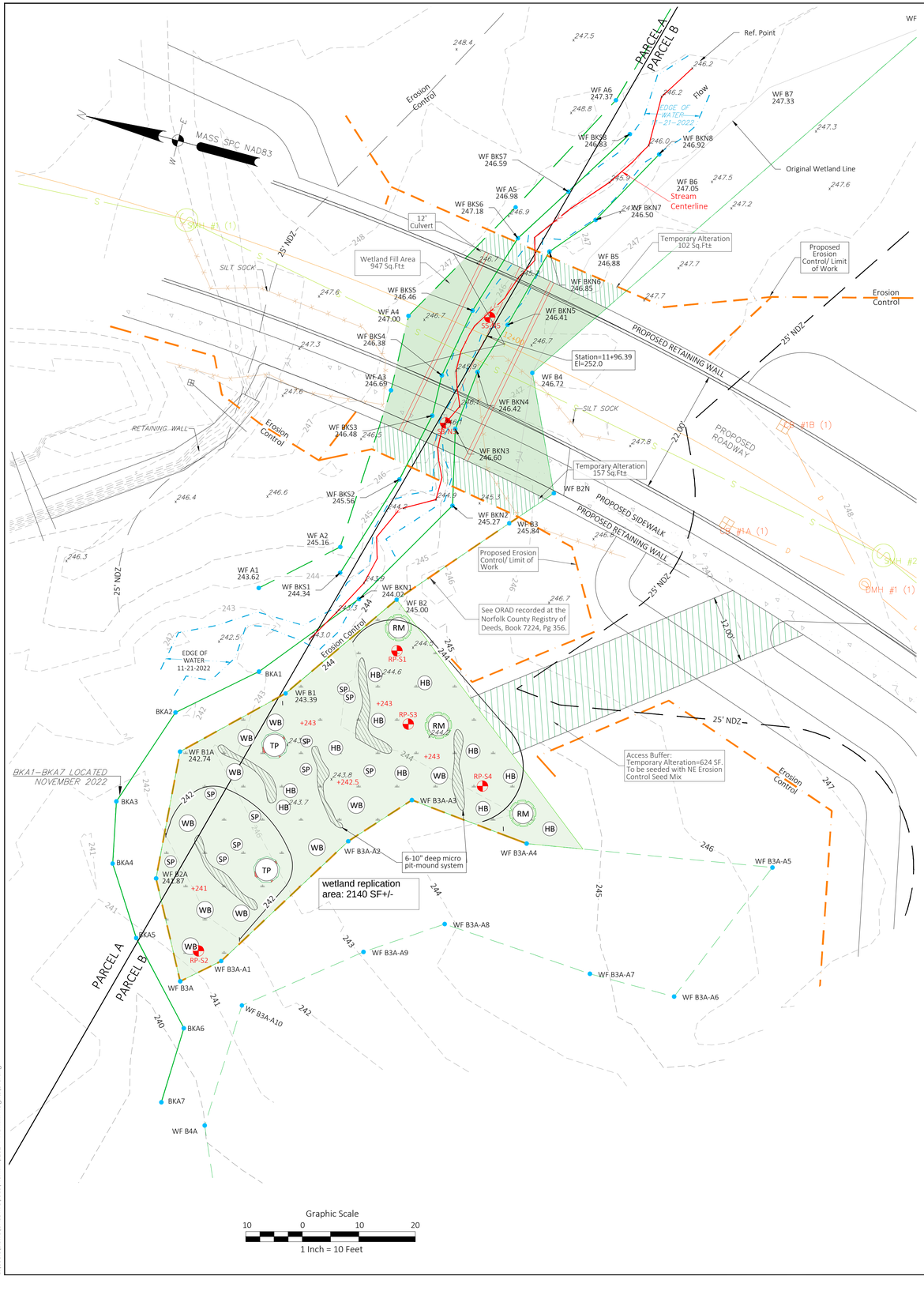


Planting Monitoring and Vegetation Management Plan

The Wetland Scientist will inspect each of the following aspects of the replication before subsequent steps can occur.

1. Before excavation or installation of erosion control devices, a monitor/surveyor will ensure that the limits of works are properly marked.
2. Before soil is placed in the replication areas, a monitor/surveyor will check excavated elevations to ensure that post-construction groundwater elevations will be high enough to eventually create hydric conditions.
3. Once soil is placed in the replication areas, a wetland scientist/surveyor will inspect final surface elevations.
4. A monitor (Wetland scientist/biologist) shall oversee planting and seeding to ensure that specimens are correctly situated and maintained. Any invasive species observed by the monitor will be handpicked and removed from the site. Follow up inspection shall be conducted to assure the surveyor and invasive species plants removal in the spring time.
5. After one growing season (ideally during August), a monitor will inspect plantings to ascertain plant survival. Wherever two or more newly planted trees, shrubs, or herbs have died, the dead individuals will be removed by hand and specimens of the same species there replanted. Furthermore, the seed mix will be reseeded in any area where more than 3 sq.ft of bare ground is visible. Any invasive species observed by the monitor will be handpicked and removed from the site.
6. If replanting is required at this first inspection, the monitor will assess plant survival again in October of the same year.
7. Another inspection will occur in August of the second year. Inspections will be conducted after subsequent growing seasons until wetland plants have colonized more than 75% of the disturbed area (this should occur by the end of the second growing season). The replication will then be considered successful according to 310 CMR 10.55 (4)(b)6, and inspections will cease. If, during any of the inspections, invasive species are observed, they will be handpicked and removed from the site.

A monitoring report will be submitted after planting, in late spring of the first year; and at the end of each subsequent growing season during which inspections occur. A sample monitoring data sheet is attached.

After vegetation is well established, the erosion control devices and any accumulated sediment will be removed by hand shovel.

Stormwater Basin Vegetation Management

1. The stormwater basin area shall be mowed twice a year in top of the embankment and slope to prevent the establishment of woody plants, especially trees for the protection of the embankment of the basin.
2. The bottom area of the basins shall be mowed once a year if gets dry in the early fall. All plant clips shall be removed out of the basin area and disposed of properly off site.

