

Attachments

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Town	Eversource Owned	Joint Owned	Total Owned
ACTON	333	4,837	5,170
ACUSHNET	226	3,100	3,326
AGAWAM	1,298	4,567	5,865
AMHERST	667	3,506	4,173
AQUINNAH	45	314	359
ARLINGTON	320	5,364	5,684
ASHFIELD	111	2,072	2,183
ASHLAND	404	2,501	2,905
BARNSTABLE	1,906	12,588	14,494
BECKET	137	3,611	3,748
BEDFORD	205	3,376	3,581
BELCHERTOWN	0	2	2
BELLINGHAM	94	1,005	1,099
BELMONT	6	30	36
BERNARDSTON	128	1,445	1,573
BILLERICA	2	30	32
BLANDFORD	230	1,582	1,812
BOSTON DOWNTOWN	61	82	143
BOURNE	406	3,720	4,126
BOURNE-PLYMOUTH	201	1,865	2,066
BREWSTER	616	2,802	3,418
BRIGHTON	352	2,427	2,779
BROOKLINE	707	3,252	3,959
BUCKLAND	82	1,413	1,495
BURLINGTON	255	5,286	5,541
CAMBRIDGE	3,214	3,089	6,303
CANTON	534	4,776	5,310
CARLISLE	123	2,815	2,938
CARVER	696	3,298	3,994
CHARLEMONT	1	5	6
CHARLESTOWN	99	301	400
CHATHAM	347	3,576	3,923
CHELSEA	219	1,882	2,101
CHESHIRE	4	84	88
CHESTER	2	215	217
CHESTERFIELD	94	1,393	1,487
CHICOPEE	112	38	150
CHILMARK	26	831	857
COLRAIN	118	1,913	2,031
CONCORD	1	33	34
CONWAY	51	1,907	1,958
CUMMINGTON	105	1,449	1,554
DALTON	383	1,615	1,998
DARTMOUTH	892	7,913	8,805
DEDHAM	394	4,925	5,319
DEERFIELD	366	2,199	2,565
DENNIS	626	6,123	6,749
DORCHESTER	1,031	5,218	6,249
DOVER	132	2,819	2,951
DUXBURY	325	4,002	4,327
EAST BOSTON	290	1,067	1,357
EAST LONGMEADOW	1	4	5
EASTHAM	903	2,502	3,405
EASTHAMPTON	565	2,891	3,456
EASTON	0	8	8
EDGARTOWN	367	1,498	1,865
ERVING	33	378	411
EVERETT	2	5	7
FAIRHAVEN	307	3,835	4,142
FALL RIVER	1	14	15
FALMOUTH	1,248	10,470	11,718
FOXBORO	0	2	2
FRAMINGHAM	1,276	10,069	11,345
FRANKLIN	0	73	73
FREETOWN	502	3,312	3,814
GILL	82	1,140	1,222
GOSHEN	11	3	14
GRANBY	1	8	9
GRANVILLE	172	1,657	1,829

GREENFIELD	430	4,256	4,686
HADLEY	274	2,393	2,667
HANCOCK	38	165	203
HARWICH	802	4,429	5,231
HATFIELD	114	1,485	1,599
HAWLEY	2	3	5
HINSDALE	143	1,385	1,528
HOLDEN	2	0	2
HOLLISTON	283	3,566	3,849
HOLYOKE	3	33	36
HOPKINTON	337	3,761	4,098
HUNTINGTON	131	1,578	1,709
HYDE PARK	537	3,113	3,650
KINGSTON	230	2,707	2,937
LAKEVILLE	14	329	343
LANESBOROUGH	210	1,875	2,085
LEE	534	2,475	3,009
LENOX	45	224	269
LEVERETT	24	1,381	1,405
LEXINGTON	353	6,739	7,092
LEYDEN	39	919	958
LINCOLN	124	2,960	3,084
LITTLETON	1	11	12
LONGMEADOW	174	2,049	2,223
LUDLOW	587	4,389	4,976
MARION	201	1,879	2,080
MARSHFIELD	475	5,874	6,349
MASHPEE	441	2,373	2,814
MATTAPOISETT	182	2,841	3,023
MAYNARD	96	1,770	1,866
MEDFIELD	176	2,885	3,061
MEDFORD	1	4	5
MEDWAY	246	2,610	2,856
MIDDLEBOROUGH	5	13	18
MIDDLEFIELD	40	905	945
MILLIS	241	2,366	2,607
MILTON	414	5,221	5,635
MONTAGUE	584	3,091	3,675
MONTEREY	1	3	4
MONTGOMERY	15	786	801
NATICK	608	5,974	6,582
NEEDHAM	294	6,072	6,366
NEW ASHFORD	14	261	275
NEW BEDFORD	2,284	9,230	11,514
NEW MARLBOROUGH	0	5	5
NEWTON	1,143	14,060	15,203
NORFOLK	200	3,391	3,591
NORTH TISBURY	343	1,352	1,695
NORTHAMPTON	2	12	14
NORTHFIELD	103	2,287	2,390
NORWOOD	0	3	3
OAK BLUFFS	222	1,747	1,969
ORLEANS	390	2,897	3,287
OTIS	106	2,677	2,783
PELHAM	52	908	960
PEMBROKE	0	34	34
PERU	23	1,012	1,035
PITTSFIELD	954	8,196	9,150
PLAINFIELD	97	1,089	1,186
PLYMOUTH	1,253	10,581	11,834
PLYMPTON	92	1,404	1,496
PROVINCETOWN	140	963	1,103
QUINCY	77	17	94
RANDOLPH	0	1	1
READING	0	1	1
REVERE	1	1	2
RICHMOND	60	1,431	1,491
ROCHESTER	179	2,399	2,578
ROXBURY	361	1,448	1,809
RUSSELL	140	747	887

SANDISFIELD	78	1,717	1,795
SANDWICH	662	3,544	4,206
SANDWICH-PLYMOUTH	3	47	50
SAVOY	114	979	1,093
SCITUATE	7	242	249
SHARON	238	4,079	4,317
SHELBURNE	192	1,648	1,840
SHERBORN	198	2,641	2,839
SHUTESBURY	1	43	44
SOMERVILLE	427	4,122	4,549
SOUTH BOSTON	261	447	708
SOUTH HADLEY	0	6	6
SOUTHAMPTON	123	2,201	2,324
SOUTHBOROUGH	3	5	8
SOUTHWICK	457	3,216	3,673
SPRINGFIELD	1,711	12,334	14,045
STOCKBRIDGE	0	12	12
STONEHAM	197	3,183	3,380
STOUGHTON	1	22	23
STOW	0	7	7
SUDBURY	335	4,453	4,788
SUNDERLAND	58	1,240	1,298
TOLLAND	61	1,147	1,208
TRURO	504	1,671	2,175
TYRINGHAM	20	760	780
WAKEFIELD	0	7	7
WALPOLE	739	5,772	6,511
WALTHAM	769	7,456	8,225
WAREHAM	923	6,227	7,150
WASHINGTON	23	778	801
WATERTOWN	238	3,626	3,864
WAYLAND	174	4,234	4,408
WELLESLEY	0	6	6
WELLFLEET	379	1,942	2,321
WENDELL	0	4	4
WEST ROXBURY	1,093	7,075	8,168
WEST SPRINGFIELD	1,012	4,611	5,623
WEST STOCKBRIDGE	0	1	1
WEST TISBURY	227	950	1,177
WESTFIELD	33	35	68
WESTFORD	3	2	5
WESTHAMPTON	83	1,298	1,381
WESTON	126	4,782	4,908
WESTPORT	355	4,554	4,909
WESTWOOD	390	3,623	4,013
WHATELY	73	1,211	1,284
WILBRAHAM	1	10	11
WILLIAMSBURG	0	1	1
WILMINGTON	0	1	1
WINCHESTER	296	3,947	4,243
WINDSOR	32	1,455	1,487
WOBURN	693	7,082	7,775
WORTHINGTON	47	1,685	1,732
YARMOUTH	912	6,358	7,270
TOTAL	56,407	465,677	522,084

Town	Eversource Owned	Joint Owned	Total Owned
ACTON	55	844	899
ACUSHNET	66	519	585
AGAWAM	96	1408	1504
AMHERST	49	886	935
AQUINNAH	16	134	150
ARLINGTON	68	489	557
ASHFIELD	11	277	288
ASHLAND	64	320	384
BARNSTABLE	433	3852	4285
BECKET	20	482	502
BEDFORD	40	510	550
BELCHERTOWN	0	2	2
BELLINGHAM	16	108	124
BELMONT	1	2	3
BERNARDSTON	18	259	277
BILLERICA	2	4	6
BLANDFORD	17	176	193
BOSTON DOWNTOWN	17	29	46
BOURNE	119	907	1026
BOURNE-PLYMOUTH	37	430	467
BREWSTER	235	1077	1312
BRIGHTON	96	442	538
BROOKLINE	222	1154	1376
BUCKLAND	10	176	186
BURLINGTON	65	565	630
CAMBRIDGE	689	871	1560
CANTON	122	780	902
CARLISLE	29	547	576
CARVER	60	494	554
CHARLEMONT	0	2	2
CHARLESTOWN	28	113	141
CHATHAM	127	1851	1978
CHELSEA	57	338	395
CHESHIRE	1	16	17

CHESTER	0	18	18
CHESTERFIELD	13	193	206
CHICOPEE	12	3	15
CHILMARK	13	330	343
COLRAIN	13	200	213
CONCORD	0	12	12
CONWAY	13	339	352
CUMMINGTON	8	158	166
DALTON	28	313	341
DARTMOUTH	198	1390	1588
DEDHAM	67	560	627
DEERFIELD	43	515	558
DENNIS	144	1649	1793
DORCHESTER	222	880	1102
DOVER	48	677	725
DUXBURY	48	1061	1109
EAST BOSTON	86	253	339
EAST LONGMEADOW	1	0	1
EASTHAM	349	1068	1417
EASTHAMPTON	41	534	575
EASTON	0	3	3
EDGARTOWN	175	867	1042
ERVING	8	54	62
EVERETT	0	2	2
FAIRHAVEN	59	486	545
FALL RIVER	0	4	4
FALMOUTH	316	3475	3791
FOXBORO	0	1	1
FRAMINGHAM	241	1150	1391
FRANKLIN	0	11	11
FREETOWN	46	453	499
GILL	9	178	187
GOSHEN	1	1	2
GRANBY	0	1	1
GRANVILLE	15	204	219

GREENFIELD	42	622	664
HADLEY	41	642	683
HANCOCK	1	22	23
HARWICH	227	1563	1790
HATFIELD	24	419	443
HAWLEY	0	1	1
HINSDALE	16	309	325
HOLDEN	2	0	2
HOLLISTON	41	442	483
HOLYOKE	0	4	4
HOPKINTON	75	781	856
HUNTINGTON	10	208	218
HYDE PARK	51	262	313
KINGSTON	50	491	541
LAKEVILLE	1	44	45
LANESBOROUGH	26	384	410
LEE	21	440	461
LENOX	2	42	44
LEVERETT	5	280	285
LEXINGTON	99	1265	1364
LEYDEN	7	140	147
LINCOLN	20	660	680
LITTLETON	0	3	3
LONGMEADOW	58	1132	1190
LUDLOW	88	1267	1355
MARION	49	519	568
MARSHFIELD	60	875	935
MASHPEE	152	864	1016
MATTAPOISETT	28	553	581
MAYNARD	13	183	196
MEDFIELD	36	495	531
MEDFORD	1	0	1
MEDWAY	39	353	392
MIDDLEBOROUGH	1	1	2
MIDDLEFIELD	6	87	93

MILLIS	26	285	311
MILTON	65	739	804
MONTAGUE	42	493	535
MONTEREY	1	0	1
MONTGOMERY	1	132	133
NATICK	100	931	1031
NEEDHAM	90	890	980
NEW ASHFORD	1	44	45
NEW BEDFORD	1466	1143	2609
NEW MARLBOROUGH	0	1	1
NEWTON	260	2320	2580
NORFOLK	29	441	470
NORTH TISBURY	145	630	775
NORTHAMPTON	0	2	2
NORTHFIELD	19	312	331
NORWOOD	0	1	1
OAK BLUFFS	88	817	905
ORLEANS	151	1295	1446
OTIS	18	428	446
PELHAM	4	183	187
PEMBROKE	0	14	14
PERU	3	144	147
PITTSFIELD	110	1186	1296
PLAINFIELD	7	117	124
PLYMOUTH	231	2053	2284
PLYMPTON	24	210	234
PROVINCETOWN	46	486	532
QUINCY	7	3	10
REVERE	1	0	1
RICHMOND	7	355	362
ROCHESTER	50	414	464
ROXBURY	86	336	422
RUSSELL	6	72	78
SANDISFIELD	9	198	207
SANDWICH	128	1085	1213

SANDWICH-PLYMOUTH	1	9	10
SAVOY	12	109	121
SCITUATE	2	50	52
SHARON	56	482	538
SHELBURNE	13	211	224
SHERBORN	40	389	429
SHUTESBURY	0	23	23
SOMERVILLE	92	712	804
SOUTH BOSTON	93	148	241
SOUTHAMPTON	20	655	675
SOUTHBOROUGH	3	1	4
SOUTHWICK	46	637	683
SPRINGFIELD	279	4326	4605
STONEHAM	35	360	395
STOUGHTON	0	7	7
SUDBURY	53	851	904
SUNDERLAND	9	357	366
TOLLAND	6	140	146
TRURO	251	656	907
TYRINGHAM	5	114	119
WAKEFIELD	0	1	1
WALPOLE	103	732	835
WALTHAM	132	892	1024
WAREHAM	150	1121	1271
WASHINGTON	5	141	146
WATERTOWN	56	413	469
WAYLAND	37	747	784
WELLESLEY	0	1	1
WELLFLEET	142	847	989
WEST ROXBURY	182	855	1037
WEST SPRINGFIELD	108	1638	1746
WEST STOCKBRIDGE	0	1	1
WEST TISBURY	88	402	490
WESTFIELD	5	7	12
WESTFORD	0	1	1

WESTHAMPTON	17	337	354
WESTON	46	1401	1447
WESTPORT	98	736	834
WESTWOOD	59	672	731
WHATELY	28	311	339
WILLIAMSBURG	0	1	1
WINCHESTER	60	697	757
WINDSOR	2	196	198
WOBURN	115	802	917
WORTHINGTON	9	225	234
YARMOUTH	141	1373	1514
TOTAL	12,215	95,007	107,222

Town	Eversource Owned	Joint Owned	Total Owned
ACTON	114	837	951
ACUSHNET	13	544	557
AGAWAM	55	4	59
AMHERST	0	2	2
ARLINGTON	239	3027	3266
ASHLAND	72	650	722
BARNSTABLE	68	282	350
BEDFORD	53	1268	1321
BELLINGHAM	17	244	261
BELMONT	4	5	9
BILLERICA	0	1	1
BOSTON DOWNTOWN	33	2086	2119
BOURNE	28	45	73
BOURNE-PLYMOUTH	12	97	109
BREWSTER	4	13	17
BRIGHTON	227	2900	3127
BROOKLINE	503	3011	3514
BURLINGTON	30	360	390
CAMBRIDGE	2860	2449	5309
CANTON	332	1939	2271
CARLISLE	1	168	169
CARVER	9	40	49
CHARLESTOWN	60	193	253
CHATHAM	8	34	42
CHELSEA	136	1450	1586
CHILMARK	0	5	5
DALTON	12	0	12
DARTMOUTH	94	1423	1517
DEDHAM	24	155	179
DEERFIELD	26	0	26
DENNIS	9	72	81
DORCHESTER	699	4835	5534
DOVER	2	77	79
DUXBURY	3	67	70
EAST BOSTON	240	1233	1473

EASTHAM	10	46	56
EASTON	0	4	4
EDGARTOWN	2	8	10
EVERETT	0	1	1
FAIRHAVEN	61	1180	1241
FALMOUTH	19	110	129
FRAMINGHAM	652	4219	4871
FRANKLIN	0	1	1
FREETOWN	15	199	214
GREENFIELD	8	4	12
HADLEY	0	1	1
HARWICH	4	43	47
HOLLISTON	142	882	1024
HOPKINTON	36	521	557
HYDE PARK	316	2666	2982
KINGSTON	6	192	198
LAKEVILLE	0	5	5
LEE	5	0	5
LENOX	0	2	2
LEXINGTON	425	2816	3241
LINCOLN	13	240	253
LONGMEADOW	42	0	42
LUDLOW	12	1	13
MARION	1	53	54
MARSHFIELD	18	225	243
MASHPEE	14	23	37
MATTAPOISETT	6	364	370
MAYNARD	126	737	863
MEDFIELD	22	343	365
MEDFORD	1	7	8
MEDWAY	34	554	588
MILLIS	43	429	472
MILTON	25	111	136
NATICK	235	2041	2276
NEEDHAM	209	2643	2852
NEW BEDFORD	1875	5210	7085

NEWTON	1390	5979	7369
NORFOLK	47	274	321
NORTH TISBURY	4	14	18
NORWOOD	0	1	1
OAK BLUFFS	11	8	19
ORLEANS	4	14	18
PITTSFIELD	5	2	7
PLYMOUTH	87	1568	1655
PLYMPTON	1	27	28
PROVINCETOWN	2	17	19
QUINCY	22	1	23
ROCHESTER	0	12	12
ROXBURY	189	1387	1576
SANDWICH	8	31	39
SANDWICH-PLYMOUTH	0	4	4
SCITUATE	1	31	32
SHARON	254	1473	1727
SHELBURNE	2	0	2
SHERBORN	8	105	113
SOMERVILLE	307	3454	3761
SOUTH BOSTON	142	1026	1168
SOUTHWICK	100	2	102
SPRINGFIELD	48	92	140
STONEHAM	36	139	175
STOUGHTON	0	2	2
STOW	0	1	1
SUDBURY	51	606	657
TRURO	7	11	18
WAKEFIELD	0	1	1
WALPOLE	308	1828	2136
WALTHAM	624	3721	4345
WAREHAM	43	197	240
WATERTOWN	338	1902	2240
WAYLAND	26	683	709
WELLFLEET	2	11	13
WEST ROXBURY	735	6611	7346

WEST SPRINGFIELD	308	11	319
WEST TISBURY	0	4	4
WESTON	53	786	839
WESTPORT	9	135	144
WESTWOOD	225	1050	1275
WINCHESTER	35	85	120
WOBURN	84	964	1048
YARMOUTH	28	109	137
TOTAL	15,908	89,776	105,684

State	Eversource Owned	Eversource Owned - Avg Height	Joint Owned	Joint Owned - Avg Height	Total Owned	Total - Avg Height
MA	56,407	38.37	465,677	38.73	522,084	38.69

Town	Eversource Pole Count	Eversource Avg Height	Joint Pole Count	Joint Avg Height	Total Pole Count	Total Avg Height
ACTON	333	36	4,837	39	5,170	39
ACUSHNET	226	38	3,100	37	3,326	37
AGAWAM	1,298	31	4,567	39	5,865	37
AMHERST	667	37	3,506	39	4,173	38
AQUINNAH	45	38	314	39	359	39
ARLINGTON	320	38	5,364	38	5,684	38
ASHFIELD	111	38	2,072	39	2,183	39
ASHLAND	404	40	2,501	39	2,905	39
BARNSTABLE	1,906	40	12,588	37	14,494	38
BECKET	137	36	3,611	38	3,748	38
BEDFORD	205	40	3,376	40	3,581	40
BELCHERTOWN	0	0	2	35	2	35
BELLINGHAM	94	37	1,005	39	1,099	38
BELMONT	6	35	30	38	36	38
BERNARDSTON	128	37	1,445	38	1,573	38
BILLERICA	2	42	30	42	32	42
BLANDFORD	230	43	1,582	38	1,812	38
BOSTON DOWNTOWN	61	41	82	43	143	42
BOURNE	406	40	3,720	38	4,126	38
BOURNE-PLYMOUTH	201	39	1,865	38	2,066	38
BREWSTER	616	37	2,802	37	3,418	37
BRIGHTON	352	36	2,427	39	2,779	39
BROOKLINE	707	37	3,252	39	3,959	38
BUCKLAND	82	37	1,413	39	1,495	39
BURLINGTON	255	39	5,286	39	5,541	39
CAMBRIDGE	3,214	36	3,089	37	6,303	37
CANTON	534	38	4,776	39	5,310	38
CARLISLE	123	37	2,815	37	2,938	37
CARVER	696	39	3,298	39	3,994	39
CHARLEMONT	1	40	5	37	6	38
CHARLESTOWN	99	38	301	39	400	39
CHATHAM	347	38	3,576	38	3,923	38
CHELSEA	219	38	1,882	40	2,101	40
CHESHIRE	4	35	84	38	88	38
CHESTER	2	40	215	37	217	37
CHESTERFIELD	94	37	1,393	38	1,487	38
CHICOPEE	112	44	38	46	150	45
CHILMARK	26	39	831	38	857	38
COLRAIN	118	35	1,913	39	2,031	39
CONCORD	1	40	33	36	34	36
CONWAY	51	38	1,907	38	1,958	38
CUMMINGTON	105	37	1,449	38	1,554	38
DALTON	383	38	1,615	39	1,998	39
DARTMOUTH	892	38	7,913	38	8,805	38
DEDHAM	394	38	4,925	38	5,319	38
DEERFIELD	366	32	2,199	39	2,565	38
DENNIS	626	38	6,123	37	6,749	37
DORCHESTER	1,031	37	5,218	38	6,249	37
DOVER	132	36	2,819	38	2,951	38
DUXBURY	325	42	4,002	39	4,327	39
EAST BOSTON	290	40	1,067	39	1,357	39
EAST LONGMEADOW	1	40	4	35	5	37
EASTHAM	903	37	2,502	37	3,405	37
EASTHAMPTON	565	37	2,891	39	3,456	38
EASTON	0	0	8	38	8	38
EDGARTOWN	367	37	1,498	38	1,865	38
ERVING	33	39	378	39	411	39
EVERETT	2	42	5	41	7	41
FAIRHAVEN	307	40	3,835	38	4,142	38
FALL RIVER	1	45	14	38	15	39
FALMOUTH	1,248	39	10,470	37	11,718	37
FOXBORO	0	0	2	40	2	40
FRAMINGHAM	1,276	39	10,069	39	11,345	39
FRANKLIN	0	0	73	37	73	37
FREETOWN	502	39	3,312	38	3,814	38
GILL	82	38	1,140	38	1,222	38
GOSHEN	11	40	3	35	14	38

GRANBY	1	35	8	40	9	38
GRANVILLE	172	38	1,657	38	1,829	38
GREENFIELD	430	40	4,256	39	4,686	39
HADLEY	274	38	2,393	39	2,667	39
HANCOCK	38	35	165	39	203	38
HARWICH	802	39	4,429	37	5,231	38
HATFIELD	114	38	1,485	38	1,599	38
HAWLEY	2	35	3	35	5	35
HINSDALE	143	35	1,385	38	1,528	38
HOLDEN	2		0	0	2	
HOLLISTON	283	41	3,566	38	3,849	39
HOLYOKE	3		33	36	36	36
HOPKINTON	337	40	3,761	39	4,098	39
HUNTINGTON	131	39	1,578	37	1,709	37
HYDE PARK	537	36	3,113	38	3,650	38
KINGSTON	230	45	2,707	39	2,937	39
LAKEVILLE	14	37	329	37	343	37
LANESBOROUGH	210	40	1,875	40	2,085	40
LEE	534	34	2,475	38	3,009	38
LENOX	45	36	224	38	269	38
LEVERETT	24	35	1,381	38	1,405	38
LEXINGTON	353	39	6,739	38	7,092	38
LEYDEN	39	35	919	39	958	39
LINCOLN	124	38	2,960	37	3,084	37
LITTLETON	1	40	11	41	12	41
LONGMEADOW	174	35	2,049	38	2,223	38
LUDLOW	587	36	4,389	38	4,976	38
MARION	201	41	1,879	39	2,080	39
MARSHFIELD	475	41	5,874	38	6,349	38
MASHPEE	441	39	2,373	38	2,814	38
MATTAPOISETT	182	45	2,841	37	3,023	38
MAYNARD	96	38	1,770	39	1,866	39
MEDFIELD	176	37	2,885	38	3,061	38
MEDFORD	1	15	4	37	5	33
MEDWAY	246	38	2,610	38	2,856	38
MIDDLEBOROUGH	5	39	13	36	18	37
MIDDLEFIELD	40	34	905	37	945	37
MILLIS	241	37	2,366	37	2,607	37
MILTON	414	37	5,221	38	5,635	38
MONTAGUE	584	39	3,091	39	3,675	39
MONTEREY	1	30	3	40	4	37
MONTGOMERY	15	35	786	38	801	38
NATICK	608	40	5,974	39	6,582	39
NEEDHAM	294	38	6,072	38	6,366	38
NEW ASHFORD	14	36	261	38	275	38
NEW BEDFORD	2,284	31	9,230	38	11,514	37
NEW MARLBOROUGH	0	0	5	35	5	35
NEWTON	1,143	38	14,060	38	15,203	38
NORFOLK	200	37	3,391	37	3,591	37
NORTH TISBURY	343	42	1,352	38	1,695	39
NORTHAMPTON	2		12	39	14	39
NORTHFIELD	103	35	2,287	38	2,390	38
NORWOOD	0	0	3	33	3	33
OAK BLUFFS	222	36	1,747	38	1,969	38
ORLEANS	390	39	2,897	37	3,287	38
OTIS	106	36	2,677	37	2,783	37
PELHAM	52	37	908	38	960	38
PEMBROKE	0	0	34	42	34	42
PERU	23	37	1,012	38	1,035	38
PITTSFIELD	954	38	8,196	39	9,150	39
PLAINFIELD	97	39	1,089	39	1,186	39
PLYMOUTH	1,253	40	10,581	38	11,834	39
PLYMPTON	92	42	1,404	39	1,496	39
PROVINCETOWN	140	38	963	38	1,103	38
QUINCY	77	38	17	37	94	38
RANDOLPH	0	0	1	40	1	40
READING	0	0	1	40	1	40
REVERE	1	45	1	40	2	42
RICHMOND	60	35	1,431	38	1,491	38
ROCHESTER	179	37	2,399	38	2,578	38
ROXBURY	361	37	1,448	38	1,809	38
RUSSELL	140	37	747	38	887	38
SANDSFIELD	78	36	1,717	37	1,795	37

SANDWICH	662	40	3,544	38	4,206	38
SANDWICH-PLYMOUTH	3	33	47	38	50	38
SAVOY	114	42	979	39	1,093	39
SCITUATE	7	36	242	37	249	37
SHARON	238	36	4,079	38	4,317	38
SHELBURNE	192	40	1,648	39	1,840	39
SHERBORN	198	38	2,641	37	2,839	37
SHUTESBURY	1	30	43	36	44	36
SOMERVILLE	427	41	4,122	39	4,549	39
SOUTH BOSTON	261	38	447	38	708	38
SOUTH HADLEY	0	0	6		6	
SOUTHAMPTON	123	34	2,201	38	2,324	38
SOUTHBOROUGH	3	40	5	37	8	37
SOUTHWICK	457	29	3,216	38	3,673	37
SPRINGFIELD	1,711	35	12,334	39	14,045	38
STOCKBRIDGE	0	0	12		12	
STONEHAM	197	39	3,183	39	3,380	39
STOUGHTON	1	45	22	37	23	37
STOW	0	0	7	38	7	38
SUDBURY	335	38	4,453	39	4,788	39
SUNDERLAND	58	39	1,240	39	1,298	39
TOLLAND	61	38	1,147	37	1,208	37
TRURO	504	36	1,671	38	2,175	37
TYRINGHAM	20	36	760	38	780	37
WAKEFIELD	0	0	7	37	7	37
WALPOLE	739	40	5,772	39	6,511	39
WALTHAM	769	39	7,456	39	8,225	39
WAREHAM	923	41	6,227	39	7,150	39
WASHINGTON	23	36	778	39	801	39
WATERTOWN	238	39	3,626	38	3,864	38
WAYLAND	174	38	4,234	38	4,408	38
WELLESLEY	0	0	6	35	6	35
WELLFLEET	379	42	1,942	37	2,321	38
WENDELL	0	0	4	40	4	40
WEST ROXBURY	1,093	36	7,075	38	8,168	38
WEST SPRINGFIELD	1,012	33	4,611	38	5,623	37
WEST STOCKBRIDGE	0	0	1	35	1	35
WEST TISBURY	227	36	950	38	1,177	38
WESTFIELD	33	37	35	42	68	40
WESTFORD	3	38	2	40	5	39
WESTHAMPTON	83	37	1,298	38	1,381	38
WESTON	126	37	4,782	38	4,908	38
WESTPORT	355	37	4,554	38	4,909	38
WESTWOOD	390	53	3,623	38	4,013	40
WHATELY	73	39	1,211	39	1,284	39
WILBRAHAM	1	45	10	43	11	43
WILLIAMSBURG	0	0	1	35	1	35
WILMINGTON	0	0	1	35	1	35
WINCHESTER	296	37	3,947	38	4,243	38
WINDSOR	32	36	1,455	39	1,487	39
WOBURN	693	40	7,082	39	7,775	39
WORTHINGTON	47	38	1,685	39	1,732	39
YARMOUTH	912	38	6,358	38	7,270	38

Statewide TotalEVERSOURCE

City / Town	Total Attachments per Town	Telecommunication Fiber	Cable Television	Wireless	Power Supply	Municipal	Verizon Telephone
Acton	13597	1041	4802	1	53	2860	4840
Acushnet	6613	373	3122		56	24	3038
Agawam	17021	8545	4271	9	59		4137
Amherst	11766	4817	3213	3	52	662	3019
Aquinnah	895	169	366	4	8		348
Arlington	17763	6396	5637	85	137	157	5351
Ashland	6540	775	2734		34	433	2564
Barnstable	31115	1937	14031	42	195	1507	13403
Becket	6965	587	41	2		3096	3239
Bedford	10229	2421	3760	4	19	842	3183
Belchertown	12						12
Bellingham	2783	326	979	2	7	409	1060
Belmont	22	4	8			3	7
Bernardston	2845	162	1317		10	4	1352
Billerica	92	42	20			10	20
Blandford	3052	117				1435	1500
Boston-Downtown	27		25		2		
Bourne-Cape	8148	673	3762	3	31	29	3650
Bourne-Plymouth	4537	516	2026	3	28	13	1951
Brewster	6834	533	3313	5	41		2942
Brighton	10631	2782	4754	61	251	593	2190
Brookline	14055	2107	7435	81	315	1158	2959
Buckland	5		5				
Burlington	18074	2250	10371	11	143	218	5081
Cambridge	9801	1066	3917	156	100	968	3594
Canton	11850	1097	4745	5	22	1287	4694
Carlisle	6245	230	2789	2	19	420	2785
Carver	6769	151	3251		34	117	3216
Charlestown	662	82	298	16	20	4	242
Chatham	8749	743	4104	7	32	16	3847
Chelsea	5745	1062	1745	80	24	1153	1681
Chester	335		179		2		154
Chesterfield	2926	299	4			1314	1309
Chicopee	49		20				29
Chilmark	2361	551	877	24	24		885
Concord	19	8				2	9
Conway	3731	153	1769		12	8	1789
Cummington	3		3				
Dartmouth	18830	646	9167	13	106	68	8830
Dedham	22133	5312	9518	16	153	2238	4896
Deerfield	5996	1895	2023	3	17		2058
Dennis	14261	835	6748	15	77		6586
Dorchester	19943	975	12711	153	376	934	4794
Dover	5764	50	2831		26	39	2818
Duxbury	9125	54	4132	5	54	586	4294
East Boston	3470	420	1611	38	69	348	984
East Longmeadow	1	0	0	0	0	0	1
Eastham	6074	197	3231	2	36		2608
Easthampton	6164	506	2661		38	334	2625
Easton	17		8		1		8
Edgartown	3243		1815	4	28	13	1383
Erving	752	109	319				324
Everett	1						1
Fairhaven	9211	736	4010	10	33	499	3923
Fall River	13		7				6
Falmouth	25009	1832	11198	29	124	1135	10691
Framingham	37744	1605	20359	25	476	5056	10223
Franklin	119		55				64

Freetown	7548	208	3724	4	35		3577
Gill	2291	165	1025	5	8		1088
Granville	3198	239	1378	1	12	14	1554
Greenfield	421		6			415	
Hadley	5254	637	2044	1	25	352	2195
Halifax	3		3				
Hancock	4	4					
Harwich	10610	783	5111	6	43		4667
Hatfield	2845	123	1359		13		1350
Hawley	6		3				3
Heath	2					1	1
Holliston	11083	3470	3431			697	3485
Holyoke	5						5
Hopkinton	8859	584	3939	1	45	490	3800
Huntington	3167	160	1524		12		1471
Hyde Park	11396	814	6404	92	133	755	3198
Kingston	6332	568	2773	19	33		2939
Lakeville	758	67	341		4		346
Lanesboro	8		8				
Lee	2		2				
Lenox	318		157				161
Leverett	2795	207	3	1		1281	1303
Lexington	22418	2571	12931	16	243	211	6446
Lincoln	7342	690	3137	7	17	588	2903
Longmeadow	5152	423	2256	5	36	279	2153
Ludlow	10561	2327	3852	8	36	506	3832
Marion	4610	236	2160		19	13	2182
Marshfield	13211	212	5919	9	70	811	6190
Mashpee	6217	356	3037	1	50		2773
Mattapoisett	6159	347	2849		20	85	2858
Maynard	3883	397	1735		21		1730
Medfield	6173		2837	4		363	2969
Medway	6867	26	2699			1516	2626
Middleboro	20		11				9
Middlefield	3		3				
Millis	5287		2430	3	24	384	2446
Milton	17721	758	9340	20	84	2424	5095
Montague	5835	342	2727		24	5	2737
Natick	20882	1064	11322	23	207	2499	5767
Neefham	9829	842	6556	20	167	2244	
New Bedford	24665	1992	9677	46	137	3468	9345
Newton	50047	1205	28359	27	455	6036	13965
Norfolk	7189	78	3408		23	313	3367
North Canaan	1		0	0	0	1	0
North Tisbury	3052	50	1548	1	17		1436
Northampton	9		4				5
Northfield	4242	124	2046		18	14	2040
Norwood	20	16	2				2
Oak Bluffs	4155	189	2003	5		74	1884
Orleans	6731	389	3222		30		3090
Otis	5024	162				2420	2442
Pelham	2065	327	853		8	25	852
Pembroke	52		26				26
Pittsfield	16377	1214	7295	10	106	480	7272
Plymouth	26136	1174	10513	22	141	3304	10982
Plympton	3186	233	1472		12		1469
Provincetown	2585	524	1017	15	15	19	995
Quincy	52		4			2	46
Reading	2		1				1
Richmond	2		2				
Rochester	5217	76	2530				2611
Roxbury	4141	510	2148	22	71	200	1190

Russell	1270	595	2				673
Sandisfield	3368	285	1386		2	1	1694
Sandwich	7977	609	3712	4		29	3623
Sandwich-Plymouth	103		53	1			49
Savoy	1580	227	453			1	899
Scituate	475		237				238
Sharon	8986	481	4040	7	38	378	4042
Shelburne	3368	322	1406		11	154	1475
Sherborn	5327	216	2554				2557
Shutesbury	80					40	40
Somerville	13245	995	8142	91	148		3869
South Boston	1207	212	584	17	42	47	305
South Hadley	1						1
Southampton	4325	114	2116		27	2	2066
Southwick	6241	269	2957		32		2983
Springfield	30647	4628	13672	162	102	712	11371
Stoneham	11115	628	6018	1	135	1248	3085
Stoughton	26		13				13
Stow	6		3				3
Sudbury	11838	1324	4990	2	88	888	4546
Suffield	8		4				4
Sunderland	2329	126	1091		10		1102
Tisbury	1494	62	1429	2			1
Tolland	2246	150	945			27	1124
Truro	4422	732	2024	4	20		1642
Tyringham	1526	95	726		2		703
Wakefield	33		17				16
Walpole	14481	1270	6060	10	35	1229	5877
Waltham	35455	10220	14418	16	326	3240	7235
Wareham	15967	821	6927	2	100	1224	6893
Watertown	13352	802	7386	5	176	1412	3571
Wayland	9354	264	4360	3	40	515	4172
Wellesley	6		4				2
Wellfleet	4581	259	2282	5	14	114	1907
Wendell	11		5		1		5
West Roxbury	24708	1831	13771	201	304	1562	7039
West Springfield	10262	759	3400	14	51	1843	4195
West Tisbury	2123	13	1043		22		1045
Westfield	34	0	0	0	0	0	34
Westford	6		3				3
Westhampton	2643	140	1245		8	10	1240
Weston	11948	606	4789	8	22	1898	4625
Westport	10241	592	4946	1	78		4624
Westwood	8809	813	3911	11	35	457	3582
Whately	2397	160	1092		9	15	1121
Wilbraham	9	3	3				3
Winchester	10322	779	4207	6	41	1342	3947
Windsor	19					19	
Woburn	25281	1938	13965	11	223	2293	6851
Yarmouth	14649	736	7145	23	91		6654
TOTALS	1174662	118146	536799	1920	7991	82981	426825

	Overhead Conductor
State	Circuit Length - Miles
MA	28,350.27
Town	Circuit Length - Miles
ACTON	293.34
ACUSHNET	192.04
ADAMS	0.02
AGAWAM	293.62
AMHERST	210.31
AQUINNAH	19.97
ARLINGTON	298.12
ASHFIELD	101.38
ASHLAND	161.03
BARNSTABLE	960.62
BECKET	202.90
BEDFORD	182.55
BELCHERTOWN	0.02
BELLINGHAM	62.71
BELMONT	2.86
BERNARDSTON	80.41
BILLERICA	1.56
BLANDFORD	88.89
BOSTON DOWNTOWN	2.39
BOURNE	246.49
BOURNE-PLYMOUTH	133.81
BREWSTER	237.92
BRIGHTON	133.74
BROOKLINE	183.46
BUCKLAND	75.39
BURLINGTON	282.00
CAMBRIDGE	200.71
CANTON	261.97
CARLISLE	118.07
CARVER	243.42
CHARLEMONT	0.25
CHARLESTOWN	16.26

CHATHAM	241.80
CHELSEA	105.49
CHESHIRE	3.97
CHESTER	11.14
CHESTERFIELD	71.03
CHICOPEE	7.29
CHILMARK	49.15
COLRAIN	101.19
CONCORD	0.89
CONWAY	90.60
CUMMINGTON	69.09
DALTON	116.35
DARTMOUTH	492.48
DEDHAM	263.55
DEERFIELD	123.95
DENNIS	482.27
DORCHESTER	301.20
DOVER	124.47
DUXBURY	269.66
EAST BOSTON	63.90
EAST LONGMEADOW	0.37
EASTHAM	233.37
EASTHAMPTON	191.35
EASTON	0.38
EDGARTOWN	102.20
ERVING	20.02
EVERETT	0.10
FAIRHAVEN	236.60
FALL RIVER	2.08
FALMOUTH	727.13
FOXBORO	0.08
FRAMINGHAM	632.61
FRANKLIN	3.25
FREETOWN	222.71
GILL	62.44
GOSHEN	0.40

GRANBY	1.39
GRANVILLE	82.34
GREENFIELD	279.92
HADLEY	144.01
HALIFAX	0.02
HANCOCK	9.06
HARWICH	348.25
HATFIELD	87.27
HAWLEY	0.01
HINSDALE	73.75
HOLLISTON	216.73
HOLYOKE	1.28
HOPKINTON	213.40
HUNTINGTON	90.96
HYDE PARK	189.15
KINGSTON	193.32
LAKEVILLE	19.87
LANESBOROUGH	113.17
LEE	154.60
LENOX	15.50
LEVERETT	68.32
LEXINGTON	364.92
LEYDEN	45.59
LINCOLN	128.30
LITTLETON	0.79
LONGMEADOW	141.24
LUDLOW	262.21
MARION	111.32
MARSHFIELD	405.26
MASHPEE	198.11
MATTAPOISETT	160.70
MAYNARD	99.33
MEDFIELD	155.59
MEDFORD	0.23
MEDWAY	149.50
MIDDLEBOROUGH	1.66

MIDDLEFIELD	44.41
MILFORD	0.08
MILLIS	125.72
MILTON	266.60
MONTAGUE	197.72
MONTEREY	0.11
MONTGOMERY	40.08
NATICK	350.84
NEEDHAM	320.59
NEW ASHFORD	12.86
NEW BEDFORD	553.94
NEW MARLBOROUGH	0.17
NEWTON	719.27
NORFOLK	180.10
NORTH TISBURY	93.16
NORTHAMPTON	0.79
NORTHFIELD	115.58
NORWOOD	0.19
OAK BLUFFS	113.54
ORLEANS	197.25
OTIS	149.58
PELHAM	50.33
PEMBROKE	1.59
PERU	49.75
PITTSFIELD	607.38
PLAINFIELD	54.91
PLYMOUTH	771.12
PLYMPTON	86.09
PROVINCETOWN	61.13
QUINCY	2.96
RANDOLPH	0.01
READING	0.06
REVERE	0.13
RICHMOND	73.96
ROCHESTER	148.44
ROXBURY	72.75

RUSSELL	35.56
SANDISFIELD	91.42
SANDWICH	271.73
SANDWICH-PLYMOUTH	4.33
SAVOY	50.16
SCITUATE	14.42
SHARON	231.49
SHELBURNE	89.13
SHERBORN	134.64
SHUTESBURY	1.97
SOMERVILLE	226.33
SOUTH BOSTON	23.45
SOUTH HADLEY	3.16
SOUTHAMPTON	124.94
SOUTHBOROUGH	0.36
SOUTHWICK	184.68
SPRINGFIELD	815.93
STOCKBRIDGE	1.09
STONEHAM	165.67
STOUGHTON	1.68
STOW	0.18
SUDBURY	272.10
SUNDERLAND	70.51
TOLLAND	63.11
TRURO	111.33
TYRINGHAM	34.49
WAKEFIELD	0.72
WALPOLE	340.43
WALTHAM	400.73
WAREHAM	447.02
WASHINGTON	34.73
WATERTOWN	193.19
WAYLAND	218.52
WELLESLEY	0.10
WELLFLEET	146.08
WENDELL	0.18

WEST ROXBURY	409.96
WEST SPRINGFIELD	280.26
WEST TISBURY	61.18
WESTFIELD	5.24
WESTFORD	0.15
WESTHAMPTON	69.75
WESTON	203.32
WESTPORT	259.49
WESTWOOD	195.47
WHATELY	63.60
WILBRAHAM	0.52
WILMINGTON	0.01
WINCHESTER	210.61
WINDSOR	68.96
WOBURN	381.04
WORTHINGTON	78.20
YARMOUTH	553.93

	Underground Conduit
State	Circuit Length - Miles
MA	4,436.96
Town	Circuit Length - Miles
ACTON	4.14
ACUSHNET	4.52
AGAWAM	1.70
AMHERST	0.67
AQUINNAH	1.48
ARLINGTON	29.68
ASHLAND	2.55
BARNSTABLE	72.93
BECKET	0.05
BEDFORD	22.09
BELLINGHAM	1.59
BELMONT	0.71
BOSTON DOWNTOWN	417.63
BOURNE	22.30
BOURNE-PLYMOUTH	12.45
BREWSTER	26.45
BRIGHTON	187.17
BROOKLINE	149.18
BURLINGTON	34.00
CAMBRIDGE	361.39
CANTON	25.73
CARLISLE	0.04
CARVER	8.46
CHARLESTOWN	100.57
CHATHAM	10.72
CHELSEA	47.10
CHICOPEE	0.05
CHILMARK	2.59
CONCORD	3.17
DARTMOUTH	52.68
DEDHAM	26.76
DEERFIELD	2.58

DENNIS	24.24
DORCHESTER	345.97
DOVER	0.50
DUXBURY	10.67
EAST BOSTON	88.45
EASTHAM	13.47
EASTHAMPTON	1.51
EDGARTOWN	27.22
EVERETT	1.53
FAIRHAVEN	7.13
FALL RIVER	0.27
FALMOUTH	75.35
FRAMINGHAM	32.29
FREETOWN	9.99
GREENFIELD	0.80
HADLEY	0.19
HARWICH	26.26
HATFIELD	0.02
HOLLISTON	2.97
HOPKINTON	18.13
HYDE PARK	46.52
KINGSTON	21.63
LAKEVILLE	0.47
LEE	0.26
LENOX	0.08
LEVERETT	0.01
LEXINGTON	41.49
LINCOLN	1.26
LONGMEADOW	0.23
LUDLOW	3.74
MARION	3.31
MARSHFIELD	13.95
MASHPEE	48.33
MATTAPOISETT	4.33
MAYNARD	7.45
MEDFIELD	0.14

MEDFORD	0.32
MEDWAY	1.81
MILLIS	0.94
MILTON	9.60
MONTGOMERY	0.03
NATICK	25.30
NEEDHAM	30.64
NEW BEDFORD	272.68
NEWTON	85.63
NORFOLK	1.70
NORTH TISBURY	4.31
NORTHFIELD	0.03
NORWOOD	8.39
OAK BLUFFS	10.80
ORLEANS	10.97
OTIS	0.19
PEMBROKE	0.01
PITTSFIELD	0.72
PLAINFIELD	0.02
PLYMOUTH	79.41
PLYMPTON	3.28
PROVINCETOWN	3.83
READING	8.68
RICHMOND	0.30
ROCHESTER	3.90
ROXBURY	275.73
SANDISFIELD	0.07
SANDWICH	59.44
SANDWICH-PLYMOUTH	0.01
SAVOY	0.01
SCITUATE	0.00
SHARON	8.79
SHELBURNE	0.72
SHERBORN	1.68
SOMERVILLE	115.71
SOUTH BOSTON	289.38

SOUTHAMPTON	2.18
SOUTHBOROUGH	0.06
SOUTHWICK	12.33
SPRINGFIELD	1.90
STONEHAM	15.68
SUDBURY	5.93
SUNDERLAND	0.01
TRURO	11.88
WALPOLE	35.71
WALTHAM	76.60
WAREHAM	13.37
WASHINGTON	0.01
WATERTOWN	44.54
WAYLAND	2.36
WELLESLEY	23.52
WELLFLEET	13.29
WEST ROXBURY	209.76
WEST SPRINGFIELD	0.49
WEST TISBURY	6.67
WESTHAMPTON	0.03
WESTON	7.79
WESTPORT	7.43
WESTWOOD	13.79
WILMINGTON	0.02
WINCHESTER	23.97
WOBURN	51.49
YARMOUTH	27.83

MA Pole Attachment Formula

Net Investment Per Pole

A.	Total Gross Investment in Pole Plant	\$	473,551,277
B.	Accumulated Depreciation (Poles)	\$	157,618,695.33
C.	Accumulated Deferred Taxes (Poles)	\$	99,400,148
D.	Net Investment in Pole Plant	\$	216,532,434
E.	Net Investment in Appurtenance	\$	32,479,865
F.	Net Investment in Bare Pole Plant	\$	184,052,569
G.	Number of Pole Equivalents		302,659
H.	Net Investment per Bare Pole	\$	608.12

See Pg. 2, Ln. 4
See Pg. 2, (Ln. 4 / Ln. 7) * Ln. 8
See Pg. 2, (Ln. 4 / Ln. 3) * (-Ln. 10 + Sum Lns. 11 through 13)
(D) = (A) - (B) - (C)
15% Presumption
(F) = (D) - (E)
See Pg. 3, Ln. 8 - "Equivalent Poles"
(H) = (F) / (G)

Source

Carrying Charges

Administrative

I.	Administrative Expense	\$	137,045,770
J.	Total Plant in Service	\$	11,623,245,278
K.	Depreciation Reserve for Total Plant in Service	\$	3,129,569,056
L.	Accumulated Deferred Taxes	\$	2,439,761,762
M.	Net Plant in Service	\$	6,053,914,460
N.	Administrative Carrying Charge		2.264%

See Pg. 2, Ln. 15
See Pg. 2, Ln. 3
See Pg. 2, Ln. 9
See Pg. 2, (-Ln. 10 + Sum Lns. 11 through 13)
(M) = (J) - (K) - (L)
(N) = (I) / (M)

Source

Tax

O.	Normalized Tax Expense	\$	315,185,066
P.	Total Plant in Service	\$	11,623,245,278
Q.	Depreciation Reserve for Total Plant in Service	\$	3,129,569,056
R.	Accumulated Deferred Taxes	\$	2,439,761,762
S.	Net Plant in Service	\$	6,053,914,460
T.	Tax Carrying Charge		5.206%

See Pg. 2, Ln. 1
(P) = (J)
(Q) = (K)
(R) = (L)
(S) = (P) - (Q) - (R)
(T) = (O) / (S)

Maintenance

U.	Maintenance Expense	\$	86,358,602
V.	Net Investment in Poles	\$	839,584,933
W.	Maintenance Carrying Charge		10.286%

See Pg. 2, Ln. 14
See Pg. 2, (Sum Lns. 4, 5 & 6) - (Sum Lns. 4, 5 & 6 / Ln. 7 * Ln. 8) - (Sum Lns. 4, 5 & 6 / Ln. 3 * **(L)**)
(W) = (U) / (V)

Depreciation

X.	Annual Depreciation for Poles		3.05%
Y.	Gross Investment in Pole Plant	\$	473,551,277
Z.	Net Investment in Pole Plant	\$	216,532,434
AA.	Gross/Net Adjustment		2.186976188
BB.	Depreciation Carrying Charge		6.67%

(Y) = (A)
(Z) = (D)
(AA) = (Y) / (Z)
(BB) = (X) * (AA)

Return

CC.	Rate of Return		7.26%
-----	----------------	--	-------

See Pg. 4, Ln. 5 ("Weighted Average")

Allocation of Usable Space

DD.	Assumed Cable Attachment Space		1
EE.	Usable Space		13.5
FF.	Usage Factor		7.41%

(FF) = (DD) / (EE)

Pole Attachment Rate

GG.	Net Investment Per Bare Pole	\$	608.12
HH.	Total Carrying Charge		31.69%
II.	Usage Factor		7.41%
JJ.	Calculated Rate		14.27

(GG) = (H)
(HH) = (N) + (T) + (W) + (BB) + (CC)
(II) = (FF)
(JJ) = (GG) * (HH) * (II)

2019 FERC FORM 1 Data

<u>Ln.</u>	<u>Item</u>	<u>Amount</u>	<u>Reference</u>
1	Accounts 408.1 + 409.1 + 410.1 - 411.1 + 411.4	\$ 315,185,066	Pg. 114 - Col. C, Rows 14 through 19
2	Gross Plant Investment (Total Plant)	\$ 11,623,245,278	Pg. 200 - Col. B, Row 8
3	Gross Plant Investment (Total Electric Plant)	\$ 11,623,245,278	Pg. 200 - Col. C, Row 8
4	Gross Investment Account 364	\$ 473,551,277	Pg. 207 - Col. G, Row 64
5	Gross Investment Account 365	\$ 930,864,140	Pg. 207 - Col. G, Row 65
6	Gross Investment Account 369	\$ 431,736,840	Pg. 207 - Col. G, Row 69
7	Gross Plant Investment Distribution	\$ 6,571,011,540	Pg. 207 - Col. G, Row 75
8	Accumulated Depreciation Distribution	\$ 2,187,121,683	Pg. 219 - Col. B, Row 26
9	Accumulated Depreciation (Account 108 - Electric)	\$ 3,129,569,056	Pg. 219 - Col. C, Row 29
10	Account 190 (Electric) - See Note A	\$ 464,620,373	Pg. 234 - Col. C, Row 8
11	Account 281 (Electric)	\$ -	Pg. 273 - Col. K, Row 2
12	Account 282 (Electric) - See Note B	\$ 2,277,909,402	Pg. 275 - Col. K, Row 2
13	Account 283 (Electric) - See Note C	\$ 626,472,733	Pg. 277 - Col. K, Row 9
14	Account 593	\$ 86,358,602	Pg. 322 - Col. B, Row 149
15	Total Administrative & General Expenses	\$ 137,045,770	Pg. 323 - Col. B, Row 197
16	Depreciation Rate for Gross Pole Investment	3.05%	Pg. 337 - Col. E, Row 29
17			
18	Note A: Includes adjustment related to Tax Cuts & Jobs Act of \$16,661,211	TCJA totals by category (Unprotected 190 and 283 & Protected 282) can be found in footnote to Pg. 278.1 on Page 450.1. Please also see Pg. 7 - EDIT Table for more information.	
19	Note B: Includes adjustment related to Tax Cuts & Jobs Act of \$972,261,439		
20	Note C: Includes adjustment related to Tax Cuts & Jobs Act of \$115,574,195		

Account 364 Detail

Ln.

COMBINED

DESCRIPTION	TOTAL UNITS	TOTAL COST	AVERAGE COST	Solely Owned	Jointly Owned	Equivalent Poles
POLE FO <= 35FT	43,839	20,633,942		43,839		
POLE FO > 35FT	30,604	72,207,354		30,604		
POLE JO <= 35FT	219,279	43,268,999			219,279	
POLE JO > 35FT	237,152	239,478,024			237,152	
Grand Total	530,874	375,588,318		74,443	456,431	302,659

Western Massachusetts Electric Company dba Eversource Energy
ACCOUNT 364 - DECEMBER 31, 2019 BALANCES

DESCRIPTION	TOTAL UNITS	TOTAL COST	AVERAGE COST	Solely Owned	Jointly Owned	Equivalent Poles
POLE FO <= 35FT	12,900	5,808,153.21		12,900		
POLE FO > 35FT	6,906	7,642,038.27		6,906		
POLE FO > 35FT - ROW	-	-		-		
POLE JO <= 35FT	55,231	8,694,609.02			55,231	
POLE JO > 35FT	51,302	30,812,982.32			51,302	
Grand Total	126,339	52,957,783		19,806	106,533	73,073

NSTAR Electric Company dba Eversource Energy
ACCOUNT 364 - DECEMBER 31, 2019 BALANCES

DESCRIPTION	TOTAL UNITS	TOTAL COST	AVERAGE COST	Solely Owned	Jointly Owned	Equivalent Poles
POLE FO <= 35FT NSTAR	30,939	\$ 14,825,788.69		30,939		
POLE FO > 35FT	11	30,432.61		11		
POLE FO > 35FT NSTAR	23,687	64,534,882.74		23,687		
POLE JO <= 35FT NSTAR	164,048	34,574,389.63			164,048	
POLE JO > 35FT	2	973.83			2	
POLE JO > 35FT NSTAR	185,848	208,664,067.84			185,848	
Grand Total	404,535	\$ 322,630,535.34		54,637	349,898	229,586

Cost of Capital

COMBINED

<u>Ln.</u>	Capitalization	Principal	Capitalization Ratios [B]	Embedded Cost [C]	Weighted Average [B] * [C]
1					
2	Long Term Debt	2,647,975,604	45.67%	4.12%	1.880%
3	Preferred Stock	43,000,000	0.74%	2.28%	0.020%
4	Common Equity	3,106,780,024	53.59%	10.00%	5.360%
5		5,797,755,628	100.00%		7.260%

Western Massachusetts Electric Company dba Eversource Energy
Capitalization - Per Order

	Capitalization	Principal	Capitalization Ratios [B]	Embedded Cost [C]	Weighted Average [B] * [C]
12	Capitalization				
13					
14	Long Term Debt	547,975,604	45.49%	3.97%	1.810%
15	Preferred Stock	0	0.00%	0.00%	0.000%
16	Common Equity	656,686,129	54.51%	10.00%	5.450%
17		1,204,661,733	100.00%		7.260%

NSTAR Electric Company dba Eversource Energy
Capitalization - Allowed Rate Case

	Capitalization	Principal	Capitalization Ratios [B]	Embedded Cost [C]	Weighted Average [B] * [C]
24	Capitalization				
25					
26	Long Term Debt	2,100,000,000	45.72%	4.27%	1.95%
27	Preferred Stock	43,000,000	0.94%	4.56%	0.04%
28	Common Equity	2,450,093,895	53.34%	10.00%	5.33%
29	Total	4,593,093,895	100.00%		7.33%



EMA – Third Party Attachment Process

High-Level Overview of Overhead Attachment Process



Overhead Attachment Process Overview

Phase	Customer	Account Execs.	Engineering	Rights & Permitting	Construction	Pole Administration
APPLICATION	<ol style="list-style-type: none"> 1. Third party attacher customer submits application via email, or mail in via application to Account Execs 2. Attacher-specific permissions obtained prior to submitting application 3. Uses WO provided by Sales when applying for permits 	<ol style="list-style-type: none"> 1. Reviews and processes application & fee received from Third Party Attacher s 2. Initiates TPMR Work Order sub-type in Maximo 3. Provides Work Order number to Third Party Attacher 4. Sends application and documentation to engineering 	<ol style="list-style-type: none"> 1. Work Order is pre-populated with task creation for Engineering to complete make-ready walk-out <ol style="list-style-type: none"> a. CABLETV = 20 business days b. CATSRVY = 22 business days 	<ol style="list-style-type: none"> 1. Work Order is pre-populated with task creation for Rights & Permitting to perform Rights Evaluation 	<ol style="list-style-type: none"> 1. Work Order is pre-populated with task creation for Construction to complete its work. 	
ENGINEERING	<ol style="list-style-type: none"> 1. If required, submits Make-Ready payment to Account Exec. 	<ol style="list-style-type: none"> 1. Monitors CUST PAYMENT queue and sends Make-Ready Cost invoice to Third Party Attacher; completes CUST PAYMENT task when payment is received. 2. If no Make-Ready is needed, notifies PA to issue license 	<ol style="list-style-type: none"> 1. Triggered by Work Order stage in Maximo 2. Walk-out completed and concurrence with Verizon rep and third party attacher is determined whether make-ready is needed 3. Inputs make-ready results cost information into Maximo Work Order 	<ol style="list-style-type: none"> 1. Monitors Maximo RIGHTS task 2. Determines if new Rights/Permits are needed by Eversource 3. Obtains any rights needed and Completes task in Maximo 4. Cancels task if there is no Make-Ready or if additional rights are not needed. 		
CONSTRUCTION		<ol style="list-style-type: none"> 1. Manages work queue and attends planning meetings at Area Work Centers 2. Functions as advocate for Third Party Attacher 3. Informs Third Party Attacher when make-ready is complete and notifies PA to issue license 			<ol style="list-style-type: none"> 1. Triggered by Work Order stage in Maximo 2. Requires all prerequisite CUSTCOST and RIGHTS EVAL tasks to be closed 3. Construction work is scheduled and completed with AE input 4. If wiring permit is needed, the final connection is made after town inspector 	
LICENSING		<ol style="list-style-type: none"> 1. Sends completed/signed application to Third Party Attacher 				<ol style="list-style-type: none"> 1. Receives notification from Account Exec to issue license 2. Reviews pole information and completes data entry in attachment database 3. Completes/signs application and returns to Account Exec.



Account Executive – Current Processes

Key Tasks and Touchpoints

- Receives application and fee payment. Reviews for accuracy and verifies fee paid.
- Initiates Passport Work Order and processes application fee payment¹
- **Notifies** Third Party Attacher of Passport Work Order number assigned
- Sends application and other needed documentation to engineering
- **Notifies** Third Party Attacher when Make-Ready cost payment is required and sends invoice to Third Party Attacher²
- Receives Make-Ready payment and completes CUST COST task in Passport
- Processes Make-Ready fee payment and sends to billing
- Manages third party attachment work queue and attends construction planning meetings
- **Notifies** third party attachers when construction work is complete
- **Notifies** Single Pole Administrator to issue license

¹Application Fee Payment Processing

1. Account Exec completes Fee Task on Maximo Work Order
2. Maximo interface with Oracle is triggered and invoice is created
3. Invoice is sent to Account Exec
4. Account Exec then sends both the invoice and payment to billing department

²Make-Ready Cost Invoice Processing

1. Engineering inputs Make-Ready cost needed on Maximo Work Order
2. Task created for Account Exec to send invoice to customer and added to CUST PAYMENT queue
3. Maximo interface with Oracle is triggered and invoice is created
4. Invoice is sent to Account Exec
5. Account Exec sends Make-Ready cost invoice to the Third Party Attacher
6. Upon receiving payment, Account Exec completes CUST PAYMENT task on Maximo Work Order and submits payment to billing



Single Pole Administrator – Current Processes

KEY TASKS & TOUCHPOINTS

- Receives request to issues Licenses to Third Party Attachers³
- Reviews pole information and performs data entry in EMA Pole Attachment Database
- Completes application and issues license
- Performs Annual Billing and sends to billing⁴

³Issuing Licenses to Third Party Attachers

1. Receives email request from Account Exec; includes:
 - a. Work Order
 - b. Application
 - c. Form 3
2. Reviews and verifies application pole information
3. Completes data entry in EMA Pole Attachment Database
 - a. Access EMA Pole Attachment Database
 - b. Select 'New Attachment' link
 - c. Select Town, Route
 - d. Select Pole
 - e. Select Company
 - f. Select Type
 - g. Enter Application Number assigned by Third party Attacer
 - h. Carry over into Comments and include WO
 - i. Save
4. Complete missing information on application
5. Enter contact information and sign application
6. Save signed license as Carrie assigned on shared folder
7. Send copy of license to Account Exec.

⁴Annual Billing

1. Create export file in EMA Pole Attachment Database
 - a. Access EMA Pole Attachment Database
 - b. Select 'Summary By Attaching Company' link
 - c. Select Current snapshot and export to Word format
2. Transform export into company-specific back-up files
3. Send back-up files to billing for invoice generation



WMA – Third Party Attachment Process

High-Level Overview of Overhead Attachment Process



Overhead Attachment Process Overview

Phase	Customer	Pole Administration	Engineering	Engineering Rights	Construction
APPLICATION	<ol style="list-style-type: none"> 1. Third party attacher customer submits application via email, or mail in via application to Pole Administration 2. Attacher-specific permissions obtained prior to submitting application 	<ol style="list-style-type: none"> 1. Reviews and processes application & fee received from Third Party Attachers 2. Process application & Survey Fee to Billing 3. Sends application and documentation to engineering 	<ol style="list-style-type: none"> 1. Work Order is pre-populated with task creation for Engineering to complete make-ready walk-out 	<ol style="list-style-type: none"> 1. Work Order is pre-populated with task creation for Rights & Permitting to perform Rights Evaluation 	<ol style="list-style-type: none"> 1. Work Order is pre-populated with task creation for Construction to complete its work.
ENGINEERING	<ol style="list-style-type: none"> 1. If required, submits Make-Ready payment to Account Exec. 	<ol style="list-style-type: none"> 1. Monitors Maximo order status and sends Make-Ready Cost invoice to Third Party Attacher; 2. Completes Maximo task when payment is received. 3. If no Make-Ready is needed, issues license 	<ol style="list-style-type: none"> 1. Triggered by Work Order stage in Maximo 2. Walk-out completed and Concurrence is reached with Verizon rep or third party attacher to determine whether make-ready is needed 3. Inputs make-ready results cost information into Maximo Work Order 	<ol style="list-style-type: none"> 1. Monitors Maximo Rights task queue 2. Determines if new Rights/Permits are needed by Eversource 3. Obtains any rights needed and Completes task in Maximo 4. Cancels task if there is no Make-Ready or if additional rights are not needed. 	
CONSTRUCTION		<ol style="list-style-type: none"> 1. Manages work queue and attends planning meetings with Area Work Centers 2. Functions as liaison for Third Party Attacher 3. Informs Third Party Attacher when make-ready is complete and issues license 			<ol style="list-style-type: none"> 1. Triggered by Work Order stage in Maximo 2. Requires all prerequisite CUSTCOST and RIGHTS EVAL tasks to be closed 3. Construction work is scheduled and completed 4. If wiring permit is needed, the final connection is made after town inspector
LICENSING		<ol style="list-style-type: none"> 1. Receives notification to issue license 2. Reviews pole information and completes data entry in attachment database 3. Completes/signs application and issues license to Third Party Attacher 			



Pole Administration– Current Processes

Key Tasks and Touchpoints

- Receives application and fee payment. Reviews for accuracy and verifies fee paid.
- Initiates Maximo Work Order and processes application fee payment¹
- **Notifies** Third Party Attacher of Maximo Work Order number assigned
- Sends application and other needed documentation to engineering
- **Notifies** Third Party Attacher when Make-Ready cost payment is required and sends invoice to Third Party Attacher²
- Receives Make-Ready payment and completes CUST PAYMENT task in Maximo
- Process Make-Ready fee payment and sends to billing
- Manage third party attachment work queue and attends construction planning meetings
- **Notifies** Third Party Attacher when construction work is complete
- Issues License to Third Party Attachers³
- Reviews pole information and performs data entry in EMA/WMA Pole Attachment Database
- Completes application and issues license
- Performs Annual Billing and sends request for invoice to billing

¹Application Fee Payment Processing

1. Pole administration completes request to sundry for survey fee invoice
2. Invoice is created and provided via email to Pole Administration
3. Pole Administration then sends both the invoice and payment to billing depart

²Make-Ready Cost Invoice Processing

1. Engineering inputs Make-Ready cost needed on Maximo Work Order
2. Task created for Pole Administration to send invoice to customer and added to Await Customer Cost queue
3. Pole Administration requests invoice from billing department
4. Invoice is sent via email to Pole Administration
5. Pole Administration sends Make-Ready cost invoice to the Third Party Attacher
6. Upon receiving payment, Pole Administration completes CUST COST Payment task on Maximo Work Order and submits payment to billing

³Issuing Licenses to Third Party Attachers

1. Reviews and verifies application pole information
2. Completes data entry in Pole Attachment Database
3. Complete missing information on application
4. Enter contact information and sign application
5. Save signed license as name assigned on shared folder
6. Issue licenses to attachers

Form 1

APPLICATION AND POLE ATTACHMENT LICENSE

Licensee _____
Street Address _____
City, State and Zip _____
Date _____

In accordance with the terms and conditions of the Pole Attachment Agreement, application is hereby made for a license to make _____ attachments to poles and _____ Power Supply(ies) and _____ other attachments located in the municipality of _____ in the State of _____.

This request will be designated **Pole Attachment License Application Number** _____. **Attached are my power supply specifications if applicable.**
The cable's strand size is _____ and weight per foot of cable is _____.

☐ **Communication Space**

☐ **Power / Supply Space**

Licensee's Name (Print) _____

Signature _____

EVERSOURCE

Power Company

Title _____

Tel. No. _____

Fax No. _____

E-mail _____

*****For licensor use, do not write below this line*****

Pole Attachment License Application Number _____ is hereby granted to make the attachments described in this application to _____ attachments to JO¹ poles, _____ attachments to FO² poles, _____ attachments to JU³ poles, _____ Power Supplies and _____ other attachments located in the municipality of _____, in the State of _____ as indicated on the attached Form 3.

Licensor's Name (Print) _____

Signature _____

(AGREEMENT ID #)

Title _____

Date _____

The Licensee shall submit an original copy of this application to EVERSOURCE Energy.

Form 2

AUTHORIZATION FOR FIELD SURVEY WORK

Licensee: _____

In accordance with Article III & Appendix I of the Pole Attachment Agreement, following is a summary of the charges which will apply to complete a field survey covering Pole Attachment License Application Number _____ in the municipality of _____ in the State of _____.

FIELD SURVEY CHARGES

<u>Field Survey</u>	<u>#Poles</u>	<u>Unit Rate</u>	<u>Total</u>
Field Survey Application Fee (includes 1st pole)	1 pole	\$139.00	<u>\$ 139.00</u>
Field Survey 2 -200 Poles	_____	\$ <u>13.45</u> per Pole	\$ _____
Additional Travel Time*	_____	\$ <u>200.00</u> per Day	\$ _____
TOTAL Charges			\$ _____

* Based on average of 75 poles surveyed per day, add \$200.00 travel time for each additional day required to complete survey.

Please note, if you calculated the cost incorrectly, your check will be returned and a new check for the correct amount must be received by this office in order to schedule the survey. If you need assistance, please call the **HOTLINE on 800-340-9822**. The required field survey covering Pole Attachment License Application # _____ is authorized. I am enclosing an advance payment in the amount of \$ _____.

Licensee's Name (Print) _____

Signature _____

Title _____

Address _____

Tel. No. _____

Date _____

FORM 3 – EVERSOURCE ITEMIZED Pole Make-Ready Work Charges **PAGE** **OF**
RCE to Complete: Total Poles Surveyed **Total Poles Requiring NSTAR Make-Ready**

Appendix IV Form 3

FIELD SURVEY / MAKE READY WORK FORM																					
SURVEYORS:				DATE OF SURVEY:						CWO #:											
Verizon				MUNIC:			STATE:			Exch Code:		Munic Code:									
Licensee				LICENSEE NAME:						LICENSEE APPLICATION #:											
EVERSOURCE				ELCO NAME: EVERSOURCE						NSTAR APPLICATION #											
LOCATION		POLE #		ATT		OWNERSHIP						CHARGE		WORK DESCRIPTION							
TEL RTE / STREET NAME		Tel		El		F/C		J.O.		J.U.		F.O.		YES		NO		TASK #S /		* Height	
List one pole per line						P.S.		Tel		El		Tel		El						of Att.	
						Riser															
																				*	
																				*	
																				*	
																				*	
																				*	
																				*	
TOTALS:																					

- Height of Attachment = Height of Licensee Attachment shall be 40" below ELCO MGN unless otherwise noted here by Verizon and EVERSOURCE surveyor.
- Licensee to complete bold italicized areas only. (Provide ownership information if known)

Form 4

AUTHORIZATION FOR POLE MAKE-READY WORK

Licensee _____
Field survey work associated with your License Application No. _____ dated
_____, for attachment to poles, in the municipality of _____,
State of _____ has been completed. Following is a summary of the make-ready
charges which will apply:

<u>TASK #</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
Custom Work Order Preparation			
Miscellaneous			

Attached, as requested, is an itemized unit cost (Form 3) of required make-ready work and
associated charges. If you wish us to complete the required make-ready work, please sign this
copy below and return with an advance payment in the amount of \$ _____.

Licensors Name (Print) _____

Signature _____

Title _____

Address _____

Tel. No _____

Date _____

The replacements and rearrangements included in Pole Attachment License Application
No. _____ are authorized and the costs therefore will be paid to Licensors in
accordance with Appendix I to Pole Attachment License Agreement. My check is attached.

