NOTES:

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 52, LOT 189. RECORD TITLE FROM BOOK 69050, PAGE 394.

2. UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY, RECORD PLAN LOCATIONS, OR DIGSAFE PAINT-INDICATORS. METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.

3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.

4. THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25017C0528F, BEARING AN EFFECTIVE DATE OF JULY 7, 2014.

BENCHMARKS

ELEVATIONS SHOWN ON THIS PLAN REFER TO RM 11 (ELEV.=163.84'), A CHISELED SQUARE IN THE NORTH HEADWALL OF THE CULVERT UNDER COMMONWEALTH ROAD FOR SNAKE BROOK N.G.V.D. 1929.)

T.B.M.	DESCRIPTION	ELEVATION
C	DHN SET IN 14" BLACK LOCUST	161.89'
D	DHN SET IN 10" NORWAY MAPLE	168.74'

DIG SAFE 811 — CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.

ZONING:

RESIDENCE ZONE 20,000 – 120' FRONT

MINIMUM LOT AREA= 20,000[15] S.F.
MINIMUM LOT COVERAGE= 20%
MINIMUM FRONTAGE= 200 FT.
SETBACKS:
FRONT LOT LINE= 30[2] FT.
FRONT ROW CENTER LINE= 55 FT.
SIDE YARD= 15[3] FT.
REAR YARD=30 FT.
MAX. HEIGHT = 35 FT./2½ STORIES

2) IF §198-702 SHALL REQUIRE A GREATER SETBACK OR PERMIT A LESSER SETBACK, THE PROVISIONS OF SAID §198-702 SHALL PREVAIL OVER THIS TABLE.

3) SIDE YARDS SHALL MEET THE REQUIREMENTS OF §§198-702.4 AND 703.2, AND THE REQUIRED MINIMUM SIDE YARD MAY BE REDUCED IN ACCORDANCE WITH PROVISIONS OF §198-703.2

15) MINIMUM FRONT YARD WIDTH SHALL BE CALCULATED IN ACCORDANCE WITH THE REQUIREMENTS OF §198-705.1 OF THE ZONING BYLAW.

EXISTING TREE DESCRIPTION LEGEND

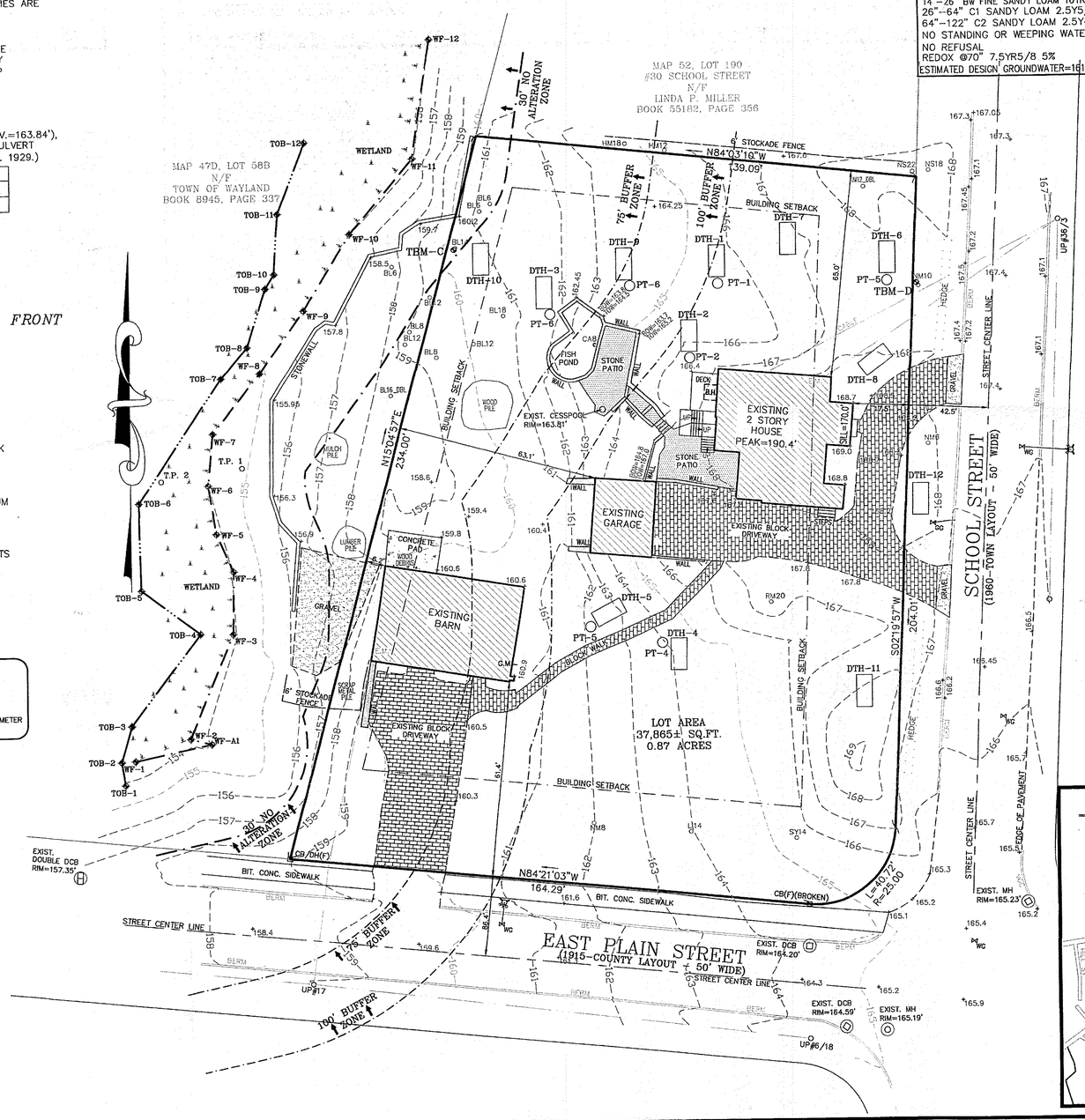
CODE	DESCRIPTION
BL#	BALCK LOCUST
CA#	CRAB APPLE
HM#	HEMLOCK
LI#	LINDEN
NM#	NORWAY MAPLE
NS#	NORWAY SPRUCE
RM#	RED MAPLE
SY#	SYCAMORE