Planting Schedule for Franklin Heights, Franklin, MA
By Creative Land & Water Engineering, LLC

Key #		Common name	*Botanical name*	Mature Height	Mature Spread	Size	Condition	Spacing	Quantity
Trees	RM	Red Maple	*Acer rubrum*	40-60'	40'	3.0" Cal.	B+B	12' O.C.	3
	TP	Tupelo	*Nyssa sylvatica*	30-50'	20-30'	3.0" Cal.	B+B	12' O.C.	2
Shrubs	HB	Highbush blueberry	*Vaccinium corymbosum*	6-12'	6-12'	#3	Cont.	6' O.C.	10
	SP	Sweetpepper bush	*Clethra alnifolia*	3-8'	4-6'	#1	Cont.	6' O.C.	10
	WB	Winterberry holly	*Ilex verticillata*	3-15'	3-15'	#1	Cont.	6' O.C.	10
Ground Cover	-	New England Wetland Seed Mix		Quantity:		1 Pound			

Crossing Section

Soil at S5-N5 (upstrem end of crossing)

Depth, in				
0 - 6	S.L.	10 YR2/1		
6"+	stone			

Soil at S3-N3 (downstrem end of crossing)

Depth, in			
0	Boulder	Elev. =264.1	

Replication area

RP-S1

Depth, in	Horizon	Texture	Matrix color	Note
0-2"	Oa	leaf matt		
2-8"	A	S.L.	10YR 2/1	friable
8"-20"	B	M.L.S.	2.5Y 6/4	saturation at bottom
20+	Cr	stones		@18"

RP-S2

Depth, in	Horizon	Texture	Matrix color	Note
0-8"	A	S.L.	10YR 2/1	
8"-20"	B	M.L.S. - SL	2.5Y 6/4	saturation at bottom
20+	Cr	stones		@16" high GW

RP-S3

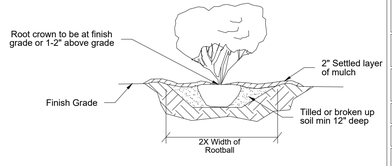
Depth, in	Horizon	Texture	Matrix color	Note
0-10"	A	S.L.	10YR 2/1	friable
10	Cr	stones		

RP-S4

Depth, in	Horizon	Texture	Matrix color	Note
0-8"	A	S.L.	10YR 2/1	friable
8"-12"	B	M.L.S. - SL	2.5Y 5/4	friable
12+	Cr	stones		@18" high GW

NOTES: TYPICAL SHRUB PLANTING, INDIVIDUAL PLANTING HOLE

1. Dig planting hole at least 2x the width of the root ball or container.
2. Scarify subgrade and sides of planting hole when planting in clay soil.
3. Set the top of the root ball level with the soil surface, or 1-2" above if the soil is prone to settling.
4. If container grown plant, gently slide plant out of container. Disturb the roots.
5. If b&b plant, remove burlap from at least the top 12 inches of the rootball, without disturbing the rootball. Remove all cord from the trunk. Remove burlap and wire basket (if present) from the root ball.
6. Back fill the planting hole with excavated native soil, broken up or tilled. Water to remove air pockets. Do not add amendments.
7. Place pine straw or bark mulch on the surface to a (settled) depth of 1 to 3 inches.



Typical Shrub Planting Detail
N.T.S

Construction Sequencing

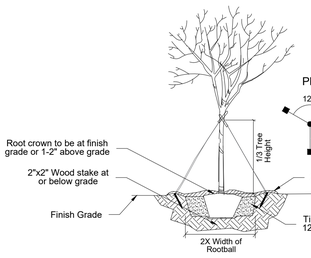
1. Stake out the limit of work and install erosion control as Franklin Conservation Commission approved.
2. Demarcate the wetland replication area. The design wetland scientist shall pre-mark any plants that may be saved in the replication area and from the wetland crossing area that may be transplanted.
3. Strip the wetland replication area and save the top soil for later use.
4. Excavate the wetland replication area to 12" below the proposed rough grade.
5. Call the design wetland scientist for grade inspection and adjust the grade as needed for wetland plants.
6. Place the top soil back to the design grade, if needed use the onsite clean loam to mixed with compost to mimic wetland soil 1/2 compost and 1/2 regular loamy soil.
7. Plant the proposed plants:
   a. Call the wetland scientist to check the location of the proposed plants for final adjustment according to the prepared grade and hydrology.
   b. Excavated the planting hole 2-3 times of the root ball size
   c. Place the plant in the hole and water the hole to full saturation
   d. Backfill the hole and tamp the soil to avoid air pocket in the fill
   e. Place 2 ft woodchips or compost around the plants (trees or shrubs)
8. The replication shall be monitored for two growing seasons and with 75% more survive rate and ground cover in the replication area or as Order of Conditions required.
9. Install the sewer and/or water line across underneath the wetland at the design depth and location.
10. It can put the line in a Schedule 80 PVC sleeves given the crossing and possible future replacement. The sleeves shall be extended 5 ft beyond the footing of the culvert.
11. Back fill the sleeves and/or sewer and water lines and compacted to the required compaction ratio 95%.
12. Excavate the culvert footing hole and install the footing as proposed.
13. The bottom of the hole and rebar work shall be inspected by the design engineer prior to pouring concrete.
14. Install the super culvert and grout the seams of culvert and footing.
15. Backfill with proper materials, no large stones of 6" or more should be used for backfill around the culvert.
16. Install the headwall and retaining wall on both sides of the culvert.
17. Install guard rail and safety C-L fence along the retaining wall.
18. Install the road subbase to be ready for top paving.

Plant Selection Notes

- Use only straight species, no cultivars. (Cultivars have been bred for aesthetic traits and this is at the expense of other habitat-supportive traits. Also, cultivars cannot cross-pollinate with naturally occurring straight species out in the landscape.)
- Quality - trees should be single stems with well-spaced numerous branches per the American Association of Nurserymen standards.
- Shrubs should be well shaped and have sufficient well-spaced side branches per the American Association of Nurserymen standards.

NOTES: TREE PLANTING (>2"CAL.)

1. All plant materials shall be in accordance with the american standards for nursery stock (ansi z60.1-2004). Plant according to ansi a300 part 6.
2. Dig the planting hole a minimum of 2x width of rootball for at least the first 12 inches of depth. Below 12 inches, dig hole wide enough to permit adjusting. Do not dig the hole deeper than root ball depth.
3. Scarify the subgrade and sides of the planting hole when planting in clay soils (more than 15% clay).
4. Lift and set the tree by root ball only. Do not lift using the tree trunk and do not use tree trunk as a lever.
5. Set the top of the root ball level with the soil surface or slightly higher if the soil is prone to settling.
6. After the tree is set in place, remove burlap, wire and straps from at least the upper 1/3 of the rootball.
7. Backfill with existing soil that has been well-tilled or broken up. Do not add amendments to the backfill soil. Amend the surface with mulch.
8. Use three 2" x 2" wood stakes driven into undisturbed soil a minimum of 16 inches. Space stakes equally around the tree.
9. Attach 3/4" nylon webbing to connect the tree to stakes. Attach webbing at 1/3 the tree height.
10. Apply a 2-3" (settled) depth of pine straw or bark mulch to the planting surface. Leave a 2" space around the trunk for air circulation.
11. Pruning shall be limited to dead, diseased, or broken limbs only and shall be in accordance with ansi a300 specifications.
12. Remove any trunk wrap remaining at time of planting. No wraps shall be placed on trunk.