Licensee's Name (Print) _____

Signature _____ Tel. No. _____

Title _____ Date _____

Eversource MA 3PA Workflow

1. **Attacher** submits initial attachment request to Pole Administration
2. **Pole Administration** reviews the request for completeness and generates Fee documents and gets work order created from **Engineering**.
3. **Attacher** submits signed application with fee payment to **Pole Administration via mail**.
4. **Pole Administration** receives survey fee payment.
5. **Pole Administration** assigns application and requirement documents to **Engineering**.
6. **Engineering** conducts field survey in the Electric Space, concurrence w/ Joint Owner and Make Ready design estimate as needed.
 - a. No Make Ready = **License Release**
 - b. Make Ready Needed
 1. **Await Customer Payment**
 2. **Construction**
 3. **License Release**
5. **Attacher** completes installation.
6. **Post Construction** – includes audit and True-up of actual costs

Application and Survey Fee Per Pole Attachment Agreements ¹

Single Eversource and Jointly Owned Poles with Verizon

Note: 200 poles maximum per application (for personnel and system performance)

<i>Eversource WMA</i>	<i>Attacher</i>	<i>Municipality</i>
Wire <u>line</u>	\$0 Application Fee \$50 Per Pole	\$0 Application Fee \$0 Per Pole
Wire <u>less</u>	\$0 Application \$500 Per Application	N/A

<i>Eversource EMA</i>	<i>Attacher</i>	<i>Municipality</i>
Wire <u>line</u>	\$139 Per Pole 1 \$13.45 Per Pole(s) 2 -200 \$200/day Additional Travel Time ²	\$0 Application Fee \$0 Per Pole
Wire <u>less</u>	\$139 Per Pole 1	N/A

1. Estimate of costs and true-up performed after work order completion
2. Based on average of 75 poles surveyed per day, add \$200 travel time for each additional day required to complete survey

APPLICATION FOR CONDUIT LICENSE

Licensee:

Street Address:

City, State, Zip

Date:

In accordance with the terms and conditions of the Manhole and Conduit License Agreement, application is hereby made for license to occupy the manhole and conduit system in the **City of** _____ in the **state of MA**, shown on Form 2, with the cable and equipment detailed.

This request will be designated Conduit and Manhole License Application Number _____.

Licensee requests a **total of** _____ **linear feet** of _____ full duct or _____ partial duct for the placement of their cable. Determination of partial or full duct assignment is to be made by NSTAR Electric Company based on the outside diameter of the cable being placed. If the conduit is available and you wish to pursue rental, there will be make ready charges associated with the preparation and assignment of the duct.

Licensee hereby requests Licensor to provide an estimate of cost to complete the preliminary record search and manhole survey(s) to determine if this conduit is available.

Licensees Name (Print):

Signature:

Title:

Telephone No.:

Email:

*******For licensor, do not write below this line*******

Manhole/Conduit Attachment License Application Number _____ is hereby granted to make

the attachments described in this application to _____ attachments to manholes and conduits, _____

and

_____ other attachments located in the municipality of _____, in the State of

_____ as indicated on the attached form 3.

Licensor's Name (Print) _____

Signature _____

Title _____

(AGREEMENT ID #)

Date _____

Tel. No. _____

The Licensee shall submit an original copy of this application to NSTAR Electric Company

Revised 08/13/2010

APPENDIX 1
OCCUPANCY FEES AND CHARGES
Eversource Energy
Effective August 1, 2018

Conduit Occupancy Fee

Annual Conduit Occupancy Fees are as follows:

	Innerduct	Duct
Conduit		\$1.09 per foot

Conduit Record Search and Manhole Survey

	<u>#Manholes</u>	<u>Unit Rate</u>	<u>Total</u>
Record Search Application Fee	_____	* \$ <u>200.00</u>	\$ _____
Manhole Survey Fee	_____	* \$ <u>300.00</u>	\$ _____

* Make-Ready Charges and Inspection/ Survey Charges shall be calculated by the Licenser based on fully loaded costs of actual time and material.

Pursuant to Section 4.2, the maximum number of Manholes in any one application is fifty (50).

Form 3 – Manhole Access Request

Date: _____
Company: _____
Manhole and Conduit _____
Access Agreement Number: _____
Contact: _____
Phone: _____
e-mail address: _____

Certificate of Conduit and Manhole License Number: _____
Manholes to be accessed: _____

Description of work (check as appropriate and provide brief summary of work):

- | | |
|--|--|
| <input type="checkbox"/> Rod & Rope (attach follow sheet) | <input type="checkbox"/> Install Innerduct (attach follow sheet) |
| <input type="checkbox"/> Install Fiber cable (attach follow sheet) | <input type="checkbox"/> Splicing |
| <input type="checkbox"/> Move Slack | <input type="checkbox"/> Manhole Post-Install |
- _____

Crew Foreman:
Name: _____ Cell Phone: _____

Date/Time requested for manhole access: _____

To be completed by NSTAR Electric:
Manhole Access Request Number (MARN): _____
Certificate valid for access to manholes requested: YES NO
Inspector required: YES NO
Dates approved for manhole access: _____
Comments: **IN THE EVENT A RED CAUTION RIBBON IS LOCATED IN A
MANHOLE DO NOT ENTER. CONTACT NSTAR ELECTRIC FOR INSTRUCTIONS.**

Prior to entering the manhole and upon work completion the foreman is required to contact NSTAR Electric Operations at 617-xxx-xxxx for manhole entry sign-in and sign-out NSTAR Electric to provide phone number/contact information

POLE ATTACHMENT AGREEMENT

DATED _____

BETWEEN

NSTAR ELECTRIC COMPANY d/b/a EVERSOURCE ENERGY
(LICENSOR)

AND

_____ (LICENSEE)

POLE ATTACHMENT AGREEMENT

THIS AGREEMENT, made as of this day, _____, between NSTAR ELECTRIC COMPANY, d/b/a Eversource Energy, a Massachusetts corporation, having its principal office at 247 STATION DRIVE, WESTWOOD, MA 02090 (hereinafter called "Licensor") and _____ having its principal office at _____, (hereinafter called "Licensee").

RECITALS:

WHEREAS, Licensee for its own use desires to use, to place and to maintain cables, equipment, and facilities on poles of Licensor, specifically in the State/Commonwealth of Massachusetts served by Licensor; and

WHEREAS, Licensor is willing to permit, to the extent it may lawfully do so, the placement of cables, equipment, and facilities by Licensee on Licensor's poles, subject to the terms of this Agreement;

NOW, THEREFORE, in consideration of the mutual covenants, terms and conditions herein contained, the parties agree as follows:

ARTICLE I - DEFINITIONS

- 1.1 Anchor. A facility consisting of an assembly of a rod secured to a fixed object or plate designed to resist the pull of guy strand, or strands.
- 1.2 Anchor Attachment. A guy strand attached to an anchor solely owned or jointly owned by Licensor or for which Licensor is responsible for authorizing attachments.
- 1.3 Attachments. Any of Licensee's facilities in direct contact with or supported by a utility pole, and/or any article of equipment attached to a point on a pole not normally occupied by a strand attachment (e.g., power supplies, equipment, cabinets, terminals, etc.). Attachments, for purposes of this Agreement, shall not include any antenna or related equipment used for wireless telecommunication services. For billing purposes an Attachment is counted for each guy strand and cable supported by a through-bolt and for each article of equipment attached to a Utility Pole.
- 1.4 Attachment Fee. A specified amount revised periodically, billed semi-annually or annually to the Licensee.

- 1.5 Guy Strand. A metal cable of high tensile strength which is attached to a pole and anchor or another pole for the purpose of reducing pole stress.
- 1.6 Joint Owner. A person, corporation or other legal entity having an ownership interest in a pole.
- 1.7 Joint User. A party to whom the use of the pole or anchor has been extended by the owner of the facility. The term “Joint User” shall not include Licensees.
- 1.8 Licensee’s Facilities. The cable and all associated hardware owned by the Licensee.
- 1.9 Licensee’s Maintenance Work. Work performed by Licensee on its facilities and attachments for repair, replacement and daily servicing of its Facilities, not associated with any significant overlash or rebuild project.
- 1.10 Make-ready Work. All work, including, but not limited to, rearrangement and/or transfer of existing facilities, replacement of a pole, trimming of vegetation or any other changes required to accommodate the attachment of Licensee’s Facilities to a pole.
- 1.11 Overlash. The act of attaching any single strand, hardware, cable, wires and/or apparatus owned by Licensee to same Licensee’s existing strand, hardware, cable, wires and/or apparatus.
- 1.12 Periodic Inspection. Licensors’s inspection of Licensee’s facilities performed to determine that attachments are authorized and are maintained in conformance with the required specifications in Article VI of this Agreement
- 1.13 Pre-construction Survey. There are two elements of the Pre-construction Survey: 1.) field inspection of the existing pole facilities to determine any necessary Make-ready Work, and 2.) engineering and administrative effort required to process the application and to prepare the charges for Make-ready Work, if applicable.
- 1.14 Post-construction Inspection. Inspection performed to measure and/or to visually observe Licensee’s Facilities during or shortly after completion of construction, to ensure the attachment and the installation of the Licensee’s Facilities conform to the standards required by this Agreement.
- 1.15 Rebuild. Work other than Licensee’s Maintenance Work performed by Licensee to replace, add to or alter its existing attachments or facilities attached to Licensors’s poles.

- 1.16 Service Center Area. A geographical area assigned to an NSTAR Electric representative.
- 1.17 Subsequent Inspections. Inspections performed to confirm the correction of non-conforming conditions, which were observed during Periodic or Post-Construction Inspections.
- 1.18 Suspension Strand (Messenger). A metal cable of high tensile strength attached to a pole and used to support facilities.
- 1.19 Utility Pole. A pole solely owned, jointly owned, or jointly used by the Licensor and used to support its facilities and/or the facilities of an authorized Licensee.

ARTICLE II – SCOPE OF AGREEMENT

- 2.1 Subject to the provisions of this Agreement, Licensor agrees to issue to Licensee for any lawful purpose, revocable, non-exclusive licenses authorizing the attachment of Licensee's Facilities to Licensor's poles. This Agreement governs the fees, charges, terms and conditions under which Licensor will issue such licenses to Licensee. Licensee must obtain separate authorization from, and pay all applicable Fees and Charges to, each licensor and any Joint Owner or Joint User of any Utility Pole. This Agreement is not in and of itself a license, and before making any attachment to any Utility Pole, Licensee must apply for and obtain a license for specifically identified Utility Poles.
- 2.2 This Agreement supersedes all previous aerial agreements between Licensor and Licensee with respect to the subject matter contained herein. This Agreement shall govern all existing licenses between Licensee and Licensor as well as all licenses issued subsequent to execution of this Agreement.
- 2.3 No use, however extended, of Licensor's poles, or payment of any fees or charges required under this Agreement shall create or vest in Licensee any ownership or property rights in such poles. Licensee's rights herein shall be and remain a license, subject to the terms of this Agreement.
- 2.4 Nothing contained in this Agreement shall be construed to require Licensor to construct, retain, extend, place, or maintain any pole or other facilities not needed for Licensor's own service requirements.
- 2.5 Nothing contained in this Agreement shall be construed as a limitation, restriction, or prohibition against Licensor entering into agreements with other

parties regarding the poles covered by this Agreement. The rights of the Licensee hereunder shall at all times be subject to any existing agreement(s) or arrangement(s) between Licensor and any Joint Owner(s) of Licensor's poles, to the extent applicable.

- 2.6 Nothing contained in this Agreement shall be construed to require Licensor to grant a license where Licensor believes that placement of Licensee's Facilities would interfere with Licensor's existing or reasonably foreseeable service requirements, or the existing use of Licensor's facilities by other parties or create a hazardous or unsafe condition.
- 2.7 Licensor makes no representation or warranty, express or implied, as to the present or future strength, condition or state of repair of any poles, wires, hardware, equipment or apparatus. Licensor hereby disclaims any and all express or implied warranties or guarantees regarding Licensor's facilities, engineering, workmanship, or rights of way, including, without limitation ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Any use of Licensor's facilities by Licensee, its agents and contractors and their respective employees shall be at the sole risk of Licensee, its agents and contractors.
- 2.8 Licensee acknowledges that Licensee's ability (and Licensor's consent hereunder) to perform the work of installing and maintaining Licensee's Attachments through Licensee's contractors may be contested or challenged. Licensor shall have no liability to Licensee hereunder if a court, governmental agency or arbitral body makes an adverse ruling on this issue. Licensee shall indemnify, defend and hold harmless Licensor from and against any claims, costs, fees or liability whatsoever (including any retroactive pay or similar award) incurred by Licensor as a result of any contest or challenge to Licensee's performance of the work in question, any adverse determination or Licensee's failure to abide by any such adverse determination, or Licensee's challenge thereof by appropriate proceedings. The prosecution of any appeal from any such adverse determination shall be at the sole discretion of Licensor; and shall also be subject to the foregoing indemnity and hold harmless provisions.

ARTICLE III – FEES AND CHARGES

3.1 General

3.1.1 Licensee agrees to pay to Licensor the applicable Attachment Fees and Charges as specified in and in accordance with the terms and conditions of subpart 3.2 of this Agreement and of APPENDIX I, attached hereto and made a part hereof.

3.1.2 The Licensor may change the amount of Attachment Fees and Charges specified in APPENDIX I by giving the Licensee not less than sixty (60) days written notice prior to the date the change is to become effective. Notwithstanding any other provision of this Agreement, Licensee may terminate this Agreement at the end of such sixty (60) day notice period if the change in Fees and Charges is not acceptable to Licensee.

In order to terminate in this circumstance, the Licensee must give Licensor written notice of its election to terminate this Agreement at least thirty (30) days prior to the end of such sixty (60) day notice period, or such other period as the parties may agree in writing. Licensee shall thereafter remove its Facilities and Attachments in accordance with the process set forth in Article X, subpart 10.3 of this Agreement.

3.1.3 Changes in the amount of Attachment Fees and Charges specified in APPENDIX I shall become effective on the date specified by Licensor, subject to the sixty (60) day advance written notice. The changes shall be presumed acceptable unless at least thirty (30) days prior to the end of the sixty (60) day notice period Licensee advises Licensor in writing that the changes are unacceptable and, in addition, submits the issue to the regulatory body asserting jurisdiction over this Agreement for decision. Licensee shall pay the existing Attachment Fees and Charges during the time that the issue is being reviewed by said regulatory body, subject to true-up based on the final determination of rates by said regulatory body, plus any interest prescribed by said regulatory body.

3.1.4 Licensor shall provide licensee with an updated APPENDIX I following the effective date of the new Attachment Fees and Charges.

3.2 Attachment Fees

3.2.1 Licensees shall pay an Attachment Fee for each attachment made to Licensor's Utility Poles. For the purpose of computing the Attachment Fees due hereunder, the Fee shall be based upon the number of Attachments for which licenses have been issued under this Agreement, subject to Licensor's rights of inspection and audit provided in this Agreement.

- 3.2.2 Attachment Fees are calculated from the first day of the month following the date a license is issued. Fees shall be payable semi-annually or annually in advance, unless otherwise provided. Payment is due within the later of thirty (30) days from the first day of January and the first day of July, or thirty (30) days from the date the bill is issued.

3.3 Pre-construction Survey, Make-ready Work and Inspection Charges

- 3.3.1 Licensee shall calculate and pay to Licensor the applicable Pre-construction Survey Charge with its License Application. The License Application forms are set forth in APPENDIX IV, attached hereto and made a part hereof. The Pre-construction Survey Charge shall be calculated based on the rates and formulas set forth in APPENDIX I.
- 3.3.2 Licensee shall make an advance payment of the applicable Charges to Licensor prior to any performance by Licensor of any Pre-construction Survey, Make-ready Work, Post-construction Inspection or Subsequent Inspection. Charges will be based on an estimate of charges. For any Charges based on an estimate, the Licensee shall be credited for any amount paid in excess of the Licensor's estimated Charges, or shall be billed for any amount in addition to Licensor's estimated Charges, as compared to the actual Charges as finally computed.
- 3.3.3 Licensee shall make payment to the Licensor within thirty (30) days following the invoice date for Periodic Inspections according to subpart 3.3.4 of this Agreement.
- 3.3.4 Pre-construction Survey, Make-ready Work, and Inspection (Post-construction Inspection, Periodic Inspection and Subsequent Inspection)
All charges for Pre-Construction Survey, Inspections, Make-ready Work, removal of Licensee's facilities from Licensor's poles and any other work performed for Licensee shall be based upon the full cost and expense to Licensor of such work or for having such work performed by an authorized representative. Any federal, state or local taxes incurred on Licensor's receipt of these costs from Licensee will be added to Licensee's cost on a grossed up-basis.

3.4 Payment Requirements

- 3.4.1 For any bill rendered by Licensor to Licensee hereunder, except where advance payment is required, payment is due within thirty (30) days from the date of the bill. Late payment of any bill is subject to a late fee of 1.5% per month applied to the outstanding balance from the due date of the bill. Licensor, at its sole discretion, may change this late fee from time to time during the term of this Agreement to reflect prevailing market conditions.
- 3.4.2 Non-payment of any amount due hereunder shall constitute a default of this Agreement, and subject this Agreement to termination under the provisions of Article X.
- 3.4.3 For any bill rendered by Licensor to Licensee for advance payment of Pre-construction Survey Charges or Make-ready Work Charges, hereunder, payment shall be made within thirty (30) days of the bill date. If such advance payment is not received within thirty (30) days, Licensor shall have the right to issue a letter of cancellation no sooner than fifteen (15) days thereafter, which will cancel the Licensee's application for the license. Thereafter, if Licensee wishes to proceed, Licensee shall be required to submit a new application for a license, as if it had never submitted the initial application.

3.5 Billing Disputes

- 3.5.1 Where Licensee in good faith disputes a bill or invoice rendered by Licensor, Licensee shall make payment of all portions of said bill or invoice not in dispute as provided in Article III. Where the cumulative amount of all of Licensee's bills or portions(s) of bills in dispute is in excess of \$10,000.00, Licensee shall deposit said cumulative disputed amounts in an interest-bearing escrow account until such time as the disputes are resolved. The disputed amount deposited together with the proportional interest, shall be distributed immediately to Licensor and/or Licensee in accordance with and upon resolution of the dispute. Where the cumulative amount of all of Licensee's bills or portions of bills in dispute are less than or equal to \$10,000.00, Licensee shall make payment to Licensor and shall be rebated an appropriate amount (including interest computed at the prime rate at a bank mutually agreed to by the parties) based on the resolution of the dispute.
- 3.5.2 Where Licensee fails to pay an amount due and owing under this Agreement (including amounts in dispute that are less than or equal to \$10,000) or fails to establish an escrow account for disputed amounts

more than \$10,000, or fails to invoke the dispute-resolution procedures set forth in subpart 15.10 of this Agreement within six (6) months of the establishment of amounts disputed in good faith, in addition to all other remedies available to Licensor including termination under provisions of Article X of this Agreement, Licensor may refuse to perform any Survey, Inspection or Make-ready Work for Licensee and may refuse to issue any license to Licensee until such time as the amount is paid or is deposited in an escrow account.

- 3.5.3 Notwithstanding any other provision of the Agreement, failure of Licensor to provide an annual bill for License Fees shall not excuse Licensee's obligation to make payment for License Fees as and when due.
- 3.5.4 If the presence of the Licensee on Licensor's poles causes Licensor to be liable for the payment of any new or additional tax, fee, charge or imposition by any governmental authority, which the Licensor would not otherwise be obligated to pay, then Licensee shall reimburse Licensor to the full extent of any such new or additional tax, fee, charge or imposition, upon demand and submittal of a bill therefore by Licensor.

ARTICLE IV - APPLICATION FOR AND ISSUANCE OF LICENSES

- 4.1 Before Licensee makes an Attachment to any pole, Licensee shall make application for and have received a license therefor in the forms attached in APPENDIX IV. Licensor may update these forms from time to time during the term of the Agreement and agrees to provide Licensee prompt notice of such update.
- 4.2 Licensee agrees to limit the filing of applications for pole attachment licenses to include not more than 200 poles on any one application. Licensor reserves the right to limit the filing for pole attachments to no more than 1,000 poles per service center on all applications that are pending approval by Licensor at any one time. Licensee further agrees to designate a desired priority of completion of the Pre-construction Survey and Make-ready Work for each application relative to all other of its applications on file with Licensor at the same time.
- 4.3 Properly completed license applications received by Licensor on the same day from two or more licensees for attachment accommodations on the same pole(s), shall be processed together. All Pre-construction Survey or Make-ready Work required to accommodate the applicants will be completed simultaneously for the benefit of all applicants. All applicants will be rebated with the pro rata share of costs based on the number of applicants.

ARTICLE V – PRE-CONSTRUCTION SURVEY and MAKE-READY WORK

- 5.1 A Pre-construction Survey is required for each Utility Pole for which an Attachment is requested to determine the adequacy of the pole to accommodate Licensee's Attachments and Facilities. The Pre-construction Survey will be performed jointly by representatives of Licensor and Licensee, unless otherwise agreed to by all parties.
- 5.2 Licensor will process all requests for access to poles on a non-discriminatory basis in the order such requests are received.
- 5.3 Within forty-five (45) days of receipt of written notification in the form of a complete license application and the correct Survey Fee payment, Licensor shall perform or have performed a Pre-construction Survey and present the Survey results. The Survey results will contain one of the following statements:
1. If no Make-ready Work is required, a license shall be issued for the Attachment.
 2. If Licensor determines that the pole to which Licensee desires to make Attachments is inadequate or otherwise needs rearrangement of the existing facilities thereon to accommodate the Licensee's Facilities, in accordance with the specifications set forth in Article VI, Licensor will provide Licensee with an itemized invoice for such anticipated Make-ready Work. The Make-ready Work will be performed following receipt by Licensor of advance payment, but not before a Pole Attachment Agreement has been fully executed by both the Licensee and Licensor. Upon receipt of the advance payment, Licensor will provide the Licensee with the estimated start and estimated construction completion date of the Make-ready Work.
 3. If Licensor determines that the pole may not reasonably be rearranged or replaced to accommodate Licensee's Facilities for reasons of capacity, safety, reliability or engineering practices, the Licensor may refuse to grant a license for attachment. Licensor shall provide the specific reason(s) for such denial. Licensor shall not unreasonably exercise the right reserved hereunder.
- 5.4 Actual completion of Make-Ready Work by Licensor will depend on completion of all required Make-Ready Work by Licensee, other Joint Users or Joint Owners that must be completed prior to Licensor's performance of its Make-Ready Work. In performing all Make-Ready Work to accommodate Licensee's Attachments, Licensor will endeavor to include such work in its normal workload schedule.

- 5.5 To the extent practicable, Licensor shall provide Licensee, no less than sixty (60) days prior written notice of any modification of poles (such as pole replacement or relocation) other than routine maintenance, or modifications in response to emergencies, or to a request from a governmental authority.

ARTICLE VI - SPECIFICATIONS AND LEGAL REQUIREMENTS

- 6.1 Licensee's Facilities shall be placed and maintained in accordance with the requirements and specifications of the latest editions of the following standards: (a) "Blue Book - Manual of Construction Procedures" (Blue Book), published by Telcordia Technologies Inc.; (b) the "National Electrical Code" (NEC), published by the National Fire Protection Association, Inc.; (c) the "National Electrical Safety Code" (NESC), published by the Institute of Electrical and Electronics Engineers, Inc.; and (d) rules and regulations of the U.S. Department of Labor issued pursuant to the "Federal Occupational Safety and Health Act of 1970", as amended (OSHA) or any governing authority having jurisdiction over the subject matter. Where a difference in requirements or specifications may exist, then, unless Licensor specifies otherwise, the more stringent shall apply.
- 6.2 Licensee shall be responsible for obtaining from the appropriate public and/or private authority any required authorization to construct, operate and/or maintain Licensee's Facilities on public and private property at the location of Licensor's poles. Licensee shall be responsible for obtaining permission from any Joint Owner(s) of the pole before making any attachment thereto. This permission shall be in the form of a license or other writing. Prior to the commencement of any attachment work by Licensee in a particular municipality, Licensee shall provide to Licensor a copy of the permits, licenses or authorizations obtained by Licensee for such Attachments from the applicable municipal authority having jurisdiction over the installation of Attachments on Utility Poles in the public ways of such municipality. In addition, in the event any municipality imposes additional fees, charges or operational requirements on Licensor as a result of, or in connection with Licensee's Attachments, Licensor shall notify Licensee of the same and shall have the right to require additional compensation from Licensee equal to the amount of such additional fees, charges or the cost to Licensor of compliance with such additional operational requirements. Licensor shall reasonably cooperate with Licensee if Licensee elects to challenge the legality or amount of such additional fees, charges or operational requirements. In the event that Licensee fails to comply with applicable legal requirements regarding the installation or relocation of its Attachments and such failure results in the imposition of any fines, penalties or other liability being imposed upon and paid by Licensor, Licensee shall reimburse Licensor. Notwithstanding anything to the contrary herein contained, Licensor agrees that, if a Joint Owner challenges any provision of this Agreement, Licensor will cooperate with Licensee and enter into good faith negotiations with Licensee and such Joint Owner to resolve any such dispute, but shall not be required to issue any new licenses during such negotiations. During the pendency of any such good faith negotiations, Licensor agrees that it shall not have the right to terminate this Agreement on the basis that

Licensee appears not to have obtained permission from any such Joint Owner for attachments to poles which are the subject matter of this Agreement.

- 6.3 No license granted under this Agreement shall extend to any of the Licensor's poles where the placement of Licensee's Facilities would result in a forfeiture of the rights of Licensor or any Joint Owner(s), to occupy the property on which such poles are located. If placement of Licensee's Facilities would result in a forfeiture of the rights of Licensor or any Joint Owner(s) to occupy such property, Licensee agrees to remove its Attachments forthwith; and Licensee agrees to pay Licensor and any Joint Owner(s) all losses, damages and costs incurred as a result thereof.

ARTICLE VII - CONSTRUCTION AND MAINTENANCE OF ATTACHMENTS

7.1 General Provisions

- 7.1.1 Licensee shall, at its own expense, construct and maintain its Attachments and Facilities on Licensor's poles in a safe condition and in a manner acceptable to Licensor. Licensee shall construct and maintain its Attachments and Facilities so as not to conflict with the use of Licensor's poles by Licensor or by other authorized users of Licensor's poles, nor electrically interfere with Licensor's facilities attached thereto.
- 7.1.2 Licensor shall specify the point of attachment on each of Licensor's poles to be occupied by licensee's Attachment. Where multiple Licensees' attachments are involved, Licensor shall attempt, to the extent practical, to designate the same relative position on each pole for each Licensee's attachments.
- 7.1.3 Licensee shall provide written notice to the Licensor of the actual dates of attachment within thirty (30) days of the date of attachment so that Licensor may promptly schedule a Post-construction Inspection. The written notice shall be accompanied by a completed form, signed on behalf the Licensor, indicating, for each pole, the distance between Licensee's attachments and Licensor's facilities (specifically, the distance to the primary and secondary electric wires). Licensor shall provide Licensee with such form.
- 7.1.4 Licensee shall have resources available to move, transfer or temporarily relocate Licensee's Facilities as necessary to support Licensor's completion of both planned and emergent work. Requests for planned assistance shall be staffed within 48 hours. Requests for emergent assistance shall be staffed as soon as possible. Licensee shall provide a 24 hour contact phone number for assistance requests. If Licensee fails to respond, Licensor shall utilize other resources to complete necessary work and Licensee shall reimburse Licensor for costs incurred.

- 7.1.5 Should Licensor or any Joint Owner(s), or other Licensee need to attach additional facilities to any of Licensor's poles to which Licensee is attached, Licensee will either rearrange its Attachments on the pole or transfer them to a replacement pole, as determined by Licensor, so that the additional facilities of Licensor, Joint Owner(s) or other Licensee may be attached. Where such re-arrangement is required to permit Licensor to install primary electric wire on a secondary-only pole, the Licensee shall be responsible for the cost of rearrangement of Licensee's Facilities.
- 7.1.6 If Licensee does not rearrange or transfer its Attachments within fifteen (15) days after notification (which may be effected through the use of a computerized pole attachment tracking system used by multiple companies, commonly referred to as "NJUNS") or receipt of written notice from Licensor requesting such rearrangement or transfer and indicating that such pole is ready for rearrangement or transfer by Licensee, Licensor may perform or have performed such rearrangement or transfer, and, notwithstanding the provisions of subpart 7.1.7, Licensee agrees to pay the cost thereof.
- 7.1.7 Licensee shall not be required to bear any of the costs of rearranging or replacing its Attachment if such rearrangement or replacement is necessitated solely as a result of an additional attachment or modification of an existing attachment sought by another party (excluding the Licensor) and should be paid for any work it performs to accommodate such request. Where multiple parties join in a modification, each party's proportionate share of the total cost will be based on a ratio of the amount of new space occupied by that party to the total amount of new space occupied by all parties joining in the modification. Licensor shall not be required to use revenue that may result from the use of any additional space resulting from such replacement or rearrangement to compensate parties that paid for the modification.
- 7.1.8 Licensor retains the right to temporarily move or transfer Licensee's Facilities as necessary to maintain its own infrastructure. Licensor will be compensated by Licensee for all costs associated with the need to temporarily move or transfer Licensee's Facilities in order to maintain Licensor's infrastructure.
- 7.1.9 Unless otherwise governed by law, all tree trimming made necessary, in the opinion of the Licensor, by reason of the Licensee's proposed Attachments at the time of attachment, provided the owner(s) of such trees grant permission to the Licensor, shall be performed by contractors approved by and under the direction of Licensor, at the sole expense of the Licensee.
- 7.1.10 In the event that a Utility Pole to which an Attachment has been made needs to be replaced with a new Utility Pole for any reason, Licensee

agrees to act promptly in relocating its facilities to the new Utility Pole, but in no event later than fifteen (15) business days after NJUNS notification that the new pole has been set by the Licensor or joint owner of the Utility Pole and Licensee may proceed to relocate its facilities to the new Utility Pole. If Licensee fails to timely relocate its Facilities, Licensor shall have the right (a) to effect such relocation, at Licensee's sole risk, cost and expense, and without liability or recourse to Licensee, except for negligence or willful misconduct, and (b) to charge Licensee for any fines, penalties or charges incurred by Licensor or Joint Owner of the pole to any third party, including, without limitation, any municipality or agency thereof, or other attacher to the pole, as a direct or indirect result of such failure of Licensee to relocate its Attachments in a timely manner. The foregoing obligations of Licensee under (a) and (b) above shall not apply where Licensor requires that Licensor's employees perform the relocation of Licensee's facilities to a new Utility Pole and Licensor controls the performance of such relocation work. Licensee shall demonstrate on an annual basis that it has sufficient resources or contracts in place to relocate its facilities to new poles as needed.

- 7.1.11 Tree trimming needed as a result of adverse weather conditions such as wind, snow or ice storms, shall be performed by Licensor or its approved contractors. Since such tree trimming benefits Licensor, Licensee and other parties that may be lawfully attached to Licensor's poles, Licensee agrees to negotiate in good faith with the Licensor, on a case-by-case basis, to establish an appropriate sharing of costs associated with the tree trimming projects.
- 7.1.12 For each new Licensee Facility attached by Licensee to Licensor's poles on or after the date of execution of this Agreement, Licensee shall place identification tags on cables located on poles and identification apparatus tags on any associated items of Licensee's Facilities. The requirements for identification tags are set forth in the Blue Book.
- 7.1.13 When Licensor deems it an immediate threat to safety and/or an emergency exists, it may rearrange, transfer, or remove Licensee's Attachments to Licensor's poles at Licensee's expense. Licensor shall make reasonable efforts to contact Licensee as circumstances permit.

7.2 Licensee's Maintenance Work, Overlash, Rebuild Work and Placement of Power Supplies

- 7.2.1 Licensee shall work cooperatively with Licensor when performing routine Licensee's Maintenance Work on its facilities and/or attachments. Cooperative practices shall include a system of notification by phone, facsimile, answering system, email, or otherwise for scheduling purposes. Any work, which involves six or fewer adjacent spans, shall be presumed

to be routine Licensee's Maintenance Work. Significant simultaneous maintenance activity within a geographic area may be deemed by Licensors to be Rebuild activity.

- 7.2.2 Prior to commencing Rebuild activity, Licensee must first submit scope of Rebuild work information to Licensors for Licensors's review in its sole reasonable discretion and Licensee must receive prior written approval from Licensors before commencing any Rebuild work. In some cases, particularly where Make-ready work or multiple attachments are required by the Licensee, Licensors may require Licensee to submit a new license application for some or all of the poles involved in the Rebuild activity.
- 7.2.3 Licensee must follow Licensors's established policy and procedure for attaching power supplies to Licensors's Utility Poles as described in the Eversource Energy "Information and Requirements for Electric Supply Below 600 Volts" publication.
- 7.2.4 Licensee may Overlash its Attachments provided that (1) the attachment has been previously licensed; (2) the resulting messenger supported bundle shall not contain more than five (5) cables; (3) the sum of the diameters of the five cables shall not exceed three and one quarter (3.25) inches; and (4) the maximum resulting bundle tension under National Electric Safety Code heavy loading conditions, shall not exceed two thousand (2,000) pounds. Licensee shall not place an Overlash that fails to meet any of these four conditions unless and until Licensee first submits information to Licensors for Licensors's review in its sole reasonable discretion, and Licensee receives prior written approval from Licensors.

ARTICLE VIII - INSPECTION OF LICENSEE'S FACILITIES

- 8.1 The Licensors reserves the right to make Post-construction, Subsequent, and Periodic Inspections of any part or all of Licensee's Facilities attached to Licensors's poles. Licensors shall provide Licensee with a copy of any written report of such inspection within ninety (90) days following the inspection.
- 8.2 Where Post-construction Inspection by the Licensors has been completed and non-complying conditions have been identified, Licensee shall correct any non-complying conditions within thirty (30) days of the date of the written notice from the Licensors. If after said 30-day period Licensee has not corrected all such non-complying conditions, Licensors may notify Licensee that if all such non-complying conditions are not corrected within an additional 30-day period, no further attachment authorizations shall be issued to Licensee until Licensee's Facilities are brought into compliance. Licensee shall certify in writing compliance with the applicable construction standard for specified poles to which attachments have been made. If corrections are not made by Licensee within 30 days from the second notification by Licensors, the Licensors may perform or have

performed such corrections and Licensee shall pay to the Licensor the cost of performing such work. Licensor shall have the right (but not the obligation) to conduct post-construction inspections of all Utility Poles to which Licensee's Attachments have been made. Such inspection shall be conducted within ninety (90) days after Licensor has been notified by Licensee that its installation is complete.

- 8.3 Licensor may undertake Subsequent Inspections to determine if appropriate corrective action has been taken by Licensee. If the Subsequent Inspection finds continued non-complying conditions, Licensor may perform or have performed corrective action at the sole expense of the Licensee, or Licensor may terminate the license pursuant to Article X.
- 8.5 The making of Post-construction, Subsequent and/or Periodic Inspections or the failure to do so shall not operate to relieve Licensee of any responsibility, obligation, or liability specified in this Agreement.
- 8.6 Licensor reserves the right to make Periodic Inspections of all or any part of the Licensee's Attachments or Facilities at the expense of Licensee, upon sixty (60) days written notice to the Licensee. Periodic Inspections of the entire plant of the Licensee will not be made more often than once every five (5) years unless, in Licensor's judgment, such inspections are required for reasons involving safety, or because of an alleged violation by Licensee of the terms of this Agreement.
- 8.7 In addition to the provisions of Section 8.6 above, Licensee shall pay to Licensor in advance of any Periodic Inspection the estimated cost of such inspection. Following the completion of the inspection, Licensor shall reconcile the actual costs incurred in the inspection with the estimated payment and provide such reconciliation to Licensee, with reasonable supporting detail. Licensee shall pay any deficiency resulting from such reconciliation, and Licensor shall refund to Licensee any over-collection resulting from such reconciliation within thirty (30) days of submittal of the reconciliation. No interest shall be applied to either deficiency or over-collection, if payment is made within the thirty-day period.
- 8.8 Each party shall, upon written request from the other party, provide access to its Utility Pole Attachment records for purposes of enabling the requesting party to verify (a) the location, type and nature of its Attachments and (b) billing, payment and maintenance history.

ARTICLE IX - UNAUTHORIZED ATTACHMENTS

- 9.1 If any of Licensee's Facilities are attached to Licensor's poles without being licensed, Licensor, may recover fees as specified in subpart 9.2, without prejudice to its other rights or remedies under this Agreement, including termination, or otherwise, and require Licensee to submit in writing, within thirty (30) days after

receipt of written notification from Licensor of the unauthorized attachment, a pole attachment application. If such application is not received within the specified time period, Licensee shall remove its unauthorized Attachments within thirty (30) days of the final date for submitting the required application, or Licensor may remove Licensee's attachments or facilities without liability at the Licensee's expense.

- 9.2 Upon discovery of an unauthorized Attachment, Licensee agrees to pay an amount equal to five (5) times the current applicable annual Attachment Fee specified in APPENDIX I, multiplied by the number of unauthorized Attachments. That unauthorized attachment charge shall be in addition to all other amounts due and owing to Licensor under this Agreement.

ARTICLE X – TERMINATION

10.1 60-Day Termination

In addition to rights of termination provided to the Licensor under other provisions of this Agreement, and except as expressly provided otherwise herein, the Licensor shall have the right to terminate Licensee's license granted under provisions of this Agreement where:

- (a) the Licensee's Facilities are maintained or used in violation of any law or in aid of an unlawful act or undertaking;
- (b) the Licensee ceases to have authority to construct and operate its facilities on public or private property at the location of the particular pole covered by the authorization;
- (c) the Licensee fails to comply with any of the terms and conditions of this Agreement or defaults in any of its obligations thereunder;
- (d) the Licensee attaches to a utility pole without having first been issued authorization therefore;
- (e) the Licensee, subject to provisions specified in Article II, ceases to provide its services;
- (f) the Licensee sublets or apportions part of the licensed assigned space or otherwise permits its assigned space to be used by an entity or an affiliate not a party to this Agreement.
- (g) except in circumstances in which Licensor has accepted evidence of self-insurance in accordance with Article XIV, the Licensee's insurance carrier shall at any time notify the Licensor that the

policy or policies of insurance as required in Article XIV will be or have been cancelled or amended so that those requirements will no longer be satisfied;

- (h) the Licensee shall fail to pay any sum due under Article III or to deposit any sum required under this Agreement, or shall fail to maintain satisfactory surety as required in Article XII;
- (i) any authorization that may be required by any governmental or private authority for the construction, operation and maintenance of the Licensee's Facilities on a pole is denied, revoked or cancelled and is not reissued or reinstated within thirty (30) days after such cancelation or revocation.

10.1.1 The Licensor will notify the Licensee in writing of any instances cited in this subpart. The Licensee shall take corrective action as necessary to eliminate the non-compliance and shall confirm in writing to the Licensor within sixty (60) days following such written notice that the non-compliance has ceased or been corrected. If Licensee fails to discontinue or correct non-compliance and fails to give the required written confirmation to the Licensor within the time stated above, the Licensor may terminate the license(s), authorization and/or rights granted hereunder for the poles at which such non-compliance has occurred.

10.2 General

10.2.1 In the event of termination of any of the Licensee's licenses, authorization and/or rights hereunder, the Licensee, at Licensor's option and direction, shall remove its Facilities from the poles within sixty (60) days of the effective date of the termination; provided, however, that Licensee shall be liable for and pay all fees and charges pursuant to provisions of this Agreement to the Licensor until Licensee's Facilities are actually removed from the Utility Pole(s). If the Licensee is so directed by Licensor to remove its Facilities and fails to remove its Facilities within the specified period, the Licensor shall have the right to remove such facilities at the Licensee's expense and without liability on the part of the Licensor for damage or injury to such facilities or interruption of Licensee services.

10.2.2 When Licensee's Facilities are removed from a pole, no Attachment to the same pole shall be made until the Licensee has first complied with all of the provisions of this Agreement, as though no such Attachment had been made previously, and all outstanding charges due to the Licensor for such Attachment have been paid in full.

10.2.3 Any license issued under this Agreement shall automatically terminate when Licensee ceases to have authority to construct, operate and/or maintain its Attachments on the public or private property at the location

of the particular pole covered by the license. Such automatic termination shall be stayed if the Licensee has sought judicial or regulatory review of the decision that: (1) has acted to terminate such authority or (2) has declared that the Licensee lacks such authority.

10.3 Licensee's Removal of Attachments

10.3.1 Licensee may at any time remove its Attachments from a pole after first giving Licensor written notice of such removal. Licensor shall verify removal and send a written confirmation within thirty (30) days. Billing for the attachment shall cease as of the last day of the month in which verification occurs

10.3.2 Following such removal, no Attachment shall again be made to such pole until Licensee shall have complied first with all of the provisions of this Agreement as though no such Attachment had been made previously and all outstanding charges due to the Licensor for such Attachment have been paid in full.

ARTICLE XI - ASSIGNMENT OF RIGHTS

11.1 Licensee shall not assign or transfer any license or any authorization granted under this Agreement, and such licenses and authorizations shall not inure to the benefit of Licensee's successors or assigns, without the prior written consent of Licensor, which shall be in the form of an assignment agreement satisfactory to the Licensor. Licensor shall not unreasonably withhold, condition, or delay such consent.

11.2 In the event such consent or consents are granted by Licensor, then the provisions of this Agreement shall apply to and bind the successors and assigns of Licensee. Licensee may, however, assign this Agreement without Licensor's consent to an entity controlling, controlled by, or under common control with Licensee or to an entity acquiring fifty-one percent (51%) or more of Licensee's stock or assets provided that any such assignment shall be subject to the assignee's being capable of assuming all of the obligations of Licensee hereunder. Any such assignment shall impose no obligations upon or be effective against Licensor, and Licensor shall have no liability to any assignee of such assignment, until Licensor has received prior notice of any such assignment. Licensee may also assign this Agreement, without Licensor's consent and without prior notice to Licensor, to an institutional mortgagee or lender providing financing to Licensee with respect to Licensee's Facilities in the event such institutional mortgagee or lender exercises its foreclosure right against Licensee and operates the Licensee's Facilities; provided such institutional mortgagee or lender is capable of assuming all of the obligations of the Licensee hereunder and further provided that such assignment shall not be effective against Licensor unless and until written notice of such

assignment and exercise of rights is provided to Licensor. Anything herein to the contrary notwithstanding, Licensee shall not be relieved of any of its obligations hereunder without Licensor's prior written consent.

- 11.3 All notice of such assignments shall include any change to the notice address under this Agreement. Within thirty (30) days of the assignment, Licensor and assignee shall execute an assignment agreement.
- 11.4 No assignment of rights under the Agreement shall be effective unless and until Licensor shall have received from the proposed assignee a written assumption of all of the obligations of Licensee under this Agreement.

ARTICLE XII - SURETY REQUIREMENTS

- 12.1 Licensee shall furnish either a Surety Bond or irrevocable Letter of Credit at Licensee's option, satisfactory to the Licensor according to the following criteria:

Poles	Security
1 – 50	\$10,000
51 – 500	\$75,000
501 – 2000	\$300,000
2001 – 3000	\$450,000
3,000 +	\$500,000 minimum

- 12.2 If the financial security is in the form of a bond, irrevocable Letter of Credit, or other security as deemed acceptable by Licensor, such instrument shall be issued by a nationally recognized and rated surety company or bank that is acceptable to the Licensor and said surety company and/or bank shall guarantee Licensee's obligations under this Agreement. The Licensee is obligated to maintain the security in the full amount for the terms of this Agreement.
- 12.3 The amount of the bond or the financial security shall not operate as a limitation upon the obligations or liabilities of the Licensee.
- 12.4 Licensee shall require the issuer of a bond, irrevocable Letter of Credit, or other security, to include, as a provision of a bond, irrevocable Letter of Credit, or other security, the obligation of such issuer to provide Licensor with written notice of the issuer's decision not to renew, or decision to cancel, the bond, irrevocable Letter of Credit, or other security at least sixty (60) days prior to the effective date of any such decision. Licensee shall, within forty-five (45) days from the date of any such notice, replace the bond, irrevocable Letter of Credit, or other security with another that satisfies the requirements

ARTICLE XIII - LIABILITY AND DAMAGES

- 13.1 Licensor reserves to itself, its successors and assigns, the right to locate and maintain its poles and to operate its facilities in conjunction therewith in such a manner as will best enable it to fulfill its own service requirements, in compliance with its rates and tariffs and normal operating procedures. Licensor shall not be liable to Licensee for any interruption of Licensee's service, nor for interference with the operation of Licensee's communications services arising in any manner, except from Licensor's negligence, out of the use of Licensor's poles.
- 13.2 Licensor shall exercise reasonable care to avoid damaging the facilities of Licensee attached to poles under this Agreement and shall make an immediate report to Licensee of the occurrence of any such damage caused by Licensor's employees, agents or contractors. Licensor agrees to reimburse Licensee for all reasonable costs incurred by Licensee for the physical repair of damage to such Licensee's facilities proximately caused by the negligence of Licensor; however, Licensor shall not be liable to Licensee for any loss of Licensee's revenue or profits resulting from any interruption of Licensee's service caused by such damage or interference with the operation of Licensee's Facilities caused by such damage.
- 13.3 Licensee shall exercise reasonable care to avoid damaging the facilities of Licensor and of others attached to Licensor's poles and shall make an immediate report of damage to the owner of facilities so damaged. Licensee assumes all responsibility for any and all direct loss from damage caused by Licensee's employees, agents or contractors; however, Licensee shall not be liable to Licensor for any loss of Licensor's revenue or profits resulting from any interruption of Licensor's service caused by such damage or interference with the operation of Licensor's facilities caused by such damage.
- 13.4 Licensee shall indemnify, protect and save harmless Licensor from and against any and all claims, demands, causes of actions and costs, including attorneys' fees, for damages to property and injury or death to Licensee's employees or other persons, including but not limited to, payments under any Workers Compensation law or under any plan for employee's disability and death benefits, which may arise out of or be caused by the erection, maintenance, presence, use or removal of Licensee's Facilities or by their proximity to the facilities of all parties attached to Licensor's poles, or by any act or omission of the Licensee's employees, agents or contractors on or in the vicinity of Licensor's poles. The foregoing indemnity, hold harmless and defense provisions shall not apply in the case of claims which solely arise from the negligence, misconduct or other fault of Licensor. It shall apply, however, if a claim is the result of the joint negligence, joint misconduct or joint fault of Licensee and Licensor, but in such case the amount of the claim for which Licensor is entitled to indemnification shall be limited to that portion of such claim attributable to the negligence, misconduct or other fault of Licensee.

- 13.5 The Licensee shall indemnify, protect and save harmless Licensor from any and all claims, demands, causes of action and costs, including attorneys' fees, which arise directly or indirectly from the construction, attachment or operation of Licensee's Facilities on Licensor's poles, including but not limited to damages, costs and expense of relocating poles due to the loss of right-of-way or property owner consents, taxes, special charges by others (including, without limitation, municipal authorities), claims and demands for damages or loss from infringement of copyright, for libel and slander, for unauthorized use of television or radio broadcast programs and other program material, and from and against all claims, demands and costs, including attorneys' fees, for infringement of patents with respect to the manufacture, use and operation of Licensee's Facilities in combination with poles or otherwise. The foregoing indemnity shall not apply in the case of claims which solely arise from the negligence, misconduct or other fault of Licensor. It shall apply, however, if a claim is the result of the joint negligence, joint misconduct, or joint fault of Licensee and Licensor, but in such case the amount of the claim for which Licensor is entitled to indemnification shall be limited to that portion of such claim attributable to the negligence, misconduct or other fault of Licensee.
- 13.6 Licensor and Licensee shall promptly advise each other of all claims relating to damage to property or injury to or death of persons, arising or alleged to have arisen in any manner by the erection, maintenance, repair, replacement, presence, use or removal of facilities governed by this License Agreement. Copies of all accident reports and statements made to a Licensor's or Licensee's insurer by the other Licensor or Licensee or affected entity shall be furnished promptly to the Licensor or Licensee.
- 13.7 Unless expressly provided for otherwise herein, neither Licensor nor Licensee shall be liable to the other for any special, consequential or other indirect damages arising under this Agreement.
- 13.8 The provisions of this Article shall survive the expiration or earlier termination of this Agreement or any license issued hereunder.

ARTICLE XIV - INSURANCE

- 14.1 Licensee shall secure and maintain (and ensure its subcontractors, if any, secure and maintain), and shall provide copies to Licensor, all insurance and/or bonds required by law or this Agreement including without limitation:
- (a) Commercial General Liability insurance (including, but not limited to, premises-operations; explosion, collapse and underground hazard; broad form

property damage; products/completed operations; contractual liability; independent contractors; personal injury) with limits of at least \$2,000,000 combined single limit for each occurrence.

- (b) Commercial Automobile Liability insurance with limits of at least \$2,000,000 combined single limit for each occurrence. Notwithstanding, if the Licensee does not own or operate any vehicles or automobiles associated with the Licensee's business or associated with the work related to this Agreement, then Licensee must only provide satisfactory evidence that its subcontractor(s) have purchased and maintained Commercial Automobile Liability insurance in such amount.
- (c) Workers' Compensation insurance as required by statute and Employer's Liability insurance with limits of not less than \$1,000,000 per occurrence.

- 14.2 The above limits may be satisfied by a combination of underlying/primary and excess/umbrella insurance. All policies provided by the Licensee shall be deemed primary and non-contributory to all other applicable coverages. The Licensee shall waive its right of subrogation for all insurance claims. The Commercial General Liability and Commercial Auto Liability policies must name Licensor, its subsidiaries and affiliates as additional insured's. The Licensee's insurance companies must be licensed to do business in the applicable state(s) and must meet or exceed an A.M. Best rating of A-X or its equivalent.
- 14.3 All insurance must be in effect before Licensor will authorize Licensee to make attachment to Licensor's poles and shall remain in force until Licensee's Facilities have been removed from all such poles. For all insurance, the Licensee must deliver an industry-recognized certificate of insurance evidencing the amount and nature of the coverage, the expiration date of the policy and the waiver of subrogation and stating that the policy of insurance issued to Licensee will not be cancelled or changed without thirty (30) days written notice to Licensor. Also, where applicable, such certificate of insurance shall evidence the name of the Licensor as an additional insured. The Licensee shall submit such certificates of insurance annually to the Licensor as evidence that it has maintained all required insurance.
- 14.4 Licensee is responsible for determining whether the above minimum insurance coverages are adequate to protect its interests. The above minimum coverages shall not constitute limitations upon Licensee's liability. Failure to maintain required insurance shall constitute a breach of this Agreement.

ARTICLE XV - GENERAL PROVISIONS

15.1 Authorization Not Exclusive

Nothing herein contained shall be construed as a grant of any exclusive authorization, right or privilege to Licensee. Licensors shall have the right to grant, renew and extend rights and privileges to others not parties to this Agreement, by contract or otherwise, to use any pole covered by this Agreement.

15.2 Failure to Enforce

Failure of Licensors to enforce or insist upon compliance with any of the terms or conditions of this Agreement, or to give notice or declare this Agreement or any authorization granted hereunder terminated, shall not constitute a general waiver or relinquishment of any term or condition of this Agreement, but the same shall be and remain at all times in full force and effect.

15.3 Notices

APPENDIX II sets forth where written notices required under this Agreement shall be sent to Licensors and Licensee. Notice shall be acceptable in the following forms: first class mail, or if time-sensitive, facsimile with electronic confirmation of receipt, followed by first class mail or overnight mail with receipt. Licensee shall complete APPENDIX II and submit it to Licensors with this Agreement.

15.4 Severability

If any of the provisions of this Agreement shall be invalid or unenforceable, such invalidity or unenforceability shall not invalidate or render unenforceable the entire Agreement, but rather the entire Agreement shall be construed as if not containing the particular invalid or unenforceable provision or provisions. If the invalid or unenforceable provision or provisions shall be considered an essential element of this Agreement, the parties shall promptly attempt to negotiate a substitute therefore.

15.5 Choice of Law, Jurisdiction and Venue

The construction, interpretation and performance of this Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts, without regard to the principles of conflicts of law. All actions under this Agreement shall be brought in a court of competent subject-matter jurisdiction in Suffolk County, Massachusetts, or before a regulatory agency with subject-matter jurisdiction, and both parties agree to accept and submit to the personal jurisdiction of such court or regulatory agency. Licensee also waives

any objection to the venue of such courts. Licensee also agrees to submit to the jurisdiction of any court in the United States wherein an action is commenced against Licensors based on a claim for which Licensee has indemnified Licensors hereunder.

15.6 Compliance with Laws

The parties hereto shall at all times observe and comply with, and the provisions of this Agreement are subject to, all laws, ordinances, and regulations which in any manner affect the rights and obligations of the parties hereto under this Agreement, so long as such laws, ordinances, or regulations remain in effect.

15.7 Survival

All rights and obligations hereunder granted or incurred prior to and which by their nature would continue beyond the cancellation, termination, or expiration of this Agreement shall survive such cancellation, termination, or expiration.

15.8 Use of Information

Licensee may provide to Licensors license applications and business plans of its future needs for pole attachments. Such information will allow Licensors to better forecast personnel and equipment requirements. However, as to business plans, such information shall be deemed for use as advance planning purposes only, and no obligation shall be created that Licensors hire personnel or purchase equipment, or Licensee submit license applications for the pole attachments. Such information shall be used only by such employees or contractors of Licensors who have responsibilities relating to the administration of, or to work to be performed under, this Agreement and said employees shall treat such information as Licensors treats its own confidential information of similar type and value. Licensors's obligations hereunder shall not extend to any information that are now available to the public or become available by reason of acts or omissions not attributable to Licensors.

15.9 Dispute Resolution

In the case where Licensee claims that a term or condition is unjust or unreasonable or any dispute arises between the parties relating to this agreement, Licensee shall submit a complaint to Licensors's pole attachment coordinator, so designated in accordance with regulations, specifying all information and its argument relied on to justify its claim. Licensors shall provide a written response to such complaint within 30 days after receipt of the complaint. Such response shall specifically address all contentions made by Licensee. If Licensee continues to have issues, it may request a meeting to discuss such issues. Such meeting shall be held within thirty (30) days. If the Licensee is not satisfied with the

results of such meeting, it may file a complaint with the regulatory body of competent jurisdiction.

15.10 Emergency Conditions

All parties shall work cooperatively in the case of an emergency to restore service to their respective customers. Licensee recognizes that Licensor's priority in the event of any emergency is the restoration of the electric system.

ARTICLE XVI - TERM OF AGREEMENT

Except as provided below, this Agreement shall remain in effect for a period of ten (10) years from the execution date hereof (the "Initial Term"). Licensee shall have the option to extend the Initial Term for up to three (3) additional five (5)-year terms (each an "Extended Term") by notice to Licensor given not less than six (6) months prior to the expiration of any Term; provided, however, that the Licensor may, upon written notice, require the Licensee to engage in good-faith negotiations with the Licensor to amend the Agreement to comport with regulatory changes or obligations. If the parties cannot agree to an amendment, they shall submit the matter to the regulatory agency with jurisdiction to resolve the matter. The Agreement may be terminated by Licensee by written notice of termination no less than 30 days prior to the effective date of such termination; provided, however, that such early termination shall not become effective until the Licensee has discontinued all existing licenses and has removed any and all Facilities. The Agreement may be terminated upon written notice by the Licensor if, within one year from the date of this Agreement, the Licensee has placed no Facilities on the Licensor's poles in accordance with the Agreement.

Upon execution, this Agreement cancels and supersedes all previously executed Agreements between the parties with respect to Licensee's Attachments in the Power Space on Licensor's Utility Poles.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in multiple originals on the day and year first above written.

**NSTAR ELECTRIC COMPANY,
d/b/a EVERSOURCE ENERGY, Licenser**

By:_____

(Print Name)_____

(Title)_____

(Date)_____

_____, **Licensee**

By:_____

(Print Name)_____

(Title)_____

(Date)_____

APPENDICES

- I. ATTACHMENT FEES AND CHARGES
- II. NOTICE ADDRESSES
- III. [Reserved.]
- IV. LICENSE APPLICATIONS FORMS

- Application and Pole Attachment License
Form 1
- Authorization for Field Survey Work
Form 2
- Field Survey Make Ready Work
Form 3

APPENDIX I

ATTACHMENT FEES AND CHARGES NSTAR Electric d/b/a Eversource Energy Effective September 01, 2021

1. Attachment Fees

Annual Attachment Fees are as follows:

State	JO/JU	Sole Owned
MA (Communication Space)	\$7.14	\$14.27
MA (Power Space)	\$7.14	\$14.27
Antenna (Pole Top & Comm Space)	\$100	\$200

2A. Field Survey Charges – NSTAR Electric d/b/a/ Eversource Energy Eastern MA (EMA)

<u>Field Survey</u>	<u>#Poles</u>	<u>Unit Rate</u>	<u>Total</u>
Field Survey Application Fee	(covers 1 pole)	\$139.00	\$ <u>139.00</u>
Field Survey 2 -200 Poles	_____	\$ <u>13.45</u> per Pole	\$ _____
Additional Travel Time*	_____	\$ _____ per Day	\$ _____
TOTAL Charges			\$ _____

* Based on average of 75 poles surveyed per day, add \$200.00 travel time for each additional day required to complete survey.

2B. Field Survey Charges – NSTAR (Formerly WEMCO) d/b/a/ Eversource Energy Western MA (WMA)

Pre-Construction Survey Charge:

Less than 10 poles:	No charge
10 poles or more:	\$50.00 per pole
Antenna:	\$500.00

Make Ready Pricing Note:

NSTAR Electric does not utilize unit pricing for estimating or billing make ready work. NSTAR Electric will estimate all necessary make ready work on a time and materials basis. Estimates will be provided prior to make ready work being conducted and reconciled with the actual costs following completion of the work.

APPENDIX II
NOTICE ADDRESSES

Licensor:

NSTAR Electric Company, d/b/a Eversource Energy
247 Station Drive, SE280
Westwood, MA 02090
Attn: Richard A Comeau
Phone: 781-441-8162
Title: Manager, Distribution Engineering – Single Pole Administration
E-Mail: richard.comeau@eversource.com

Licensee:

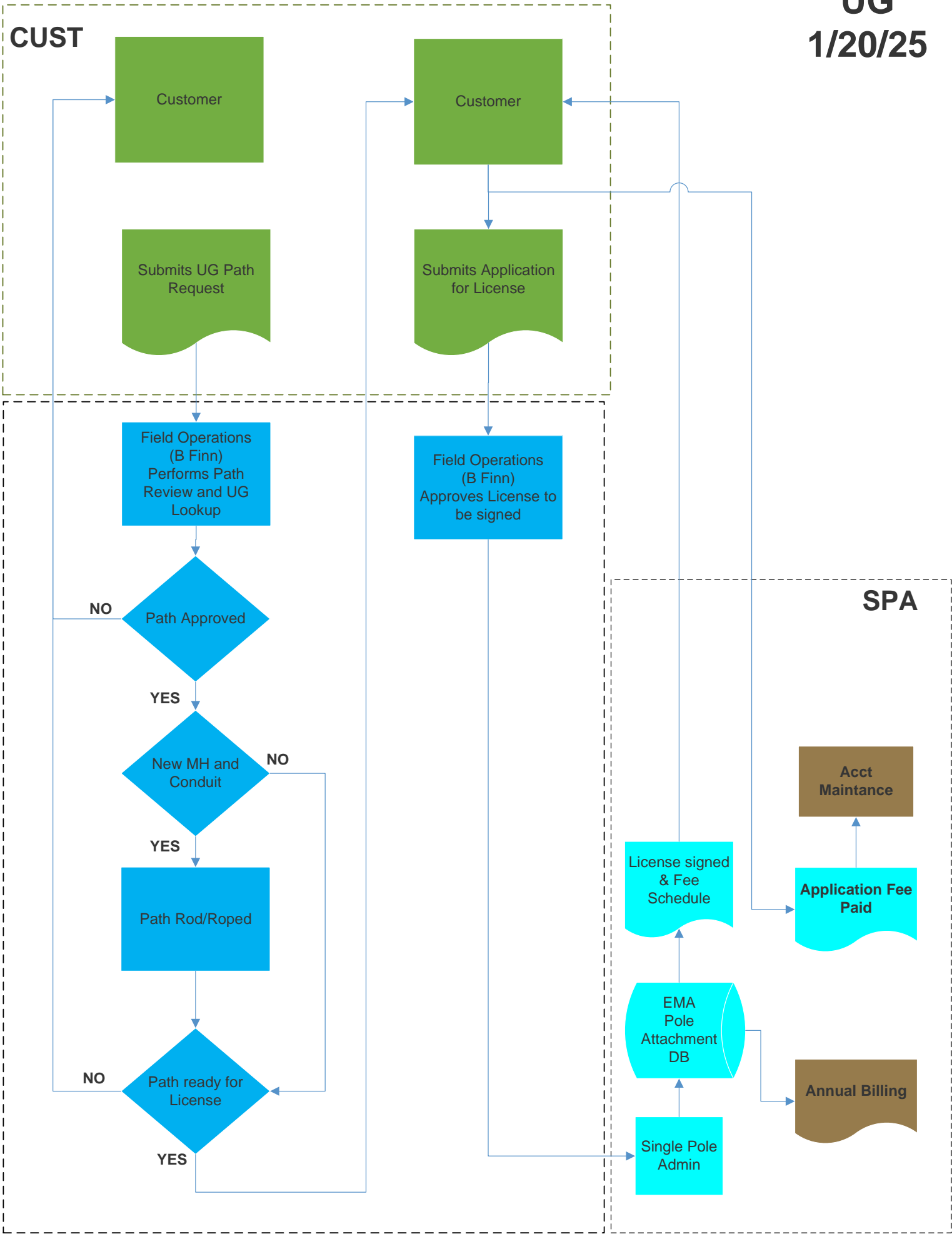
Attn: _____

Title: _____

Phone: _____

Email: _____

Single Pole Admin EMA UG 1/20/25



CONDUIT AND MANHOLE LICENSE AGREEMENT

DATED _____

BETWEEN

NSTAR ELECTRIC COMPANY d/b/a EVERSOURCE ENERGY
(LICENSOR)

AND

(LICENSEE)

CONDUIT AND MANHOLE LICENSE AGREEMENT

THIS AGREEMENT made as of this _____ day of 2025, between **NSTAR ELECTRIC COMPANY d/b/a Eversource Energy**, a Massachusetts corporation, having its principal office at 247 STATION DRIVE, WESTWOOD, MA 02090 (hereinafter called “Licensor”) and **LICENSEE**, a corporation having its principal office STREET., TOWN, STATE, ZIP CODE (hereinafter called “Licensee”).

RECITALS:

WHEREAS, Licensee for its own use desires to place and to maintain as part of its communications network certain non-conducting fiber optic cables and supporting hardware within electric distribution manholes and conduits of Licensor, specifically in those portions of the Commonwealth of Massachusetts served by Licensor; and

WHEREAS, Licensor is willing to permit, to the extent it may lawfully do so, the placement of such fiber optic cables and supporting hardware by Licensee within Licensor’s conduits and manholes, subject to the terms of this Agreement;

NOW THEREFORE, in consideration of the mutual covenants, terms and conditions herein contained, the parties agree as follows:

ARTICLE I - DEFINITIONS

- A) Conduit. A structure, usually underground, containing one or more ducts.
- B) Conduit Occupancy. Occupancy of a Conduit System by any of Licensee's Facilities.
- C) Conduit Occupancy Fee. A specified amount revised periodically, billed semi-annually or annually to the Licensee.
- D) Conduit Record Search and Manhole Survey. There are two elements of the Conduit Record Search and Manhole Survey: 1) administrative effort required to process the application and review conduit records and 2) field inspection of the existing Conduit System to determine any necessary Make-Ready Work to accommodate Licensee’s Facilities and prepare the cost estimate for Make-Ready Work, if applicable.
- E) Conduit System. Any reinforced passage or opening in, on, over, under or through the ground, owned and used by Licensor and capable of containing communications facilities, and includes: main conduit; underground dips and short sections of conduit under roadways, driveways, parking lots, railroad right of ways, and similar conduit installations; laterals to conduits and into buildings; ducts; and manholes.

- F) Conduit Work Inspection. Licensor's inspectors' visual observation of Licensee work in Licensor's Conduit System during the placement of Licensee's Facilities and whenever a Licensee is working in the Licensor's Conduit System or buried splice pit. The purpose is to ensure the Licensee's Facilities are placed in the proper location, work is performed in a manner so as not to disturb or damage Licensor's facilities and Licensee's work conforms to the standards required by this Agreement.
- G) Duct. A single enclosed raceway for wire conductors or cables.
- H) Innerduct. A small – diameter, semi-flexible duct, located in a Conduit System to provide a means for compartmentalizing conventional ducts into multiple pathways for housing and protecting smaller cables.
- I) Licensee's Facilities. The insulated fiber optic cable and all associated equipment and supporting or protecting hardware owned, leased or operated by the Licensee which occupies any portion of Licensor's Conduit System, constituting an attachment to Licensor's Conduit System.
- J) Licensee's Maintenance Work. Work performed by Licensee on Licensee's Facilities for repair, replacement, maintenance or servicing of such facilities.
- K) Manhole. A subsurface enclosure which personnel may enter and use for the purpose of installing, operating and maintaining equipment.
- L) Make-Ready Work. All work, including but not limited to rearrangement and/or transfer of existing facilities, rodding, roping, and slugging ducts, innerduct placement or other changes required to accommodate Licensee's Facilities in a Conduit System.
- M) Periodic Inspection. Licensor's inspection of Licensee's facilities performed to determine that conduit occupancy is authorized and facilities are maintained in conformance with the required specifications in Article VI of this Agreement.
- N) Installation. The process of installing any Licensee Facilities within the Conduit System or any portion thereof.
- O) Engineering Document Review. Engineering and administrative effort required to process the application and prepare a "Proposed Path Follow Sheet" (Appendix IV).
- P) Standards. The design and construction standards described in Section 6.1
- Q) Blue Book. "The Information and Requirements for Electric Service (Rev 2009)", prepared and approved by Licensor, as amended from time to time.

ARTICLE II – SCOPE OF AGREEMENT

- 2.1 Subject to the provisions of this Agreement, Licensor agrees to issue to Licensee for any lawful purpose, non-exclusive licenses authorizing the installation of Licensee's Facilities within Licensor's Conduit System, subject to the requirements of Licensor's Standards set forth in Article VI below. This Agreement governs the fees charges terms and conditions under which Licensor will issue such licenses to Licensee. This Agreement is not in and of itself a license and before making any Installation in any Manhole or Conduit Licensee must apply for and obtain a license for specifically identified Manholes and Conduits. Installation of equipment, including, but not limited to, fiber optic cables and splice cases not specified in previously approved applications and licenses requires a new application and license.
- 2.2 Licensee shall own and maintain all Licensee's Facilities installed in Licensor's Conduit System under this Agreement. Any activity hereunder by Licensee, its agents and contractors and their respective employees, including but not limited to, the installation, maintenance, modification and removal of Licensee's Facilities (including without limitation cables, supporting hardware and equipment) in Licensor's Conduit System must be done by Qualified Workers using Qualified Equipment. "Qualified Workers" means persons having the necessary training (including without limitation training in compliance with NESC [Part 4] and OSHA [Parts 1910 and 1926]) and experience to work on electric lines of 50 volts and above. Licensee shall be responsible to assure that all persons installing Licensee's Facilities or otherwise entering or occupying Manholes meet all regulatory requirements for "Qualified Workers", understand the hazards associated with such work and meet the requirements of the NESC (Part 4) and OSHA (Parts 1910 and 1926). "Qualified Equipment" means equipment (including without limitation vehicles and tools) that meets all performance standards and ratings required for work in close proximity to electric lines of 50 volts and above. Licensee, its agents and contractors and their respective employees shall also comply with the requirements of any and all other applicable federal, state and municipal laws and regulations relating to the training, qualification and practices of workers working in close proximity to electrical conductors, including but not limited to, the aforementioned NESC and OSHA requirements.
- 2.3 No use, however extended, of Licensor's Conduit System, or payment of any fees or charges required under this Agreement, shall create or vest in Licensee any ownership or property rights in such Conduit System. Licensee's rights herein shall be and remain a license subject to the terms of this Agreement. Nothing herein shall be construed as an assignment of Licensor's rights to use public or private property for the Conduit System.

- 2.4 Nothing contained in this Agreement shall be construed to require Licensor to construct, retain, extend, place or maintain any Manhole and Conduit or other facilities not needed for Licensor's own service requirements.
- 2.5 Nothing contained in this Agreement shall be construed as a limitation, restriction or prohibition against Licensor entering into agreements with other parties regarding the Manholes and Conduits covered by this Agreement.
- 2.6 Nothing contained in this Agreement shall be construed to require Licensor to grant a license where Licensor believes that placement of Licensee's Facilities would interfere with Licensor's existing or reasonably foreseeable service requirements, or the existing use of Licensor's facilities by other parties, or create a hazardous or unsafe condition.
- 2.7 Licensor makes no representation or warranty, express or implied, as to the present or future strength condition or state of repair of any Manhole, Conduit, cables, wires, hardware, equipment or apparatus. Licensor hereby disclaims any and all express or implied warranties or guarantees regarding Licensor's Conduit System or facilities, engineering or workmanship, including without limitation ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Any use of Licensor's Conduit System by Licensee, its agents and contractors and their respective employees shall be at the sole risk of Licensee, its agents and contractors.
- 2.8 Licensee acknowledges that Licensee's ability (and Licensor's consent hereunder) to perform the work of installing and maintaining Licensee's Facilities through Licensee's contractors may be contested or challenged by persons unaffiliated with Licensor. Licensor shall have no liability to Licensee hereunder if a court, governmental agency or arbitral body makes an adverse ruling on this issue. Licensee shall indemnify, defend and hold harmless Licensor from and against any claims, costs, fees or liability whatsoever (including any retroactive pay or similar award) incurred by Licensor as a result of any contest or challenge to Licensee's performance of the work in question, any adverse determination or Licensee's failure to abide by any such adverse determination or Licensee's challenge thereof by appropriate proceedings. The prosecution of any appeal from any such adverse determination shall be at the sole discretion of Licensor and shall also be subject to the foregoing indemnity and hold harmless provisions.

ARTICLE III – FEES AND CHARGES

3.1 General

- 3.1.1 Licensee agrees to pay to Licensor the applicable Manhole and Conduit Occupancy Fees and Charges as specified in and in accordance with the terms and conditions of subpart 3.2 of this Agreement and of APPENDIX I, attached hereto and made a part hereof.
- 3.1.2 The Licensor may change the amount of Manhole and Conduit Occupancy Fees specified in APPENDIX I by giving the Licensee not less than sixty (60) days written notice prior to the date the change is to become effective. Notwithstanding any other provision of this Agreement, Licensee may terminate this Agreement at the end of such sixty (60) day notice period if the change in Fees is not acceptable to Licensee. Upon termination, Licensee shall thereafter remove its facilities in accordance with the process set forth in Article X, subpart 10.3 of this Agreement.
- 3.1.3 Changes in the amount of Manhole and Conduit Occupancy Fees specified in APPENDIX I shall become effective on the date specified by Licensor, subject to the sixty (60) day advance written notice. Licensee shall have the right to challenge the increase to the Manhole and Conduit Occupancy Fees by submitting the issue to the regulatory body asserting jurisdiction over this Agreement for decision. Licensee shall pay the existing Manhole and Conduit Occupancy Fees during the time that the issue is being reviewed by said regulatory body, subject to true-up based on the final determination of rates by said regulatory body, plus any interest prescribed by said regulatory body.
- 3.1.4 Licensor shall provide Licensee with an updated APPENDIX I following the effective date of the new Manhole and Conduit Occupancy Fees and Charges.

3.2 Manhole and Conduit Occupancy Fees

- 3.2.1 For the purpose of computing the total Manhole and Conduit Occupancy Fee due hereunder, the length of the Conduit shall be measured from the center to the center of all Manholes or from the center of a Manhole to the end of Licensor's Conduit System occupied by Licensee's Facilities.
- 3.2.2 Manhole and Conduit Occupancy Fees are calculated from the first day of the month following the date a license is issued. Fees shall be payable semi-annually or annually in advance, unless otherwise provided. Payment is due within the later of thirty (30) days from the first day of

January and the first day of July or thirty (30) days from the date the bill is issued.

