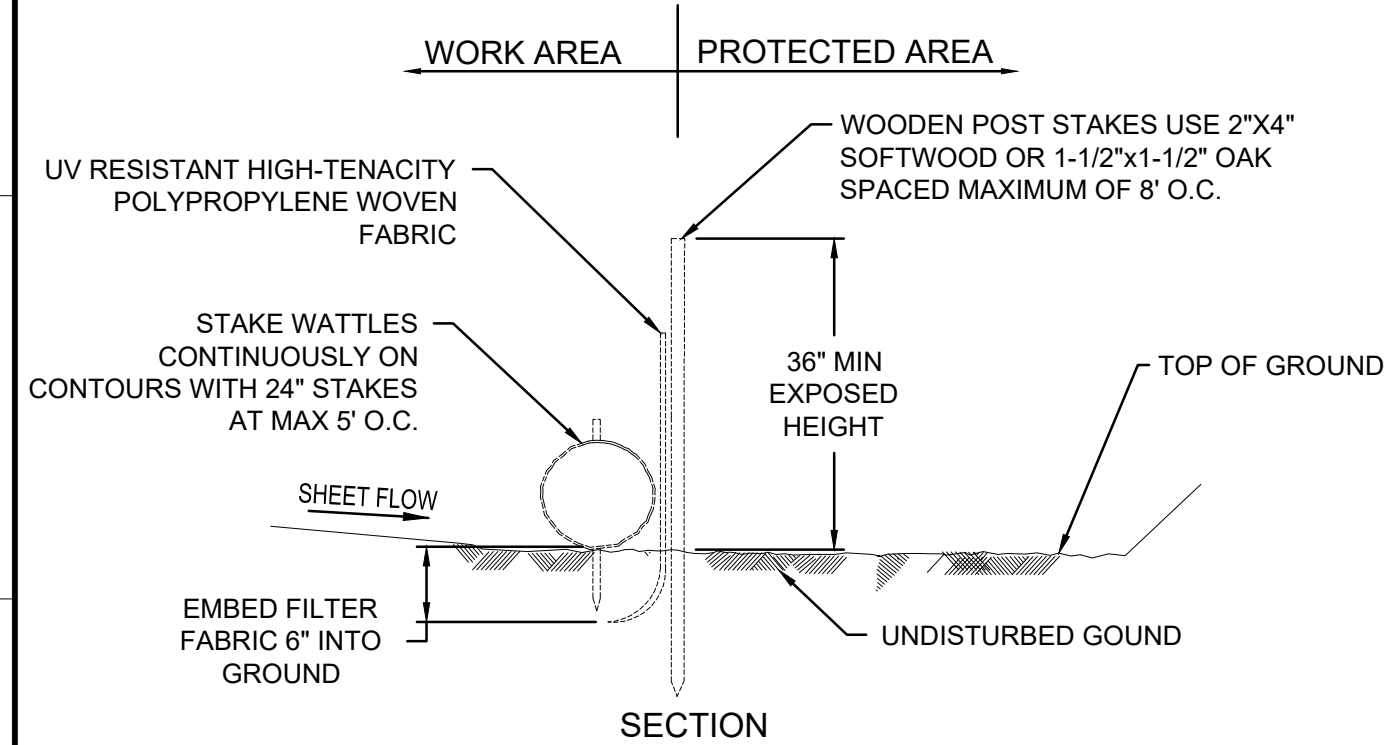
15 EROSION CONTROL BARRIER DETAIL WITH HAYBALES