Typical Tree Planting Detail (>2" Cal.)
N.T.S

OWNER(S)

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C/O KATHRYN G. COLLINS, ESQ.
HORNUNG & SCIMONE PC
5 COMMONWEALTH ROAD, 4TH FLOOR
NATICK, MA 01760

APPLICANT

OLIVER CROSSING REALTY TRUST
148 PARK STREET
NORTH READING MA, 01864

PLAN REFERENCE

FRANKLIN HEIGHTS
PARCEL B
40B DEVELOPMENT PLAN
FRANKLIN MASSACHUSETTS

BY

GUERRIERE & HALNON, INC.
55 WEST CENTRAL ST, FRANKLIN, MA 02038

DATED

JULY 7, 2022

J101-4

Creative Land & Water Engineering, LLC
Environmental Scientists and Engineers
P.O. Box 584 - Southborough - MA - 01772
774-454-0266 www.claweng.com

Plan Title:	Stream Crossing and Wetland Replication Plan				
Project Name:	Franklin Heights				
Site Address:	Franklin Heights, Franklin, MA 02038				
Owner:	-	Client:	Oliver Crossing Realty Trust		
Project No:	J101-4	Drawn by:	FA	Date:	07/20/22
Designed by:	DSW, FA	Approved by:	DSW	Scale:	1"=10'
Sheet No:	1 of 2				

Rev.:	Date:	Description	By:
1	12/05/22	Stream profile, existing grade, wetland replication	DSW/FA
1	9/16/22	Vegetation monitoring notes	DSW/FA

COMMONWEALTH OF MASSACHUSETTS
DESHENG WANG
CIVIL
NO.39511
REGISTERED PROFESSIONAL ENGINEER

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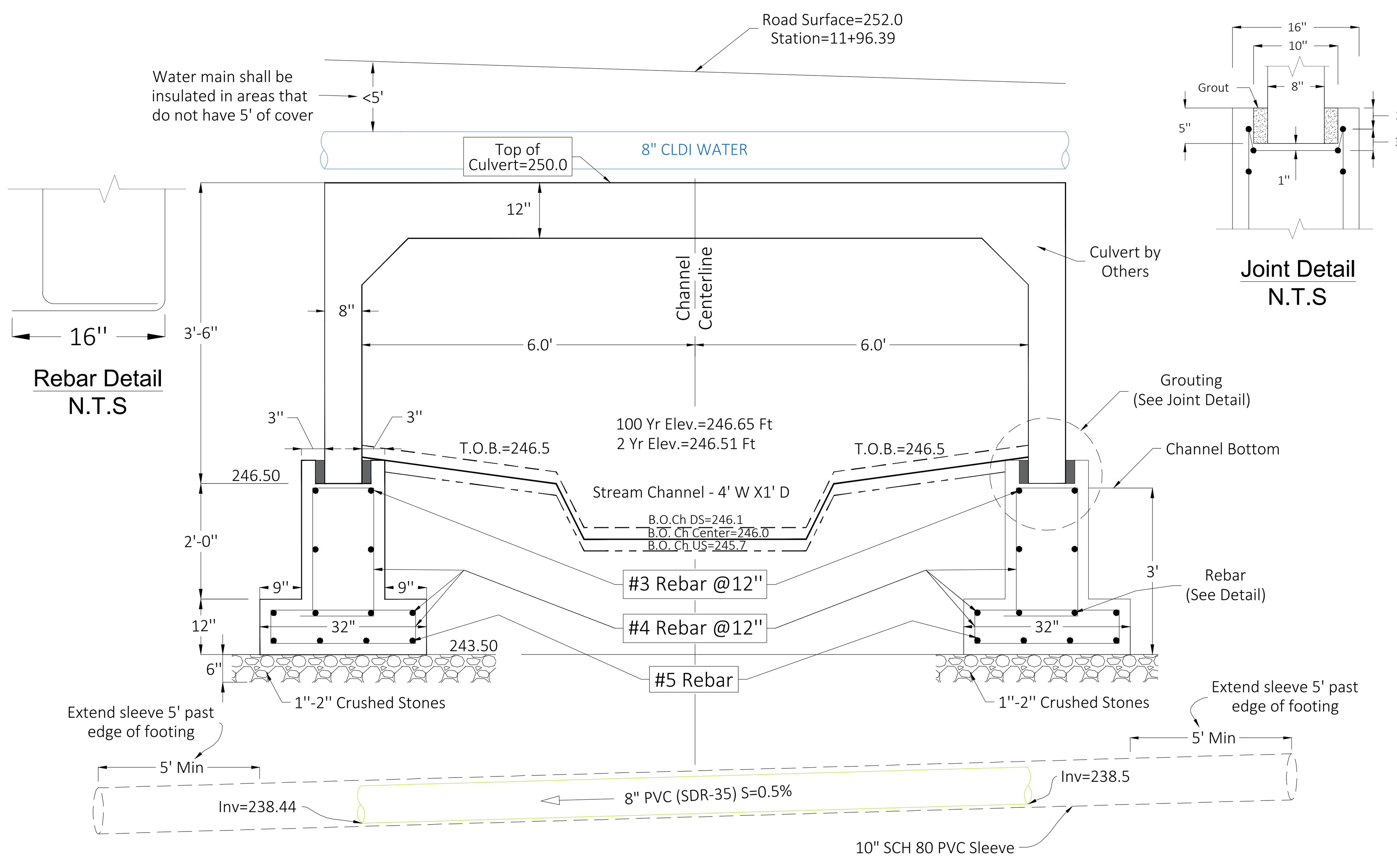
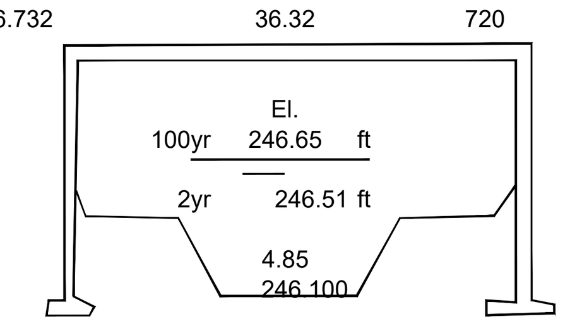
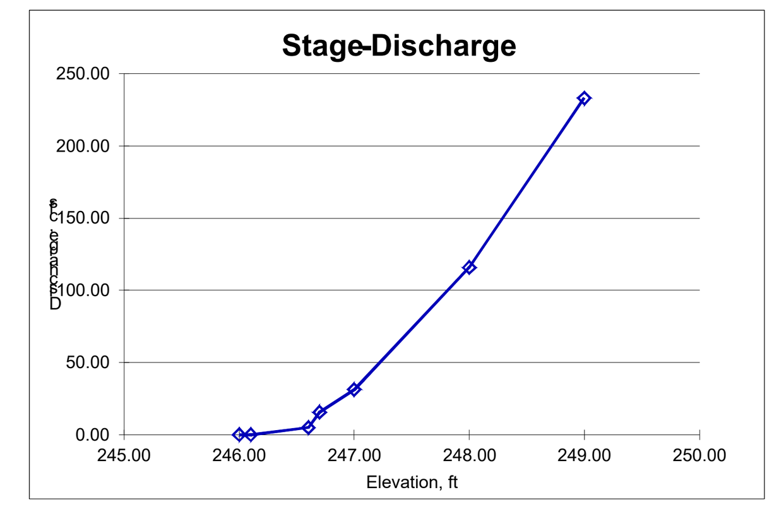