3.3 Conduit Record Search and Manhole Survey, Make-Ready Work and Inspection Charges

- 3.3.1 Conduit Record Search and Manhole Survey Charges, Make-Ready Charges and Inspection Charges shall be calculated by the Licensor based on fully loaded costs of actual time and material.
- 3.3.2 Licensee shall make an advance payment of the applicable estimated charges to Licensor prior to any performance by Licensor of any Conduit Record Search and Manhole Survey and Make-ready Work. The Licensee shall be credited for any amount paid in excess of the Licensor's estimated charges, once actual costs are computed, and shall be billed for any amount incurred by Licensor in excess of estimated charges.
- 3.3.3 Licensee shall make payment to the Licensor within thirty (30) days following the invoice date for all charges according to this Agreement.

3.4 Payment Requirements

- 3.4.1. For any bill rendered by Licensor to Licensee hereunder, except where advance payment is required, payment is due within thirty (30) days from the date of the bill. Late payment of any bill is subject to a late fee of 1.5% per month applied to the outstanding balance from the due date of the bill. Licensor, at its sole discretion, may change this late fee from time to time during the term of this Agreement to reflect prevailing market conditions.
- 3.4.2 Non payment of any amount due hereunder shall constitute a default of this Agreement, entitling Licensor to damages, and shall subject this Agreement to termination under the provisions of Article X.
- 3.4.3 For any bill rendered by Licensor to Licensee for advance payment of Conduit Record Search and Manhole Survey Charges or Make-Ready Work Charges hereunder, payment shall be made within thirty (30) days of the bill date. If such payment is not received within thirty (30) days, Licensor shall have the right to issue a letter of cancellation no sooner than fifteen (15) days thereafter, which will cancel the Licensee's application for the license. Thereafter, if Licensee wishes to proceed, Licensee shall submit a new application for a license, as if it had never submitted the initial application.

3.5 Billing Disputes

- 3.5.1 Where Licensee in good faith disputes a bill or invoice rendered by Licensor, Licensee shall make payment of all portions of said bill or invoice not in dispute as provided in Article III. Where the cumulative amount of all of Licensee's bills or portions(s) of bills in dispute is in excess of \$10,000.00, Licensee shall deposit said cumulative disputed amounts in an interest-bearing escrow account until such time as the disputes are resolved. The disputed amount deposited together with the proportional interest shall be distributed immediately to Licensor and/or Licensee in accordance with and upon resolution of the dispute. Where the cumulative amount of all of Licensee's bills or portions of bills in dispute are less than or equal to \$10,000.00, Licensee shall make payment to Licensor and shall be rebated an appropriate amount (including interest computed at the prime rate at a bank mutually agreed to by the parties) based on the resolution of the dispute.
- 3.5.2 Where Licensee fails to pay an amount due and owing under this Agreement (including amounts in dispute that are less than or equal to \$10,000) or fails to establish an escrow account for disputed amounts more than \$10,000, or fails to invoke the dispute-resolution procedures set forth in subpart 15.10 of this Agreement within six (6) months of the establishment of amounts disputed in good faith, in addition to all other remedies available to Licensor including termination under provisions of Article X of this Agreement, Licensor may refuse to perform any Engineering Document Review and Manhole Survey for Licensee, and may refuse to issue any license to Licensee until such time as the amount is paid or is deposited in an escrow account.
- 3.5.3 Notwithstanding any other provision of the Agreement, failure of Licensor to provide an annual bill for License Fees shall not excuse Licensee's obligation to make payment for License Fees as and when due.
- 3.5.4 If the occupancy of the Licensee Facilities within Licensor's Conduit System causes Licensor to be liable for the payment of any new or additional tax (other than taxes based on Licensor's income), fee, charge or imposition by any governmental authority which the Licensor would not otherwise be obligated to pay, then Licensee shall reimburse Licensor to the full extent of any such new or additional tax, fee, charge or imposition upon demand and submittal of a bill therefor by Licensor.

ARTICLE IV - APPLICATION FOR AND ISSUANCE OF LICENSES

- 4.1 Before Licensee makes an Installation in any Manhole or Conduit, Licensee shall make application for and have received a license therefore in the forms

attached in APPENDIX III and APPENDIX V. Licensor may update these forms from time to time during the term of the Agreement and agrees to provide Licensee prompt notice of such update.

- 4.2 Licensee agrees to limit the filing of applications for Manhole and Conduit licenses to include not more than fifty (50) Manholes on any one application. Licensee further agrees to designate a desired priority of completion of the Engineering Document Review and Manhole Survey for each application relative to all other of its applications on file with Licensor at the same time.
- 4.3 Properly completed license applications received by Licensor on the same day from two or more licensees for the same path shall be processed together. All Engineering Document Review and Manhole Survey required to accommodate the applicants will be completed simultaneously for the benefit of all applicants. All applicants will be rebated with the pro rata share of costs based on the number of applicants.
- 4.4 Any license granted hereunder for placement of Licensee's Facilities in Licensor's Conduit System may be terminated by Licensor upon thirty (30) days notice to Licensee as to individual sections of Licensor's Conduit System covered by the license in which Licensee has not placed Licensee's Facilities within one hundred eighty (180) days from the date that Licensor has notified Licensee that such sections of the Conduit System are available for placement of Licensee's Facilities.

ARTICLE V - CONDUIT RECORD SEARCH AND MANHOLE SURVEY

- 5.1 A Conduit Record Search and Manhole Survey for each manhole for which an installation is requested is required to determine the adequacy of the Conduit to accommodate Licensee's Facilities. Licensee may accompany the Licensor when Licensor performs the Manhole Survey.
- 5.2 Licensor will process all requests for access to Conduit on a non-discriminatory basis in the order such requests are received.
- 5.3 Within forty-five (45) days of receipt of written notification in the form of a complete license application and the correct Survey Fee payment, Licensor shall perform a Conduit Record Search and Manhole Survey and present the Survey results to the applicant. The Survey results will contain one of the following:

If no Make-Ready Work is required, a license shall be issued for the Conduit.

If Licensor determines that the Conduit which Licensee desires to occupy is inadequate or otherwise needs Make-Ready Work to accommodate Licensee's Facilities, in accordance with the Standards set forth in Article VI, Licensor will provide Licensee with an itemized invoice for such anticipated Make-Ready Work. The Make-Ready Work will be performed following receipt by Licensor of advance payment. Upon receipt of the advance payment, Licensor will provide the Licensee with the estimated start and estimated construction completion date of the Make-Ready Work.

If Licensor determines that the conduit may not reasonably accommodate Licensee's Facilities for reasons of capacity, safety, reliability or engineering practices, the Licensor may refuse to grant a license for Conduit occupancy. Licensor shall provide the specific reason(s) for such denial. Licensor shall not unreasonably exercise the right reserved hereunder.

- 5.4 Licensor shall use reasonable efforts to complete Make-Ready Work within six (6) months of receipt of payment for Make-ready Work from Licensee, except for reasons beyond Licensor's control.
- 5.5 To the extent practicable, Licensor shall provide Licensee no less than sixty (60) days' prior written notice of any modification of facilities, other than routine maintenance or modifications in response to emergencies, or due to a request from a governmental authority.

ARTICLE VI - SPECIFICATIONS AND LEGAL REQUIREMENTS

- 6.1 Licensee shall perform all work under this Agreement in a good and workmanlike manner and in accordance with all applicable legal requirements, including specifically the following Licensor Standards, as they may be revised and approved by Licensor from time to time and made available to Licensee: C1600 "Requirements for Installation and Maintenance of Fiber Optic Cables by Third Parties in NSTAR Conduits and Manholes", Work Method Standards W1000R3 (Entering & Working in Underground Locations), W1001 (Underground Manhole Inspections & Upgrades) and W1003 (Manhole Vault Rescue Procedure). In the event of any conflict or inconsistency between the various requirements, the more stringent shall apply. All Installation work by Licensee under this Agreement shall require the presence of appropriate authorized Licensor employee(s) at the time such work is performed, at Licensee's cost. Any corrective work required due to failure to comply with Standards shall be performed by Licensee at Licensee's sole cost and expense.

- 6.2 Licensee shall be responsible for obtaining from the appropriate public and/or private authority any required authorization to construct, operate and/or maintain Licensee's Facilities on public and private property at the location of Licensor's Manholes and Conduits. Licensee shall be responsible for obtaining permission from any owner(s) of connecting manholes and conduits before making any installation thereto. This permission shall be in the form of a license or other writing. Prior to the commencement of any work by Licensee in a particular municipality, Licensee shall provide to Licensor a copy of the permits, licenses or authorizations obtained by Licensee for such Installations from the applicable municipal authority having jurisdiction over the installation in the public ways of such municipality. In addition, in the event any municipality imposes additional fees, charges, administrative or operational requirements on Licensor as a result of or in connection with the Installation of Licensee's Facilities, Licensor shall notify Licensee of the same and shall have the right to require additional compensation from Licensee equal to the amount of such additional fees, charges or the cost to Licensor of compliance with such additional administrative or operational requirements. Licensor shall reasonably cooperate with Licensee if Licensee elects to challenge the legality or amount of such additional fees, charges or administrative or operational requirements. In the event that Licensee fails to comply with applicable legal requirements regarding the installation or relocation of its Facilities and such failure results in the imposition of any fines penalties or other liability being imposed upon and paid by Licensor, Licensee shall reimburse Licensor therefor.
- 6.3 No license granted under this Agreement shall extend to any of the Licensor's Manholes and Conduits where the placement of Licensee's Facilities would result in a forfeiture of the rights of Licensor to occupy the property on which such Manholes and Conduits are located. If placement of Licensee's Facilities would result in a forfeiture of the rights of Licensor to occupy such property, Licensee agrees to remove its Facilities forthwith; and Licensee agrees to pay Licensor all losses, damages and costs incurred as a result thereof.

ARTICLE VII - CONSTRUCTION AND MAINTENANCE OF ATTACHMENTS

7.1 General Provisions

- 7.1.1 Licensee shall, at its own expense, construct and maintain its Facilities within Licensor's Conduit System in a safe condition and in conformance with the requirements of Article VI. Licensee shall construct and maintain its Facilities so as not to conflict with the use of Licensor's Conduit System by Licensor or by other authorized users of Licensor's Conduit System, nor interfere with Licensor's facilities located therein.

- 7.1.2 Licensor shall specify the duct number between Licensor's Manholes to be occupied by Licensee's Facilities.
- 7.1.3 Licensee shall provide "as built" drawings to Licensor (in GIS format) within ten (10) days of completion of any Installation.
- 7.1.4 Licensee shall have resources available to move or temporarily relocate Licensee's Facilities as necessary to support Licensor's completion of both planned and emergent work. Requests for planned assistance shall be staffed within 48 hours. Requests for emergency assistance shall be staffed as soon as possible. Licensee shall provide a 24- hour contact phone number for assistance requests. If Licensee fails to respond, Licensor shall utilize other resources to complete necessary work and Licensee shall reimburse Licensor for costs incurred.
- 7.1.5 In the event multiple Licensees occupy Licensor's Manhole in need of cable relocation and Manhole post-Installation maintenance, Licensor may assign a "lead company" Licensee to address the cable relocation and manhole post-Installation maintenance. All affected Licensees agree to share in the pro-rated cost of Facility relocation and manhole post-Installation maintenance.
- 7.1.6 Routine Licensee access to Licensor Manholes shall be requested by completing Manhole Access Request in the form provided in Appendix VI. All access to Licensor's Manholes requires the presence of a Licensor inspector. Access to Licensor Manholes is at Licensee's sole risk and expense. **Access to Licensor's Manholes without prior approval and presence of a Licensor inspector is strictly prohibited and shall constitute a violation of this Agreement, entitling Licensor to a fine of Five Thousand Dollars (\$5,000) per incident and all available legal and equitable remedies.**
- 7.1.7 Emergency access request to Manholes is strictly for the purpose of emergency repairs to Licensee's Facilities in order to address interruption of service and is at Licensee's sole risk and expense. Licensee must contact Licensor's designated emergency contact for assistance prior to commencing any access.
- 7.1.8 Licensor reserves the right to prohibit access to Manholes for safety reasons until such time as Licensor has determined, in its sole judgment, that it is safe to enter.
- 7.1.9 In the event multiple Licensees request access to the same Manhole at the same time, Licensor will determine the access order of Licensees.

- 7.1.10 Licensors has the right to temporarily suspend access to any Manhole for safety reasons, or in order for Licensors crews to access the Manhole, or to complete electric repairs.
- 7.1.11 Licensors retains the right to temporarily move Licensee's Facilities as necessary to maintain its own infrastructure. Licensors will be reimbursed by Licensee for all costs associated with the need to temporarily move Licensee's Facilities in order to maintain Licensors's infrastructure.
- 7.1.12 In the event that a Manhole or Conduit to which an Installation has been made needs to be repaired, replaced or re-routed with a new Manhole or Conduit for any reason, Licensee agrees at its sole expense to work cooperatively with Licensors and any other Licensee or government agency and act promptly in relocating its facilities. If Licensee fails to timely relocate its Facilities, Licensors shall have the right (a) to effect such relocation at Licensee's sole risk, cost and expense and without liability or recourse to Licensors, except for negligence or willful misconduct, and (b) to charge Licensee for any fines, penalties or charges incurred by Licensors or by any third party, including without limitation, any municipality or agency thereof or other Licensee, as a direct or indirect result of such failure of Licensee to relocate its Facilities in a timely manner.
- 7.1.13 For each new Licensee Facility installed by Licensee within Licensors's Conduit and Manholes on or after the date of execution of this Agreement, Licensee shall place identification tags on cables located within Conduits and Manholes and identification apparatus tags on any associated items of Licensee's Facilities identifying company name and 24 hour emergency phone number. The requirements for identification tags are set forth in the Blue Book.
- 7.1.14 When Licensors determines that an immediate threat to safety and/or an emergency exists, Licensors may rearrange Licensee's Facilities at Licensee's sole risk and expense. Licensors shall make reasonable efforts to contact Licensee, as circumstances permit, prior to any such rearranging of Licensee's Facilities.
- 7.1.15 Only one (1) fiber optic cable is permitted per Innerduct. No joint occupancy by electric and fiber optic cable within a single Conduit or Innerduct is allowed.
- 7.1.16 Licensee is not permitted to move, rearrange, work on or otherwise disturb any Licensors facilities, or another licensee's facilities located within the Conduit System, without express written permission. If any such work is required, it shall be performed by Licensors, or such other licensee, at Licensee's sole cost and expense.

- 7.1.17 Licensee is solely responsible for any dewatering or hazardous material removal that may be required to access any Manhole, in accordance with all applicable legal requirements, and in accordance with Licensors' requirements set forth in APPENDIX VII.
- 7.1.18 Should the Licensors, or other Licensee, for their own service requirements, need to install additional facilities in any Conduit System in which Licensee occupies Conduit space, Licensee will upon written notice from the Licensors of the additional occupancy, rearrange its facilities in the Conduit System as reasonably determined by the Licensors, so that the additional facilities of the Licensors, or other Licensee, may be accommodated; provided that, except to the extent such relocation is required to accommodate the needs of Licensors, such rearrangement does not materially reduce, impair or otherwise diminish Licensee's ability to conduct its operations from the Licensee Facilities, and subject to receipt of all necessary government permits and approvals for such rearrangement or transfer. Licensee shall not be required to bear any of the costs of such rearranging of its Facilities if such rearrangement is required as a result of an additional occupancy by any other entity, including Licensors or other Licensees. Any rearrangement costs shall be borne by the entity or entities requesting rearrangement. Licensee shall be solely responsible for collecting any rearrangement costs incurred pursuant to this paragraph. Licensors' sole responsibility shall be limited to reimbursement of its pro rata share of such costs caused by its own additional occupancies. However, Licensors shall, upon receipt of written request, provide Licensee with any information in Licensors' possession which may facilitate Licensee's collection of such costs. If Licensee does not rearrange its facilities within sixty (60) days after receipt of written notice from the Licensors requesting such rearrangement, the Licensors may perform or have performed such rearrangement and Licensee shall pay the cost thereof. The foregoing shall not preclude Licensee from thereafter seeking reimbursement of such rearrangements costs as if it had performed the work in accordance with this paragraph. Licensee shall be permitted to place and operate a temporary communications facility at a location to be agreed upon by the parties, under the same terms and conditions of this Agreement, until such time as the rearrangement/transfer has been completed.

ARTICLE VIII - INSPECTION OF LICENSEE'S FACILITIES

- 8.1 The Licensors reserves the right to make inspections of any part or all of Licensee's Facilities occupying Licensors' Conduit System.

- 8.2 Where inspection by the Licensor has been completed and non-complying conditions have been identified, Licensee shall correct any such non-complying conditions within thirty (30) days of the date of the written notice from the Licensor. If after said 30-day period Licensee has not corrected all such non-complying conditions, Licensor may notify Licensee that no further licenses shall be issued to Licensee until Licensee's Facilities are brought into compliance. Licensee shall complete and submit to Licensor a signed form documenting confirming compliance with the requirements of Article VI. If corrections are not made by Licensee within 30 days from the second notification by Licensor, the Licensor may perform or have performed such corrections and Licensee shall pay to the Licensor the cost of performing such work. Licensor shall have the right (but not the obligation) to conduct post-construction inspections of all Manholes and Conduits to which Licensee's Installations have been made.
- 8.3 Licensor may undertake subsequent inspections to determine if appropriate corrective action has been taken by Licensee. If the subsequent inspection finds continued non-complying conditions, Licensor may perform or have performed corrective action at the sole expense of the Licensee, or Licensor may terminate the license pursuant to Article X.
- 8.5 The making of inspections, or the failure to do so, shall not operate to impose any responsibility or liability on Licensor, or to relieve Licensee of any responsibility, obligation or liability specified in this Agreement.
- 8.6 Licensor reserves the right to make Periodic Inspections of all or any part of the Licensee's Facilities at the expense of Licensee. Periodic Inspections of all Licensee Facilities will not be made more often than once every five (5) years, unless in Licensor's judgment such inspections are required for reasons involving safety, or because of an alleged violation by Licensee of the terms of this Agreement.
- 8.7 Licensee shall pay to Licensor, in advance of any Periodic Inspection, the estimated cost of such inspection. Following the completion of the Periodic Inspection, Licensor shall reconcile the actual costs incurred in the inspection with the estimated payment and provide such reconciliation to Licensee with reasonable supporting detail. Licensee shall pay any deficiency resulting from such reconciliation and Licensor shall refund to Licensee any over-collection resulting from such reconciliation within thirty (30) days of submittal of the reconciliation. No interest shall be applied to either deficiency or over-collection, if payment is made within the thirty-day period.
- 8.8 Each party shall, upon written request from the other party, provide reasonable access to its records for purposes of enabling the requesting party to verify, as applicable, (a) the location type and nature of its Installation and (b) billing, payment and maintenance history.

ARTICLE IX - UNAUTHORIZED INSTALLATIONS

- 9.1 If any of Licensee's Facilities are installed within Licensor's manholes and conduits without being licensed, Licensor may recover fees as specified in subpart 9.2 without prejudice to its other rights or remedies under this Agreement, including termination pursuant to Article X, and require Licensee to submit in writing within thirty (30) days after receipt of written notification from Licensor of the unauthorized Installation a Manhole and Conduit license application. If such application is not received within the specified time period, or if received, is not granted by Licensor, then Licensee shall remove its unauthorized Installations within thirty (30) days of the final date for submitting the required application, or Licensor may remove Licensee's Facilities without liability, at Licensee's expense.
- 9.2 Upon discovery of an unauthorized Installation, if Licensor does not require removal, Licensee agrees to pay an amount equal to five (5) times the current applicable annual Occupancy Fee specified in Appendix I, multiplied by the number of unauthorized Installations. This fine shall be in addition to all other amounts due and owing to Licensor under this Agreement.

ARTICLE X – TERMINATION

10.1 60-Day Termination

- 10.1.1 In addition to rights of termination provided to the Licensor under other provisions of this Agreement and except as expressly provided otherwise herein the Licensor shall have the right to terminate Licensee's licenses granted under provisions of this Agreement where:
- (a) Licensee's Facilities are maintained or used in violation of any law or in aid of an unlawful act or undertaking;
 - (b) the Licensee ceases to have authority to construct and operate its facilities on public or private property at the location of the particular Manhole and Conduit covered by the authorization;
 - (c) the Licensee fails to comply with any of the terms and conditions of this Agreement, or defaults in any of its obligations thereunder;
 - (d) the Licensee occupies a Manhole or Conduit without having first been issued a license therefor;
 - (e) the Licensee subject to provisions specified in Article II ceases to provide its services;

- (f) the Licensee sublets or apports part of the licensed assigned space or otherwise permits its assigned space to be used by an entity or an affiliate not a party to this Agreement, in violation of this Agreement.
- (g) except in circumstances in which Licensors has accepted evidence of self-insurance in accordance with Article XIV the Licensee's insurance carrier shall at any time notify the Licensors that the policy or policies of insurance as required in Article XIV will be or have been cancelled or amended so that those requirements will no longer be satisfied;
- (h) the Licensee shall fail to pay any sum due under Article III or to deposit any sum required under this Agreement, or shall fail to maintain satisfactory surety as required in Article XII;
- (i) any authorization that may be required by any governmental or private authority for the construction operation and maintenance of the Licensee's Facilities within a Manhole and Conduit is denied, revoked or cancelled.

10.1.2 The Licensors will notify the Licensee in writing of any instances cited in this subpart. The Licensee shall take corrective action as necessary to eliminate the non-compliance and shall confirm in writing to the Licensors within sixty (60) days following such written notice that the non-compliance has ceased or been corrected. If Licensee fails to discontinue or correct non-compliance and fails to give the required written confirmation to the Licensors within the time stated above, the Licensors may terminate the license(s), authorization and/or rights granted hereunder for the Manholes and Conduits at which such non-compliance has occurred.

10.2 General

10.2.1 In the event of termination of any of the Licensee's licenses, authorizations and/or rights hereunder, the Licensee at Licensors's option and direction shall remove its Facilities from the applicable portion of the Conduit System within sixty (60) days of the effective date of the termination; provided however that Licensee shall be liable for and pay all fees and charges pursuant to provisions of this Agreement to the Licensors until Licensee's Facilities are actually removed from the Conduit System. If the Licensee is so directed by Licensors to remove its Facilities and fails to remove its Facilities within the specified period the Licensors shall have the right to remove such facilities at the Licensee's expense and without liability on the part of the Licensors for damage or injury to such facilities

or interruption of Licensee services, or to otherwise use or dispose of any such Facilities, without liability to Licensee.

10.2.2 When Licensee's Facilities are removed from a Manhole or conduit, no Installation to the same Manhole or Conduit shall be made until the Licensee has first complied with all of the provisions of this Agreement as though no such Installation had been made previously, and all outstanding charges due to the Licensor for such Installation have been paid in full.

10.2.3 Any license issued under this Agreement shall automatically terminate when Licensee ceases to have authority to construct operate and/or maintain its Installations in the public or private property at the location of the particular Manhole and Conduit covered by the license. Such automatic termination shall be stayed if the Licensee has sought judicial or regulatory review of the decision that: (1) has acted to terminate such authority or (2) has declared that the Licensee lacks such authority.

10.3 Licensee's Removal of Facilities

10.3.1 Licensee may at any time remove its Installations from a Manhole or Conduit after first giving Licensor written notice of such removal. Licensee shall complete and provide to Licensor the Notification of Discontinuance of Use of Manholes and Conduits as contained in APPENDIX IX hereto. Licensor shall verify and execute such form within thirty (30) days of submission. Billing for the applicable Installation shall cease as of the last day of the month in which the Installation is removed. Licensor may update this form from time to time during the term of this Agreement.

10.3.2 Following such removal no Installation shall again be made to such Manhole or Conduit until Licensee shall have complied first with all of the provisions of this Agreement, as though no such Installation had been made previously and all outstanding charges due to the Licensor for such Installation have been paid in full.

ARTICLE XI - ASSIGNMENT OF RIGHTS

11.1 Licensee shall not assign or transfer any license or any authorization granted under this Agreement and such licenses and authorizations shall not inure to the benefit of Licensee's successors or assigns without the prior written consent of Licensor which shall be in the form of an assignment agreement satisfactory to the Licensor. Licensor shall not unreasonably withhold condition or delay such consent.

- 11.2 In the event such consent or consents are granted by Licensor then the provisions of this Agreement shall apply to and bind the successors and assigns of Licensee. Notwithstanding anything to the contrary, Licensee may assign this Agreement without Licensor's consent to an entity controlling controlled by or under common control with Licensee, or to an entity acquiring fifty-one percent (51%) or more of Licensee's stock or assets provided that any such assignment shall be subject to the assignee's being capable of assuming all of the obligations of Licensee hereunder. Any such assignment shall impose no obligations upon or be effective against Licensor and Licensor shall have no liability to any assignee of such assignment until Licensor has received prior notice of any such assignment. Licensee may also assign or pledge this Agreement, without Licensor's consent and without prior notice to Licensor, to an institutional mortgagee or lender providing financing to Licensee with respect to Licensee's Facilities, provided that such assignment or pledge shall not be effective against Licensor unless and until written notice of such assignment or pledge, and exercise of any rights thereunder is provided to Licensor. Anything herein to the contrary notwithstanding, Licensee shall not be relieved of any of its obligations hereunder without Licensor's prior written consent.
- 11.3 All notice of such assignments shall include any change to the notice address under this Agreement.
- 11.4 No assignment of rights under the Agreement shall be effective unless and until Licensor shall have received from the proposed assignee a written assumption of all of the obligations of Licensee under this Agreement.

ARTICLE XII - SURETY REQUIREMENTS

- 12.1 Licensee shall furnish a Surety Bond or irrevocable Letter of Credit satisfactory to the Licensor according to the following criteria:

Conduit Footage	Security
1-2500	\$10,000
2501-25,000	\$75,000
25,001-75,000	\$300,000
75,001-150,000	\$450,000
150,000 +	\$500,000

- 12.1 The maximum security limit required is \$500,000.
- 12.2 If the financial security is in the form of a bond irrevocable unconditional stand-by Letter of Credit or other security as deemed acceptable by Licensor such

instrument shall be issued by a surety company or bank satisfactory to the Licensor and shall guarantee Licensee's obligations under this Agreement. The Licensee is obligated to maintain the security in the full amount for the term of the Agreement.

- 12.3 The amount of the bond or the financial security shall not operate as a limitation upon the obligations of the Licensee.

ARTICLE XIII - LIABILITY AND DAMAGES

- 13.1 Licensor reserves to itself its successors and assigns the right to locate and maintain its Conduit System and to operate its facilities in conjunction therewith in such a manner as will best enable it to fulfill its own service requirements in compliance with its rates and tariffs and normal operating procedures. Licensor shall not be liable to Licensee for any interruption of Licensee's service, nor for interference with the operation of Licensee's communications services arising in any manner, except for actual damage to Licensee's Facilities caused by Licensor's negligence or willful misconduct in the use of Licensor's Conduit System.
- 13.2 Licensee acknowledges that Licensor's Manholes are an inherently dangerous environment due to the presence of high voltage electric facilities in an enclosed space, and that fires and explosions can occur in the course of events without negligence or misconduct on the part of Licensor or its agents. Licensee is aware of the potential that such events could destroy Licensee's facilities, and Licensee is assuming such risk in electing to use Licensor's Manholes and Conduits. Licensor shall exercise reasonable care to avoid damaging Licensee Facilities occupying the Conduit System under this Agreement and shall make an immediate report to Licensee of the occurrence of any such damage caused by Licensor's employees, agents or contractors. Licensor agrees to reimburse Licensee for all reasonable costs incurred by Licensee for the physical repair of damage to such Licensee's Facilities proximately caused by the negligence or willful misconduct of Licensor, its employees, agents or contractors; however Licensor shall not be liable to Licensee for any consequential damages, including without limitation, service penalties, loss of Licensee's revenue or profits resulting from any interruption of Licensee's service caused by such damage, or interference with the operation of Licensee's Facilities caused by such damage.
- 13.3 Licensee shall exercise reasonable care to avoid damaging Licensor's Facilities and facilities of other Licensees, and shall make an immediate report of damage to the owner of facilities so damaged. Licensee assumes all responsibility for any and all losses and damages directly attributable to damage caused by Licensee's employees, agents or contractors; however, Licensee shall not be liable to Licensor for any consequential, indirect or special damages.

- 13.4 Licensee shall indemnify, defend, protect and save harmless Licensor from and against any and all claims, demands, causes of action and costs, including attorneys' fees for damages to property and injury or death to Licensee's employees or other persons, including but not limited to payments under any Workers Compensation law or under any plan for employee's disability and death benefits, which may arise out of or be caused by the erection, maintenance presence, use or removal of Licensee's Facilities or by their proximity to the facilities of other parties using the Conduit System, or by any act or omission of the Licensee's employees, agents or contractors on or in the vicinity of Licensor's manholes and conduits. The foregoing indemnity, hold harmless and defense provisions shall not apply in the case of claims which solely are caused by the negligence, misconduct or other fault of Licensor. It shall apply however if a claim is the result of the joint negligence, joint misconduct or joint fault of Licensee and Licensor, but in such case the amount of the claim for which Licensor is entitled to indemnification shall be limited to that portion of such claim attributable to the negligence, misconduct or other fault of Licensee.
- 13.5 The Licensee shall indemnify protect and save harmless Licensor from any and all claims, demands, causes of action and costs including attorneys' fees which arise directly or indirectly from the Installation or operation of Licensee's Facilities within Licensor's Conduit System, including but not limited to damages, costs and expense of relocating manholes and conduits due to the loss of right-of-way or property owner consents, taxes, special charges by others, (including without limitation municipal authorities), claims and demands for damages or loss from infringement of copyright, for libel and slander, for unauthorized use of television or radio broadcast programs and other program material, and from and against all claims demands and costs including attorneys' fees for infringement of patents with respect to the manufacture use and operation of Licensee's Facilities in combination with the Conduit System or otherwise. The foregoing indemnity shall not apply in the case of claims which solely arise from the negligence, misconduct or other fault of Licensor. It shall apply however if a claim is the result of the joint negligence, joint misconduct or joint fault of Licensee and Licensor, but in such case the amount of the claim for which Licensor is entitled to indemnification shall be limited to that portion of such claim attributable to the negligence misconduct or other fault of Licensee.
- 13.6 Licensor and Licensee shall promptly advise each other of all claims relating to damage to property or injury to or death of persons arising or alleged to have arisen in any manner by the erection maintenance repair replacement presence use or removal of facilities governed by this License Agreement. Copies of all accident reports and statements made to a Licensor's or Licensee's insurer by the other Licensor or Licensee or affected entity shall be furnished promptly to the Licensor or Licensee.

- 13.7 Unless expressly provided for otherwise herein neither Licensor nor Licensee shall be liable to the other for any special, consequential or other indirect damages arising under this Agreement.
- 13.8 The provisions of this Article shall survive the expiration or earlier termination of this Agreement or any license issued hereunder.

ARTICLE XIV - INSURANCE

- 14.1 Licensee shall secure and maintain (and ensure its subcontractors if any secure and maintain) and shall provide copies to Licensor all insurance and/or bonds required by law or this Agreement including without limitation:
- (a) Commercial General Liability insurance (including but not limited to premises-operations; explosion collapse and underground hazard; broad form property damage; products/completed operations; contractual liability; independent contractors; personal injury) with limits of at least \$2,000,000 combined single limit for each occurrence.
 - (b) Commercial Automobile Liability insurance with limits of at least \$2,000,000 combined single limit for each occurrence. Notwithstanding if the Licensee does not own or operate any vehicles or automobiles associated with the Licensee's business or associated with the work related to this Agreement then Licensee must only provide satisfactory evidence that its subcontractor(s) have purchased and maintained Commercial Automobile Liability insurance in such amount.
 - (c) Workers' Compensation insurance as required by statute and Employer's Liability insurance with limits of not less than \$1,000,000 per occurrence.
- 14.2 The above limits may be satisfied by a combination of underlying/primary and excess/umbrella insurance. All policies provided by the Licensee shall be deemed primary and non-contributory to all other applicable coverages. The Licensee shall waive its right of subrogation for all insurance claims. The Commercial General Liability and Commercial Auto Liability policies must name Licensor its subsidiaries and affiliates as additional insured's. The Licensee's insurance companies must be licensed to do business in the applicable state(s) and must meet or exceed an A.M. Best rating of A-X or its equivalent.
- 14.3 All insurance must be in effect before Licensor will authorize Licensee to enter Licensor's manholes and conduits and shall remain in force until Licensee's Facilities have been removed from all such poles manholes and conduits. For all insurance the Licensee must deliver an industry-recognized certificate of insurance evidencing the amount and nature of the coverage the expiration date

of the policy and the waiver of subrogation and stating that the policy of insurance issued to Licensee will not be cancelled or changed without thirty (30) days written notice to Licenser. Also where applicable such certificate of insurance shall evidence the name of the Licenser as an additional insured. The Licensee shall submit such certificates of insurance annually to the Licenser as evidence that it has maintained all required insurance.

- 14.4 Licensee is responsible for determining whether the above minimum insurance coverages are adequate to protect its interests. The above minimum coverages shall not constitute limitations upon Licensee's liability. Failure to maintain required insurance shall constitute a breach of this Agreement.

ARTICLE XV - GENERAL PROVISIONS

15.1 Authorization Not Exclusive

Nothing herein contained shall be construed as a grant of any exclusive authorization right or privilege to Licensee. Licenser shall have the right to grant renew and extend rights and privileges to others not parties to this Agreement, by contract or otherwise, to use any Manhole or Conduit covered by this Agreement.

15.2 Failure to Enforce

Failure of Licenser to enforce or insist upon compliance with any of the terms or conditions of this Agreement or to give notice or declare this Agreement or any authorization granted hereunder terminated shall not constitute a general waiver or relinquishment of any term or condition of this Agreement but the same shall be and remain at all times in full force and effect.

15.3 Notices

Appendix II sets forth where written notices required under this agreement shall be sent to Licenser and Licensee. Notice shall be acceptable in the following forms: first class mail or if time-sensitive facsimile with electronic confirmation of receipt followed by first class mail or overnight mail with receipt. Licensee shall complete Appendix II and submit it to Licenser with this Agreement.

15.4 Severability

If any of the provisions of this Agreement shall be invalid or unenforceable such invalidity or unenforceability shall not invalidate or render unenforceable the entire Agreement but rather the entire Agreement shall be construed as if not containing the particular invalid or unenforceable provision or provisions. If the invalid or unenforceable provision or provisions shall be considered an essential element of this Agreement the parties shall promptly attempt to negotiate a substitute therefore.

15.5 Choice of Law

The construction interpretation and performance of this Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts without regard to the principles of conflicts of law. All actions under this Agreement shall be brought in a court of competent subject-matter jurisdiction in Suffolk County Massachusetts or before a regulatory agency with subject-matter jurisdiction and both parties agree to accept and submit to the personal jurisdiction of such court or regulatory agency. Licensee also agrees to submit to the jurisdiction of any court in the United States wherein an action is commenced against Licensor based on a claim for which Licensee has indemnified Licensor hereunder.

15.6 Compliance with Laws

The parties hereto shall at all times observe and comply with and the provisions of this Agreement are subject to all laws ordinances and regulations which in any manner affect the rights and obligations of the parties hereto under this Agreement so long as such laws ordinances or regulations remain in effect.

15.7 Survival

All rights and obligations hereunder granted or incurred prior to and which by their nature would continue beyond the cancellation termination or expiration of this Agreement shall survive such cancellation termination or expiration.

15.8 Use of Information

Licensee may provide to Licensor license applications and business plans of its future needs for installations within Licensor's Manholes and Conduits. Such information will allow Licensor to better forecast personnel and equipment requirements. However as to business plans such information shall be deemed for use as advance planning purposes only and no obligation shall be created that Licensor hire personnel or purchase equipment or Licensee submit license applications for Manholes and Conduits. Such information shall be used only by such employees or contractors of Licensor who have responsibilities relating to the administration of or to work to be performed under this Agreement and said employees shall treat such information as Licensor treats its own confidential information of similar type and value. Licensor's obligations hereunder shall not extend to any information that are now available to the public or become available by reason of acts or omissions not attributable to Licensor.

15.9 Dispute Resolution

In the case where Licensee claims that a term or condition is unjust or unreasonable or any dispute arises between the parties relating to this Agreement, Licensee shall submit a complaint to Licensor's coordinator so designated in accordance with regulations specifying all information and its argument relied on to justify its claim. Licensor shall provide a written response to such complaint within 30 days after receipt of the complaint. Such

response shall specifically address all contentions made by Licensee. If Licensee continues to have issues it may request a meeting to discuss such issues. Such meeting shall be held within thirty (30) days. If the Licensee is not satisfied with the results of such meeting it may file a complaint with the regulatory body of competent jurisdiction.

15.9.1 Emergency Conditions

All parties shall work cooperatively in the case of an emergency to restore service to their respective customers. Licensee recognizes that Licensors' priority in the event of any emergency is safety and the restoration of the electric system.

ARTICLE XVI - TERM OF AGREEMENT

Except as provided below this Agreement shall remain in effect for a period of ten (10) years from the execution date hereof (the "Initial Term"). Licensee shall have the option to extend the Initial Term for up to three (3) additional five (5)-year terms (each an "Extended Term") by notice to Licensors given not less than six (6) months prior to the expiration of any Term; provided however that the Licensors may upon written notice require the Licensee to engage in good-faith negotiations with the Licensors to amend the Agreement to comport with regulatory changes or obligations. If the parties cannot agree to an amendment they shall submit the matter to the regulatory agency with jurisdiction to resolve the matter. The Agreement may be terminated by Licensee by written notice of termination no less than 30 days prior to the effective date of such termination; provided however that such early termination shall not become effective until the Licensee has discontinued all existing licenses and has removed any and all Facilities.

Upon execution this Agreement cancels and supersedes all previously executed Agreements between the parties with respect to Licensee's Facilities in Licensors' Conduit System.

IN WITNESS WHEREOF the parties hereto have executed this Agreement in multiple originals on the day and year first above written.

NSTAR ELECTRIC COMPANY d/b/a EVERSOURCE ENERGY

By:_____

(Print Name)_____

(Title)_____

(Date)_____

LICENSEE

By:_____

(Print Name)_____

(Title)_____

(Date)_____

APPENDIX 1

OCCUPANCY FEES AND CHARGES

NSTAR Electric Company

Effective August 1, 2010

Conduit Occupancy Fee

Annual Conduit Occupancy Fees are as follows:

	Innerduct	Duct
Conduit		\$1.09 per foot

Conduit Record Search and Manhole Survey

	<u>#Manholes</u>	<u>Unit Rate</u>	<u>Total</u>
Record Search Application Fee	_____	* \$ <u>200.00</u>	\$ _____
Manhole Survey Fee	_____	* \$ <u>300.00</u>	\$ _____

* Make-Ready Charges and Inspection/ Survey Charges shall be calculated by the Licenser based on fully loaded costs of actual time and material.

Pursuant to Section 4.2, the maximum number of Manholes in any one application is fifty (50).

APPENDIX II

Notices

Licensee: **LICENSEE**
STREET.,
CITY, STATE ZIP CODE
Attn: LICENSEE CONTACT

Licensor: **NSTAR ELECTRIC COMPANY**
d/b/a EVERSOURCE ENERGY
247 STATION DRIVE,
WESTWOOD, MA 02090
Attn: Manager, Distribution Engineering –
Single Pole Administration

APPENDIX III

APPLICATION FOR CONDUIT LICENSE

Licensee: _____

Street Address: _____

City, State, Zip _____

Date: _____

In accordance with the terms and conditions of the Manhole and Conduit License Agreement, application is hereby made for license to occupy the manhole and conduit system in the **municipality of** _____, in the **state of** _____, shown on Form 2, with the cable and equipment detailed.
This request will be designated Conduit and Manhole License Application Number _____

Licensee requests a **total of** _____ **linear feet** of _____ full duct or _____ partial duct for the placement of their cable. Determination of partial or full duct assignment is to be made by NSTAR Electric Company based on the outside diameter of the cable being placed. If the conduit is available and you wish to pursue rental, there will be make ready charges associated with the preparation and assignment of the duct.

Licensee hereby requests Licensors to provide an estimate of cost to complete the preliminary record search and manhole survey(s) to determine if this conduit is available.

Licensees Name (Print): _____

Signature: _____

Title: _____

Telephone No.: _____

Email: _____

*****For licensor, do not write below this line*****

Manhole/Conduit Attachment License Application Number _____ is hereby granted to make
the attachments described in this application to _____ attachments to manholes and conduits, _____
and
_____ other attachments located in the municipality of _____, in the State of
_____ as indicated on the attached form 3.

Licensors Name (Print) _____

Signature _____

Title _____

(AGREEMENT ID #)

Date _____

Tel. No. _____

The Licensee shall submit an original copy of this application to NSTAR Electric Company

Revised 08/13/2010

APPENDIX VI



Form 3 – Manhole Access Request

Date: _____
Company: _____
Manhole and Conduit _____
Access Agreement Number: _____
Contact: _____
Phone: _____
e-mail address: _____

Certificate of Conduit and Manhole License Number: _____
Manholes to be accessed: _____

Description of work (check as appropriate and provide brief summary of work):

- | | |
|--|--|
| <input type="checkbox"/> Rod & Rope (attach follow sheet) | <input type="checkbox"/> Install Innerduct (attach follow sheet) |
| <input type="checkbox"/> Install Fiber cable (attach follow sheet) | <input type="checkbox"/> Splicing |
| <input type="checkbox"/> Move Slack | <input type="checkbox"/> Manhole Post-Install |

Crew Foreman:

Name: _____ Cell Phone: _____

Date/Time requested for manhole access: _____

To be completed by NSTAR Electric:

Manhole Access Request Number (MARN): _____

Certificate valid for access to manholes requested: YES NO

Inspector required: YES NO

Dates approved for manhole access: _____

Comments: **IN THE EVENT A RED CAUTION RIBBON IS LOCATED IN A
MANHOLE DO NOT ENTER. CONTACT NSTAR ELECTRIC FOR INSTRUCTIONS.**

Prior to entering the manhole and upon work completion the foreman is required to contact NSTAR Electric Operations at 617-541-7888 for manhole entry sign-in and sign-out NSTAR Electric to provide phone number/contact information

APPENDIX VII

DEWATERING OF MANHOLES

7.1 INTRODUCTION

On occasion, workers may encounter manholes or vaults that contain water and debris (manhole sediment). The water in manholes or vaults typically includes storm water runoff, irrigation runoff, and/or groundwater seepage that enter the manholes/vaults through electrical conduits, poor joint seals, a damaged lid, and holes in the ceiling, floors, and walls. Suspended solids from dirt, mud, and other debris may enter manholes/vaults with storm water. Prior to work, if this material must be removed from the manhole/vault, the following policy outlines the proper handling, storage, transport and disposal of the materials removed from the NSTAR Electric manhole system.

Manhole/vault pumping may occur on a scheduled or emergency basis. If a manhole or vault requires pumping on a continual (i.e. non-interruptible) basis, additional permits are required.

The procedures below shall apply to all persons which pump or discharge water, on a non-continual basis, from underground manholes or vaults.

7.2 APPLICABLE STATE & FEDERAL RULES

- Most routine dewatering of storm water into a storm drain is authorized within the City of Boston. Under certain conditions, the discharge of water to the City of Boston's storm drainage system may require a permit from the Boston Water & Sewer Commission.
- In Cambridge, the routine pumping of manholes and vaults is performed under an agreement with the City of Cambridge signed in May of 1988.

7.3 DEFINITIONS

Clean Water- Water that based on sensory observations, does not contain sheen, debris, chemical odor, petroleum (gas) odor, or sewage or rotten odor, and is not cloudy or murky.

Manhole Debris – Solid debris typically consisting of wood planks, milk crates, etc. found and/or used inside manholes and vaults.

Manhole Sediment – Manhole Sediment commonly consists of sand, dirt and small rocks found on the floor of manholes and vaults. Manhole sediment may contain oily and/or hazardous materials.

OHM – Oil and/or Hazardous Material.

Sheen - An iridescent (rainbow) appearance on the surface of water.

Sheen (Heavy) – A sheen which completely covers top of water layer.

Sheen (Slight) – A limited sheen in the form of small nickel size circles.

TSDF – Treatment, Storage and Disposal Facility.

Vactor – A straight body tank truck with a vacuum system designed to pick up both liquids and solids.

Vac-Truck – Either a straight or trailer truck with a pump and hose attachment designed to pick up liquids.

7.4 BACKGROUND

Although federal and state regulations apply uniformly across all service territories of NSTAR, local regulations in Cambridge and Boston dictate specific methods for manhole and vault water discharges.

7.5 HANDLING PROCEDURES

All materials collected from manholes shall be handled in accordance with the requirements set forth below:

Water – Without a Sheen

- Contractors shall never pump water to the street or catch basin unless an NSTAR representative is present. Water collected by contractors shall be disposed of at an approved TSDF.
- Pumping should be performed from the top to the bottom to minimize disturbance of sediments. Every effort should be made to keep the pump inlet nozzle greater than 3 inches above any sediment at the bottom of the structure. Continuously watch the discharge water to ensure no OHM enters the street or catch basins.
- Immediately stop pumping operations if there is any indication that OHM is being pumped out of the manhole.
- Due to the potential for fire or explosion, if gasoline is present, always hire an approved cleanup contractor.
- Never leave any materials or wastes unattended at the job site.

Requirements of the City of Boston and Surrounding Communities

Do not pump directly to a catch basin or to any surface water (lake, stream, harbor, etc.). However, in situations where water pumped onto the street could freeze and become a public safety hazard, either pumping directly into an adjacent catch basin or collecting the water into a temporary storage container and later discharging it back to the same manhole is permitted.

Requirements of the City of Cambridge

It is not allowable to discharge water over the ground. Hoses must be extended directly into the nearest catch basin, with ramps strategically placed so that vehicular traffic does not damage the hose. If it is necessary to place pumps or hoses onto the curb area, proper precaution must be made for pedestrian usage of the street.

Water – With Sheen

- The discharge of water containing a sheen to the environment is not acceptable and must not be allowed under any condition.
- Pumping oily water through pads is not an acceptable means of preventing oil discharge to the environment.
- Water with a sheen may be collected in drums, or in a Vac-Truck or Vactor used by a licensed hazardous waste transporter. It shall never be pumped into the street.

Drums of water with a sheen must be taken directly to a TSDF by a licensed hazardous waste transporter.

Manhole Sediment

- After the manhole has been dewatered, assess the sediment and decide if work can be done in the manhole/vault without the need to remove it. The first preference is to work around the Manhole Sediment, rather than remove it. This can be achieved by moving the Manhole Sediment away from equipment or by using a work platform.
- If Manhole Sediment obstructs equipment and must be removed, such sediment shall be collected in approved containers such as drums or a Vactor. It shall never be pumped onto the street or into catch basins.
- Manhole Sediment shall be transported directly to a TSDF by a licensed hazardous waste transporter.

Manhole Debris

- Wood planks/boards, milk crates, and other objects used for constructing temporary staging (seats or benches) in manholes and vaults may become

coated with sediment. Such debris is not regulated as hazardous waste, provided best practices are used in the field to remove any caked-on sediment.

- Wood debris and other objects and equipment being removed from a manhole or vault shall be brushed or tapped against the side of the utility opening to remove any excess sediment that may have adhered to the surface, thus ensuring the sediment falls back into the manhole or vault.
- It is not imperative that the item be totally free and clean of sediment. Some remaining sediment residue is acceptable.
- Manhole Debris that has come in contact with PCB contaminated oil should not be removed from a manhole by unlicensed personnel. PCB contaminated debris shall be collected and transported directly to a TSDF by a licensed hazardous waste transporter.

7.6 PROHIBITED ACTIVITIES

Never add oil dispersants or unapproved oil treatment materials like Micro-Sorb to manholes.

7.7 TRANSPORTATION

- Waste collected by contractors shall be transported using a Hazardous Waste Manifest when taken to a TSDF.
- Wood planks and other staging materials may be transported and reused at other manhole job sites.
- Manhole Debris that is no longer deemed suitable for use in manholes may be transported and disposed of as solid waste. The debris does not require any labeling. Measures to remove excess sediment from the debris shall be performed at the manhole/vault prior to transporting. Debris that has come into contact with PCB contaminated oil shall not be transported by unlicensed personnel (see Manhole Debris above).

Appendix IV Form 1

Pole Attachment Application

Licensee Name		Application Number			
Street Address		City	State	MA	Zip Code
Submittal Date		Proposed Cable Type		Per Ft Cable Weight	02360

In accordance with the terms and conditions of the Pole Attachment Agreement, application is hereby made for License to make
_____ attachments located in the municipality of _____.

Licensee Employee	
Signature	
Telephone Number	
E-Mail	

Instructions:

1. Each application submitted by Licensee must be numbered sequentially in the order in which Licensee requests the applications be processed.
2. Provide a separate application for each application and municipality
3. Limit the number of poles to 200 per application
4. The Licensee shall submit an electronic copy of this application along with associated plans and cabling diagrams to EVERSOURCE.
5. List the poles applied for on Form 3

*****This area for licensor use only, do not write below this line*****

Pole Attachment License Application Number _____ is hereby granted to make the attachments described above located in the municipality of _____. The specific pole information including your height of attachment can be found on Form 3.

Licensed Joint Poles	0
Licensed Full Electric Poles	0
Excluded Poles	0

Licensor Employee	
Signature	
Telephone Number	
E-Mail	

Appendix IV Form 2

Authorization for Field Survey Work

In accordance with Article 3.3.1 of the Pole Attachment Agreement, a Pre-construction survey charge estimate of \$50.00 per pole is to be submitted with each pole attachment application.

Applications of less than 10 poles will not be charged an up front fee.

The estimate calculated in the box below is based on the number of poles listed by the Licensee on Form 3.

In accordance with Article 3.3.2 of the Pole Attachment Agreement, the Pre-Construction Survey charge will be the actual cost incurred by Licensor to complete the Pre-construction survey. The Licensee will be credited for any amount paid in excess of the Licensor's Pre-construction Survey estimate, or shall be billed for any amount in addition to Licensor's Pre-construction survey estimate, as compared to the actual costs as finally computed.

The required Pre-construction survey covering application number
is authorized. Enclosed is payment of the Pre-construction survey estimate in the amount of

\$0.00

.

Licensee:	
Name:	
Signature:	
Date:	

Instructions:

1. Licensee fills out columns B, C, and D
2. Licensors fill out columns E through J and header
3. If no tag on pole enter "NT", do not leave blank
4. Any additional info, cross street, coordinates, etc.
List starting on column K continuing to the right as needed

Appendix IV Form 3

FIELD SURVEY / MAKE READY WORK FORM

DATE OF SURVEY:				SURVEYORS:		JOB NUMBERS		POLE COUNTS	
TOWN				EVERSOURCE		STORMS#		APPLIED FOR:	
LICENSEE NAME				VERIZON		WO#		EXCLUDED:	
APPLICATION#				LICENSEE		TEL#		LICENSED	
	STREET NAME	TEL #	ELEC #	OWNERSHIP	MAKE READY	CUST ATTACH AT HEIGHT	EXCLUDE FROM LICENSE	WORK NEEDED	COMMENTS
1				JOINT					
2				JOINT					
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Authorization For Make Ready Work

Listed above is the required make-ready work at each pole.

If you wish us to complete the make-ready work, please sign this copy below and return with an advance payment in the amount of _____ No make-ready work will be scheduled without receipt of payment in this amount.

Licensee Employee

Signature

Telephone Number

E-Mail

APPENDIX 1

OCCUPANCY FEES AND CHARGES NSTAR Electric Company Effective August 1, 2010

Conduit Occupancy Fee

Annual Conduit Occupancy Fees are as follows:

	Duct
Conduit	\$1.09 per foot

Conduit Record Search and Manhole Survey

	<u>#Manholes</u>	<u>Unit Rate</u>	<u>Total</u>
Record Search Application Fee	_____	* \$ <u>200.00</u>	\$ _____
Manhole Survey Fee	_____	* \$ <u>300.00</u>	\$ _____

* Make-Ready Charges and Inspection/ Survey Charges shall be calculated by the Licenser based on fully loaded costs of actual time and material.

APPENDIX I

ATTACHMENT FEES AND CHARGES NSTAR Electric d/b/a Eversource Energy Effective September 01, 2021

1. Attachment Fees

Annual Attachment Fees are as follows:

State	JO/JU	Sole Owned
MA (Communication Space)	\$7.14	\$14.27
MA (Power Space)	\$7.14	\$14.27
Antenna (Pole Top & Comm Space)	\$100	\$200

2A. Field Survey Charges – NSTAR Electric d/b/a/ Eversource Energy Eastern MA (EMA)

<u>Field Survey</u>	<u>#Poles</u>	<u>Unit Rate</u>	<u>Total</u>
Field Survey Application Fee	(covers 1 pole)	\$139.00	\$ <u>139.00</u>
Field Survey 2 -200 Poles	_____	\$ <u>13.45</u> per Pole	\$ _____
Additional Travel Time*	_____	\$ _____ per Day	\$ _____
TOTAL Charges			\$ _____

* Based on average of 75 poles surveyed per day, add \$200.00 travel time for each additional day required to complete survey.

2B. Field Survey Charges – NSTAR (Formerly WEMCO) d/b/a/ Eversource Energy Western MA (WMA)

Pre-Construction Survey Charge:

Less than 10 poles:	No charge
10 poles or more:	\$50.00 per pole
Antenna:	\$500.00

Make Ready Pricing Note:

NSTAR Electric does not utilize unit pricing for estimating or billing make ready work. NSTAR Electric will estimate all necessary make ready work on a time and materials basis. Estimates will be provided prior to make ready work being conducted and reconciled with the actual costs following completion of the work.



CONSTRUCTION STANDARD
ELECTRIC OPERATIONS ORGANIZATION

Jointly Owned Poles – Pole Space Allocation and Intercompany Grounding/Bonding Requirements

Document Number:	Issued Date:	Revised Date:	Revision:	Applicability:
DTR 16.705	01-Jun-20	13-Dec-24	1	EMA

This Document Supersedes Eversource-EMA C4406

Scope:

This document details/outlines the pole space allocation and grounding/bonding requirements on jointly owned poles as defined in the National Electric Safety Code (NESC), Joint Ownership (JO) Agreements and Intercompany Operating Procedures (IOPs), between the Company and Verizon.

Safety:

Providing a work environment, free of recognized hazards is a value at Eversource. Therefore, prior to the start of any work, ensure that you are familiar and knowledgeable with all Eversource Safety Rules, Policies and Procedures that are applicable to the work and tasks at hand and perform a job brief at the job site, prior to commencing work. PPE requirements to protect the worker shall be followed as required in the Eversource Employee Safety Manual.

Approved by: Signature on File Date: 13-Dec-24
Chad Gandolfi
Manager, T&D Standards Engineering

Rev No.	Description	Date
1	Added literature in regard to no down grounds present for new 3 rd party attachments.	December 13, 2024
0	Issued as Approved. Supersedes Eversource-EMA C4406.	June 1, 2020

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2.0 General	3
3.0 Pole Space Allocation	3
4.0 Intercompany Grounding/Bonding.....	4

1.0 Reference Documents

DTR 04.300	Clearance - Overhead Lines 35 kV Maximum Distribution Standard
DTR 16.700	Grounding and Bonding Pole Mounted Equipment Standard
NESC	National Electrical Safety Code, latest edition.

2.0 General

- 2.1 NESC minimum clearance requirements between the electric supply space and communications space of 40 inches at the pole and 30 inch mid-span must be maintained. This space gives a physical separation between electric and communication facilities to provide a working clearance space for workers in the Communication Space. In most cases a clearance greater than 40 inches will be needed at the pole in order to meet the 30 inch mid-span clearance requirement.
- 2.2 Electric supply and communications systems must be bonded together In accordance with NESC Rule 097G. Bonding communications systems to the Company's common neutral reduces the possibility of electric shock and minimizes plant damage in the event of an accidental contact.
- 2.3 Refer to **DTR 04.300** for NESC minimum overhead clearance requirements.

3.0 Pole Space Allocation

- 3.1 Figure 1 and Tables 1 & 2 show the joint use pole zones and the allocated space for each party in accordance with Joint Ownership Agreements and Intercompany Operating Procedures (IOPs) between the Company and Verizon. Table 1 reflects Eversource EMA North and Table 2 Eversource EMA South. In most installations, Eversource and Verizon share equal pole ownership. These dimensions have been highlighted in bold face of the tables.
- 3.2 The secondary/neutral conductors are to be attached at the bottom of the Electric Supply Space, where possible, in order to secure our entire allocated pole space. Encroachment into pole space owned by Eversource may restrict our future abilities to mount additional equipment.
- 3.3 45/40 indicates a 45 foot pole where the communication company pays for and occupies the space as if it were a 40 foot joint pole. 40/45 indicates a 45 foot pole where the Company pays for and occupies the space as if it were a 40 foot joint pole.
- 3.4 Normal pole setting depths are as defined in ANSI O5.1. Soil type, pole loading or other field conditions may dictate that set depths be increased or decreased. Any adjustments will be divided equally between Eversource and Verizon.
- 3.5 The bottom of the pole brand is located 10 foot from the pole butt and may be used as a reference for determining how deep a pole has been set
- 3.6 To minimize pole replacements, each party shall rearrange its attachments on existing poles to provide space for the other party, within the limits of each company's construction standards, regardless of allocated space shown.
- 3.7 Dimensions B, C, or D may be adjusted by mutual agreement between the joint owners to avoid a pole changeout if field and code conditions permit.
- 3.8 Municipal space and/or space for other authorized licensees' shall be made available through the equal contribution of 6 inches by each owner if the joint owners have any available space to lease.

- 3.9 Third party attachments shall be located on the same side of the pole as existing facilities to facilitate pole replacement.
- 3.10 Electric Supply Space is defined as the vertical space on the pole that is occupied by the electrical supply facilities. Generally, this space reaches from the top of the pole to the lowest point that the electrical supply facilities extend (excluding streetlights). This area is restricted to qualified workers performing work approved by Eversource.
- 3.11 Communication Worker Safety Zone (CWSZ) is the space created both at the pole and mid-span between the Electric Supply Space and the Communication Space by the NESC clearance requirements specified in Rules 235C (Vertical clearance between line conductors) and 238 (Vertical clearance between certain communications and supply facilities located on the same structure). The space is intended to form a physical separation between the electric and communication facilities to provide a working clearance space for workers in the Communication Space.
- 3.12 The CWSZ minimum clearances are 40 inch at the pole and 30 inch mid-span (both conditions must be met). These may be reduced to 30 inch at the pole and 12 inch mid-span for the following conditions, as allowed by NESC Table 235-5, footnote 5. See Eversource construction standard **DTR 04.300**, "Clearances – Overhead Lines" for complete details.
- 3.13 Communication Space is the vertical space directly below the CWSZ which is occupied by communication facility attachments.

4.0 Intercompany Grounding/Bonding

NESC Rule 097G defines the required bonding between communication systems and electric supply where all systems on the pole are grounded on a joint use structure. A single grounding conductor shall be used for all systems, or the electric and communication grounding conductors shall be bonded together. They must be bonded to the system neutral on a multi-grounded wye system or to the secondary neutral (and not to arrester, equipment or transformer down grounds) in other types of systems.

- 4.1 An exception to this rule is where separation is required by Rule 97A. See Eversource Standard **DTR 16.700**.
- 4.2 If a single pole ground is used for the electric supply and communication systems (as is mostly the case), it must be connected to both the supply neutral and the communication messengers.
- 4.3 If separate pole grounds are run to the supply neutral and the communication messengers, the pole grounds must be bonded together.
- 4.4 When there is no down ground present and a new 3rd party messenger or equipment is attached to a pole, the communication company must attach a bond wire to its new messenger or equipment and leave it coiled in the communication space.

Eversource will bring the coiled tail (bond wire) up to the supply space and bond it to the electric neutral.

This bond to the electric neutral in the supply space is done by Eversource at the communication company's expense.

- 4.5 If isolation is being maintained between primary and secondary neutrals, such as for stray voltage, the communication messengers shall be connected only to the primary grounding conductor.
- 4.6 In the case of a delta primary, the equipment ground and supply neutral are to be connected to their own individual pole grounds, which are separated by a minimum of 20 feet. They are not bonded together. The communication messenger shall be bonded to the supply neutral pole ground. The neutral can be extended to an adjacent pole and a down ground connected there to satisfy the 20 foot requirement.
- 4.7 The following figures show the bonding differences for grounded Y and delta primary circuits.

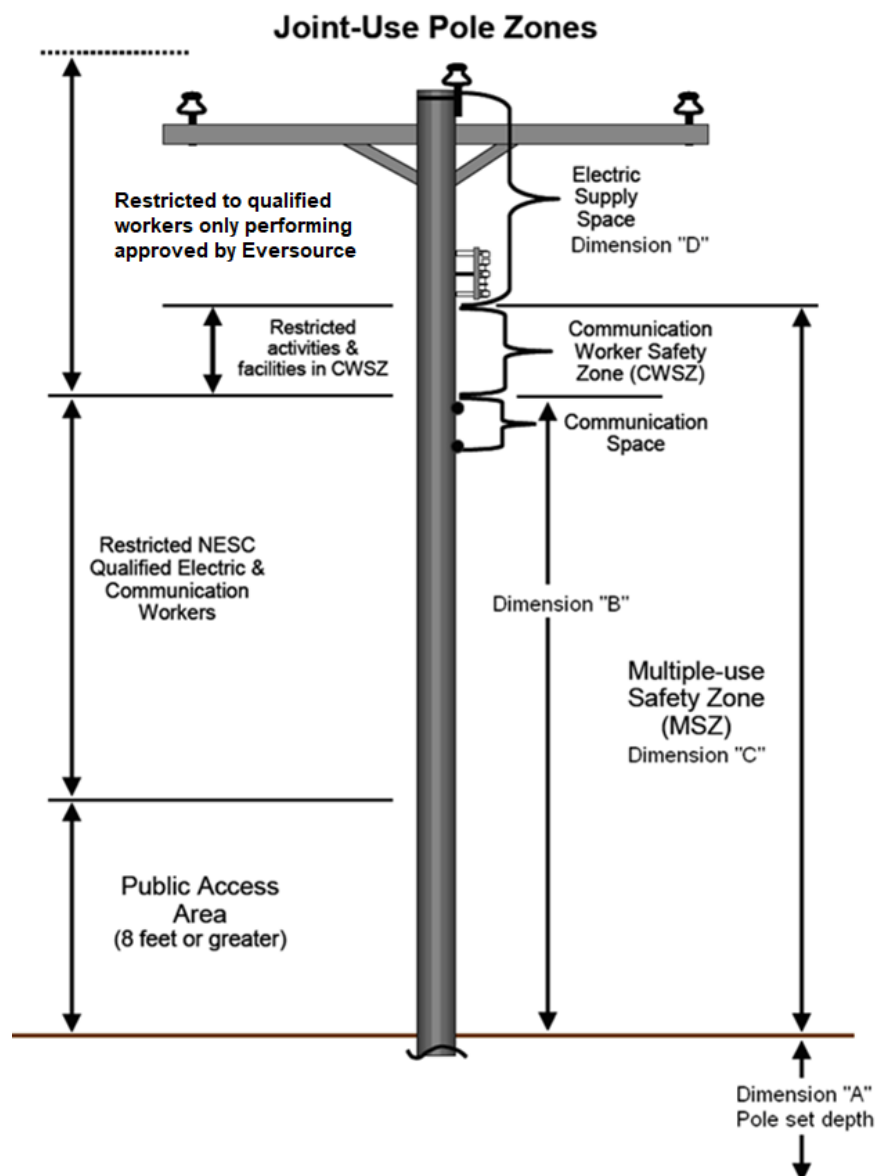


Figure 1 – Joint Use Pole Zones and Space Allocations

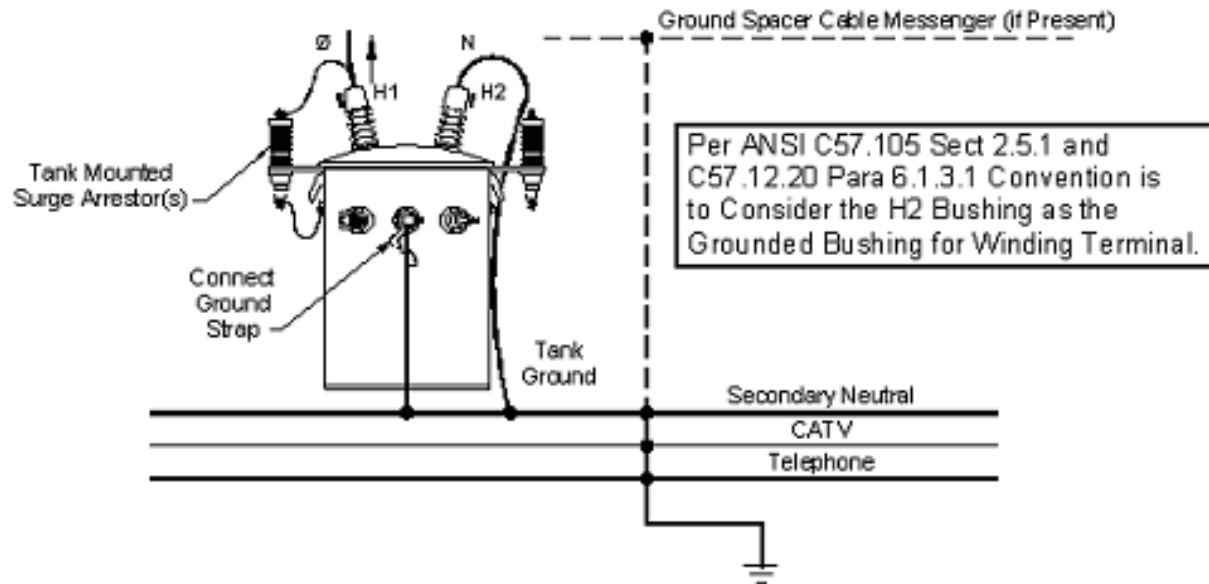
Table 1 – J/O Space Allocation Dimensions (North)

Pole Length (Feet)	Ownership Percentage (Elec./Comm.)	A Normal setting Depth (Feet - Inches)	B Communication Maximum Height (Inches)			C Electric Minimum Height (Inches)			D Electric Maximum Space (Inches)		
			Electric & Telco only	w/1-CATV or fire alarm	w/2-CATV and fire alarm	Electric & Telco only	w/1-CATV or fire alarm	w/2-CATV and fire alarm	Electric & Telco only	w/1-CATV or fire alarm	w/2-CATV and fire alarm
35	35/35	5'-6"	21'-2"	20'-8"	20'-2"	24'-6"	25'-0"	25'-6"	5'-0"	4'-0"	3'-6"
40	40/40	6'-0"	23'-8"	23'-2"	22'-8"	27'-0"	27'-6"	28'-0"	7'-0"	6'-6"	6'-0"
40	40/35	6'-0"	21'-2"	20'-8"	20'-2"	24'-6"	25'-0"	25'-6"	9'-6"	9'-0"	8'-6"
40	35/40	6'-0"	26'-2"	25'-8"	25'-2"	29'-6"	30'-0"	30'-6"	4'-6"	4'-0"	3'-6"
45	40/45	6'-6"	28'-2"	27'-8"	27'-2"	31'-6"	32'-0"	32'-6"	7'-0"	6'-6"	6'-0"
45	45/45	6'-6"	25'-2"	24'-8"	24'-2"	28'-6"	29'-0"	29'-6"	10'-0"	9'-6"	9'-0"
45	45/40	6'-6"	23'-8"	23'-2"	22'-8"	27'-0"	27'-6"	28'-0"	11'-6"	11'-0"	10'-6"
45	45/35	6'-6"	21'-2"	20'-8"	20'-2"	24'-6"	25'-0"	25'-6"	14'-0"	13'-6"	13'-0"
50	45/50	7'-0"	29'-8"	29'-2"	28'-8"	33'-0"	33'-6"	34'-0"	10'-0"	9'-6"	9'-0"
50	50/50	7'-0"	28'-2"	28'-2"	27'-3"	31'-6"	32'-0"	32'-6"	11'-6"	11'-0"	10'-6"
50	50/45	7'-0"	25'-2"	24'-8"	24'-2"	28'-6"	29'-0"	29'-6"	14'-6"	14'-0"	13'-6"
50	50/40	7'-0"	23'-8"	23'-2"	22'-8"	27'-0"	27'-6"	28'-0"	16'-0"	15'-6"	15'-0"
50	50/35	7'-0"	21'-2"	20'-8"	20'-2"	24'-6"	25'-0"	25'-6"	18'-6"	18'-0"	17'-6"

Table 2 – J/O Space Allocation Dimensions (South)

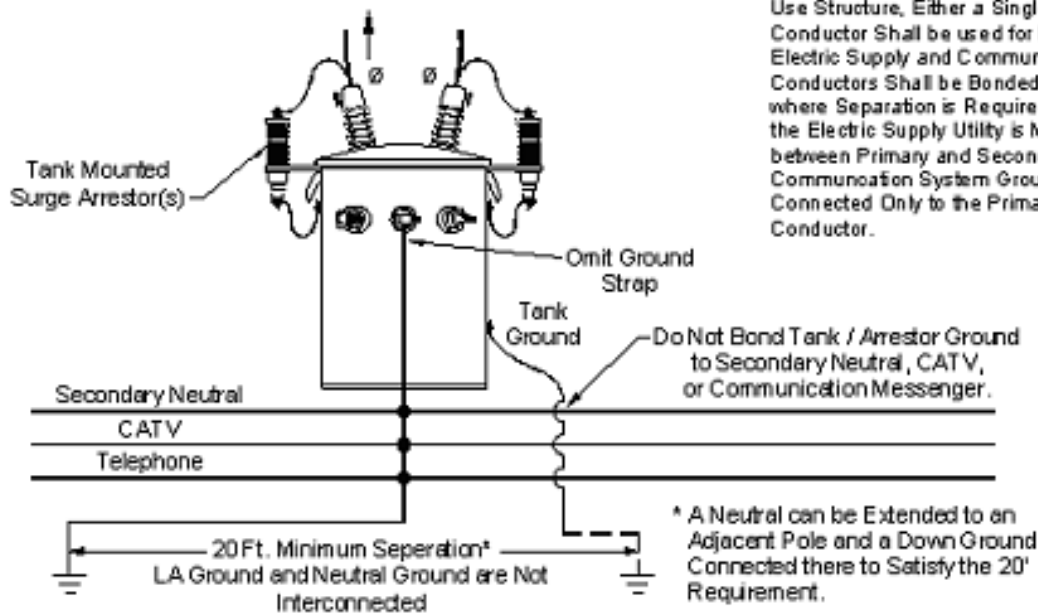
Pole Length (Feet)	Ownership Percentage (Elec./Comm.)	A Normal setting Depth (Feet - Inches)	B Communication Maximum Height (Inches)			C Electric Minimum Height (Inches)			D Electric Maximum Space (Inches)		
			Electric & Telco only	w/1-CATV or fire alarm	w/2-CATV and fire alarm	Electric & Telco only	w/1-CATV or fire alarm	w/2-CATV and fire alarm	Electric & Telco only	w/1-CATV or fire alarm	w/2-CATV and fire alarm
35	35/35	5'-6"	21'-5"	20'-11"	20'-5"	24'-9"	25'-3"	25'-9"	4'-9"	4'-3"	3'-9"
40	40/40	6'-0"	23'-8"	23'-2"	22'-8"	27'-0"	27'-6"	28'-0"	7'-0"	6'-6"	6'-0"
40	40/35	6'-0"	21'-2"	20'-8"	20'-2"	24'-6"	25'-0"	25'-6"	9'-6"	9'-0"	8'-6"
40	35/40	6'-0"	26'-2"	25'-8"	25'-2"	29'-6"	30'-0"	30'-6"	4'-6"	4'-0"	3'-6"
45	40/45	6'-6"	28'-2"	27'-8"	27'-2"	31'-6"	32'-0"	32'-6"	7'-0"	6'-6"	6'-0"
45	45/45	6'-6"	25'-11"	25'-5"	24'-11"	29'-3"	29'-9"	30'-3"	9'-3"	8'-9"	8'-3"
45	45/40	6'-6"	23'-8"	23'-2"	22'-8"	27'-0"	27'-6"	28'-0"	11'-6"	11'-0"	10'-6"
45	45/35	6'-6"	21'-2"	20'-8"	20'-2"	24'-6"	25'-0"	25'-6"	14'-0"	13'-6"	13'-0"
50	45/50	7'-0"	30'-5"	29'-11"	29'-5"	33'-9"	34'-3"	34'-9"	9'-3"	8'-9"	8'-3"
50	50/50	7'-0"	28'-2"	27'-8"	27'-2"	31'-6"	32'-0"	32'-6"	11'-6"	11'-0"	10'-6"
50	50/45	7'-0"	25'-11"	25'-5"	24'-11"	29'-3"	29'-9"	30'-3"	13'-9"	13'-3"	12'-9"
50	50/40	7'-0"	23'-8"	23'-2"	22'-8"	27'-0"	27'-6"	28'-0"	16'-0"	15'-6"	15'-0"
50	50/35	7'-0"	21'-2"	20'-8"	20'-2"	24'-6"	25'-0"	25'-6"	18'-6"	18'-0"	17'-6"

Y OVERHEAD GROUNDED Y PRIMARY CIRCUIT



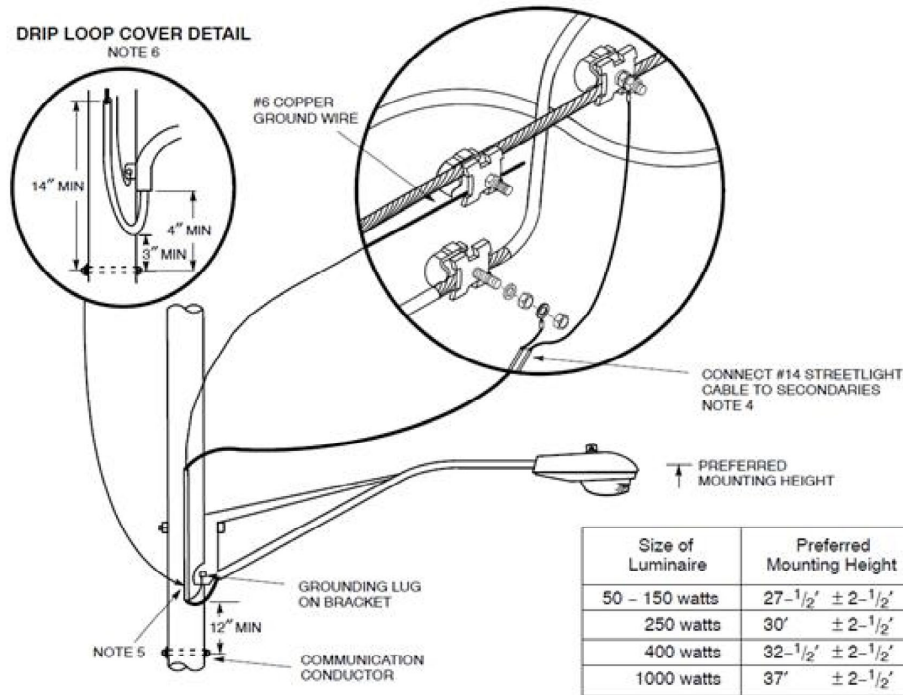
GROUNDING OF OVERHEAD TRANSFORMERS ON GROUNDED WYE CIRCUITS (Except 3 Phase Delta Secondary Services)

Δ OVERHEAD DELTA PRIMARY CIRCUIT



NESC Reference Rule 97G. Bonding of Communication Systems to Electric Supply Systems. Where Both Electric Supply Systems and Communication Systems are Grounded on a Joint Use Structure, Either a Single Grounding Conductor Shall be used for Both Systems or the Electric Supply and Communication Grounding Conductors Shall be Bonded Together, Except where Separation is Required by Rule 97A. Where the Electric Supply Utility is Maintaining Isolation between Primary and Secondary Neutrals, the Communication System Ground shall be Connected Only to the Primary Grounding Conductor.