DETAIL: TREE LOCATION; TREE CODE; TREE DIAMETER

LEGEND

DCB	DRAIN CATCH BASIN
HM	MANHOLE
WG	WATER GATE
GG	GAS GATE
	HYDRANT
U.P.	UTILITY POST
DH	DRILL HOLE
(F)	FOUND
CB	CONCRETE BOUND
SB	STONE BOUND
WF	WETLAND FLAG
E.M.	ELECTRIC METER
G.M.	GAS METER
N/F	NOW OR FORMERLY
+200.0	EXISTING SPOT GRADE
--200--	EXISTING GRADING
	EXISTING OVERHANG WIRE

No.	DATE	REVISION
2	07/29/15	ADD TOP OF BANK
3	11/01/15	ADD ELEVATION DATUM REFERENCE REVISE WF#11, WF#12



SOIL LOGS No: SOIL TEST RESULTS

DTH-1 ELEV=165.7'	DTH-2 ELEV=165.9'	DTH-3 ELEV=161.7'	DTH-4 ELEV=164.1'	DTH-5 ELEV=162.6'
0"-10" Ap FINE SANDY LOAM 10YR3/3 10"-24" Bw FINE SANDY LOAM 10YR5/6 24"-62" C1 SANDY LOAM 2.5Y5/3 62"-126" C2 SANDY LOAM 2.5Y5/4 NO STANDING OR WEEPING WATER NO REFUSAL, C2 HORIZON IS TIGHT REDOX @70" 7.5YR5/8 5% ESTIMATED DESIGN GROUNDWATER=159.87'	0"-22" Ap FINE SANDY LOAM 10YR3/3 22"-42" Bw FINE SANDY LOAM 10YR5/6 42"-96" C1 SANDY LOAM 2.5Y5/3 96"-118" C2 SILT LOAM 2.5Y6/3 WATER WEEPING @106" NO STANDING WATER, NO REFUSAL REDOX @80" 7.5YR5/8 ESTIMATED DESIGN GROUNDWATER=159.23'	0"-10" Ap FINE SANDY LOAM 10YR3/3 10"-22" Bw FINE SANDY LOAM 10YR5/6 22"-84" C1 SANDY LOAM 2.5Y5/3 84"-110" C2 SILT LOAM 2.5Y6/3 NO STANDING WATER, NO REFUSAL C2 HORIZON IS DAMP REDOX @82" 7.5YR5/8 ESTIMATED DESIGN GROUNDWATER=154.87'	0"-20" FILL 20"-28" Ap FINE SANDY LOAM 10YR3/3 28"-40" Bw FINE SANDY LOAM 10YR5/6 40"-86" C1 SANDY LOAM 2.5Y5/4 86"-116" C2 SANDY LOAM 2.5Y4/4 NO REFUSAL, NO STANDING OR WEEPING WATER NO REDOX ESTIMATED DESIGN GROUNDWATER=NONE	0"-16" Ap FINE SANDY LOAM 10YR3/3 16"-34" Bw FINE SANDY LOAM 10YR5/6 34"-84" C1 SANDY LOAM 2.5Y5/4 84"-118" C2 SANDY LOAM 2.5Y4/3 WEEPING WATER @112" NO REFUSAL REDOX @72" 7.5YR5/8 ESTIMATED DESIGN GROUNDWATER=156.6'

