

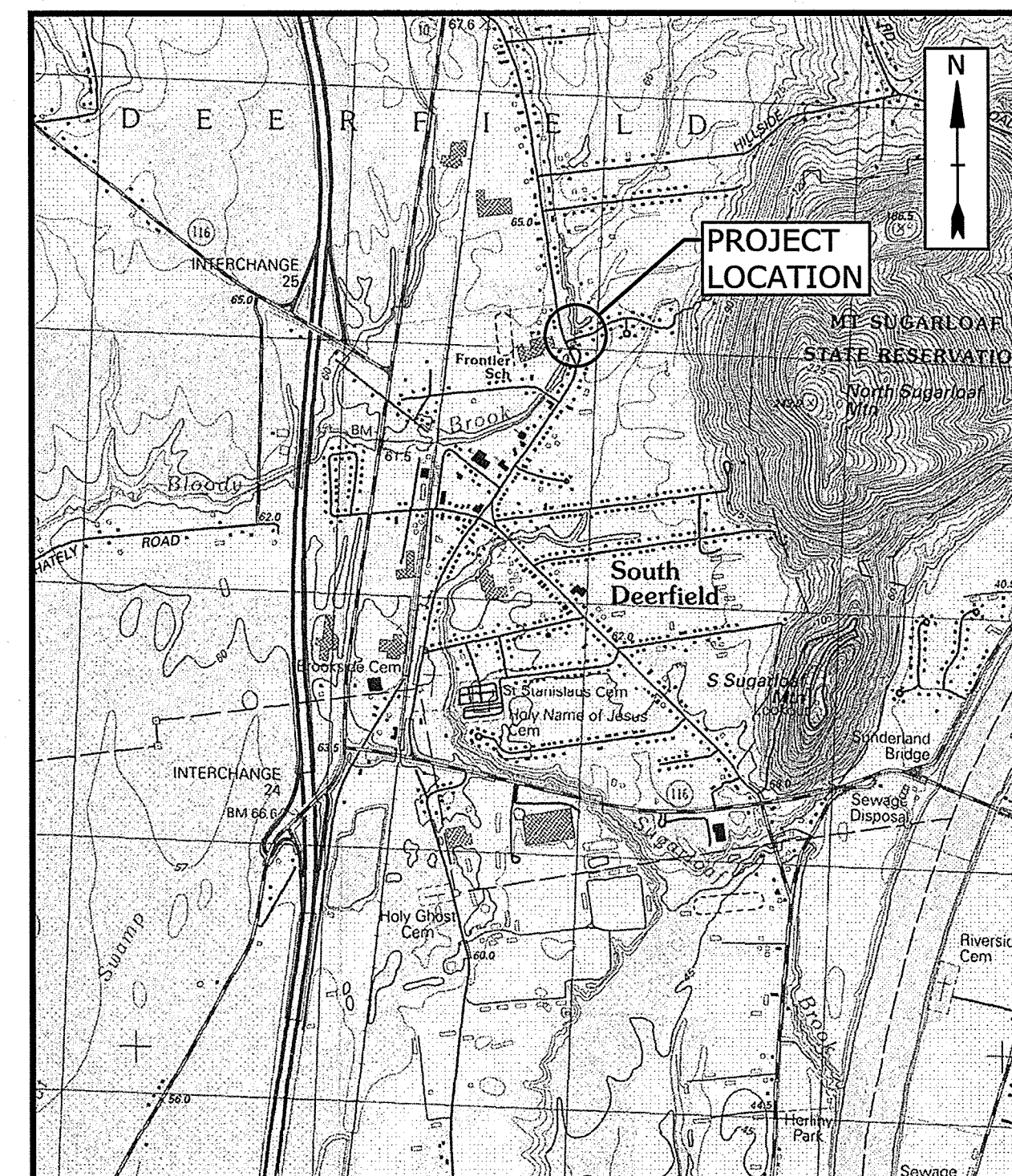
TOWN OF DEERFIELD, MASSACHUSETTS

KELLEHER DRIVE

CULVERT REPLACEMENT PROJECT

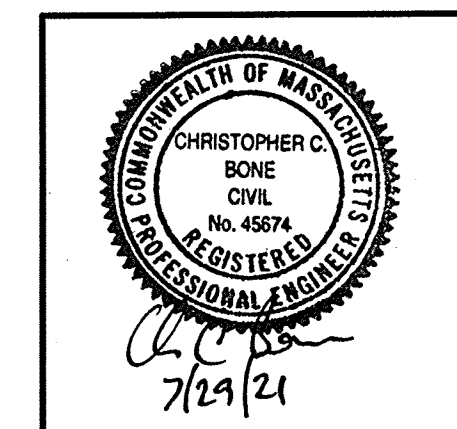
BID SET - APRIL 2020
RECORD DRAWINGS - JULY 2021

LIST OF DRAWINGS	
SHEET NO.	SHEET TITLE
G-001	COVER
G-002	LEGEND, ABBREVIATIONS AND GENERAL NOTES
C-101	EXISTING CONDITIONS SITE PLAN
C-102	PROPOSED CONDITIONS SITE PLAN
C-103	PROPOSED CONDITIONS PROFILE
C-104	CONSTRUCTION DETAILS
C-105	WETLAND RESTORATION DETAILS
C-106	GUARDRAIL DETAILS
C-107	TEMPORARY TRAFFIC CONTROL

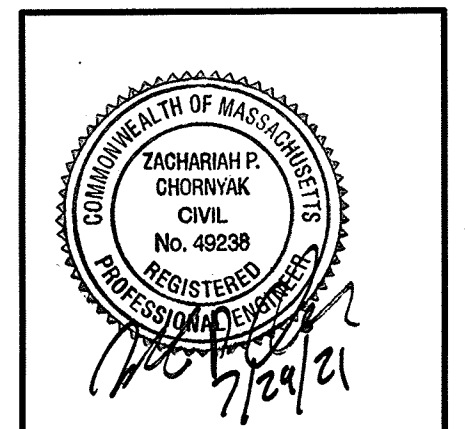


LOCATION MAP
SCALE: 1"=2000'

PREPARED BY:
Tighe & Bond
www.tighebond.com



CHRISTOPHER C. BONE, PE



ZACHARIAH P. CHORNYAK, PE

PREPARED FOR:
TOWN OF DEERFIELD

KAYCE WARREN, TOWN ADMINISTRATOR

KEVIN SCARBOROUGH, DPW SUPERINTENDENT

RECORD DRAWING

THIS RECORD DRAWING WAS PREPARED BASED ON AS-BUILT INFORMATION
PROVIDED BY THE CONTRACTOR AND INDICATES ONLY SIGNIFICANT
CHANGES MADE FROM THE DESIGN DRAWINGS DURING CONSTRUCTION.