**Figure 2 – Grounding of Overhead Transformers on Ungrounded Wye and Delta Circuits
(Except Three-Phase Delta Secondary Services)**



Notes

1. See DTR 04.226, for allowable clearances for effectively grounded streetlight brackets and drip loops to communication attachments.
2. All parts of the bracket shall be a minimum of 18 inches from any primary conductor. Also, the photoelectric control shall be a minimum of 40 inches from any conductor over 5 kV, and a minimum of 30 inches from primaries up to 5 kV. If necessary, rearrange primary conductors on crossarm, relocate other equipment, or use longer bracket to avoid mounting streetlight below minimum preferred mounting height.
3. The bracket shall be grounded in the following manner: (Grounding material is found on the bracket standard.)
 - a. Run #6 copper ground wire from the bracket grounding lug to the system neutral. Connect to system neutral with a separate parallel groove connector. Order ground lug **Item #517541** separately if necessary.
 - b. Remove the manufacturer's bonding jumper from the housing to the neutral terminal, if necessary.
4. To connect the streetlight cable to the secondaries, install a lug and nut assembly onto the existing secondary connector, extending the wire through the lug, around the bolt, and securing the wire in the lug with pliers. Where there is no bolted connector, it should be added.
5. Cover the streetlight cable and the copper ground wire with a ground wire molding. Conduit may be used per Note 6 below in place of molding.
6. For reduced clearance, use nonmetallic drip loop cover **Item #516046**. The covering shall extend into the bracket pipe and shall extend at least 14 inches up the pole above communications through-bolt. Seal open end of conduit with electrical putty to prevent water accumulation.
7. Verify proper light operation and use a voltage tester to assure that the bracket is not energized.

ORIGINAL	OVERHEAD FED LUMINAIRE CONNECTIONS WOOD POLE - BRACKET MOUNTING			
4/11/94				
APPROVED				
09/12/16				
<i>Cwp</i>	EVERSOURCE ENERGY	DESIGN & APPLICATION STANDARD	DTR 21.061	3

GENERAL – This Standard defines the minimum clearance requirements of brackets, support wires, drip loops and supply equipment cases from communications equipment.

DEFINITIONS – Equipment – The non-current carrying metal parts of equipment, including: metal supports for cables or conductors, metal support braces, which are attached to metal supports or are less than 1–inch from transformer cases, or hangers which are not effectively grounded.

Eversource EQUIPMENT CASES – For effectively grounded multi-grounded wye circuits, Eversource equipment cases shall be separated from communications company equipment by a minimum of 30–inches. For delta or uni-grounded wye circuits, which are not considered effectively grounded circuits, Eversource equipment cases clearance from communications companies equipment shall be determined from **DTR 04.225** as the clearance between Eversource open supply conductors and communications conductors.

DRIP LOOPS TO LUMINAIRES – The lowest point of a drip loop feeding a luminaire shall be at least 12–inches above the communication cable or its thru bolt. If the drip loop is covered with a nonmetallic covering, then this minimum clearance requirement can be reduced to 3–inches. See **DTR 21.061** for detail.

SUPPORT WIRES AND BRACKETS – To be effectively grounded, the support wire or bracket must be bonded to the neutral with a #4 or #6 copper ground wire in accordance with **DTR 21.061**. Where the secondary is supplied by a delta or uni-grounded primary, the support wire and bracket are effectively grounded only if the bracket is bonded to the secondary neutral and the secondary neutral is grounded in accordance with **DTR 16.411**. Streetlight bracket installations must meet the clearance requirements of *both* the drip loop as well as the bracket.

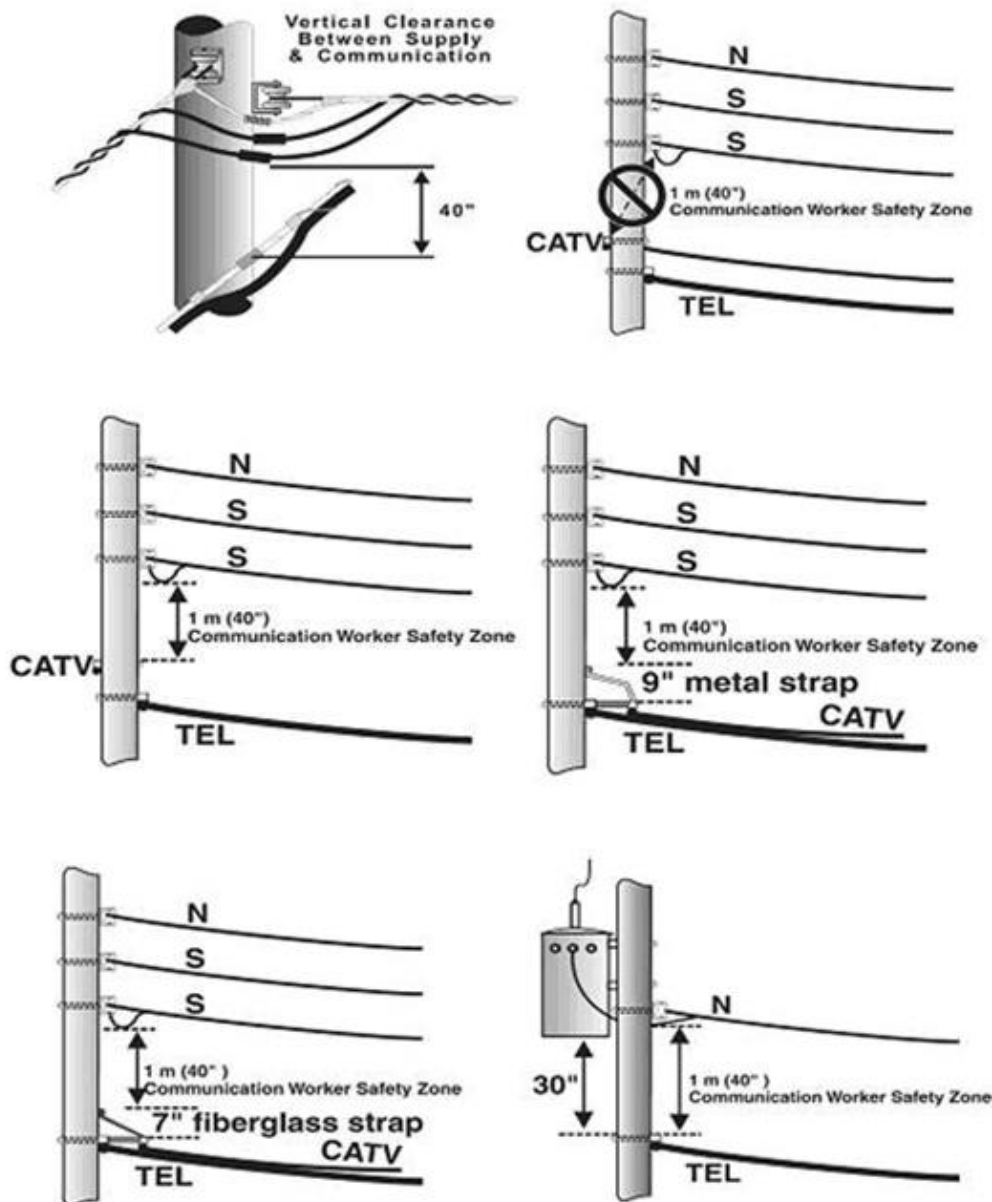
Vertical Clearance in Inches From Communications Conductors of Support Wires and Brackets Used for Carrying Luminaires			Vertical Clearance in Inches From Communications to Supply Cable Drip Loop	
Attachment Point of Bracket or Span Wire	Not Effectively Grounded	Effectively Grounded	Without Covering	With Covering
Above communication support arms	40	20 – Note 1	12	3
Below communication support arms	Note 2	Note 2	Note 2	Note 2
Above messengers carrying communication cable	40	4	12	3
Below messengers carrying communication cable	Note 2	Note 2	Note 2	Note 2
From terminal box of communications cable	40	4	12	3
From communications brackets, bridle wire rings or drive hooks	40	4	12	3

Notes

1. May be reduced to 12–inches for either span wires or metal parts of brackets at points 40–inches or more from the pole.
2. Streetlight brackets **shall not** be mounted below communications conductors or supports.

ORIGINAL	MINIMUM VERTICAL CLEARANCE FROM COMMUNICATIONS FACILITIES TO EQUIPMENT CASES & FACILITIES ASSOCIATED WITH LUMINAIRES			
11/29/88				
APPROVED				
02/04/2021				
JH	EVERSOURCE ENERGY	DESIGN & APPLICATION STANDARD	DTR 04.226	7

Reference: NESC Handbook, 2017 Edition, Table H238B-1
Example of Clearances Requirements at Pole



Notes

1. Refer to **DTR 04.300 – Clearances – Overhead Lines 35kV Maximum Distribution Standard** for additional details.
2. Refer to **DTR 04.310** for street light service drop loop clearance exceptions.
3. Refer to **DTR 04.306** for CWSZ clearances for ADSS installed below secondaries.

ORIGINAL	IMPORTANCE OF PROPER CLEARANCES AT POLE CONSIDERING VARIOUS WIRE SAGE CHARACTERISTICS				EMA
06/01/20					
APPROVED					
06/01/20					
JH	EVERSOURCE ENERGY	CONSTRUCTION STANDARD	DTR 04.305	0	

Volume

1



Highway Division

Utility Accommodation Policy on State Highway Right of Way

May 2013

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Chapter

1

1 - OVERVIEW

A. Policy

1. The accommodation of utility facilities within or upon the Massachusetts Department of Transportation (MassDOT) right of way is permitted by Massachusetts General Laws (MGL) and Code of Massachusetts Regulations. It is in the public interest for utility facilities to be accommodated within or upon the right of way of state highways, and within or upon the rights of way of local roads and streets receiving federal-aid, when use and occupancy of the right of way does not interfere with the free flow of traffic, impede pedestrian or bicycle access, or otherwise does not impair the highway or its visual quality, and does not conflict with any provision of federal, State, or local law, rule, regulation or the guidelines and procedures adopted under this *Utility Accommodation Policy*.
2. In accordance with MGL Ch. 81, Sec. 21, a highway access permit is required in order to place utilities within or upon the MassDOT right of way. Examples of utilities are above and underground electric power transmission, telephone or telegraph lines, cellular communication towers, fiber optic lines, pole lines, community antenna television lines, railways, ditches, sewers, water, heat or gas mains, gas, steam, chemical, petroleum, and other pipe lines and service connections, flumes or other structures which, under the laws of the Commonwealth of Massachusetts or ordinance by any city or town may be constructed, placed, or maintained across or along a major highway, or its right of way.

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Highway access permits issued by MassDOT contain a copy of the current rules, along with the procedures that supplement these rules, general and site specific terms and conditions, and internal guidance for MassDOT employees when reviewing permit applications. The *Application for Permit to Access State Highway* and related documentation is available at

<http://www.massdot.state.ma.us/highway/Departments/UtilitySection/FormsDocuments.aspx>.

B. Introduction

1. It is in the public interest for utility facilities to be accommodated on the right of way of any highway when such use and occupancy does not interfere with the flow of traffic and the safe operation of vehicles, does not otherwise impair the highway or its visual quality, does not impede pedestrian or bicycle access, and does not conflict with the provisions of federal, State or local laws or regulations.
2. MassDOT operates the State highway system to provide a safe and convenient means for the vehicular transportation of people and goods. Cooperation between MassDOT and utility owners is essential if the public is to be served in the most efficient and economical manner consistent with their respective public service needs, obligations, and interests. Although MassDOT strives to accommodate utility facilities where possible, the permitted use and occupancy of the highway right of way for non-highway purposes is subordinate to the primary interests and safety of the traveling public.

C. Purpose of Utility Accommodation Policy

1. The purpose of this *Utility Accommodation Policy* is to prescribe policies and procedures to regulate and accommodate utility facilities along, across, over, under or on the right of way of all major highways and other transportation facilities and properties owned or under the jurisdiction of MassDOT.
2. This *Policy* applies to all public and private utilities. It also applies to all existing utility facilities retained, relocated, replaced, or altered, and to new utility facilities installed on State rights of way, including those needed for highway purposes (such as for highway lighting or to serve a weigh station, rest area or recreation area).

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3. This *Policy* was and continues to be developed with integrated sections. Thus, two or more sections need to be read together to understand a utility accommodation issue. Failure to read one section without reading other related sections may lead to misinterpretation of the Policy.
4. This *Policy* became effective upon approval of the Federal Highway Administration (FHWA) on **May 21, 2013**.

D. Source Documents

1. Massachusetts Statutes and Rules permit accommodation of utility facilities on Massachusetts highways. Highways include all roads established under the provisions of Article XXXIX of the Constitution of the Commonwealth of Massachusetts. This includes all highways that are constructed, improved and maintained as public highways under the jurisdiction of MassDOT.
2. The policies and procedures contained in this *Utility Accommodation Policy* were developed in accordance with the latest editions of the following:
 - a. Massachusetts Statutes;
 - b. Massachusetts General Laws, including c. 6C, sections 3(21), 44 and 45, and c. 81, sec. 21;
 - c. Code of Massachusetts Regulations, including 720 CMR 13.03 and 13.05;
 - d. United States Code, including 23 U.S.C. sec. 109(I) and sec. 123;
 - e. Code of Federal Regulations, title 23, part 645, subpart B;
 - f. Code of Federal Regulations, title 23, part 710, subpart D;
 - g. American Association of State Highway and Transportation Officials (AASHTO) publications, *A Guide for Accommodating Utilities Within Highway Right of Way* and *A Policy on the Accommodation of Utilities Within Freeway Right of Way*.
3. In addition to the above, utility accommodation shall be in accordance with the following:

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- a. MassHighway *Manual on Uniform Traffic Control Devices*;
- b. AASHTO publications, *Roadside Design Guide*, *A Policy on Geometric Design of Highways and Streets* and *A Policy on Design Standards Interstate System*;
- c. MassHighway *Project Development & Design Guide*;
- d. MassHighway *Construction and Traffic Standards*;
- e. MassHighway *Standard Specifications for Roadways and Bridges*;
- f. MassDOT relocation policies and procedures. The latest versions of these policies, procedures and related forms can be found on MassDOT's web page at the following address:
<http://www.massdot.state.ma.us/highway/Departments/UtilitySection/FormsDocuments.aspx>;
- g. Applicable municipal trench permits, Dig Safe requirements, and other state or local approvals.
- h. Applicable provisions of Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.
- i. Applicable provisions of the Americans with Disabilities Act of 1990, 42 USC §§ 12131, et seq, as amended, and its implementing regulation at 28 CFR part 35, as amended.

E. Application of Policy

- 1. The policies and procedures contained herein apply to all public and private utilities and service connections (and private lines that are allowed to cross highways), including, but not limited to, communications, cable television, power, electricity, alternative energy, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway drainage, or any other similar commodity that is to be accommodated within the right of way of highways under the jurisdiction of the Administrator of the Massachusetts Department of Transportation - Highway Division.
- 2. The policies and procedures contained herein apply to underground, surface or overhead facilities, either singularly or in conjunction, including bridge attachments.

MASSDOT UTILITY ACCOMMODATION POLICY

F. Scope of Policy*

1. These policies and procedures regulate the location, design, and methods for installing, adjusting, accommodating, relocating, and maintaining utility facilities on highway rights of way and within local road and street rights of way.
2. These policies and procedures are limited to sound engineering principles that preserve and protect the integrity and visual qualities of the highway and the safety of the motoring public.
3. Should new Massachusetts statutes, regulations or industry codes prescribe a higher degree of protection than is provided in these policies and procedures, the higher degree of protection shall prevail.

G. Utility Accommodation

1. MassDOT shall permit utility facilities to occupy State highway right of way so long as the following conditions are met:
 - a. Such use and occupancy does not adversely affect the primary function of the highways or materially impair their safety, operation, or visual quality;
 - b. Such use and occupancy does not conflict with the provisions of federal, State or local statutes, rules, or regulations or the accommodation provisions stated in this *Utility Accommodation Policy*;
 - c. The occupancies do not significantly increase the difficulty or future cost of highway construction or maintenance;
 - d. The roadway has not been resurfaced within five years, or the accommodation method is a non-destructive installation such as directional boring/tunneling, or the placement of overhead or pole mounted facilities.
 - e. The utility owner or authorized representative can secure an Access Permit.

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2. A utility owner shall abide by the current version of this Policy each time a new permit is authorized for its work. When future changes are made to this Policy, an existing utility facility is not required to meet the new version unless proposed changes to that facility require a new permit from MassDOT.
3. Nothing in this Policy shall be considered limiting to the rights of MassDOT to impose restrictions or requirements in addition to and/or deviations from those stated herein in any permit where MassDOT deems it advisable to do so. An appropriate explanation for such action should be provided to the utility owner by MassDOT.
4. The permitted facilities shall, if necessary, be altered by the utility owner to facilitate alteration, improvement, safety, or maintenance of the highways as may be ordered after permit approval. All costs of constructing, maintaining, altering, periodically inspecting, and relocating the permitted facilities shall be the obligation of the applicant. If the relocation of the utility facilities is for a MassDOT Highway initiated project, MassDOT shall reimburse the utility owner at least 50% of the costs for the relocation, in accordance with M.G.L. c. 6C, sec. 44 and MassDOT policies and procedures, and as specified in a state-executed utility agreement.

H. Exceptions to Policy

1. Exceptions to this *Utility Accommodation Policy* may be allowed if it is demonstrated that extreme hardships or unusual conditions provide justification, and where alternative measures can be prescribed to fulfill the intent of these policies and procedures. The utility owner shall submit a written Utility Accommodation Policy exception request to the MassDOT Highway Chief Engineer that documents and justifies the hardship or unusual condition.
2. Any such exception must be:
 - a. Requested by an authorized person representing the utility owner;
 - b. Recommended for approval by MassDOT District Highway Director (or Authorized Representative);
 - c. Submitted to the FHWA for prior concurrence if the exception applies to a utility facility located on the National Highway System;

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- d. Approved by MassDOT - Highway Administrator.
- 3. All requests for exceptions shall be in the form of a complete submittal that must include an evaluation of the direct and indirect design, environmental, and economic effects that would result if an exception is made, plus any other pertinent information deemed necessary by MassDOT.

I. Enforcement of Policy

- 1. Policies and procedures in the *Utility Accommodation Policy* shall be enforced as provided for in existing Massachusetts statutes and Massachusetts regulations. Such enforcement might include, but is not limited, to the following:
 - a. Misdemeanor citations and responsibility for restoration costs when utilities begin work without a permit;
 - b. Increased bonding levels to recoup potential restoration costs;
 - c. Denial of future permits until past non-compliance is resolved;
 - d. Litigation;
 - e. Penalties;
 - f. Fines.
- 2. No utility owner shall rely upon any oral representations that are made by MassDOT personnel in the Permits Division or in the respective MassDOT District offices that possess delegated authority to issue said permits. All written representations made by said MassDOT personnel shall be documented and made a part of the permanent file for the project.

J. Prior Policies and Procedures

This *Utility Accommodation Policy* supersedes and replaces all prior MassDOT policies and procedures, or portions therein, pertaining to the accommodation of public and private utilities.

Chapter

2

2 - DEFINITIONS

AASHTO– American Association of State Highway and Transportation Officials.

Abandoned Facility – A facility that is no longer in service and is physically disconnected from a portion of the operating facility that is in use or still carries service.

Archaeological Resources - below-ground artifacts and features associated with significant pre- and post-contact Native American sites and other historic resources (defined below).

As-Built Drawings – Depiction of the placed utility facilities within the highway right of way showing the location and elevation, and referenced to highway, stationing, and/or state grid system. Also known as record drawings, these plans depict the facility as constructed, incorporating all field changes.

Average Daily Traffic (ADT) – The average 24-hour volume, being the total volume during a stated period divided by the number of days in that period. Unless otherwise stated, the period is one (1) year.

Backfill – Composition and shaping of soil or other suitable material to support a pipe, conduit, casing, or utility tunnel. Also, Backfill can be used to cover over an underground utility.

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Boring – The operation by which large carriers or casings are jacked through oversize bores. The bores are carved progressively ahead of the leading edge of the advancing pipe as soil is mucked back through the pipe.

Bridge – A structure including supports erected over a depression or an obstruction such as water, highway, or railway; having a track or passageway for carrying traffic or other moving loads; and having an opening measured horizontally along the center of the roadway of twenty (20) feet or more between undercopings of abutments, between spring line of arches, or between extreme ends of openings for multiple boxes. This term also includes multiple pipes where the clear distance between openings is less than half of the smaller contiguous opening. A length less than twenty (20) feet is considered a culvert.

Buffer Strip – That portion of the roadside, usually vegetated, between the curb or curb line and the sidewalk, or extending about four (4) feet or more from the curb where there is no sidewalk.

Cap – A rigid structural element surmounting a pipe, conduit, casing, or utility tunnel.

Carrier – A pipe directly enclosing a transmitted fluid (liquid, gas, or slurry). Carrier shall also include any electric or communication cable, wire, or line.

Casing – A larger pipe, conduit, or duct enclosing a carrier.

Clear Zone – The total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, a non-recoverable slope, and/or a clear run-out area. The desired width is dependent upon the traffic volumes, speeds, and roadside geometry.

Coating – Material applied to or wrapped around a pipe.

Co-location – Locating two or more telecommunications service provider facilities or related equipment on/in the same telecommunications facility.

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Co-locator – An individual, corporation, government agency, or entity such as a telecommunications service provider leasing or licensing space on a tower or support structure or within a wireline telecommunications conduit owned by tenant. The co-locator is subject to rent and other provisions set forth by the sublease agreement or the license agreement. Co-locator is synonymous with subtenant and licensee.

Conduit – An enclosed tubular casing, singular or multiple, for the protection of wires, cables, or lines, usually jacketed and often extended from manhole to manhole.

Control of Access – The condition in which the right of owners or occupants of abutting land or other persons to access, light, air, or view, in connection with a highway, is fully or partially controlled or limited by MassDOT or another public agency.

Coring – The depth to top of pipe, conduit, casing, cable, or similar line or utility tunnel below the earth or roadway surface. It is normally referenced from the bottom of the highway ditch.

Cradle – A rigid structural element below and supporting a carrier or casing.

Direct Burial – Installing a utility underground with or without encasement by plowing or trenching.

Drain – An appurtenance to discharge liquid contaminants from casings.

Driving – The operation by which a small pipe is driven through compressible soils by a steady thrust, hammering, or vibrating. A casing or corrosion-resistant covering is required to be used.

DUCE – District Utility/Constructability Engineer.

Duct – An enclosed tubular casing for protecting wires, lines, or cables, often flexible or semi-rigid.

Encasement – Structural element surrounding a carrier or casing.

Encroachment – The unauthorized use of highway right of way or easements by such items as signs, fences, buildings, utilities, parking, storage, etc.

MASSDOT UTILITY ACCOMMODATION POLICY

Environmentally Sensitive Area – An area that includes, but is not limited to, wetlands, flood plains, archaeological or historic sites; areas with stability or settlement problems; and areas with artesian conditions, animal or plant communities, landscapes or geologic formations with exemplary, unique, rare or threatened/endangered characteristics.

Expressway – A divided arterial highway for through traffic with partial control of access and generally with grade separations at major intersections.

Fiber Optic Cable – A communications cable that contains glass fibers.

Fiber Optic Facilities or Wireline Telecommunications Facilities – Improvements, personal property, and facilities necessary to operate wireline telecommunications facilities, including, without limitation, conduit, fiber optic strands, equipment for transmitting and receiving, equipment shelters and/or cabinets, related cables and utility lines.

Flexible Pipe – A plastic, fiberglass, or metallic pipe having a large ratio of diameter to wall thickness which can be deformed without undue stress.

Force Main – Construction that forces flow in a certain direction.

Freeway – An expressway with full control of access.

Frontage Road – A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas and for control of access.

Full Control of Access – MassDOT or another public agency's authority to control access that is exercised to give preference to through traffic by providing access connections with selected public roads only by prohibiting crossings at grade or direct private driveway connections.

Gallery – An underpass for two or more pipelines.

Gravity Systems – Elevation with a certain profile that only requires gravity flow.

Grounded – Electrically connected to earth or to some extended conducting body that serves instead of the earth, whether the connection is intentional or accidental.

Grout – A cement mortar or slurry of fine sand or clay.

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Highway Access Permit – The document whereby MassDOT regulates and gives approval for the temporary use and occupancy of the highway right of way by utility facilities, private lines, and/or service connections. A highway access permit is sometimes referred to as a “Use and Occupancy Agreement”.

Highway, Street or Road – A general term denoting a public way for the transportation of people, materials, goods, and services but primarily for vehicular travel, including the entire area within the right of way.

Highway Structure – A general term representing structures that are part of the highway, including for example, bridges, abutments, piers, overpasses, underpasses, culverts and tunnels.

Historic Resources - buildings, structures, objects, districts or sites that possess significance in American history, architecture, engineering, or culture. Many (but not all) such resources have been listed in the National and/or State Registers of Historic Places, or included in the Massachusetts Historical Commission’s “Inventory of the Historic and Archaeological Assets of the Commonwealth.”

Horizontal Directional Drilling (HDD) – Also known as directional boring and directional drilling. A method of installing underground pipes and conduits from the surface along a prescribed bore path. The process is used for installing telecommunications and power cable conduits, water lines, sewer lines, gas lines, oil lines, product pipelines, and casings used for environmental remediation. It is used for crossing waterways, roadways, congested areas, environmentally sensitive areas, and any area where other methods are more expensive and not feasible.

Interstate Highways – This includes only highways on the Interstate System as defined below.

Interstate System – The Dwight D. Eisenhower National System of Interstate and Defense Highways. Highways on this system that are in Massachusetts are included in the Massachusetts Highway System.

Jacket – A concrete encasement placed around a carrier or casing.

Lease – A written document in which the rights to use and occupy the land (the Premises) are transferred by landlord to another for a specified period of time in return for a specified rent.

Limited Access Highway – Any freeway, expressway or other highway, designed for through traffic with full control of access.

MASSDOT UTILITY ACCOMMODATION POLICY

Manhole/Utility Access Hole – An opening in an underground system that workers or others may enter for the purpose of making installation, removals, inspections, repairs, connections, and tests.

Median – The portion of a divided highway separating the traveled way for traffic in opposite directions.

Multiple State-Aid Street System – A system which includes highways constructed, improved, and maintained as public highways by municipalities.

National Highway System (NHS) – An interconnected system of principal arterial routes serving major population centers, international border crossings, ports, airports, public transportation facilities, and other intermodal transportation facilities and major travel destinations. The NHS includes all highways on the Interstate System, a large percentage of urban and rural arterials, the defense strategic highway network, and major strategic highway connectors.

Normal – Crossing at a right angle.

Out-of-Service Facility – An underground facility that is no longer maintained and is not intended for future use, but has not been deemed abandoned. An out-of-service facility may still be connected to a portion of the operating facility that is in use or still carries service. The utility owner retains ownership of the facility.

Partial Control of Access – MassDOT or another public agency's authority to control access that is exercised to give preference to through traffic to a degree that, in addition to access connections with selected public roads, there may be some crossings at grade and some private driveway connections.

Pavement Structure – The combination of sub base, base course, and surface course placed on a sub-grade to support the traffic load and distribute it to the roadbed.

Pipe – A tubular product made as a production item for sale as such. Cylinders formed from plate material in the course of the fabrication of auxiliary equipment are not pipe as defined here.

Pipeline – A continuous carrier used primarily for the transportation of liquids, gases, and/or solids from one point to another using either gravity or pressure flow.

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Plowing – Direct burial of utility lines by means of a “plow” type mechanism that breaks the ground, places the utility line, and closes the break in the ground in a single operation.

Premises – the defined lease area of MassDOT controlled real estate for the purpose of installing, operating and maintaining a wireline or wireless telecommunications facility or renewable energy generation/transmission facility, including utility, pedestrian and vehicular access.

Pressure – The relative internal pressure in a pipe (measured in pounds per square inch gauge, psig).

Private lines – Privately owned facilities that convey or transmit the commodities outlined in the definition of “utility facility” below, but are devoted exclusively for private use.

Proposer – An individual or entity submitting a proposal to construct and/or operate a telecommunications facility or renewable energy generation/transmission facility on MassDOT controlled real estate. A Proposer is not synonymous with tenant.

Public Highway System –M.G.L. c. 6C, sections 1(13) and 38, and M.G.L. c. 81, sections 1 and 13, authorize the State to construct, improve, and maintain public highways and to assist political subdivisions in this work. To do so establishes the public highway system.

Renewable Energy – The generation of electrical power by means of photovoltaic solar panels, wind turbine, biomass and/or geothermal or other alternative energy technology.

Renewable Energy Facilities – The occupation of a State highway right of way by a public or private entity by means of a lease agreement, license, and/or permit for aboveground and/or underground installation, transmission and maintenance of renewable energy.

Right of Way (ROW) – A general term denoting land, property, or interest therein, usually in a strip of land acquired for or devoted to transportation purposes.

Rigid Pipe – A pipe designed for diametric deflection of less than one (1) percent.

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Roadside – A general term denoting the area adjoining the outer edge of the roadway. Extensive areas between the roadways of a divided highway may also be considered.

Roadbed – Roadway (As used herein).

Safety Rest Area – A roadside area with parking facilities separated from the roadway provided for motorists to stop and rest for short periods of time. It may include drinking water, toilets, tables and benches, telephones, information, and other facilities for travelers.

Scenic Byways – The National Scenic Byways (NSB) Program was established under the Intermodal Surface Transportation Efficiency Act of 1991. The purpose of the program is to recognize and enhance roads which have outstanding archaeological, historic, cultural, natural, recreational and scenic qualities and also support State scenic byway initiatives.

Scenic Overlook – A roadside area provided for motorists to stop their vehicles beyond the shoulder, and primarily used for viewing the scenery in safety.

Scenic Quality – Environmental factors that influence the aesthetic and physical characteristics of the surrounding area.

Semi-Rigid Pipe – A pipe designed to tolerate from one (1) percent to three (3) percent diametric deflection.

Slab, Floating – A slab between a utility line and a structure or pavement, but not in contact with either.

State Highway System – A system which includes highways constructed, improved, and maintained as public highways under the jurisdiction of the Administrator of the Highway Division of the Massachusetts Department of Transportation.

Sleeve – A short casing through a pier or abutment of a highway structure for passing conduit or pipe.

Specimen Trees – A notable and valued tree in consideration of species, size, condition, age, longevity, durability, crown development, function, visual quality, and public or private prominence or benefit as indicated in the contract documents or as determined by the MassDOT Landscape Architect.

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State – Commonwealth (State) of Massachusetts.

Subsurface Utility Engineering (SUE) – The management of certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation, communication of utility data, utility relocation cost estimates, implementation of utility accommodation policies, and utility design. SUE tools include traditional records, site surveys, and new technologies, such as surface geophysical methods and non-destructive vacuum excavation, to provide quality levels of information.

Subtenant – An individual or entity that enjoys the benefits, rights, and obligations of a sublease agreement or a license agreement. For the purposes of this *Policy*, Subtenant and licensee (an individual or entity that enjoys the benefits, privileges, and obligations of a license) are synonymous, and both Subtenant and licensee are synonymous with co-locator.

Support Structure – A freestanding structure or framework that is self-supporting, fixed to the ground, and designed to support wireless telecommunications transmissions, receiving and/or relaying antennas, and/or equipment.

Telecommunications Service Provider or Service Provider – An individual or entity that provides wireline or wireless telecommunications service to customers.

Temporary Barrier – A barrier used to prevent vehicular access into construction or maintenance work zones and to redirect an impacting vehicle so as to minimize damage to the vehicle and injury to the occupants, while providing worker protection.

Tenant – the individual or entity occupying and using the premises.

Title VI of the Civil Rights Act of 1964 – As a recipient of federal financial assistance, MassDOT actively implements its federally assisted programs in compliance with Title VI of the Civil Rights Acts of 1964, and related nondiscrimination programs, to ensure that MassDOT, and parties that receive or benefit through federal financial assistance provided through MassDOT, do not discriminate based on race, color, national origin, age, disability or gender, in any program or activity. In the context of utility relocation, this law would apply to MassDOT departments and to utility owners or lessees in aspects of the relocation process that impact the public.

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Tower – A freestanding structure or framework, or monopole, that is self-supporting, fixed to the ground, and designed to support wireless telecommunications transmissions, receiving and/or relaying antennas, and/or equipment.

Traffic Barrier – A device used to prevent a vehicle from striking a more severe obstacle or feature located on the roadside or in the median, or to prevent crossover median accidents.

Transportation Agency – The department, agency, commission, board or official of any State or political subdivision thereof charged by its law with the responsibility for highway administration.

Traveled Way – The portion of the roadway used for the movement of through traffic.

Trenched – Installed in a narrow open excavation.

Unmarked Graves - Human skeletal remains without gravestones, fences or other surface indications of their presence; the discovery and treatment of these remains are subject to the procedures outlined in M.G.L. Chapter 9, Sections 26A & 27C.

Untrenched (Trenchless) – Installed without breaking the ground or pavement surface for such operations as jacking, tunneling, or boring.

Use and Occupancy Agreement – The document by which the transportation agency approves the use and occupancy of highway right of way by utility facilities or private lines; another term for highway access permit.

Utility Accommodation Policy – A statement of the policies and procedures used by a transportation agency to regulate and accommodate utilities on the highway right of way.

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Utility Facility (Utility) – A privately, publicly or cooperatively owned line, facility or system for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, oil, crude products, alternative energy, water, steam, waste, storm water not connected with highway drainage, or any other similar commodity, including any fire or police signal system or street lighting system, which directly or indirectly serves the public. The term Utility shall also include any substantially owned or controlled subsidiary of the utility company. The term Utility shall also include those utility-type facilities that are owned or leased by a government agency for its own use, or otherwise dedicated solely to governmental use. The term Utility shall also include those facilities used solely by the utility company that are a part of its operating plant.

Utility Quality Level – A professional opinion regarding the quality and reliability of utility information. There are four (4) levels of utility quality information, ranging from the more precise and reliable, Level A, to the least precise and reliable, Level D. The utility quality level shall be determined in accordance with the guidelines established by the American Society of Civil Engineers in document CI/ASCE 38-02 entitled *Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*.

Utility Tunnel – An underpass or subterranean tunnel for one or more utility lines.

Vent – An appurtenance to discharge gaseous contaminants from a casing.

Wireless Telecommunications Facilities or Facilities – All wireless telecommunications equipment, buildings, and support structures, including but not limited to towers with which a wireless telecommunications service carrier transmits and receives the radio-frequency waves that carry their services, microwave dishes, equipment shelters and/or cabinets, related cables and utility lines and all locations of said equipment.

Chapter

3

3 - PERMITS

A. General

1. Under Massachusetts statutes it is necessary for a utility owner to obtain a permit in order to place utility facilities on State highway right of way. Such permits are issued by the Massachusetts Department of Transportation. These permits contain general and site specific terms and conditions under which they are issued. Utility owners cannot perform without a current and valid permit issued by MassDOT. The utility owner or its contractor shall carry a copy of the approved permit at all times while working within the highway right of way.
2. The policies and procedures contained herein supplement the rules under which permits are currently issued and provide internal guidance for MassDOT employees when reviewing applications.
3. A valid permit includes the following signatures:
 - a. Authorized agent/person representing the utility owner;
 - b. MassDOT District Highway Director (or Authorized Representative).
4. MassDOT is not required to submit permits to FHWA for prior concurrence except when the proposed installation is not in accordance with this Policy, and then only if the utility facility is located on the National Highway System.

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B. Permits and Agreements

1. Permits. MassDOT issues two (2) types of right of way permits, Vehicular and Non-Vehicular. Vehicular permits apply to processing, tracking, notifying and issuing truck permits for loads in excess of legal limits. Non-Vehicular permits are utilized for utilities and drainage and are relevant to this *Policy*. MassDOT's permit application form, *Application for Permit to Access State Highway*, is used to request permission to place, construct, reconstruct, and thereafter maintain overhead, surface and underground utility facility installations and extensions within highway rights of way, whether longitudinally, oblique, or normal (perpendicular) in relation to the centerline of the highway. It is also used for the installation of miscellaneous guy wires and anchors, to place temporary obstructions on the right of way, for temporary relocations of a more minor nature to accommodate a non-MassDOT construction project, and for other minor types of work to be done on the highway right of way.

For a copy of the *Application for Permit to Access State Highway* and additional information regarding MassDOT's permitting requirements, see

<http://www.massdot.state.ma.us/highway/Departments/UtilitySection/FormsDocuments.aspx>.

2. License and Lease Agreements. There are three forms of agreement utilized for the accommodation of telecommunications and renewable energy facilities on State highways in accordance with Chapter 5 of this *Policy*. A Master License Agreement (MLA), and a Site License Agreement (SLA) are utilized to grant wireless telecommunications service providers the right to construct, install, operate and maintain their personal property on MassDOT-owned real estate. A Lease Agreement is utilized for the accommodation of fiber optic, some wireless, and renewable energy facility installation, operations and maintenance along State highways. See Chapter 5.H for additional information on the license and lease agreements managed through the Office of Real Estate Development (OREAD).

An explanation of the OREAD Agreement Process is available on the MassDOT Utility web page at

<http://www.massdot.state.ma.us/highway/Departments/UtilitySection/RelatedLinks.aspx>.

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Prior to entering a License or Lease Agreement, the Applicant shall submit a Permit request to the MassDOT District Permit Engineer. A wireless or wireline telecommunications or renewable energy permit application shall trigger the Agreement process. The District Permit Engineer and OREAD staff shall inform the Applicant of next steps to complete the Permit and any Agreements. See Chapter 5 for details on the Agreement process.

C. Application

1. A completed Application for Permit to Access State Highway shall include, without limitation, the following information and submittals in both hard copy and digital form in a format and quantity specified by the District Permit Engineer (as applicable):
 - a. Highway Route Number, Mile marker, and highway station, as available;
 - b. Location of the facility (including Lat Long and GPS coordinates, as available);
 - c. MassDOT Project File number (if applicable);
 - d. Type of construction (aerial, surface or underground);
 - e. Voltage;
 - f. Number and size of conductors;
 - g. Conduit or pipe (type, size, and operating pressures);
 - h. Casing (type and thickness);
 - i. Method of installation for underground facilities;
 - j. Vertical and horizontal clearances, minimum clearances required by the Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101 et seq, as amended (ADA);
 - k. Tree clearances and trimming required;
 - l. Sight line analysis;
 - m. Turf restoration plan/topsoil salvage, seed type, fertilizer, mulch, topsoil borrow, etc.;

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- n. Pavement restoration and trench details;
 - o. Traffic management plans;
 - p. Site plans.
2. The applicant agrees to comply with the following environmental measures:
- a. Protection measures required for specimen trees and environmentally sensitive areas;
 - b. Steps required to preserve the scenic quality of the highway;
 - c. Erosion control measures, turf establishment, use and disposal of trash, treated wood, asbestos and other hazardous materials, and the legal disposal of waste material outside of the right of way;
 - d. Obtain all environmental permits necessary to carry out the work.
3. The applicant also agrees to the following conditions:
- a. The applicant shall strictly conform to the terms of the permit and the Massachusetts General Laws, as set forth in Chapters 81, Section 21.
 - b. The applicant shall comply with relevant regulations of all other governmental agencies required for the protection of the public, including environmental permits.
 - c. The applicant shall accomplish and complete all work in a manner not detrimental to the highway while safeguarding the public.
 - d. The applicant shall provide complete information for any underground facility, including its purpose.
 - e. The applicant shall agree to collect and depict information about existing subsurface utility facilities prior to any excavation on highway right of way in accordance with the provisions set forth in ASCE Standard 38-02 entitled, *Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*.

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- f. The applicant shall include a photo reproducible sketch with each copy of the permit that gives the location relative to the highway center line and/or right of way line, applicable control of access lines and access points, in-place utility facilities (including highway drainage), and identifying features (including stationing on the highway) when available.
- g. The applicant shall submit as-built drawings with the line and grade elevations of all utility facilities placed within the right of way, referenced to roadway alignment or the State station numbers. As-built drawings may be required as paper documents, as AutoCAD, and as pdf digital files in a format approved by MassDOT.
- h. All utility companies who install, maintain and/or repair their facilities within the State layout, including municipality utilities, shall disclose current contact lists to each District Permits Engineer. This shall assist in facilitating quick and direct communication during utility repair emergencies or for normal utility planning purposes. The contacts shall be provided within the Annual Maintenance Permit Forms.

D. FHWA Review

1. When a utility owner files a notice or makes an individual application or request to MassDOT to use or occupy the right of way of a federal-aid highway, MassDOT is not required to submit the matter to FHWA for prior concurrence except as noted in D.2. immediately below. MassDOT's authority, by mutual agreement with the local Division of FHWA, is manifested in the form of an approved highway access permit, except when the proposed installation is not in accordance with this MassDOT *Utility Accommodation Policy* previously approved by the FHWA for use on federal-aid highway projects [See 23 CFR 645.215(d)].
2. Exceptions to MassDOT's *Utility Accommodation Policy* may be allowed if it is demonstrated that extreme hardships or unusual conditions provide justification and where alternative measures can be prescribed to fulfill the intent of these policies and procedures. The utility owner shall submit a written Utility Accommodation Policy exception request to the MassDOT Highway Chief Engineer that documents and justifies the hardship or unusual condition (see Chapter 1, Section H). Requests for exceptions to a utility facility located on the National Highway System require FHWA approval in addition to MassDOT approval.

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E. Plan Review

1. Before issuing a permit, MassDOT must:
 - a. Review the sketches, as well as pertinent information regarding the type of facility and compliance with codes, rules, and laws pertaining to the facility;
 - b. Assure that utility installations crossing State lines on roadways and bridges have been coordinated with the appropriate highway permitting officials in the neighboring states.

F. Temporary Traffic Control Plan

A written temporary traffic control plan shall be designed based upon the *Massachusetts Amendments to the Manual on Uniform Traffic Control Devices*, the most current edition of the *Manual on Uniform Traffic Control Devices (MUTCD)* and the *MassHighway Standard Details and Drawings for the Development of Traffic Management Plans*, and be approved by MassDOT's District Traffic Engineering Section.

G. Certification

Upon completion of the permitted work, the utility owner must send two (2) copies of the Certificate of Completion and as built plans to the MassDOT District Highway Director. The as built plans shall be submitted both as updated record drawings on paper and in a digital format acceptable to MassDOT. The Permit number must be referenced on submitted correspondence and as-built plans.

Chapter

4

4 - GENERAL INFORMATION

A. Private Lines

1. Private lines are privately-owned facilities that convey or transmit communications, electricity, gas, oil, or any other similar commodities outlined in the definition of utility facility, but devoted exclusively to private use.
2. Since private lines typically serve only the owner, it is generally not in the public interest for them to be located within the highway right of way. Private lines may, at MassDOT's discretion, be allowed to cross, or run longitudinally, along or within MassDOT highways.
3. Permit applications are required for private transverse or longitudinal crossings. FHWA approval is required on Federal-Aid highways, especially National Highway System facilities. All private utility installations allowed to cross or run parallel to State highway right of way shall follow the requirements of this *Policy*.

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B. Public Utility Service Lines

1. Public Utility Service Lines are facilities that are either on or off State highway right of way. The sole reason for this type of service line to be on highway right of way is to facilitate interconnection between a private customer and a public utility. Because it is in the interest of both the customer and the utility owner to have these connections, service lines may be allowed to cross or run longitudinally along State highways where deemed safe and practical.
2. Utility owners shall be required to relocate or remove any service lines in State highway right of way when requested to do so.

C. Renewable Energy Facilities

1. MassDOT is committed to supporting the development of renewable energy technologies.
2. MassDOT recognizes that there are opportunities to utilize highway right of way and other MassDOT properties for installation and operation of renewable energy facilities for decentralized renewable energy production. Examples include, without limitation, solar energy projects and wind energy projects.
3. MassDOT will consider accommodation of renewable energy facilities in MassDOT right of way when such use and occupancy does not interfere with the flow of traffic, pedestrian access and the safe operation of vehicles, does not otherwise impair the highway or its visual quality, and does not conflict with the provisions of federal, State or local laws.
4. Proposals for the development of renewable energy projects on highway right of way may be pursued on an exception basis in accordance with the provisions of Chapter 1.H.

D. Manholes, Vaults, and Pits

1. Manholes, handholes, vaults, and pits must be limited to those necessary to install and service the line and must be directly in line with the utility facility and of the minimum width to accomplish their intended function and comply with any other necessary codes or requirements. They must be installed flush with the roadway or ground surface and must be of sufficient strength to withstand the superimposed loads of the roadway and traffic, including that of construction equipment.

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2. Manholes, handholes, vaults, and pits shall not be placed in the pavement or paved shoulders of high-volume roadways (greater than 4,000 ADT). Exceptions may be permitted on roadways in urban areas in cases of extreme hardship.
3. Placement of new manholes/handholes under traffic lanes of low-volume roadways in urban areas requires the approval of the District Highway Director or designee. Existing manholes/handholes under traffic lanes in urban areas may remain in place. Any proposed changes to existing manhole/handhole locations shall require the same approval as new installations. MassDOT reserves the right to require future relocation of manholes/handholes as prescribed herein.
4. An application that includes vaults and manholes to be placed or constructed within the paved surface of the roadway shall include engineered drawings of the vaults and manholes. A Certificate of Compliance for the precast or cast-in-place material shall be submitted upon completion of the project.

E. Access to Utility Facilities

1. MassDOT is authorized to control all types of access to all highways and related right of way under its jurisdiction. This jurisdictional authority applies primarily to most divided highways and expressways, as well as to all Freeways. MassDOT's primary goal in controlling all types of access is to maintain the undisturbed, free flow of traffic. This goal is accomplished by giving preference to through traffic, by limiting interference from other vehicles, pedestrians, disturbances or objects that are entering, exiting, or crossing the highway.
2. There are two types of access control in Massachusetts:
 - a. Full Control of Access: this type of access control gives preference to through traffic by providing access connections with selected public roads by only allowing longitudinal ingress or egress at specified, marked locations; and by prohibiting crossings at grade or direct private driveway connections. This level is typical on all freeways.

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- b. Partial Control of Access: This type of controlled access gives more limited preference to through traffic. Limited access connections are permitted along selected public roads as well as crossings at grade and private driveway connections. This controlled access level is typical of many undivided highways and some expressways.
- 3. Direct access to utility facilities may be permitted, at MassDOT's discretion, on both fully and partially controlled access highways if alternate locations and means of access are not available or are impractical, as long as such access does not adversely affect safety or traffic operations or damage any facility. The following conditions also must be met:
 - a. Access for construction and/or servicing a utility facility shall be limited to frontage roads, nearby or adjacent public roads and streets, or trails along or near the highway right of way line connecting only to an intersecting road.
 - b. A locked gate along the fence may be used to meet periodic service access needs. If a utility owner indicates a need to make use of gates for access to its facilities on both fully and partially controlled access highways, the following additional conditions are required.
 - i. Access to and from the highway will be on the basis of a revocable permit.
 - ii. The gates shall be locked when not in use and can only be used by authorized utility personnel. The utility owner shall provide MassDOT with keys to any locks, to be used in emergencies, etc.
 - iii. Use shall not adversely affect traffic operations.
 - iv. Use will not give the utility owner a claim to permanent access rights.
 - v. Use shall provide MassDOT with inspection rights of that facility.
 - vi. The utility owner shall provide contact information for MassDOT to arrange inspections, etc., as needed.

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4. Access to utility supports, manholes, handholes or other appurtenances in medians, interchange areas, or other inaccessible portions of the right of way on both fully and partially controlled access highways may be permitted under the following conditions:
 - a. Entry to the median area shall be restricted where possible to nearby grade separation structures, stream channel crossings, or other suitable locations not involving direct access from through lanes or ramps.
 - b. All permits shall include a MassDOT-approved temporary traffic control plan, including adequate provisions for control of access to the utility work zone, protection of workers and the traveling public, and the provision of police details or flaggers as per MassDOT policy.
 - c. Advance arrangements must be made between the utility owner and MassDOT for emergency maintenance procedures.

F. Emergency Work

1. Emergency situations may arise when immediate action to protect the safety of the general public requires utility operations within a trunk highway that are not in full compliance with the provisions of this *Policy*. Nothing herein shall be construed as requiring a utility owner to delay an emergency repair. Prior to the beginning of each calendar year; however, the utility owner must apply for and acquire from the respective District an Annual Maintenance Permit, which identifies MassDOT notification and repair requirements for emergencies. See <http://www.massdot.state.ma.us/highway/Departments/UtilitySection/FormsDocuments.aspx> for additional information regarding MassDOT permitting requirements.
2. Emergency repairs may be performed within the right of way when physical conditions or time considerations prevent application for the usual permit. However, as soon as feasible, the utility owner shall inform the appropriate MassDOT District office of the emergency, its plans or actions for alleviating the dangerous situation, and arrangements made for the control and protection of traffic and pedestrians affected by its proposed operations.

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3. A permit shall be issued for all emergency work, which will serve as a record of the work performed and identify the grantee responsible for the future maintenance of the facility repaired.

G. Discontinued Use and Abandoned Facilities

1. General. A utility facility is considered abandoned when it is no longer in service and is physically disconnected from a portion of the operating facility that is in use or still carries service. Utility owners are responsible for notifying MassDOT in the event that the owner intends to discontinue use of or abandon all or portions of its utility facilities in MassDOT ROW. Absent owner notification, if MassDOT determines a facility to be abandoned through visual inspection or other means, MassDOT shall provide written notice of said determination to the utility owner and provide the utility owner with 30 days to refute its determination.

In the event that a utility facility is deemed to be abandoned through notification from the utility owner or MassDOT determination, MassDOT may elect to: 1) assume ownership of the facility; 2) have the facility removed at the facility owner's expense; or, 3) dispose of the abandoned facility through other reasonable means, including, for example, resale and leasing.

2. Above Ground Facilities. If a utility owner abandons use of an above ground facility, the facility shall be entirely removed from the right of way within six months after its use is discontinued, unless MassDOT grants written approval for a time extension or directs the owner to take alternate action as described above. All removal and related costs shall be the responsibility of the utility owner.
3. Underground Facilities. If a utility owner discontinues use of an underground facility but desires to leave it in place on the right of way, written approval to do so shall be obtained from MassDOT and a record shall be kept in the utility owner's permanent files in order that such facility may be accurately located in the field. MassDOT may at its discretion, at any time within two years following the discontinued use, require abandoned and out-of-service pipes and appurtenant facilities (e.g. manholes, pull boxes) to be purged, cleaned, inspected and filled in or removed, or be turned over to MassDOT for use of the facility. All necessary removal and related costs for filling or removal shall be the responsibility of the utility owner. All costs associated with any such abandoned facilities shall be ineligible for Federal-aid participation.

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4. Bridge Attachments. If a utility owner discontinues use of a facility on a highway bridge but desires to leave it in place on the bridge, written approval to do so shall be obtained from MassDOT. Any abandoned or out-of-service facilities that are removed from a bridge must be accomplished utilizing removal procedures approved by the MassDOT Bridge Division. All required removal and related costs shall be the responsibility of the utility owner for two years following abandonment by the utility owner. All costs associated with any such abandoned facilities shall be ineligible for Federal-aid participation.

Chapter
5

5 – TELECOMMUNICATION AND RENEWABLE ENERGY

A. Introduction

1. MassDOT, through its Office of Real Estate and Asset Development (OREAD), provides development opportunities for infrastructure deployment of wireless and wireline telecommunications facilities and renewable energy generation/transmission facilities on properties and rights-of-way (collectively, “Real Property”) that are under the ownership, care, custody and/or control of MassDOT. This *Utility Accommodation Policy* will guide telecommunications and renewable energy service providers with the framework necessary for processing each stage of development from initial request for accommodation to final deployment of the facility. A summary of the Agreement Process can be found on the MassDOT Utility web page:
<http://www.massdot.state.ma.us/highway/Departments/UtilitySection/RelatedLinks.aspx>.
2. The primary objectives of OREAD are to:
 - a. Provide a source of alternative revenue from assets owned or under the control of MassDOT to the Commonwealth of Massachusetts.

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- b. Enhance public safety for travelers utilizing the highway systems.
 - c. Stimulate economic growth by expanding the total area of available real assets for development opportunities.
 - d. Stimulate economic growth by expanding broadband access to the citizens of the Commonwealth.
 - e. Improve communications capabilities for MassDOT.
3. MassDOT's OREAD shall be the primary contact for all proposed renewable energy and wireline/wireless telecommunications services projects. OREAD shall review proposed projects' viability, negotiate agreement terms, accept and/or reject proposals and manage MassDOT's interests in all telecommunications and renewable energy facilities on behalf of MassDOT. Further, executed agreements of proposed and existing telecommunications or renewable energy facilities shall be managed by OREAD on behalf of MassDOT, including but not limited to adherence to agreement terms and conditions, financial accounting of revenues and in-kind contributions and other issues relating to highway access, safety and security. OREAD shall coordinate with the affected District and FHWA as appropriate to ensure that required access permits have been properly executed and are on file in the respective District.

B. Applicability

This chapter is applicable to (1) all projects involving the accommodation of wireless telecommunications facilities on MassDOT Real Property, (2) all projects involving wireline telecommunications facilities installed longitudinally along MassDOT State highways, and (3) all projects involving renewable energy facilities installed on MassDOT Real Property or along MassDOT State highways.

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C. Safety Criteria and Design Standards

1. Wireline and wireless telecommunications and renewable energy facilities shall be deployed and maintained so as not to impede the safety and security of MassDOT transportation infrastructure. The telecommunications or renewable energy facility shall not interfere with the existing use of the real property of which they are a part or preclude any future use of the real property as determined by MassDOT. Nor shall any telecommunications or renewable energy facility in any way hinder, obstruct or interfere with the radio or electronic equipment or signals of MassDOT.

The most stringent of the following criteria shall apply to all proposed installations:

- a. This *Utility Accommodation Policy* or superseding edition.
 - b. *AASHTO Roadside Design Guide*, 2011 or superseding edition.
 - c. *MassHighway Project Development and Design Guide*, 2006 or latest edition.
2. Telecommunications facilities are included in the airspace leasing provisions of 23 CFR, part 710, Subpart D. While these are the parameters, the District Offices will determine District access requirements for construction and maintenance vehicles.
3. Bridge installations, directly over travel lanes, are generally undesirable for telecommunications facilities. However, due to the nature of this technology there are instances where this type of installation may be the only feasible option. These sites will be reviewed on a case by case basis. The maintenance and installation hours will be set by the District Office. This will avert potential interference with traffic during peak periods.
4. Telecommunications or renewable energy facilities shall not obstruct required motorist sight distances.
5. Utility service and vehicular access will be carefully designed and controlled, on a case-by-case basis, based on the site location. Site access management for each individual site plan will be reviewed and approved by the District Highway Director or his/her designee. See Chapter 5.E.3 for additional information on access requirements.

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6. All telecommunications and renewable energy facilities shall be designed to be as unobtrusive as possible.
7. All telecommunications and renewable energy facilities must be designed and built of durable material for a long service life with minimal routine service and maintenance. All structure designs and equipment must be planned as to minimize hazards and interference with highway traffic when additional overhead and underground lines or energy generation or transmission infrastructure are installed at a future date. Installation of new hardware requires strict adherence to the temporary traffic control plans and the allowable lane closures schedule as approved in the individual site plans.
8. Telecommunications and renewable energy service providers shall be solely responsible for obtaining all required permits and approvals before commencing any construction, installation, reconstruction, maintenance, repair, operation or removal work at a renewable energy or telecommunications facility and for making all necessary submissions to appropriate environmental regulatory agencies. Telecommunications plans shall be submitted to the MassDOT ITS Section at the time of permit application to coordinate the proposed scope with any current and future MassDOT ITS deployments.
9. All operations of telecommunications and renewable energy facilities located thereon shall comply at all times with all applicable federal, State and local laws, rules, regulations, ordinances, statutes and decisions.
10. Whenever the provisions of this *Utility Accommodation Policy* may conflict with the provisions of the most current AASHTO *Guide for Accommodating Utilities within Highway (Freeway) Right of Way*, federal or State laws or regulations, the Federal Communication Commission (FCC), the Federal Aviation Administration (FAA), the wireline telecommunications industry's own guidelines, standards, or codes, the higher degree of protection for the Highway and/or public, as determined by MassDOT's Chief Engineer, shall prevail. Notification of all sites subject to the requirements of Title 23 USC and 23 CFR, will be provided to the FHWA.

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D. Project Development Process

1. Prior to entering a License or Lease Agreement, the Applicant shall submit a Permit request to the MassDOT District Permit Engineer. A check mark on the permit application indicating a wireless or wireline telecommunications or renewable energy project shall trigger the Agreement process. The District Permit Engineer and OREAD staff shall inform the Applicant of next steps to complete the Permit and any Agreements. The Agreement process is outlined below.
2. Requests for information regarding proposed or existing wireless and/or wireline telecommunications or renewable energy facilities shall be directed to MassDOT's OREAD contact:

Mass DOT, Office of Real Estate and Asset Development
Project Manager
Massachusetts Transportation Building
10 Park Plaza, Room 4470
Boston, Massachusetts 02116

3. Proposals for new facilities or fiber optic strands or access to empty fiber optic conduit, or co-location on existing towers, or new renewable energy generation or transmission projects, shall include the following exhibits (as applicable):
 - a. A plan of the property of which the premises is a part.
 - b. A preliminary design of the proposed wireless, wireline, or renewable energy facility.
 - c. The proposed vehicle access route to the facility.
 - d. The proposed access route for the electric and communications conduit to service the facility.
 - e. A preliminary design for accommodating co-location of sub-tenants.
 - f. A structural analysis of the tower.
 - g. Filing of documentation showing tower climber certification prior to providing tower access for the installation of wireless equipment.

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- h. Proof of insurance coverage prior to installation of the fiber optics or renewable infrastructure.
 - i. Reserved space on the telecommunications tower, or empty conduit, for MassDOT use, as stipulated by MassDOT.
 - j. Reserved renewable energy generated power, for MassDOT use, as stipulated by MassDOT.
- 4. Letter of Intent from proposer to lease the premises and proposed offer of rent.
- 5. Internal MassDOT canvas to determine if the site is suitable for the proposed project (ITS section review, at a minimum, for telecommunications projects).
- 6. Notification of acceptance of the telecommunications or renewable energy project to the proposer.
- 7. Executed MassDOT-sponsored license or lease agreement and pertinent supporting documents.
- 8. Submission of 75 percent construction plans to MassDOT for review.
- 9. Local zoning approval, building permit, response to comments on 75 percent construction plans, and 100 percent plans to be submitted to MassDOT for review and final acceptance.

E. Guidelines for Accommodation of Wireline Telecommunications & Renewable Energy Facilities on Freeways

Wireline telecommunication facilities shall be installed longitudinally within the freeway areas according to the criteria described below. Where indicated, the criteria below also apply to renewable energy facilities.

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1. Installation Timing:

- a. To minimize interference with the safe use, operation and maintenance of the freeway, and as reasonably necessary to manage the right of way, MassDOT may limit the timing of access so that, to the extent possible, there is no more than one telecommunications or renewable energy facility installation project underway at any given time on any particular segment of freeway.
- b. Once a particular right of way segment is accessed, there will generally be no further facility installation for a period of two years from the conclusion of the previous installation.
- c. MassDOT policy restricts highway surface openings and prohibits work for a period of at least five (5) years after a new pavement surface is placed, except in cases of extreme emergencies. If approved by the District Highway Director, the restriction may be waived, but the pavement restoration shall include full width pavement placement to MassDOT standards at the expense of the installer.
- d. MassDOT policy restricts highway surface openings and prohibits work from November 15 to April 1 (winter conditions).

2. Location and Alignment Requirements:

- a. Telecommunication and renewable energy facilities shall be located as close to the right of way line as practical to avoid or minimize the need for adjustment for future highway improvements, to avoid interference with highway maintenance and operations, and to permit access to the utility lines or renewable energy infrastructure for their maintenance with minimum interference to highway traffic.
- b. The minimum depth of cover for wireline telecommunications facilities installed along controlled access rights-of-way shall be three (3) feet in soil and two (2) feet in rock.

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- c. Below ground telecommunication facilities may be installed within the clear zone on an exception basis. All approved clear zone installations must be accomplished in accordance with the requirements of Chapter 5.F.6 below.
- d. All elements of above ground telecommunication and renewable energy facilities approved by MassDOT shall be installed between the edge of the right of way and the outer edge of the clear zone and shielded with appropriate roadside safety hardware as necessary.
- e. In all cases, consideration must be given to measures necessary to preserve and protect the safety, operation, integrity and visual quality of the highway, and its maintenance efficiency. Prior to approving any project, the telecommunications or renewable energy service provider shall demonstrate that the Real property or right of way is suitable to accommodate any proposed facilities without adverse effect on the highway's design, construction, future expansion, or safety characteristics.
- f. All longitudinal telecommunication and renewable energy accommodations, as may be warranted herein, shall only be in accordance with an approved Lease Agreement between MassDOT and the telecommunication or renewable energy service provider.
- g. Where longitudinal telecommunication facility installations must traverse interchange areas, they shall be located and treated in the same manner as a utility crossing of the right of way. Such utility crossings shall be designed in accordance with:
 - i. Relevant provisions of this *Policy*, and
 - ii. The MassHighway *Project Development and Design Guide*, 2006 or latest edition.

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- h. All longitudinal telecommunication facility installations shall be marked with approved underground telecommunication marker tapes. Marker tapes shall be installed at a depth of twenty-four (24) inches along the full length of the installation. For installations in rock, marker tape shall be installed at a depth of twelve (12) inches.
- i. The telecommunications and renewable energy service provider shall comply with all federal, State and local laws, rules, regulations and ordinances wherever applicable and at the service provider's cost. The telecommunications or renewable energy service provider shall secure all necessary approvals, permits and licenses from governmental agencies as may be required to complete the project.

3. Access Requirements

- a. Access to telecommunication or renewable energy facilities within MassDOT's right of way, where required for construction and/or servicing, will be from State or local highways crossing MassDOT's right of way, from adjacent frontage roads, or from adjacent property and in accordance with an approved telecommunication or renewable energy agreement as issued by MassDOT or local governing body.
- b. Direct access to a telecommunication or renewable energy facility from the controlled access right of way is generally prohibited. However, in extenuating circumstances, requests may be made to access telecommunications or renewable energy facilities from a controlled access right of way. These requests will be evaluated on a case-by-case basis.
- c. A locked gate along the freeway fence may be utilized to meet periodic service access needs subject to the provisions of Chapter 7.E of this *Policy*.

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- d. In the event that access from State highways crossing MassDOT's controlled access right of way or from adjacent service roads is not feasible for support of construction and/or servicing – as may be the case in interchange areas, service plazas and maintenance areas – the preferred vehicle access can be obtained from the right side of the ramps. In extreme cases, access may be permitted from the main lanes of the highway with prior approval of MassDOT.
- e. Advance arrangements will be made between the telecommunications or renewable energy service provider and MassDOT District Maintenance Section for emergency maintenance procedures.
- f. Access for construction and/or servicing of telecommunications or renewable energy facilities placed within MassDOT's freeway areas will be granted on a controlled and restrictive basis according to this *Policy* and the agreement between MassDOT and the service provider, so as to maintain the safety, aesthetics, and functionality of the controlled access right of way. Access to the facility shall be arranged through the appropriate MassDOT District Maintenance Section in accordance with the permit requirements.

4. Support Facilities

- a. All above ground telecommunications or renewable energy facilities shall be located outside of the clear zone and as close to the outer edge of the right of way as possible. The telecommunication service provider may demonstrate, to the approval of MassDOT that placement underground is not technically feasible or there are no other feasible alternate locations. In exceptional situations when it is essential to locate such an above ground facility within the clear zone, appropriate countermeasures to reduce hazards shall be used. Countermeasures may include, but are not limited to, placing the facility at a location which protects or minimizes the exposure to out-of-control vehicles, using breakaway features, using impact attenuation devices, using delineation, or shielding. All above ground installations in the clear zone and proposed countermeasures are subject to the approval of MassDOT.

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- b. No above ground telecommunication facility will be allowed within the median. Below ground renewable energy or telecommunications facilities will only be allowed in the median on an exception basis if a service provider can demonstrate to MassDOT, in its sole and absolute discretion, that other options are technically infeasible or cost-prohibitive.
- c. Utility, renewable energy, and/or telecommunications service connections to or from adjacent properties shall not be permitted from longitudinal telecommunication or renewable energy installations located within the clear zone unless approved by MassDOT.
- d. Any utility service connection necessary to operate a telecommunication or renewable energy facility within the freeway right of way shall be placed underground in ducts or conduits running from crossroads or frontage roads adjacent to the required point of access or from easements obtained by the supplying distribution utility. Longitudinal installations of utility service connections in controlled access areas are prohibited.
- e. Initial installation shall include all appurtenances necessary or incidental to the operation of the telecommunications facility, and shall include jacking boxes or other duct/conduit access points at appropriate spacing to permit the pulling of additional cables into the duct system without further excavation.

5. Attachment to Existing Structures

- a. For cases where a separate telecommunications structure is impractical, attachment to the existing highway structure may be permitted only with the review and written approval of MassDOT. The telecommunication service provider shall provide all required documentation, design drawings and load rating calculations to demonstrate that the integrity of the highway structure is maintained and that there are no adverse impacts to the structure in terms of maintenance, structural life, carrying capacity, aesthetics and safety.

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- b. Installation of telecommunication and renewable energy facilities on highway structures within the controlled access areas shall comply with the requirements specified in Chapter 10 of this *Policy*.
- 6. Installation of Telecommunications and Renewable Energy Facilities Within the Clear Zone
 - a. It is preferable that all telecommunications and renewable energy installations be accommodated outside of the clear zone. Underground facilities may, however, be accommodated within the clear zone under restricted conditions and at the discretion of MassDOT.
 - b. In order to minimize interference with the safe use, operations and maintenance of a controlled access area – and as reasonably necessary to manage the right of way – MassDOT may restrict underground telecommunications facility installations to one time, as per the Telecommunications Act of 1996, in those areas of the right of way where construction would occur within the clear zone.
 - c. MassDOT may also require the installation of excess capacity and the announcement of co-build opportunities during clear zone installations in an effort to accommodate multiple telecommunications service providers during the same installation process. No further installation will be allowed on that segment of right of way unless and until all existing cable and conduit capacity has been exhausted.