DATE: JULY 31, 2014

BY: BRIAN T. NELSON, SOIL EVALUATOR (METROWEST ENGINEERING, INC.)

INSPECTOR: BILL MURPHY, WAYLAND BOARD OF HEALTH

SOIL LOGS No: SOIL TEST RESULTS

DTH-6 ELEV=167.7'	DTH-7 ELEV=166.8'	DTH-8 ELEV=168.2'	DTH-9 ELEV=163.8'	DTH-10 ELEV=160.75'
0"-14" Ap FINE SANDY LOAM 10YR3/3 14"-26" Bw FINE SANDY LOAM 10YR5/6 26"-64" C1 SANDY LOAM 2.5Y5/3 64"-122" C2 SANDY LOAM 2.5Y4/4 NO STANDING OR WEEPING WATER NO REFUSAL REDOX @70" 7.5YR5/8 5% ESTIMATED DESIGN GROUNDWATER=161.87'	0"-14" Ap FINE SANDY LOAM 10YR3/3 14"-32" Bw FINE SANDY LOAM 10YR5/6 32"-58" C1 SANDY LOAM 2.5Y5/3 58"-114" C2 SANDY LOAM 2.5Y5/4 NO STANDING OR WEEPING WATER LENSES OF SILT LOAM FROM 76" DOWN ESTIMATED DESIGN GROUNDWATER=NONE	0"-26" FILL 26"-40" Bw FINE SANDY LOAM 10YR5/6 40"-78" C1 SANDY LOAM 2.5Y5/4 78"-108" C2 LOAMY SAND 2.5Y5/3 108"-126" C3 SILT LOAM 2.5Y6/3 C3 HORIZON IS DAMP NO REFUSAL REDOX @80" 7.5YR5/8 10% ESTIMATED DESIGN GROUNDWATER=161.53'	0"-16" Ap FINE SANDY LOAM 10YR3/3 16"-30" Bw FINE SANDY LOAM 10YR5/6 30"-46" Bc SANDY LOAM 2.5Y5/4 46"-98" C1 SANDY LOAM 2.5Y5/3 98"-118" C2 SANDY LOAM 2.5Y4/4 WATER STANDING @108" WATER WEEPING @88" REDOX SEEN @62", NO REFUSAL ESTIMATED DESIGN GROUNDWATER=158.63'	0"-15" Ap FINE SANDY LOAM 10YR3/3 15"-30" Bw FINE SANDY LOAM 10YR5/6 30"-66" C1 LOAMY SAND 2.5Y5/3 66"-112" C2 SILT LOAM 2.5Y5/4 WATER STANDING @100" WATER WEEPING @98" NO REFUSAL REDOX SEEN @68" 7.5YR5/8 10% ESTIMATED DESIGN GROUNDWATER=155.08'

DTH-11 ELEV=166.0'	DTH-12 ELEV=168.2'
0"-18" FILL 18"-30" Ap FINE SANDY LOAM 10YR3/3 30"-36" Bw FINE SANDY LOAM 10YR5/6 36"-58" C1 SANDY LOAM 2.5Y5/3 58"-128" C2 SANDY LOAM 2.5Y6/3 WATER STANDING @125" NO WEEPING WATER REDOX SEEN @60" 7.5YR5/8 5% ESTIMATED DESIGN GROUNDWATER=161.0'	0"-54" FILL 58"-82" C1 SANDY LOAM 2.5Y4/4 82"-114" C2 SANDY LOAM 2.5Y5/4 C2 HORIZON HAS LENSES OF SILT LOAM NO STANDING OR WEEPING WATER NO REFUSAL REDOX SEEN @64" 7.5YR5/8 ESTIMATED DESIGN GROUNDWATER=161.0'

DATE: AUGUST 21, 2014

BY: BRIAN T. NELSON, SOIL EVALUATOR (METROWEST ENGINEERING, INC.)