NOT TO SCALE



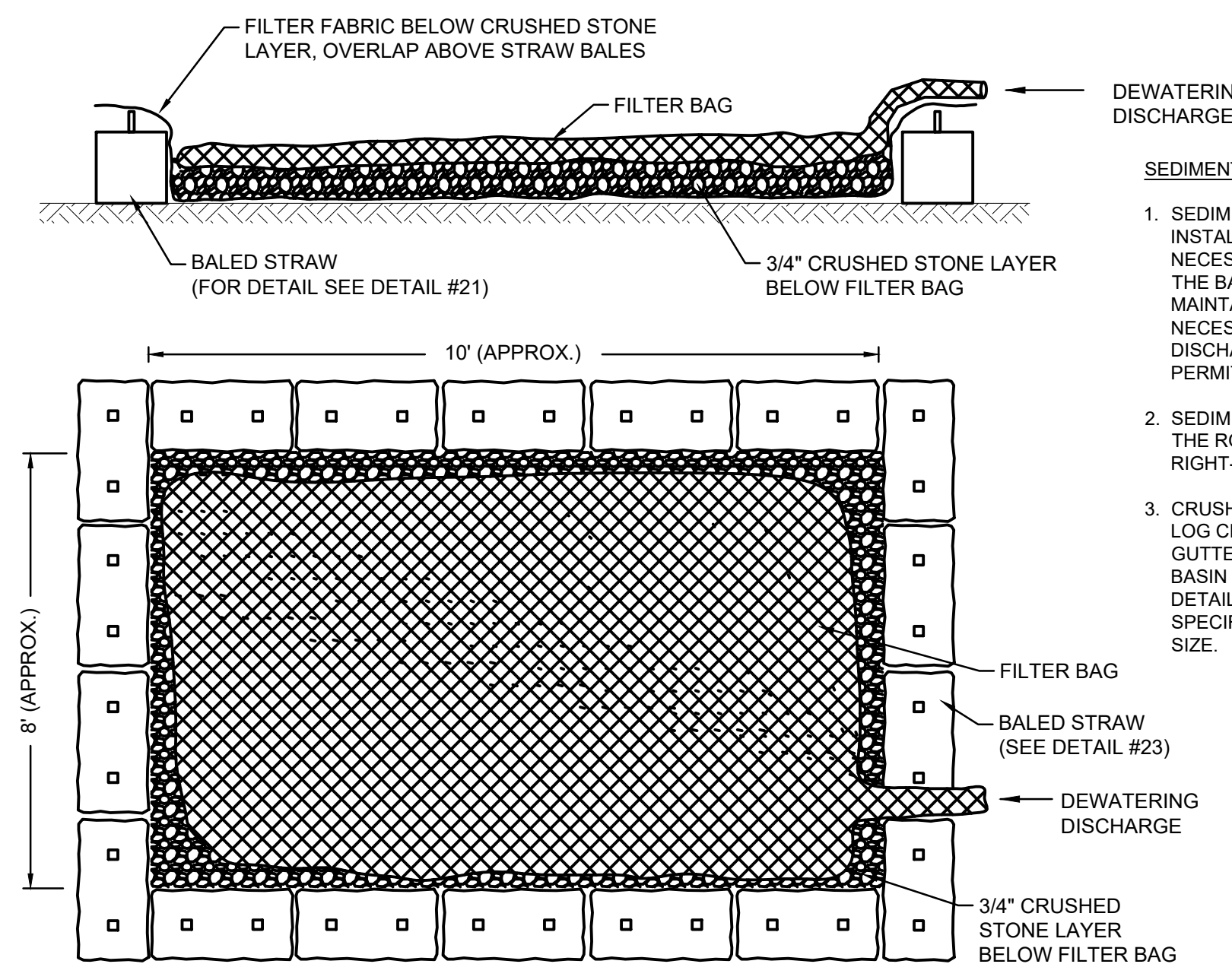
16 TEMPORARY CONSTRUCTION FENCE

NOT TO SCALE



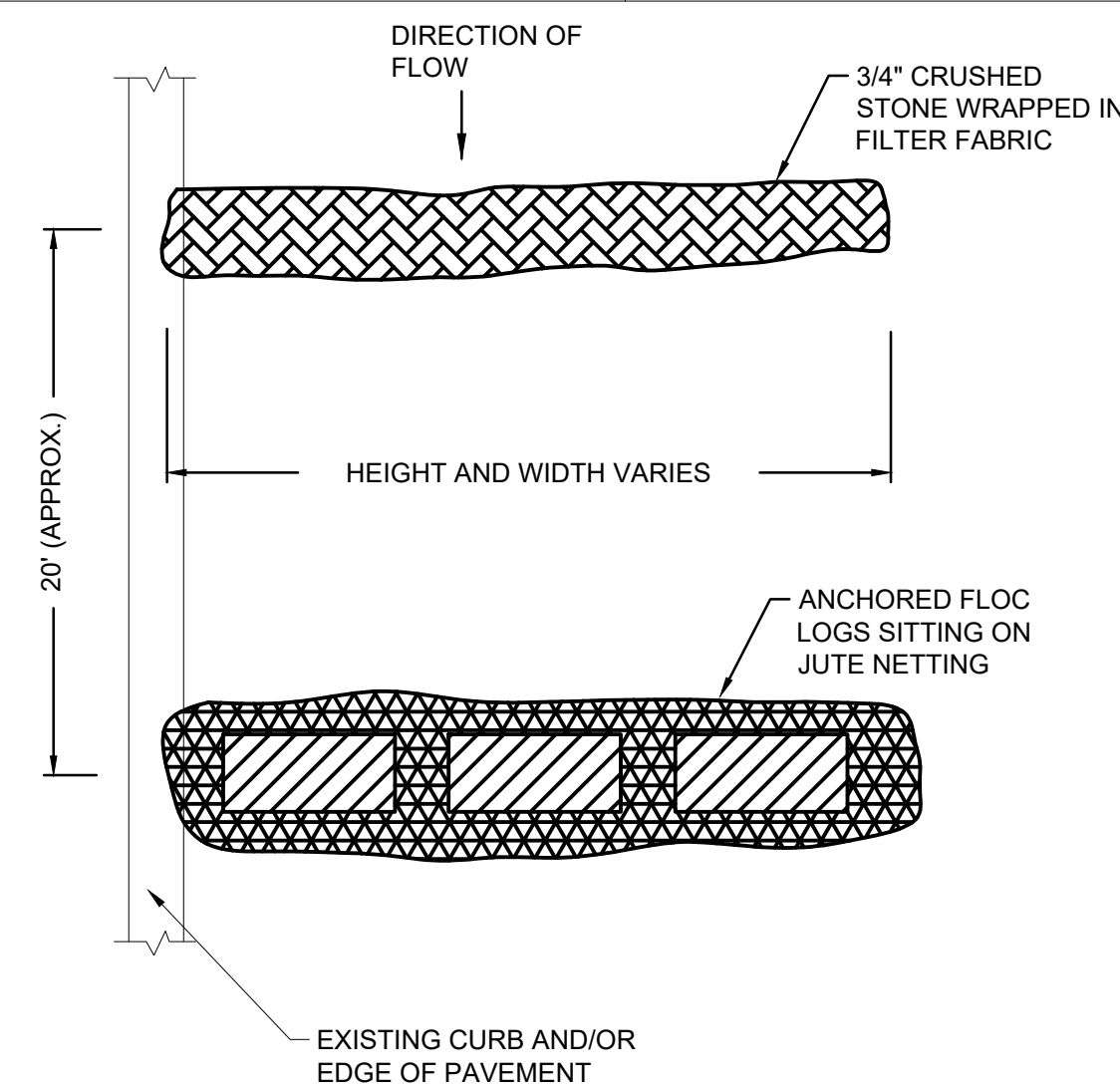
17 SILT FENCE DETAIL WITH WATTLES

NOT TO SCALE



18 SEDIMENTATION CONTROL BASIN PLAN

NOT TO SCALE



19 CHECK DAMS SILTATION CONTROL

NOT TO SCALE

- SEDIMENTATION CONTROL CHECK DAM NOTES:**
1. SEDIMENTATION CONTROL CHECK DAMS SHALL BE PLACED IN SERIES BETWEEN THE DEWATERING DISCHARGE AND RECEIVING DRAINAGE STRUCTURE(S).
 2. CHECK DAM HEIGHT AND WIDTH VARIES BASED ON SLOPE OF THE ROADWAY, DISCHARGE FLOW RATE AND CLEARANCE FROM VEHICULAR TRAFFIC.
 3. CHECK DAMS MUST NOT IMPEDE VEHICULAR TRAFFIC IN THE IMPACTED LANE OF TRAVEL.

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPROV
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	RN/DM	JDT	KEF

CONTRACTOR: **Stantec**
 Stantec Consulting Services Inc.
 400 Crown Colony Drive Suite 200
 Quincy, MA U.S.A. 02169-0962

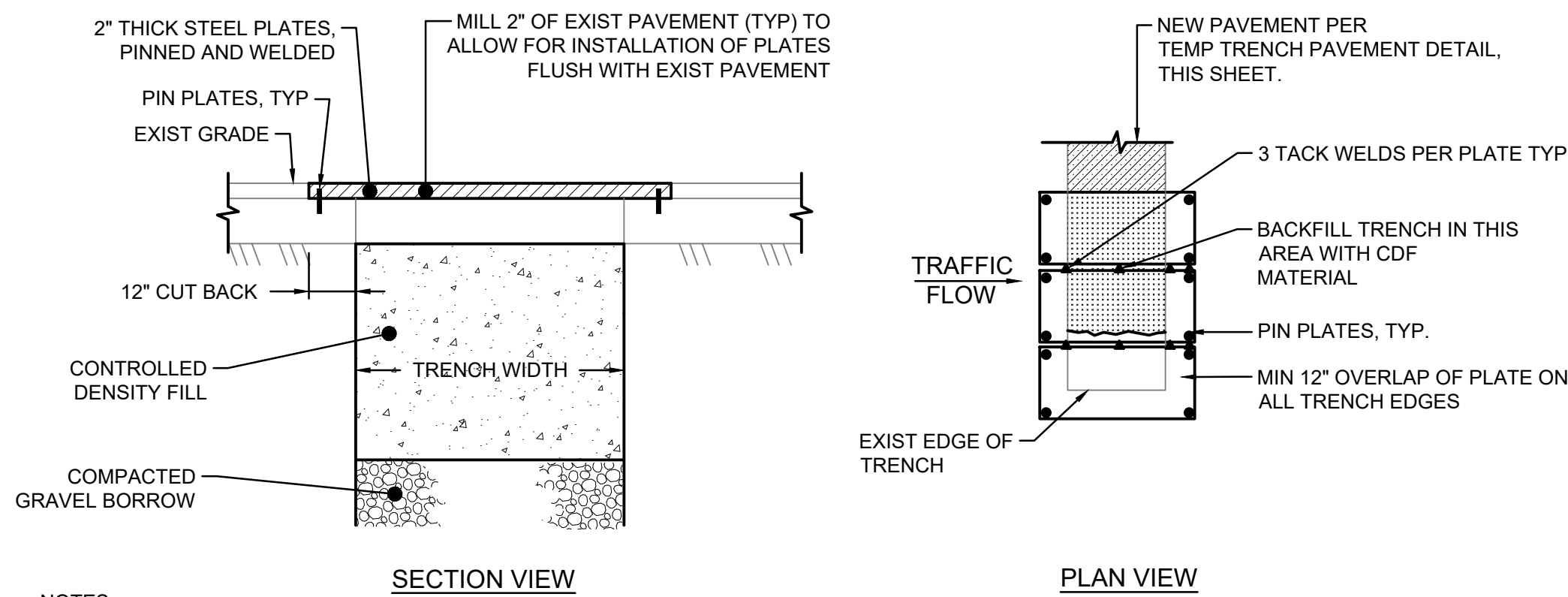
CLIENT: **AVANGRID** **Offshore Wind**
 125 High Street
 Boston, MA 02110