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7. Compliance with FHWA/FCC Guidance and Requirements of the Telecommunications Act of 1996

- a. MassDOT intends to accommodate telecommunications service providers on Department properties in compliance with the requirements of the *Telecommunications Act of 1996* and consistent with the *Guidance on Longitudinal Telecommunications Installations on Limited Access Highway Rights-of-Way* published by the FHWA ITS Joint Programs Office on December 20, 2000. Specifically, telecommunications service providers that wish to install telecommunications facilities within the clear zone may be required to:
 - i. Announce co-build opportunity at least 90 calendar days prior to the start of construction.
 - ii. Install spare fibers, conduits, and/or innerducts sufficient to accommodate reasonably anticipated future demand.
 - iii. Install access points outside of the clear zone to allow access to fibers, conduits, and/or innerducts installed as excess capacity.
 - iv. Establish rates, terms and conditions for fiber, conduit and/or innerduct leasing that are fair and reasonable, and applied in a neutral and non-discriminatory manner.

8. Excess Capacity Requirements

- a. Excess capacity requirements may be established for agreements that involve fiber optics installations within the clear zone or other installations where MassDOT intends to limit installation to one-time. This may include bridge crossings, tunnel installations or other unique locations where MassDOT is required to maintain a higher level of access control.
- b. Excess capacity requirements will differ for urban versus rural areas and will be determined by the telecommunications service provider in conjunction with MassDOT and OREAD.

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9. Co-build Requirements

- a. Co-build requirements may be established for agreements that involve installation within the clear zone or other installations where MassDOT intends to limit installation to one-time. This may include bridge crossings, tunnel installations or other unique locations where MassDOT is required to maintain a higher level of access control.
- b. Telecommunications service providers may be required to provide other telecommunications companies with reasonable notice of a co-build opportunity associated with the anticipated or planned opening of the right of way within the clear zone or other area where installation will be limited to one-time. The notice shall be provided in accordance with MassDOT notification procedures and shall be open for a period not less than 90 calendar days.

10. Traffic Control Requirements

- a. All traffic control signs and devices, which the renewable energy and telecommunication service provider may use in the course of any installation, servicing or maintenance of a facility, shall comply with the provisions of the *Massachusetts Amendments to the Manual of Uniform Traffic Control Devices* (latest version).
- b. The telecommunication or renewable energy service provider shall provide MassDOT with a temporary traffic control plan, for review and approval by MassDOT District staff, prior to the commencement of any construction activity. The temporary traffic control plan shall specify the maintenance and protection of traffic plans for all aspects of the construction process. The temporary traffic control plan shall also specify typical maintenance and protection of traffic plans for anticipated maintenance activities, including but not limited to, restoration and repair of damaged facilities within the controlled access right of way, including repairs within the clear zone, maintenance activities associated with below and above ground facilities, and maintenance of facilities attached to highway structures.

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F. Guidelines for Accommodation of Wireless Telecommunications & Renewable Energy Facilities on Freeways

1. Wireless telecommunications and renewable energy facilities shall be located outside of the clear zone as far from the roadway as possible and in locations where they are unlikely to be hit by errant vehicles. The preferred location of tower fall zones or renewable energy infrastructure such as wind turbines or solar structures is outside the State Highway Layout.
2. Wireless telecommunications facilities on MassDOT property shall be limited to monopoles and lattice towers; guyed towers shall not be allowed without the recommendation of the District Highway Director and the approval of MassDOT's Highway Administrator.
3. Siting of wireless telecommunications or renewable energy facilities shall comply with local zoning requirements; MassDOT shall not provide exemption to local zoning.
4. Wireless telecommunications and renewable energy facilities shall be installed in accordance with the scenic considerations described in Chapter 6.F. MassDOT may prohibit installations in certain instances or may require the wireless telecommunications or renewable energy facility to be camouflaged in a manner to be approved by MassDOT.
5. The safety impacts of access to construct and install the facility shall be considered in the evaluation of potential locations for wireless telecommunications or renewable energy facilities.
 - a. Adequate sight distance must be provided for safe ingress to and egress from the sites.
 - b. The facilities must be located outside the clear zone unless sufficient appropriate shielding already exists.
6. MassDOT may require tower sites to be developed with sufficient capacity to accommodate multiple providers, with specific excess capacity requirements to be determined by OREAD on a site-by-site basis.

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7. The following describe a descending order of preference for the siting of wireless telecommunications and renewable energy facilities:

- a. Priority 1: Vehicle access to the site can be obtained from outside the through-roadway and connecting ramps (e.g., access from frontage roads or crossroads).
- b. Priority 2: Within the interchange, vehicles access can be obtained from the right hand side of the diagonal ramps.
- c. Priority 3: Within the interchange, vehicle access can be obtained from the left hand side of the diagonal ramps.
- d. Priority 4: Vehicle access from the outside shoulder (right hand side) of the mainline.
- e. Priority 5: Vehicle access from the inside shoulder (left hand side of the mainline).

Justification must be provided for descending to any level below Priority 1. FHWA concurrence is required for any installation within a loop ramp, within any freeway weave area less than three quarters (3/4) of a mile in length, or requiring new shielding.

G. Compensation Requirements

1. In accordance with OREAD policies, and consistent with the Federal Telecommunications Act of 1996 for telecommunications projects, MassDOT will charge fair and reasonable compensation for the installation of telecommunications and renewable energy facilities on MassDOT Real Property, including freeway rights of way.
2. Compensation shall include an administrative fee for processing of telecommunications or renewable energy service provider's proposal and an annual license or lease fee. For additional information regarding compensation requirements for the accommodation of wireline, wireless or renewable energy telecommunications facilities, refer to MassDOT's utilities web page at <http://www.massdot.state.ma.us/highway/Departments/UtilitySection/FormsDocuments.aspx> and at <http://www.massdot.state.ma.us/highway/Departments/UtilitySection/RelatedLinks.aspx>.

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H. License and Lease Agreements

1. License Agreements for Wireless Sites. There are two forms of license agreement for the accommodation of wireless telecommunications facilities on State highways, a Master License Agreement (MLA), and a Site License Agreement (SLA). These agreements are used to grant the telecommunications service provider the right to construct, install, operate and maintain their personal property on MassDOT-owned real estate. As such, the telecommunications service provider has no real property rights and cannot encumber the property in order to obtain a loan to construct.
 - a. Master License Agreement (MLA). This is the primary licensing document, with standard terms and conditions that are not site-specific (e.g., insurance, liability, hazardous materials) that apply to all telecommunications service providers prior to entering into a Site License Agreement.
 - b. Site License Agreement (SLA). This agreement identifies the specific terms and conditions for the proposed facility including, for example, base license fee, specific type facility, terms and options, access, contact information, hazardous materials, description of the facility, square footage of the site, maintenance, and includes restrictions regarding the use of sites on or near MassDOT's structures (e.g. columns, signs, buildings). Attachments include the final plans, legal description and a plot plan/map showing where the facility is located on the premises. If MassDOT will jointly use the facility, the identification of MassDOT equipment must be shown on the final plans, along with an agreement on its installation. The SLA will clearly identify any controls and permits required by the District Traffic Engineer for construction or maintenance of the facility within access control.
 - c. No 'Option Agreement'. There is no Option Agreement associated with the license of a site. Instead, each telecommunications service provider is entitled to a six-month "local permitting period" that grants time to obtain all necessary reviews, approvals and permits. A total of four three-month extensions (12 months) can be granted under extenuating circumstances if the telecommunications service provider has diligently pursued approval but the delay is beyond their control.

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Full payment is required for all extensions, unless MassDOT did not respond to a preliminary or final proposal within the 45-day review period.

Though the telecommunications service provider is required to pay full rent beyond the six month local permitting period, extensions allow them to cancel the SLA at any time prior to the issuance of an encroachment permit without being subject to all the termination and cancellation penalties in the MLA.

- d. Terms/Length of agreement: The term of the MLA is five years and will be reviewed, and revised accordingly. Recommendations to continue with the MLA will require MassDOT governance (Board of Directors) approval. The terms and conditions of each SLA executed during the first five years will remain unchanged during the life of the SLA.

- 2. Lease Agreement for Fiber Optics or Renewable Energy Accommodation. A highway access permit enables a renewable energy or telecommunications service provider to perform the work necessary to install facilities along MassDOT right of way. The permit does not, however, confer an ongoing right upon the service provider to occupy MassDOT property or to use or operate the telecommunications or renewable energy equipment so installed in any way. Ongoing occupancy and operations shall be subject to a Lease Agreement between MassDOT and the service provider to be negotiated prior to commencement of operation of the telecommunications or renewable energy equipment. The Lease Agreement will provide that Rent is to be paid for the occupancy of MassDOT property at rates established by OREAD; MassDOT may also receive in-kind fiber optic facilities or energy supplies or other services, subject to agreement negotiation.
- 3. For additional information on License and Lease Agreements and current fees for installation of telecommunications or renewable energy facilities on MassDOT property please refer to MassDOT's utility page at <http://www.massdot.state.ma.us/highway/Departments/UtilitySection/RelatedLinks.aspx>.



6-LOCATION REQUIREMENTS

A. General

1. The location of utilities on highway right of way is governed by the provisions of the most recent versions of the following publications:
 - a. *AASHTO Roadside Design Guide*;
 - b. *AASHTO A Policy on Geometric Design of Highway and Streets*;
 - c. *AASHTO A Policy on the Accommodation of Utilities Within Freeway Right of Way*;
 - d. *AASHTO A Guide for Accommodating Utilities Within Highway Right of Way*;
 - e. *MassHighway Project Development & Design Guide*.
2. Utility facilities shall be located to minimize the need for later adjustments to accommodate future highway improvements, reduce risks to trunk highway and environmentally sensitive areas, and permit access for servicing such lines with a minimum of interference to highway traffic.

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3. The location of utility installations along urban streets with closely abutting improvements usually requires special considerations. Such considerations must be resolved in a manner consistent with the prevailing limitations and conditions. (These resolutions will require the approval of the District Highway Director or designee.)
4. The location of utility facilities and appurtenances shall be in accordance with the Massachusetts Architectural Access Board (AAB) requirements provided in 521 CMR, the Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101 et seq, as amended (ADA), and as implemented by all applicable Code of Federal Regulations, including 28 CFR Part 35, as amended. These requirements are principally listed in Americans with Disabilities Act Accessibility Guidelines (ADAAG) and Public Rights of Way Accessibility Guidelines (PROWAG).
 - a. The ADA established minimum criteria to allow unobstructed access or passage by a disabled person using a wheelchair or other personal transportation device.
 - b. For purposes of locating utility facilities, application of the accessible route criteria applies to sidewalks along public right of way. When locating a surface type utility (e.g., poles, cabinets, pole-mounted cabinets) the facility shall not encroach on the clear width of a sidewalk as defined below.
 - c. Generally, the minimum clear sidewalk width is 36 inches. In the case of curbing adjacent to a sidewalk, the curb shall not be considered part of the 36 inches dimension.
 - d. If the sidewalk has a width less than 60 inches, then passing spaces at least 60 inches by 60 inches are typically located at reasonable intervals not to exceed 200 feet. These passing spaces are to be kept free of obstruction.
 - e. No exceptions for non-compliance with ADA/AAB criteria are given.

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5. The horizontal and vertical location of utility facilities within the highway right of way must follow, to the extent deemed by MassDOT to be practicable, the clear zone policy applicable to the type of highway and specific conditions of highway section involved. Clear zone policies are employed by MassDOT to increase safety, improve traffic operations, and enhance the appearance of highway by designing, constructing, and maintaining highway roadsides as wide, flat, rounded, and as free as practical from physical obstructions above ground; such as from trees, drainage structures, massive sign supports, utility poles, and other ground-mounted obstructions. MassDOT's *Policy* is based on criteria contained in the most recent version of the AASHTO *Roadside Design Guide*.
6. Any utility facility installation on a highway structure generally requires a highway access permit. If a utility facility is installed in conjunction with major highway construction, a separate written agreement between the utility and MassDOT may be required. MassDOT's Bridge Division shall approve such installations before construction of the facility begins.
7. Crossings
 - a. Utility crossings of highways shall be perpendicular to the highway alignment where practicable, but not less than forty-five (45) degrees.
 - b. Non-Controlled Access Highways. For utility crossings on highways where access is not controlled, all new or relocated supporting structures and above ground appurtenances shall be located outside the clear zone or as close to the right of way line as practical.

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- c. Controlled Access Highways. For utility crossings on highways with partial and full control of access, all supporting structures and above ground appurtenances shall be located outside the access control line, and preferably outside the right of way line. Installation and maintenance shall be from frontage roads, crossroads, or streets, whenever practicable, or otherwise from outside the access control line and preferably outside the right of way line. Exceptions may be allowed for an unusually wide right of way or median. MassDOT prefers underground, as opposed to aerial crossings, of all utilities. MassDOT further prefers use of directional boring (pipe jacking) methods. More information about freeway crossing may be found in Chapter 8.B, Crossings.
- d. Utility crossings shall be avoided in deep cuts, near footings of bridges, retaining walls, noise walls, and at highway cross drains where flow of water, drift, or streambed load may be obstructed; in wet or rocky terrain where it is difficult to attain minimum cover; and through paved or unpaved slopes under structures.
- e. Temporary traffic controls for utility construction shall conform to the *Massachusetts Amendments to the Manual on Uniform Traffic Control Devices*, the most current edition of the *MUTCD* and the *MassHighway Standard Details and Drawings for the Development of Traffic Management Plans*. Any utility construction operation shall be planned with full regard to safety. Any interference with roadway traffic shall be kept to an absolute minimum.

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B. Longitudinal Installations

1. Uncontrolled Access. New longitudinal installations on highways with uncontrolled access shall be located on uniform alignment as near as practicable to the right of way line and outside the clear zone. The Access Permit process shall address any safety protections required for installation outside the clear zone. Pole lines shall normally be placed in the outer five (5) feet next to the right of way line. Underground facilities, such as power cable and telephone cable, should be placed in the outer ten (10) feet. Distribution gas mains should be parallel and adjacent to these facilities. Other locations may be approved where particular circumstances warrant. The joint use of pole lines is acceptable, as is common trenching or plowing of underground facilities. All installations should be so placed that all servicing may be done with a minimum disturbance to traffic.
2. Sidewalks within ROW: Utility poles shall be placed as described in the 2006 MassHighway *Project Development & Design Guide* and the latest edition of the *AASHTO Geometric Design of Highway and Streets*. In urban areas where buildings, trees or other fixed objects may be present, MassDOT shall determine the required offset for utility pole locations.
3. Partial Control of Access. Longitudinal installations on highways with partial control of access shall generally be discouraged. When such installations are allowed, individual service connections shall not be permitted unless no other reasonable alternatives exist. Factors to be considered include distance between distribution points, terrain, cost, and prior existence.
4. Full Control of Access
 - a. Longitudinal installations on highways with full control of access shall not be permitted. Exceptions may be allowed as discussed in Chapter 8.C, Longitudinal Installations. When such installations are allowed, individual service connections shall not be permitted, the utility facility shall not be installed or serviced by direct access from the fully controlled access roadways or connecting ramps, and the utility shall not interfere or impair the safety, design, construction, operation, maintenance, stability or future expansion of the highway.

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- b. Longitudinal installations of wireline and wireless telecommunications facilities on highways with full control of access may be permitted in accordance with the provisions of Chapter 5, Telecommunications Services.

C. Median Installations

1. Poles, guy, or other related facilities shall not be located in a highway median. This applies to both crossing installations and longitudinal installations. Exceptions may be made for crossings of wide medians with sufficient width to provide clear zone from the edges of both traveled ways. If additional lanes are planned, the clear zone shall be determined from the ultimate edges of the traveled way. When right of way lines and access control lines are not the same, such as when frontage roads are provided, supporting poles may be located in the area between them provided they are outside of the clear zone as defined by AASHTO, or they are protected if placed within the clear zone.
2. No utility work shall be performed in the median of any highway without prior MassDOT approval. When median work is authorized, unless otherwise stated in the utility's approved permit, the work shall conform to the following provisions:
 - a. The utility owner or its contractor shall notify MassDOT and/or local law enforcement agencies of the expected beginning and completion time of work in the median. All equipment, operations, and spoil material shall be located within the center area of the median.
 - b. No openings, vehicles, equipment, or materials of any type shall be located within the median overnight.
 - c. All vehicles used to conduct the work operation shall be equipped with conspicuously visible roof-mounted revolving or strobe lights. These lights shall be in operation just prior to and during the work operation. Hazard warning lights on the vehicles shall also be operating.

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D. Appurtenances

1. Appurtenances facilities (e.g. pedestals, manholes, vents, drains, rigid markers, meter pits, sprinkler pits, valve pits, regulator pits) shall be located outside the clear zone and as close to the right of the way line as possible. Manholes, valve pits, etc. shall be installed so that their uppermost surfaces are flush with the adjacent undisturbed surface. Those appurtenances that protrude more than four (4) inches above the ground line shall not be in the clear zone. If no feasible alternative exists, appurtenances within the clear zone shall be placed in areas that are inaccessible to vehicular traffic or shielded by existing traffic barriers.
2. Utility accesses, castings, and valve covers should not be located in the roadway of rural highways. In urban and suburban areas there may be no feasible alternative to locating utility accesses and valve covers in the roadway, in which case they should not be located in a wheel path, if possible. Coordination among utility owners is essential where utility accesses and valve covers are to occupy highway right of way.
3. Buildings shall not be located on the right of way. Exceptions may be granted in cases where the building can be located outside the clear zone on MassDOT owned right of way other than a State trunk highway. Examples of this include, but are not limited to, park and ride lots, rest areas, and remnant parcels. Nothing in this section shall preclude MassDOT from pursuing construction of buildings and other facilities over MassDOT highway right of way through air rights agreements established in accordance with 23 CFR Part 710, Subpart D.
4. Traffic cabinets shall not be located on the right of way. Exceptions may be granted in cases where cabinets can be located in areas where they are not vulnerable to errant vehicles and as near to the right of way line as possible.
5. Manholes shall not be located in the pavement or shoulders of heavily traveled highways. Exceptions may be made on highways where manholes are essential parts of existing lines. New manhole installations shall be avoided at highway intersections. Manhole or any other covers within the roadway surface on highways shall conform to the applicable MassDOT specifications.
6. Vents, drains, markers, utility access holes, shafts, shut-offs, cross-connect boxes, pedestals, pad-mounted devices, and similar appurtenances shall not be located where they would interfere with accessible facilities for the disabled along or across the highway.

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E. Vertical Location

1. Underground

- a. The depth of bury for underground facilities within the highway right of way shall be a minimum of twenty-four (24) inches for communications and cable lines, thirty (30) inches for power lines, and thirty-six (36) inches for gas and other pipelines excepting water and sewer lines. See Table 1 below.

TABLE 1 -
UTILITY
DEPTHS ON
MASSDOT ROW

<i>MINIMUM CROSSING DEPTHS (cased and non-cased facilities)</i>	<i>Under Ditches</i>	<i>Under Pavement</i>
Communication and Low Voltage Power Lines	36"	60"
Power	36"	60"
Pipelines (except Water)	36"	60"
Water Pipelines	66"	66"
Sanitary Sewer and Storm Drain Lines	66"	66"

MINIMUM LONGITUDINAL INSTALLATIONS			
(all depths are for cased & non-cased facilities)	Under Pavement	In Soil	In Rock
Communication and Low Voltage Power Lines	24"	18"	18"
Power Lines	30"	30"	30"
Pipelines (except Water)	36"	36"	24"
Water Pipelines	66"	66"	66"
Sanitary Sewer and Storm Drain Lines	66"	66"	66"

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- b. The depth of bury for all underground facilities, except water and sewer lines, crossing the highway shall be a minimum of three (3) feet under ditches and five (5) feet under the pavement surface as measured from a straight line connecting the lowest points of the finished ground or pavement surface on each side of the right of way to the top of the facility at the time of installation. Water and sewer lines shall be a minimum of sixty six (66) inches for highway crossings.
- c. Where minimum bury is not feasible, the facility shall be rerouted or protected with a casing, concrete slab, or other suitable measures. In solid rock, the depth of bury may be reduced if adequate protection is provided.
- d. More information concerning specific utilities can be found in Chapter 11 of this *Policy*. All utilities shall obtain prior approval from MassDOT before burying any utility less than the minimum depth required.
- e. A listing of utilities owner contacts for each municipality can be found on the MassDOT website at <http://www.mhd.state.ma.us/WebApps/utilities/select.asp?d=1>. It shall be the responsibility of the utility owners to ensure that the web site listing is current and accurate.

2. Overhead

- a. Vertical clearances for overhead utility facilities shall comply with all applicable State and national electrical codes as set forth in the current National Electrical Safety Code.
- b. Greater clearances shall be used when required by State law, regulation, or policy as summarized in Chapter 12.

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F. Scenic Considerations

1. MassDOT makes every possible effort to enhance visual qualities along State highways. They do this by the retention and/or planting of trees, shrubs, and other vegetation; the selection of special alignments and corridors; and the acquisition of scenic easements. Utilities should keep aesthetics in mind when locating or maintaining appurtenances along state highways. MassDOT may require the applicant to employ the services of a qualified arborist when tree work is anticipated in sensitive areas.
2. New utility installations, including those needed for highway purposes (such as for highway lighting or to serve a weigh station, rest area, or recreation area) are not permitted on trunk highway right of way or other land acquired or improved with federal-aid funds that are located within, or adjacent to, areas of scenic enhancement and natural beauty. MassDOT may permit exceptions under the following circumstances:
 - a. New underground installations may be permitted only if extensive removal or alteration of trees or terrain features visible to the highways user is not required, or the aesthetic quality of lands being traversed is not impaired.
 - b. Aerial installations may be permitted only when other locations are not available, are unusually difficult or costly, or are less desirable from the standpoint of aesthetic quality or when placement underground is not technically feasible, or is unreasonably costly.
3. The proposed installation will be made at a location that will employ a suitable design and materials that give the greatest weight to the aesthetic qualities of the area being traversed. Suitable designs include, but are not limited to, self-supporting, armless, single-pole construction with a vertical configuration of conductors and cable.
4. Ground-mounted and aerial utility facilities shall be of a design compatible with the scenic quality of the specific highway being traversed and shall blend in with the ground contours and the scenery whenever possible. In areas of unusual scenic interest, (e.g. major recreational areas, historic areas, and major publicly and privately owned tourist attractions) underground utility placement shall generally be provided.

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5. New utility installations on highways with special scenic designations, such as Scenic Byways, may require special treatment. The MassDOT Environmental Section can verify impacted sites and recommend permit language, when applicable.

G. Tree Protection

1. Where underground utility facilities are to be installed near specimen trees, as identified by MassDOT, the tree root systems are to be protected by boring (tunneling) under the roots in the manner described below. The minimum tunnel depth within the root zone shall not be closer than thirty-six (36) inches to the soil surface. Open trenching will not be permitted within the protection limits described. Boring will be required if the trench is located within the radial distances specified in Table 2 below.

TABLE 2 - TREE DIAMETER & DISTANCE	Tree Diameter 4½ ft. Above Ground	Distance from Face of Tree Trunk
	0" – 2"	1'
	3" – 4"	2'
	5" – 9"	5'
	10" – 14"	10'
	15" – 19"	12'
	>19"	15'

2. In lieu of boring (tunneling), the applicant may re-route underground utility lines to avoid damage to specimen trees.



7 - UTILITY COORDINATION

A. Introduction

1. Utility coordination is an important element of project coordination for construction projects along or adjacent to MassDOT right of way. To improve this coordination, MassDOT has, and will continue to introduce and enforce new Directives with the objective of identifying as much existing utility facility information as possible, determining potential conflicts, and developing construction phase solutions that may include utility relocation. MassDOT's philosophy is that in order to do this successfully, all parties must assume certain levels of accountability.
2. MassDOT has put forth several directives that provide contractors, MassDOT Resident Engineers and Project Managers, designers, and the utilities themselves, with a complete set of plans, an accurate sense of how and where the relocations shall take place, when these relocations shall occur in relation to the construction phase activities, and an accurate estimate of these relocation costs.
3. Utility coordination solutions take into consideration the cost of utility relocations, duration of utility relocations, and constructability of the project in relation to utility relocations. All of these elements are coordinated during the design phase prior to putting plans, specifications, and estimate (PS&E) packages out to contractors for bid.

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4. This chapter outlines the MassDOT Engineering Directives and how they are to be implemented, and describes the process of utility coordination from the beginning stages of project design through construction. Because these Directives are subject to change, the most current versions are available on MassDOT's Utility web page at <http://www.massdot.state.ma.us/highway/Departments/UtilitySection/FormsDocuments.aspx>.
 - a. Engineering Directive E-07-002, *Proposed Utility Relocations within MassDOT Design Projects*.
 - b. Engineering Directive E-11-003, *Electronic Utility Plan Submission*.
 - c. Engineering Directive E-11-005, *Right of Way Policy for Utility Relocations within MassDOT Projects*.
 - d. Engineering Directive E-11-006, *Proposed Utility Relocation Durations within MassDOT Construction Contracts*.
 - e. Engineering Directive E-11-008, *MassDOT Utility Reimbursement Policy*.
 - f. Engineering Directive E-12-003, *Environmental Permitting Policy for Utility Relocations within MassDOT Projects*.
 - g. MassDOT Force Account Reimbursement Guidance.

B. General Considerations

1. The utility owner shall take into consideration all applicable laws, codes, requirements, directives, etc. when relocating a utility facility, including, for example, ADA requirements, municipal codes and policies on placement of utility facilities, and the directives listed below. Utility companies should utilize roadway flaggers in lieu of police details when the conditions of 701 CMR 7.00 are met.
2. In the event that, at the request of a utility company, a municipality is unable to produce documentation or code and/or policy requirements, and the utility has addressed all other applicable requirements, then the municipality shall not be allowed to direct the utility company on the location of the utility facility solely on an aesthetic and/or convenience basis.

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C. Engineering Directive E-07-002 “Proposed Utility Relocations within MassDOT Design Projects”

1. In accordance with MassHighway’s *Project Development and Design Guide*, MassDOT protocols, and accepted engineering practice, all proposed public and private utility relocations (aerial and underground) shall be noted within the design plans for all projects. The design engineer shall be responsible for ensuring that this requirement is met.
2. The proposed utility locations shall be noted within all design plan phases and shall be noted within the general construction plans and/or on the utility plans.
3. Proposed aerial utility relocations shall show the proposed utility pole and overhead wire locations. Note that MassDOT requires accessible paths of travel in accordance with the *Project Development and Design Guide*, ADA and AAB regulations, and other relevant guidance documents, laws and regulations.

D. Engineering Directive E-11-003 “Electronic Utility Plan Submission”

1. In accordance with this Directive, designers shall show the utilities in their individual designated colors as per Dig Safe code. These are:

<u>Utility</u>	<u>Color</u>
Electric	Red
Gas-Oil-Steam	Brown
Communication/CATV	Orange
Potable Water	Blue
Sewer	Green
Drainage	Traditional Grayscale

2. Proposed utility alignments shall be shown using a **heavier line weight (or thickness)** than the existing facility line weight.
3. The utility facilities shall be labeled and drawn in accordance with this Directive and other MassDOT AutoCAD drafting policies and directives.

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E. Engineering Directive E-11-005 “Right of Way Policy for Utility Relocations within MassDOT Projects”

1. This policy is adopted in accordance with M.G.L. c. 6C, §§ 3(21) & 19, 23 C.F.R. § 645 *et. Seq.* (for federal-aid projects), and the American Association of State Highway and Transportation Officials (“AASHTO”) Standing Committee on Highways, Strategic Plan Strategy 4-4 (dated. January 6, 2004).
2. This policy requires MassDOT to prepare and secure any necessary layout alterations and plans for accommodating, removing or relocating utilities and utility facilities authorized by law to locate within the highway ROW. Utilities and utility facilities include but are not limited to wires, pipes, poles and conduits, whether above, on, through, or below ground, which require relocation due to the proposed construction project, on a permanent or temporary basis. Sufficient property rights shall also be acquired to accommodate any ongoing maintenance obligations by the utility owner of the facility.
3. The designer and the utility owners shall determine the locations and amount of property takings and/or easements required at the 75 percent design stage. MassDOT shall establish if the ROW takings are reasonable, and whether additional work by utilities is required to reduce ROW impacts and costs.
4. If a utility owner decides to change the location of the accommodated or relocated facilities after the project is advertised, and if this change results in additional ROW requirements, the utility owner may be responsible for the associated costs incurred.
5. This policy is for MassDOT projects in which MassDOT is the responsible party for acquiring the ROW for the project. However, MassDOT recommends that all municipalities, to the extent permissible, adopt this policy for transportation improvement projects for which they are responsible for securing the necessary ROW, as it reduces costs and project impacts associated with relocated construction delays.

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F. Engineering Directive E-11-006 “Proposed Utility Relocation Durations within MassDOT Construction Contracts”

1. As per current policies, prior to the project’s advertising, each utility will submit to the State Utility Engineer a scope of work, an estimated budget of costs, and the estimated utility durations for the phases of work needed to be done to complete the utility relocations. The State Utility Engineer shall review the documentation and file for future force accounts to be executed soon after the project’s advertising date. This information will also be forwarded to the MassDOT Project Manager, (PM) and the District Utility/Constructability Engineer (DUCE).
2. The DUCE shall compile this documentation and insert the durations, etc. into the MassDOT Project Utility Coordination Form (PUC Form). This form shall be rendered complete when all of the utility relocation scopes, budgets, and duration schedules have been entered into the form
3. The PM shall request the DUCE to forward a completed Project Utility Coordination (PUC) Form to the PM. This form shall include the durations of the utility relocations, the sequence of the utility relocations, and an estimated timeframe of when the relocations should begin and end in relation to the proposed construction contract phasing. If at the time of the PM’s request for the PUC Form, a certain utility has not yet supplied the information, the DUCE may estimate the time duration. These estimated time durations shall be properly noted within the form. If/when the utility does provide the duration information, the DUCE shall resubmit the form to the PM so that the most accurate information is included within the construction contract and the estimated construction contract duration. If the utilities have not provided information prior to the project’s bid opening, the estimated durations shall remain within the PUC Form.
4. Upon receipt of the PUC Form, the PM will then include this information within the construction contract duration request to the MassDOT State Construction Engineer. The MassDOT Area Construction Engineer shall use this information within the calculations when deriving the overall construction contract duration.
5. The PM shall also forward the PUC Form to the project’s design consultant. The consultant shall include it in the construction contract.

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6. Including this information in the construction contract documents will give proper notice to the construction contractors that are bidding on the project of what is expected in time, scope, and coordination between the contractor, MassDOT Construction, and the utilities.

G. Engineering Directive E-11-008 “MassDOT Utility Reimbursement Policy”

1. Effective for all MassDOT projects advertised after September 30, 2012, MassDOT shall reimburse utility owners for necessary relocations of their facilities within MassDOT projects if the relocations are completed to the satisfaction of MassDOT, within target dates established by MassDOT, and in accordance with design criteria set forth by MassDOT, pursuant to M.G.L. c. 6C, § 44. Private utility owners shall be reimbursed through an incentive-based policy, and municipal utility owners shall be fully reimbursed.
 - a. Privately Owned Utilities
 - i. MassDOT shall reimburse the owners of privately-owned utilities at least 50 percent of the actual costs incurred for necessary relocation of their facilities on an incentive/schedule basis except as noted below.
 - ii. MassDOT may, on a case-by-case basis, increase the reimbursement percentage for incentive-based relocation of privately-owned utilities. In these cases, MassDOT shall provide written notification of the reimbursement percentage to the utility owner prior to execution of the Utility Relocation Force account agreement for the relevant work.
 - iii. For privately-owned utilities holding ownership fee to property or occupancy easement rights, including Railroads, MassDOT shall reimburse the owners of these utilities 100 percent of the actual costs incurred for necessary relocation for their facilities.

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- b. Municipally Owned Utilities: MassDOT shall reimburse the owners of municipally-owned utilities 100 percent of the actual costs incurred for the necessary relocation of their facilities.
- c. Relocations/Adjustments of Private Underground Utility Service Connections
 - i. Typically, underground utility service connections to private customers are owned by the customers. As a result, according to the utility owners, if a customer-owned underground utility service connection needs to be relocated or adjusted, the utility owner is not responsible for this work.
 - ii. MassDOT will assume all costs for relocated or adjusting private underground utility service connections that are necessitated by the Department's construction and maintenance projects. These costs may be incorporated within the Utility Force Account Agreement, construction contract items, or a combination of both, as determined by MassDOT.
- d. Adjustment to Structures. Adjustments to gate boxes, manholes, and any other structures necessitated by a proposed project are not considered utility relocations and are not eligible for reimbursement under this policy. For municipally-owned utilities, this work should normally be completed by MassDOT's construction contractor using construction contract bid items. For privately-owned utilities, this work should normally be completed by the utility owner with their own work forces.

H. Engineering Directive E-12-003 "Environmental Permitting Policy for Utility Relocations within MassDOT Projects"

1. The purpose of this Engineering Directive is to reiterate that the environmental permits for all MassDOT projects shall include considerations for all utility relocation necessitated by each project.

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2. In accordance to Engineering Directive E-07-002, the project construction plans shall show all proposed utility relocations necessitated by the proposed project. Therefore, all utility relocations identified during the design phase of the project, within and sometimes immediately outside the project limits, shall be considered accessory to the project, and shall therefore be covered by the project's environmental permits.
3. However, if the utility owner changes their utility relocation post-design and if the proposed work cannot be completed within the permitted area or within the conditions set in the permit(s), the utility owner shall be responsible for obtaining the necessary environmental permits associated with this work.

I. MassDOT Force Account Reimbursement Guidance

1. This guidance document shows the "evolution" of the utility force account agreement from the design stage through the Resident Engineer's and the District Construction Office's responsibility.
2. It should establish the responsibilities of entities such as the design consultant, MassDOT Project Manager, MassDOT State Utilities Engineer, District Utility/Constructability Engineer, MassDOT Construction Contractor, and MassDOT Resident Engineer, as well as the utility companies.
3. This should be used as a tool for the entities to establish what their duties are with regard to the incentive based force accounts, and dictate when and by whom their respective actions need to take place.



8 - FREEWAYS

A. Locations

1. An inventory of metropolitan and rural area State highway routes in Massachusetts is maintained in a table that can be accessed from <http://services.massdot.state.ma.us/maptemplate/roadinventory>.
2. MassDOT reserves the right to add locations as existing highways are changed to freeway standards and as new census data is received.

B. Crossings

1. New utility facility installations and relocations of existing utility facilities may be permitted to cross a freeway. Where a utility facility follows a crossroad that is carried over or under a freeway, provisions should be made for the utility facility to cross the freeway on the crossroad in such a manner that it can be constructed and serviced without access from the freeway traffic lanes or ramps.

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2. Overhead utility lines crossing a freeway shall be adjusted so that supporting structures are located outside control of access lines. In no case shall the supporting poles be placed within the clear zone. Where required, intermediate supporting poles may be placed in medians of sufficient width to provide the clear zone from the edges of both traveled ways. If additional lanes are planned, the clear zone shall be determined from the ultimate edges of the traveled way. When right of way lines and access control lines are not the same, such as when frontage roads are provided, supporting poles may be located in the area between them.
3. At interchange areas, supports for overhead facility shall be permitted only when the appropriate clear zone is provided, sight distance is not impaired, and access can be safely obtained.
4. Manholes and other points of access to underground facility crossing a freeway may be permitted only when they are located beyond the clear zone of the freeway traffic lanes or ramps. If additional lanes are planned, the clear zone shall be determined from the ultimate edges of the traveled way.
5. Irrigation ditches and water canals should be excluded from freeways. When a crossing is absolutely necessary, it may be made by underground siphon or through culverts or bridges as appropriate to the size of canal, topographic conditions, and highway safety aspects. Locations and structures are to be designed in the same manner as facilities for natural transverse drainage. All access and egress for servicing such facilities shall be from outside the access control lines.

C. Longitudinal Installations

1. The installation of new utility facilities shall not be allowed longitudinally within the right of way of any freeway, except in special cases under strictly controlled conditions as detailed in Chapter 5. When a utility already exists within the right of way and it can be serviced, maintained, and operated without access from the freeway traffic lanes or ramps, it may be allowed to remain as long as it does not adversely affect the safety, durability, construction, operation, maintenance, or service life of the freeway. Otherwise it shall be relocated.

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2. When utility owners believe special circumstances exist, they must present their case for longitudinal installations on freeways as early in the pre-design process as possible. Where such installations are requested, the utility owner shall in each case demonstrate to MassDOT's satisfaction that:
 - a. The accommodation will not adversely affect the safety, durability, construction, traffic operations, maintenance, or service life of the freeway.
 - b. Alternate locations are not available or are cost prohibitive from the standpoint of providing efficient utility services.
 - c. The accommodation will not interfere with or impair the present use or future expansion of the freeway.
 - d. The location of the utility outside the right of way would result in the loss of productive agricultural land or loss of productivity of agricultural land. In this case, the utility owner must provide information on the direct and indirect environmental and economic effects for evaluation and consideration by the MassDOT Highway Administrator.
 - e. Access for constructing and servicing utility facility will not adversely affect safety and traffic operations or damage any highway facility.
3. In all cases of new longitudinal utility accommodations, whether for freeways or non-freeways, the utility owner shall obtain a highway access permit and install the utility facility in accordance with the approved permit.

D. Vehicular Tunnels

1. Utilities shall not be permitted to occupy vehicular tunnels on freeways at new locations except in extreme cases. Under no circumstances, however, shall a utility facility that transports a hazardous material be allowed to occupy a vehicular tunnel.

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2. When a utility facility occupies space in an existing vehicular tunnel that is converted to a freeway, relocation of the utility may not be required. Utilities that have not previously occupied an existing vehicular tunnel that is incorporated into a freeway will not be permitted therein except in extreme cases. Fiber optic and cellular deployments are typical and shall not be considered “extreme cases.”

E. Utility Access

1. MassDOT has the authority to control access to all highways under its jurisdiction. This authority is particularly applicable to freeways.
2. Direct access to a utility facility is generally discouraged but may be permitted when alternate locations and means of access are not available or are impractical, as long as such access does not adversely affect safety or traffic operations or damage any facility. See Chapter 4.D for additional information regarding access for utilities.

Chapter 9

9 - STRUCTURE REQUIREMENTS

A. Utility Facilities on Highway Bridge Structures

1. Utility facility installations on highway structures are allowed by a highway access permit or may be provided for by agreement when installed in conjunction with highway construction. MassDOT's Bridge Division shall approve such installations before construction of the facility begins.
2. The utility owner is responsible for the design of its facility, subject to MassDOT approval. Factors influencing the design of an installation are the effects of traffic flow, structural integrity and adequacy of highway structures, load carrying capacity, ease of highway, bridge and utility maintenance, bridge inspection, and aesthetic appearance of the installation. Proposed utility support attachments shall be designed by a Massachusetts Licensed Professional Structural Engineer. Design shall be in accordance with the latest edition of the *AASHTO LRFD Bridge Design Specifications* and the *MassHighway Bridge Manual*.
3. All utility facilities installed on highway structures shall be constructed of durable and non-corrosive materials designed with a long life expectancy (minimum of 75 years), and must be installed in a manner that will minimize routine servicing and maintenance over the design life of the facility.

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4. Future growth of a utility shall be considered. The system shall be planned so as to avoid interference with highway traffic in the event that expansion is required. It may be advantageous to install utility facilities at the time of MassDOT bridge construction to minimize the expense of a future expansion program.
5. Generally, utility facility installations on structures shall be located above the underside of the superstructure and inside of the fascia elements. The strength of beams or girders cannot be compromised by drilling bolt holes for utility supports. Field welding on structures is not permitted. Expansion should be provided for on all conduit and pipe runs, unless utility can demonstrate that stresses on the conduit/pipe runs do not exceed allowable stresses for the specified materials. The utility owner shall provide for expansion on all conduit and pipe runs. This requirement may be waived if the utility owner performs a stress analysis for pipelines on bridges and demonstrates that expansion accommodation is not required. All supports shall be of a non-rusting material. Any abutment opening around a utility installation shall be sealed.
6. Because of concerns of potential impacts from trucks and/or high loads on trailers, gas and electric power installations on bridges that cross other roadways shall generally be located in an interior girder bay (a minimum of two girders in from the edge of structure), with a minimum vertical clearance of six (6) inches between the bottom of slab and the nearest portion of the pipeline or pipeline fitting. Utility owners may propose alternatives where there are design alternatives to locating, for example, under the sidewalk in the first girder bay. Such proposals shall require approval of MassDOT Bridge Section. Note that gas installations shall not be collocated in the same girder bay with power and communications installations.
7. Installations of all utility facilities near bridge structures supported on spread footings shall be subject to the following restrictions:
 - a. No soils shall be disturbed below a line extending from the bottom of the footing horizontally for a distance of three (3) feet from the edge of the footing and then continuing downwards and outwards on a 2:1 slope.

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- b. Any lines carrying fluids (e.g. water, sanitary sewer, storm drain lines) that are within fifty (50) feet of the edge of any spread footing shall be cased unless the elevation of the line is fifteen (15) feet or more above or fifty (50) feet or more below the footing elevation. If it is impracticable to case storm drain lines, they shall be placed outside the "50 foot line."
- 8. All visible utility facilities installed on any bridge structure shall be clearly and permanently labeled. Each utility conduit or pipe shall be labeled at each approach (and pier if multiple span) which shall include the utility owner's name, 24 hour contact information, the type of utility, (for electric - the amount of voltage; for gas - the type of gas and pressure) and all other pertinent information that may assist public safety or MassDOT personnel in identifying potential hazardous conditions. These labels shall be clearly visible to public safety and MassDOT personnel.
- 9. Conduit shall be galvanized steel (may be coated) or fiberglass (heavy wall, above grade). A duct or conduit shall generally terminate in the shoulder beyond the bridge approach slabs.
- 10. MassDOT procedures limit parallel pipeline installations on highway structures to water, steam, sewer, cable TV, fiber optic lines, electrical power lines, and natural gas distribution pipelines. All are to be installed in accordance with the latest applicable codes.
- 11. Natural gas pipeline installations on highway bridge structures are subject to the following additional requirements:
 - a. The size of the pipeline shall be restricted by the size of the beam on the supporting structure, taking into consideration the capability of the structure to support the size and weight of proposed pipeline and sleeve.
 - b. Any pipeline with an operating pressure greater than 200 psi shall require the approval of the Massachusetts Department of Public Utilities (DPU). Shut-off valves, automatic where practical, must be installed within 300 feet from each end of the structure, unless segments of the lines can be isolated by other devices within a reasonable distance.
 - c. Gas casings shall be vented in a manner acceptable to MassDOT.

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- d. Pipelines shall be steel pipe and all joints, except expansion joints, shall be welded. Plastic pipe installed in steel casing and in accordance with 49 CFR 192.321(h) shall also be acceptable.
 - e. The pipeline installation must be designed and installed so that the bridge structure and vehicular traffic do not create hoop stress on the pipe.
 - f. The operating pressure of the pipeline must not create hoop stress in excess of twenty (20) percent of the specified minimum yield strength of the pipe. The specified minimum yield strength of the pipe shall be 42,000 p.s.i. (API X42).
 - g. Gas mains over MBTA, Amtrak, CSX and other railroads must also follow relevant railroad restrictions, which may require the line to be cased.
 - h. No permit for the installation of gas facilities on bridges will be considered unless MassDOT has received a letter from the DPU approving the design (see 220 CMR 101.06(10)(b)3.
12. High Voltage electric power transmission line installations (>35kV) on bridge structures shall generally not be permitted except in extraordinary circumstances, and then only after a detailed analysis of all other construction methods or alternatives are determined not to be practicable. The increased cost of alternative construction methods will not be considered a reason for the installation of high voltage transmission lines on bridge structures. In addition, the utility owner shall address the following safety and operational issues to MassDOT's satisfaction:
- a. The proposed installation will not pose a hazard to bridge and roadway construction and maintenance personnel working on or near the installation.
 - b. The proposed installation will not pose a hazard to the motoring public.

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- c. The proposed installation will include adequate shielding protection to eliminate adverse effects of Electric Magnetic Field (EMF) on radio interference, fuel injection potential, potential increased corrosion deterioration of reinforcing and structural steel, and long-term health effects of maintenance personnel working on the bridge for extended periods of time.
- d. The proposed installation will be adequately designed to reduce the possibility of any shock hazards when installed on bridges that allow overtopping of flood waters or submersion of superstructure in high water.
- e. The proposed installation would not pose environmental problems now or in the foreseeable future.
- f. The proposed installation shall be designed to allow shut down of lines upon request of MassDOT, and that the area to be serviced by the transmission line will have adequate and available alternate sources of power.
- g. All electric lines shall be labeled at each approach (and pier if multiple span) which shall include the owner's name, type of gas and pressure and all other pertinent information that may assist public safety or MassDOT personnel in identifying potentially hazardous conditions.

B. Utility Tunnels and Bridges

- 1. A utility tunnel or bridge may be provided for a carrier or casing crossing a major highway at a strategic location. Such tunnel or bridge may serve a joint purpose as a utility and pedestrian facility and/or sign support structure. Where it can be foreseen that several utility crossings will be needed, the cost of a tunnel (either large casing or a box culvert) or a bridge may be less than the cost of several entrenched or separate carriers or casings. Where these conditions exist, MassDOT should take steps as necessary to ensure that adequate coordination is performed with and among the utility owners to:
 - a. Anticipate utility needs for future crossings;
 - b. Combine facilities into a single joint use crossing;
 - c. Establish applicable permitting procedures;

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- d. Establish applicable MassDOT requirements and expectations pertinent to designing, constructing, inspecting, and maintaining utility tunnels and bridges.
2. In a tunnel or on a bridge, provisions shall be made to isolate mutually hazardous materials being carried, such as fuel and electric energy, by compartmentalizing or by auxiliary encasement of incompatible carriers. They shall also be labeled as noted in Section A.
3. The utility tunnel or utility bridge structure shall conform in appearance, location, cover, earthwork, and markers to MassDOT's standard culvert and bridge practices and shall be referenced by a bridge number obtained from the MassDOT Bridge Office.
4. Prior to installing a utility tunnel or bridge, utility owners shall agree that any maintenance, servicing, or repair of the utility lines will be their responsibility. They shall also agree that the cost of designing, constructing, and maintaining the utility tunnel or bridge is to be divided among the utility owners in an agreed upon and equitable manner. MassDOT will participate in these costs only to the extent that the utility owner would otherwise normally be reimbursable for such work or to the extent that the structure is used for highway purposes.

C. Lighting and Other Above-Ground Structures

1. Above-ground lighting facilities, lighting fixture supports, and all other above-ground structures shall be located outside the clear zone, except under the conditions listed below:
 - a. Right of way width limits are less than the clear zone requirements and it is not cost effective to acquire additional right of way.
 - b. Light poles conform to breakaway design features as defined in the most current edition of the *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals*.
 - c. No ground structure or base protrudes more than four (4) inches above the surface of the natural ground and can be maintained at that level.

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- d. The recommended installation is at least ten (10) feet from the edge of pavement or two (2) feet behind the face of the curb in an area where the posted speed limit is forty (40) miles per hour or less.
- e. The facility is shielded by an already existing guardrail or is located in an area that is inaccessible to vehicular traffic.

Chapter 10

10 - DESIGN REQUIREMENTS

A. General

1. Highway and utility facilities – by tradition, practice, and in some instances, laws – frequently co-exist within or along the same corridors. Therefore, it is essential that these public service facilities be compatibly designed and operated. Joint highway and utility planning and development efforts should be encouraged.
2. The potential impact on the highway and its use must be considered in the design and location of utility facilities on or along the highway. Consideration should also be given to the utility service needs of the area traversed where such service is to be provided from utility facilities on or near the highway.
3. All utility installations on, over, or under highway right of way and attachments to highway structures shall be of durable materials designed for a long service life expectancy and relatively free from routine servicing and maintenance.
4. Utility and highway facilities shall, to the extent possible, be separated to avoid damage during installation and to provide for reasonable success in locating facilities with electronic devices. Separation of the facilities from highway facilities or other utilities may require the acquisition of additional property by the utility owner. Utility facilities shall also be

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separated from one another as required by appropriate codes and ordinances.

5. On new facility installations or adjustments of existing ones, provisions should be made for known or planned expansion of the utility facilities, particularly those located underground or attached to bridges. They should be planned to minimize hazards and interference with highway traffic when additional facilities are installed at some future date.

B. Responsibilities

1. MassDOT Responsibilities. MassDOT is responsible for the review and approval of proposals from utility owners in accordance with the provisions in this *Policy*.
2. Utility Owner Responsibilities. Utility owners are responsible for:
 - a. Designing the utility facility to be installed within the highway right of way and/or attached to a highway structure. Full consideration must be given to measures necessary to preserve and protect the maintenance, operation, safety, and aesthetic characteristics of the highway and/or structure. Depth, clearances, and separation between utility facilities and the work must be in accordance with the provisions in this document and any and all applicable codes, laws mandated by federal regulations, guidelines and policies, Massachusetts General Laws, OSHA, etc.
 - b. Collecting and depicting information in accordance with Massachusetts General Laws, 220 CMR - 101.00 (gas), 125.00 (electric transmission), and in accordance with procedures set forth in ASCE Standard 38-02, *Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*, and/or most recent version of MassDOT policies, procedures, codes, etc. See Chapter 10.D below for more information.

C. Requirements

Utility installations on, over, or under highway right of way shall meet the following minimum requirements and any applicable industry standards:

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1. Electric power and communications facilities shall conform to the currently applicable National Electrical Safety Code. For configurations and circumstances not specifically identified in the Code, the minimum standards in that Code for the lowest voltage line shall apply. Utility owners or industry standards may prescribe more protection. Depending upon the installation, MassDOT may have more restrictive requirements (See Chapter 12 of this *Policy*).
2. Water lines shall conform to applicable standards by the American Water Works Association.
3. Pressure pipelines shall conform to currently applicable federal, State, local and industry codes. Federal codes are contained in 49 CFR Parts 192, 193 and 195.
4. Liquid petroleum pipelines shall conform to the currently applicable recommended practice of the American Petroleum Institute for pipeline crossings under highways.
5. Any pipeline carrying hazardous materials shall conform to the rules and regulations of the U.S. Department of Transportation governing the transportation of such materials.

D. Subsurface Utility Engineering (SUE)

1. Subsurface Utility Engineering (SUE) is defined as a branch of engineering practice that involves managing certain risks associated with the following: utility mapping at appropriate quality levels, utility coordination, utility relocation design and coordination, utility condition assessment, communication of utility data to concerned parties, utility relocation cost estimates, implementation of utility accommodation policies, and utility design.

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2. The SUE process should be an integral part of the design for every new utility facility installation on highway right of way. Upon MassDOT review of the proposed scope of work, MassDOT shall decide on a case-by-case basis as to whether or not an SUE shall be required. The SUE process for collecting and depicting information about existing subsurface utility facilities is described in ASCE Standard 38-02, *Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*. This standard provides a system of classifying quality levels of existing underground utility data that are placed on plans. Such classifications allow the project owner, the engineer, and the contractor to develop strategies to reduce the risk, or at a minimum, to allocate risk to existing underground utilities in a defined manner.
3. The SUE process involves systematically evaluating the need for accurate and comprehensive information. The SUE process typically works as follows:
 - a. SUE normally begins with the collection and correlation of existing utility records (Quality Level D) and survey of visible utility facilities (Quality Level C).
 - b. It may then proceed to the application of appropriate surface geophysical methods to determine the existence and horizontal position of utility facilities within the area of the proposed excavation (Quality Level B).
 - c. This information is surveyed to project control, correlated with previously obtained information, and analyzed for conflicts with the proposed installation.
 - d. It may then be determined that additional information is needed that involves physically exposing existing subsurface utility facilities (Quality Level A).
4. SUE is a step-by-step process. There are other steps in addition to those shown above, but the ones shown above establish the general framework for the process and utilize the basic technologies (surface geophysical methods for utility imaging and vacuum excavation for nondestructive excavation). Decisions are made at every step as to whether or not more information is needed.

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5. The proper use of SUE during the development of highway projects will eliminate many of the utility problems typically encountered on highway projects including:
 - a. Delays to projects caused by waiting for utility relocation work to be completed so highway construction can begin;
 - b. Delays to projects caused by redesign when construction cannot follow the original design due to unexpected utility conflicts;
 - c. Delays to contractors during highway construction caused by cutting, damaging, or discovering utility lines that were not known to be there;
 - d. Claims by contractors for delays resulting from unexpected encounters with utilities;
 - e. Deaths, injuries, property damage, and releases of product into the environment caused by cutting utility lines that were not known to be there.

Chapter

11

11 - CONSTRUCTION REQUIREMENTS

A. General

1. Construction requirements are included as an integral part of MassDOT permits. These requirements are not repeated verbatim in this *Policy*. It will be the permittee's responsibility to be aware of all the construction requirements contained in the approved permit and to comply with them.
2. In addition to any requirements specified in the highway access permits, all permittees will be required to comply with the following:
 - a. Permit at Job Site. When MassDOT issues a permit to a utility owner for its proposed work, a complete copy of the approved permit shall be in the possession of the utility owner's work force, consultant, contractor or subcontractor at all times when utility work is being performed within the highway right of way.
 - b. Use of Highway Median. Any use of a highway median is prohibited unless specifically authorized in the approved permit.

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- c. Use of Temporary Guard Pole. No guard pole (i.e. pole used to prevent aerial lines from falling onto the traveled way) shall be set within the right of way unless specifically authorized in the approved permit.
- d. Unexpected Field Conditions. Any modifications of the terms of the approved permit to meet changed or unexpected field conditions shall require prior MassDOT approval before any work may proceed. A written request must be made to amend the permit to allow such changes under the approved permit.
- e. Blasting. Blasting on the right of way is prohibited unless specifically authorized in the approved permit, and in strict accordance with the terms and conditions stated therein.
- f. Survey Markers. Neither MassDOT survey markers (e.g. right of way marker, benchmark) nor any other survey markers (e.g. USGS, County) located on MassDOT right of way shall be disturbed unless prior approval has been obtained from MassDOT or their owners. MassDOT or the utility owner, at the expense of the permittee, shall restore any survey marker that is disturbed, removed or destroyed.
- g. Vegetation. No trees, shrubs, or other vegetation shall be sprayed, cut, trimmed, or damaged in any way to facilitate the installation of a utility facility unless specifically authorized in the approved permit, and in strict accordance with the terms and conditions stated therein.
- h. Rare or Endangered Species. Utility owners should be aware of rare or endangered species, or animal and insect species that feed off of native vegetation in the right of way that must be protected or avoided by law.
- i. Highway Signs. A utility owner shall not remove any highway sign unless approved to do so in its permit, and in strict accordance with the terms and conditions stated therein.

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B. Temporary Traffic Control

1. Temporary traffic control for utility construction shall conform to the *Massachusetts Amendments to the Manual on Uniform Traffic Control Devices*, the most current edition of the *MUTCD* and the *MassDOT Work Zone Safety Guidelines for Massachusetts Municipalities and Contractors*. Any utility construction operation shall be planned with full regard to safety, and interference with roadway traffic shall be kept to an absolute minimum.
2. No utility work shall begin until all appropriate temporary traffic control devices are in place and fully functional. These temporary traffic control devices must be maintained until all utility work is complete.
3. For those operations that entirely close or encroach upon a traffic lane, shoulder or ramp, a proper temporary traffic control plan shall be submitted or made reference to with a utility owner's permit application. On heavily traveled highways, utility construction operations interfering with traffic will not be allowed during periods of peak traffic flow.
4. Based on the duration of field work, all utility work that takes longer than 15 minutes to perform should utilize appropriate typical diagrams contained in the *Massachusetts Amendments to the Manual on Uniform Traffic Control Devices*, the most current edition of the *MUTCD* and the *MassDOT Work Zone Safety Guidelines for Massachusetts Municipalities and Contractors*.
5. If desired, a utility owner may develop its own temporary traffic control plan contingent upon MassDOT approval. MassDOT may require a more extensive temporary traffic control plan if:
 - a. Utility work is to be performed during nighttime hours;
 - b. Temporary traffic control zones are to be left overnight or during other non-work times;
 - c. Utility work is to be performed in a continuously moving temporary traffic control zone;
 - d. Typical diagrams in the *Massachusetts Amendments to the Manual on Uniform Traffic Control Devices*, the most current edition of the *MUTCD* and the *MassDOT Work Zone Safety Guidelines for Massachusetts Municipalities and Contractors* do not adequately cover utility work.

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6. Most utility operations fall into the category of short-term work. The work crew is present to maintain and monitor the temporary traffic control zone. Signs are mounted on portable stands and pavement markings are not removed.
7. Mobile temporary operations often involve frequent short stops for utility work during daylight hours that will be completed in 15 minutes or less. As compared to stationary operations, mobile operations are activities that might involve different treatments. Basic considerations for mobile temporary work are as follows:
 - a. Maintaining safe work and road user conditions is a paramount goal in carrying out mobile operations. During mobile work, it often takes longer to set up and remove temporary traffic control devices than to perform the work. Workers face hazards in setting up and taking down the temporary traffic control zone. Also, since time is short, delays affecting road users are significantly increased when additional devices are installed and removed. Considering these factors, simplified control procedures may be warranted for short-duration work. A reduction in the number of signs and channelizing devices may be offset by the use of some or all of the following safety devices: truck mounted attenuators, marked vehicles with rotating lights or strobe lights preferably augmented with signs or arrow boards, and flaggers/police.
 - b. Most mobile work activity usually does not require the use of a specific temporary traffic control plan. Even so, a utility owner is still responsible for providing temporary traffic control adequate to protect public safety. If a mobile operation does not move every 15 minutes, a long-term operation and the appropriate long-term layout should be considered. If sight distance is limited or traffic volumes are high, a long-term operation should be considered.

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- c. Safety shall not be compromised by using fewer devices simply because the operation is only for a few minutes or will frequently change its location. Portable devices shall be used and flaggers/police may be used, but caution must be exercised so they are not exposed to unnecessary hazards. The temporary traffic control devices shall be moved periodically to keep them near the work space. If mobile operations are in effect on a high speed travel lane or shoulder lane of a multi-lane (high volume/high speed) highway, a truck mounted attenuator with an arrow board shall be used.

C. Work Safety

1. The utility owner is responsible for securing the work site against any hazard to workers, pedestrians, bicyclists, and the motoring public at all times until all of the work is completed. Vehicles, equipment, and materials that are in active use at the work site shall be regulated by the utility owner to assure consistently safe conditions.
2. Sheeting, shoring, bulkheads, and concrete barriers may be required by MassDOT, as may anything else deemed to comply with OSHA requirements for safeguarding work sites.
3. Utility hardware or equipment that is located at the work site, but not in immediate use, shall be stored in a safe location off of the right of way. If this is not practical, the hardware or equipment may be stored beyond the clear zones as close to the fence or right of way line as possible.
4. Vehicles and equipment shall have their high intensity flashing lights (strobe or revolving) and hazard warning lights operating during work operations when they are within the right of way.
5. All workers (utility, MassDOT, contractor, etc.) who are exposed to or working adjacent to moving motor vehicle traffic or mobile earth-moving equipment shall wear high visibility apparel meeting MassDOT standards (safety vest, shirt or jacket and a hardhat) at all times. High visibility pants are also required at all times for flag persons and during low light and night time conditions for all others. High visibility apparel shall comply with the requirements set forth in the *Massachusetts Amendments to the Manual on Uniform Traffic Control Devices*.

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D. Trenching and Backfill

1. Trenchless Construction

- a. Every possible effort should be made to avoid disturbing the pavement surface when installing new utility facilities, especially where underground utility lines are crossing major highways, expressways, or freeways. Trenchless construction should always be considered as a means of doing this. Trenchless methods may include driving, coring, or boring.
- b. The size of the trenchless construction operation will be restricted and the conditions specified under which the void outside the carrier or casing must be backfilled with grout. Where soils are favorable and the carrier is four (4) feet or more deep, the diameter of the trenchless construction hole may be five (5) percent larger than the diameter of the carrier. Grout backfill will be considered for carriers or casings more than twelve (12) inches in diameter and for overbreaks, unused holes, or out-of-service carriers or casings.
- c. Portal limits (e.g. surface openings, bore pit limits) of pipeline crossings should be established beyond the clear zone of the highway so as to avoid impairing the roadway during installation of the pipeline. Where a bulkhead seals the pipeline portal, the portal should be suitably offset from the surfaced area of the highway. Where a bulkhead is not installed in the pipeline, the portal must be offset no less than the vertical difference in elevation between the surfaced area of the highway and the pipeline.

2. Trenched Construction

- a. At highway crossings, care must be taken to prevent the trench from becoming a drainage channel. On longitudinal lines, care must be taken to prevent the trench from interfering with surface or subsurface drainage.
- b. During construction, open trenches or other excavations within the clear zone shall not be permitted to remain beyond the workday unless backfilled, covered, delineated or shielded.
- c. The following minimum specifications for trenching and backfilling shall be applied:

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- i. When the existing highway pavement must be cut to accommodate a utility facility installation, the opening shall be saw cut to a minimum depth of one and one-half (1.5) inches.
- ii. The width of pavement removal should be determined by the width of the required trench plus twelve (12) inches minimum on each side of the top of trench. In the event the distance of any adjacent longitudinal or transverse joint or crack is less than four (4) feet from the recommended width of cut, the pavement shall be removed and replaced to that joint or crack. The additional pavement removal is intended to minimize later development of a sag in the surface of pavement over the trench.
- iii. Trenches shall be cut to have vertical faces; soil shall be shored where necessary. Lateral and vertical support shall be provided for all existing facilities and structures. Short tunnel sections shall be used near adjacent facilities.
- iv. Bedding shall be provided to a depth of six (6) inches or half the diameter of the casing or carrier, whichever is less. Bedding shall consist of granular material, free of lumps, clods, stones, and frozen materials, and shall be graded to a firm but yielding surface without abrupt change in bearing value. Unstable soils and rock ledges shall be sub-excavated from the bedding zone and replaced by suitable material. The bottom of the trench shall be prepared to provide uniform bedding throughout the length of the installation.
- v. Controlled Density Fill (CDF) shall be the standard backfill material for work performed under a MassDOT permit. Gas Companies may seek a waiver due to corrosion of pipe and leak detection issues. All work shall conform to MassHighway's *Standard Specifications for Highways and Bridges*, 1988, as supplemented. CDF shall meet the requirements of Section M4.08.0 (Type 1E or 2E excavatable) of the referenced document. CDF is mandatory for trench cuts within paved surfaces that are four (4) feet or less.

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- vi. Backfill under the roadway and foreslopes shall be placed in two (2) stages: first, fill to a level of the top carrier or casing; and second, fill to the former surface. Fill shall consist of suitable material placed in layers of appropriate thickness to permit consolidation by compaction according to current applicable specifications. Consolidation by flooding or jetting may be permitted only in specific warranted conditions. For backfill of trenched pavement, materials and methods of compaction shall be adapted to achieve prompt restoration of traffic service.
- vii. MassDOT may require that backfill and/or repaving to MassDOT standards be performed by its forces or under its direction at the expense of the utility owner. Where a utility owner can demonstrate that it is capable of acceptable and adequate repair, it may be authorized to perform its own restoration using specifications acceptable to MassDOT.
- viii. The utility shall be responsible for repairing all settlements for a period of one year following the project completion.
- ix. The option to require the utility applicant to resurface the roadway (either half or full width) shall be determined by MassDOT based on the amount of trench work.

E. Encasement

- 1. Casings should be considered for the following conditions:
 - a. As an expediency in the insertion, removal, replacement, or maintenance of carrier pipe crossings of freeways, expressways, and other controlled access highways, and at other locations where it is necessary to avoid trenched construction;
 - b. As protection for carrier pipe from external loads of shocks either during or after construction;

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- c. As a means of conveying leaking fluids or gases away from the area directly beneath the roadway to a point of venting at or near the right of way line or to a point of drainage in the highway ditch or a natural drainage way;
 - d. For installation on highway structures.
- 2. The MassDOT Highway Administrator will determine the need for casings of pressurized carrier pipes and carriers of materials that are flammable, corrosive, expansive, energized, or unstable.
- 3. Jacked or bored installations of coated carrier pipes shall be cased. Exceptions may be made where assurance can be provided against damage to the protective coating.
- 4. Encasement or other suitable protection shall be provided for any pipeline with less than minimum cover, near footings of bridges or other highway structures or across unstable or subsiding ground, or near other locations where hazardous conditions may exist.
- 5. Rigid encasement or suitable bridging shall be used where support of pavement would be impaired by depression of flexible carrier pipe. Casings shall be designed to support the load of the highway and superimposed loads thereon and, as a minimum, shall equal the structural requirements for highway drainage facilities. Casings shall be composed of materials of satisfactory durability under conditions to which they may be exposed.
- 6. Casing pipe shall be sealed at the ends with a flexible material to prevent flowing water and debris from entering the annular space between the casing and the carrier. The installations should include necessary appurtenances, such as vents and markers.
- 7. See Chapter 12.C.3 for additional information pertaining to encasement of pipelines.

F. Mechanical Protection

- 1. For some conditions, pipeline crossings of the highway may be installed without encasement. Normally, such installations should be limited to trenched construction. The following controls are suggested for providing mechanical protection to encased pipeline crossings of the highway.

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- a. On uncased construction the carrier shall conform to the material and design requirements of utility industry and governmental codes and standards. In addition, the carrier pipe shall be designed to support the load of the highway plus superimposed loads thereon when the pipe is operated under all ranges of pressure from maximum internal to zero pressure. Such installations shall employ a higher factor of safety in the design, construction, and testing than would normally be required for cased construction.
- b. Suitable bridging, concrete slabs, or other appropriate measures shall be used to protect existing uncased pipelines, which by reason of shallow cover or location make them vulnerable to damage from highway construction or maintenance operations. Such existing lines may remain in place without further protection measures if they are of adequate depth and do not conflict with the highway construction or maintenance operations, provided both highway and utility officials are satisfied that the lines are, and will remain, structurally sound and operationally safe.
- c. Uncased crossing of welded steel pipelines that carry flammable, corrosive, expansive, energized, or unstable materials, particularly if carried at high pressure or potential, may be permitted, provided additional protective measures are taken in lieu of encasement. Such measures would employ higher factor of safety in the design, construction, and testing of uncased carrier pipe, including such features as thicker wall pipe, radiograph testing of welds, hydrostatic testing, coating and wrapping, and cathodic protection.

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G. Pavement Cuts

1. Open cutting of the pavement to install utility facilities is highly discouraged because it adversely affects the structural integrity of the roadway. If it is not possible to install a utility without disturbing the pavement, the utility owner must provide written documentation and justification for an open cut. Where a longitudinal open cut is proposed or where several cuts are proposed to cross the pavement in the same area, MassDOT representatives responsible for the affected section of roadway will inspect the roadway to determine the extent of road repair that will be required to incorporate multiple patches in close proximity into one (1) large patch. Pending the extent of the project area, the MassDOT representative shall determine whether to require the applicant to resurface the roadway half or full width. All sawcut edges of pavement cuts shall be treated with a MassDOT approved hot mix asphalt joint sealer.
2. The utility owner shall be required to use patch materials at least equal in type, quality and layer thickness to the original construction, and the patch must be placed in accordance with MassDOT specifications. The limits of the pavement patch must extend at least one (1) foot outside the perimeter of the trench. The edges of the trench must be beveled at least six (6) inches. The limits of the patch must have vertical faces and must be saw cut for a clean break. The restored surface must be flush with and sloped at the same rate as the existing surface (see Utility Trench Permanent Pavement Repair Standard Drawing <http://www.massdot.state.ma.us/highway/Departments/UtilitySection/FormsDocuments.aspx>).

H. Markers/Facility Protection

1. A trace wire, metallic tape, or other method to effectively locate and mark the underground lines shall accompany all non-metallic underground lines. Whenever feasible, such methods shall include devices incorporated into the utility line.

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2. No underground line shall be permitted within the highway right of way unless the line owner contacts the Dig Safe System (888-DIG-SAFE). MassDOT, Massachusetts Water Resources Authority (MWRA), Massachusetts Bay Transportation Authority (MBTA), the Department of Conservation and Recreation (DCR) and most municipalities are not Dig Safe members and must be contacted individually. The utility owner shall provide MassDOT with both a copy of the associated Dig Safe ticket as proof of the Dig Safe notification, and a spreadsheet notification list of contacts made to non-Dig Safe members (contact name, date, action, and related details).
3. The utility owner shall place permanent markers identifying the location of underground utility facilities, whether they are crossing the highway or installed longitudinally along the highway, where appropriate. Markers shall be installed in such a manner as to not interfere with highway safety and maintenance operations. Preferably, the markers shall be located at the right of way line if that location will provide adequate warning. The telephone number for one-call notification services to request marking the line location prior to excavation and for emergency response shall appear on the marker.
4. When it is likely that highway construction or maintenance activities could involve existing underground facilities, it is desirable to locate and identify these facilities well in advance of the commencement of the work as an aid to work crews. The location of each underground utility facility shall be identified by the utility owner with stakes, paint, or other temporary on-the-surface markings coded with an identifying color by utility type. The recommended uniform color code system is shown in Table 3.

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TABLE 3 -
UNIFORM
COLOR CODES

Red	Electric power lines or conduits – distribution, transmission, and municipal electric systems.
Yellow	Gas or oil pipelines – distribution and transmission, all pipelines carrying hazardous or dangerous materials including petroleum products, steam, compressed air, or compressed gases.
Orange	Communication lines including telephone and telegraph systems, police and fire communications, and cable television.
Blue	Water systems, irrigation, reclaimed water, and slurry pipelines.
Green	Storm and sanitary sewers and drains.
Florescent Pink	Temporary survey markings.
White	Proposed excavation.

- When it is likely that a highway construction or maintenance activity such as boring, tunneling, jacking, or other method could involve underground facilities in close proximity to a MassDOT drainage system, the applicant shall certify upon completion of the work that the utility installation has not damaged or reduced the capacity of the drainage structures or pipes. At the direction of MassDOT, a joint inspection of the facility may be required.

Chapter

12

12 - SPECIFIC REQUIREMENTS

A. Overhead Power and Communication Lines

1. This *Policy* was developed with integrated sections. Thus, other sections may be applicable to overhead power and communication lines and need to also be read in order for the reader to fully understand this topic.
2. Location
 - a. In rural areas, new overhead power and communication pole lines shall be located on uniform alignment as far from the roadway as possible, preferably near the right of way line. Guy wires placed within the right of way shall be held to a minimum. They may be located as needed but in no case shall they be located within the clear zone. When practical, MassDOT prefers use of “un-guyed” utility poles.