INSPECTOR: JULIA JUNGHANNS, WAYLAND BOARD OF HEALTH

PERCOLATION

NO.	DEPTH	RATE	DATE	BY	INSP.
PT-1	60"	8 MPI	07/31/14	B.N.	B.M.
PT-2	68"	13 MPI	07/31/14	B.N.	B.M.
PT-3	50"	10 MPI	07/31/14	B.N.	B.M.
PT-4	55"	MPI	07/31/14	B.N.	B.M.
PT-5	60"	MPI	07/31/14	B.N.	B.M.

PERCOLATION

NO.	DEPTH	RATE	DATE	BY	INSP.
PT-5	54"	10 MPI	08/21/14	B.N.	J.J.
PT-6	60"	3 MPI	08/21/14	B.N.	J.J.

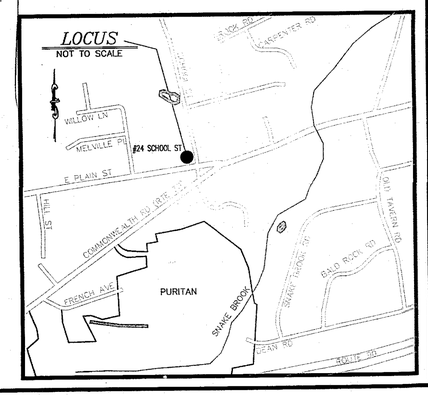
COMMONWEALTH OF MASSACHUSETTS — ROBERT A. GEMMA No. 37046 — PROFESSIONAL LAND SURVEYOR

COMMONWEALTH OF MASSACHUSETTS — ROBERT A. GEMMA No. 31967 — REGISTERED PROFESSIONAL ENGINEER

9/5/17

FOR METROWEST ENGINEERING, INC. — DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
(FEET) 20 0 10 20 40 80
(METERS) 0 4 10 20 30



EXISTING CONDITIONS SITE PLAN
#24 SCHOOL STREET
IN
WAYLAND, MASS
(MIDDLESEX COUNTY)

PREPARED FOR: WINDSOR PLACE LLC, 73 PELHAM ISLAND ROAD, WAYLAND, MA 01778

RECEIVED SEP 06 2017 WAYLAND CONSERVATION COMMISSION

PROPERTY OF: WINDSOR PLACE LLC, 73 PELHAM ISLAND ROAD, WAYLAND, MA 01778

ENGINEERS & SURVEYORS: MWE — METROWEST ENGINEERING, INC., 75 FRANKLIN STREET, FRAMINGHAM, MA 01702, TEL.: (508)626-0063, FAX: (508)875-6440

SHEET 1 OF 1		DATE: MAY 23, 2017
CALC'D BY: RAG	FIELD BK: 621	CAD FILE: CHADWICK_EXIST COND_R3.dwg
DRAFTER:	PROJECT: WY_SCH	DWG FILE: SP051815_R4.dwg

NOTES:

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HM#	HEMLOCK
LI#	LINDEN
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DETAIL: TREE LOCATION; RO14; TREE CODE; TREE DIAMETER