COMPLETE SET 9 SHEETS

1. **BASE PLAN PREPARED BY NORTHEAST SURVEY CONSULTANTS, INC. ON DECEMBER 19, 2019. EXISTING PROPERTY LINES ARE BASED ON AN ASSESSORS PLAN, AND ARE APPROXIMATE AND FOR ORIENTATION PURPOSES ONLY.**
2. **THE HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). THE VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). BOTH WERE DERIVED FROM RTK GPS OBSERVATIONS TAKEN ON SITE.**
3. **BOLD TEXT AND LINES INDICATE PROPOSED WORK. LIGHT TEXT AND LINES INDICATE APPROXIMATE EXISTING CONDITIONS.**
4. **WETLAND RESOURCE AREAS WERE DELINEATED BY TIGHE & BOND ON 11/21/2019.**
5. **SOIL BORINGS WERE ADVANCED BY SEABOARD DRILLING, INC. ON 11/29/2019.**
6. **NOTIFY "DIGSAFE" AT 1-888-344-7233 TO ARRANGE FOR MARKING OUT EXISTING UNDERGROUND UTILITIES AT LEAST 72 HOURS (EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS) PRIOR TO BEGINNING EXCAVATION AT ANY GIVEN LOCATION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE ALLOWED TO START ANY KIND OF EXCAVATION WORK PRIOR TO OBTAINING ALL THE NECESSARY INFORMATION REGARDING THE LOCATION OF UNDERGROUND UTILITIES AT THE SITE. ACCOMPLISH ALL EXCAVATION SO THAT UNDERGROUND UTILITIES OR STRUCTURES ARE NOT DAMAGED. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INCURRED DURING EXCAVATION OPERATIONS. REPAIR ANY EXISTING PIPE OR UTILITY DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.**
7. **THE OWNER AND ENGINEER ASSUME NO RESPONSIBILITY FOR THE LOCATION OF EXISTING UTILITIES. THE ENGINEER AND OWNER MAKE NO GUARANTEE AS TO THE UNDERGROUND CONDITIONS THAT MAY BE ENCOUNTERED.**
8. **FIELD MEASURE TO VERIFY EXISTING AND CONTRACT INTERFACE DIMENSIONS, LOCATIONS, AND OTHER CONDITIONS.**
9. **TEST PITS TO LOCATE EXISTING UTILITIES ARE STRONGLY ENCOURAGED AND MAY BE ORDERED BY THE ENGINEER.**
10. **IF CHANGES TO THE DESIGN ARE PROPOSED, THE PROPOSED CHANGES SHALL BE SUBMITTED TO THE OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION (MAY REQUIRE PERMIT MODIFICATIONS OR NEW FORMAT(S)).**
11. **NO OPEN TRENCHES WILL BE ALLOWED OVERNIGHT. THE USE OF ROAD PLATES TO PROTECT THE EXCAVATION WILL BE CONSIDERED UPON REQUEST, BUT BACKFILLING IS PREFERRED.**
12. **STORE FUEL, OIL, PAINT, OR OTHER HAZARDOUS MATERIALS IN A SECONDARY CONTAINER AND REMOVE FROM THE SITE TO A LOCKED INDOOR AREA WITH AN IMPERVIOUS FLOOR DURING NON-WORK HOURS.**
13. **IMMEDIATELY REPORT SPILLS OF OIL AND/OR HAZARDOUS MATERIALS (OHM) TO THE MASSDEP.**
14. **PROVIDE A SUFFICIENT SUPPLY OF ABSORBENT SPILL RESPONSE MATERIALS, SUCH AS BOOMS OR BLANKETS, AT THE CONSTRUCTION SITE AT ALL TIMES TO CLEAN UP POTENTIAL SPILLS OF HAZARDOUS MATERIALS.**
15. **FURNISH AND INSTALL TRAFFIC CONTROL/SAFETY DEVICES TO ENSURE SAFE VEHICULAR TRAFFIC THROUGH THE WORK AREA OR FOR SAFELY IMPLEMENTING DETOURS AROUND THE WORK AREA.**
16. **MAKE NECESSARY ARRANGEMENTS TO PERFORM ANY WORK NEAR THE OVERHEAD UTILITIES PRIOR TO THE START OF CONSTRUCTION.**

1. RESTORE ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE LIMITS OF WORK TO ORIGINAL CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
2. ALL PAVEMENT DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. PROTECT SURFACE FEATURES (E.G., WALLS, FENCES, MAIL BOXES, SIGNS, SIDEWALKS, CURBING, STAIRS, WALKWAYS, TREES, ETC.) FROM DAMAGE DURING CONSTRUCTION, INCLUDING PROVIDING TEMPORARY SUPPORTS, WHEN APPROPRIATE.
4. IF REMOVAL OF SURFACE FEATURES IS REQUIRED IN ORDER TO PERFORM THE PROPOSED WORK, REMOVE THOSE SITE FEATURES ONLY UPON APPROVAL OF ENGINEER. REPLACE ALL REMOVED SITE FEATURES; NEW ITEMS SHALL BE EQUAL OR BETTER IN QUALITY AND CONDITION TO THE ITEMS REMOVED.
5. EXISTING SURVEY MONUMENTS DISTURBED BY THE CONTRACTOR SHALL BE REPLACED BY A LAND SURVEYOR LICENSED IN MASSACHUSETTS AT NO ADDITIONAL COST TO THE OWNER.
6. REPAIR DISTURBED PAVED SURFACES AT THE END OF EACH WORK WEEK, UNLESS OTHERWISE APPROVED/REQUIRED BY THE OWNER.

EXISTING	NEW
	EDGE OF PAVEMENT
	GRAVEL DRIVE
	FENCE
	STORM DRAIN
	OVERHEAD ELECTRIC
	APPROXIMATE PROPERTY LINE
	GUARDRAIL
	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	THALWEG
	CONTROL POINT
	BORING
	PROFILE ELEVATIONS
	WETLAND FLAGS
	WETLAND SYMBOL
	GUY WIRE
	SIGN
	DOUBLE POLE SIGN
	PIPE OUTLET
	MANHOLE
	HYDRANT
	WATER VALVE
	CATCH BASIN
	DRAIN MANHOLE
	TELEPHONE MANHOLE
	UTILITY POLE
	TEMPORARY COFFER DAM
	EROSION CONTROL BARRIERS
	BORDERING VEGETATED WETLANDS
	SURVEYED EDGE OF WATER (DECEMBER 2019)
	TOP OF BANK/MEAN ANNUAL HIGH WATER (MAHW)
	100-FOOT BUFFER ZONE
	200-FOOT RIVERFRONT AREA
	LAND SUBJECT TO FLOODING
	TEMPORARY BENCH MARK
	DECIDUOUS TREE
	CONIFEROUS TREE
	WETLAND MITIGATION AREA

APPROX	APPROXIMATE
BIT	BITUMINOUS
BVW	BORDERING VEGETATIVE WETLANDS
CFS	CUBIC FEET PER SECOND
CONC	CONCRETE
CMP	CORRUGATED METAL PIPE
D	DIAMETER
DPW	DEPARTMENT OF PUBLIC WORKS
EL/ELEV	ELEVATION
EXIST	EXISTING
FIN	FINISHED
'	FEET/FOOT
"	INCH
±	PLUS/MINUS
HDPE	HIGH DENSITY POLYETHYLENE
H	HEIGHT
HMA	HOT MIX ASPHALT
INV	INVERT ELEVATION
IP	IRON PIN
L	LENGTH
LF	LINEAR FEET
MASSDEP	MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
N/F	NOW/FORMERLY
PROP	PROPOSED
SF	SQUARE FEET
STA	SURVEY STATION
T	TOP
TBM	TEMPORARY BENCH MARK
TYP	TYPICAL
UP	UTILITY POLE
W	WIDTH

THIS RECORD DRAWING WAS PREPARED BASED ON AS-BUILT INFORMATION
PROVIDED BY THE CONTRACTOR AND INDICATES ONLY SIGNIFICANT
CHANGES MADE FROM THE DESIGN DRAWINGS DURING CONSTRUCTION.