PROJECT: **NEW ENGLAND WIND 2 CONNECTOR**

TITLE: **ONSHORE 275KV DUCT BANK EROSION AND SEDIMENT CONTROL DETAILS**

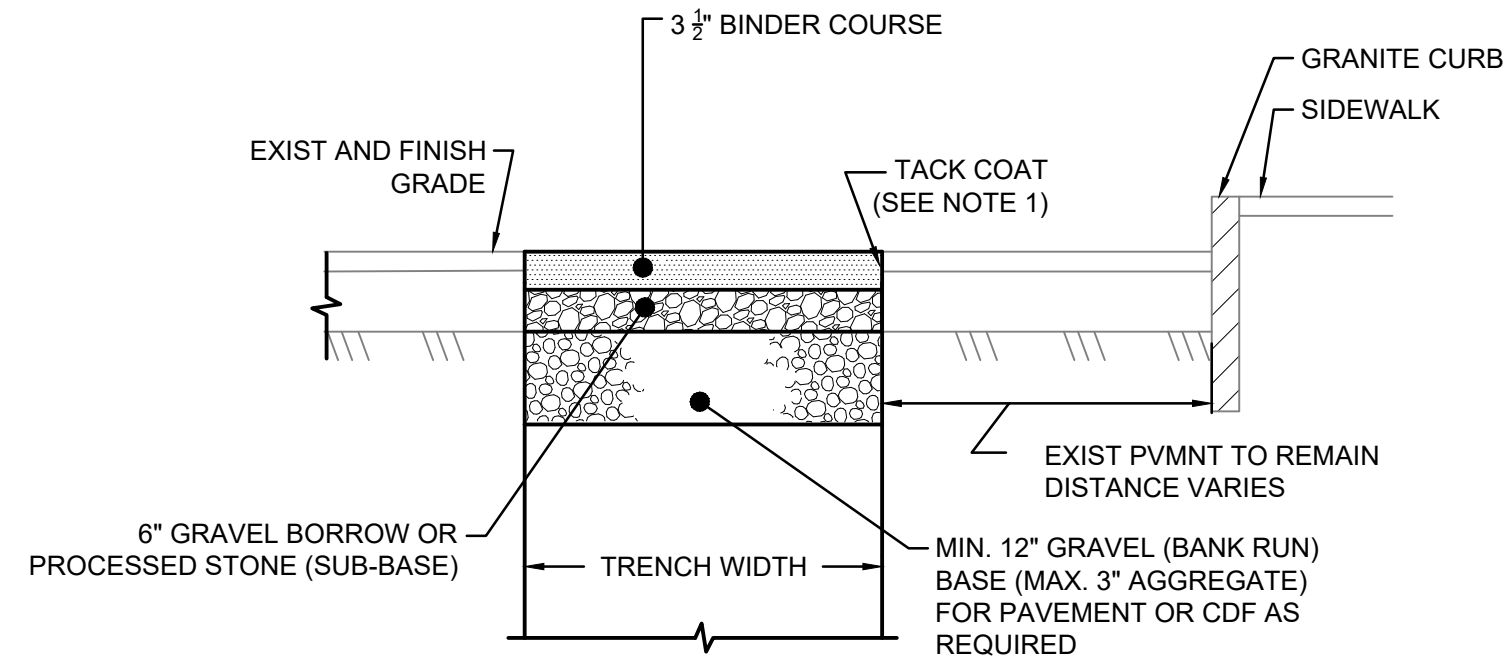
DOCID: **CWW-OC-PTC-DW-0001**

SHEET 30 OF 33 DWG. NO. SHEET - 30 SCALE AS SHOWN FORMAT/SIZE ANSI D REV. B



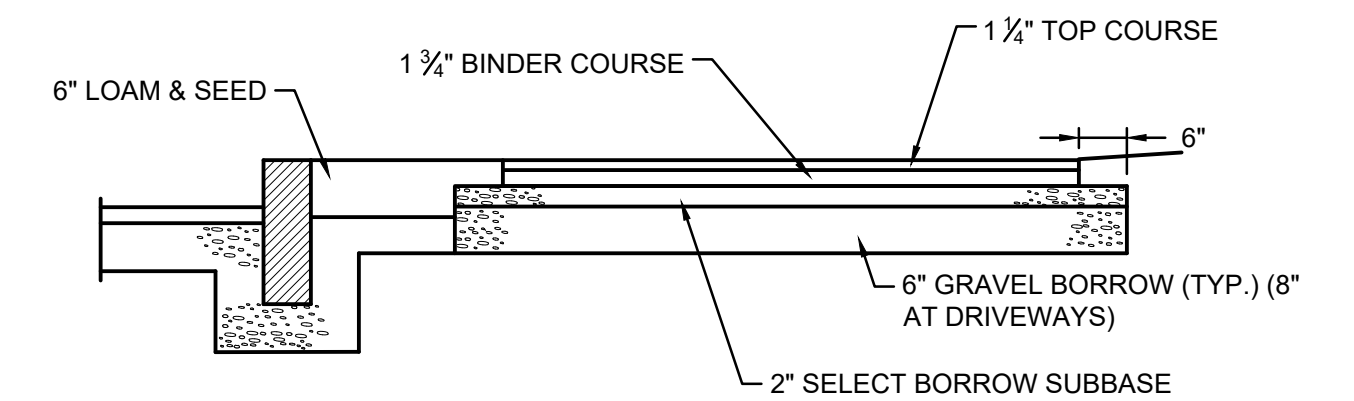
- NOTES:**
1. PLATES TO BE USED ONLY WHILE CDF IS CURING.
 2. MAXIMUM DEFLECTION ALLOWABLE OF PLATES IS 3/4\".
 3. PLATE PINS SHALL BE MINIMUM 1\" DIAMETER SPIKE AND 8\" IN LENGTH.

20 TRENCH PLATE INSTALLATION WITH CDF BACKFILL
NOT TO SCALE

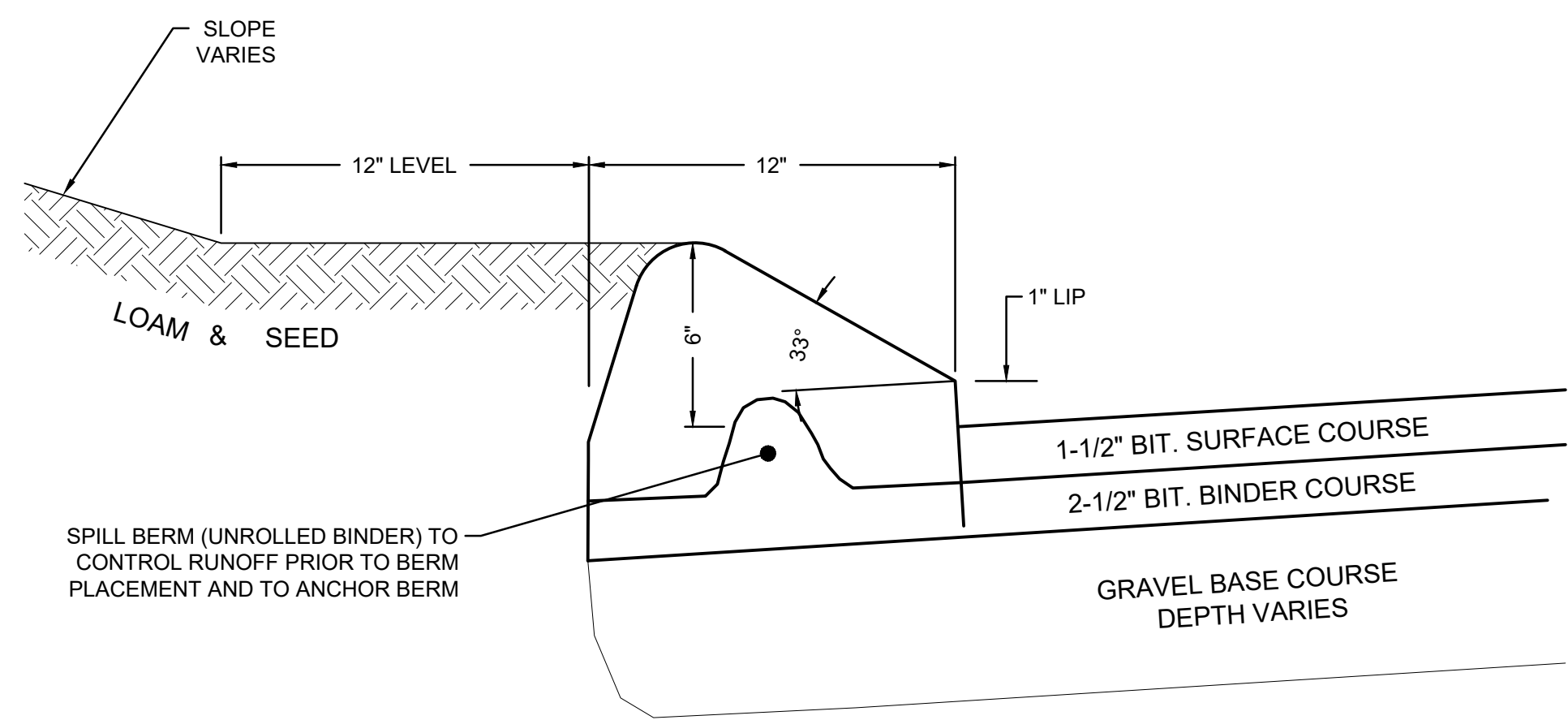


- NOTE:**
1. TACK COAT ALL VERTICAL SURFACES OF EXISTING PAVEMENT BEFORE PLACEMENT OF TEMPORARY TRENCH PAVEMENT.