LEGEND

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N/F	NOW OR FORMERLY
+200.0	EXISTING SPOT GRADE
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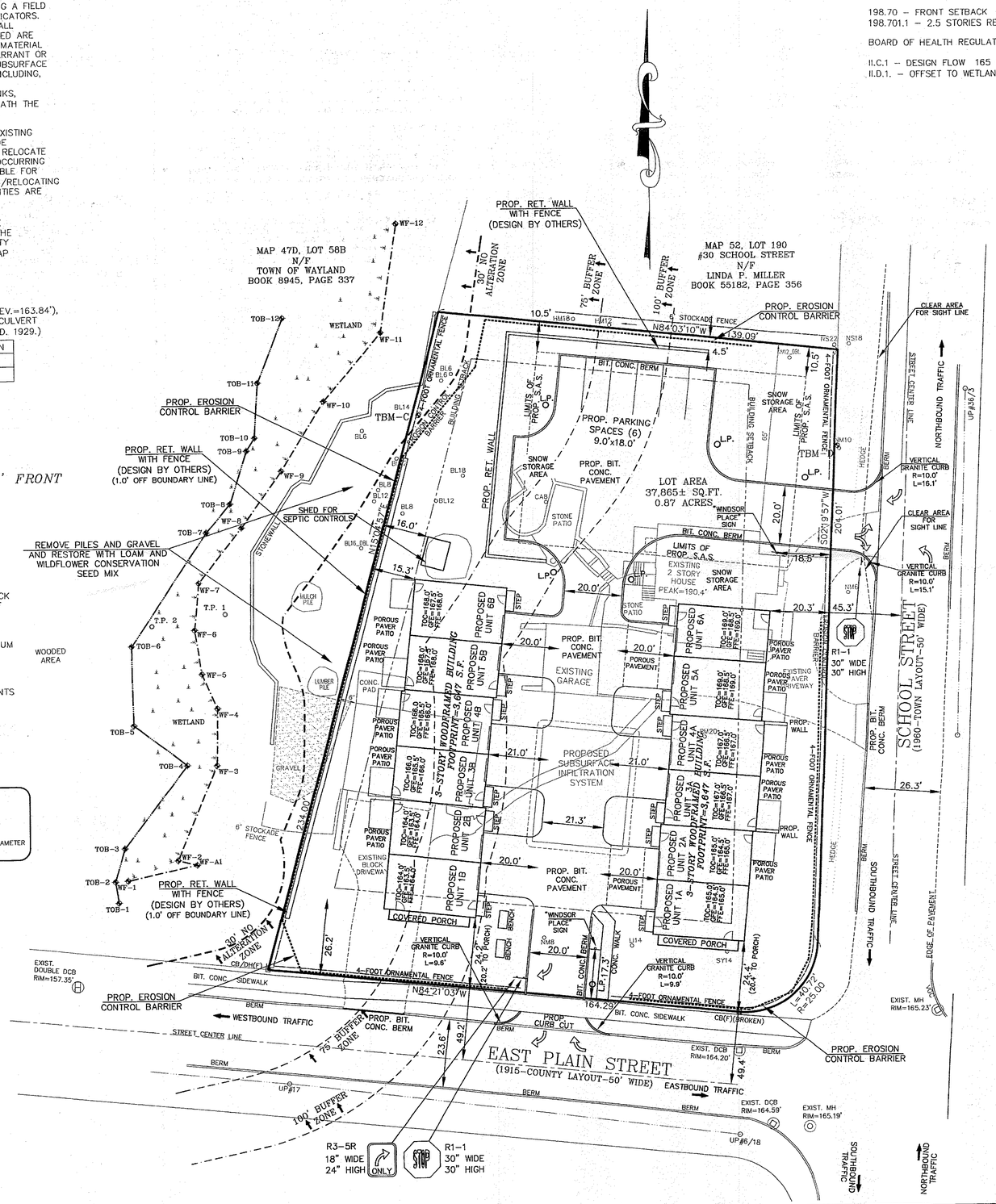
----------	EXISTING OVERHEAD WIRE



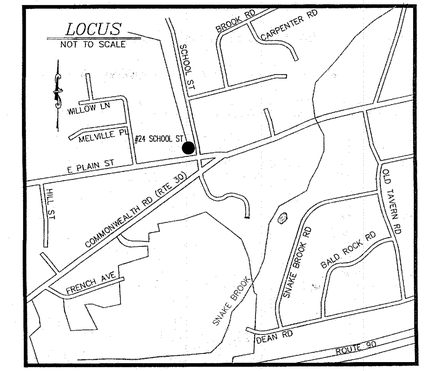
LOCAL WAIVERS REQUESTED:

ZONING BYLAWS:

198.70 – FRONT SETBACK 30.0–FEET REQUIRED (20.3–FEET REQUESTED)
198.701.1 – 2.5 STORIES REQUIRED (3 STORIES REQUESTED)

BOARD OF HEALTH REGULATIONS:

II.C.1 – DESIGN FLOW 165 G.P.D. REQUIRED (110 G.P.D REQUESTED)
II.D.1. – OFFSET TO WETLANDS 100–FEET REQUIRED (54.6–FEET REQUESTED)