Kelleher Drive Culvert Replacement Project

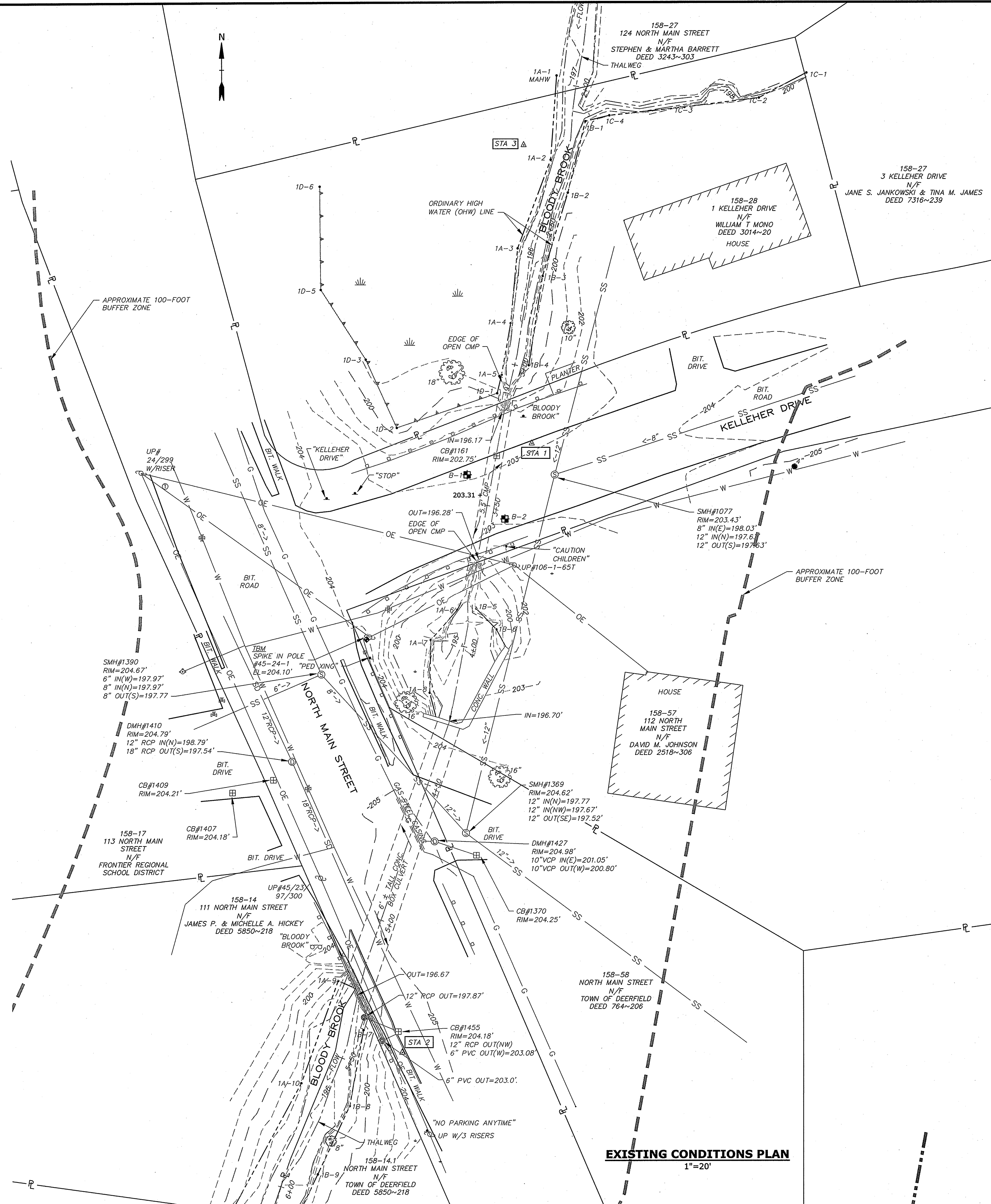
Deerfield,
Massachusetts

	7/28/2021	RECORD DRAWING
O	4/15/2020	ISSUED FOR BIDDING
MARK	DATE	DESCRIPTION
PROJECT NO:		D5017/005
DATE:		3/11/2020
FILE:		D5017-005-G-002.dwg
DRAWN BY:		THP
CHECKED:		ABM
APPROVED:		PMV, ZPC

SCALE: NO SCALE

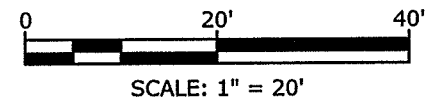
G-002
SHEET 2 OF 9

Last Saved: 7/28/2021 12:13:30 PM By: TWP
Plotted On: Jul 28, 2021 12:13:30 PM
Tighe & Bond, Inc. 05017 Town of Deerfield 005 - Kelleher Drive Culvert Replacement
Figures AutoCAD Sheet D5017-005-C-101.dwg



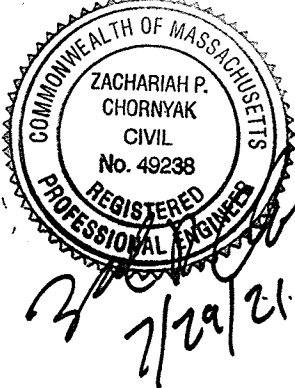
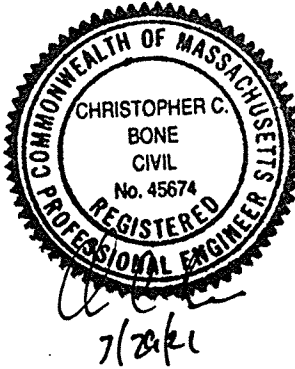
NOTE:
ALL PROPOSED WORK IS LOCATED WITHIN THE 200-FOOT RIVERFRONT AREA AND 100-FOOT BUFFER ZONE.

EXISTING CONTROL POINTS			
POINT	NORTHING	EASTING	ELEVATION
STA 1	3003224.02	348423.70	202.86
STA 2	3003011.62	358378.03	202.86
STA 3	3003328.05	358421.02	199.30



RECORD DRAWING

THIS RECORD DRAWING WAS PREPARED BASED ON AS-BUILT INFORMATION PROVIDED BY THE CONTRACTOR AND INDICATES ONLY SIGNIFICANT CHANGES MADE FROM THE DESIGN DRAWINGS DURING CONSTRUCTION.