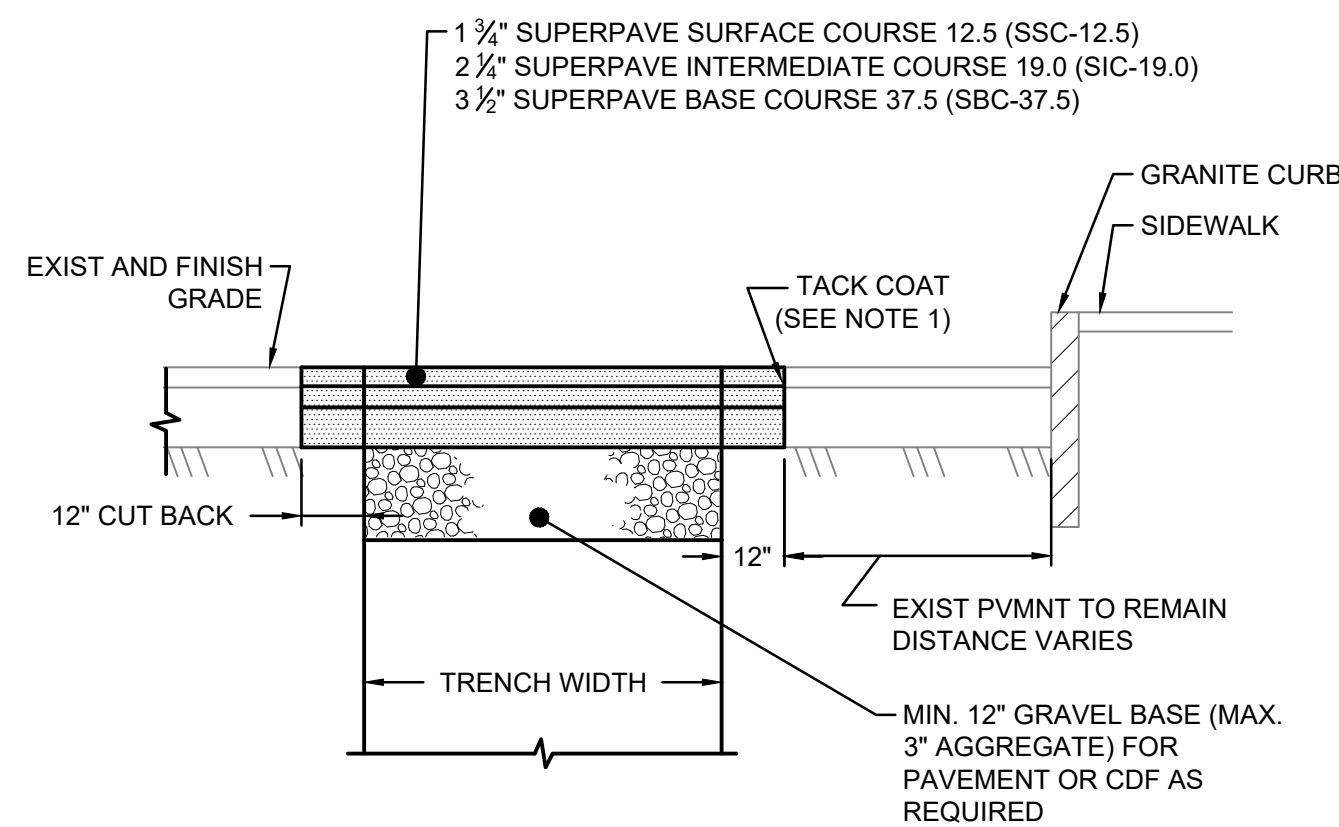
21 TEMPORARY TRENCH PAVEMENT (MASSDOT ROADWAY)
NOT TO SCALE



22 BITUMINOUS CONCRETE SIDEWALK DETAIL
NOT TO SCALE

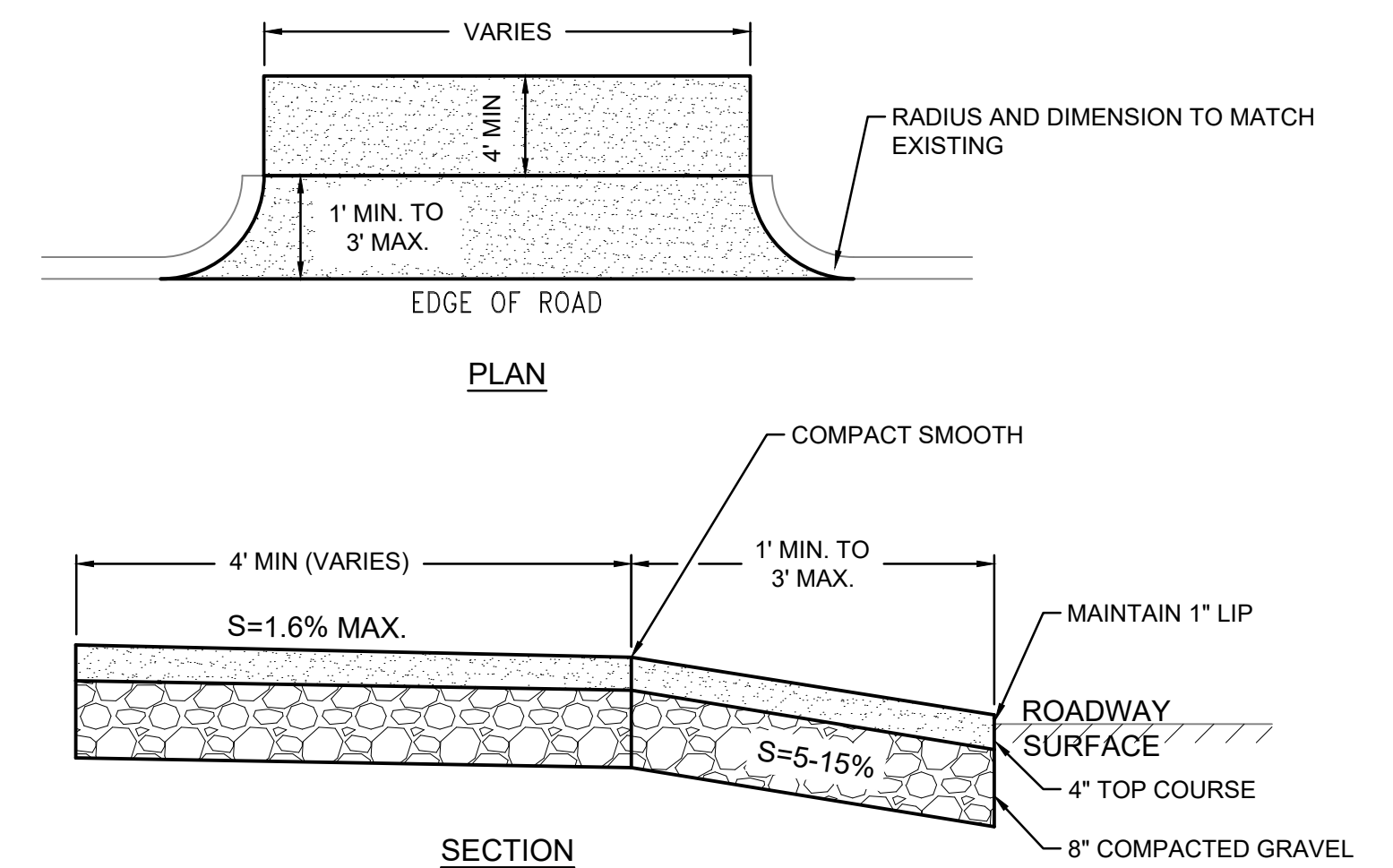


23 BITUMINOUS CONCRETE BERM DETAIL
NOT TO SCALE

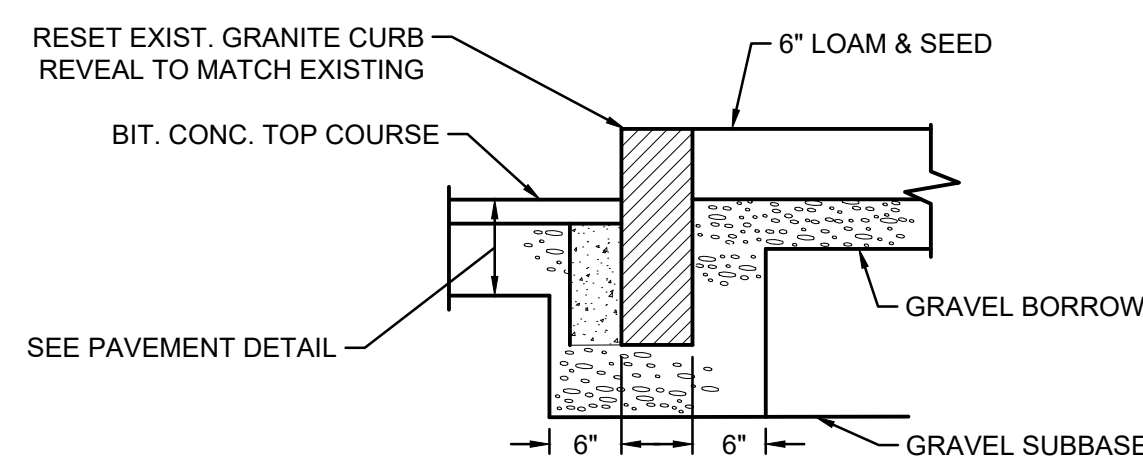


- NOTE:**
1. TACK COAT ALL VERTICAL SURFACES OF EXISTING PAVEMENT BEFORE PLACEMENT OF PERMANENT TRENCH PAVEMENT
 2. MATERIAL WHICH MEETS THE SPECIFICATION FOR GRAVEL BORROW TYPE C (M1.03.0 TYPE C), PLACED AND COMPACTED IN LAYERS NO GREATER THAN 6\", MAY BE USED IN PLACE OF THE CDF WITH APPROVAL FROM THE DISTRICT HIGHWAY DIRECTOR.
 3. THE EXPOSED EDGES OF ALL LONGITUDINAL AND TRANSVERSE SAW CUT JOINTS SHALL BE TREATED WITH HOT POURED RUBBERIZED ASPHALT JOINT SEALANT MEETING MASSDOT SPECIFICATIONS.

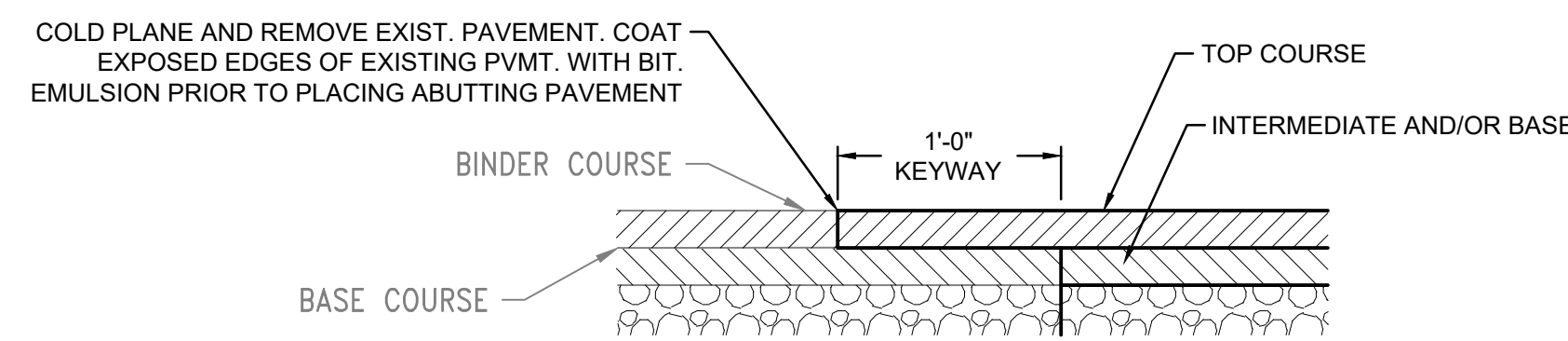
24 PERMANENT TRENCH PAVEMENT (MASSDOT ROADWAY)
NOT TO SCALE



25 BITUMINOUS CONCRETE DRIVEWAY
NOT TO SCALE



26 GRANITE CURB RESETTING DETAIL
NOT TO SCALE



27 KEYWAY DETAIL FOR CONNECTION FOR EXISTING PAVEMENT
NOT TO SCALE

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPROV
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	RN/DM	JDT	KEF

CONTRACTOR: **Stantec**
Stantec Consulting Services Inc.
400 Crown Colony Drive Suite 200
Quincy, MA U.S.A. 02169-0982