Culvert Cross Section Detail
N.T.S

Table : **Outflow Analysis and Storage Indication**
at Road Crossing (Franklin Heights)

Broad-crested weir width (ft):			1.00		Triangular weir angle:	90.00	Bankheight:	0.50
Broad-crested weir length (ft):			4.85	12.00	Manning's n:	0.01	Net width (in.):	2.00
Weir crest elevation (ft):			246.10		dt	360 sec	Slot INV (ft):	250.00
Elevation	Total Q	2S/dt + Q	H-z		Qweir	Qtiw	Depression area	Storage
ft	cfs	cfs	ft		cfs	cfs	sq. ft	cu. ft
246.00	0.00	0.000	0.000		0.000	0	61.62	0.000
246.10	0.00	0.034	0.000		0.000	0	240	6.162
246.60	5.01	5.753	0.500		4.562	0.45	270	133.662
246.70	15.75	16.733	0.600		15.042	0.71	600	177.162
247.00	31.27	33.303	0.900		29.320	1.95	660	366.162
248.00	115.78	121.644	1.900		103.157	12.62	720	1056.162
249.00	233.05	242.918	2.900		196.732	36.32	720	1776.162
			Elev					
Q2=	3.540	cfs	246.51					
Q100=	15.600	cfs	246.65					





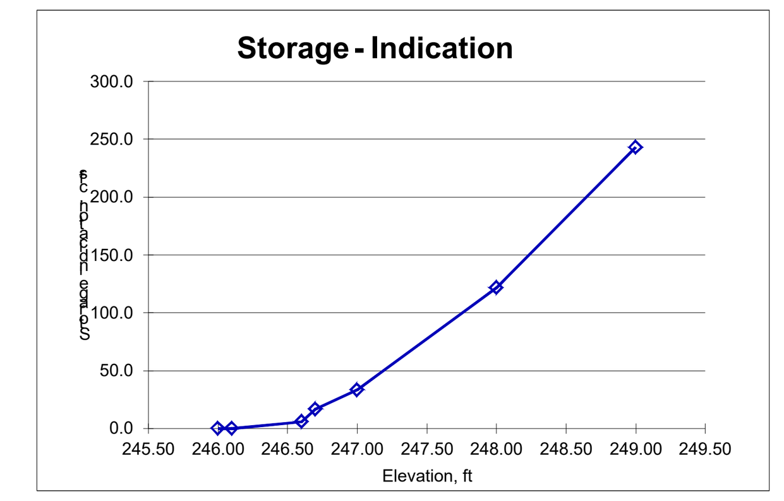


Figure 3: Rating Curve and Storage-Indication Curve

Table 1. **Estimating Magnitude and Frequency of Floods for Ungaged Sites**

Franklin Heights, Franklin, MA

Project	Franklin Heights	Hydrologist:	Desheng Wang, Ph.D., P.E.
Stream:	un-named	Company:	Creative Land & Water Engineering, LLC
		Date:	12/5/2022

	Rural Area (Easton Mass., Wandle 1983)	Urban (State Wide, [2])
Q_2	$= 36.30\ A^{0.682}$	$2.35\ A^{0.41}\ SL^{0.17}\ (RI2+3)^{2.04}\ (ST+8)^{-0.65}\ (13-BDF)^{-0.32}\ IA^{0.15}\ RQ100^{0.47}$
Q_{10}	$= 72.12\ A^{0.660}$ A in Sq. miles, Q in ft^3/s	$2.99\ A^{0.32}\ SL^{0.15}\ (RI2+3)^{1.75}\ (ST+8)^{-0.57}\ (13-BDF)^{-0.30}\ IA^{0.09}\ RQ100^{0.58}$
Q_{25}	$= 96.71A^{0.651}$	$2.78\ A^{0.31}\ SL^{0.15}\ (RI2+3)^{1.76}\ (ST+8)^{-0.55}\ (13-BDF)^{-0.29}\ IA^{0.07}\ RQ100^{0.60}$
Q_{50}	$= 118.1\ A^{0.645}$	$2.67\ A^{0.29}\ SL^{0.15}\ (RI2+3)^{1.74}\ (ST+8)^{-0.53}\ (13-BDF)^{-0.28}\ IA^{0.06}\ RQ100^{0.62}$
Q_{100}	$= 143.1\ A^{0.638}$	$2.5\ A^{0.29}\ SL^{0.15}\ (RI2+3)^{1.76}\ (ST+8)^{-0.52}\ (13-BDF)^{-0.28}\ IA^{0.06}\ RQ100^{0.63}$
Q_{500}		$2.27\ A^{0.29}\ SL^{0.15}\ (RI2+3)^{1.86}\ (ST+8)^{-0.54}\ (13-BDF)^{-0.27}\ IA^{0.05}\ RQ500^{0.63}$

Urbanization Impact Analysis

Cross Section	Area, mi^2	Q_2, cfs	Q_{10}, cfs	Q_{50}, cfs	Q_{100}, cfs	Q_{500}, cfs	SL, ft/mi	RI2, in	ST, %	BDF (0 -12)	IA, %	UQ2,cfs	UQ10,cfs	UQ_{50}, cfs	UQ_{100},cfs	UQ_{500}, cfs
Stream Crossi	0.025	2.93	6.32	10.93758	13.60		617	1.5	20	0	5	3.54	7.81	**13.31**	**15.60**	

References:

[1] Wandle, S.W., 1983, Estimating peak discharges of small, rural streams in Massachusetts:
U.S. Geological Survey Water-Supply Paper 2214, 26 p.

[2] The National Flood Frequency Program, Version 3: A Computer Program for Estimating Magnitude and Frequency of Flood for Ungaged Sites
U.S. Geological Survey, compiled by K. G. Ries III and M.Y Crouse, Water Resources Investigations Report 02-4168.