Town of Deerfield

Kelleher Drive Culvert Replacement Project

Deerfield, Massachusetts

	7/28/2021	RECORD DRAWING
0	4/15/2020	ISSUED FOR BIDDING
MARK	DATE	DESCRIPTION
PROJECT NO:	D5017/005	
DATE:	3/11/2020	
FILE:	D5017-005-C-101.dwg	
DRAWN BY:	TWP	
CHECKED:	ABM	
APPROVED:	PMV, ZPC	

EXISTING CONDITIONS SITE PLAN

SCALE: 1"=20'

C-101
SHEET 3 OF 9

Deerfield,
Massachusetts

PROPOSED CONDITIONS SITE PLAN

C-102
SHEET 4 OF 9



CULVERT OPENNESS RATIO CONDITIONS:

	EXISTING	PROPOSED
CROSS-SECTIONAL AREA	23.76 SF	40.4 SF
OPENNESS RATIO	0.46	0.78
PIPE SIZE & MATERIAL	5.5' CMP	9.83"Wx8"H PRECAST CONCRETE
LENGTH	52 LF	52 LF

THIS RECORD DRAWING WAS PREPARED BASED ON AS-BUILT INFORMATION
PROVIDED BY THE CONTRACTOR AND INDICATES ONLY SIGNIFICANT
CHANGES MADE FROM THE DESIGN DRAWINGS DURING CONSTRUCTION.