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- b. In urban areas, new overhead power and communication pole lines in uncurbed sections shall be located at or as near as practical to the right of way line. Where there are curbed sections, the utility facility shall be located as far as practical behind the face of the outer curbs and, where feasible, behind the sidewalks at such locations that will not interfere with adjacent property use. MassDOT's recommendation is that there shall be at least a two (2) foot clearance behind the face of the curb. When practical, MassDOT prefers use of "un-guyed" utility poles.
- c. The location of overhead utility facilities on highways with narrow right of way or on urban streets with closely abutting improvements requires special considerations. Such cases must be resolved in a manner consistent with the prevailing limitations and conditions. Before locating the utility facility at other than the right of way line, consideration should be given to designs employing self supporting, armless single-pole construction, with vertical alignment of wires or cables, or other techniques permitted by governmental or industry codes that are conducive to safe traffic environment. Exceptions to these clearances may be made where poles and guys can be shielded by existing traffic barriers or placed in areas that are inaccessible to vehicular traffic.
- d. New above ground facilities shall be located outside the clear zone. If the clear zone extends to the right of way line, then no installation shall be permitted unless approved through the exception process (see Chapter 1, Section H). Where there are no feasible alternatives, new facilities that project more than four (4) inches above the ground line shall be shielded by existing traffic barriers or placed in areas that are inaccessible to vehicular traffic.
- e. Longitudinal lines on highway right of way shall be limited to single pole construction. Transverse lines shall also be limited to single pole construction where practicable, but may also be approved to use the same type of supports that are used on the portion of the line immediately adjacent to the highway right of way provided all other requirements in this section are met.

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- f. Where irregular shaped portions of the right of way extend beyond or do not reach the normal right of way limits, variances in the location of utility facilities should be allowed to maintain a reasonably uniform alignment for longitudinal installations. Such installations will reduce the need for guys and anchors between poles and roadway.
- g. Longitudinal installations of poles, guys, or other facilities shall not be located in a highway median. For crossings of a highway, poles should not be located in the highway median unless there is no feasible alternative, in which case, if located within the clear zone, they shall be shielded by existing traffic barriers or placed in areas that are inaccessible to vehicular traffic.
- h. The horizontal and vertical location of overhead power and communication lines relative to a highway bridge or other structure shall provide adequate clearance for construction and maintenance activities.

3. Design

- a. All overhead lines regardless of voltage or metallic content shall meet the requirements of the current *National Electrical Safety Code*.
- b. Designs employing self-supporting, armless, single-pole construction, with vertical alignment of wires, cables, or other techniques permitted by governmental or industry codes, should be considered whenever feasible. However, they must be conducive to safe traffic operations.
- c. Joint-use single pole construction shall be encouraged at locations where more than one utility or type of facility is involved.
- d. The distance between utility poles shall be the longest feasible span lengths consistent with geometric and design line loading considerations.

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- e. Where practical and economically feasible, existing pole lines shall be replaced with buried cables when relocation is necessary within the highway right of way. Buried cable may not be practical where there will be multiple connections to overhead lines, to utility customers, or where line voltage is high.

4. Vertical Clearances

- a. The minimum vertical clearance for overhead power and communication lines above the highway and approaches to the highway shall conform to the current *National Electrical Safety Code and 220 CMR 125*.
- b. Lines crossing over highways shall at no time be less than 18 feet above the high point of the traveled way. Greater clearances shall be used when required by State law, regulation, or policy.

B. Underground Power and Communication Lines

1. This *Policy* was developed with integrated sections. Thus, other sections may be applicable to underground power and communication lines and need to also be read in order for the reader to fully understand this topic. Due to State legislation and legal arrangements that impact the Commonwealth's development of fiber optics facilities, separate guidelines for these installations are presented in Chapter 5 of this *Policy*. The installation of fiber optics on all other highways is subject to the provision contained herein.

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2. Location

- a. Underground power and communication lines may be placed longitudinally by plowing or open trench method and must be located on uniform alignment as near as practical to the right of way line to provide a safe environment for traffic operations, preserve the integrity of the highway, and preserve space for future highway improvements or other utility facility installations. The distance from the right of way line will depend upon the terrain involved and obstructions such as trees and other existing underground or aerial utility lines. On highways with frontage roads, longitudinal installation will be located between the frontage roads and the right of way lines. Underground lines shall not be placed longitudinally beneath the median or beneath through traffic roadway including shoulders. Underground lines placed longitudinally along a connecting roadway shall not be placed under the median or beneath through traffic roadways, including shoulders, where the roadway connects with a State highway.
- b. Underground power and communication lines to be installed across any existing roadway shall be installed by boring, tunneling, or jacking in accordance with MassDOT specifications. When installed by jacking or boring, encasement may be required. Bore pits should generally be located at least thirty (30) feet from the edge of the nearest through traffic lane and at least twenty (20) feet from the edge of the pavement on ramps. On low-traffic roadways and frontage roads, bore pits should be at least ten (10) feet from the edge of pavement and at least five (5) feet from the face of the curb. Adequate warning devices, barricades, and protective devices must be used to prevent traffic hazards. Where circumstances necessitate the excavation of a bore pit closer to the edge of pavement than established above, concrete barrier or other approved devices must be installed for protection of traffic. Bore pits must be located and constructed to not interfere with highway structural footings. Shoring must be used if necessary.

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- c. Utility crossings should be avoided in deep cuts; near footings of bridges, retaining, and noise walls; at highway cross drains where flow of water and drift of streambed load may be obstructed; in wet or rocky terrain where it is difficult to attain minimum cover; and through paved or unpaved slopes under structures.

3. Depth of Cover

- a. The critical controls for depth of cover for underground power and communication lines are the low points in the highway cross section. Usually these are the bottoms of the longitudinal ditches. The critical controls for cover are the depths of drainage facilities, bridge structures, and likely maintenance operations. The depth of cover shall be sufficient to withstand the greatly increased impact loads transmitted through frozen soil.
- b. Minimum depths for longitudinal power lines are as follows:
 - i. Lines that are not under the roadway shall have a minimum depth of cover of two and one-half (2.5) feet in soil and two and one-half (2.5) feet in rock for both cased lines and non-cased lines.
 - ii. Lines that are under the pavement surface shall have a minimum depth of cover of two and one-half (2.5) feet for both cased lines and non-cased lines.
- c. Minimum depths for longitudinal communication lines and low voltage power lines are as follows:
 - i. Lines that are not under the roadways shall have a minimum depth of cover of one and one-half (1.5) feet in soil and one and one-half (1.5) feet in rock for both cased lines and non-cased lines.
 - ii. Lines that are under the pavement surface shall have a minimum depth of cover of two (2) feet for both cased lines and non-cased lines.
 - iii. All lines shall have a minimum depth of cover of three (3) feet under ditches.

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- d. The depth of bury for all underground facilities crossing the highway shall be a minimum of: three (3) feet under ditches and a minimum of five (5) feet under the pavement surface as measured from a straight line connecting the lowest points of the finished ground or pavement surface on each side of the right of way to the top of the facility at the time of the installation.
- e. Where minimum bury is not feasible, the facility shall be rerouted or protected with a casing, concrete slab, or other suitable measures. In solid rock, the depth of bury may be reduced if adequate protection is provided.
- f. Exceptions may be authorized for existing power and communication lines to remain in place with a reduction of six (6) inches in the depths of cover specified. Where less than minimum cover will result, the utility line shall be provided with additional mechanical protection by the utility owner. In such instances, the designer shall consider increasing wall thickness or encasing the utility facility when the depth of cover is less than desirable, taking into account the relative risk with respect to the product carried and engineering and safety factors.
- g. Further reductions may be permitted if the line is protected by a reinforced concrete slab that meets the requirements as follows:
 - i. Width: Three (3) times the facility diameter but not less than four (4) feet;
 - ii. Thickness: Minimum of six (6) inches;
 - iii. Reinforcing: Minimum of #4 bars on 12-inch centers or equivalent;
 - iv. Cover: Minimum of six (6) inches between the slab and top of line.
- h. All utility owners shall obtain prior approval from MassDOT before burying any utility facility less than the minimum depth required.

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- i. More information concerning specific utilities can be found in Chapter 6.E of this *Policy*. Minimum depths for all utility facilities are summarized in Table 1, Chapter 6.

4. Encasement

- a. Underground power and communication lines may be cased or non-cased provided the installation complies with the depths of cover specified herein. Encasement, where used, may be metallic or nonmetallic. Such encasement shall be designed to support the load of the highway and superimposed loads thereon, including that of construction equipment. The strength of the encasement must equal or exceed structural requirements for drainage culverts, and it must be composed of materials of satisfactory durability under conditions to which it may be subjected.
 - b. Where used, encasement must be provided under center medians, from top of back slope to top of back slope for cut sections, five (5) feet beyond toes of slope and under fill sections, five (5) feet beyond face of curb in urban sections and all side streets, and five (5) feet beyond any structure where the line passes under or through. Encasement may be omitted under medians that are substantially wider than normal standards for such roadways.
 - c. See Chapter 11.E for additional information pertaining to encasement.
5. Appurtenances. See Chapter 6.D for information pertaining to appurtenances associated with underground power and communication lines.
6. Markers/Facility Protection. See Chapter 11.H for information pertaining to markers and facility protection.

C. Pipelines

1. This Policy was developed with integrated sections. Thus, other sections may be applicable to pipelines and need to also be read in order for the reader to fully understand this topic.

MASSDOT UTILITY ACCOMMODATION POLICY

2. Codes

- a. Pressure pipelines carrying gas and liquid petroleum shall conform to the currently applicable sections of federal, State, local and industry codes. Federal codes are contained in 49 CFR , parts 192, 193, and 195.
- b. High pressure gas pipelines shall conform to the current applicable sections of the *Standard Code of Pressure Piping* of the American National Standards Institute and applicable industry codes.
- c. Liquid petroleum pipelines shall conform to the current applicable recommended practice of the American Petroleum Institute for pipeline crossing under highways.
- d. Water lines shall conform to the current applicable specifications of the American Water Works Association.
- e. Any pipeline carrying hazardous materials shall conform to the rules and regulations of the U.S. Department of Transportation governing the transportation of such materials, including Code of Federal Regulations, title 49, parts 192,193, and 195.
- f. Pipeline installation permits shall specify the class of the materials being carried; the maximum working, test, or design pressures; and the design standards for the carrier.
- g. When it is anticipated that there will be a change in the class of materials being carried or an increase in the maximum design pressure specified in the permit, the utility owner shall give MassDOT advance notice and obtain approval for such changes. The notice shall specify the applicable codes to be used.

MASSDOT UTILITY ACCOMMODATION POLICY

3. Encasement

- a. All high pressure pipelines less than six (6) inches in diameter and all low pressure pipelines crossing under the roadbed of trunk highways may be cased or non-cased. However, only welded steel lines with adequate corrosion protection may be used for non-cased highway crossings.
- b. All high pressure pipelines six (6) inches in diameter or greater carrying gases and all pipelines carrying hazardous liquids crossing under trunk highways shall be cased, unless the following conditions are met:
 - i. Open trenching method. Pipelines placed by an open trench method must be of sufficient inherent strength to withstand the forces imposed by highway and vehicular traffic and must be coated or of a non-corrosive material that meets industry standards.
 - ii. Trenchless Technology. Pipelines placed using trenchless technologies, such as jacking, boring, or horizontal directional drilling methods, may be placed under highways without a casing pipe if they meet specified requirements. All proposed crossings using this method of installation will be reviewed and approved on a case-by-case basis considering the soil conditions, locations of pipeline, pipeline size, other pipeline, other pertinent factors, and adherences to the following requirements:
 - 1. It is a welded steel pipeline;
 - 2. It is cathodically protected;
 - 3. It is coated in accordance with accepted industry standards;
 - 4. It complies with federal and State requirements and meets accepted industry standards regarding wall thickness and operating stress levels;
 - 5. The depth of the crossing is a minimum of three (3) feet below the original ditch grade;

MASSDOT UTILITY ACCOMMODATION POLICY

6. The bores are continuous from the beginning of the installation until the leading edge of the pipeline is through the entire crossing;
 7. The completed pipeline crossings are all pressure tested;
 8. During pipeline installation, traffic on the highway will not be restricted and all MassDOT regulations will be applied;
 9. Grouting will be done along the top of the pipe to fill all voids;
 10. Large mains that are out of service in the highway right of way will be removed or filled with approved materials.
- c. All water lines shall be cased when crossing under the roadbed of trunk highways, except service lines of two inch diameter or less. Encasement may also be omitted under entrances, depending upon the type and amount of traffic and depth, condition, and maintenance responsibility.
 - d. Where pipelines are cased, the encasement should extend a suitable distance beyond the slope or ditch lines. On curbed sections, the encasement should extend outside the outer curbs. Where appropriate, the encasement should provide for future widening of the highway without the need for any utility adjustment.
 - e. See Chapter 11.E for additional information pertaining to encasement.
4. Crossings
- a. Pipeline crossings shall be avoided within basins of an underpass drained by a pump if the pipeline carries a liquid, liquefied gas, or other potentially hazardous materials.

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- b. Installations crossing existing highways and made subsequent to highway construction may be placed by auguring from inside the pipe. Pre-auguring is not permissible. The leading edge of the auger head shall not protrude more than one inch from the end of the casing during boring operations.
- c. Carrier pipe six (6) inches in diameter and under may be installed by pushing or jacking it under an existing roadway.

5. Depth of Cover

- a. The critical controls for depth of cover for pipelines are the low points in the highway cross section. Usually these are bottoms of the longitudinal ditches. The critical controls for cover are the depths of drainage facilities, bridge structures, and likely highway maintenance operations. The depth of cover must be sufficient to withstand the greatly increased impact loads transmitted through frozen soil.
- b. Minimum depths for longitudinal pipelines, except water, are as follows:
 - i. Pipelines which are not under the roadway shall have a minimum depth of cover of three (3) feet for both cased and non-cased lines.
 - ii. Pipelines that are under the pavement surface shall have a minimum depth of cover of three (3) feet in soil and two (2) feet in rock for both cased and non-cased lines.
 - iii. Pipelines shall have a minimum depth of cover of three (3) feet under ditches.
- c. Minimum depths for longitudinal water pipelines are as follows:
 - i. Water mains shall be laid with a minimum cover of five and one-half (5 1/2) feet or to the grade of the existing pipe unless otherwise shown on the plan or directed by the Engineer.

MASSDOT UTILITY ACCOMMODATION POLICY

- ii. If the minimum cover cannot be met and/or when a water pipe is to be hung within or on a bridge structure, or when placed within one foot of a drainage manhole or catch basin, proper insulating material must be installed on the water pipe as per the *MassHighway Standard Specifications for Highways and Bridges*.
- d. The depth of bury for all underground facilities crossings the highway shall be a minimum of three (3) feet under ditches and five (5) feet under the pavement surface as measured from a straight line connecting the lowest points of the finished ground or pavement surface on each side of the right of way to the top of the facility at the time of installation.
- e. Where minimum bury is not feasible, the facility shall be rerouted or protected with a casing, concrete slab, or other suitable measures. In solid rock, the depth of bury may be reduced if adequate protection is provided.
- f. Exceptions may be authorized for existing pipelines to remain in place with a reduction of six (6) inches in depths of cover specified. Further reductions may be permitted if the pipeline is protected by a reinforced concrete slab that meets the requirements as follows;
 - i. Width: Three times the pipe diameter but not less than four feet;
 - ii. Thickness: Minimum of six inches;
 - iii. Reinforcing: Minimum of #4 bars on 12 inch centers or equivalent;
 - iv. Cover: Minimum of six inches between the slab and top of pipe.
- g. All utilities shall obtain prior approval from MassDOT before burying any utility less than the minimum depth required.
- h. More information concerning specific utilities can be found in Chapter 6.E of this Policy.
- i. Minimum depths for all utilities are summarized in Table 1 in Chapter 6.

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6. Boring Specifications

- a. Casing pipe shall be installed using equipment that encases the hole as the earth is removed. Boring without the concurrent installation of a casing pipe is not permissible. Casing pipe shall extend through the entire fill and be installed in a manner that will not disrupt traffic nor damage the roadway grade and surface. The introduction of water into an excavation is prohibited.
- b. Steel casing pipe shall be new material, the minimum yield strength of 35,000 psig (pounds per square inch gauge). All joints in steel casing pipe shall be welded. The minimum wall thicknesses presented in Table 4 below shall be used.

TABLE 4 -
CASING PIPE
WALL
THICKNESS

Outside Diameter	Under Highway
12" to 28"	0.250
30" to 34"	0.375
36" to 60"	0.500

- c. Reinforced concrete casing pipe must be properly classed based on the depth of cover over the pipe. A minimum of 5,000 pounds per square inch concrete pipe must be used when casing pipe is jacked. Bell type ends are not permitted.
- d. No boring is to be started under any portion of the roadway until an approved permit to do so has been received by the contractor.

7. Vents

- a. Vents shall be located at the high end of short casings and generally at both ends of casings longer than 150 feet.
- b. Vent standpipes shall be located and constructed so as not to interfere with maintenance or use of the highway. They should not be concealed by vegetation. They should preferably stand on a fence or right of way line.

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- c. In urban areas, vents shall be permitted only where they do not affect pedestrian traffic.

8. Drains.

Drains shall be provided for casings and tunnels enclosing carriers of liquid, liquefied gas, or heavy gas. Drains shall empty outside the roadside area to a natural feature, a roadway ditch, or at other locations approved by MassDOT. Such outfall shall not be used as a wasteway for purging the carrier unless specifically authorized.

9. Shut-off Valves

Shut-off valves, preferably automatic, shall be installed in lines at or near ends of structure.

10. Appurtenances.

See Chapter 6.D for information pertaining to pipeline appurtenances.

11. Markers/Facility Protection

- a. The utility owner must place readily identifiable and suitable markers immediately above any underground pipelines it places within the right of way fence line.
- b. Signs shall identify the owner/operator name, the Dig Safe telephone number, the type of facility.
- c. Utility sign markers shall be placed at a maximum interval of one-quarter ($\frac{1}{4}$) mile and on each side of all public roads, streets, and trails the utility facility crosses.
- d. Where plastic pipe is installed without a metal casing, a metal wire must be installed concurrently or other means provided for detection purposes. See Chapter 11.H for additional information about markers and facilities protection.

12. Plastic Lines. The maximum size of plastic lines must not exceed industry standards.

MASSDOT UTILITY ACCOMMODATION POLICY

D. Sanitary Sewers and Storm Drains

1. This Policy was developed with integrated sections. Thus, other sections may be applicable to sanitary sewers and storm drains and need to also be read in order for the reader to fully understand this topic.
2. Codes
 - a. Sanitary sewer shall be installed in accordance with industry standards.
 - b. Storm drains shall be installed in accordance with MassDOT standards.
3. Encasement
 - a. Gravity systems shall be cased when installed by jacking and/or boring, unless the carrier pipe is of such size and material that it would normally be installed without a casing.
 - b. Force mains larger than two (2) inches in diameter crossing a highway shall be cased under the roadbed.
 - c. Lines to be operated under pressure or which do not conform to the material, strength, or cover depths contained herein must be cased.
 - d. Encasement under entrances may be omitted, depending upon the type and amount of traffic and depth, condition, and maintenance responsibility.
 - e. See Chapter 11.E for additional encasement information.
4. Depth of Cover
 - a. The critical controls of depth of cover for sanitary sewers and storm drains are the low points in the highway cross section. Usually these are the bottoms of the longitudinal ditches, the depths of other drainage facilities, bridge structures, and likely highway maintenance operations.
 - b. The depth of cover should be sufficient to withstand the greatly increased impact loads transmitted through frozen soil.

MASSDOT UTILITY ACCOMMODATION POLICY

- c. Minimum depths for longitudinal sanitary sewers and storm drains shall be five and one-half (5 1/2) feet, or to the grade of the existing pipe unless otherwise shown on the plan or directed by the Engineer.
- d. Where minimum bury is not feasible, the facility shall be rerouted or protected with a casing, concrete slab, or other suitable measures. In solid rock, the depth of bury may be reduced if adequate protection is provided. Exceptions may be authorized for existing pipelines to remain in place with a reduction of six inches in depths of cover specified above.
- e. If the minimum cover cannot be met and/or when a sewer pipe is to be hung within/on a bridge structure, proper insulating material shall be installed on the sewer pipe as per the MassHighway Standard Specifications for Highways and Bridges.
- f. All utility owners shall obtain prior approval from MassDOT before burying any utility less than the minimum depth required.
- g. More information concerning specific utilities can be found in Chapter 6.E of this *Policy*.
- h. Minimum depths for all utility facilities are summarized in Table 1 in Chapter 6.

5. Separation Requirements.

- a. Drainage Pipe Separation: Sewer pipe shall be laid at a minimum of five (5) feet horizontally and eighteen (18) inches vertically from a drainage main.
- b. Water Pipe Separation:
 - i. Sewer pipe shall be laid a minimum of ten (10) feet horizontally from any existing or proposed water main.
 - ii. The elevation of the top (crown) of the sewer pipe shall be at least eighteen (18) inches below the bottom (invert) of the water main.

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- iii. The sewer pipe shall be laid such that the pipe joints are equidistant and located as far as possible from the water main crossing.
 - c. Whenever any of these minimum separation distances cannot be met, a waiver must be granted by the District Permits Engineer and/or MassDOT District Highway Director.
6. Materials. New and relocated sewer lines may be of any material that has been proven to be of satisfactory strength and durability in local use, provided all other requirements are met and approved by MassDOT.
7. Markers/Facility Protection
- a. The utility owner must place readily identifiable and suitable markers immediately above any sanitary sewer lines it places within the right of way line.
 - b. Signs shall identify the owner/operator name, the Dig Safe telephone number, and the type of facility.
 - c. Utility sign markers shall be placed at maximum intervals of one quarter ($\frac{1}{4}$) mile and on each side of all public roads, streets, and trails the utility facility crosses.
 - d. Where non-metallic lines are installed without a metallic casing, a durable metal wire must be installed concurrently or other means provided for detection purposes.
 - e. See Chapter 11.H for additional information about markers and facilities protection.

E. Irrigation and Drainage Pipes, Ditches, and Canals

- 1. Irrigation and drainage pipes installed across highway right of way should be designed and constructed in accordance with MassDOT standards for highway culverts and bridges.
- 2. Ditches and canals not required for highway drainage that closely parallel the highway shall generally not be constructed within the highway right of way unless approved by MassDOT.

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MWRA Enabling Act

Massachusetts Water Resources Authority

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MWRA is a Massachusetts public authority established by an enabling act enacted in 1984. The enabling act is **Chapter 372 of the Acts of 1984** (via State Library of Massachusetts).

Amended August, 2010 (via Massachusetts Legislature).

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MWRA ENABLING ACT

AN ACT PERTAINING TO THE METROPOLITAN WATER DISTRICT AND THE METROPOLITAN SEWER DISTRICT OF THE METROPOLITAN DISTRICT COMMISSION.

Whereas, The deferred operation of this a-A would tend to defeat its purpose, which is to immediately establish the Massachusetts Water Resources Authority, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

Be it enacted, etc., as follows:

SECTION 1. It is hereby determined that:

(a) Providing water supply services and sewage collection, treatment and disposal services to areas of the commonwealth made up of the cities and towns now served by the metropolitan district commission is an essential public purpose. The preservation and improvement of the health, welfare and living conditions of the citizenry, the promotion and enlargement of industry and employment and all other aspects of commerce, the protection, conservation, management and development of water supplies and the environment depend upon the sound maintenance, operation and improvement of an adequate water supply distribution system and an adequate sewage collection, treatment and disposal system. The financing requirements for such water supply and sewage collection, treatment and disposal systems are substantial and require independent financial resources, including the ability to rely on user charges to recover costs of providing such services and the ability to fund capital programs without undue reliance on the general obligation credit of the commonwealth.

(b) It is in the best interests of the commonwealth and its citizens to create an authority to achieve the following goals, purposes and objectives:

(i) efficient and economical operation of water delivery and sewage collection, disposal and treatment systems including programs for leak detection and reduction of infiltration and inflow for the service areas of the Authority;

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(ii) repair, replacement, rehabilitation, modernization and extension of the delivery of water sewage collection, disposal and treatment systems for the service areas of the Authority, including the financing on a self-sustaining basis of capital and operating expenses relating thereto;

(iii) establishment and administration of equitable charges, consistent with the objectives of this act to conserve water and improve the quality of the environment, for water delivery and sewage collection, disposal and treatment services;

(iv) professional and productive management of and systemwide planning for the delivery of water and sewage collection, disposal and treatment services; all of which are declared to be for the public benefit, to necessitate the creation of the authority, and to make it necessary and expedient to vest in the authority the powers granted by this act.

(c) The commonwealth faces important needs for fostering efficient use of water, for efficient planning and improvement of the delivery of water and sewage collection, disposal and treatment services to which end an authority should be established and vested with extensive operating, financing and regulatory powers to provide appropriate means for addressing these needs.

Therefore, it is declared to be in the best interest of the commonwealth and its inhabitants, to promote the general health and welfare, to improve commerce and living conditions, to conserve water, and to develop and protect in the public interest the natural resources of the commonwealth, that there be established the Massachusetts Water Resources Authority empowered to operate, regulate, finance, and improve the delivery of water and sewage collection, disposal and treatment systems and services, and to encourage conservation, as provided in this act.

This act may be cited as the Massachusetts Water Resources Authority Act.

SECTION 2. As used in this act, unless the context clearly indicates otherwise, the following words and phrases shall have the following meanings:

(a) Advisory Board", the advisory board established by section twenty-three;

(b) "Authority", the Massachusetts Water Resources Authority created by section three;

(c) "Bonds", bonds, notes or other evidences of indebtedness of the Authority;

(d) Cost", as applied to any project of the Authority any or all costs, whenever incurred, or carrying out and placing such projects in operation, including, without limiting the generality of the foregoing, amounts for the following: acquisition, construction expansion improvement and rehabilitation of facilities; acquisition of real or personal property; demolitions and relocations; labor, materials, machinery and equipment; services of architects, engineers and environmental and financial experts and other consultants; feasibility studies, plans, specifications and surveys; interest prior to and during the carrying out of any project and for a reasonable period thereafter; reserves for debt service or other capital or current expenses; costs of issuance; and working capital, administrative expenses; legal expenses and other expenses necessary or incidental to the aforesaid, to the financing thereof and to the issuance therefor of bonds under the provisions of this act;

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(e) "Costs of issuance", any amounts payable or reimbursable directly or indirectly by the Authority and related to the sale and issuance of bonds and the investment of the proceeds thereof and of revenues securing the same including, without limiting the generality of the foregoing, printing costs, filing and recording fees, fees and charges of trustees, depositories, authenticating agents and paying agents, legal and auditing fees and charges, financial consultant fees, costs of credit ratings, premiums for insurance of the payment of bonds and fees payable for letters or lines of credit or other credit facilities securing bonds, underwriting or placement costs, fees and charges for execution, transportation and safekeeping of bonds, costs and expenses of refunding and other costs, fees and charges in connection with the foregoing;

(f) "Current expenses", the authority's current expenses, whether or not annually recurring, of maintaining, repairing and operating the systems and engaging in other activities authorized by this act including, without limiting the generality of the foregoing, amounts for administrative expenses of the division including costs of salaries and benefits, as provided in this act, cost of insurance, payments for engineering, financial, accounting, legal and other services rendered to the authority, taxes upon the authority or its income, operations or property and payments in lieu of such taxes, costs incurred or payable by the authority with respect to the system real property, costs of issuance not financed in the cost of a project, and other current expenses required or permitted by law to be paid by the authority, including the funding of reasonable reserves for upgrading, maintenance, repair, replacements, insurance, emergency contingencies or operations;

(g) "Division", the division of watershed management established by section forty-two.

(h) "Local body", a city, town, district, commission or other political subdivision or instrumentality of the commonwealth responsible for providing by itself or through an officer, board, department or division thereof local water supply or local sewer services; except as otherwise expressly provided herein, in any case where local water supply or local sewer services within the territorial boundaries of a local body are provided in whole or in part by a political subdivision or public instrumentality of the commonwealth separate from such local body, the term "local body" as used in this act shall mean, within the service area thereof, that political subdivision or public instrumentality.

(i) "MDC sewer system", the sewers and other works of the metropolitan district commission which comprise the system of sewage disposal of the metropolitan sewage district on the effective date of this act, including all interests in real and personal property, equipment, appurtenances, structures and facilities held by the commonwealth or the metropolitan district commission in connection with the ownership, maintenance and operation thereof;

(j) "MDC water system", the water works of the metropolitan district commission which comprise the system of metropolitan water works of the metropolitan water district on the effective date of this act, including all interests in real personal property, equipment, appurtenances, structures and facilities held by the commonwealth or the metropolitan district commission in connection with the ownership, maintenance and operation thereof;

(k) "Person", any natural or corporate person, including bodies politic and corporate, public departments, offices, agencies, authorities and political subdivisions of the commonwealth, corporations, societies, associations and

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partnerships, and subordinate instrumentalities of any one or more political subdivisions of the commonwealth;

(l) "Project", any undertaking or other activity by or on behalf of the Authority to maintain or improve the systems, including, without limiting the generality of the foregoing, any extension, expansion or addition thereto, any acquisition, construction, reconstruction or alteration of any part thereof and any other investment therein;

(m) "Revenues", all charges and other receipts derived by the Authority from operation of the waterworks and sewer systems and from all other activities or properties of the Authority including, without limiting the generality of the foregoing, proceeds of grants, gifts or appropriations to the Authority, investment earnings and proceeds of insurance or condemnation, and the sale or other disposition of real or personal property;

(n) "Safe yield", that amount of water that can be safely withdrawn from a water supply source without impairing the ability of such source to supply said amount of water on an average annual basis, as determined by the division of watershed management and commented on by the division of environmental protection within the department of the attorney general;

(o) "Sewer system", the sewer system of the Authority, consisting of (i) the system personal property formerly a part of the MDC sewer system transferred to the Authority in accordance with section four, (ii) the interest of the Authority created by this act in the system real property which was a part of the MDC sewer system immediately prior to the effective date of this act, (iii) all extensions, enlargements, improvements and additions to the former MDC sewer system acquired, constructed or operated by or on behalf of the Authority, and (iv) each other system for collection, treatment or disposal of sewage acquired or constructed by or on behalf of the Authority in accordance with the provisions of this act or as otherwise authorized by law. The sewer system shall include, without limiting the generality of the foregoing, sewers, pipes, conduits, pump stations, force mains, interceptors, treatment works and other structures, devices, appurtenances and facilities utilized for sewage collection, disposal and treatment and franchises privileges, plant, equipment and real and personal property and rights and interests of every kind relating thereto;

(p) "System" the sewer system and the waterworks system of the Authority and the watershed system of the division.

(q) "System personal property", all personal property held by or on behalf of the commonwealth in the MDC sewer system and the MDC water system, including, without limitation, all equipment, machinery, vehicles and appliances.

(r) "System real property", all real property held by or on behalf of the commonwealth immediately prior to the effective date of this act in and for the MDC sewer system and the MDC water system, including all land, easements, and other interests in real property, including, without limitation, real property interests in buildings, structures and improvements and in sources of water supply.

(s) "Transfer date", for those employees being transferred to the Authority, July first, nineteen hundred and eighty-five; for those employees being transferred to the division, January first, nineteen hundred and eighty-five.

(t) "Users", local bodies, utilizing water or sewer services of the Authority;

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(u) "Watershed system", (i) all real and personal property interests held by or on behalf of the commonwealth immediately prior to the effective date of this act in and for the MDC water system which were part of or appurtenant to the Quabbin watershed, Quabbin Reservoir, Ware River watershed, Wachusett watershed, Wachusett Reservoir, North and South Sudbury watersheds, Sudbury Reservoir, Framingham reservoirs 1, 2 and 3, Blue Hills Reservoir, Bear Hill Reservoir, Spot Pond Reservoir, Fells Reservoir, Weston Reservoir, Norumbega Reservoir, Chestnut Hill Reservoir, including land, easements, buildings, structures, all equipment, machinery, vehicles, and appliances, improvements, water rights and rights in sources of water supply and, (ii) all enlargements and additions to the former MDC water system acquired or constructed by the division for the purposes of the watershed system, including land, easements, building structures, equipment, machinery, vehicles, and appliances, improvements, reservoirs, dams, water rights and rights in sources of water supply; but excluding in each case the waterworks system as defined herein;

(v) "Waterworks system", (i) all real and personal property interests in the system of waterworks held by or on behalf of the commonwealth immediately prior to the effective date of this act in and for the MDC water system, including all plants, works, connections, aqueducts, mains, pipe lines, pumping plans and facilities, waterworks buildings and structures, standpipes, tanks and appurtenances, all equipment, machinery, vehicles, and appliances, and all lands and easements directly appurtenant or incident to the maintenance or operation thereof, and (ii) all extensions, enlargements, improvements and additions to the former MDC water system acquired, constructed or operated by the authority including all plants, works, connections, aqueducts, mains, pipe lines, pumping plants and facilities, waterworks building and structures, standpipes, tanks and appurtenances, all equipment, machinery, vehicles, and appliances, and all lands and easements directly appurtenant or incident to the maintenance or operation thereof;

SECTION 3.

SECTION 3.

(a) There is hereby created and placed in the executive office of environmental affairs a body politic and corporate and a public instrumentality to be known as the Massachusetts Water Resources Authority, which shall be an independent public authority not subject to the supervision or control of the executive office of environmental affairs or of any other executive office, department, commission, board, bureau, agency or political subdivision of the commonwealth except to the extent and in the manner provided in this act. The exercise by the Authority of the powers conferred by this act shall be deemed to be the performance of an essential public function.

(b) The powers of the Authority shall be exercised by or under the supervision of a board of directors consisting of eleven members. One member of the board of directors shall be the secretary of the executive office of environmental affairs, serving ex officio, one member of the board of directors who is a resident of a Connecticut river basin community who represents water resources protection interests shall be appointed by the governor and shall serve coterminous with the governor, one member of the board of directors who is a resident of a Merrimack river basin community who represents water resources protection interests shall be appointed by the governor and shall serve coterminous with the governor, one member of the board of directors shall be appointed by the mayor of the City of Quincy and shall serve coterminous with the mayor, one member of the board of directors shall be appointed by the council president of the town of Winthrop by

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majority vote and shall serve a term of four years; provided however, that one of the previous named five members shall be a minority person; three members of the board of directors shall be appointed by the mayor of the city of Boston and shall serve conterminous with the mayor, and three members of the board of directors shall be appointed by the advisory board as provided in section twenty-three of this act. Members appointed by the advisory board shall serve for terms of six years, provided, however, that, of the members first appointed by the advisory board, one shall serve for a term expiring on June thirtieth, nineteen hundred and eighty-six, one shall serve for a term expiring on June thirtieth, nineteen hundred and eighty-eight, and one shall serve for a term expiring on June thirtieth, nineteen hundred and ninety, with the term of each to be designated by the advisory board at the time of appointment. Persons appointed to terms succeeding the terms of members initially appointed by the advisory board, shall be appointed to terms of six years. For the purposes of this paragraph a Connecticut river basin community shall include any city or town in the commonwealth lying in whole or in part in the drainage area of the Connecticut river or its tributaries, a Merrimack river basin community shall include any city or town in the commonwealth lying in whole or in part in the drainage area of the Merrimack river or its tributaries, and a minority person shall be as set forth in the definition of "minority" contained in section forty C of chapter seven of the General Laws.

(d) Each member of the board of directors shall serve until his successor is appointed and qualified and each appointed member of the board of directors shall be eligible for reappointment. Each member of the board of directors appointed to fill a vacancy on the board shall be appointed for the unexpired term of the vacant position. Each member of the board of directors before entering upon his duties shall take an oath before the governor to administer the duties of office faithfully and impartially and a record of such oaths shall be filed in the office of the secretary of the commonwealth. Any member of the board of directors may be removed by the appointing authority for misfeasance, malfeasance or willful neglect of duty upon the filing by the appointing authority with the secretary of the commonwealth of a statement of facts and circumstances which form the basis for such removal. The secretary of the executive office of environmental affairs shall be the chairman of the Authority. The board of directors annually shall elect one of its members as vice-chairman. Six members of the board of directors shall constitute a quorum and the affirmative vote of six members shall be necessary and shall suffice for any action taken by the board of directors. Any action of the board may take effect immediately and need not be published or posted unless otherwise provided by law. No vacancy in the membership of the board of directors shall impair the right of a quorum to exercise the powers of the board of directors. The members of the board of directors shall serve without compensation but each member shall be reimbursed for all reasonable expenses incurred in the performance of his duties. The board of directors shall be deemed to be a governmental body for purposes of and shall be subject to section eleven A and one-half of chapter thirty A of the General Laws. The Authority shall be deemed to be an agency for all other purposes under said chapter thirty A. The Authority shall also be subject as an authority of the commonwealth to section forty-two of chapter thirty and section ten of chapter sixty-six of the General Laws. The Authority shall be deemed to be a public body and all monies of the Authority shall be deemed to be public funds for purposes of chapter twelve A of the General Laws.

(e) Notwithstanding any other provision of general or special law to the contrary, any member of the board of directors who is also an officer or employee of the commonwealth or of a city or town or other public body shall not thereby be precluded from voting for or acting on behalf of the Authority, the commonwealth

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or such city or town or other public body on any matter involving the Authority, the commonwealth or that city or town or other public body and any member, officer, employee or agent of the Authority shall not be precluded from acting for the Authority on any particular matter solely because of any interest therein which is shared generally with a substantial segment of the public. The Authority shall be deemed to be a state agency for purposes of chapter two hundred and sixty-eight A of the General Laws and a governmental body for purposes of chapter two hundred and sixty-eight B of the General Laws.

SECTION 4.

(a) On July first, nineteen hundred and eighty-five, ownership, possession and control of the system personal property as it relates to the sewer and waterworks system shall pass to and be vested in the Authority without consideration or further evidence of transfer and shall thereafter be in the ownership, possession and control of the Authority. All records in custody of the metropolitan district commission under chapter one hundred and seventy-two of the acts of nineteen hundred and thirty-nine shall remain in the metropolitan district commission. All books, maps, papers, plans, records and documents of whatever description pertaining to the design, construction, operation, and affairs of the MDC sewer system and the MDC water system, exclusive of those pertaining to the MDC watershed system, which are in the possession of the metropolitan district commission on January first, nineteen hundred and eighty-five, or which thereafter come into the possession of the metropolitan district commission also shall be transferred and delivered to the Authority to its use, ownership, possession and control. All such system personal property as it relates to the watershed system shall remain in the metropolitan district commission and be assigned to the watershed management division.

(b) As of July first, nineteen hundred and eighty-five, the commonwealth grants to the Authority, subject to limitations under other law in force on the effective date of this act and limitations contained in this act, the exclusive right for so long as the Authority shall not have been terminated in accordance with section twenty-one to utilize for water supply purposes all such quantities of water as may be safely yielded from the watershed system or as otherwise may have been provided by the general court for the watershed system. The Authority's right to utilize the watershed system shall include the delivery, distribution and sale of water thereof by the Authority and the receipt by the Authority as its revenues of the Authority's charges therefor.

(c) The ownership of the system real property, as it relates to the sewer and waterworks systems shall not be transferred to the Authority under this act, but the Authority, as of July first, nineteen hundred and eighty-five, shall have the rights to enter, use, improve, operate, maintain and manage that portion of the system real property in accordance with this act, such right to be subject to revocation by the commonwealth through legislation enacted by the general court. The commonwealth hereby covenants that in the event such rights are revoked by the general court, such rights shall be transferred to such other public body as the general court shall designate, and the commonwealth further covenants that whatever public body assumes such rights shall discharge and provide for the satisfaction of all the obligations of the Authority, including, but not limited to, its obligations to provide for payment of the bonds of the Authority. The ownership of the system real property as it relates to the watershed system shall remain in the commonwealth and the watershed management division of the metropolitan district commission shall manage all such properties provided for by this act. Under this act (i) no lands or easements taken or acquired for the purposes authorized by article ninety-seven of the Amendments to the

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Constitution of the Commonwealth shall be used for other purposes or disposed of, and (ii) no lands devoted to the public use shall be diverted to another inconsistent public use, except in all instances in accordance with the laws and the Constitution of the Commonwealth.

(d) On July first, nineteen hundred and eighty-five, all proceeds, exclusive of such amounts for the purposes of equipment, capital project needs, or land acquisition and improvements of that portion of the MDC water system comprising the watershed system, if any, of bonds referred to in section eleven and grants and other aid which are held by the commonwealth at the effective date of this act shall then and thereafter be deemed to be held in trust for, and shall upon demand of the Authority be transferred to the Authority to be applied by the Authority to projects for which such bonds, grants or other aid was authorized. On July first, nineteen hundred and eighty-five, all proceeds, if any, of bonds referred to in said section eleven and grants and other aid which are for the equipment, capital project needs, or land acquisition and improvements of that portion of the MDC water system comprising the watershed system, shall then and thereafter be expended by the division on projects for which such bonds, grants or other aid was authorized. All proceeds if any, of bonds, grants or other aid referred to herein, which shall be so held in trust and transferred upon demand, shall be in the amount as certified by the commissioner of the metropolitan district commission to the state treasurer.

(e) The requirements respecting budgets of the Authority in paragraph (b) of section eight shall first be effective commencing with current expenses and costs paid or incurred on and after July first, nineteen hundred and eighty-five. The charges of the Authority provided for in section ten shall first become effective on July first, nineteen hundred and eighty-five. During the fiscal year of the commonwealth commencing July first, nineteen hundred and eighty-four, the commonwealth may make, enforce and receive assessments and charges relating to the MDC sewer and water systems, comprising the sewer system, watershed system, and waterworks system as defined in this act, with provisions of chapter ninety-two of the General Laws in effect immediately prior to the effective date of this act only as follows: (i) with respect to all expenses and costs other than debt service which shall have been expended for operation of the MDC sewer system in the fiscal year of the commonwealth commencing July first, nineteen hundred and eighty-three; (ii) with respect to debt service relating to the MDC sewer system which shall be incurred in the fiscal year of the commonwealth commencing July first nineteen hundred and eighty-four; (iii) with respect to all costs and expenses including debt service which shall be incurred for operation of the water supply system for the fiscal year of the commonwealth commencing July first nineteen hundred and eighty-four. No repeal or amendment of laws pursuant to sections thirty through seventy two of this act shall revoke the obligation of any person to make payments to the commonwealth, including, without limitation, charges or assessments under chapter ninety-two of the General Laws and section twenty of chapter fifty-nine of the General Laws, made prior to July first, nineteen hundred and eighty-four, pursuant to the authorization contained in the preceding sentence and during the fiscal year of the commonwealth commencing July first, nineteen hundred and eighty-four, and all amounts received by the commonwealth on account of charges or assessments to be made under the authority of the preceding sentence and any other amounts derived from or related to the operation of said systems during the fiscal year of the commonwealth commencing July first nineteen hundred and eighty-four shall be received and held as funds of the commonwealth and shall not be transferred to the Authority. Notwithstanding any other provision of this act or other law, commencing on July first, nineteen hundred and eighty-five, all amounts of any kind received by the commonwealth, exclusive of amounts derived from or

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related to the activities authorized in section forty-two, which are derived from or related to the operation of the systems including the former MDC sewer system or MDC water system, exclusive of that portion of the MDC water system comprising the watershed system as defined in this act, shall be deemed to be held in trust for and shall be transferred and paid over to the Authority when received without further appropriation to be applied to the purposes of the Authority. For purposes of this section, all references to funds received by the commonwealth shall be deemed to include receipt of funds by the metropolitan district commission.

(f) All rules, regulations, licenses and permits duly promulgated by or on behalf of the metropolitan district commission respecting the MDC sewer system and the MDC water system, exclusive of that portion of the MDC water system comprising the watershed system as defined in this act, shall remain in full force and effect to the extent consistent with this act until revised or rescinded by the Authority. All such rules, regulations, licenses and permits respecting that portion of the MDC water system comprising the watershed system shall remain in full force and effect to the extent consistent with this act, including regulations promulgated pursuant to chapter seven hundred and thirty-seven of the acts of nineteen hundred and seventy-two. All contractual rights and liabilities of the metropolitan district commission pertaining to either the MDC sewer system, and the waterworks functions of the MDC water system, or the watershed functions of the MDC water system, shall continue in full force and effect and all benefits, obligations and duties assumed by and imposed upon the Authority and the division, respectively, so far as consistent with the powers granted to the Authority and said division under this act. No liability in tort, or for water pollution under a statutory or other basis, arising prior to July first, nineteen hundred and eighty-five, however, shall be imposed upon the Authority and this sentence shall apply to all actions or proceedings, including those commenced prior to the effective date of this act. Except as expressly excepted by the previous sentence, actions and proceedings against or on behalf of the metropolitan district commission, pertaining to either the MDC sewer system and the waterworks functions of the MDC water system, or the watershed system functions of the MDC water system, shall continue unabated and may be completed against or by the Authority or by the division, respectively.

(g) On July first, nineteen hundred and eighty-five, each employee of the metropolitan district commission paid as of the effective date of this act from funds derived from the accounts of the metropolitan sewerage district or the metropolitan water district shall become an employee of the Authority without impairment of civil service status and seniority and without reduction in compensation, notwithstanding any change in job titles or duties and without loss of accrued rights to holidays, sick leave, vacation and benefits, and shall thereafter perform his or her duties under the direction, control and supervision of the Authority, provided, however, that any employee subject to transfer under the foregoing provision of this sentence whose existing duties and responsibilities are determined by the commissioner of the metropolitan district commission to relate directly and primarily to functions of the metropolitan district commission not passing to the Authority under this act and for whom a position at the metropolitan district commission is funded in whole or in part by items 2410-1000 or 2460-1000 of section two of chapter two hundred and thirty-four of the acts of nineteen hundred and eighty-four and any employee, so determined, to be transferred to the division of watershed management shall remain an employee of the commission, without change in civil service status, if any, without any reduction in seniority, compensation, salary, and without any loss of accrued rights to holidays, sick leave, vacation and other benefits of employment, and shall continue to perform duties under the direction, control and supervision of the metropolitan district commission, under funding arrangements not thereafter

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derived from the accounts of the metropolitan sewerage district or the metropolitan water district. It is the intention of the general court in the implementation of this provision that each employee of the metropolitan district commission whose compensation is funded from funds derived from the accounts of the metropolitan sewerage district or the metropolitan water district shall, upon the implementation of the foregoing provisions, then hold employment at the Authority or the metropolitan district commission, as the case may be, subject, so far as concerns the Authority, to the terms and conditions of employment established by this act, and so far as concerns the metropolitan district commission, to such rights as may now and hereafter be lawfully protected and provided. Terms of office of employees of the metropolitan district commission transferred to the Authority shall not be deemed to be interrupted by such transfer provided that all employees shall be governed by the provisions in section seven for retirement, pension and group insurance benefits and for protection and preservation of retirement and pension rights based on their prior service. Rights and obligations under collective bargaining agreements with respect to employees transferred from the metropolitan district commission, except to the extent expressly inconsistent with this act, shall be assumed by and imposed upon the Authority pursuant to section seven (c). Every employee transferred to the Authority under this paragraph who immediately prior to such transfer holds a permanent appointment classified under chapter thirty-one or has tenure by reason of section nine A of chapter thirty of the General Laws shall be entitled to the rights and benefits of and shall be subject to the provisions relating to tenured employees under chapter thirty-one or section nine A of chapter thirty, respectively, with respect to that position.

(h) The deputy commissioner of capital planning and operations shall assist and cooperate with the Authority in making suitable office arrangements, exclusive of the office premises in the building located at twenty Somerset street in Suffolk county, in the city of Boston, for the administrative offices of the Authority including, without limitation of the foregoing, temporary arrangements in office premises of the commonwealth which may include such reduced rents prior to the transfer date as the deputy commissioner shall deem appropriate.

SECTION 5.

(a) Notwithstanding any other provision of this act, on January first, nineteen hundred and eighty-five or as soon thereafter as a quorum of the board of directors may be appointed, the Authority shall undertake the following: (i) appoint an executive director and such additional staff as shall be necessary for the purposes of this section; (ii) develop its rules and regulations, including charges for implementation on July first, nineteen hundred and eighty-five; (iii) provide for the implementation of permanent financing and; (iv) any such other powers necessary for the provision of water delivery and sewer services on July first, nineteen hundred and eighty-five. Until the appointment and qualification of members of the board of directors of the Authority constituting a quorum of the board all such rights and powers authorized by the provisions of this section may be exercised by personnel of the metropolitan district commission with the approval of the secretary of the executive office of environmental affairs.

(b) An amount equal to all requirements incurred in the MDC Sewer Fund and the MDC Water Fund to the extent and in amounts expended for the purposes of the sewer and waterworks systems for the fiscal year of the commonwealth commencing July first, nineteen hundred and eighty-four and all amounts appropriated by the commonwealth for such period shall be repaid to the commonwealth by the Authority and credited on the books of the commonwealth as of no later than June thirtieth, nineteen hundred and eighty-six. The Authority

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shall also reimburse the commonwealth to be credited on the books of the commonwealth as of no later than June thirtieth, nineteen hundred and eighty-six for all then outstanding and unreimbursed cash advances of funds of the commonwealth made on or prior to that date for the funding of projects for MDC sewer system or the MDC water system and, from January first, nineteen hundred and eighty-five through June thirtieth, nineteen hundred and eighty-five, for costs of projects of the Authority for the waterworks system and the sewer system, to the extent of and in amounts expended for the purposes of the sewer and waterworks systems. All amounts transferred between the commonwealth and the Authority under sections four and five shall be subject to adjustment upon final audit to be completed within two years of the effective date of this act.

(c) In order to provide funds in addition to amounts appropriated by the commonwealth for current expenses of the sewer and waterworks systems during the period from the effective date of this act until December thirty-first, nineteen hundred and eighty-five the state treasurer, on behalf of the commonwealth, is hereby authorized and directed to loan to the Authority through investment in a note or other appropriate instrument of the Authority, and the Authority is authorized to borrow from the state treasurer, at any time and from time to time on or prior to December thirty-first, nineteen hundred and eighty-five, on such terms and conditions as the state treasurer and the Authority shall agree, an amount not in excess of sixty-five million dollars. Any amount so borrowed by the Authority, with interest thereon at such reasonable rate as the state treasurer and the Authority shall agree, shall be repaid to the commonwealth to be credited on the books of the commonwealth as of no later than June thirtieth, nineteen hundred and eighty-six. Of the amount so loaned, the Authority may transfer to the state treasury such amounts as it deems appropriate to be administered in trust for the purpose of the water and sewer divisions of the metropolitan district commission; provided, however, that such amounts may be expended only after transfer to and subject to the wording of the appropriate line-item appropriations of said divisions, all outside sections pertaining to said items, and all other laws regulating the expenditures of state funds. For purposes of the first sentence of paragraph (b) amounts expended from such transfers to the state treasury shall not be deemed requirements incurred in the metropolitan district commission sewer fund or the metropolitan district commission water fund. Said transfers shall be approved by the secretary of environmental affairs.

(d) The Authority is also authorized to issue at one time or from time to time prior to June thirtieth, nineteen hundred and ninety, notes of the Authority in the aggregate principal amount of six hundred million dollars outstanding at any one time, excluding notes refunded by other notes issued under this paragraph, for the purpose of providing funds for: (i) meeting the obligations of the Authority to repay or reimburse the commonwealth for all amounts described in paragraph (b) of this section; (ii) repaying the commonwealth for any amounts borrowed by the Authority from the commonwealth including interest thereon pursuant to paragraph (c); (iii) meeting the obligations of the Authority as required by section forty-two of this act; (iv) paying all or part of the cost of the Authority's projects undertaken at any time prior to December thirty-first, nineteen hundred and eighty-nine; (v) paying all or any part of the current expenses of the Authority in anticipation of receipt of revenues of the Authority, but in no event shall the aggregate amount of notes outstanding for this purpose exceed one-half of the budgeted current expenses of the Authority for the fiscal year in which such notes are outstanding; and, (vi) paying all or any part of the interest payable on any notes of the Authority issued under this paragraph. Notes issued by the Authority in accordance with this paragraph shall be issued for such term or terms as the Authority shall determine and may be renewed from time to time; provided, however, all such notes and any renewals thereof shall mature and be payable no

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later than June thirtieth, nineteen hundred and ninety except that notes issued in anticipation of revenues shall be payable and shall mature no later than one year from their date. Notes issued by the Authority in accordance with this paragraph, except notes issued in anticipation of revenues, shall be issued in anticipation of bonds to be issued by the Authority pursuant to section twelve. All notes issued pursuant to this paragraph shall be authorized, issued and sold in the same manner as, and shall otherwise be subject to, section twelve and the other provisions of this act relating to bonds; provided, however, that notes issued under this paragraph shall be issued at a fixed rather than a variable rate or rates of interest.

(e) The commonwealth, acting by and through the secretary of administration and finance with the approval of the governor, upon application of the Authority, shall guarantee the principal of and interest and notes of the Authority issued in accordance with paragraph (d). The secretary of administration and finance with the approval of the governor and without further authority may approve the form, terms and conditions of, and may execute and deliver on behalf of the commonwealth such guaranty and any related agreements with or for the benefit of the holders of such notes containing such terms, conditions and covenants of the commonwealth as the secretary of administration and finance may deem reasonable including provision for the payment of notes not paid or refunded by the Authority by application of the proceeds of the loan authorized in paragraph (f). Without limiting the generality of the foregoing, such guaranty may take the form of an agreement to reimburse the issuer of a letter of credit or other credit facility which relates to such notes. The full faith and credit of the commonwealth shall be pledged for the guaranty provided for in this paragraph. The total principal amount of notes to be guaranteed under this paragraph shall not exceed six hundred million dollars in the aggregate; provided, however, that any note being refunded by the issuance of a guaranteed note shall not, and the refunding note shall, be included within such total amount.

(f) If the Authority shall fail or otherwise be unable to refund or pay when due any guaranteed note or notes, or the interest thereon, issued by the Authority in accordance with paragraph (e), such notes, and the interest thereon, upon presentation to the state treasurer, shall be paid by the commonwealth. For the purpose of providing funds to pay any such guaranteed notes and interest or to reimburse the treasury for any such payments the state treasurer shall, upon the request of the governor, issue and sell bonds of the commonwealth in an amount specified by the governor from time to time, but not exceeding in the aggregate the sum of six hundred million dollars for principal and ninety million dollars for interest. Bonds issued by the commonwealth under this paragraph shall be designated on their face, Massachusetts Water Resources Authority Loan, Act of 1984. Such bonds shall be issued for such maximum term or terms not exceeding twenty years as the governor may recommend to the general court in accordance with section three of Article LXII of the Amendments to the Constitution of the Commonwealth. The Authority shall reimburse the commonwealth in accordance with a schedule to be determined by the secretary of administration and finance at the time such bonds are issued, from any moneys of the Authority which are available for such purposes, including funds provided from charges of the Authority in accordance with paragraph (a) of section ten. Bonds and interest thereon issued by the commonwealth under the authority of this section shall, notwithstanding any other provisions of this act, be general obligations of the commonwealth, in anticipation of the receipt of proceeds of such bonds, the treasurer may issue and sell temporary notes and renewals thereof in an amount outstanding at one time not in excess of the amount of bonds specified by the governor pursuant to this paragraph, for a term not to exceed three years, including any renewals thereof. The principal of and

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interest on such notes may be paid from the proceeds of said renewal notes or bonds and to the extent not so paid shall be paid from any other funds or receipts; provided, however, that if and to the extent that the principal amount of such notes is paid from other than the proceeds of said renewal notes or bonds, the principal amount of said bonds which may be issued under this section shall be reduced by a like amount. Such notes and any renewals thereof shall be general obligations of the commonwealth.

(g) The state treasurer may borrow, from time to time, on the credit of the commonwealth such amounts as may be necessary to make any loans required of the commonwealth under paragraph (c) and to pay any interest or other charges incurred in borrowing such money, and may issue notes of the commonwealth therefor, bearing interest payable at such times and at such rates as shall be fixed by him. No note issued under this paragraph shall mature more than one and one-half years from its date but notes may be refunded one or more times. Such notes shall be issued for such maximum term of years, not exceeding one and one-half years, as the governor may recommend to the general court in accordance with section three of Article LXII of the Amendments to the Constitution of the Commonwealth.

(h) The obligations of the Authority to make repayments and reimbursements to the commonwealth as described in paragraphs (b) and (c) and section forty-two shall be reduced by the sum of all amounts received by the commonwealth of account of operations of the system conducting in the fiscal year of the commonwealth commencing July first, nineteen hundred and eighty-four including, without limitation, all amounts so received on account of charges and assessments for purposes described in clauses (ii) and (iii) of the third sentence of paragraph (f) of section four. Attribution of charges and assessments received by the commonwealth during such year shall be made on a consistent basis with the certifications made to the state treasurer by the metropolitan district commission which are the basis of such charges. Except as otherwise expressly provided in this act, no amount to be repaid or reimbursed to the commonwealth by the Authority under this section five shall bear interest prior to such repayment or reimbursement. All amounts received by the commonwealth on account of operations of the system conducted in the fiscal year of the commonwealth commencing July first, nineteen hundred and eighty-four and all amounts repaid or reimbursed to the commonwealth by the Authority under this section and section forty-two shall be accounted for as appropriate on the books of the commonwealth in the Metropolitan Sewerage District Fund and the Metropolitan Water District Fund and such funds shall be closed on the books of the commonwealth as of the close of the fiscal year ending June thirtieth, nineteen hundred and eighty-six.

SECTION 6. The Authority shall have all powers necessary or convenient to carry out and effectuate the purposes and provisions of this act, including without limiting the generality of the foregoing, the powers:

- (a) to adopt and amend by-laws for the regulation of its affairs and the conduct of its business;
- (b) to adopt an official seal and alter the same at pleasure;
- (c) to maintain an office at such place or places as it may determine;
- (d) to adopt a fiscal year to conform with the fiscal year of the commonwealth;
- (e) to adopt and enforce procedures and regulations in connection with the performance of its functions and duties and without limitation on other reasonable

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means of enforcement, to establish reasonable penalties for violation of its regulations commensurate with the seriousness of the violation; provided, however, that no penalty may exceed ten thousand dollars for each such violation but the Authority may in the case of a continuing violation, make each day's violation a separate violation;

(f) to sue and be sued, to prosecute and defend actions relating to its properties and affairs, and to be liable in tort in the same manner as a private person except that the Authority and its members, employees and agents shall be immune from tort liability for acts and omissions constituting (i) the exercise of a legislative or judicial function, (ii) the exercise of an administrative function involving the determination of fundamental governmental policy or (iii) the exercise of a discretionary function or duty; provided, however, that property of the Authority, other than, in actions to enforce payment of bonds, the revenues and funds pledged to the payment of bonds, shall not be subject to attachment nor levied upon by execution, and, provided further, that the Authority is not authorized to become a debtor under the United States Bankruptcy Code;

(g) to employ personnel as hereinafter provided and to engage architectural, engineering, accounting, management, legal, financial and environmental consulting and other professional services;

(h) to receive and apply its revenues to the purposes of this act without appropriation or allotment by the commonwealth or any political subdivision thereof;

(i) to maintain, repair, operate, extend, enlarge, and improve the sewer and waterworks systems, to investigate, design, construct and acquire improvements and additions to said systems; to engage in activities, programs and projects on its own behalf or jointly with other public bodies; to provide technical assistance to local bodies and the division in furtherance of the management or improvement of water supply and sewage collection, disposal and treatment services; and to provide for the cost of activities, programs and projects from grants, the proceeds of bonds, or from other revenues available to the Authority for such purposes;

(j) pursuant to the provisions of section nine, to acquire and take and hold title in its own name, by purchase, lease, leasepurchase, sale and leaseback, mortgage, exchange, gift or otherwise, or to obtain options for the acquisition of, and to dispose of, any property, real or personal, improved or unimproved, tangible or intangible, or any interest therein, and to exercise the power of eminent domain;

(k) to establish, adjust, collect and abate charges for services, facilities and commodities furnished or supplied by it;

(l) to borrow money and issue bonds and to pledge or assign or create security interests in funds or revenues of the Authority to pay or secure such bonds;

(m) to obtain insurance and to enter into agreements of indemnification necessary or convenient to the exercise of its powers under this act;

(n) to apply for, receive, administer and comply with the conditions and requirements respecting any grant, gift or appropriation of property, services or moneys;

(o) to enter into contracts, arrangements and agreements with other persons in all matters necessary or convenient to the operation of this art including, without limiting the generality of the foregoing, matters or technical cooperation,

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planning, management, administration and operations and to execute and deliver instruments necessary or convenient to the exercise of its powers under this act;

(p) to apply for and to hold permits, licenses, certificates or approvals as may be necessary or desirable to construct, maintain and operate the sewer and waterworks systems;

(q) to appear in its own behalf before other public bodies, including, without limiting the generality of the foregoing, the Congress of the United States and the general court of the commonwealth, in all matters relating to its powers and purposes;

(r) to do all things necessary, convenient or desirable for carrying out the purposes of this act or the powers expressly granted or necessarily implied by this act. Specification elsewhere in this act of powers of the Authority with respect to the Authority's regulations, charges and operations shall not limit the generality of the powers granted in this section and in section ten or powers the Authority may exercise under any other special or general law insofar as it relates to the purposes of this act.

SECTION 7.

(a) An executive director, who shall be a person professionally skilled and experienced in law, finance, public works or public utility programs, or public administration with significant experience in wastewater pollution abatement, shall be appointed by the board of directors for a term not to exceed five years as chief executive officer of the Authority, and shall so serve until his successor is appointed and qualified and each such executive director shall be eligible for reappointment for like five year terms. An executive director may be removed at any time by the board for misfeasance, malfeasance or willful neglect of duty upon the filing by the board with the secretary of the commonwealth of a statement of facts and circumstances which form the basis for such removal. The executive director shall administer the affairs of the Authority, including, without limiting the generality of the foregoing, matters relating to contracting, procurement, personnel and administration, under the supervision of the board of directors in accordance with such authorizations as the board of directors may from time to time reasonably adopt and continue in force. The Authority shall also appoint persons to hold the offices of secretary and treasurer to the Authority. The secretary shall be the custodian of the seal and of the books and records of the Authority and shall keep a record of the proceedings of the board of directors. The secretary may cause copies to be made of all minutes and other records and documents of the Authority and may give certificates under its official seal to the effect that such copies are true copies and all persons dealing with the Authority may rely upon such certificates. The treasurer shall have charge of the books of account and accounting records of the Authority and shall be responsible under the supervision of the executive director for financial control for the Authority. Upon the recommendation of the executive director, the board of directors shall also appoint and establish reasonable compensation, benefits and other terms of employment for other officers and other employees of the Authority as it deems necessary, including assistant secretaries and assistant treasurers in whom may be vested any of the powers of the secretary and the treasurer, respectively, and including architects, engineers, accountants, lawyers, planners and other management and professional personnel. Except as otherwise hereinafter provided for the appointment of said executive director, other officers and employees of the Authority shall serve at the pleasure of the board of directors or under collective bargaining agreements or contracts of employment; provided, however, that no contract of employment, except for that of the executive

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director, shall exceed a term of three years, which may be renewed upon the expiration thereof.

(b) The Authority may indemnify any present or past director, officer, employee or agent of the Authority and any member, officer, employee or agent of the retirement board established pursuant to paragraph (d) against liabilities, claims, costs and expenses, including legal expenses, in connection with any actual or threatened proceeding, including any settlement thereof approved by the Authority, arising by reason of any act or omission within the scope of his duties for the Authority; provided, however, that no indemnification shall be provided to a person concerning a matter as to which such person is finally adjudicated to have acted either without the belief held in good faith that his or her conduct was in the best interests of the Authority or with reason to understand that his or her conduct was unlawful. Costs and expenses may be paid prior to a final disposition upon receipt of an undertaking, which the Authority may accept without regard to the financial resources of the person indemnified, that the person receiving the benefit of payments shall repay such payments if he shall be finally adjudicated not to be entitled to indemnification hereunder. The Authority may purchase insurance on behalf of itself and any of its directors, officers, employees or agents and any member, officer, employee or agent of the retirement board established pursuant to paragraph (d) against any liability arising out of such person's status as such, whether or not the Authority would have the power to indemnify such person against such liability.

(c) The Authority and its employees shall be subject to the provisions of chapter one hundred and fifty E of the General Laws, and for purposes of said chapter, the Authority shall be deemed to be an employer or public employer and a legislative body. The Authority may designate a representative to act in its interest in labor relations matters with its employees. Rights and obligations under collective bargaining agreements with respect to employees transferred from the metropolitan district commission, except to the extent expressly inconsistent with this act, shall be assumed by and imposed upon the Authority, and employees transferred to the Authority who are subject to such agreements shall continue to be represented by the employee organizations that are parties to such agreements until such time as they elect to be otherwise represented in accordance with the provisions of chapter one hundred and fifty E. Existing bargaining units as determined by the state labor relations commission for metropolitan district commission employees shall remain in full force and effect for those employees transferred to the Authority until the expiration date of collective bargaining agreements covering such employees. No collective bargaining agreement entered into by the Authority, however, shall limit inherent management rights which shall include, without limiting the generality of the foregoing, the following: (i) employment, assignment, and promotion of employees and the determination of standards therefor, (ii) termination and discharge of employees, provided that any collective bargaining agreement may protect employees against such actions on arbitrary, capricious or unreasonable grounds, (iii) determination of the Authority's levels of service, levels of staffing, and the methods, means and personnel for performing operations, (iv) supervision, control, and evaluation and establishment of productivity standards for employees, and (v) use of part-time regular employees and of independent contractors or vendors. Notwithstanding the foregoing, each collective bargaining agreement in force on the effective date of this act covering former employees of the metropolitan district commission transferred to the employment of the Authority under section four, shall continue to be a valid collective bargaining agreement in effect with respect to such employees until the date which is two years subsequent to the stated date of expiration of such agreement; provided, however, that the Authority shall negotiate in good faith pursuant to the

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provisions of chapter one hundred and fifty E of the General Laws with respect to wages, hours, and other terms in conditions of employment to become effective as of the stated date of expiration of such agreement for the balance of the term of such agreement as herein extended.

(d) All employees of the Authority not employed by the metropolitan district commission prior to July first, nineteen hundred and eighty-five shall become members of a contributory retirement system to be referred to as the Massachusetts Water Resources Authority Retirement System, hereinafter referred to as the "Authority Retirement System", which shall be a separate system from the state employees' retirement system and which shall be established and maintained in accordance with sections one to twenty-eight L, inclusive, and section one hundred and two of chapter thirty-two of the General Laws and for all purposes thereunder shall be deemed to be a contributory retirement system of a governmental unit governed by the provisions thereof for the state employees' retirement system except as otherwise expressly provided herein. The Authority Retirement System shall become effective without further acceptance by the Authority on July first, nineteen hundred and eighty-five. The Authority Retirement System shall be administered by a separate retirement board established by the Authority which shall consist of three persons and which shall have custody of the funds of the Authority Retirement System and shall have the general powers and duties set forth in subdivision five of section twenty of chapter thirty-two of the General Laws. One member of the retirement board shall be the secretary of the Authority, serving ex officio. The second member of the retirement board shall be initially appointed by the Authority for a term expiring June thirtieth, nineteen hundred and eighty-six and thereafter the second member shall be a person elected by members in service and members retired from service in the Authority Retirement System from among their number to serve for a term expiring June thirtieth, nineteen hundred and eighty-nine and for successive triennial terms thereafter. The third member of the retirement board shall be appointed by the Authority for successive triennial terms; provided, however, that the term of the member first appointed shall expire on June thirtieth, nineteen hundred and eighty-eight. Members of the retirement board shall serve until their successors are duly qualified and shall be eligible for re-election or reappointment. Members of the retirement board shall serve without compensation but each member may be reimbursed for all reasonable expenses incurred in the performance of his duties. Without limitation of other provisions of general law applicable by terms thereof to the retirement board, the retirement board shall be deemed to be a governmental body for purposes of and shall be subject to section eleven A and one-half of chapter thirty A of the General Laws and the members thereof shall be deemed to be state employees subject to chapter two hundred and sixty-eight A of the General Laws. Whenever a person, other than an employee of the metropolitan district commission transferred to the Authority under the provisions of this act, who is a member of a retirement system under chapter thirty-two of the General Laws shall become a member of the Authority Retirement System by virtue of employment by the Authority, that person shall be entitled to all creditable service and all rights and benefits to which he was entitled as a member of such prior retirement system. Within ninety days of such employment, the amounts of the accumulated total deductions, including accumulated interest on such deductions, credited to such employee's accounts in the annuity savings fund and pension reserve fund of the prior retirement system shall be transferred and credited to the employee's accounts in the annuity savings fund and pension reserve fund of the Authority Retirement System. The amounts required to finance pension benefits earned by employees of the Authority in a given year shall be determined by the retirement board and shall be paid over by the Authority. Funds paid into the Authority Retirement System pursuant to this section shall cease to be funds of the

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Authority and shall be used solely for the purposes of the Authority Retirement System. This provision shall be deemed to constitute a contractual right and benefit on behalf of members of the Authority Retirement System who are or may be retired pursuant to said chapter thirty-two, and no amendment or alteration shall be made which would result in a diversion of the funds of the Authority Retirement System from the purposes thereof. Nothing in this act shall be deemed in any way to decrease or abridge the annuities, pensions, retirement allowances, refunds or accumulated total deductions or any right or benefit to which an employee transferred to the Authority retirement System pursuant to this act has become entitled by virtue of membership in any of the systems in the state retirement system prior to transfer to the Authority's employment, and the liability therefor shall become the liability of the Authority Retirement System upon the transfer of funds provided for in this paragraph. All persons transferred to the Authority on July first, nineteen hundred and eighty-five who are members of the state employees' retirement system on account of employment by the metropolitan district commission prior to said date shall continue to be members of the state employees' retirement system and subject to the laws applicable thereto, and neither the Authority nor the Authority Retirement System shall have any liability for retirement allowances to or on account of such persons.

The Authority shall not be liable for retirement allowances to or on account of metropolitan district commission employees who are not transferred to the Authority pursuant to the provisions of this act, except for the costs of retirement contributions of employees of the watershed management division properly chargeable to the Authority.

(e) Subject to the last sentence of this paragraph, every employee who upon employment by the Authority is covered by the group insurance provided by chapter thirty-two A of the General Laws shall continue in uninterrupted coverage and all other employees of the Authority are hereby made eligible for said group insurance to the same extent as if they were employees of the commonwealth. The share of the commonwealth of the cost of such insurance, with respect to the employees of the Authority, shall be borne by the Authority, but with respect to persons retired from service with the metropolitan district commission who have not been employees of the Authority, shall continue to be borne by the commonwealth. The Authority shall forward its contribution, together with all amounts withheld from the salaries or wages of its employees as provided in paragraph (a) of section eight of said chapter thirty-two A and all amounts paid by an employee as provided in paragraph (b) of said section eight, to the state employees group insurance commission at such time and in such manner as said commission may reasonably prescribe. The Authority is authorized to enter into reasonable alternative and substitute group insurance arrangements providing benefits to its employees substantially equivalent to or superior to benefits under said chapter thirty-two A, and thereupon may cease its arrangements for such benefits under said chapter thirty-two A.