CLIENT: **AVANGRID** **Offshore Wind**
125 High Street
Boston, MA 02110

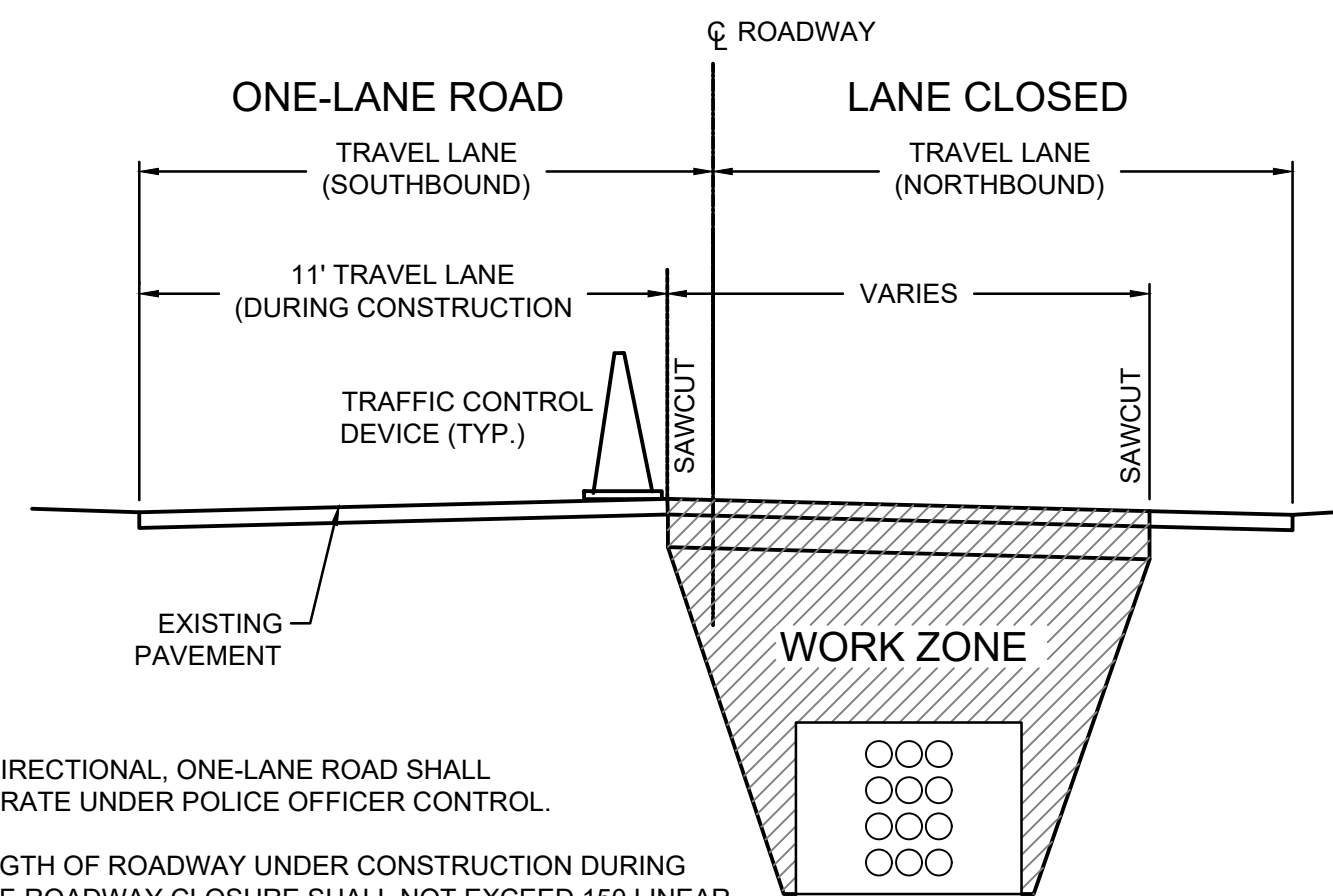
PROJECT: **NEW ENGLAND WIND 2 CONNECTOR**

TITLE: **ONSHORE 275kV DUCT BANK ROADWAY DETAILS - SHEET 1**

DOCID: **CWW-OCP-STC-DW-0001**

SHEET OF	31 / 33	DWG. NO.	SHEET - 31	SCALE	AS SHOWN	FORMAT/SIZE	ANSI D	REV.	B
----------	---------	----------	------------	-------	----------	-------------	--------	------	---

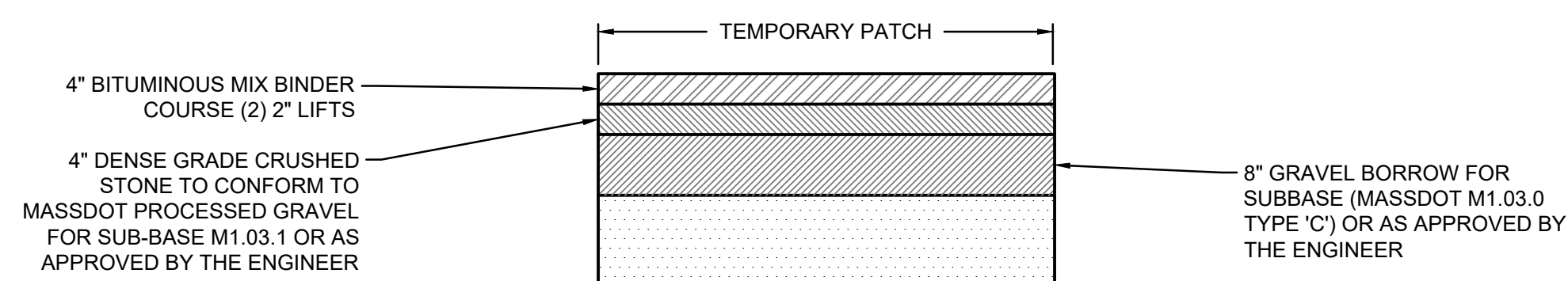
C:\pwworking\04589903\COMMON\sheet\wind-dp\tbl
 2022/09/28 11:43 PM
 by: millington, e/ken



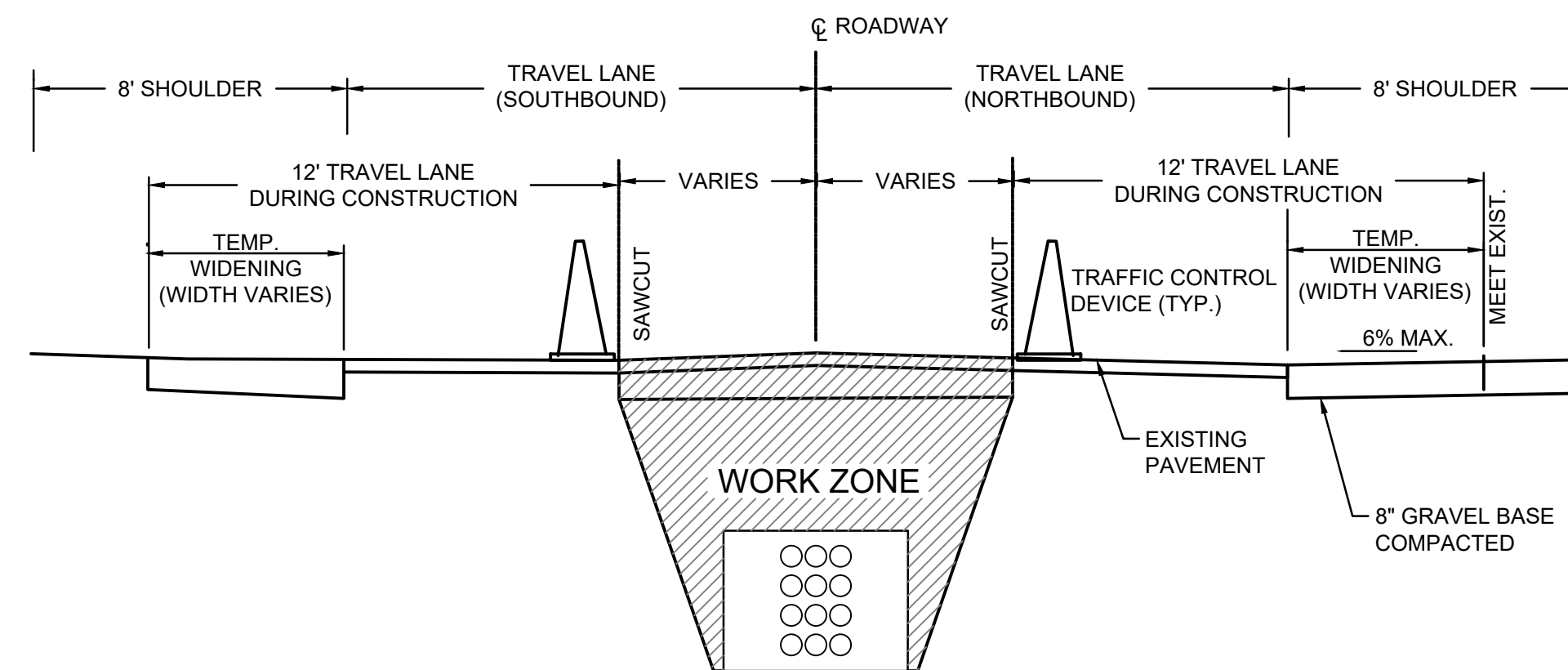
NOTES

1. BI-DIRECTIONAL, ONE-LANE ROAD SHALL OPERATE UNDER POLICE OFFICER CONTROL.
2. LENGTH OF ROADWAY UNDER CONSTRUCTION DURING HALF-ROADWAY CLOSURE SHALL NOT EXCEED 150 LINEAR FEET AT ONE TIME.
3. ROAD SURFACE MUST BE RESTORED TO TWO-WAY TRAFFIC AT THE END OF EACH WORK.