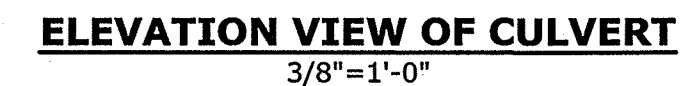


Kelleher Drive Culvert Replacement Project

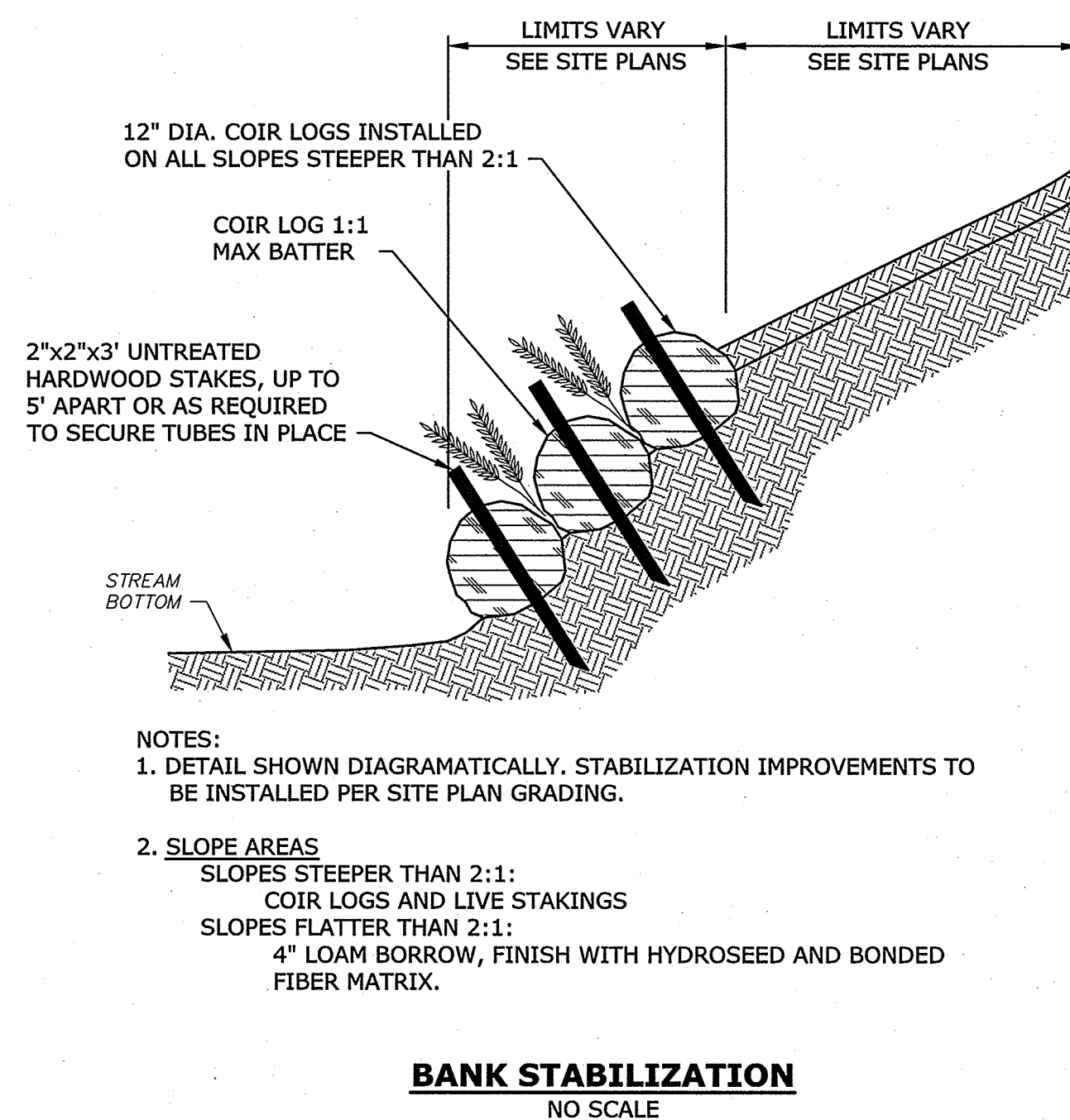
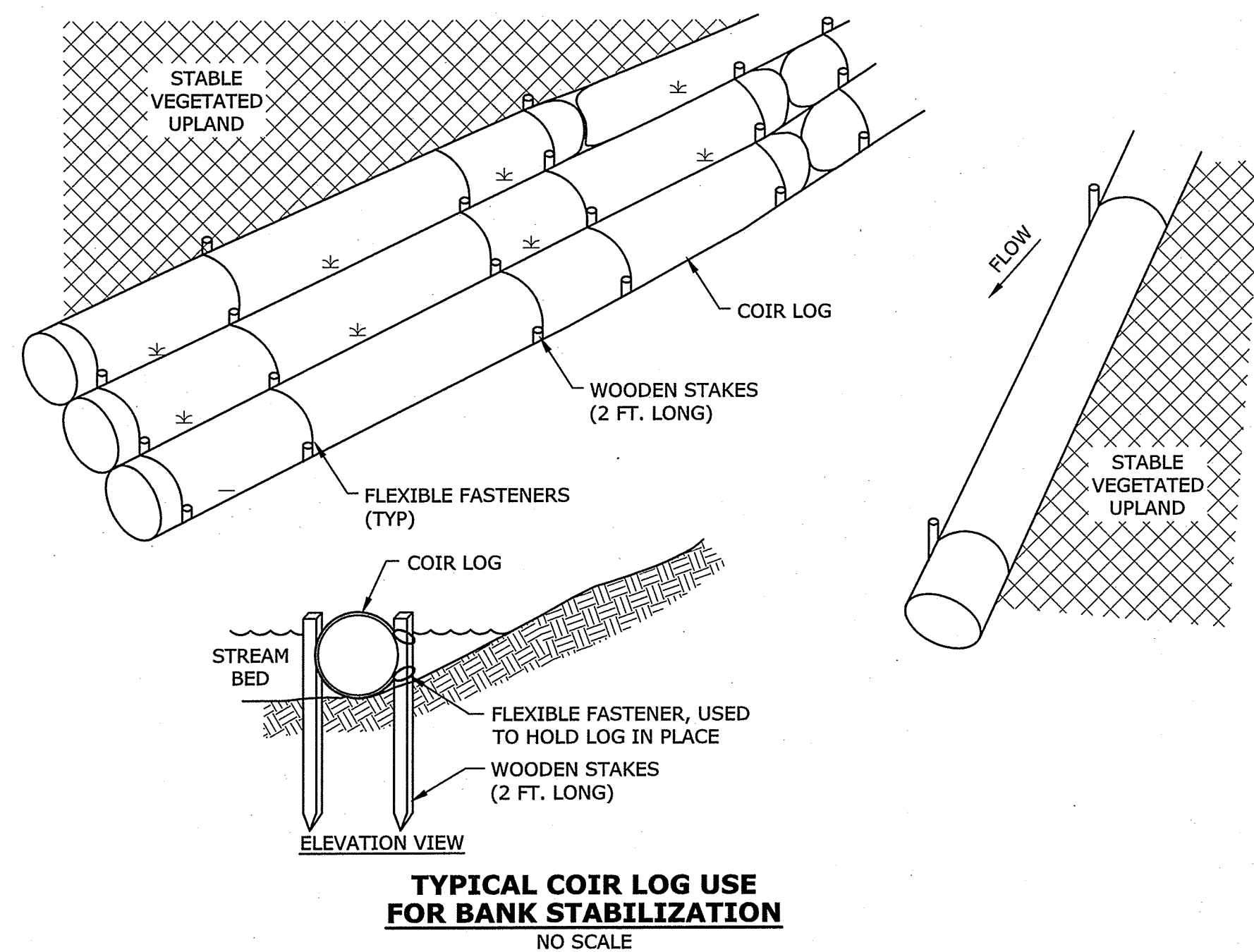
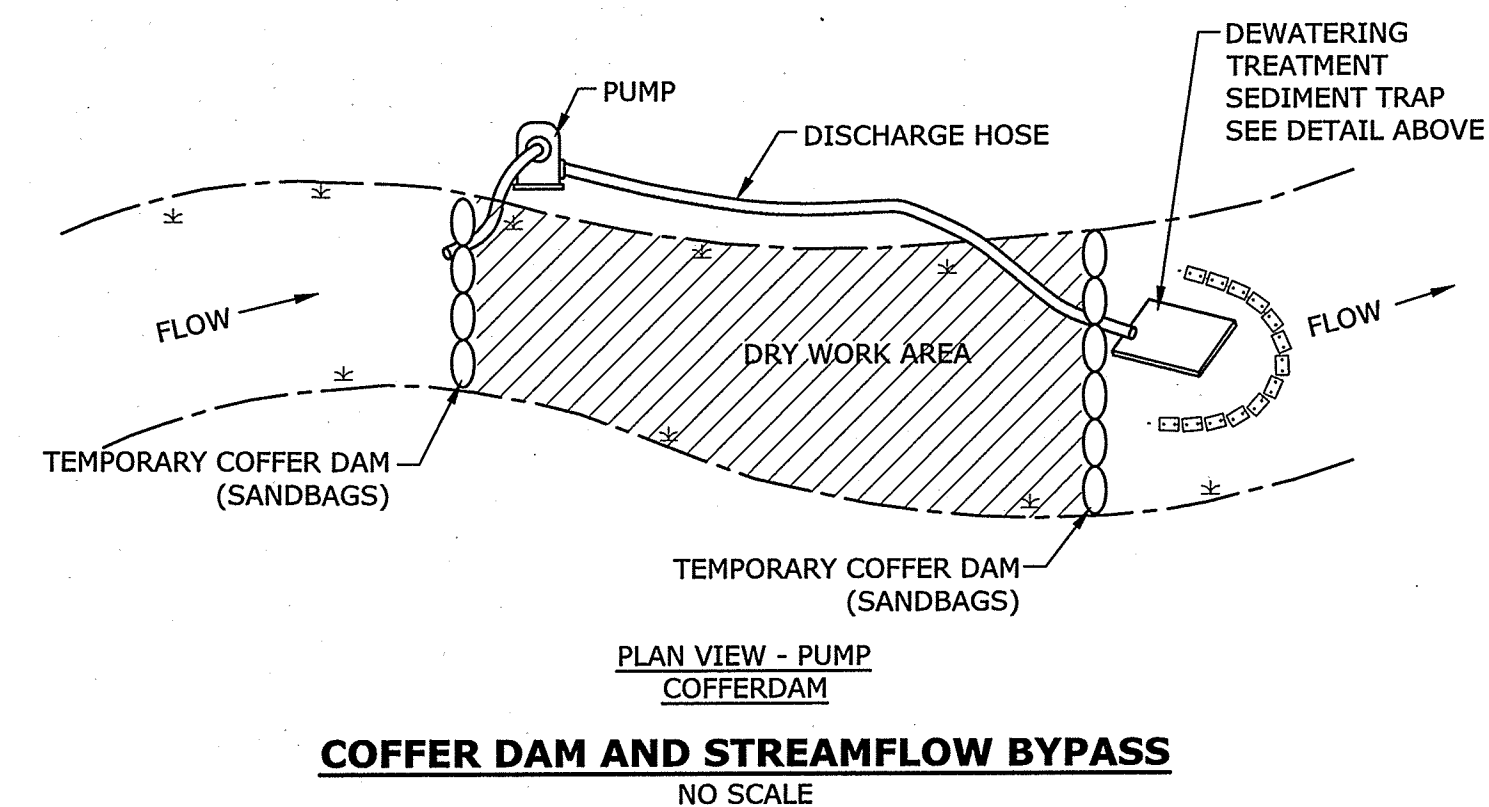
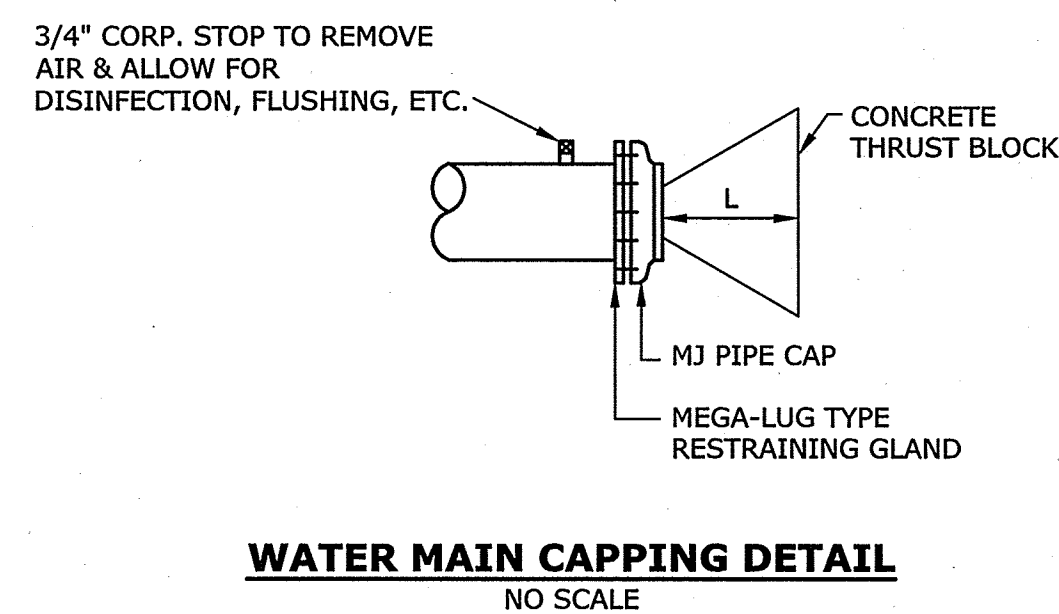
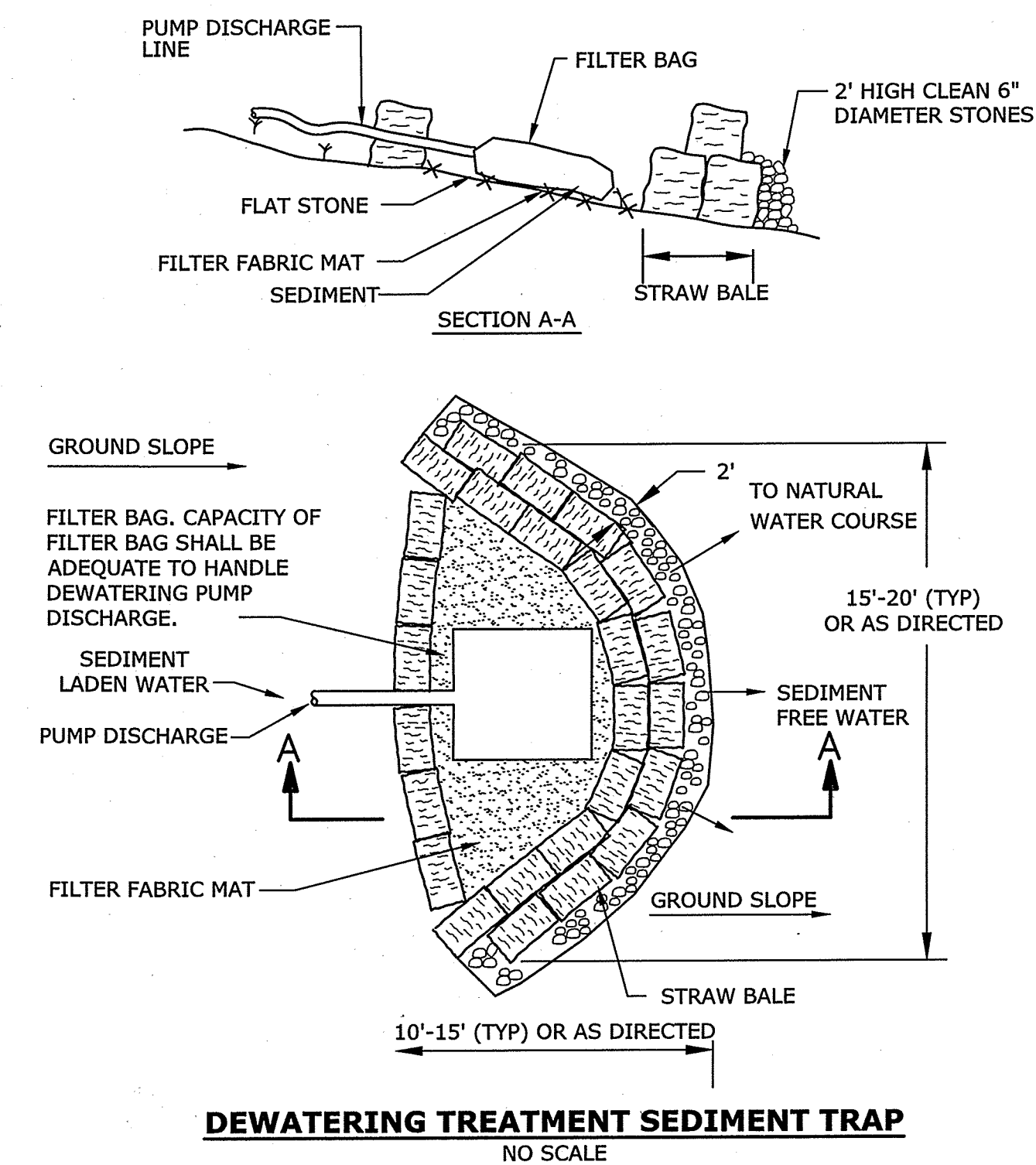