[3] Zarriello, Philip, 2016 Magnitude of flood flows for selected annual exceedance probabilities for streams in Massachusetts
U.S.G.S., Scientific invstigation Report 2016-5156.

where

UQ2, UQ5,... UQ500 are the urban peak discharges, in cubic feet per second (ft3/s), for the 2-, 5-, ... 500-year recurrence intervals;
A is the contributing drainage area, in square miles, as determined from the best available topographic maps; in urban areas, drainage systems sometimes cross topographic divides. Such drainage changes should be accounted for when computing A; **SL** is the main channel slope, in feet per mile (ft/mi), mea-sured between points that are 10 percent and 85 percent of the main channel length upstream from the study site (for sites where SL is greater than 70 ft/mi, 70 ft/mi is used in the equations); **RI2** is the rainfall, in inches (in) for the 2-hour, 2-year recurrence interval, determined from U.S. Weather Bureau (USWB) Technical Paper 40 (1961) (eastern USA), or from NOAA Atlas 2 (Miller and others, 1973) (western USA);
ST is basin storage, the percentage of the drainage basin occupied by lakes, reservoirs, swamps, and wetlands; in-channel storage of a temporary nature, resulting from detention ponds or roadway embankments, should not be included in the computation of ST;
BDF is the basin development factor, an index of the preva- lence of the urban drainage improvements; **IA** is the percentage of the drainage basin occupied by impervious surfaces, such as houses, buildings, streets, and parking lots; and **RQT**, are the peak discharges, in cubic feet per second, for an equivalent rural drainage basin in the same hydro- logic area as the urban basin, for a recurrence interval of T years; equivalent rural peak discharges are computed from the rural equations for the appropriate State, in the NFF program, and are automatically transferred to the urban computations. The basin development factor (**BDF**) is a highly signifi-cant variable in the equations, and provides a measure of the efficiency of the drainage basin. It can easily be determined from drainage maps and field inspections of the drainage basin. The basin is first divided into upper, middle, and lower thirds on a drainage map, as shown in figure 1A-C. Each third should contain about one-third of the contributing drainage area, and stream lengths of two or more streams should be approximately the same in each third. However, stream lengths of different thirds can be different. For instance, in figure 1C, the stream distances of the lower third are all about equal, but are longer than those in the middle third. Precise definition of the basin thirds is not considered necessary because it will not have much effect on the final value of BDF. Therefore, the boundaries between basin thirds can be drawn by eye without precise measurements. Within each third of the basin, four characteristics of the drainage system must be evaluated and assigned a code of 0 or 1. Summation of the 12 codes (four codes in each third of the basin) yields the BDF. The following guidelines should not be considered as requiring precise measurements. A certain amount of subjectivity will necessarily be involved, and field checking should be performed to obtain the best estimates. Channel improvements.—If channel improvements such as straightening, enlarging, deepening, and clearing are preva- lent for the main drainage channels and principal tributar- ies (those that drain directly into the main channel), then a code of 1 is assigned. To be considered prevalent, at least

Long, narrow basin

Upper Third

Middle Third

Lower Third

50 percent of the main drainage channels and principal tributaries must be improved to some degree over natural conditions. If channel improvements are not prevalent, then a code of 0 is assigned.
Channel linings.—If more than 50 percent of the length of the main channels and principal tributaries has been lined with an impervious surface, such as concrete, then a code of 1 is assigned to this characteristic; otherwise, a code
of 0 is assigned. The presence of channel linings would obviously indicate the presence of channel improvements as well. Therefore, this is an added factor and indicates a more highly developed drainage system.
Storm drains or storm sewers.—Storm drains are defined as those enclosed drainage structures (usually pipes), com- monly used on the secondary tributaries where the drainage is received directly from streets or parking lots. Many of these drains empty into open channels; however, in some basins they empty into channels enclosed as box and pipe culverts. Where more than 50 percent of the secondary tributaries within a subarea (third) consists of storm drains, then a code of 1 is assigned to this aspect; otherwise, a code of 0 is assigned.
Curb-and-gutter streets.—If more than 50 percent of the subarea (third) is urbanized (covered with residential, com- mercial, and/or industrial development), and if more than 50 percent of the streets and highways in the subarea are constructed with curbs and gutters, then a code of 1 is be assigned to this aspect; otherwise, a code of 0 is assigned. Drainage from curb-and-gutter streets commonly empties into storm drains.

Wetland/Stream Crossing Design Analysis (current, wider road layout):

Design factors:

	size	Quantity	Total
Crossing channel:	4 ft		
bankfull width:	1 ft		
Road paving:	22 ft	1	22
onside sidewalk:	5 ft	1	5
Curb widtth:	0.5 ft	2	1
Grass strip:	3 ft	1	3
Guardrail/Retaining wall:	2 ft	2	4
Total width:			35

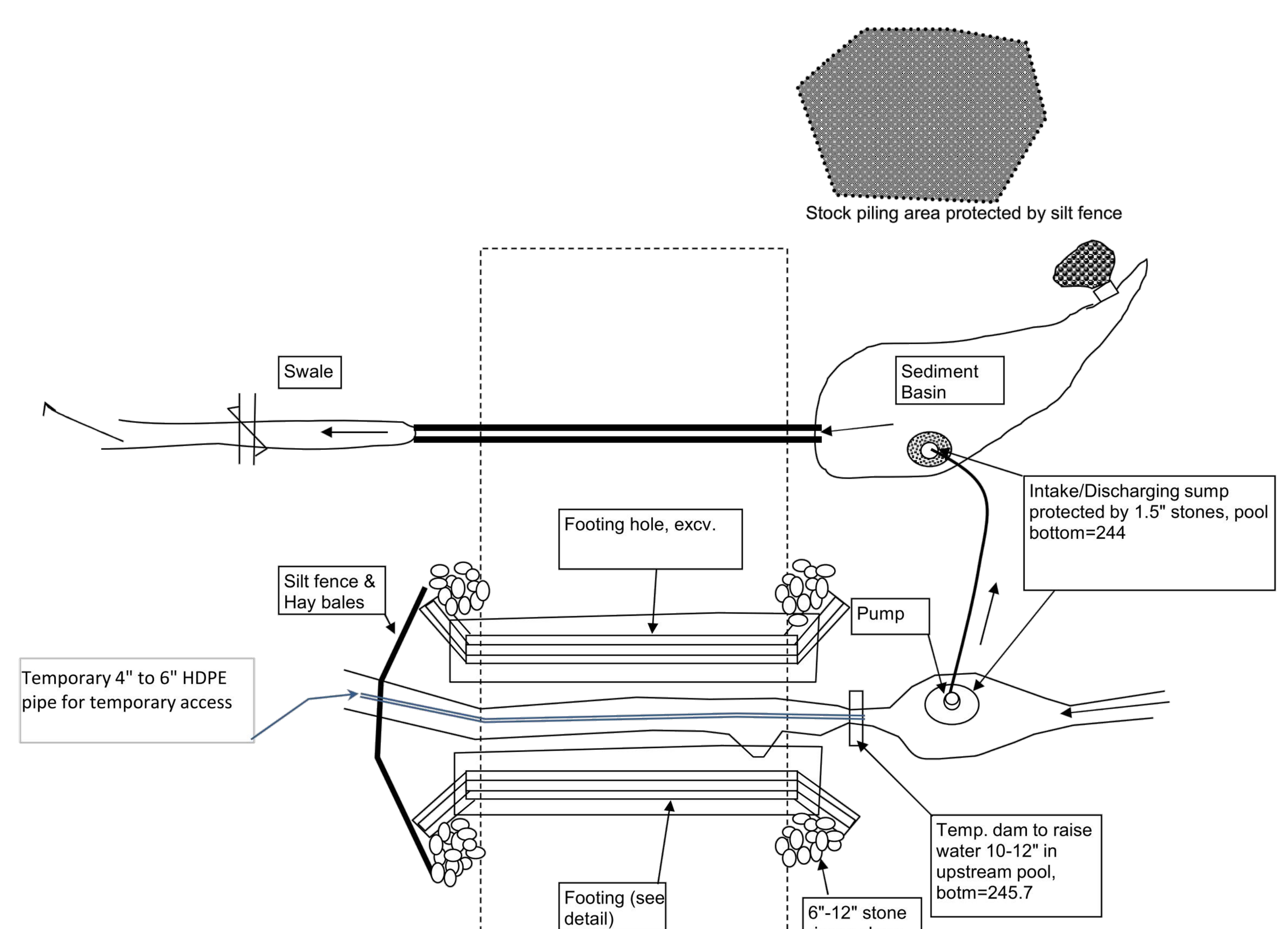
Design output:

	Dimension	Required Per ACOE	Meet reqred
Culvert span:	**12 ft**		
Height:	**2.5 ft**		
Crossing width:	**35 ft**		
Openning ratio:	**0.26 m**	**0.25** m	yes
Stream crossing ratio:	**3**	**1.2**	yes
Wetland fill area:	947 sf	about 420 sf will be under the culvert and partially impacted and 259 sf temp. alteration for construction.	
Wetland rep area:	2140 sf	1894	yes
Design ratio:	2.26 :1	2:1 ratio	yes

Note: The stream crossing and wetland replication will be reviewed with Franklin Conservation Commission to be finalized.

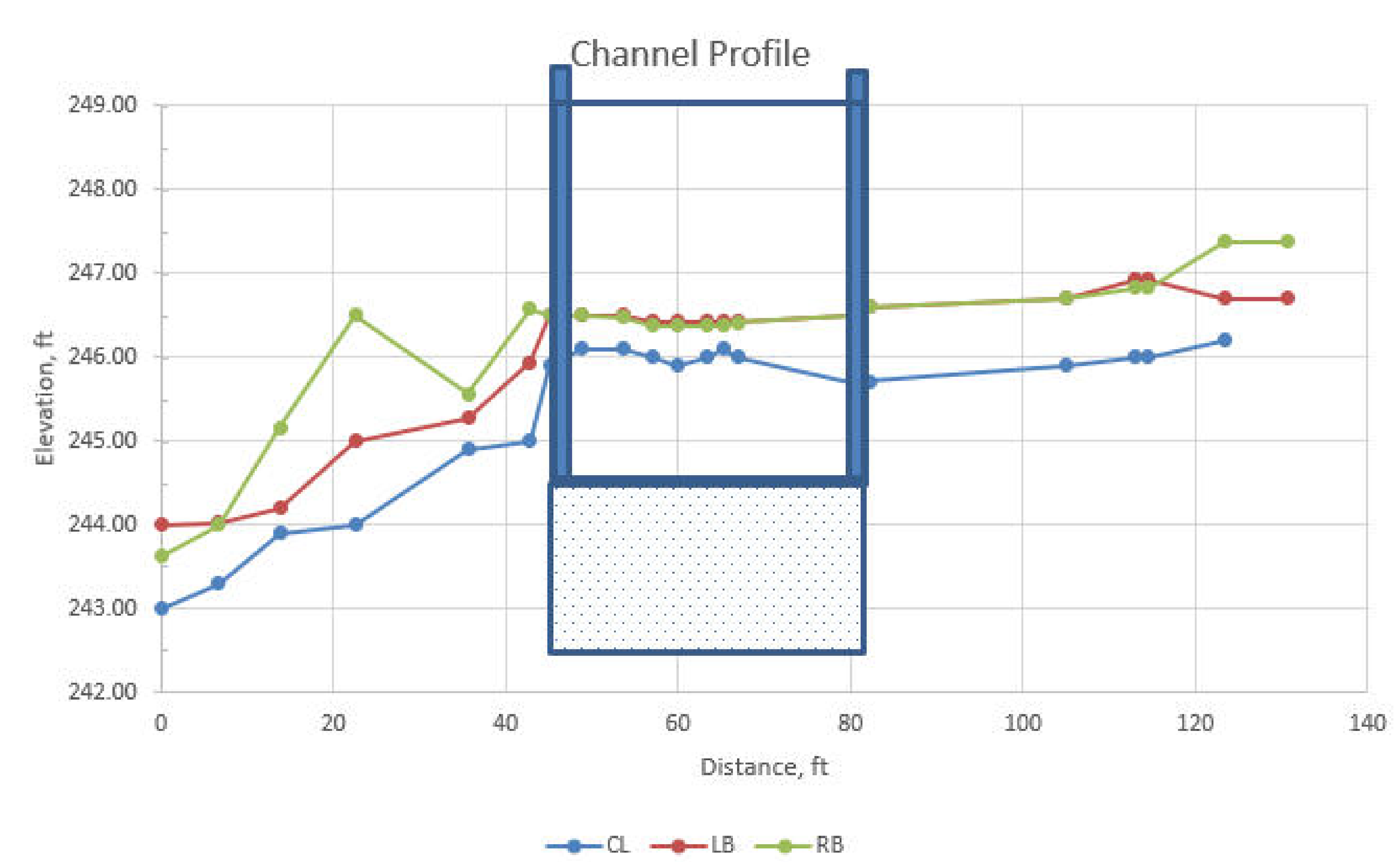
Stream Morphological Surveying

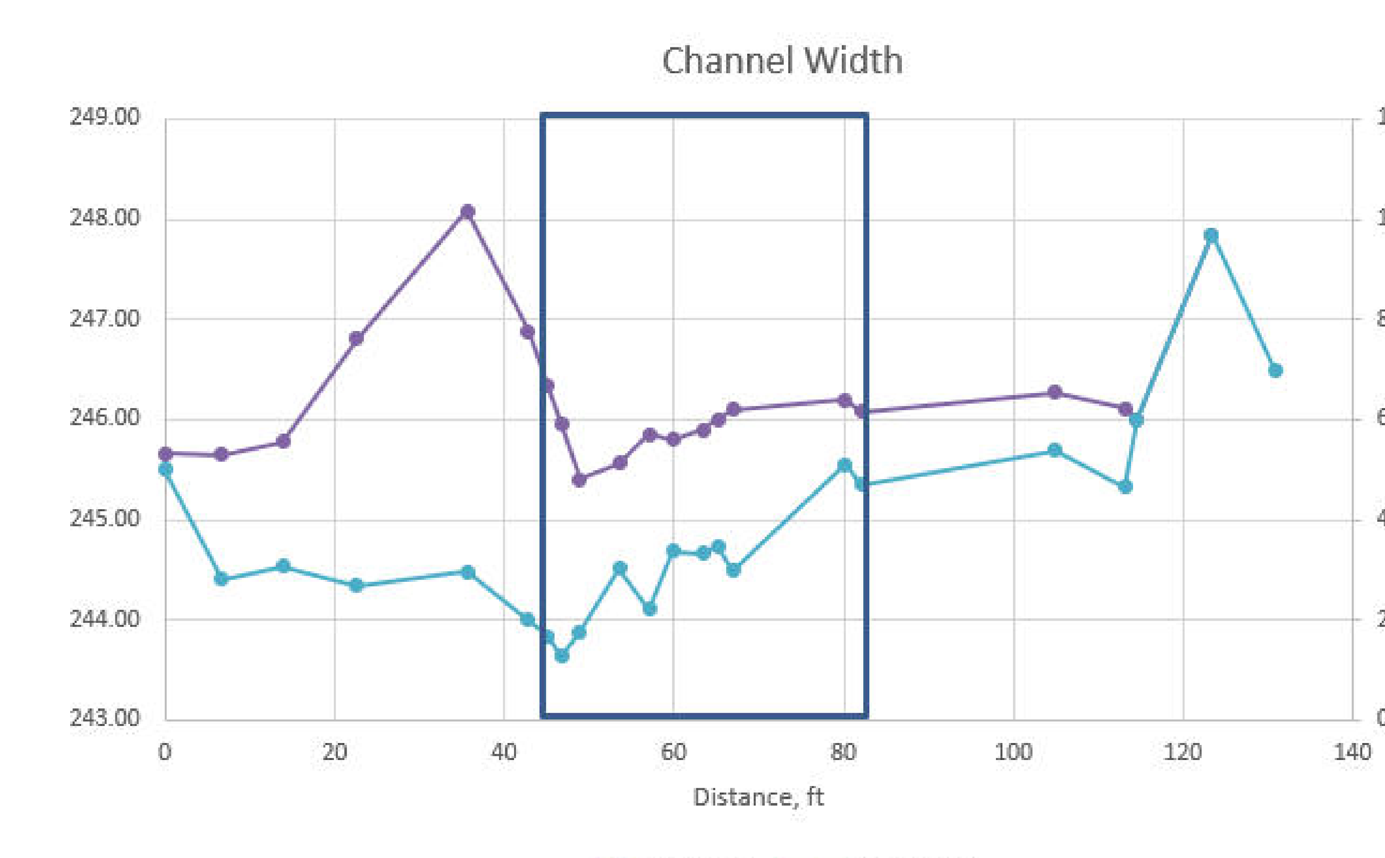
Distance	Elevation	LB, elev	RB ELV	Bk Ch. Width	Water W	Note
Ft.	Ft.	ft	ft	ft	ft	
0	243.00	244.00	243.62	5.32	5.00	
6.74	243.30	244.02	244.00	5.30	2.80	
13.86	243.90	244.20	245.16	5.56	3.06	
22.59	244.00	245.00	246.50	7.62	2.68	
35.63	244.90	245.27	245.56	10.16	2.97	
42.82	245.00	245.94	246.58	7.76	2.00	
45.1	245.90	246.50	246.50	6.67	1.68	D/S end of Xing
46.68	246.00	246.50	246.50	5.93	1.26	
48.87	246.10	246.50	246.50	4.80	1.75	
53.54	246.10	246.50	246.48	5.13	3.02	
57.08	246.00	246.42	246.38	5.70	2.20	
59.88	245.90	246.42	246.38	5.60	3.36	
63.44	246.00	246.42	246.38	5.80	3.32	
65.19	246.10	246.42	246.38	6.00	3.47	
66.94	246.00	246.42	246.41	6.20	2.98	
80.18	245.70	246.50	246.50	6.40	5.11	
82.12	245.71	246.60	246.60	6.15	4.70	U/S end of Xing
104.91	245.90	246.70	246.70	6.55	5.39	