(f) The Authority may contract, to the extent permitted by and in accordance with applicable requirements of the United States Internal Revenue Code, with any of its employees (i) to defer a portion of the employee's compensation and to invest such amounts under a deferred compensation program and (ii) to make contributions from amounts otherwise payable as an employee's current compensation to an individual retirement account; hereinafter referred to as IRA. Investments of deferred compensation may be made in a life insurance or annuity contract, mutual fund or bank investment trust and investments of IRA amounts may be made in the foregoing or in other investments authorized by the Internal Revenue Code. The treasurer of the Authority, before making any such investment of deferred compensation or making any deductions from

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compensation for purposes of an IRA, shall solicit sealed bids to be opened at a time and place designated by the treasurer from insurance companies authorized to conduct business within the commonwealth pursuant to chapter one hundred and seventy-five of the General Laws, mutual fund managers and banks. As applicable to investment of deferred compensation and IRA amounts, as the case may be, bids shall clearly indicate the interest rate which shall be paid, any commissions for salesmen, any load imposed for purposes of administration, mortality projections, expected payments, tax implications for employees and such other information as the treasurer may require. For IRAs, upon the treasurer's determining which provider offers the product or products most beneficial to the employee in each category for which bids were solicited, the treasurer may offer such employee the opportunity to establish an IRA with one or more such providers. The employee who wishes to invest his IRA funds with any such provider, or combination of providers, may authorize the treasurer to deduct from amounts otherwise payable to the employee, at one time or on a periodic basis, amounts to be paid into the employee's IRA. If the employee so elects, the treasurer shall pay to the providers the amount designated by the employee, in the name of the employee, to the employee's IRA. Amounts so paid to the providers for the employee's IRA account shall belong exclusively to the employee. Except as otherwise provided herein, the treasurer may restrict an employee's right to contract to have contributions made to an IRA through deductions and payments by the treasurer to those providers selected as the result of the competitive bidding process outlined herein, but the authority conferred upon the treasurer shall not be construed to restrict or limit the right of any employee to establish one or more IRAs with such banks, insurance companies, or similar authorized institutions as the employee may choose in any manner other than through an authorized deduction by the treasurer of a portion of the employee's compensation as outlined herein. Notwithstanding any provisions to the contrary, the treasurer shall not be required to solicit bids from providers of investment products for deferred compensation investments or IRA contributions, provided: (i) the treasurer elects to invest such deferred compensation in, or is authorized by the employee to pay IRA contributions into, the same investment products as provided through a deferred compensation or IRA plan for employees of the commonwealth administered by the state treasurer, or a deferred compensation plan for employees of the Authority administered by the treasurer, provided such plan resulted from the solicitation of bids in accordance with bidding requirements comparable to those required under this section; or (ii) the treasurer elects to invest such deferred compensation in, or is authorized by the employee to pay IRA contributions into investment products offered pursuant to a deferred compensation plan or an IRA investment option program, developed through a competitive selection process resulting from the solicitation of bids by a group of any combination of three or more city, town, county or public authority treasurers acting as a Common Group for purposes of soliciting such proposals in accordance with bidding requirements comparable to those required under this section. Any contract entered into between an employee and the Authority pursuant to this section shall include all information in terms the employee can reasonably be expected to understand. Such deferred compensation and IRA programs shall be in addition to and not a part of the retirement program or pension system as provided under the Authority Retirement System, under said chapter thirty-two or under any other benefit program provided by law for such employee. Any compensation deferred under such a plan and any compensation contributed by an employee to an IRA under such plan shall continue to be included as regular compensation, as defined in section one of said chapter thirty-two, for the purpose of computing the retirement and pension benefits earned by any such employee, but any compensation so deferred shall not be included in the computation of any taxes withheld on behalf of any such employee. For purposes of this paragraph, the

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word "employee" shall have the same meaning as "employee" in section one of chapter thirty-two of the General Laws and shall also include consultants and independent contractors who are natural persons paid by the Authority and whose duties require that their time be devoted to the service of the Authority during regular business hours.

(g) The Authority shall not be subject to the jurisdiction of the division of personnel administration established by section four A of chapter seven of the General Laws and shall not be governed by sections forty-five, forty-six, forty-six C to forty-six G, inclusive, of chapter thirty, and sections twenty-six, twenty-seven and twenty-seven A to twenty-seven E, inclusive, of chapter one hundred and forty-nine of the General Laws. No employee of the Authority shall be covered by section nine A of chapter thirty of the General Laws or by chapter thirty-one of the General Laws except for certain former employees of the metropolitan district commission transferred to the Authority from the metropolitan district commission under section four, to the extent of the rights provided for those employees in said section four; provided, however, that a veteran transferred to the Authority under said section four shall be entitled to include his service at the metropolitan district commission toward the three years of service provided for in section nine A of chapter thirty, and if he completes such term of service at the Authority, he shall be entitled to rights under and shall be subject to the provisions of chapter thirty. All provisional employees who are transferred to the Authority and who are labor service employees as defined in section one of chapter thirty-one and who are not eligible for an examination as provided for in section twenty-six of chapter seven hundred and sixty-seven of the acts of nineteen hundred and eighty-one and who have worked in such positions for a period of one year prior to January first, nineteen hundred and eighty-five shall be made permanent employees.

The Authority shall engage consultants to perform only those services for the Authority which regular employees of the Authority are unable to perform owing to lack of special expertise or other inability to perform such services on the schedule or in the manner required by the Authority. The Authority shall be subject to section four of chapter one hundred and fifty-one B of the General Laws, shall be deemed to be an agency of the commonwealth for purposes of section two of said chapter, and shall be subject to the enforcement jurisdiction of the commission against discrimination under said chapter. The Authority shall develop policies and programs for affirmative action in employment, procurement and contracting in accordance with law and consistent with general policies and programs of the commonwealth.

The Authority shall also appoint a special assistant for affirmative action and compliance and provide appropriate support staff. The special assistant shall report directly to the chairman of the Authority and shall develop, supervise, monitor and provide for the enforcement of affirmative action plans for employment, procurement and contracting activities of the Authority. The chairman shall take such steps and impose such sanctions as may be appropriate to ensure enforcement. A quarterly report shall be filed at the close of each quarter with the state office of affirmative action and each member of the general court requesting a copy of such report on actions taken during the preceding quarter to implement the Authority's affirmative action plan and programs.

(h) The Authority shall establish an internal special audit unit which, under the direct supervision of the executive director, shall monitor the quality, efficiency and integrity of the Authority's operating and capital programs and make periodic recommendations and reports to the executive director and the board of directors. Employees of the Authority serving in the internal special audit unit

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shall devote their full-time efforts to the unit and shall not be assigned direct operating responsibilities.

SECTION 8. Without limiting the generality of the powers granted to the Authority under other provisions of this act, the following provisions are made for the operation, improvement and enlargement of the sewer and waterworks systems by the Authority and for the attainment of the Authority's other purposes:

(a) The operations of the Authority specifically related to the separate functions of sewage collection, treatment and disposal and delivery of water shall be organized respectively into a sewer division and a waterworks division. The Authority shall maintain, except to the extent otherwise permitted in this act, segregated accounts for each of its divisions with respect to the revenues, expenses, assets and funds pertaining to the operation thereof. The board of directors may act to provide specified administrative or technical support services on a combined basis when, in the board's opinion, it would be more efficient to do so, in which event the board shall provide for a fair and equitable allocation of the costs to the accounts of the divisions in accordance with generally accepted accounting principles.

(b) The Authority shall adopt an annual budget for its current expenses which budget the Authority shall have submitted for comment and recommendation to the advisory board not less than sixty days prior to the adoption thereof. Except in case of an emergency, no current expenses may be incurred in excess of those shown in the annual current expense budget. The Authority may from time to time adopt amendments to current expense budgets which the Authority shall have submitted for comment and recommendation to the advisory board not less than thirty days prior to the adoption thereof. The Authority periodically shall also adopt and revise capital facility programs for the sewer system and waterworks system and capital expenditure budgets based thereon. The current expense budgets, capital expenditure budgets and the capital facility programs of the Authority shall be deemed not to be regulations or adjudications for purposes of chapter thirty A of the General Laws. The Authority shall consult in the preparation of its capital facility programs for the sewer and waterworks systems with the advisory board and the executive office of environmental affairs, and may consult with other agencies of federal, state and local government concerned with the programs of the Authority. Proposed capital facility programs and capital expenditure budgets for said systems shall be submitted to the advisory board for such consultation no less than sixty days prior to adoption or revision by the Authority. The Authority shall prepare a written response to reports respecting its finances submitted to it by the advisory board which response shall state the basis for any substantial divergence between the actions of the Authority and the recommendations contained in such reports of the advisory board. The Authority shall file copies of its capital facility programs with the deputy commissioner of capital planning and operations in accordance with section thirty-nine C of chapter seven of the General Laws, shall prepare and file long-range capital facility development plans in accordance with section seven A of chapter twenty-nine of the General Laws, and shall be deemed to be a public agency subject to the recordkeeping and reporting requirements of paragraph (4) of section forty A of chapter seven of the General Laws.

(c) The sewer division of the Authority shall provide main sewer services for the area consisting of the following political subdivisions: Arlington, Ashland, Bedford, Belmont, Boston, Braintree, Brookline, Burlington, Cambridge, Canton, Chelsea, Dedham, Everett, Framingham, the north sewer district of Hingham, Holbrook, Lexington, Malden, Medford, Melrose, Milton, Natick, Needham, Newton,

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Norwood, Quincy, Randolph, Reading, Revere, Somerville Stoneham, Stoughton, Wakefield, Walpole, Waltham, Watertown, Wellesley, Westwood, Weymouth, Wilmington, Winchester, Winthrop and Woburn. The Authority may also enter into (i) arrangements for a limited term with any person within or outside the foregoing political subdivisions to provide sewage treatment, collection or disposal services not involving extension of the sewer system; provided, however, that no such arrangement shall continue for a period in excess of six months, including any renewals thereof, unless it shall have been approved by the advisory board created by section twenty-three, and (ii) arrangements with any local body pursuant to which a sewage collection, treatment or disposal system or any part thereof shall become a part of the sewer system, provided that no extension of the sewer system shall be made to local bodies not listed in the previous sentence unless the Authority shall obtain the approval of the advisory board and the department of environmental quality engineering, after due consideration of feasible alternatives to such extension, and the Authority shall find (1) the safe capacity of the sewer system as extended will be sufficient to meet ordinary wet weather demand, (2) all feasible actions have been taken and shall continue to be taken by any local body to which the system is extended to minimize infiltration and inflow, and (3) an industrial pretreatment program is in effect within any such local body in accordance with applicable laws and regulations. Any local body within the limits of which any main sewer under the control of the Authority is situated shall connect its local sewers with such main sewers subject to the direction, control and regulation of the Authority and the Authority may also connect private sewers with such main sewers under such terms and conditions as the Authority may prescribe. Notwithstanding the foregoing, no new local body will be added to the sewer service area without prior approval of the governor and the general court.

(d) The waterworks division of the Authority shall provide water for local water systems of the following political subdivisions: Arlington, Belmont, Boston, Brookline, Cambridge, Canton, Chelsea, Chicopee, Clinton, Dedham, Everett, Framingham, Leominster, Lexington, Lynn, Lynnfield Water District, Malden, Marblehead, Marlborough, Medford, Melrose, Milton, Nahant, Needham, Newton, Northborough, Norwood, Peabody, Quincy, Revere, Saugus, Somerville, Southborough, South Hadley Water District No. 1, Stoneham, Swampscott, Wakefield, Waltham, Watertown, Wellesley, Weston, Wilbraham, Winchester, Winthrop, Woburn and Worcester. The provisions of special acts and contracts in effect on January first, nineteen hundred and eighty-four under which water is supplied by the MDC water system shall continue in full force and effect under the respective terms thereof, subject to all rights of the Authority as successor to the metropolitan district commission. Continuation of delivery of water to local water systems supplied on a contractual basis on the effective date of this act upon the expiration of such contractual obligations, service to be supplied under willingness-to-service contracts on the effective date of this act and new communities entering the system, shall be made to the foregoing political subdivision on such reasonable terms and charges as the Authority may determine, provided that in each such instance the Authority shall find: (1) the safe yield to the watershed system, only on, advice of the division, is sufficient to meet projected demand; provided, however, that a local body receiving water on a contractual basis as of the effective date of this act which meets the requirements of having no local water supply capable of being developed under the provisions of clause (5), in this subsection, shall not be denied such continuation; (2) no existing or potential water supply source for the local body has been abandoned unless the department of environmental quality engineering has declared that the source is unfit for drinking and cannot be economically restored for drinking purposes; (3) a water management plan has been adopted

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after approval by the water resources commission established by section eight A of chapter twenty-one A of the General Laws; (4) effective demand management measures have been established, including but not limited to the establishment of a leak detection and other appropriate water system rehabilitation program; (5) a local water supply source feasible for development has not been identified by the local body or the department of environmental quality engineering; and (6) a water use survey has been completed which identifies all users in the area of the local body that consume in excess of twenty million gallons per year. Any provision for supply of water under special act in effect on the effective date of this act, and any contract for the supply of water by the metropolitan district commission in effect on the effective date of this act which does not provide for a specific term may be terminated by the Authority on or after, but not before, the fifth anniversary of the effective date of this act, in which case continuation of service shall thereafter be governed by the provisions of the preceding sentence. Subject to the approval of the advisory board established by section twenty-three and regulatory bodies within the executive office of environmental affairs with jurisdiction in the matter as a result of other general or special laws applicable to the Authority, the Authority may extend the waterworks system to additional local bodies on such reasonable terms as the Authority may determine; provided, however, that in each instance the Authority shall find: (1) the safe yield of the watershed system, only on the advice of the division, is sufficient to meet such new projected demand; (2) no existing or potential water supply source for the local body has been abandoned unless the department of environmental quality engineering has declared that the source is unfit for drinking and cannot be economically restored for drinking purposes; (3) a water management plan has been adopted after approval by the water resources commission established by section eight A of chapter twenty-one A of the General Laws; (4) effective demand management measures have been established including, but not limited to, the establishment of a leak detection and other appropriate water system rehabilitation program; (5) a local water supply source feasible for development has not been identified by the local body or the department of environmental quality engineering; and (6) a water use survey has been completed which identifies all users in the area of the local body that consume in excess of twenty million gallons per year; and provided further that no new local body will be added to the water service area without prior approval of the governor and the general court. Connections to the water system shall be under the direction and control of the Authority, provided, however, that water shall be delivered by the Authority under sufficient pressure for use without local pumping, unless delivered in some other manner by agreement. The Authority may also enter into arrangements not involving the extension of the waterworks system to provide the delivery of water to any local body, any institution, agency or facility of the commonwealth or any institution, agency or facility of the United States provided (i) that as a condition to the entry into such arrangement the Authority shall find and declare that the demand on the waterworks system from the Authority's performance of the arrangement is not reasonably expected to jeopardize the delivery of water provided by the Authority to the inhabitants of the political subdivisions listed in the first sentence of this paragraph, after taking account of other water supply, resources reasonably available to such political subdivisions, and (ii) no such arrangement shall extend for a period in excess of six months, including any renewals thereof, unless it shall have been approved by said advisory board. Subject to the provisions of section forty of chapter forty of the General Laws, in case of any emergency as determined by the department of environmental quality engineering, any local body deriving its water supply in whole or in part from the waterworks system may provide a connection and a supply of water to any adjoining local body having an inadequate water supply of water subject to reasonable provision for payment to the Authority and for approval by the Authority of the means of connection. No local body or private

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water company shall abandon any local water supply source and substitute for it water from the waterworks system unless the department of environmental quality engineering has declared that the water supply source abandoned or to be abandoned is unfit for drinking and cannot be economically restored for drinking purposes. Any local body which derives all or part of its water supply on the effective date of this act under a contract with the metropolitan district commission which contains a minimum purchase requirement may elect, upon such reasonable prior notice as the Authority may require, to terminate such minimum purchase requirement.

(e) In order to attain its statutory purposes to promote water conservation, protect the adequacy of a pure water supply, reduce wastewater flow and improve environmental quality, the Authority is authorized and directed: (i) to promote water conservation and environmental quality through its schedule of charges, to which end, without limiting the generality of the foregoing and the generality of the regulatory powers conferred on the Authority under section six and the powers to establish charges under section ten, the Authority shall prepare and publish no later than the second anniversary of the effective date of this act a comprehensive study of environmental, social and economic impacts of its charges to serve as a basis for the implementation of charges fully consistent with the objectives of this act, and shall consult with the division for the determination of such environmental impact; (ii) to conduct public programs of education and technical assistance in support of water conservation and environmental quality objectives; (iii) to terminate as promptly as feasible, and thereafter not to institute or reinstitute, any charge or charges for the waterworks system by which the unit price declines as volume of use increases; (iv) to identify and consider demand management and water conservation solutions to new and existing water consumption requirements and, wherever reasonably practicable, to implement such solutions in preference to solutions which would increase water withdrawals from any natural or artificial source of ground or surface waters; and (v) to prepare and submit an annual report to the governor, the general court and the water resources commission stating the means by which future water requirements of the Authority's service areas within the safe yield of the watershed system of the division, pursuant to any such determination made by the division. Nothing contained in paragraphs (c) and (d) shall require a city or town not presently served by the Authority to accept an extension of the Authority's sewer and water works without a majority vote by the city council if a city or a majority vote of town meeting of a town.

(f) Officers or agents of the Authority may enter at reasonable times any public or private property, connected directly or indirectly to the sewer system, for purposes of (i) inspecting, sampling and gauging any sewage, drainage, substances or wastes conveyed through such a connection, (ii) inspecting any monitoring equipment or procedures maintained with respect to discharges thereof, (iii) examining any records or matters pertaining to such discharges or to the operation of pretreatment works, and (iv) determining any matter of compliance with requirements under this act. Officers or agents of the Authority may also enter any public or private property supplied directly or indirectly by the waterworks system for purposes of (i) inspecting water works or fixtures, (ii) determining water usage, (iii) preventing improper use or waste of water, (iv) determining any matter of compliance with requirements under this act. Entry upon private property for purposes of this section shall be made (i) under warrant, including, without limitation, warrants for administrative inspection upon a probable cause showing of a reasonable and valid public interest in the effective enforcement of matters governed by this act in accordance with a general plan justifying administrative inspection of premises specified in the application for such warrant, or (ii) under procedures for warrantless entry of non-residential

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premises during business hours conducted by administrative inspectors in accordance with regulations which the Authority shall adopt to further the urgent governmental interest in environmental protection committed to the Authority. This section shall not limit entries and administrative inspections, including seizures of property, without a warrant (1) with the consent of the owner or person in charge of the premises, (2) in situations presenting imminent danger to health or safety, (3) in any other exceptional or emergency circumstances where time or opportunity to apply for a warrant is lacking, or (4) in all other situations in which a warrant is not required by the laws and constitutions of the commonwealth or the United States.

(g) The Authority shall be deemed to be a public agency for purposes of, and shall be subject to, sections forty-four A to forty-four H, inclusive, of chapter one hundred and forty-nine of the General Laws, section thirty-nine M of chapter thirty of the General Laws and sections thirty B to thirty M, inclusive, of chapter seven of the General Laws, and shall comply with requirements applicable to an independent public authority for publication of contract information in the central register established under section twenty A of chapter nine of the General Laws. The Authority shall not be subject to supervision under section twenty-two of chapter seven of the General Laws, but may enter into agreements under section twenty-two A and twenty-two B of chapter seven of the General Laws and in all respects not governed by general or special laws expressly made applicable to the Authority shall adhere to good business practices to be determined by the Authority in its procurement of equipment, materials, property, supplies and services.

(h) In operating its systems and performing its projects in relation thereto, the Authority may construct and maintain buildings, machinery, roads, conduits, pipes, sewers and aqueducts, may alter grades or directions of watercourses and may conduct aqueducts over or under any watercourse, railroad, pipeline, cable, or way, restoring the same to as good order and condition as practicable. Persons who sustain injury in their property by the entry upon or use thereof by the Authority under this section may recover their damages under chapter seventy-nine of the General Laws, unless a lawful alternative provision for such damages is otherwise made by the Authority.

(i) The Authority and the division shall be subject to the provisions of, and to regulation by the department of environmental quality engineering and any division thereof as may be duly exercised over an independent public authority of the commonwealth pursuant to sections fourteen, twenty-seven, thirty A to thirty-four C, inclusive, thirty-seven, forty and forty-two to forty-six A, inclusive, of chapter' twenty-one A of the General Laws, sections four, six, seven and nine of chapter twenty-one C of the General Laws, sections three, six, seven, nine and ten of chapter twenty-one E of the General Laws, chapter ninety-one of the General Laws and sections two B, two C, five E, five G, seventeen, thirty-one D, one hundred and forty-two A to one hundred and forty-two E, inclusive, one hundred and fifty A, one hundred and fifty B, one hundred and sixty, one hundred and sixty A, one hundred and sixty B, one hundred and sixty-two and one hundred and sixty-five of chapter one hundred and eleven of the General Laws.

The Authority shall be deemed to be a public entity under section twenty-six A of chapter twenty-one of the General Laws and shall be eligible for grants and other assistance under the Massachusetts Clean Water Act and any other program of federal or state assistance for waterworks, wastewater treatment or related purposes to the most liberal extent of the eligibility of an agency of the commonwealth, a political subdivision of the commonwealth, or any other public body of the commonwealth. The Authority shall be subject to section four A and

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sections eight A to eight F, inclusive, of chapter twenty-one A of the General Laws, sections three, four, seven, ten and fourteen of chapter twenty-one D of the General Laws and sections one hundred and forty-two A to one hundred and forty-two E, inclusive, of chapter one hundred and eleven of the General Laws. The Authority shall be deemed to be an agency of the commonwealth for purposes of, and shall be subject to, section one hundred and fifty A and section one hundred and fifty B of chapter one hundred and eleven of the General Laws. Without limitation on other public health or environmental regulation over the Authority exercisable pursuant to other law without conflict with the Authority's purpose of serving critical public needs on a broad geographic basis as a public instrumentality of* the commonwealth, the Authority also shall be subject to sections forty and forty A of chapter one hundred and thirty-one of the General Laws, to sections sixty-one to sixty-two H, inclusive, of chapter thirty of the General Laws and to sections twenty-six C and twenty-seven C of chapter nine of the General Laws. The Authority and the division shall be subject to sections thirteen to sixteen, inclusive, and section eighteen of chapter one hundred and thirty-two A of the General Laws. In accordance with section eleven D of chapter twelve of the General Laws, the Authority shall give written notice to the attorney general of all adjudicatory proceedings or public hearings conducted by it or to which it is a party in which damage to the environment is or may be at issue.

(j) All powers to be exercised under this act, including powers to be exercised by the division of watershed management and the Authority, shall be subject to provisions regulating interbasin transfers as set forth in sections eight B to eight D, inclusive, of chapter twenty-one of the General Laws, including without limitation all approvals therein required to be obtained from the water resources commission and to provisions for the protection of scenic and recreational rivers and streams as set forth in section seventeen B of chapter twenty-one of the General Laws and in section two of chapter nine hundred and eighty-four of the acts of nineteen hundred and seventy-three, including without limitation all approvals respecting water diversions therein required to be obtained from the general court.

(k) Notwithstanding any rule or regulation or any provision of any general or special law to the contrary, the commissioner of public safety or his designee in the division of inspection of the department of public safety shall have exclusive jurisdiction and responsibility with respect to projects or operations of the Authority for inspection, approvals, enforcement, permitting and licensure authorized or required by (i) chapter one hundred and forty-three of the General Laws or (ii) any regulation adopted pursuant to chapter eight hundred and two of the acts of nineteen hundred and seventy-two.

(l) Notwithstanding the provisions of chapters one hundred and thirty-four and one hundred and forty-seven of the General Laws, if money, goods or other property which has been abandoned, mislaid or lost comes into the possession of the Authority and remains unclaimed in its possession for a period of one hundred and twenty days, the Authority may sell the same, excepting money so unclaimed, at public auction after notice of such sale has been published in a newspaper published in the city or town where such sale is to take place. The net proceeds of such sale, after deducting the cost of storage and the expenses of such sale, and all money so unclaimed, shall become revenues of the Authority. If in the opinion of the Authority any such property in the possession of the Authority and unclaimed in its possession for a period of one hundred and twenty days is of the value of one hundred and fifty dollars or less, the Authority may donate the same to a charitable organization.

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(m) The powers of the Authority shall include the powers to be exercised by procedures, regulations, incentive and other charges, and licenses and permits to require persons who are users of the sewer system or of any tributary system to the sewer system to comply with applicable provisions of federal and state law respecting (i) toxic waste and pretreatment standards, (ii) construction, operation and maintenance of pretreatment facilities, (iii) monitoring, recordkeeping and reporting of discharges to the sewer system, (iv) notification of proposed new discharges or substantial changes in discharges to the sewer system, and (v) user charges in accordance with law, and to regulate the nature and quantity of discharge of sewage, drainage, substances or wastes by any person into the sewer system or any sewer tributary thereto. The procedures, regulations, charges and licensing, permitting and other programs of the Authority shall also reasonably provide for abatement, reduction and prevention of infiltration and inflow of ground waters, surface waters or storm waters into the sewer system; and the Authority is directed to continue, and is authorized in its discretion reasonably to require the extension and improvement of separation of sewers for the collection, treatment, and disposal of human and industrial sewage from drainage for surface or storm water. The procedures, regulations, charges, licensing, permitting and other programs of the Authority shall also reasonably provide for leak detection and repair, for programs for water conservation, including, without limiting the generality thereof, water use limitations in time of drought or other emergency, and may also reasonably provide for installation and maintenance of meters by any person and the metering of use made by any user or group of users of the sewer system or any system tributary thereto or by any user of water derived from the waterworks system. The Authority may regulate and require the taking of a permit from the Authority with respect to any building, construction, excavation or crossing within an easement or other property interest held by the Authority or in the immediate vicinity of a water or sewer main or other facility which is operated by the Authority. The provisions of this paragraph shall not limit the generality of the regulatory powers conferred on the Authority under section six and the powers to establish charges under section ten.

(n) The Authority is authorized to take all necessary action, consistent with applicable special or general law, administrative regulation or practice, to secure any federal assistance which is or may become available to the Authority, the commonwealth or any local body for any of the sewer or waterworks purposes of this act. If any federal law, administrative regulation or practice requires any action relating to such federal assistance to be taken by any department or instrumentality of the commonwealth other than the Authority, such other department or instrumentality is authorized to take all such action, including without limitation filing applications for assistance, supervising the expenditure of federal grants or loans and making any determinations and certifications necessary or appropriate to the foregoing, and the Authority is authorized to take all action necessary to permit such department or instrumentality to comply with all federal requirements, such action ; provided, however, that no such action or federal requirement shall be taken which is inconsistent with the provisions of any special or general law or the provisions of this act relating to waterworks, sewer works, wastewater treatment or water supply.

(o) Any person who without lawful authority injures, destroys or interferes with any property held or used by the Authority for the purpose of constructing, operating or maintaining the waterworks system or the sewer system, shall be subject to a criminal fine of not more than fifty thousand dollars, or imprisonment for not more than one year; provided, however, that in cases of continuing violation, such maximum fine may be ten thousand dollars per day for each day such violation occurs or continues. Notwithstanding any limitation on criminal

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penalties set forth in the preceding sentence, any person convicted of the wanton or malicious destruction of or injury to any property of the Authority used in the construction, operation or maintenance of the waterworks system or the sewer system shall also be liable in tort to the Authority for triple the amount of damages thereby caused. The provisions of this paragraph are in addition to and not in limitation of the Authority's power to adopt, issue and enforce regulations, permits and licenses and establish penalties for violation thereof and to set charges and provide for the collection and enforcement thereof.

SECTION 9.

(a) Except for the acquisition of any water supply source or right to a water source, which right is vested exclusively in the division of watershed management, the Authority may acquire from any person real property, or any interest or rights therein, deemed by it essential for operation, improvement or enlargement of its sewer and waterworks systems by eminent domain in accordance with the provisions of chapter seventy-nine or chapter eighty A of the General Laws subject to the prior approval of the governor and the general court; provided, however, that for takings related to main, trunk, intercepting and connecting sewers and pumping stations incidental thereto, and combined overflow treatment works and pumping stations incidental thereto, said prior approval shall not be required, and provided, that no property or rights, including water rights, comprising the watershed system shall be taken; and, provided further, that no property or rights already appropriated to public use shall be so taken without the prior approval of the governor and general court. Notwithstanding the provisions of this act, no taking by eminent domain of water or water rights shall be made by the Authority. No taking shall be made for a project of the Authority which requires regulatory approvals with respect to matters to which the Authority is subject under paragraph (i) of section eight until the Authority has certified that the Authority reasonably believes all such approvals will be obtained by the Authority in ordinary course. Before a taking is made by the Authority for which damages may be recovered under chapter seventy-nine, the Authority shall file with the secretary of the commonwealth security to the satisfaction of said secretary for the payment of all damages and costs which may be awarded for the property taken, and if, upon petition of the owner and notice to the Authority, any security taken appears to have become insufficient, the secretary shall require the Authority to give further security to the satisfaction of the secretary.

(b) The Authority may order the removal or relocation of any conduits, pipes, wires, poles or other property located in public ways or places, or in or upon private lands, which it deems to interfere with the laying out, construction, maintenance or operation of the sewer and waterworks systems, subject to the ability of the proper authorities lawfully to grant or otherwise make provisions for new locations for any such structure so removed or relocated. Such orders, to the extent specified therein, shall be deemed a revocation of the right or license to maintain such conduits, pipes, wires, poles or other property in such public ways or places, and the private owner of any such structures in public ways or places shall comply with such orders. If any such owner shall fail to comply with any such order of the Authority relating to any such structure in public ways and places within a reasonable time, to be fixed in the order, the Authority may discontinue and remove such conduits, pipes, wires, poles or other property, and may relocate the same, and the cost of such discontinuance, removal or relocation shall be repaid to the Authority by the owner. No such discontinuance, removal or relocation shall entitle the owner of the property thus affected to any damages on account thereof. Any such structure in or upon private lands may be

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removed and relocated by the owner thereof, the reasonable expense thereof shall be repaid to him by the Authority.

(c) Subject to the prior approval of the governor and general court, and to applicable provisions of the laws and constitution of the commonwealth, including without limiting the generality of the foregoing, article ninety-seven of the Amendments to the Constitution of the Commonwealth, doctrines of laws concerned with diversion of lands devoted to public use to other inconsistent public use the Authority may, at public or private sale, sell, lease or dispose of any interest in real property of the sewer and waterworks systems acquired by the Authority pursuant to paragraphs (b) and (c) of section four, upon compliance with the following conditions: (i) such property or interest in property is no longer needed for the construction, maintenance or operation of the sewer and waterworks systems; (ii) such disposition shall not impair the maintenance and operation of said systems; and (iii) the Authority shall so notify the deputy commissioner of capital planning and operations, and said deputy commissioner shall proceed in accordance with section forty F of chapter seven of the General Laws.

(d) Real and personal property, or interests or rights therein, may be acquired by the Authority after July first, nineteen hundred and eighty-five if deemed essential for operation, improvement or enlargement of its sewer and waterworks systems. The Authority may, at public or private sale, dispose of said real property, or interest or rights therein no longer needed for the construction, maintenance or operation of the sewer and waterworks systems, subject to prior approval of the governor and the general court, provided, however, that such disposition shall not impair the maintenance and operation of said systems.

Any interest in real property so disposed of may be conveyed, subject to such easements, reservations and restrictions as the Authority deems necessary to secure the maintenance and operation of said systems, by deed duly executed by the Authority, with or without warranty. In any case where the Authority may dispose of such property, it may convey it and receive in complete or partial consideration therefor other property or interests therein, for the purpose of the sewer and waterworks systems, the title of the same to be taken in the name of the Authority. The Authority shall give sixty days notice of the proposed lease or disposition of any such property or any such interest in real property to the chief executive officer, as defined in section twenty-three, of any city or town in which the real property is located and to the deputy commissioner of capital planning and operations. The Authority shall be deemed to be a public agency for purposes of and shall comply with sections forty J and forty K of chapter seven of the General Laws. The Authority also from time to time at public or private sale conducted in a commercially reasonable manner may sell or otherwise dispose of personal property of the Authority whether acquired pursuant to the provisions of paragraph (a) of section four or after the effective date of this act, which is no longer needed for the construction, maintenance or operation of said systems.

SECTION 10.

(a) Said Authority shall establish and adjust charges which may be denominated as charges, fees, rates, assessments or otherwise as the Authority may reasonably determine, for services, facilities and commodities furnished or supplied by the Authority. The charges of the Authority shall be separately established in respect to the Authority's waterworks and sewer divisions and shall be fixed and adjusted so as to provide funds, in the aggregate and separately, with respect to costs and operations allocable to each division, sufficient in each fiscal year with other revenues of Authority, if any, available therefor (i) to pay all

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current expenses, (ii) to pay all debt service on bonds of the Authority as the same becomes due and payable, (iii) to create and maintain all reserves reasonably required by any bond resolution, trust, agreement or other agreement securing bonds of the Authority or as otherwise determined by the Authority to be necessary or desirable, (iv) to pay all costs of maintenance and replacement of the sewer and waterworks systems, and costs of improving, extending and enlarging said systems as determined by the Authority to be necessary or desirable, to be funded as current expenses in order to carry out the purposes of the Authority, (v) to provide for payments to the commonwealth for debt service as herein provided, and (vi) to pay or provide for all amounts which the Authority may be obligated to pay or provide for by any law or contract including any bond resolution, trust agreement or other agreement securing bonds of the Authority and including any amount to be repaid to the commonwealth to reimburse the commonwealth for debt service paid by the commonwealth on a bond issued under paragraph (f) of section five. The charges of the Authority for delivery of water and for sewage collection, disposal and treatment services shall be established as charges of general application to be borne by the local body utilizing such services and shall be established at a level sufficient to meet the revenue requirements of the Authority as provided in this paragraph, notwithstanding the provisions of any other general or special law to the contrary. Said Authority's charges of general application shall be adopted, and on not less than an annual basis reviewed and if necessary revised, in accordance with procedures for notice and a hearing as provided by chapter thirty A of the General Laws, and notice of such hearing shall also be delivered at least twenty-one days in advance of the hearing date, to the advisory board and published in newspapers of general circulation in cities and towns receiving services. No later than the date of such publication, the Authority shall transmit to the advisory board and reasonably provide for other public review for the period preceding the hearing including (i) its most recent financial statements, (ii) its current expense budgets and capital expenditure budgets for the current fiscal year and, if then adopted or proposed, for the next fiscal year, and (iii) the proposed charges on which the Authority seeks public comment. Prior to any public hearing as provided herein, the Authority shall comply with requests of the ombudsman acting under paragraph (9) of section twenty-three for the inspection of the books, records, financial statements and documents of the Authority relating to the proposed charges. In establishing its charges the Authority shall continue provisions for subsidization of water charges to which any local body is entitled in accordance with contract or other lawful obligations assumed by the Authority as successor to the metropolitan district commission, to the same extent as the metropolitan district commission would be bound to provide such subsidization if such charges had continued to be established by the metropolitan district commission. The Authority may also provide for charges of special application to any person for compensation for special or temporary services entered into in accordance with paragraphs (c) and (d) of section eight. Charges of special application shall not be regulations for purposes of chapter thirty A of the General Laws and may be computed in the Authority's discretion with respect to the services or commodities provided on the basis of the Authority's costs, or the value of the benefits conferred on the payer, or market value. The charges of the Authority, whether of general or special application, shall not be subject to supervision or regulation by any office, department, division, commission, board, bureau or agency of the commonwealth or any of its political subdivisions. The charges of the Authority, whether of general or special application, shall give account to (i) actual costs to the Authority of providing services, (ii) reasonable provisions in the nature of incentives and disincentives to promote conservation of resources and protection of the environment and to induce the protection, maintenance and improvement of the sewer and waterworks systems and of sewer and water systems of local bodies, (iii) reasonable provisions reflecting the

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contribution made by local bodies through expenditures including, but not limited to, leak detection, system rehabilitation and other water management programs, sewerage inflow/infiltration reduction projects, separation of combined sewers and other projects which improve the overall efficiency of the Authority's and local bodies' service delivery, (iv) reasonable provisions to reflect respective local bodies disproportionate historic investment in the sewer and waterworks systems and in the former metropolitan district commission sewer system and metropolitan district commission water system used in the services delivered by the Authority, (v) reasonable interest charges and penalties for delinquency in payment.

(b) Said Authority, in such form as it determines, may certify to each local body to which services, facilities or commodities of the Authority are, delivered or furnished the amounts of the Authority's charges to such local body. The Authority may adopt and enforce procedures and regulations for the purposes of making, collecting and enforcing its charges which, without limiting the generality of the foregoing or the general powers with respect to its' regulations and charges provided or by any other general or special law, may impose requirements on any person including, but not limited to, local bodies and officers and boards thereof or subordinate thereto, respecting (i) the furnishing, to the Authority information reasonably deemed pertinent by the Authority concerning the volume and character of services, facilities and commodities furnished or supplied by the Authority, and the nature and quantity of services, facilities and commodities furnished to or to be furnished to or used by or to be used by users, and (ii) reasonable schedules for remittance to the Authority of its charges. In all actions pursuant to this paragraph, the Authority shall give due regard to local bodies' systems of billing and collection of water and sewer charges in order to avoid unnecessary expense and to achieve management and fiscal efficiency consistent with the attainment, of the Authority's statutory objectives. Local bodies, and officers and boards thereof or subordinate thereto, shall cooperate with the Authority to effect the prompt, accurate and efficient billing and collection of the Authority's charges. In the event any local body, which has received a certification of the Authority's charges, shall fail to pay the same to the Authority when due after demand by the Authority, the Authority may without any requirement of election of remedy provided that there is no duplication of recovery, (i) certify to the state treasurer the amount owing to the Authority by said local body, whereupon the state treasurer shall promptly pay over to the Authority any amount otherwise certified to the state treasurer for payment to the local body as receipts, distributions, reimbursements and assistance under sections eighteen A, eighteen B, eighteen C and eighteen D of chapter fifty-eight of the General Laws and any other amount for local reimbursement, grant or assistance programs entitled to be received by such local body until such time as any deficiency in the local body's payment of charges to the Authority shall be set off by such payments from the state treasurer, and (ii) recover from the local body in an action in superior court the amount of such unpaid amount together with such lost interest and other actual damages the Authority shall have sustained from the failure or refusal of the local body to pay over said amount. Any amount paid to the Authority by the state treasurer as a set off under the provisions of the next preceding sentence which is later determined, upon audit, to be in excess of the actual amount of charges, interest and damages due to the Authority, shall, upon demand of the local body, be repaid by the Authority to the local body.

SECTION 11.

(a) Debt for borrowed money incurred by the commonwealth in respect to the metropolitan district commission sewer system, or any predecessor thereof, shall not be assumed by said Authority; provided, however, that on and after July first,

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nineteen hundred and eighty-five, the Authority shall make payments to the state treasurer from the sewer division to reimburse the commonwealth for all payments made on and after July first, nineteen hundred and eighty-five by the commonwealth on account of principal, including sinking fund installments and interest on all bonds of the commonwealth issued for purposes of the former metropolitan district commission sewer system. The amount of such reimbursements, and the date on which the amounts to be reimbursed shall become due, shall be certified to the Authority by the treasurer, for each fiscal year no later than two hundred and eighty days prior to the commencement thereof; provided, however, that such amounts due on July first, nineteen hundred and eighty-five shall be certified ninety days prior thereto. The obligation of the Authority to make the reimbursements herein required shall be subordinate in every respect to the Authority's obligation for debt service on its bonds.

(b) Debt for borrowed money incurred by the commonwealth in respect to the metropolitan district commission water system, or any predecessor thereof, shall not be assumed by the Authority; provided, however, that on or after July first, nineteen hundred and eighty-five, the Authority shall make payments to the state treasurer from the water division of the Authority to reimburse the commonwealth for one-half of all payments made on or after July first, nineteen hundred and eighty-five by the commonwealth on account of principal, including sinking fund installments and interest on all bonds of the commonwealth issued for purposes of the former metropolitan district commission water system. The amount of such reimbursements, and the date on which such amounts to be reimbursed shall become due, shall be certified to the Authority by the treasurer, for each fiscal year no later than two hundred and eighty days prior to the commencement thereof; provided, however, that such amounts due on July first, nineteen hundred and eighty-five shall be certified ninety days prior thereto. The obligation of the Authority to make the reimbursements herein required shall be subordinate in every respect to the Authority's obligations for debt service on its bond.

SECTION 12.

(a) Said Authority may provide, by resolution of the board of directors, for the issuance from time to time of bonds of the Authority for any of its corporate purposes and for reimbursement, pursuant to section forty-two, to the commonwealth for costs associated with the division, or for the borrowing of money in anticipation of the issuance of such bonds. Bonds issued by the Authority may be issued as general obligations of the Authority or as special obligations payable solely for particular revenues or funds as may be provided for in any bond resolution, trust agreement or other agreement securing bonds. The Authority may also provide by resolution of the board of directors for the issuance from time to time of temporary notes in anticipation of the revenues to be collected or received by the Authority, or in anticipation of the receipt of other grants or aid. The issue of such notes shall be governed by the provisions of this act relating to the issue of bonds of the Authority other than such temporary notes as the same may be applicable; provided, however, that notes issued in anticipation of revenues shall mature no later than one year from their respective dates and notes issued in anticipation of grants, or other aid and renewals thereof, shall mature no later than six months after the expected date of receipt of such grant or aid. The aggregate principal amount of all bonds issued under the authority of this act, shall not exceed the sum of six hundred million dollars outstanding at any one time, provided, however, that bonds for the payment of redemption of which, either at or prior to maturity, refunding bonds shall have been issued, shall be excluded in the computation of outstanding bonds.

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(b) Bonds of each issue shall be dated, may bear interest at such rate or rates, including rates variable from time to time as determined by an index, banker's loan rate or other method determined by the Authority, and shall mature or otherwise be payable at such time or times, as may be determined by the Authority, and may be made redeemable before maturity at the option of the Authority or the holder thereof at such price or prices and under such terms and conditions as may be fixed by the Authority. Prior to the initial issuance of each series of bonds the Authority shall advise the advisory board created by section twenty-three and the executive office for administration and finance of the timing and terms thereof and the Authority shall also communicate such information to the finance advisory board. The Authority shall determine the form of bonds, including interest coupons, if any, to be attached thereto, and the manner of execution of such bonds, and shall fix the denomination or denominations of such bonds and the place or places of payment of principal, redemption premium, if any, and interest, which may be at any bank or trust company within or without the commonwealth. In case any officer whose signature or a facsimile of whose signature shall appear on any bonds or coupons shall cease to be such officer before the delivery thereof, such signature or facsimile shall nevertheless be valid and sufficient for all purposes as if such officer had remained in office until delivery. The Authority may provide for authentication of bonds by a trustee, fiscal agent, registrar or transfer agent. Bonds may be issued in bearer or in registered form, or both, and, if notes, may be made payable to bearer or to order, as the Authority may determine, and provision may be made for the registration of any coupon bonds as to principal alone and also as to both principal and interest, for the reconversion into coupon bonds of bonds registered as to both principal and interest and for the interchange of bonds registered as to both principal and interest and for the interchange of registered and coupon bonds. The Authority may also establish and maintain a system of registration for any bonds whereby the name of the registered owner, the rights evidenced by the bonds, the transfer of the bonds and such rights and other similar matters are recorded in books or other records maintained by or on behalf of the Authority, and no instrument evidencing such bond or rights need be delivered to the registered owner by the Authority. A copy of the books or other records of the Authority pertaining to any bond registered under such registration system certified by an authorized officer of the Authority or by the agent of the Authority maintaining such system shall be admissible in any proceeding without further authentication. The Authority may adopt regulations with respect to the operation of such system. The board of directors may by resolution delegate to any director or directors or officer or officers of the Authority or any combination thereof the power to determine any of the matters set forth in this section. In the discretion of the Authority, bonds of the Authority may be issued with such terms as will cause the interest thereon to be subject to federal income taxation. The Authority may sell its bonds in the manner, either at public or private sale, for the price, at the rate or rates of interest, or at discount in lieu of interest, as it may determine will best effect the purposes of this act.

(c) Said Authority may issue interim receipts or temporary bonds, with or without coupons, exchangeable for definitive bonds when the bonds shall have been executed and are available for delivery. The Authority may also provide for replacement of any bonds which shall have become mutilated or shall have been destroyed or lost. The Authority, by itself or through such agent as it may select, may purchase and invite offers to tender for purchase any bonds of the Authority at any time outstanding, provided, however, that no such purchase by the Authority shall be made at a price, exclusive of accrued interest, if any, exceeding the principal amount thereof or, if greater, the redemption price of such bonds when next redeemable at the option of the Authority, and may resell any bonds

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so purchased in such manner and for such price as it may determine will best effect the purposes of this act.

(d) In the discretion of the board of directors, any bonds issued hereunder may be secured by a bond resolution or trust agreement or other agreement in such form and executed in such manner as may be determined by the board of directors between the Authority and the purchasers or holders of such bonds or between the Authority and a corporate trustee which may be any trust company or bank having the powers of a trust company within or without the commonwealth. Such bond resolution, trust agreement or other agreement may pledge or assign, in whole or in part, the revenues and funds held or to be received by the Authority, and any contract or other rights to receive the same, whether then existing or thereafter coming into existence and whether then held or thereafter acquired by the Authority, and the proceeds thereof. Such bond resolution, trust agreement or other agreement may contain such provisions for protecting and enforcing the rights, security and remedies of the bondholders as may be reasonable and proper, including, without limiting the generality of the foregoing, provisions defining defaults and providing for remedies in the event thereof which may include the acceleration of maturities, restrictions on the individual right of action by bondholders and covenants setting forth the duties of and limitations on the Authority in relation to the acquisition, construction, improvement, enlargement, alteration, equipping, furnishing, maintenance, use, operation, repair, insurance and disposition of the sewer and waterworks systems, the custody, safeguarding, investment and application of moneys, the issue of additional or refunding bonds, the fixing, revision, charging and collection of charges, the use of any surplus bond proceeds, the establishment of reserves and the making and amending of contracts; provided, however, that the Authority shall not mortgage its real property or fixed assets to secure its bonds.

(e) In the discretion of the board of directors any bonds issued under authority of this act may be issued by the Authority in the form of lines of credit or other banking arrangements under terms and conditions, not inconsistent with this act, and under such agreements with the purchasers or makers thereof or any agent or other representative of such purchasers or makers as the board of directors may determine to be in the best interests of the Authority. In addition to other security provided herein or otherwise by law, bonds issued by the Authority under any provision of this act may be secured, in whole or in part, by financial guarantees, by insurance or by letters of credit issued to the Authority or a trustee or any other person, by any bank, trust company, insurance or surety company or other financial institution, within or without the commonwealth, and the Authority may pledge or assign, in whole or in part, the revenues and funds held or to be received by the Authority, and any contract or other rights to receive the same, whether then existing or thereafter coming into existence and whether then held or thereafter acquired by the Authority, and the proceeds thereof, as security for such guarantees or insurance or for the reimbursement by the Authority to any issuer of such letter of credit of any payments made under such letter of credit.

(f) It shall be lawful for any bank or trust company to act as a depository or trustee of the proceeds of bonds, revenues or other moneys under a bond resolution, trust agreement or other agreement of the Authority and to furnish indemnification and to provide security as may be required by the Authority. Any pledge of revenues and other funds made by the Authority under the provisions of this act shall be valid and binding and shall be deemed continuously perfected for the purposes of the uniform commercial code and other laws when such pledge is made. The revenues and funds, rights therein and thereto and proceeds so pledged and then held or thereafter acquired or received by the Authority shall

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immediately be subject to the lien of such pledge without any physical delivery or segregation thereof or further act, and the lien of any such pledge shall be valid and binding against all parties having claims of any kind in tort, contract or otherwise against the Authority, whether or not such parties have notice thereof. The bond resolution, trust agreement or any other agreement by which a pledge is created need not be filed or recorded to perfect such pledge except in the records of the Authority and no filing need be made under the uniform commercial code. It is hereby declared that any pledge or assignment made under the Authority of this act is an exercise of the political and governmental powers of the Authority, and revenues or funds, contract or other rights to receive the same and the proceeds thereof which are subject to the lien of a pledge or assignment created under this act shall not be applied to any purposes not permitted by such pledge or assignment.

(g) Any holder of a bond issued by the Authority under the provisions of the act or of any of the coupons appertaining thereto and any trustee or other representative under a bond resolution, trust agreement or other agreement securing the same, except to the extent the rights herein given may be restricted by the resolution, trust agreement or other agreement, may bring suit upon the bonds or coupons and may, either at law or in equity, by suit, action, mandamus, or other proceeding for legal or equitable relief, including proceedings for the appointment of a receiver to take possession and control of the business and properties of the Authority, to operate and maintain the same, to make any necessary repairs, renewals and replacements in respect thereof and to fix, revise and collect charges, protect and enforce any and all rights under the laws of the commonwealth or granted hereunder or under such bond resolution, trust agreement or other agreement, and may enforce and compel performance of all duties required by this act or by such bond resolution, trust agreement or other agreement, to be performed by the Authority or by any officer thereof.

(h) Before the issuance of any bonds of the Authority each member of the board of directors and each officer of the Authority charged with responsibility for the issuance thereof shall execute a surety bond conditioned on the faithful performance of the duties of the office of each such director and officer, in the sum of one hundred thousand dollars payable to the Authority, or, in lieu thereof, the Authority shall obtain a blanket bond in the same amount covering all such persons, and such bonds or bonds shall be filed in the office of the secretary of the commonwealth.

SECTION 13. Said Authority may issue refunding bonds for the purpose of paying any of its bonds issued pursuant to this act at or prior to maturity or upon acceleration or redemption or purchase and retirement. Refunding bonds may be issued at such times at or prior to the maturity, redemption or purchase and retirement of the refunded bonds as the board of directors deems to be in the interest of said Authority. Refunding bonds may be issued in sufficient amounts to pay or provide for payment of the principal of the bonds being refunded, together with any redemption premium thereon, any interest or discount accrued or to accrue to the date of payment of such bonds, the costs of issuance of the refunding bonds, the expenses of paying, redeeming or purchasing the bonds being refunded, the costs of holding and investing proceeds of refunding bonds pending such payment, redemption or purchase and such reserves for debt service or other capital or current expenses from the proceeds of such refunding bonds as may be required by a bond resolution, trust agreement or other agreement securing bonds. The issue and sale of refunding bonds, the maturities and other details thereof, the security therefor, the rights of the holders thereof, and the rights, duties and obligations of the Authority in respect of the same shall

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be governed by the provisions of this act relating to the issue of bonds other than refunding bonds insofar as the same may be applicable.

SECTION 14. Bonds issued by said Authority are hereby made securities in which all public officers and agencies of the commonwealth and its political subdivisions, all insurance companies, trust companies in their commercial departments, savings banks, cooperative banks, banking associations, investment companies, executors, administrators, trustees and other fiduciaries may properly invest funds, including capital in their control or belonging to them. Such bonds are hereby made securities which may properly be deposited with and received by any state or municipal officer of any agency or political subdivision of the commonwealth for any purpose for which the deposit of bonds or obligations of the commonwealth or any political subdivision is now or may hereafter be authorized by law.

SECTION 15. Bonds may be issued under this act without obtaining the consent of any executive office, department, division, commission, board, bureau or agency of the commonwealth or any political subdivision thereof, and without any other proceedings or the happening of any condition or acts other than those proceedings, conditions or acts which are specifically required therefor, and the validity of and security for any bonds issued by the Authority pursuant to this act shall not be affected by the existence or nonexistence of any such consent or other proceedings, conditions or acts. Provisions of this act relating to the preparation, adoption or approval of programs and budgets shall not affect the issue of bonds and bonds may be issued either before or after such preparation, adoption or approval.

SECTION 16. Bonds issued under the provisions of this act, excepting any notes or bonds guaranteed or issued by the commonwealth under paragraphs (e) or (f), respectively, of section five, shall not be deemed to be a debt or a pledge of the faith and credit of the commonwealth or of any of its political subdivisions, but shall be payable solely from the funds of the Authority from which they are made payable pursuant to this act. Bonds issued under the provisions of this act, excepting any notes or bonds guaranteed or issued by the commonwealth under paragraphs (e) or (f) of section five, shall recite that neither the commonwealth nor any political subdivisions thereof shall be obligated to pay the same and that neither the faith and credit nor the taxing power of the commonwealth or of any political subdivision thereof is pledged to the payment of the principal of or interest on such bonds. Further, every bond shall recite whether it is a general obligation of the Authority or a special obligation thereof payable solely from particular revenues or funds pledged to its payment. The aggregate principal amount of all bonds issued under the authority of this act shall not exceed the sum of six hundred million dollars outstanding, provided however, that bonds for the payment of redemption of which, either at or prior to maturity, refunding bonds shall have been issued shall be excluded in the computation of outstanding bonds.

SECTION 17. Notwithstanding any of the provisions of this act or any recitals in any bonds issued hereunder, all such bonds shall be deemed to be investment securities under the uniform commercial code.

SECTION 18. All moneys received pursuant to the provisions, whether as proceeds from the issue of bonds or as revenues or otherwise, shall be deemed to be trust funds to be held and applied solely as provided in this act.

SECTION 19.

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(a) Bonds issued by the Authority, their transfer and the income therefrom, including any profit made on the sale thereof, shall, at all times, be exempt from taxation by and within the commonwealth.

(b) The Authority shall not be required to pay any taxes, income, assessments or excises upon its existence, operation or property; provided, however, that so long as there is no revocation of the Authority's title to sewer and waterworks systems as provided for in section four, the Authority is authorized and directed to make payments in accordance with sections five D to five F, inclusive, of chapter fifty-nine of the General Laws.

SECTION 20. It is expressly contemplated by this act that the Authority, to the extent deemed by it to be necessary and convenient to achieve its purposes under this act and under such supervision from agencies of the commonwealth as is expressly authorized in this act, shall provide water and sewage collection, treatment and disposal services within its service area on an exclusive basis. It is intended that this section shall not (i) diminish the powers or responsibilities of local bodies, (ii) override other provisions of this act regulating the procedures for abandonment of local water supplies, (iii) limit the lawful exercise of any local body, subject to applicable approvals by the department of environmental quality engineering and the water resources commission, to continue to use any source of water used by it or to develop or reactivate any source of water to be used by it, or (iv) impose responsibility on the Authority for operation of the sewer and waterworks systems except as the Authority is charged with responsibility or may elect to exercise responsibility under other provisions of this act. In addition to and without limiting the generality of the foregoing, said Authority shall be a "local government" insofar as concerns immunity under sections (4), (4A) or (4C) of the Clayton Act; 15 U.S.C.A SS. 15, 15A, and 15C from damages, interest on damages, costs or attorneys fees for a local government, for any official or employee thereof acting in an official capacity or for a person against, whom a claim is based on any official action directed by a local government, or official or employee thereof acting in an official capacity.

SECTION 21. The Authority and its corporate existence shall continue until terminated by law; provided, however, that no such law shall take effect so long as said Authority shall have bonds outstanding unless adequate provision has been made for the payment or satisfaction thereof. Upon termination of the Authority, the title to all funds and other properties owned by it which remain after provision for the payment or satisfaction of all bonds of the Authority shall vest in the commonwealth. The obligations, debts and liabilities of the Authority shall be assumed by and imposed upon the commonwealth, and the funds of the authority retirement system shall be transferred to the treasurer and receiver general or to such other successor as the general court may designate, to be held for the exclusive use and benefit of the members of the authority retirement system.

SECTION 22.

(a) The Authority, shall, at all times, keep full and accurate accounts of its receipts, expenditures, disbursements, assets and liabilities which shall be open to inspection by any officer or duly appointed agent of the commonwealth or the advisory board. Said Authority shall submit an annual report, in writing, to the governor, the president of the senate, the speaker of the house of representatives, the chairman of the senate committee on ways and means, the chairman of the house committee on ways and means and the advisory board. Said report shall include financial statements relating to the operations, properties, and capital facility expenditures, including costs of land acquisitions,

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of the Authority maintained in accordance with generally accepted accounting principles so far as applicable, beginning with the fiscal year of the Authority commencing July first, nineteen hundred and eighty-five, and audited by an independent certified public accountant firm.

(b) Not later than December thirty-first, nineteen hundred and eighty-nine and every five years thereafter, the Authority shall submit to the governor, the president of the senate, the speaker of the house of representatives, the chairman of the senate committee on ways and means, the chairman of the house committee on ways and means and the advisory board a progress report on the Authority's attainment of its statutory purposes. Each such five-year progress report shall be prepared by the Authority with the assistance of an independent citizen panel which shall include persons selected by the Authority and approved by the advisory board who are experienced in environmental protection, civil engineering and public management and finance. Said reports shall include recommendations concerning the future activities of the Authority including, but not limited to, changes in the provisions of this act or the Authority's administrative procedures necessary or desirable for improving the delivery of services. The costs of preparing the reports of said Authority shall be provided for in the current expense budgets of said Authority.

SECTION 23.

(a) There shall be an advisory board to the Authority consisting of (i) a voting representative of each of the following cities and towns: Arlington, Ashland, Bedford, Belmont, Boston, Braintree, Brookline, Burlington, Cambridge, Canton, Chelsea, Chicopee, Clinton, Dedham, Everett, Framingham, Hingham, Holbrook, Leominster, Lexington, Lynn, Lynnfield, Maiden, Marblehead, Marlborough, Medford, Melrose, Milton, Nahant, Natick, Needham, Newton, Northborough, Norwood, Peabody, Quincy, Randolph, Reading, Revere, Saugus, Somerville, South Hadley, Southborough, Stoneham, Stoughton, Swampscott, Wakefield, Walpole, Waltham, Watertown, Wellesley, Weston, Westwood, Weymouth, Wilbraham, Wilmington, Winchester, Winthrop, Woburn and Worcester and (ii) a voting representative of the metropolitan area planning council to be designated by the board of the council and six persons to be appointed by the governor who shall be voting representatives from the following categories: (1) one person who represents the interests of persons and communities in the Connecticut river basin area, (2) one person who represents the interests of persons and communities in the Quabbin and Ware watershed area, (3) one person who represents the interests of persons and communities in the Wachusett watershed area, provided, however, that no such person appointed for categories (1), (2) or (3) shall live in a community which has a representation on the advisory board by virtue of clause (i) of this sentence, (4) one person with skill and expertise in matters relating to environmental protection, and (5) two persons qualified by membership or affiliation in organizations directly concerned with the recreational or commercial uses of Boston harbor and who are further qualified by professional experience in an environmental or scientific discipline. The member of the advisory board representing a city or town shall consist of the chief executive officer thereof; provided, however, that any chief executive officer, by writing filed with the Authority may appoint a permanent designee to serve in his stead as a member of said advisory board until the expiration of each term of office of the designating chief executive officer or the earlier vacancy of the office of the designating chief executive officer. For purposes of this section, the term "chief executive officer" shall mean the person designated as the chief executive officer under the provisions of a local charter of laws having the force of a charter, and otherwise the mayor in every city and the chairman of the board of selectmen or president of the town council, as the case may be, in every town. The members

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of said advisory board appointed by the governor shall serve coterminous with the governor.

(b) The total voting strength of the advisory board shall be one hundred votes, of which ninety-five votes shall be divided on a fractional basis in the manner hereafter provided among the cities and towns listed in clause (i) of the first sentence of paragraph (a) of this section and five votes shall be divided on an equal fractional basis among the representatives provided for in clause (ii) of said sentence. The fractional vote of the representative of each city or town shall be determined on an annual basis by the Authority on a weighted basis by dividing a reasonable estimate of the charges for the Authority's services to users in that city or town by a reasonable estimate of the charges for the Authority's services to all users in all such cities and towns. For each year the determination of votes shall be certified to the advisory board by the Authority, provided, however, that within five days of the effective date of this act the executive office of environmental affairs shall prepare an interim voting value based on the most recent available annual records of the costs of water and sewer services of the metropolitan district commission, which interim voting value shall be conclusive upon the advisory board until July first, nineteen hundred and eighty-six. Said advisory board may act at a regular periodic meeting called in accordance with its by-laws or at a special meeting called by the Authority or by representatives of fifteen or more members of the advisory board. Except as specially provided in paragraph (e), a quorum of the advisory board shall consist of representatives who hold a total voting strength of fifty or more of the votes of the advisory board, and the advisory board may act, except as otherwise provided in paragraph (e), by the affirmative casting of a majority of the votes represented in the quorum. The advisory board shall be deemed to be a governmental body for purposes of, and shall be subject to, section eleven A and one-half of chapter thirty A of the General Laws and shall also be subject to section ten of chapter sixty-six of the General Laws.

(c) For the conduct of its business said advisory board shall adopt and may revise and amend by-laws. Said advisory board shall annually elect a chairperson, a vice chairperson and a secretary and such other officers as said advisory board may determine. Each officer shall serve until a successor is chosen and qualified. Each officer may be removed by vote of the advisory board with or without cause. In the event of a vacancy, said board shall fill the vacancy for the unexpired term. Each member of said advisory board shall serve without compensation but may be reimbursed, as an expense of said advisory board, for all reasonable expenses incurred in the performance of its duties as approved by the advisory board.

(d) The purposes of the advisory board shall be as follows:

- (i) to appoint three members of the board of directors of the Authority, in the manner hereafter provided and in section three;
- (ii) to consider matters committed to the approval of the advisory board under paragraphs (c) and (d) of section eight;
- (iii) to make recommendations to the Authority on annual current expense expenditure budgets submitted to the advisory board in accordance with paragraph (b) of section eight;
- (iv) to make recommendations to the Authority on its charges;
- (v) to hold hearings, which may be held jointly with the Authority at the discretion of the advisory board and said Authority, on matters relating to said Authority;
- (vi) to review the annual report of the Authority and to prepare comments thereon to the Authority and the governor, and to make such examinations of the reports on the Authority's records and affairs as the advisory board deems

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appropriate; and

(vii) to make recommendations to the governor and the general court respecting the Authority and its programs. The advisory board shall have all powers necessary or convenient to carry out and effectuate the foregoing purposes.

(e) Three members of the board of directors of the Authority shall be appointed by the advisory board. Members of the board of directors so appointed may also be members of said advisory board. Said advisory board shall appoint successor members, which successor members shall replace those members of the board of directors appointed by the advisory board whose terms have expired or otherwise terminated. With respect to appointment of any member of the board of directors the advisory board shall act only if there is a special quorum consisting of a majority of those persons who are voting members of the advisory board and only by an affirmative vote of the majority of the members present, each voting member voting one unweighted vote, and in this instance the total voting strength of the advisory board shall equal the total number of persons entitled to vote.

(f) Within thirty days of receiving any proposed current expense budget of the Authority or within fifteen days of receiving any proposed amended expense budget of the Authority, the advisory board shall hold a public hearing on matters relating to such budget for the purpose of ascertaining, for subsequent report to the Authority if necessary, the views of the public thereon.

(g) The advisory board shall provide for the appointment of an ombudsman who, with assistance from such staff and consultants as the advisory board may authorize and appoint, shall act for and in the name of the advisory board in the following respects:

(i) preparation of analysis for the advisory board of the Authority's current expense budgets, capital expenditure budgets and capital programs and their effect on the charges of said Authority;

(ii) representation of the advisory board to said Authority in all matters relating to said Authority's programs, operations, finances and charges;

(iii) reporting regularly to the advisory board on the activities of the ombudsman and other staff of the advisory board, on the affairs of the Authority, and on the effect of the Authority's program and operations on the costs to consumers of water and sewer services; and

(iv) exercising such other duties and responsibilities consistent with the powers of the advisory board as the advisory board may assign from time to time. Reports of the ombudsman, after acceptance by the advisory board, shall be made available to the public.

(h) The advisory board may incur expenses, not to exceed thirty-five thousand dollars in the fiscal year commencing July first, nineteen hundred and eighty-four and not to exceed one hundred thousand dollars annually thereafter for expenses authorized under paragraph (c) and for personnel and office expenses. Such expenses shall be paid by the Authority in the fiscal year commencing July first, nineteen hundred and eighty-four from amounts appropriated to the Authority by the commonwealth, and thereafter shall be provided for in current expense budgets of the Authority. After the fifth anniversary of the transfer date, the maximum level of advisory board expenses may be increased from time to time upon the review and approval by the Authority of the justification for such increases submitted by the advisory board.

SECTION 24. The superior court department of the trial court shall have jurisdiction to enforce rights and duties created by the provisions of this act, and on complaint of the Authority may restrain violations of the Authority's

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regulations and otherwise enforce by any appropriate remedy, including without limiting the generality of the foregoing, injunctive relief, the regulations, licenses, permits, orders, penalties and charges of the Authority. Penalties and charges established by or under authorization of this act shall be collected for the account of the Authority and paid over to the Authority. Except for rights of action expressly conferred upon the Authority, no provision of this act shall create private rights of action in enforcement proceedings.

Notwithstanding any provision of the Massachusetts Water Resources Authority Act or of any special or general law to the contrary, the supreme judicial court shall have original and exclusive jurisdiction of all state actions in which the Authority is a defendant and water pollution is an issue. The attorney general shall appear on behalf of the Authority in any action involving water pollution in which the Authority is a plaintiff or defendant, and he shall do so to the same extent as is required by section three of chapter twelve when appearing on behalf of a state agency.

SECTION 25. The provisions of this act shall be deemed to provide an additional, alternative and complete method for accomplishing the purposes of this act, and shall be deemed and construed to be supplemental and additional to, and not in derogation of, powers conferred upon the Authority and others by laws; provided, however, that insofar as the provisions of this act are inconsistent with the provisions of any general or special law, administrative order or regulation, the provisions of this act shall be controlling.

SECTION 26.

(a) All local bodies and all public agencies, instrumentalities, commissions and authorities of the commonwealth are hereby authorized and empowered to undertake activities, programs and projects in conjunction with the Authority in furtherance of the purposes of this act, including without limiting the generality of the foregoing, to join in investigations and studies, and to grant applications and applications for project approvals.

(b) Except with respect to real property acquired or held for purposes described in Article XCVII of the Amendments to the Constitution, all local bodies and all public agencies, instrumentalities, commissions and authorities of the commonwealth, are hereby authorized and empowered to lease, lend, grant or convey to the Authority upon such terms and conditions as the proper authorities of such public bodies, public agencies, instrumentalities, commissions and authorities of the commonwealth may deem appropriate and without the necessity of any action or formality other than the regular and formal action of said public bodies, agencies, instrumentalities, commissions and authorities of the commonwealth any interest in any real or personal property which may be necessary or convenient to effect the purposes of the sewer and waterworks of the Authority.

(c) All general and special laws relating to water and sewer services of local bodies shall be interpreted and construed liberally so as to effectuate the purposes and provisions of this act and the objectives of the Authority.

(d) For any local body in the service areas of the Authority, local officials lawfully so charged shall for their local body have the charge and control of the respective water, waterworks and sewer works owned and used by said local body and not in the ownership, possession and control of the Authority. Said local officials so charged shall have for their local body the charge and control of the water sources owned and used by said local body. Subject to the exercise of powers of the Authority provided for in this act or otherwise, and to other applicable law, said local officials shall manage and improve municipal water works and sewer

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works, extend the pipes and other works as they may deem expedient, keep the pipes, fixtures and other works under their charge in good condition and repair, and prescribe for local water and sewer systems, rules and regulations under other law, provided, however, that without limiting the generality of the foregoing, written notice of rules and regulations relating to local sewer and delivery of water services proposed for adoption by any local body shall, except in an emergency, be given to the Authority not less than sixty days prior to adoption.

(e) Notwithstanding any provision of general or special law to the contrary, a local body may (i) for furnishing water supply, establish rates, fees or other charges on a flat rate per volume of water consumed or on an ascending unit rate based on quantity of water consumed; and may (ii) provide for furnishing water supply and sewer services in its charges or through abatement proceedings conducted in accordance with its regulations for assurance of service to persons who by reason of age, infirmity or poverty are unable to pay the charges of the local body otherwise applicable, provided that the aggregate liability of the local body for the total amounts owed to the Authority under section ten shall be in no way diminished thereby. Without limiting the generality of regulatory powers and powers with respect to charges established elsewhere in this act, the Authority may require that each local body adopt and administer user charges for local water services and sewage services which shall be in compliance with (i) all applicable requirements of state and federal law, and (ii) policies of the Authority directed to conservation of water, elimination of infiltration and inflow of surface water and ground water into the sewage collection, treatment and disposal system, and removal or pre-treatment of industrial wastes. No action shall be taken by the Authority, however, in violation of clause 1 of section 10 of Article I of the United States Constitution which shall substantially impair a contractual expectation entered into prior to the effective date of this act by a local body pursuant to a power granted it by law to issue revenue bonds.

(f) If, except in circumstances of temporary emergency, any volume of water from the watershed system of the division shall be directed under any provision of law for delivery of water purposes which are not subject to the charges of the Authority provided for in section ten, the Authority shall receive compensation from the user or users thereof in lieu of revenues which otherwise would have been received by the Authority in respect of the use of such water.

SECTION 27. Notwithstanding the provisions of any general or special law or provision of this act to the contrary, no officer of the Authority shall enter into any consent decree in any court of any jurisdiction without prior approval of the governor and the general court.

SECTION 28. The provisions of chapter twelve A of the General Laws shall apply to the Authority.

SECTION 29. The provisions of this act are severable, and if any provision hereof shall be held invalid in any circumstances, such invalidity shall not affect any other provisions or circumstances. This act shall be construed in all respects so as to meet any constitutional requirements. In carrying out the purposes and provisions of this act, all steps shall be taken which are necessary to meet constitutional requirements.

SECTION 30. On July first, nineteen hundred and eighty-five, the metropolitan sewerage district and the metropolitan water district shall be dissolved and the following sections of chapter ninety-two of the General Laws are hereby repealed: Sections one, one A, two, three, four, five, five A, five B, six, six A, six B, seven,

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eight, eight A, nine, ten to thirty-two, inclusive, seventy-seven, seventy-eight, eighty-one eighty-two, and one hundred and two.

SECTION 31. Chapter 10 of the General Laws is hereby amended by striking out section 11 and inserting in place thereof the following section:

Section 11. He shall annually as soon after the prorogation of the general court as is practicable, publish a statement showing the assessments for interest, principal, and maintenance requirements due from towns in the metropolitan parks districts; a statement showing the several classes of debts incurred for metropolitan district purposes, and the share of the towns in the district as measured by the basis used in computing the assessments mentioned in the first statement; and such other statements, if any, as he may deem advisable. The expense of printing shall be apportioned and paid from the maintenance fund of the parks districts.

SECTION 32. The second paragraph of section 33B of chapter 21 of the General Laws is hereby amended by striking out, in line 2, the words, "the metropolitan district commission" and inserting in place thereof the words:-, the Massachusetts Water Resources Authority.

SECTION 33. Said chapter 21 of the General Laws is hereby amended by striking out section 40 and inserting in place thereof the following section:-

Section 40. The director, his authorized representative, or personnel of the division of watershed management in the metropolitan district commission or of the Massachusetts Water Resources Authority Said feasibility study shall require that the entire cost of building and maintaining such processing facility shall be born by the towns using it.

SECTION 69. The Authority shall not take any structural action in any donor basin, including any capital improvements or expenditure of capital funds, which could reasonably be expected to (i) create a new interbasin transfer of water or (ii) increase the rate of any existing interbasin transfer of water without the express approval of the general court; provided, however, that this provision shall not be construed to require general court approval for actions undertaken to reduce leakage in an existing interbasin transfer. Any determinations made under the provisions of this section shall be made by the division.