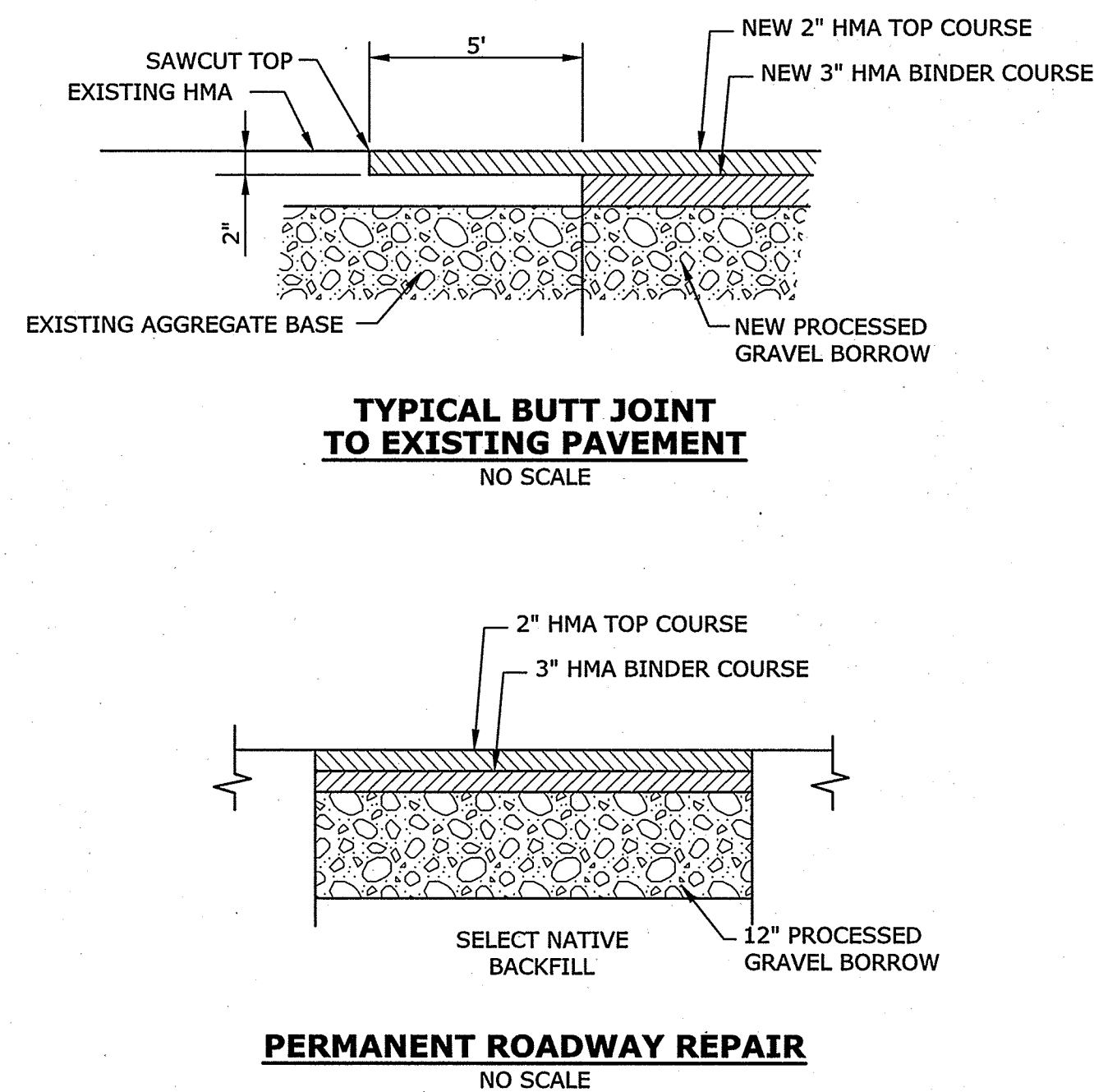
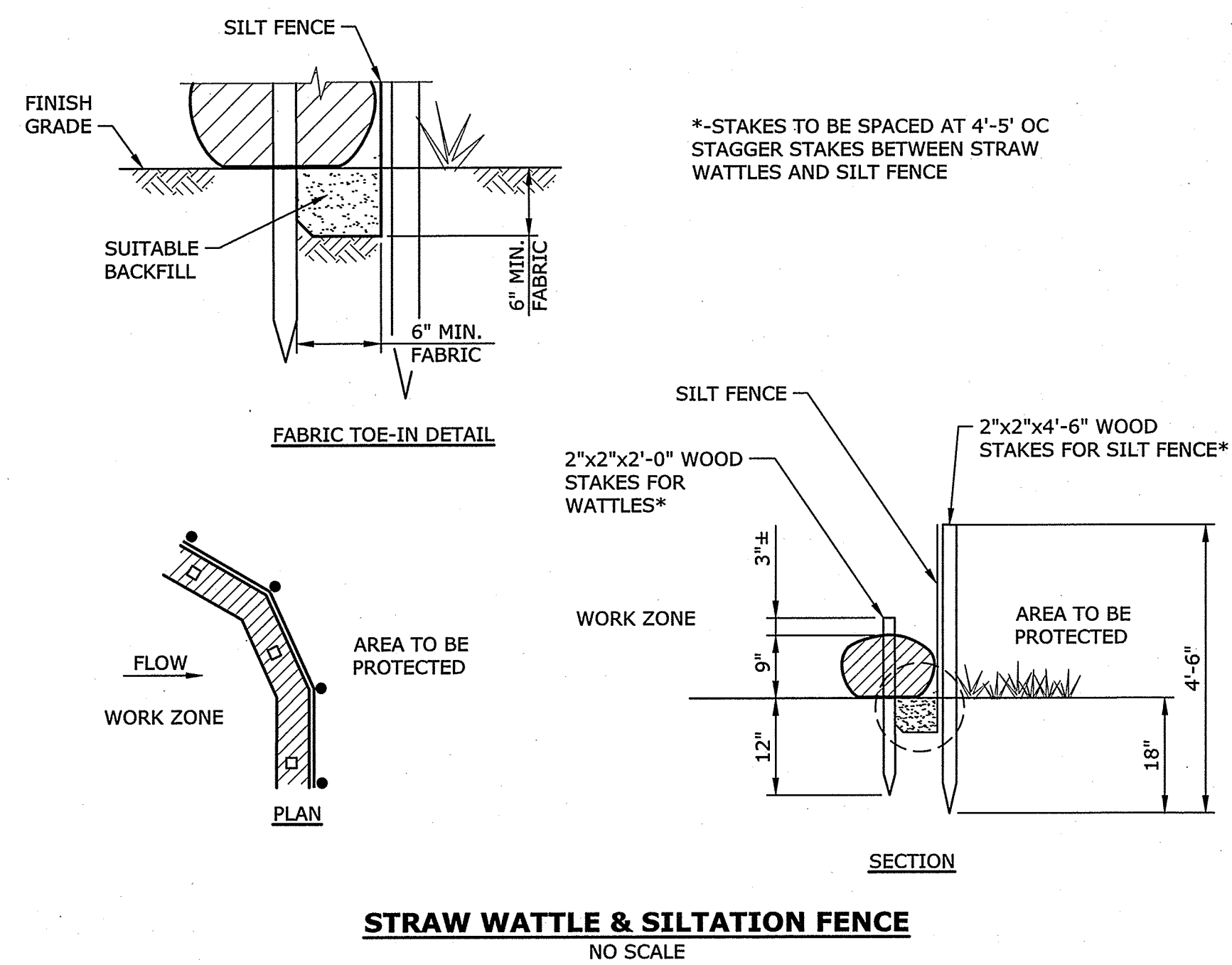
	7/28/2021	RECORD DRAWING
0	4/15/2020	ISSUED FOR BIDDING
MARK	DATE	DESCRIPTION
PROJECT NO:		D5017/005
DATE:		3/11/2020
FILE:		D5017-005-C-102.dwg
DRAWN BY:		TMP
CHECKED:		ABM
APPROVED:		PMV, ZPC