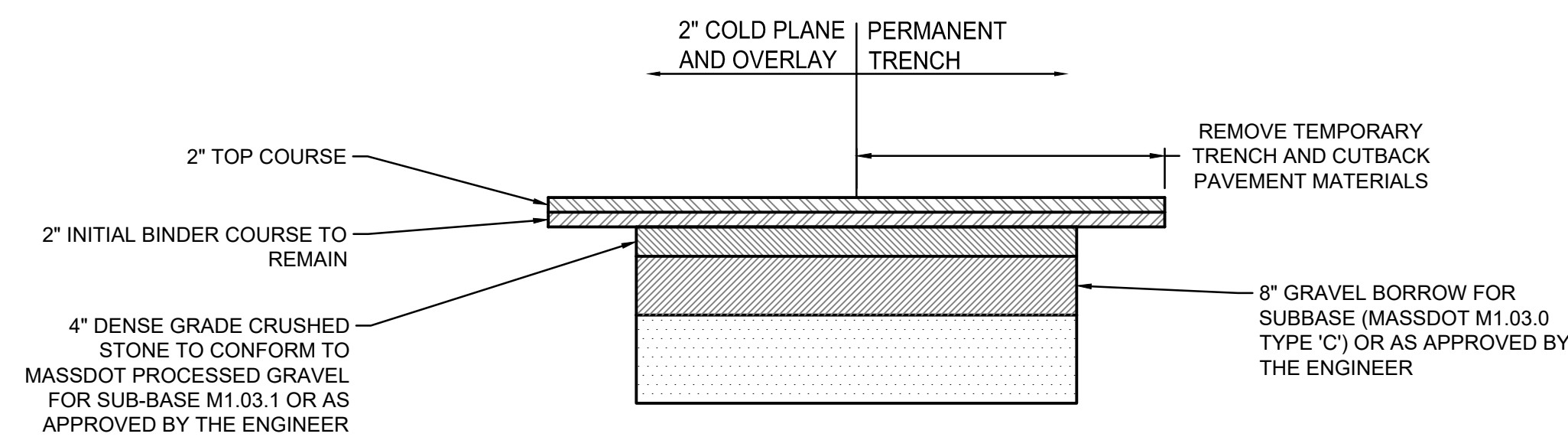
28 HALF-ROADWAY CLOSURE - ONE-WAY TRAFFIC
NOT TO SCALE



30 INITIAL PAVEMENT
NOT TO SCALE



29 CENTER-ROADWAY CLOSURE - TWO-WAY TRAFFIC
NOT TO SCALE



31 PERMANENT PAVEMENT
NOT TO SCALE

NOTES

1. ALL DETAILS ON THIS SHEET ARE TYPICAL. THIS INFORMATION WILL BE REFINED AS THE DESIGN PROGRESSES.

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPROV
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	RN/DM	JDT	KEF

CONTRACTOR:

Stantec
Stantec Consulting Services Inc.
400 Crown Colony Drive Suite 200
Quincy, MA U.S.A. 02169-0982

CLIENT:

AVANGRID **Offshore Wind**
125 High Street
Boston, MA 02110

PROJECT:
NEW ENGLAND WIND 2 CONNECTOR

TITLE:
ONSHORE 275kV DUCT BANK ROADWAY DETAILS - SHEET 2

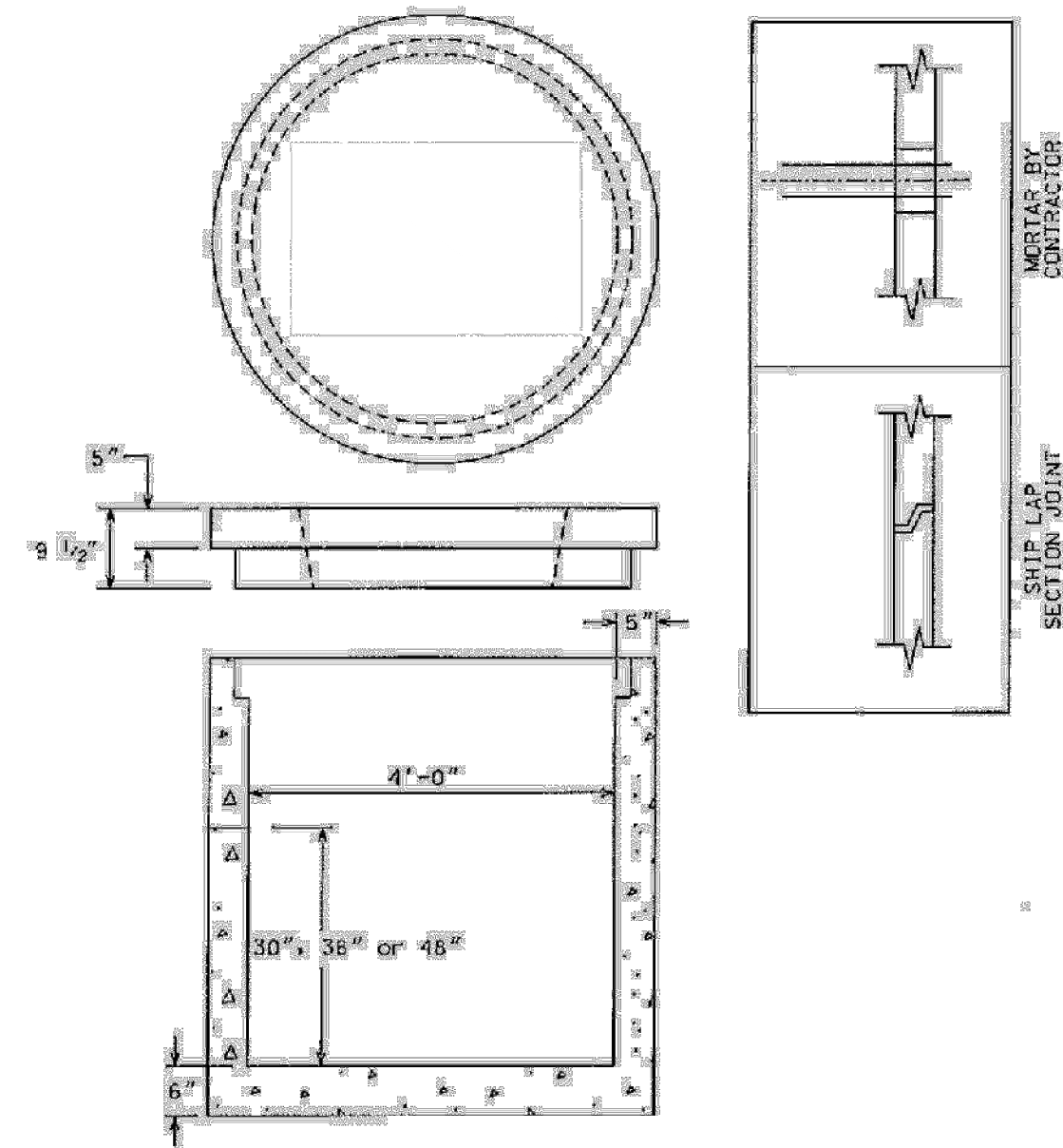
DOCID:
CWW-OCP-STC-DW-0001

SHEET OF	DWG. NO.	SCALE	FORMAT/SIZE	REV.
32 OF 33	SHEET - 32	AS SHOWN	ANSI D	B

c:\pwworking\stntec\00000000\commenwealth wind - dwg - dplb1
 2022/09/28 12:11:48 PM
 by: millington, e/ken

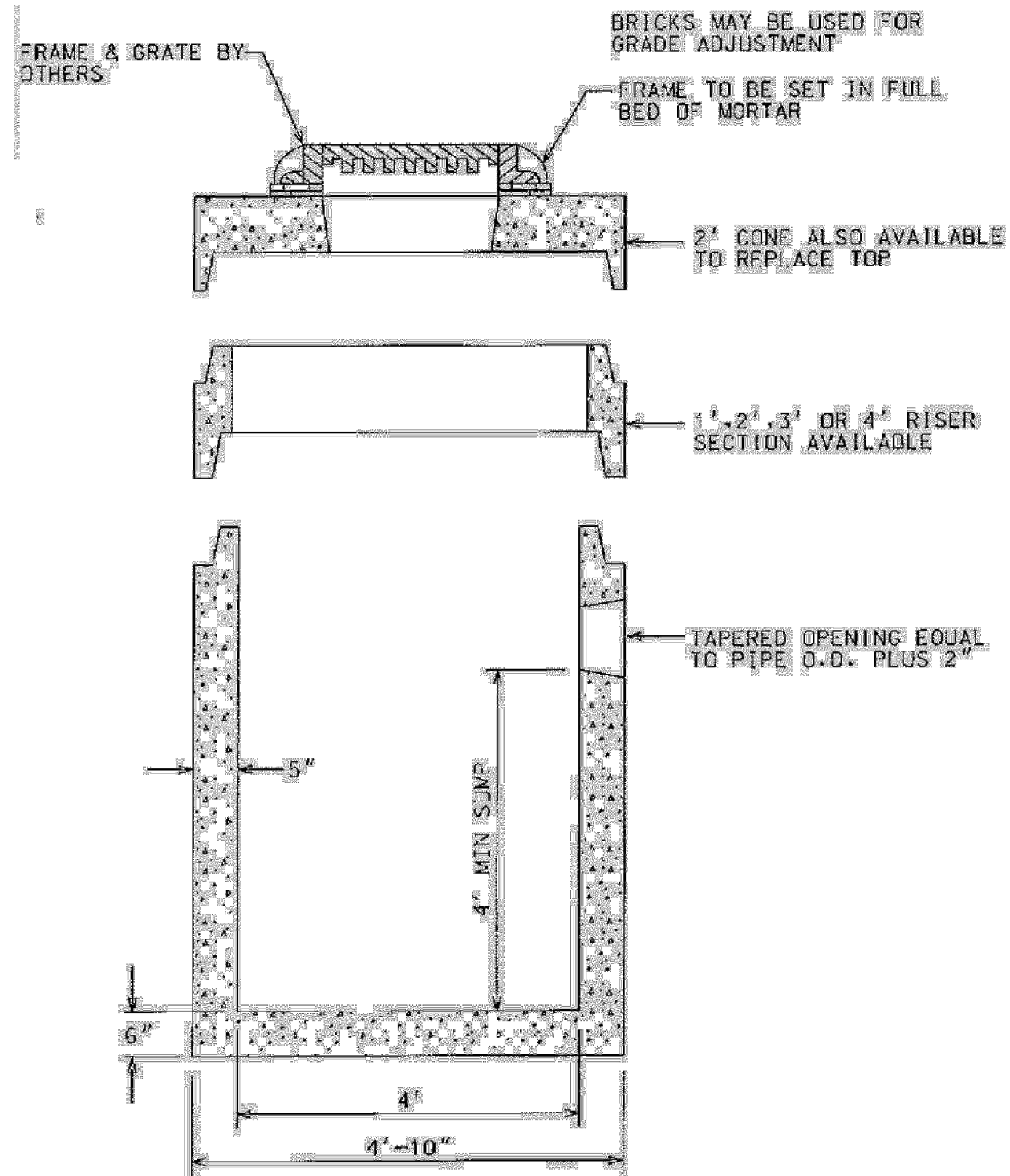
NOTES:

1. MANUFACTURED TO MEET OR EXCEED: ASTM C-478 & AASHTO M-199 SPECS.
2. REINFORCED STEEL CONFORMS TO LATEST ASTM A 180 SPECS. AND BE PLACED AS PER ASTM C-478 (8.1.8.3).
3. CONCRETE = 4000PSI MINIMUM CEMENT PER ASTM C-478 (6.1.1)
4. MANHOLE STEPS = POLYPROPYLENE COATED GRADE 60 REINFORCING BAR PER ASTM-478 & D.S.R.A. (STD 1-19)
5. BUTYL RUBBER JOINT SEALANT PER ASTM C-990 & AASHTO M-199
6. WATER PROOFING CONTACT SPECS. AS REQUIRED.