113.1	246.00	246.92	246.83	6.23	4.66	
114.48	246.00	246.92	246.83	6.00	6.00	two trees
123.38	246.20	246.70	247.37	9.70	9.69	no bank marked
130.80	246.20	246.70	247.37	7.00	7.00	no bank marked
Culvert Avg	245.96	246.47	246.46	5.85	2.99	
Bank height		0.52	0.50			



Dewatering Steps:
1. Install sediment and erosion control at the downstream end of the bridge footing hole.
2. Install discharging sump in temporary sediment basin and intake sump in the natural pool upstream of Crossing #2.
3. Install pump in the intake sump (sump shall be sized large enough to accomodate the stream flow).
4. Install the temporary dam to stop stream flow through the crossing.
5. Excavate the bridge footing holes and install footing as designed.
6. If the footing hole requires dewatering, it shall be pumped to Pond #3 as described above.
7. The design engineer shall inspect the dewatering setup before the excavation starts.
8. If the stream channel will be alterred temporarily, the surface substrate of the channel shall be excavated and saved on-site and be put back after the footing of the culvert is installed. The substrate shall be used to restore the channel to the same as the original geometry.
9. The restored channel shall be inspected by the design wetland scientist and hydraulic engineer.
10. It is also recommended that the footing installation be carried out in a time slot of a few consecutive days, when no rain is forecasted.