SCALE: AS SHOWN

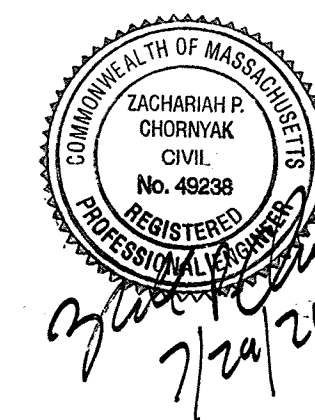
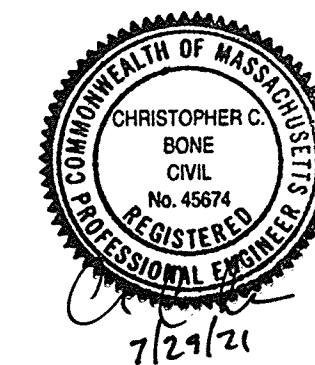
C-103
SHEET 5 OF 9



THIS RECORD DRAWING WAS PREPARED BASED ON AS-BUILT INFORMATION
PROVIDED BY THE CONTRACTOR AND INDICATES ONLY SIGNIFICANT
CHANGES MADE FROM THE DESIGN DRAWINGS DURING CONSTRUCTION.



Tighe & Bond
Engineers | Environmental Specialists



**Town of
Deerfield**

Kelleher Drive
Culvert
Replacement
Project

Deerfield,
Massachusetts[illegible]

CONSTRUCTION DETAILS

SCALE:	NO SCALE
--------	----------

C-104
SHEET 6 OF 9

RECORD DRAWING

THIS RECORD DRAWING WAS PREPARED BASED ON AS-BUILT INFORMATION
PROVIDED BY THE CONTRACTOR AND INDICATES ONLY SIGNIFICANT
CHANGES MADE FROM THE DESIGN DRAWINGS DURING CONSTRUCTION.