SECTION 70. The Authority shall take all reasonable steps expeditiously to continue planning on design and to commence construction of wastewater treatment and delivery projects for which planning or design contracts have been approved by the metropolitan district commission prior to the effective date of this act and which are listed on the Construction Grants Project Priority List established by the department of environmental quality engineering and the division of water pollution control in effect on the effective date of this act.

SECTION 71. Notwithstanding any provision of this act to the contrary, the supply of water by the Authority to any political subdivision to which the metropolitan district commission was not providing water at the time of the effective date of this act shall be made only upon the determination by the Authority and the department of environmental quality engineering that the water supply source used by said political subdivision at the time of the passage of this act is unfit for drinking and cannot be economically restored for drinking purposes.

SECTION 72. Section 2 of chapter 234 of the acts of 1984 is hereby amended by inserting after item 2420-0200 the following item: - 2420-1400 For the operation and maintenance of the watershed management division, provided, that the

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secretary of environmental affairs shall file quarterly reports, by subsidiary, of expenditures for the purpose of this item with the house and senate committees on ways and means, including not more than one hundred and sixty-six permanent positions and not more than four temporary positions... \$2,681,186

SECTION 73. Sections six, ten, thirty, thirty-one, thirtyfour-six, forty-seven, fortyfour, forty-three, forty-four, eight, fifty-five, sixty-one, sixty-eight and seventy shall take effect upon July first, nineteen hundred and eighty-five. All other provisions of this act shall take effect upon January first, nineteen hundred and eighty-five.

Approved August 9, 2010



Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, MA 02128-2090
Telephone (617) 568-5950
www.massport.com

780 CMR 9th Edition - Permit Application & Submission Review

Applicant: _____

MPA Project or TAA#: _____

Project Name: _____

Date Submitted to Massport: _____

For Massport Use Only

Reviewed By: _____

Review Dates: _____

Recommend for E-Permit Process: _____

Complete ALL sections of checklists below (applicant shall mark each box with either- **X** = (information included) or **NA** = (not applicable)) and submit this document with completed permit application and ALL required permit submission items to Capital Programs. Upon receipt, these materials will be reviewed for completeness and accuracy. The permit submission may be made to Department of Public Safety once approved by Massport. Contact Jill Queenan (jqueenan@massport.com) at (617)568-5928 with any questions associated with completing this document.

Permit Application Checklist				
Section	Section Topic	X or NA	For MPA Use Only	
			Reviewed	Comments
1.0	Location	<input type="checkbox"/>	<input type="checkbox"/>	
2.0	Proposed Work	<input type="checkbox"/>	<input type="checkbox"/>	
3.0	Renovation, Addition, or Change in Use (Existing Buildings Only)	<input type="checkbox"/>	<input type="checkbox"/>	
4.0	Building Height and Area	<input type="checkbox"/>	<input type="checkbox"/>	
5.0	Use Group	<input type="checkbox"/>	<input type="checkbox"/>	
6.0	Construction Type	<input type="checkbox"/>	<input type="checkbox"/>	
7.0	Site Information	<input type="checkbox"/>	<input type="checkbox"/>	
8.0	Content of Certificate of Occupancy	<input type="checkbox"/>	<input type="checkbox"/>	
9.0	State Agency Authorization	<input type="checkbox"/>	<input type="checkbox"/>	
10.0	Construction Control	<input type="checkbox"/>	<input type="checkbox"/>	
10.1	Registered Design Professional for Construction Control	<input type="checkbox"/>	<input type="checkbox"/>	
10.2	General Contractor	<input type="checkbox"/>	<input type="checkbox"/>	
11.0	Workers' Compensation Insurance Affidavit	<input type="checkbox"/>	<input type="checkbox"/>	
12.0	Construction Costs and Permit Fees	<input type="checkbox"/>	<input type="checkbox"/>	
13.0	Signature of Building Permit Applicant	<input type="checkbox"/>	<input type="checkbox"/>	
A1	Appendix 1	<input type="checkbox"/>	<input type="checkbox"/>	



Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, MA 02128-2090
Telephone (617) 568-5950
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A2	Appendix 2 (Demolition Only)	<input type="checkbox"/>	<input type="checkbox"/>	
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Permit Submission Checklist				
780 CMR Section	Submittal Item	X or NA	For MPA Use Only	
			Reviewed	Comments
107.1	(1) CD containing copies of all submittal items except for permit fee. CD to be labeled and organized per required MPA format (see below).	<input type="checkbox"/>	<input type="checkbox"/>	
105.3	Completed DPS Building Permit Application	<input type="checkbox"/>	<input type="checkbox"/>	
105.3.1	Workers' Compensation Insurance Affidavit and Policy Declaration Page	<input type="checkbox"/>	<input type="checkbox"/>	
105.3.1	Construction Debris Disposal Form	<input type="checkbox"/>	<input type="checkbox"/>	
107.6.2.1	Initial Construction Control Documents	<input type="checkbox"/>	<input type="checkbox"/>	
107.6.2.3 & 107.6.2.4	Statement of Special Inspections required by 780 CMR Chapters 17 & 35	<input type="checkbox"/>	<input type="checkbox"/>	
901.2.1.1.a	Fire Protection Narrative (8.5"x11" narrative report format)	<input type="checkbox"/>	<input type="checkbox"/>	
34.101.5.4.0	Chapter 34 Investigation & Evaluation Report (8.5"x11" narrative report format)	<input type="checkbox"/>	<input type="checkbox"/>	
107.1	(1) sets of half-size (15"x21") signed/sealed Construction Documents and Specifications	<input type="checkbox"/>	<input type="checkbox"/>	

The permit documents must be organized and submitted to Capital Programs in the order referenced in the Permit Submission Checklist above. Upon completion, this document shall be printed and placed at the top of the submission for review.

The CD must be properly labeled which includes the project name, MPA or TAA #, and submission date. The CD file folder structure must be created and labeled as shown below with the appropriate files located in each folder. If a particular folder is not applicable to the project, that folder shall still be created with no files placed in said folder.

- 1.0 Building Permit Application
- 2.0 Workers Compensation Insurance
- 3.0 Construction Debris Disposal Form
- 4.0 Initial Construction Control Documents
- 5.0 Statement of Special Inspections
- 6.0 Fire Protection Narrative
- 7.0 Chapter 34 Report
- 8.0 Construction Documents & Specs

By signing my name below, I confirm that the building permit application and submission documents have been reviewed for completeness to the best of my knowledge and understanding.

Applicant Signature: _____

BPDA CAPITAL CONSTRUCTION DEPARTMENT

Roadway Lane Closure Request Form

Permit No. _____

For official use only

Date Submitted: _____

Job Name: _____

Contractor Performing Work: _____ Representative: _____

On-Site Contact: _____ Phone/Radio/Cell/Pager: _____

Location and Description of Work, and Requested Closure (Attach Traffic Control Plan of Closure)

Authorized Representative Signature: _____ (Not valid without Signature)

EMERGENCY VEHICLE ACCESS IS REQUIRED AT ALL TIMES.

Provide an emergency vehicle detour plan; notify all appropriate agencies, i.e. EDIC, Boston Fire Department, State Police, Boston Police and Municipal Protective Services.

Traffic Control Plans, signs, control devices, etc. must conform to the Manual on Uniform Traffic Control Devices (MTUCD) regulations. Control devices left overnight shall have flashing warning lights or better.

Notes:

1. Submit Plan showing area of work, traffic management, Certificate of Insurance, Company Check and these forms to: marla.cumming@boston.gov or bring all documents to Marla Cumming, 22 Drydock Avenue, Suite 201, Raymond L. Flynn Marine Park, Boston, MA 02210. Allow 96 hours in advance of construction. Permits may be picked up on Wednesdays only 7AM to 12 Noon. Permits must be visible and on site.
2. To request a Municipal Protective Services Detail, email sgtbmps@gmail.com, & marla.cumming@boston.gov, 48 hour in advance of work. Include all billing information, specific location of the project work, and Traffic Management Plan. Failure of a Municipal Detail will result in the project being shut down.
3. Checks shall be made payable to EDIC of Boston for all work in the Raymond L Flynn Marine Park.
4. Checks shall be made payable to the Boston Redevelopment Authority for all work on Streets at Charlestown Navy Yard and Long Wharf areas.
5. The cost for Roadway Lane Closure Permits is a nonrefundable, onetime fee per project/street of \$50.00 cash or company check.
6. The fee for Excavation Permit is a non-refundable, \$150.00 cash or company check based on minimum trenching.
7. Submit a Certificate of Insurance naming the Boston Redevelopment Authority/EDIC of Boston as additionally insured.
8. No roadway closure can be extended beyond the authorized date or time without prior written approval or renewal.
9. Approvals are subject to clear weather and current traffic conditions and location of work area. The BPDA reserves the right to reject dates submitted due to other events or operations that may occur in the project area.
10. Penalties and/or Fines will apply for those who do not follow Permit/Notification Requirements. Fines start at \$3000 and can be up to \$10,000 at the BPDA's discretion.

Contractors/Utilities/Tenants shall be responsible for all costs associated with the roadway lane closure & MPS Detail.

All work regarding the Boston Water and Sewer Commission shall submit a copy of BWSC stamped & approved drawings.

All Pavement Restoration shall be in accordance with the BPDA Pavement Policy

Day	Date	Time	Type of Closure
Monday	Fr:	To:	
Tuesday	Fr:	To:	
Wednesday	Fr:	To:	
Thursday	Fr:	To:	
Friday	Fr:	To:	
Saturday	Fr:	To:	
Sunday	Fr:	To:	

Reviewed By: _____ Date: _____

For Official Use:
BRA PROPERTY ☐
EDIC PROPERTY ☐



BPDA Roadway Lane Closure Request Form Street and Excavation Permits Policy

This Permit is for all Boston Planning & Development Agency (BPDA) Roadways and Sites located at the Raymond L. Flynn Marine Park, Charlestown Navy Yard and Long Wharf. All Tenants, Utility Companies and Contractors, and Developers who are operating, deliveries, staging, Cranes Lifts, Construction Management Plans, Utility installations, etc. on BPDA Property or Roadways must submit a BPDA Roadway Lane Closure Request Form (RLCRF) with all supporting documentation and have a valid Lease, License, or Easement Agreement in order to obtain a Street Closure Permit or an Excavation Permit. The Cover Sheets of the RLC Request Form may be filled out for multiple weeks. All Utility/Construction Companies are held to the same requirements. All Permits must be on site and visible.

All Permits are available for pick up at 22 Drydock Avenue, Suite 201, Boston, MA 02210.

All Supporting Documents are as listed below:

- Emergency and Standard Contact list – Fill out Contractors/Subcontractors Section
- Traffic Management Plan
- Municipal Protective Services Detail – Ordering information listed on the RLCRF. Failure to request a Municipal Detail may result in being shut down.
- Certificate of Insurance naming Boston Redevelopment Authority/EDIC of Boston as additionally insured.
- Company Check in the amount noted (see below), made out to EDIC of Boston for Raymond L. Flynn Marine Park Properties and Roadways.
- Company Checks in the amount noted (see below), made out to Boston Redevelopment Authority for Charlestown Navy Yard and Long Wharf Properties and Roadways.
- No Roadway Lane Closure Permit can be extended without prior written approval or renewal. Renewals require the RLC Request Form sent with new dates. Multiple weeks can be submitted with multiple Cover Sheets.
- Approvals of Permits are subject clear weather and current traffic conditions and location of work area. The BPDA reserves the right to reject dates submitted or cancel Permits via email Notifications for a day(s) due to other events or operations that may occur in the project area. Operations such as but not limited to Cruise Ship Loading, Special Events, Blizzards Hurricanes, etc.
- Penalties and/or Fines will apply to those who do not follow Permit/Notification Requirements.

Renewals

Submit a RLCRF Cover Sheet with revised dates in order to renew any Permit. No additional Fees are required.

Penalties and/or Fines:

Failure to obtain Permits or failure to abide by the terms of the Permit will result in Fines from \$3000 up to \$10,000 depending on the BPDA determination of the severity of the violation. The minimum Fine for any violation is \$3000.00.

Street Closure Permits Requirements:

Street Closure Permits have a Fee of \$50.00 per Street. All Street Closure Permits are required to keep one lane open at all times for Emergency Vehicles. Permit Fee may increase by the BPDA upon notice.

Excavations Closure Requirements:

Excavations Permits have a fee of \$150.00 per Street. All BPDA Roadways which have not been paved within the last 5 years of the date of excavation, the Utility/Contractor is required to provide the Standard Construction Detail: Typical Permanent Pavement Patch. See Detail SK-3.

All BPDA Roadways and Sites that have been paved within the last 5 years of the date of excavation, the Utility/Contractor is required to provide the Standard Construction Detail: Typical Street Moratorium Permanent Pavement Patch. See SK-2. This requires the Utility Company to provide a Permanent Pavement Patch and then, when weather permits to come back and mill/pave 1 1/2" pavement in the area described by the Construction Detail or approved by the BPDA Capital Construction Department, Real Estate Division.

Last revised: April 17, 2020

Boston Planning & Development Agency Emergency and Standard Contact List Capital Construction Department

Project Name: _____

Project Number: _____

FIRST RESPONDERS:

Medical 911
Fire 911
Boston Police 911

RLFMP POLICE 617.918.4499
OPERATIONS 617.872.7882
Municipal Police 617.635.4595

NAME	DEPT.	FUNCTION	MOBILE	OFFICE	HOME
John Fitzgerald	OPS	Operations	617.872.7882	617.918.6224	
William Epperson	CCD	Deputy Director		617.918.6211	

STANDARD CONTACTS: EDIC

NAME	DEPT.	FUNCTION	MOBILE	OFFICE	HOME
John Fitzgerald	OPS	Operations	617.872.7882	617.918.6224	
Marla Cumming	CCD	Construction/Permits		617.918.6210	

CONTRACTORS/SUBCONTRACTORS

NAME	COMPANY	MOBILE	OFFICE	HOME

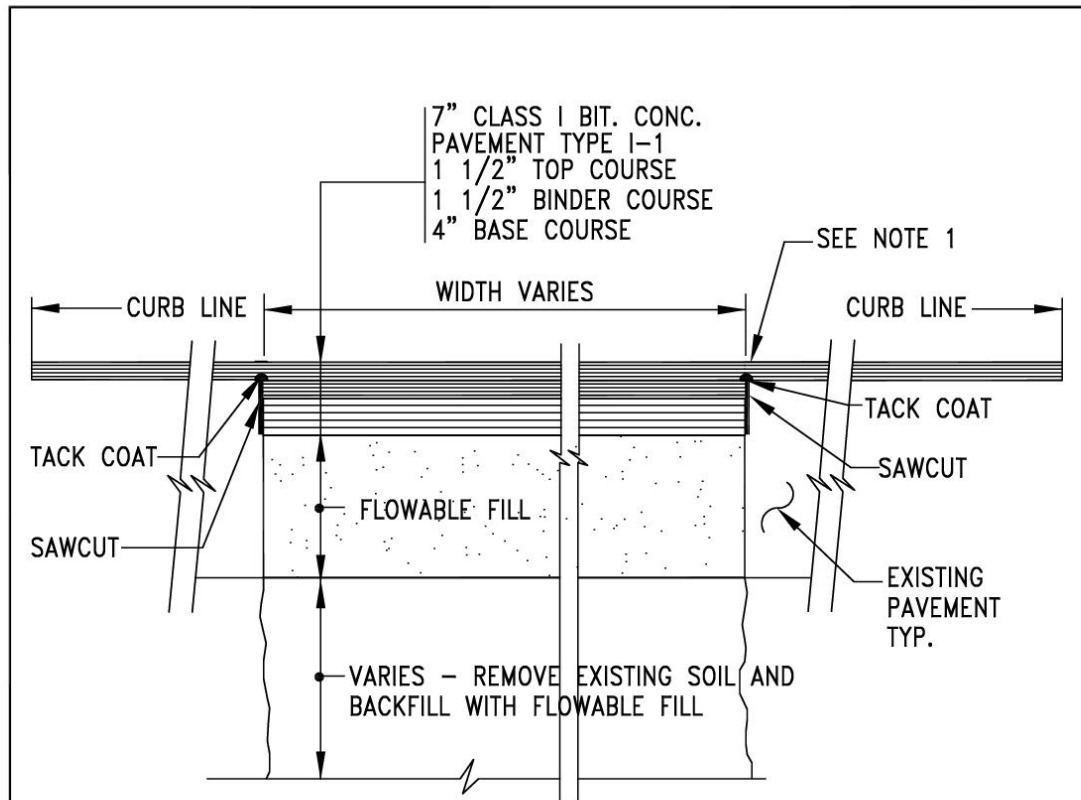
CONSTRUCTION MANAGER

NAME	COMPANY	MOBILE	OFFICE	HOME

DESIGNER

NAME	COMPANY	MOBILE	OFFICE	HOME

For all Boston Redevelopment and Economic Development Industrial Corporation of Boston Property
Raymond L. Flynn Marine Park, Long Wharf and Charlestown Navy Yard





TYPICAL STREET MORATORIUM PERMANENT PAVEMENT PATCH

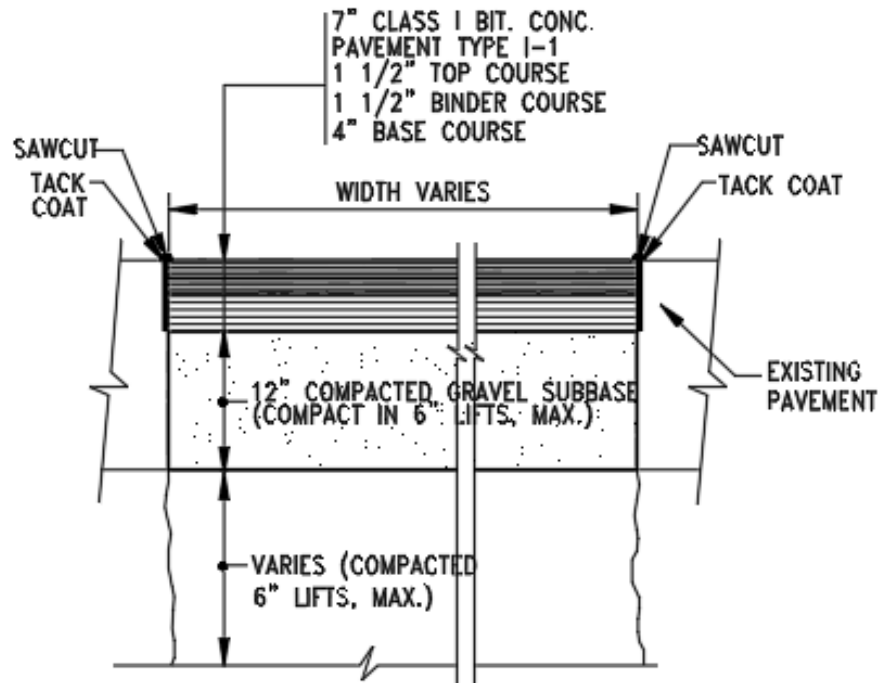
NOT TO SCALE

NOTES:

1. REMOVE 1 1/2" EXISTING TOP COURSE AND INSTALL NEW 1 1/2" TOP COURSE FROM CURB TO CURB LINE. LENGTH ALONG STREET TO BE DETERMINED BY THE BPDA DIRECTOR OF ENGINEERING & FACILITY MANAGEMENT DEPT.

CONSTRUCTION STANDARDS

 boston planning & development agency ECONOMIC DEVELOPMENT & INDUSTRIAL CORPORATION OF BOSTON		CAPITAL CONSTRUCTION DEPARTMENT 22 DRYDOCK AVENUE, SUITE 201 BOSTON, MASSACHUSETTS 02210 (617) 722-4300 DATE: APRIL 2015 NOT TO SCALE CK: SJH APPRVD: P. OSBORN DRN: M. CUMMING	DRW. NO. SK-2 SHEET 2 OF
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TYPICAL PERMANENT PAVEMENT PATCH

NOT TO SCALE

NOTE:
SUBMIT COMPACTION REPORT TO
BPDA, MARLA CUMMING,
22 DRYDOCK AVE, SUITE 201
BOSTON, MA 02210

CONSTRUCTION STANDARDS



CAPITAL CONSTRUCTION DEPARTMENT		
22 DRYDOCK AVENUE, SUITE 201 BOSTON, MASSACHUSETTS 02210 (617) 722-4300		
DATE: APRIL 2015	NOT TO SCALE	CR: 3/1
APPROVED: P. CORDEN	DESIGNED: M. CUMMING	

REV. 01
SK-3
SHEET 3 OF

GENERAL CONDITIONS

A. CONDITION OF PREMISES

1. The Permittee acknowledges that it has made an inspection of the Premises and that the Premises are in a satisfactory condition, suitable for the purposes of this Permit in the Premises' existing condition and that it has not relied upon representations or statements of the DCR, its officers, employees or agents with respect to these conditions. The Permittee expressly agrees that the DCR has no obligation to make any alterations, repairs, additions, or improvements to the Premises. The Permittee acknowledges and agrees for itself and its contractors, subcontractors, officers, servants, agents, employees, representatives and invitees that it accepts the Permitted Area in 'as is', 'where is' and 'with all defects' condition; that DCR is under no obligation to make any repairs, renovations or alterations to the Permitted Area; that DCR has made no representations or warranties regarding the adequacy, operability, safety or fitness of the Permitted Area for any particular purpose or use; and that DCR has made no representations that the Permitted Area complies with applicable laws, ordinances, rules and regulations of government authorities. The Permittee further acknowledges and agrees that entry and activities upon the Permitted Area by the Permittee and its contractors, subcontractors, officers, servants, agents, employees, representatives and invitees shall be at the sole risk and sole expense of the Permittee.
2. At the Permittee's expense DCR property shall be restored/ returned to its original or better condition, in accordance with standards and specifications of the DCR and this permit.
3. Upon the expiration, termination, or revocation of this Permit, the Permittee shall promptly vacate and surrender the Permitted Area and remove all of its personal property from the Permitted Area. Any property not so removed shall, at the option of DCR and at the sole expense of the Permittee, either become the property of DCR or be removed by DCR and disposed of without any liability in DCR for such removal and disposition.

B. PERMIT TERM

1. The term for the use authorized herein is specified in the Special Conditions, subject to review of the Permittee's performance and compliance with all terms and conditions of this Permit.
2. All obligations required of the Permittee under the terms of this Permit shall expressly survive the given termination/ expiration date until such obligations are completed to the satisfaction of the DCR, unless the DCR has exercised its option to terminate the agreement.
3. If the Permittee is found to be noncompliant with any term and or requirement of this Permit, and does not remedy or cure the noncompliance matter promptly or within a time frame set by DCR, the DCR may immediately revoke this Permit.

C. ADMINISTRATION FEE; RESTORATION, CONSIDERATION; & MITIGATION; [in accordance with 801 CMR 4.02]

1. The Permittee shall pay the Commonwealth a fifty dollar administration/application fee.
2. In addition to the administration fee (C.1. above), and required work. The permittee will compensate DCR for the disruption to the DCR properties including parkway, boulevard, road and/or recreational facilities by doing mitigation and or the payment of Parkway/Roadway Excavation Fee, Sidewalk and Parkland modification fees.
3. See the Special Conditions of this permit for the details of the compensation to DCR for the disruption to the DCR parkway and/or recreational facilities which may include fees or mitigation or a combination of both.
4. If mitigation is allowed as an alternate for the fees, the cost of the mitigation must equal or exceed the Parkway Excavation Fee, Sidewalk and Parkland modification fees: should the mitigation work not exceed the fee amount the difference shall be paid to DCR.

SEE THE SPECIAL CONDITIONS AND THE PAYMENT TRANSMITTAL INVOICE FOR DETAILS ON FEES,

PAYMENT SCHEDULE AND MITIGATION APPROVED FOR THIS PERMIT.

5. Payments, shall be made online or in the form of a money order, cashier's check or certified bank check payable to the Department of Conservation and Recreation (exclusively), accompanied by a DCR "Payment Transmittal Form," Exhibit 1 attached to this permit. Indicate your Permit Number on your check, all correspondence and on the mailing envelope; mail to the following address:

Department of Conservation and Recreation
Construction Access Permits
Application or Permit No: _____
251 Causeway Street, Suite 700
Boston, Massachusetts 02114

D. REQUIREMENTS

1. The Permittee shall keep a copy of this Permit at the Premises (on site and visible) and shall be solely responsible for maintenance, care, repair or replacement of all work, improvements or installations related to the permitted work placed or situated on the Premises at all times.
2. The Permittee shall be solely responsible for all expenses arising under this Permit.
3. The Permittee will not use any DCR utilities or resources without express permission from DCR. If the Permittee and or its representative or contractor uses any DCR utilities any expenses associated with that use is the responsibility of the Permittee.
4. The Permittee shall conform to all provisions of state, federal and local laws, rules and regulations applicable to the exercise of the rights and the performance of work under the Permit. Such provisions include, but are not limited to, all health, environmental, noise and sanitary standards and conditions required by Commonwealth of Massachusetts statutes; rules and regulations, including DCR regulations, local bylaws, engineering standards and administrative and executive orders.
 - a. Prior to the commencement of any work involving excavation or disturbance of any soils and or vegetation under this Construction / Access Permit:
 - i. Dig Safe must be notified for field mark-out of utilities (1-888-DIG-SAFE).
 - ii. The Permittee will comply with M.G.L. Chapter 254 requiring approval by the Massachusetts Historical Commission
 - b. The Permittee shall adhere to all OSHA Standards for Safety during the construction period.
 - c. The Permittee will comply with local noise regulations, exercising care to subject neighborhood abutters to the least amount of noise and vibration pollution during working and non-work hours.
5. All correspondence with the DCR regarding permitted activities should indicate the DCR Construction Permit Number associated with this permit.
6. If the work herein authorized is for a driveway entrance, this Permit is granted and accepted on the condition that if the ownership of the land to which the driveway is appurtenant shall at any time become united with that of any adjoining lot fronting on the roadway and also having an entrance on said roadway, then the DCR may revoke the right to maintain any or all of such entrances and grant a single entrance in place thereof. The entrance hereby granted shall be used only for the Premises shown on the Plan.
7. Within thirty (30) days, after completion of the project or a date specified herein, by the DCR in the Special Conditions, the Permittee shall submit a Mylar copy and pdf of as-built plan(s) for the Project as it relates to DCR property. This information shall be sent to Construction Access Permits, Department of Conservation & Recreation, 251 Causeway Street, Suite 700, Boston, Massachusetts 02114. In addition to the standard title box the permittee will list/add the DCR Construction Permit Number associated with this permit.
8. Within thirty (30) days, after completion of the project or a date specified by DCR in the Special Conditions, the Permittee shall submit two (2) copies of all final environmental reports generated for the Permittee's Project related to DCR property if applicable. One (1) copy each of the information will be sent (see Notices and Contacts) to the attention of the Environmental Section Head and the Regional Director.
9. The Permittee shall keep the Premises in a clean and orderly manner at all times.
10. The Permittee shall be solely responsible for ice and snow removal during the winter months and street sweepings during the spring, summer and fall on all DCR property associated with this permit and/or impacted by the permit, per DCR protocol (inclusive of all area where public access is possible, as well as but not limited to all roadways, sidewalks and walking paths), inclusive of any and all associated costs and labor. This responsibility will remain in place until the work area(s) are closed and all obstacles that would interfere with DCR's regular maintenance are removed, leaving the area unencumbered.

E. INSPECTIONS, ACCESS, AND PERMITS

1. The Permittee shall arrange for inspections by local health officials, utilities engineers, building inspectors and others as may be required.
2. The Permittee shall take prompt action to correct any condition that is found not compliant with any federal, state, or local regulation, code or statute.
3. The Permittee agrees at its own expense, to file for; obtain and comply with all applicable federal, state and local permits, licenses and approvals necessary for the work to be performed which is the subject of this Permit. Failure to obtain any required permits, licenses and or approvals, prior to the commencement of work, or failure to maintain such legal obligations in full effect throughout the term of this Permit shall be cause for revocation of this Permit by the DCR.
4. The DCR shall be provided full and unrestricted access to and upon the Premises at all times during the Term of this Permit to inspect the Premises and to review the operations and inspect the Permittee's equipment.
5. The permittee shall maintain adequate abutter access at all times.

F. PUBLIC SAFETY

1. The Permittee will hire as many safety and/or law enforcement details, as needed to ensure the general public (including but not exclusive of pedestrian, cyclists, and vehicular traffic) safety at all times during all permitted activities on and near the Premises. Advanced notice of starting work shall be provided to the appropriate authority.
 - a. For vehicle traffic management and public safety, in and/or on DCR property excluding parkways, boulevards, skating rinks, and or water sheds, the Permittee shall contact and hire as many Environmental Police Officers, as needed to ensure the safety of park users at all times.
 - b. For vehicle traffic management and public safety, in and/or on DCR Parkways, Boulevards, skating rinks, and or state water sheds the Permittee shall hire as many Massachusetts State Trooper details as necessary to ensure the public safety at all times during all activities on and/or near the Premises.
 - c. For work inside DCR Parks excluding motor vehicle traffic management on Chapter 90 Roadways (parkways and public ways), the Permittee may hire Park Rangers, to ensure the wellbeing of the public in low use situations, within the confines of the park (i.e. playing fields, bike-paths, parking lots, gardens etc.---).
 - d. For projects impacting both DCR property and municipal roadways, for safety and/or traffic management on the municipal roadways the Permittee may hire as many local safety and/or law enforcement details, or certified flagmen as needed to ensure public safety.
2. The Permittee shall barricade excavations with safety fencing and reflectorized drums with "Type A" flashers to guide personnel and eliminate free access to the work area on, in, or near the Premises. All flashers and "steady-burn" lights on drums must be in good working order. From dusk through dawn, the Permittee shall place sufficient working lights to protect the public from injury or damage.
3. Signage indicating the name of the Permittee, and including contact names and telephone numbers shall be on the premises (permitted work site) in plain view or erected during the duration of the Project.
 - a. Additional signage may be required by DCR; See Notice paragraph 2 and the Special Conditions.

G. RESTORATION OF PREMISES

1. See SPECIAL CONDITIONS for additional information specific to this permit.
2. At the Permittee's sole expense, DCR property shall be restored/returned to its original or better condition, or otherwise improved in accordance with this permit, and in accordance with standards and specifications of the DCR. The Permittee is responsible for repairing, replacing and restoring any and all damage to the DCR real or personal property, its infrastructure improvements and appurtenances, or any other property of third-parties, caused or necessitated by the Permittee by operation of this Permit, regardless of whether such damage occurs within or without the layout of the Premises itself.

- a. Any/all DCR utilities (storm drainage, electrical services, plumbing, sprinklers, sanitary services, dam and flood control structures, traffic signals and/or street lighting) worked on, damaged or altered (installation, change, relocation, modification, or adjustment) shall be replaced by the Permittee at their expense, unless specifically addressed in this permit.
 - b. Temporary service for the impacted utility shall be provided by the Permittee. The Permittee must provide adequate and safe services.
 - c. Temporary operating expenses for the impacted utility starting at the time of the disruption and/or installation, through DCR acceptance shall be the responsibility of the Permittee.
 - d. All utilities/equipment shall be replaced or reinstalled to working order by the Permittee at their expense unless specifically addressed in this permit or its attachments.
 - e. The appropriate DCR section chief, engineer and/or designee shall with assessment review and consultation, determine if the part(s)/fixture(s) may be reused and/or replaced. If the part(s)/fixture(s) need to be replaced, DCR shall supply the specifications.
 - f. All DCR utilities worked on by the Permittee shall be reviewed and/or inspected by DCR prior to acceptance.
3. Abandonment of existing underground utilities, pipes, chambers, etc.; The Permittee, its agents, contractor or representative shall take all appropriate measures to properly close, fill and cap all underground structure(s) to guard against future sinkholes and eliminate the possibility of future collapse of these abandoned structures. Pipe abandonment under DCR owned or controlled property shall be managed as follows:
 - a. Located under DCR roadways: All pipes, underground utilities, chambers etc. that are under the roadway must be completely filled with grout or high slump 5000 psi concrete and abandoned in place.
 - b. Not located under DCR roadways: All pipes, underground utilities, chambers etc. that are 18-in. in diameter or greater must be completely filled with grout or high slump 500 psi concrete and abandoned in place. (Specification §.02650, ¶ 3.01 D.3).
 - c. All pipes that are less than 18-in. in diameter shall be securely plugged with brick, mortar, concrete and/or masonry plugs in both ends at least 12-in. thick and abandoned in place.
4. Any and all parkways, boulevards, roadways, parking areas and/or driveways repairs including trench patches that remain in place for one year or longer will be reviewed by the Permittee and the DCR annually, until such time as the road is permanently repaved from curb to curb. Should the patch fail or prove to be inadequate, the Permittee will be responsible for removal and restoration of the failing area.
5. All opening(s) shall be covered by steel plates when not in use. The Permittee shall not use steel plates that are vulnerable to flexing, or lateral movement due to vehicular traffic. Where any gaps exist between the plate and the roadway surface, "cold-patch" asphalt mix shall be used to fill those voids.
6. In non-trench areas of roadways or sidewalks requiring repairs, the subgrade material shall be Massachusetts Department of Transportation – Highway Division (hereinafter MassDOT -HD) "Type C" Gravel (2" maximum aggregate size) and it shall be mechanically compacted in six-inch (6") lifts.
7. Pavement trimming: Only saw cutting (without overcuts) shall be allowed as a means of creating the final, permanent edge between existing and new hot-mix asphalt or cement concrete on any roadway or sidewalk. All accidental overcuts shall be filled with bituminous joint sealer. The standard "cutback" for all permanent pavement patches shall be twenty-four inches (24") beyond the original pavement cuts made to perform the work allowed by this permit. If curbing does not allow for twenty-four inches (24"), then the face of the curbing will serve as the edge of the permanent pavement patch.
8. Controlled-density fill (hereinafter the CDF) shall be used for backfilling trenches made in roadway or sidewalk pavement. The CDF shall conform to MassDOT -"Type 2E," "Flowable and Excavatable." (If the Permittee needs to use backfill materials with higher strength characteristics than MassDOT -"Type 2E" CDF, then the Permittee can request a waiver from the DCR to substitute that higher strength backfill.)
 - a. The Permittee shall place the CDF so as to allow enough room for a depth of pavement replacement that matches existing pavement thickness

- b. The Permittee is responsible for allowing sufficient curing time for the CDF prior to installing pavement material. The Permittee shall exercise extra caution in areas of high water table.
9. If the Permittee cannot use MassDOT -“Type 2E” CDF, trenches and other excavations shall be back-filled with DCR-approved gravel. The use of previously excavated material as backfill is acceptable, providing that the previously excavated material is suitable for sub-base with no stones larger than 3” in diameter, and is free of all clays and organic matter. However, immediately below any sidewalk or roadway surface, there must be a minimum of twelve inches (12”) of clean gravel borrow (MassDOT #M1.03.0 – Type “C” two-inch [2”] maximum stone size) for the sub-base.
 10. All sub-base shall be mechanically compacted in six-inch (6”) lifts to ninety-five percent (95%) compaction, as tested by nuclear compaction equipment, and verified by the DCR on site.
 11. The permanent pavement patch of bituminous concrete for roadway sections shall consist of the following minimum measurements: four inch (4”) base, two inch (2”) binder, one and three-quarter inch (1-3/4”) of “State Top” (one-half-inch (1/2”) stone size) top course. Pavement replacement thickness must match the existing pavement thickness, or conform to Figure # 1 “TYPICAL ROADWAY TRENCH REPAIR” whichever pavement depth is deeper.
 12. All mixes shall conform to MassDOT “Type I” mixes: Base, Binder, “State Top” [with one-half inch (1/2”) stone size] for roadway use & “Dense Top” [with three-eighths inch (3/8”) stone size] for sidewalk use. The permanent hot-mix asphalt patch shall extend over the original trench cut, and act as a “bridge” twenty-four inches (24”). All hot-mix asphalt surfaces (vertical and horizontal) shall be coated with emulsion tack coat immediately prior to placing any new hot-mix asphalt layer.
 13. The Permittee shall be responsible for the adequacy and performance of the trench pavement patch (roadway and/or sidewalk) and restoration of all affected curbing in the work zone. DCR reserves the right to have the trench patches repaired or replaced completely and curbing reset at the expense of the applicant as a result of incomplete or inadequate work by the Permittee.
 14. All pavement markings removed and/or damaged during the course of construction must be replaced with markings matching the configuration, color, width and type (thermoplastic, paint, etc.) of the markings removed.
 15. Any sidewalk replacement shall conform to the most recent Americans with Disabilities Act (hereinafter the ADA) or Architectural Access Board (hereinafter the AAB) handicapped accessibility standards, whichever is more stringent.
 16. Any fine-grading of subgrade soils required before sidewalk installation shall be accomplished with MassDOT -M1.03.0 “Type C” Gravel Borrow (two-inch (2”) maximum stone size).
 17. Any sidewalk damaged must be replaced with a material matching the existing sidewalk surface (hot-mix asphalt or cement concrete), and the replacement shall conform with the following;
 - a. The limits of the sidewalk repair shall include the entire work area and extend to the nearest sidewalk control joint. Sawcuts shall be made along those joints and only full, complete concrete sidewalk panels shall be removed. All demolished concrete walkways shall be removed from the DCR property and legally disposed of off-site.
 - b. All cement concrete sidewalk shall contain welded wire mesh. Welded wire mesh for cement concrete walks must meet ASTM Specification A185 and be 6 gauge wire with six-inch by six-inch (6” x 6”) squares. Only sheet mesh shall be permitted (no rolls). The mesh must be installed at mid-depth in the slab and rest on reinforcement “chairs” or cement concrete bricks spaced at 36” maximum in every direction to keep the mesh from deforming during cement concrete placement.
 18. For all edgestone/curbing being reset or replaced, on both the front and back of the curbing/edgestone, 2,000 p.s.i. cement concrete (with a six-inch by six-inch (6” x 6”) profile) shall be installed for the entire length of the curbing/edgestone being reset or replaced, and the top surface of both the front and back sections of this cement concrete shall be one and three-quarter inches (1 ¾”) lower than the finished roadway elevation.

19. Detectable warning panels are required for any pedestrian ramp. The detectable warning panels for cement concrete pedestrian ramps shall be “brick-colored” and “safety yellow” for hot-mix asphalt pedestrian ramps. Exceptions to this are possible with the prior approval of DCR’s Chief Engineer, if, for example, the Permittee is trying to match the color of existing nearby pedestrian ramp warning panels. This work must be MUTCD, ADA and AAB compliant.
 - a. Detectable warning panels can be precast concrete, cast-in-place concrete or other suitable material permanently applied to the ramp.

H. TRAFFIC MANAGEMENT

1. Traffic Management, including both Vehicle and Pedestrian management; the Permittee must provide safe passage to the public including but not limited to motorists, cyclists, pedestrians, workers, and others affected by the Permittee activities and are the sole responsibility of the Permittee.
2. The Permittee assumes full liability and responsibility for Traffic Management, and shall plan for traffic control on a case by case basis to adjust for the varying conditions among work locations in cooperation with the detail officer.
3. All work done on DCR roadways must conform to the **2009** U.S. Department of Transportation, Federal Highway Administration’s Manual on Uniform Travel Control Devices Guidelines (“MUTCD”) and the **April 28th 2009 Governors Executive Order 511**. Including recently updated Federal Regulations (the FHWA’s **Rule on Work Zone Safety and Mobility**) emphasize the importance of providing safe work areas for motorists, workers, and others affected by the maintenance/ utility/ construction activities; whenever the need is indicated the permittee should expand or improve traffic controls.
4. **For additional and permit specific Traffic Management requirements see the Special Conditions.**
5. Without limiting any of Permittee's obligations under this or any other Section of this Permit, the Permittee is responsible for proper Traffic Management, including the planning and installation of temporary traffic controls in maintenance, utility, or construction work areas, including, but not limited to, responsibility for ensuring that the pedestrian and vehicular safety is properly and safely performed according to all applicable federal, state, and local laws, regulations and governmental requirements.
6. The Permittee shall submit a site specific Traffic and Pedestrian Management Plan stamped by P.E. (hereinafter the TMP) for DCR’s review, comment, and subsequent approval.
7. The site specific **TRAFFIC MANAGEMENT PLANS** DCR approved will be strictly adhered to during field operations.

(see the Special Conditions, Item H for Approved Plan)

 - a. At the discretion of the DCR Chief Engineer or his designee, all TMPs must be prepared and stamped by a Massachusetts Licensed Engineer, specializing in traffic management.
 - b. The Permittee will notify and coordinate with the District Manager, the facility supervisor and / or the Regional Engineer regarding the TMP, as listed in the Special Conditions and/or Notices and Contacts Section of this Permit.
 - c. Any subsequent changes to the approved plan (**See the Special Conditions, item H**) by any party other than DCR must be resubmitted to DCR and are subject to DCR's review and subsequent approval before any construction activities may commence.
 - d. The TMP will be followed and precautions will be taken to protect the public, the environment and any cultural resource in the area.
8. If the work associated with this Permit potentially impacts other parties, the contractor/ permittee is responsible for notification, and cooperative coordination with all parties, (including but not exclusive of DCR, contractors and representatives, Federal, State and local entities; police fire and ambulance, public transportation and utilities) working in the permitted locations. The coordination is to assure such that all disruptions of vehicular and/or pedestrian traffic is minimized.

- a. If this is not done to the satisfaction of DCR this permit will be revoked by a DCR representative during field operations and all associated work will stop until the deficiencies are resolved to the satisfaction of DCR traffic and or permit engineers.
- 9. In order to reduce the effects on the public who use the DCR's recreational areas, parks, campgrounds, parkways, boulevards and/or roadways, the Permittee will minimize construction work during peak use periods.
- 10. Pedestrian and vehicular traffic flow and safety shall be maintained at all times. Detours shall conform to the 2009 U.S. Department of Transportation, Federal Highway Administration's Manual on Uniform Travel Control Devices Guidelines ("MUTCD").
- 11. The Permittee will leave sidewalk areas clear and open to permit unimpeded pedestrian traffic passage at all times during construction. A minimum of three feet (3') clearance will be maintained to permit public access to alternate passage by the affected portion of the Premises.
- 12. All deliveries shall be made in such a manner as to have the least negative impact on the visiting public, the Premises and the environment.

I. ENVIRONMENTAL IMPACTS AND REPORTING

- 1. Prior to any construction work for a project in or adjacent to an environmentally sensitive resource area(s), the Permittee will contact appropriate Federal, State, and local agencies and or authorities, obtain any licenses, permits and or Certificates necessary and will comply with all applicable laws, rules and regulations. The Permittee will supply copies of all applicable documentation to DCR when applying for this permit, and or as they are granted, including but not limited to:
 - a. Executive Office of Energy and Environmental Affairs, Offices of Massachusetts Environmental Policy Act and Coastal Zone Management
 - b. The Massachusetts Department of Fish and Game regarding wildlife and/or plant impacts.
 - c. MassGIS data on any Priority Habitat of Rare Species.
 - d. The Massachusetts Department of Environmental Protection's Wetland, Waterways, and Water Management Sections
 - i. During all construction phases the Permittee will minimize any potential impacts to flora, fauna and natural resources and habitats on, in, or near the Premises; including the preparation and execution of a management plan for resource protection, erosion and sedimentation control, to minimize the potential impacts to environmentally sensitive resources.
 - ii. Special care will be used when permitted work area borders wetlands or waterways resource area(s), including but not limited to installation and maintenance of staked "salt hay" straw bales and silt fences to prevent sediment erosion and siltation from entering resource areas, and protect adjacent resources in accordance with the management plan. Erosion control measures will be in place prior to the start of any earthwork. The Permittee is responsible for inspecting all control measures twice weekly and after every rainfall event, and will maintain the erosion controls such that they operate properly. All erosion control measures will be maintained throughout the construction season until slopes have been stabilized and will be removed upon completion of the project, or stabilization of the area, whichever is last. All silt collected shall be removed and properly managed before the fences and straw bales are removed.
- 2. This permit in **NO** way should be construed as approval of any other applicable permits, notices or findings issued by Federal, State, and local agencies and/or authorities including but not limited to the Massachusetts Department of Fish and Game, and the Department of Environmental Protection.
- 3. The Permittee shall protect and maintain drainage and other structures against damage.
 - a. Any drainage structures damaged or altered will be replaced by the Permittee at their expense. All catch basins should be deep-sump unless utilities or site conditions interfere with the installation, as determined by DCR storm water engineer(s).
 - b. Absolutely no bitumen, asphalt, concrete or brick debris shall be dumped into drainage structures during the construction period. All storm water structures within the limits of work shall be

cleaned prior to the conclusion of the project. This work shall include removing any accumulated dirt, refuse and other debris from each structure, including the gutter mouth of curb inlets. All removed materials shall be properly handled and transported to an approved disposal facility. The Permittee shall incur all cleanup costs.

- c. For NPDES MS4 requirements, the following activities shall continue throughout the construction period:
 - i. Street Sweeping
 - ii. Catch Basin Cleaning
 - d. If applicable, construction projects shall provide the DCR Storm Water Manager, Robert Lowell with a copy of the Storm Water Pollution Prevention Plan for the site.
 - e. If applicable, construction projects shall provide the DCR Storm Water Manager, Robert Lowell with a copy of site dewatering permits.
4. The Permittee shall protect and maintain all existing trees against damage.
- a. If applicable, air excavation tools shall be used on DCR property to ensure tree root protection within the drip line. (ref: Special Conditions)
 - b. If applicable, a Certified Arborist shall be required on-site during excavations that are located within the drip line. (ref: Special Conditions)
5. Should the permitted work area be located adjacent to an environmentally sensitive area (i.e. wetlands, protected habitat, waterway, and/or coastal shoreline), the Permittee shall notify the DCR Landscape Architect and/or DCR Ecologist, (see Notices and Contacts) a minimum of seventy-two (72) hours prior to any tree or shrub removal. (see Notices and Contacts).
- a. Should the Permittee disturb any vegetation, the disturbed areas will, upon DCR's approval, be filled, groomed, and planted with native vegetation to blend in with the natural landscape at or before 95% project completion.
 - b. The Permittee will monitor the areas of replaced vegetation to make sure that they are established. If the vegetation dies, the Permittee will consult with DCR Landscape Architect (see Notices and Contacts) to work out replacement details.
6. The Permittee will minimize the impact on trees and shrubs on, in and near the Premises.
- a. The Permittee will remove and replace trees and shrubs only if absolutely necessary to the integrity of the construction and only if such removal is approved by DCR Landscape Architect prior to start of construction.
 - b. Any tree removed, damaged and or distressed by the proximity of the construction allowed by this permit will be replaced and warranted for two (2) years at the permittee's cost.
 - c. A second notice will be made to the DCR Landscape Architect (see Notices and Contacts) a minimum of 72 hours before any tree is removed.
 - i. If the removal of a tree is approved, the Permittee is responsible for disposal/elimination of all associated vegetation materials, above and below ground including but not exclusive of leaves, branches, trunk, and the stump, and restoration of the area.
 - d. In locations where tree removal/loss are unavoidable, the specific field placement of replacement vegetation will be at a location(s) as directed by DCR; planting locations may include areas outside the permit premises.
 - e. The Permittee will replace all trees removed for construction, the replacement will be based on caliper inch removed and/or cash equivalent. DCR's Landscape Architect and or designee will have the choice of species, size and location;
 - i. One caliper inch (1") for every caliper inch of lost/removed trees in **suburban areas**, as deemed practical by DCR.

- ii. Two caliper inches (2") for every caliper inch of lost/removed trees in **urban areas**, as deemed practical by DCR.
- iii. Any deficiency to the total required replacement caliper inch(es) shall be paid as restitution to the Conservation Trust and Urban Parks Trust Fund. (See the Special Conditions for details).
- f. All replacement trees shall be tagged at the approved nursery by the DCR Landscape Architect, before being shipped to the work site.
- g. All replacement trees shall be planted by an approved Landscape Contractor, supervised by a Massachusetts Certified Arborist and by standard arboricultural practices. They will be planted within the planting season during which the work is completed. If this cannot be done, planting shall be done in the next planting season. Planting seasons are April 1 through June 15 and September 15 through October 31.

J. OPERATING SCHEDULE

- 1. DCR roadways shall not be occupied between the hours of 6:30 a.m. and 9:30 a.m. and the hours of 3:30 p.m. and 6:30 p.m. Monday through Friday, or as otherwise described **in the Special Conditions**. This provision includes time for the placements of traffic equipment to set up the Traffic Management Plan.
- 2. The Permittee shall shut down all work at 12:00 p.m. (noon) on the eve of major holidays, which include Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas and New Year's Day or as otherwise described in the Special Conditions.
- 3. During periods of closing due to inclement weather or any other cause not within the control of the DCR, all other obligations of the Permittee shall not be waived. The DCR shall not be responsible for any costs incurred or revenue lost due to closing or re-opening of facilities or roadways under the provisions of this section.
- 4. Should a Special Event occur on the premises during the active duration of this permit, the Permittee will minimize any impacts on the park patrons. Any permitted work on DCR properties associated with the special event location, will cease and or shutdown at 10:00 p.m. prior to the start of the special event permit, and shall only resume after the area impacted by the special event has been cleared, cleaned and maintained.

K. TAXPAYER IDENTIFICATION NUMBER

- 1. Upon request by DCR, the Permittee shall remit to the DCR a Department of Revenue Certification of Good Standing; complete and remit a Taxpayer Identification Number and/or a Certification (Massachusetts Substitute W-9 Form) prior to the execution of this Permit. (as noted in the Special Conditions)

L. RISK OF OPERATION AND INDEMNIFICATION

- 1. The Permittee shall assume all risk in connection with any and all activities engaged in on the Premises, and shall be solely responsible and answerable in damages and any other remedies for all accidents or injuries to all persons or property caused by the Permittee and/or its contractors, agents, representatives, employees, licensees, guests and invitees.
- 2. The Permittee shall be responsible for the security of the Premises and the protection of the assets and property of the DCR. The Commonwealth shall not be responsible for property of the Permittee, its contractors, agents, representatives, employees, licensees, guests and invitees.
- 3. The Permittee shall agree to defend, hold harmless, and indemnify the Commonwealth of Massachusetts, the DCR, and its agents, officers and employees from any claims regardless of fault, arising out of any violation of any law, ordinance or regulation affecting the activities authorized herein by this Permit, from any claims for personal injury or death or damage to personal property, of whatever kind or nature, arising from the Permittee's activities on the Premises, including claims arising from the intentional, reckless or negligent acts or omissions of the Permittee, its contractors, agents, representatives, employees, Permittee's, licensees, guests and invitees,

as authorized under this Permit and claims arising from the Permittee's failure to provide adequate security on the Premises.

4. The Permittee shall not make any claims against the Commonwealth or the DCR for any injury, loss, or damage to persons, including bodily injury or death, or damage to property or costs or liabilities arising out of or in connection with this Permit, the obligations thereunder and the Permitted Uses, such as without limitation response actions engaged in or required under law or this Permit, including any acts or omissions of the Permittee, its contractors, agents, representatives, employees, licensees, guests and invitees, except for claims arising solely from the reckless conduct of the DCR.
5. The Permittee shall waive any and all claims for compensation for any and all loss or damage sustained by reason of any interference by any public agency or official in the operation of this Permit.
6. The risk of loss resulting from any natural weather phenomena or occurrences remains with the Permittee.
 - a. Compensation due to the DCR shall not be reduced or abated in any manner due to natural weather phenomena or other occurrences.

M. INSURANCE

1. The Permittee, its employees, contractors or agents shall hold the appropriate valid license(s) as required by law to perform the construction work associated with this Permit for the duration of the Permit.
2. The Permittee and or their contractor shall carry insurance in the types and amounts as described in this section of the Permit at its own expense.
3. The Permittee shall maintain said policies for the full Term of this Construction permit. Failure to maintain insurance coverage shall be deemed a material breach of the Permittee's duties under this Construction permit.
4. If the Permittee's insurance provisions, terms, and coverage, are amended, changed, suspended, expired or cancelled in any fashion, the Permittee shall, to the extent practicable, provide DCR with at least 30 days advance notice thereof.
5. The Permittee shall furnish Certificates of Insurance issued by an insurer or insurers qualified to do business in the Commonwealth. Said Certificates of Insurance upon request must be provided for review and approval to the address listed below anytime up to the expiration of the Permit.

Department of Conservation and Recreation

Construction Access Permits

Permit No: _____

251 Causeway Street, Suite 700
Boston, Massachusetts 02114

6. Failure to furnish said Certificates of Insurance and/or policies shall be deemed a material breach of the Permittee's duties under this Permit but in no way shall release Permittee of its obligations herein.
7. The Commonwealth of Massachusetts, including its DCR, shall be named as an additional insured on all policies specified herein, except that in regard to section M.12 the Commonwealth shall be named as an additional insured only on the contractors pollution liability portion of the professional/contractors pollution liability policies per policy endorsements.
8. **General Liability:** The Permittee shall carry General Liability Insurance in the minimum amount of \$1,000,000 per occurrence, \$2,000,000 in the aggregate.
9. **Public/Products Liability Insurance.** The Permittee shall carry public liability insurance as to third persons, and products liability insurance against claims based upon the services provided, in the minimum amount of One Million Dollars (\$1,000,000) in the event of death or injury to one individual, and a minimum of Two Million Dollars (\$2,000,000) in the event of death or injury to more than one individual, or such other amounts of liability insurance coverage the DCR shall reasonably require from time to time.

10. **Fire and Casualty Insurance.** The Permittee and or their contractor shall carry fire and casualty liability insurance in a minimum amount equal to the fair market value of the structure(s) located upon the Premises, if required by DCR.
11. **Professional/Environmental Impairment Liability Insurance:** Unless specifically excluded in writing in the Special Conditions of this Permit, the Permittee shall carry, or shall cause its contractor to carry, Environmental Impairment Liability Insurance, and shall cause its consultants to carry Professional Liability Insurance, that includes coverage for environmental contamination, bodily injury and/or property damage arising out of acts, errors and omissions of Permittee or its contractors, employees or agents in the performance of the Permitted Uses or any other activities or failures to act at or with respect to the Premises in the amount of one million dollars (\$1,000,000) for each claim and three million dollars (\$3,000,000) in the aggregate. Coverage includes claims based upon or arising out of underground storage tanks. Notwithstanding any contrary provisions section, said Professional Liability and Environmental Impairment Liability Insurance may be written on a "claims made" basis provided that the insurance coverage is maintained during the full term of this Permit and for at least three (3) years after the expiration of the Term.
12. **Automobile Bodily Injury and Property Damage Liability Insurance** in an amount not less than the compulsory coverage required in Massachusetts. Such insurance shall extend to owned, non-owned and hired automobiles used in the performance of the activities under this License. The limits of liability of such insurance shall be not less than one million dollars (\$1,000,000) combined single limit.
13. If the Permittee's and/or their contractor's insurance provisions, terms, coverage, etc. are amended, changed, suspended, expired or cancelled in any fashion, the Permittee must notify the DCR verbally immediately and shall notify the DCR in writing within five (5) business days.

N. HAZARDS ~ PHYSICAL, ENVIRONMENTAL AND CHEMICAL

1. The Permittee shall periodically inspect all areas used by the public in and around the Premises for the presence of unsafe or hazardous conditions and shall promptly remedy such conditions when found and shall promptly report the conditions to the DCR. The Permittee shall develop an accident reporting system and shall ensure that all employees understand and comply with said system. The Permittee shall make and preserve records of all accidents, emergencies and administration of medical aid on the Premises.
2. The Permittee shall immediately verbally notify DCR of any injuries, property damage or related incidents that occur on the Premises and shall provide written notice to the DCR Regional Engineer within five (5) calendar days of said incident. The written notice shall provide a detailed account of the incident, including, but not limited to, the nature of the incident, the names of any individuals involved and the names of any and all witnesses, all phone numbers, addresses, and contact information of affected individuals and witnesses, and the names of any agencies (federal, state, and/or local) that responded to the incident.
3. If the Permittee is notified by any regulatory agency having authority over the Premises that the Premises operations are in violation of an applicable rule, regulation or statute, the Permittee shall take immediate action to cure said violation. If the Permittee fails to take prompt remedial measures, the DCR may suspend the operations on any part or all of the Premises.
4. The Permittee shall not release, discharge or similarly dispose of hazardous substances, chemicals or materials.
5. Without limiting any of Permittee's obligations under this or any other Section of this Permit, Permittee agrees that it shall not cause any hazardous materials to be used, (with the exception of oil and other petroleum products contained within and necessary for the equipment utilized during the Permitted Uses), generated, stored or disposed of on, under or about, or transported to, from or through the Premises, except for soil, groundwater or any other material originating on the Premises and removed from the Premises by Permittee as required for the Permitted Uses (e.g., drill cuttings and soil samples, and excavated soil). Permittee assumes full liability and responsibility for such soil, groundwater or other material removed from and not replaced on the Premises including, but not limited to, responsibility for ensuring that the handling, treatment, transport, storage and/or disposal of these materials is properly and safely performed according to all applicable federal, state, and local laws, regulations and governmental requirements.

6. If Permittee's use of the Premises results in the need for a further response action under applicable environmental laws (other than the c. 21E response actions being undertaken as described in the Scope of Work), the Permittee shall give immediate telephone notice to DCR by calling the Environmental Section Head, Robert Lowell at (617) 626-1340. Without limiting any other provision of this Permit, completion of any such response action shall be the sole responsibility of the Permittee, shall be performed in accordance with applicable environmental laws at Permittee's sole expense, and shall not be performed without the prior approval of DCR unless an emergency situation exists and approval cannot be obtained. DCR reserves the right to supervise Permittee's contractor(s) implementing any such response action, and all submittals required to be made to any regulatory agency must be reviewed and approved by DCR.
7. For the purposes of this Permit, "hazardous materials" shall include, but not be limited to, substances defined as "hazardous substances", "toxic substances", "hazardous wastes", "hazardous materials", "oil" or "asbestos" in any federal or state statute concerning hazardous substances, wastes or materials now or hereafter enacted, including all regulations adopted or publications promulgated hereunder.
8. Pesticide applications may be allowed with written permission by DCR. If allowed, only those materials approved and registered by the U.S. Environmental Protection Agency for the specific purpose planned shall be considered for use on the Premises. Label instructions shall be strictly followed in the preparation and application of pesticides and other hazardous substances and disposal of excess materials and containers. Any and all applicators shall be duly licensed by the Commonwealth and the U.S. Environmental Protection Agency. Use of said materials must have prior authorization from DCR.
9. The Permittee assumes all risk associated with any environmental condition within the subject property and shall be solely responsible for all costs associated with evaluating, assessing and remediating, in accordance with all applicable laws, any environmental contamination (1) discovered during the Permittee's work or activities under this permit to the extent such evaluation, assessment or remediation is required for Permittee's work, or (2) resulting from Permittee's work or activities under this permit. Permittee shall notify DCR of any such assessment and remediation activities for review and approval of proposed activities; except for emergency containment. The Permittee is hereby held solely responsible for obtaining and maintaining any and all environmental compliance permits required by local, state and federal laws and regulations when regular or emergency work is proposed within, or in close proximity to, any wetland area.
10. In the event the Permittee learns of any release of oil or hazardous material or any other emergency within or from the Permitted Area, in addition to providing any regulatory notice required by any local, state or federal law or regulation, the Permittee shall provide notice of any such release or other emergency to DCR as soon as practicable thereafter, but not more than three (3) hours following any such release or emergency. Notice shall be given orally by telephone to the DCR Operations Control Center at (617) 946-3150. In the case of a release or other environmental emergency, notice must also be given in writing within twelve (12) hours, please indicate your Permit Number on all correspondence and on the mailing envelope and deposit in the United States mail; certified, return receipt requested, postage prepaid to:

Department of Conservation and Recreation
21 Causeway St., Suite 700
Boston, MA 02114
ATTN: Robert Lowell
11. In the event that the Permittee may impact contaminated soil and/or groundwater through permitted activities, the result may require site characterization under the supervision of a Licensed Site Professional (LSP). In this instance, the Permittee shall cease work and obtain from the Massachusetts Department of Environmental Protection (MassDEP) a written approval of a Response Abatement Measure (RAM) Plan (per 310 CMR 40) for the Permitted Uses to continue. The Permittee and its LSP shall oversee work in the Permitted Area to ensure that:
 - a. Worker health and safety is protected.
 - b. Soil generated and to be removed, if any, is properly disposed of in accordance with M.G.L. c. 21E / Massachusetts Contingency Plan and other applicable state and federal law

- c. The RAM is properly implemented and completed. Disposal, if any, of such soil shall be done under the supervision of an LSP and certified by the LSP to MassDEP.

O. LAND MARKERS AND MONUMENTS

1. The Permittee shall take reasonable precautions to protect all public land survey monuments, public land boundary markers and private property corners.
2. In the event that any such markers or monuments are disturbed or destroyed, the Permittee shall take appropriate action to reestablish them in accordance with specifications of the town or county surveyor, or the DCR.

P. TERMINATION

1. The nature of this Permit is a revocable license. As such, the DCR may terminate, with or without cause, upon written or oral notice to the Permittee, at which time all work associated with the permit will immediately end. If applicable, thereafter, the Permittee may cure or remedy such matter within no more than twenty four (24) hours. If the Permittee does not satisfactorily remedy or cure said matter, this Permit will be deemed terminated. If this Permit is revoked or terminated, Permittee shall not be relieved of liability to DCR or the Commonwealth for arrears in any fees or for any other injury, cost, liability or damage sustained or for any response action required or identified as needed as result of a Permittee's entry and/or use of the Premises, whether occurring before or after such termination.
2. All obligations required of the Permittee under the terms of this Permit shall expressly survive the given termination/expiration date until such obligations are completed to the satisfaction of the DCR.

Q. NON-DISCRIMINATION

1. The Permittee acknowledges that there shall be no discrimination against any employee who is employed in the work covered by this Permit, or against any applicant for such employment, based on race, color, religion, sex, sexual orientation, age, national origin, veterans' status, or physical or mental handicap.
2. The Permittee shall comply with all applicable federal and state statutes, and rules and regulations promulgated there-under prohibiting discrimination in employment.

R. STATUS OF PERMITTEE

1. The relationship of the Permittee to the Commonwealth of Massachusetts and the DCR is that of a Licensee. The Permittee covenants and agrees that it will conduct itself consistent with such status, that it will neither hold itself out as, nor claim to be, an officer or employee of the Commonwealth by reason hereof, and that it will not, by reason hereof, make any claim, demand or application to, or for any right or privilege applicable to an officer or employee of the Commonwealth of Massachusetts, including, but not limited to, Worker's Compensation Coverage, unemployment insurance benefits, Social Security coverage or retirement membership or credit.
2. Nothing herein contained shall create or be construed as creating a co-partnership between the DCR and the Permittee or to constitute the Permittee as an agent of the DCR.
3. The Permittee acknowledges that this Permit does not confer any rights in real property to the Permittee. As a licensee, the Permittee may enter and use the Premises solely for those purposes contained in this Permit. Any use of the Premises by the Permittee that is inconsistent with the terms of this Permit shall be deemed a material breach of the Permittee's rights and obligations under this Permit.

S. MERGER

1. All Attachments or Exhibits to this Permit are hereby incorporated by reference and become part of this Permit. Any failure to comply with the terms and conditions contained in any Attachment or Exhibit by either party constitutes a breach of this Permit. The Attachments and Exhibits are intended to be used to clarify the terms of this Permit. In the event there is an irreconcilable conflict between the terms of this Permit and those contained in an Attachment or Exhibit, the term contained in this Permit shall supersede.
2. Plans and documents, including, but not limited to, TMP, pedestrian and vehicle plans, and MUTCD specifications, which are submitted to and approved by the DCR, are hereby incorporated by reference and become part of this Permit.

T. WAIVER

1. No waiver during the term of this Permit, by either party, of any term, condition or covenant of this Permit shall be deemed a waiver at any time thereafter of the same provision or of any other provision contained herein, or of the strict and prompt performance thereof.

U. FORCE MAJEURE

1. Neither party shall be liable to perform its part of this Permit when such failure is due to fire, flood, war, riot, insurrection and/or other catastrophe beyond the control of the parties.

V. SEVERABILITY

1. If any provision of this Permit, or portion of such provision, is held invalid, the remainder of this Permit shall continue in full effect.

W. MODIFICATIONS OR AMENDMENTS

1. Modifications or amendments to this Permit shall be in writing and duly executed by both parties hereto to be effective.

X. ASSIGNMENT AND SUBLETTING

1. Except with the consent of the DCR, this Permit is not transferable.
2. The Permittee shall not assign, sublease, transfer or otherwise dispose of its management responsibilities or of any right, interest or use of the Premises covered by this Permit to anyone other than its contractor or parties specifically named in this permit, without the prior written consent of the DCR.
3. Any such disposition without the written consent of the DCR shall constitute a material breach of this Permit, which shall be cause for immediate termination of the Permit by the DCR.
4. The DCR shall not be obligated to recognize any right of any person or entity to any interest in this Permit or to any rights, equipment, structures, or property of the Permittee at the Premises. Any assignments of rights under this Permit are void.
5. The Permittee may not enter into any agreement with any entity or person, except employees of the Permittee, and/or its contractor or parties specifically named in this permit and/or their contractors, to exercise substantial management responsibilities for operation of the Premises without the prior non-electronic written consent of the DCR Commissioner or designee.
6. In the event of any unapproved or prohibited transfer or encumbrance by the Permittee, or in the event of any default of its obligations to persons or entities which are not a Party to the Permit, such person or entity shall not be deemed to have acquired operating rights, privileges, or title to the Premises or real or personal property of the DCR.
7. Any third-party beneficiaries have no enforceable rights under this Permit.

Y. ATTACHMENT

1. The Permittee is not authorized to permit and shall not permit any liens, mortgages or other security interests for any purpose to be attached to the Permitted Area in connection with the Permittee's use of, occupancy of, and/or activities in, around or near the Permitted Area under this Permit, including without limitation any repairs, renovations, alterations, additions, betterments, fixtures and/or improvements to the Permitted Area. The Permittee shall, upon request of DCR, furnish such waivers of any liens, mortgages, and/or any other security interests, as DCR may require and in a form that is satisfactory to DCR. The Permittee shall, upon the request of DCR, furnish such surety bonds as DCR may request and require, as it relates to said waivers. In the event that any liens, mortgages, or other security interests are attached to the Permitted Area or any part thereof or improvement thereto, the Permittee shall forthwith cause such liens, mortgages, and/or security interests to be released of record without cost to DCR.

Z. NOTICE

1. For purposes of this Permit, the parties hereto shall, unless otherwise indicated below, be deemed duly notified of any information or issues arising from the operation of this Permit in accordance with the terms and provisions hereof only if written notices are provided by first class mail, overnight mail or hand delivered or fax delivery with confirmation to the parties noted in the Notices and Contacts section, (DCR Construction Permits Director; DCR Region Manager, and (DCR Chief Engineer) subject to change upon notice in writing to that effect;
2. If the permitted work site encompasses and or encroaches upon designated parking spaces and or parking areas, the permittee will install additional **signage** indicating the parking restriction.
 - a. The "TEMPORARY PARKING RESTRICTIONS" signage must be installed at least 48 hours prior to the start of each portion of the permitted work. A copy of the parking restriction along with the date and time it was posted must be emailed to DCR Parking Clerk for contact information (see Notices and Contacts). Should the permittee not post within the specified time, they will be responsible for any towing reimbursement that may occur.
 - b. Should the parking spaces and/or parking areas be located in a residential neighborhood the permittee will provide written notice (mailed or posted) to area residents who may be impacted, at least 72 hours prior to use of the parking space. This notice may include leafleting all cars and mailboxes within 150 feet of the restricted parking area. A description of how you notified the neighbors plus a copy of the parking restriction including the date and time it was posted must be emailed to the parking clerk for contact information (see Notices and Contacts).
3. Before any work is started, the Permittee will provide notice to parties indicated in the Special Conditions and the Notices and Contacts section.
4. The Permittee will supply a written work schedule prior to the commencement of work, and will update the schedule at the time of 50% and 80% completion to parties indicated in the Special Conditions and Notices and Contact section.

At least seventy-two (72) hours prior to removing any vegetation from the Premises, notice shall be provided to the DCR Landscape Architect (as specified in the Notices and Contacts section)

2/13/25, 4:02 PM

General Law - Part I, Title XIV, Chapter 92, Section 44

Part I ADMINISTRATION OF THE
GOVERNMENT

Title PUBLIC WAYS AND WORKS
XIV

Chapter METROPOLITAN SEWERS, WATER
AND PARKS
92

Section NOTICE OF HEARING ON
PETITION FOR LOCATION; RULES
44 AND REGULATIONS

Section 44. Subject to the provisions of section forty-three, the commission, upon petition of a duly authorized official or representative of a street railway, electric railroad, gas or electric company for such location, shall give notice to all parties interested of the time and place at which the commission will give a hearing upon such petition, at least fourteen days before the hearing, by publication in one or more newspapers published in each town where the location petitioned for

2/13/25, 4:02 PM

General Law - Part I, Title XIV, Chapter 92, Section 44

would lie, and if none such is published, then by publication in one or more newspapers published in each county where the location petitioned for would lie; and after hearing, if in the opinion of the commission public convenience and necessity so require, it may grant such location, or any part thereof, upon such terms, conditions and obligations, and for such compensation, as the public interest and a due regard for the rights of the commonwealth may require. Any such location shall be void unless written acceptance by a duly authorized official or representative of the company is filed with the commission within sixty days after such company receives notice of the granting of the same. No order of the department of public utilities or the department of telecommunications and cable or of the commission shall be required for, but the commission may make rules and regulations governing, the renewing, repairing or replacing of poles, wires, cables or pipes for the transmission of electricity for light, heat or power or for the distribution of gas, once erected or constructed in accordance with law, or the making of house connections or connections between duly located pipes, conduits and distributing poles.

<u>Year</u>	<u>Ownership</u>	<u>Installed</u>	<u>Removed</u>
2015	Sole	3345	2759
2015	Joint	1742	1394
2016	Sole	1436	1826
2016	Joint	1460	1197
2017	Sole	1830	2080
2017	Joint	1130	1716
2018	Sole	1789	2599
2018	Joint	1859	2511
2019	Sole	2106	2400
2019	Joint	2245	1856
2020	Sole	1547	1682
2020	Joint	2121	1685
2021	Sole	1178	1546
2021	Joint	1926	1462
2022	Sole	1502	1656
2022	Joint	1532	1267
2023	Sole	1571	1237
2023	Joint	1897	1295
2024	Sole	1353	1792
2024	Joint	1166	1952

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES
DEPARTMENT OF TELECOMMUNICATIONS AND CABLE

D.P.U. 25-10/D.T.C. 25-1

Affidavit of Richard A Comeau

I, Richard A. Comeau, do attest and swear to the following:

1. I am Manager, Single Pole Administration – NSTAR Electric d/b/a Eversource Energy (“Eversource”). My current duties include management of third-party pole attachment responsibilities for Eversource’s electric distribution activities in MA.
2. The data provided in these comments which were filed in this docket were prepared by me or under my supervision are true and accurate to the best of my knowledge and belief.

Signed under the pains and penalties of perjury,

Richard A Comeau

Richard A Comeau

Date: March 18, 2025