Dewatering Plan - Stream Crossing , Franklin Heights, Franklin, MA





Creative Land & Water Engineering, LLC

Environmental Scientists and Engineers
P.O. Box 584 - Southborough - MA - 01772
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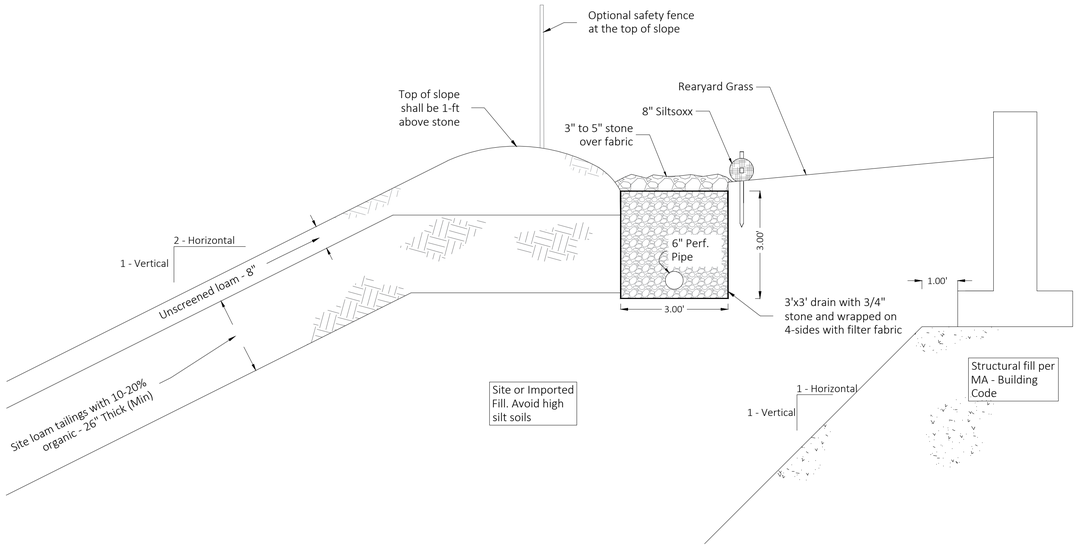
Plan Title:	Stream Crossing and Wetland Replication Plan		
Project Name:	Franklin Heights		
Site Address:	Franklin Heights, Franklin, MA 02038		
Owner: -		Client: Oliver Crossing Realty Trust	
Project No: J101-4	Drawn by: FA	Date: 07/20/22	Sheet No: 2 of 2
Designed by: DSW, FA	Approved by: DSW	Scale: 1"=10'	

Rev.:	Date:	Description	By:
1	12/05/22	Stream profile, existing grade, wetland replication	DSW/FA
1	9/16/22	Vegetation monitoring notes	DSW/FA

COMMONWEALTH OF MASSACHUSETTS
DESHENG WANG
CIVIL
NO.39511
REGISTERED PROFESSIONAL ENGINEER



Slope stabilization cross-section and slope runoff interception drain detail
N.T.S

Fill Operation and Slope Stabilization Plan

1. Fill operations to proceed in continuous starting to strip and clear fill bottom in existing soil suitable as structurally sound confirmed by competent professional and Town agent.
2. Fill operation to proceed as follows in 1 ft lift:

   a. Install loam tailings with some onsite surface organics along the edge of fill second tier erosion control
   b. Install site or import fill in 1 ft light in area not under buildings
   c. Install structural fill in 1 ft lift under buildings
   d. Compact entire lift in one operation being carefully to weave all three materials together to 95% compaction ratio

3. At the end of every day and any time rain is imminent, a continuous berm of loam tailings at least 1 ft above existing fill is to be in place
4. When fill at bottom of footing elevation, complete final slope stabilization as follows:

   a. Grade to contours shown on plan
   b. Spread 8 inches site loam on slope
   c. Seed with Agway or Blueseal Conservation Seed mix
   d. Use 5-10-5 fertilizer or as approved and pelletized lime to promote grass growth
   e. Install Curlex fabric as per manufacture for surface erosion control on slope

5. Install foundations
6. Complete backfill around the foundation and compact
7. Complete final slope stabilization: top of slope to be at least 1 ft above backyard grade to prevent concentrated runoff from going over slope
8. Install slope runoff interception drain as per detail shown
9. Install silt sack or as directed by the environmental monitor/wetland scientist to protect drains until grass established around units not to cause erosion
10. Remove silt socks and other erosion control not biodegradable.

Construction Phase Plan
Franklin Height, Franklin, MA
Updated April 22, 2024, May 7, 2024

The project is divided into five (5) phases to minimize erosion.

Phase I
a. Install/maintain the erosion control and the temporary crossing along the wetland crossing from station 10+00 to 14+50
b. Using Conservation Commission approved or equal device to create suitable temporary access through wetland using wood or rubber mats, steel plates and temporary culvert as needed
c. Install perimeter erosion control for the entire site
d. Clear for road, wetland replication area, stormwater basin #1, units 41/42 (location of site trailer and storage containers)
e. Clear for road 21+00 to 27+00, units 1-20 and units 53 to 60; infiltration basin #2 and any dry wells associated with units, not stripped nor stumped until phase II.
f. Clear for balance of road and units 43 to 52 and units 21 to 24 not stripped nor stumped until phase III.
g. Clear for the rest of trees within limit of work but not stripped nor stumped until phase IV
h. Prepare replication area as designed and approved by Franklin Conservation Commission
i. Strip top soil from 10+00 to 14+50 and transport soil to wetland replication area with wetland plants to be saved
j. Construct wetland replication with planting as specified and protect it from erosion damage
k. Construct access road from 10+00 to 14+50 including the installation of culvert per designed plan; complete the road to binder
l. All catch basin grates are set at binder grade so that drainage can function as designed. This applies to all Phases.

Phase II

a. Strip and stockpile loam for road construction in area units 53, 54, 55, and 56
b. Construct road and utilities to binder start 27+00 to 23+00 including units 5 to 12 loop road
c. During road and utilities installation, begin foundation and building work starting with units 1 /2 in order
d. Stromwater basin #1 to be constructed as a sediment basin as spelled out in Order of Conditions 52. Its final grading shall be done in Phase III.
e. Infiltration Basin #2 to be functional prior to foundations for units 9/10
f. Unit construction to continue around loop, loam to remain in area of units until construction commences on those units
g. All stumps to be ground on site, chips to be used for erosion control as continency measure during construction.

Phase III

a. Clear for balance of road and units 43 to 52 and units 21 to 24
b. Create new loam stockpile in area 51/52
c. Surplus site fill to be stockpile units 47 to 50
d. Construct balance of road to binder
e. Complete stormwater Basin 1 as designed to its final grading with stabilization.
f. Unit construction to continue in sequence around site

Phase IV

a. Construct structural fill to bottom of footing elevation +/-
b. Stabilize slope as per fill operation details
c. Additional row of erosion control
d. Unit construction balance of site

Phase V

a. Adjust castings to final grade and install top cot for all roads
b. Clean all basins and catch basins
c. Punch list

Erosion control devices to be used during construction include but not limited to:

- Compost socks
- Stake silt fence
- Woodchips or stump grinding check dams
- Runoff interception swales
- Sediment basins
- Flocculant for turbidity control as needed
- Mud traps at intersection of pavement and dirt road
- Hydroseeding

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Project Name:	Franklin Heights
Site Address:	Franklin Heights, Franklin, MA 02038
Owner:	-
Client:	Oliver Crossing Realty Trust

Project No:	J101-4	Drawn by:	FA	Date: 12/06/22	Sheet No: 1 of 1
Designed by:	DSW, FA	Approved by:	DSW	Scale: Indicated	

COMMONWEALTH OF MASSACHUSETTS
DESHENG WANG
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NO.39511
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Rev.:	Date:	Description	By:
1	5/7/24	Construction Phase Plan	DSW