ZONING TABLE

RESIDENCE ZONE, 20,000 SQUARE FEET

	REQUIRED	EXISTING	PROPOSED
AREA	20,000 S.F.	37,865 S.F.	37,865 S.F.
FRONTAGE	120 FEET	204.01 FEET	204.01 FEET
SETBACKS: FRONT YARD	30 FEET*	17.5 FEET	20.2 FEET
SIDE YARD	15 FEET	N.A.	N.A.
REAR YARD	30 FEET	6.2 FEET	15.3 FEET
BUILDING COVERAGE	20% MAXIMUM	0.092 (9.2%)	0.200 (20.0%)
LOT COVERAGE	20% MAXIMUM	0.092 (9.2%)	0.200 (20.0%)
IMPERVIOUS AREA	N.A.	8,908 S.F. (23.5%)	18,315 S.F.(48.4%)
BUILDING COVERAGE	7,573 S.F.	3,493 S.F. (9.2%)	7,571 S.F.(17.4%)
OTHER IMPERV. AREA	N.A.	5,415 S.F. (14.3%)	10,744 S.F.(28.4%)
OPEN SPACE	N.A.	28,957 S.F. (76.5%)	19,580 S.F.(51.6%)
BUILDING HEIGHT	35 FEET	28± FEET	32.0 FEET
NUMBER OF STORIES	2.5 STORIES	2 STORIES	3 STORIES
BUILDING TYPE	N.A.	2–STORY W.F.	3–STORY W.F.
FLOOR AREA RATIO	N.A.	0.090 (9.0%±)	0.533 (53.3%)
NUMBER OF BEDROOMS	N.A.	4 BEDROOMS	26 BEDROOMS
UNITS PER ACRE	N.A.	0.9	13.8
UNITS PER BUILDABLE ACRE	N.A.	0.9	13.9
# PARKING SPACES PER UNIT	N.A.	4	2.5
# PARKING SPACES PER SQUARE FOOT	N.A.	N.A.	0.002
# PARKING SPACES	N.A.	4	30*

* – INCLUDES GARAGE PARKING

COMMONWEALTH OF MASSACHUSETTS ROBERT A. GEMMA No. 31967 PROFESSIONAL ENGINEER — COMMONWEALTH OF MASSACHUSETTS ROBERT A. GEMMA No. 37046 PROFESSIONAL LAND SURVEYOR

9/5/17

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
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0 4 10 20 (METERS) 30

PROPOSED LAYOUT PLAN
#24 SCHOOL STREET
IN
WAYLAND, MASS
(MIDDLESEX COUNTY)

PREPARED FOR: WINDSOR PLACE LLC, 73 PELHAM ISLAND ROAD, WAYLAND, MA 01778

PROPERTY OF: WINDSOR PLACE LLC, 73 PELHAM ISLAND ROAD, WAYLAND, MA 01778

ENGINEERS & SURVEYORS: MWE — METROWEST ENGINEERING, INC., 75 FRANKLIN STREET, WAYLAND, MA 01702, TEL.: (508)626–0063, FAX: (508)875–6440

SHEET 1 OF 6		DATE: SEPTEMBER 6, 2017
CALC'D BY: BTN	FIELD BK: 621	CAD FILE: PROP_SITE_3_R3.dwg
DRAFTER: BTN	PROJECT: WY_SCH	DWG FILE: SP090617.dwg

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NS#	NORWAY SPRUCE
RM#	RED MAPLE
SY#	SYCAMORE