MANHOLES / CATCHBASIN

4' DIA. PRECAST CONCRETE DRAIN MANHOLE
N.T.S.

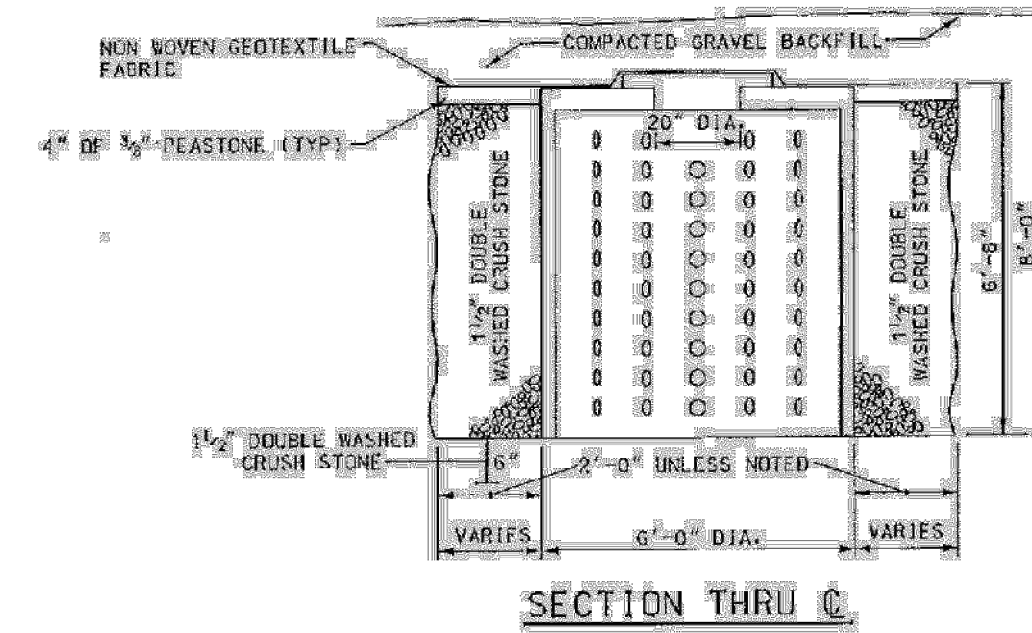


SPECIFICATIONS

CONCRETE STRENGTH 5,000 PSI @ 28 DAYS
CEMENT, PORTLAND TYPE I PER ASTM C150-B1
STEEL REINFORCEMENT PER ASTM A-615, GRADE 60
DESIGN LOADING PER AASHTO HS-20

CATCH BASIN 4' DIAMETER

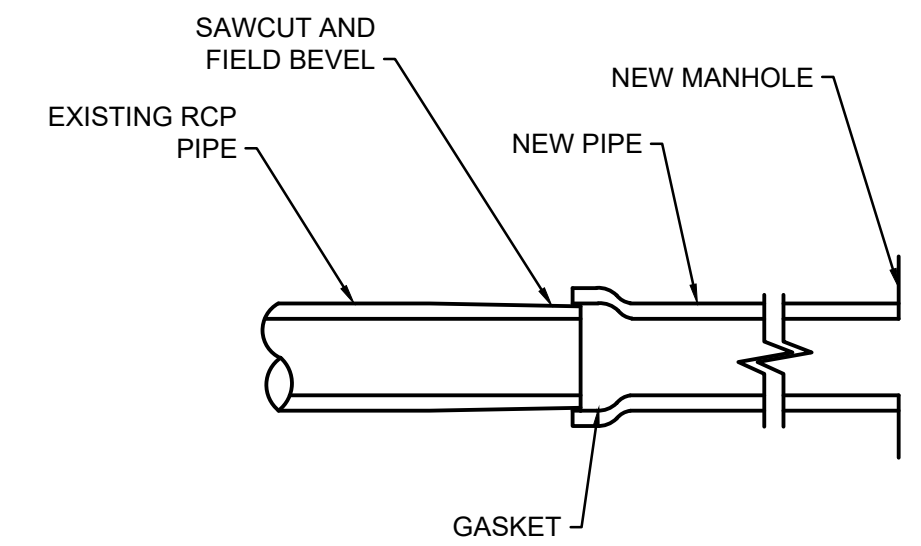
N.T.S.



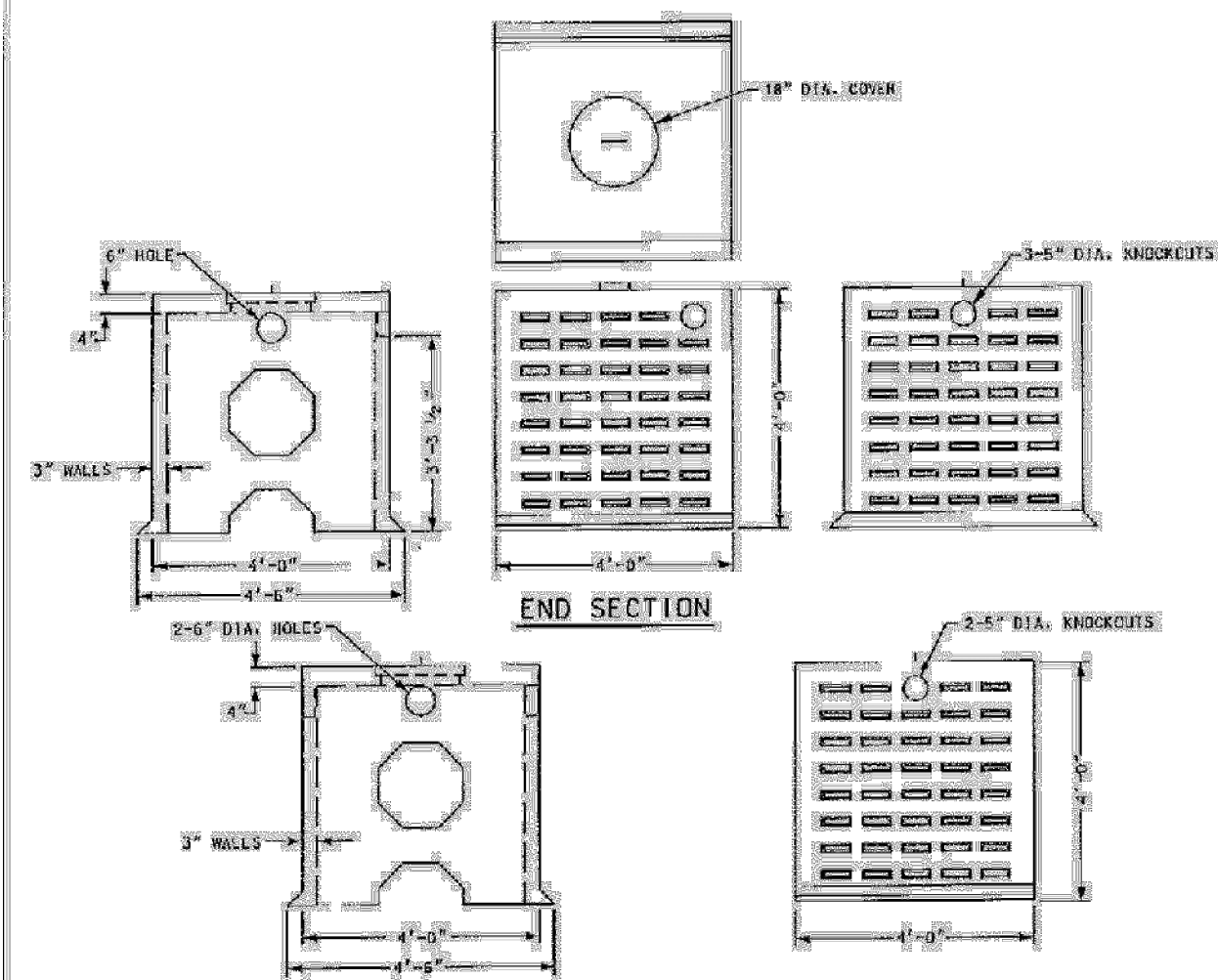
NOTES:

1. CONCRETE 4000PSI - 28 DAYS
2. STEEL REINFORCED PER A.S.T.M. SPEC A-18 - 57 T
3. ENTIRE BASIN REINFORCED WITH 6" X 6" @ 6" O.C. WW
4. CONCRETE COVER TO BE SET IN FULL BED OF MORTAR
5. CONCRETE COVER TO BE FOUR INCH MIN. THICKNESS 3" DIA. MIN.
6. ALL UNITS TO BE RATED FOR AASHTO H-20 LOADING
7. ALL PIPE CONNECTIONS TO BE SECURELY MORTARED IN PLACE
8. BASIN TO BE SET ON SIX INCHES MINIMUM OF 1 1/2" DOUBLE WASHED CRUSHED STONE.