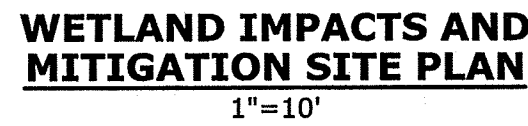


TABLE 2
New England Erosion Control/Restoration Mix for Dry Sites - Upland Seed Mix

TABLE 3
New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites - Wetland Seed Mix

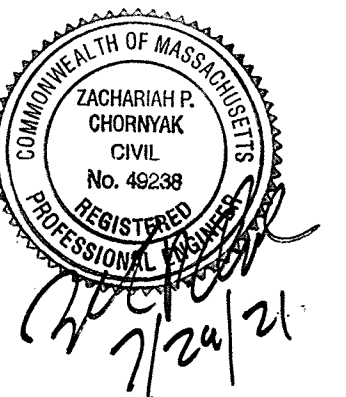
Diagram illustrating the planting detail for a shrub. The shrub is planted so that its crown is 2" MIN. ABOVE FINISHED GRADE AFTER SETTLEMENT. The rootball is wrapped in 2"-3" DEPTH AGED PINE BARK MULCH (PULL AWAY FROM BASE OF SHRUB). The backfill mix is specified per special provisions. A 3" HIGH EARTH WATERING SAUCER is shown around the base of the rootball. The rootball is completely removed of synthetic burlap and lacing for containerized plants, and the container is removed prior to planting. The diagram also shows the rootball dimensions: 6" BELOW ROOTBALL, 3X ROOTBALL, and 3" BELOW ROOTBALL. The subgrade is shown as undisturbed or compacted.

NOTES:

- SHRUB SHALL BE PLANTED SO THAT CROWN IS 2" MIN. ABOVE FINISHED GRADE AFTER SETTLEMENT
- 2"-3" DEPTH AGED PINE BARK MULCH (PULL AWAY FROM BASE OF SHRUB)
- BACKFILL MIX PER SPECIAL PROVISIONS
- 3" HIGH EARTH WATERING SAUCER
- COMPLETELY REMOVE SYNTHETIC BURLAP AND LACING. FOR CONTAINERIZED PLANTS, REMOVE CONTAINER PRIOR TO PLANTING.
- UNDISTURBED OR COMPACTED SUBGRADE

- SHRUB PLANTING DETAIL**
NO SCALE

THIS RECORD DRAWING WAS PREPARED BASED ON AS-BUILT INFORMATION PROVIDED BY THE CONTRACTOR AND INDICATES ONLY SIGNIFICANT CHANGES MADE FROM THE DESIGN DRAWINGS DURING CONSTRUCTION.

Deerfield,
Massachusetts

WETLAND RESTORATION DETAILS

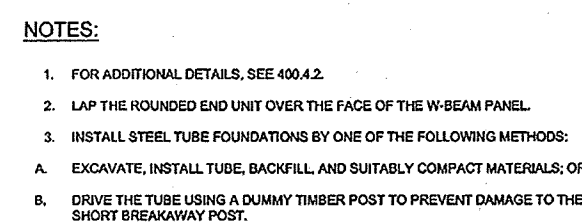
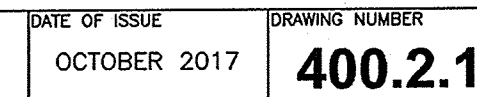
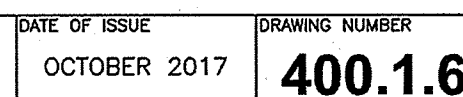
C-105
SHEET 7 OF 9

Deerfield,
Massachusetts

GUARDRAIL DETAILS

SCALE: NO SCALE

C-106
SHEET 8 OF 9



DATE OF ISSUE	DRAWING NUMBER
OCTOBER 2017	400.4.1

THIS RECORD DRAWING WAS PREPARED BASED ON AS-BUILT INFORMATION PROVIDED BY THE CONTRACTOR AND INDICATES ONLY SIGNIFICANT CHANGES MADE FROM THE DESIGN DRAWINGS DURING CONSTRUCTION.

Last Saved: 7/28/2021 12:12:15pm By: TMP
Plotted On: Jul 28, 2021 12:12:15pm
Tighe & Bond, Inc. 05017-005-005-DTL.dwg
Kelleher Drive Culvert Replacement - Deerfield, Massachusetts

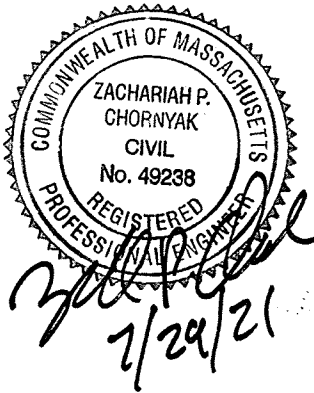
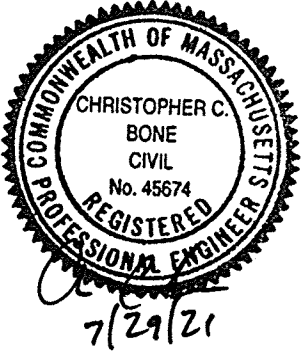
IDENTIFICATION NUMBER	SIZE OF SIGN (IN)		TEXT	NUMBER OF SIGNS REQUIRED	AREA IN SQ. FT.
	WIDTH	HEIGHT			
R11-3a	60	30	ROAD CLOSED LOCAL TRAFFIC ONLY	1	13
W20-4	48	48	ONE LANE ROAD AHEAD	1	16
W20-8	48	48	POLICE OFFICER AHEAD	1	16
TOTAL =				3	45

TEMPORARY TRAFFIC CONTROL NOTES:

1. TEMPORARY FENCING AND BARRIERS SHALL BE DEPLOYED ON SITE DURING THE ROADWAY CLOSURE TO PREVENT ACCESS TO THE CROSSING.
2. ALTERNATIVE ONE-WAY TRAFFIC SHALL BE MAINTAINED DURING THE WORK.
3. ALL DETOUR SIGNAGE SHALL BE PLACED PRIOR TO THE START OF CONSTRUCTION AND REMOVED IMMEDIATELY FOLLOWING COMPLETION OF THE WORK.
4. PLACEMENT OF SIGNS SHALL BE COORDINATED WITH THE ENGINEER AND THE LOCAL POLICE DEPARTMENT (DEERFIELD, MASSACHUSETTS).

RECORD DRAWING

THIS RECORD DRAWING WAS PREPARED BASED ON AS-BUILT INFORMATION PROVIDED BY THE CONTRACTOR AND INDICATES ONLY SIGNIFICANT CHANGES MADE FROM THE DESIGN DRAWINGS DURING CONSTRUCTION.



Town of
Deerfield

Kelleher Drive
Culvert
Replacement
Project

Deerfield,
Massachusetts

	7/28/2021	RECORD DRAWING
0	4/15/2020	ISSUED FOR BIDDING
MARK	DATE	DESCRIPTION
PROJECT NO: D5017/005		
DATE: 3/11/2020		
FILE: D5017-005-DTL.dwg		
DRAWN BY: TMP		
CHECKED: ABM		
APPROVED: PMV, ZPC		

TEMPORARY TRAFFIC
CONTROL

SCALE: NO SCALE

C-107
SHEET 9 OF 9