1000 GALLON LEACHING BASIN

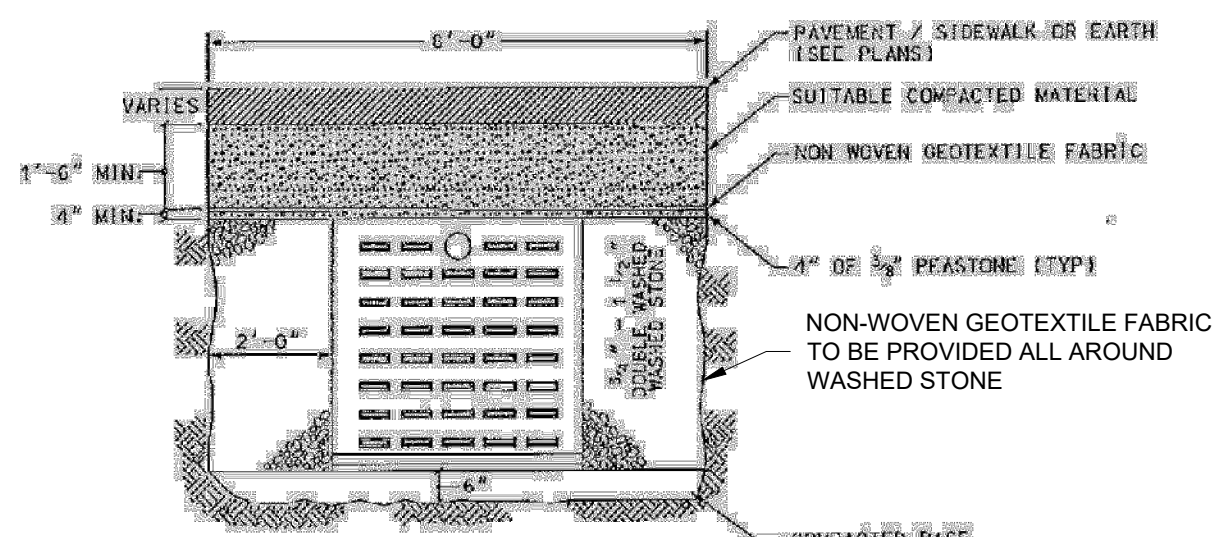


RCP DRAIN PIPE EXTENSION



LEACHING GALLEY SECTIONS

N.T.S.

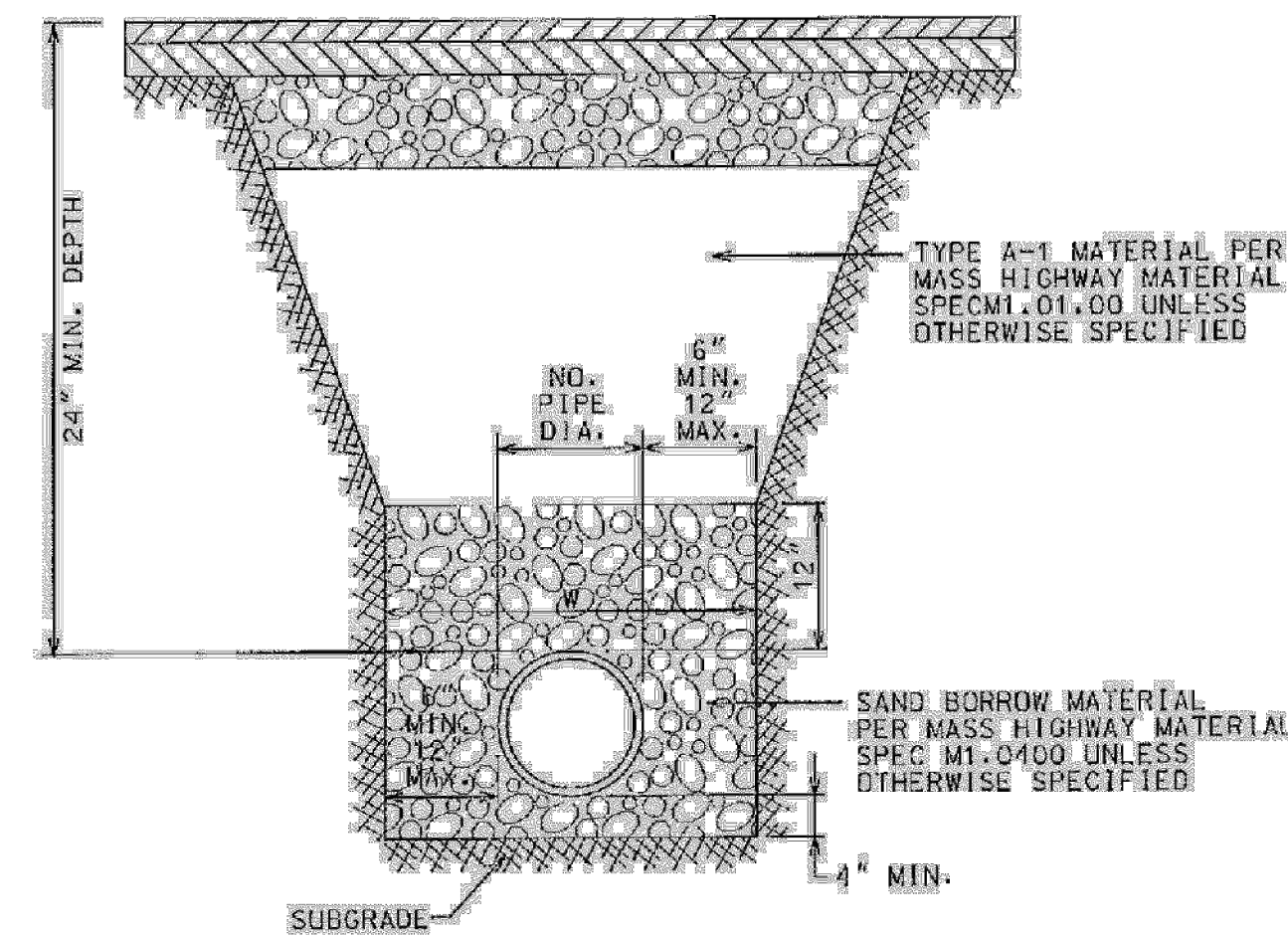


LEACHING GALLEYS

N.T.S.

NOTE:

1. CONCRETE 4,000PSI - 28 DAYS
2. STEEL REINFORCED PER A.S.T.M. SPEC. A-18 - 57 T
3. ENTIRE BASIN REINFORCED WITH 6" X 6" @ 6" O.C. WW
4. BASIN TO BE SET ON SIX INCHES MINIMUM
5. CONCRETE COVER TO BE SET IN FULL BED OF MORTAR
6. CONCRETE COVER TO BE FOUR INCHES MIN. THICKNESS 3" DIA. MIN.
7. ALL UNITS TO BE RATED FOR AASHTO H-20 LOADING
8. ALL PIPE CONNECTIONS TO BE SECURELY MORTARED IN PLACE
9. WASHED STONE INCLUDED IN UNIT BID PRICE FOR EACH PILE
10. WASHED STONE SURROUNDING LEACHING GALLEYS SHALL BE 2' WIDE, EXCEPT WHERE THIS CONFLICTS WITH UTILITIES. IN WHICH CASE STONE SURROUND SHALL BE MINIMUM 1' WIDE.



NOTE:

SAFETY STANDARDS MAY DICTATE A MODIFICATION IN TRENCH SIDE SLOPES. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE SAFETY STANDARDS.

NORMAL TRENCH DETAILS

N.T.S.

15

NOTES:

1. THE DETAILS ON THIS SHEET, WITH THE EXCEPTION OF THE RCP DRAIN PIPE EXTENSION DETAIL, WERE PROVIDED BY THE TOWN OF BARNSTABLE. MINOR ALTERATIONS HAVE BEEN MADE TO THESE DETAILS WHERE REQUIRED.

REV.	DATE	REVISION DESCRIPTION	STATUS	DRAWN	CHKD	APPROV
B	2022-09-28	ISSUED FOR STATE PERMITTING	IF1	RN/DM	JDT	KEF
A	2022-08-05	ISSUED FOR CLIENT REVIEW	IFCR	RN/DM	JDT	KEF

CONTRACTOR: **Stantec**
Stantec Consulting Services Inc.
400 Crown Colony Drive Suite 200
Quincy, MA U.S.A. 02169-0962

CLIENT: **AVANGRID** Offshore Wind
125 High Street
Boston, MA 02110

PROJECT: **NEW ENGLAND WIND 2 CONNECTOR**

TITLE: **ONSHORE 275KV DUCT BANK TOWN OF BARNSTABLE DRAINAGE DETAILS**

DOCID: **CWW-OCF-STC-DW-0001**

SHEET 33 OF 33 DWG. NO. SHEET - 33 SCALE AS SHOWN FORMAT/SIZE ANSI D REV. B

ALL UNITS SHOWN ARE 'ENGLISH UNITS' (FEET AND INCHES)

THIS PLAN SET IS PRELIMINARY AND HAS BEEN ISSUED FOR PERMITTING PURPOSES ONLY; AND, IS NOT INTENDED FOR CONSTRUCTION PURPOSES.