DETAIL
TREE LOCATION
RO14
TREE CODE – TREE DIAMETER

LEGEND

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HM	MANHOLE
WG	WATER GATE
GG	GAS GATE
	HYDRANT
U.P.	UTILITY POST
DH	DRILL HOLE
(F)	FOUND
CB	CONCRETE BOUND
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E.M.	ELECTRIC METER
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N/F	NOW OR FORMERLY
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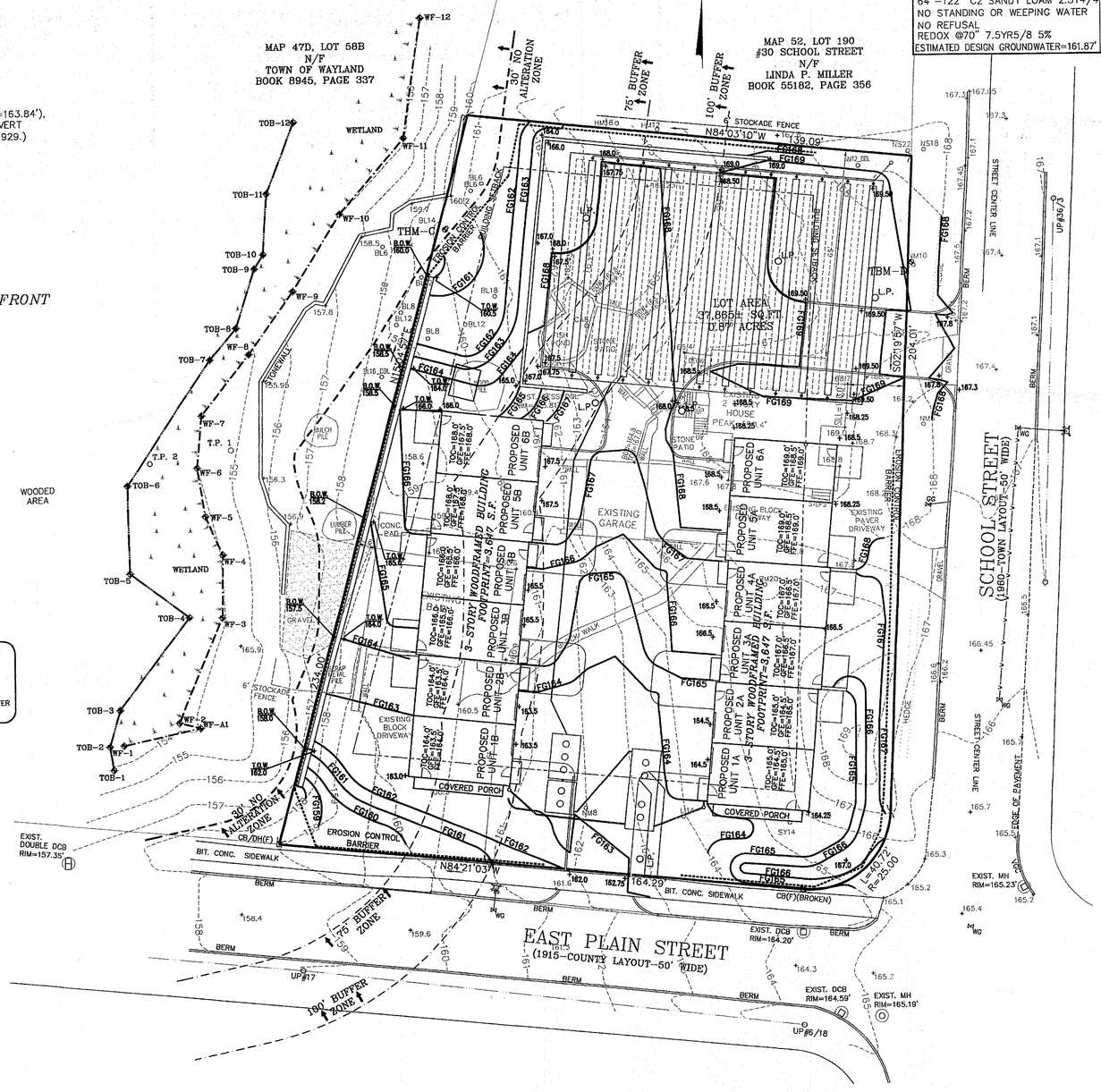
----200----	EXISTING GRADING
————	EXISTING OVERHEAD WIRE



SOIL LOGS No: SOIL TEST RESULTS

DTH–1 ELEV=165.7'	DTH–2 ELEV=165.9'	DTH–3 ELEV=161.7'	DTH–4 ELEV=164.1'	DTH–5 ELEV=162.6'
0"–10" Ap FINE SANDY LOAM 10YR3/3 10"–24" Bw FINE SANDY LOAM 10YR5/6 24"–62" C1 SANDY LOAM 2.5Y5/3 62"–126" C2 SANDY LOAM 2.5Y5/4 NO STANDING OR WEEPING WATER NO REFUSAL, C2 HORIZON IS TIGHT REDOX @70" 7.5YR5/8 5% ESTIMATED DESIGN GROUNDWATER=159.87'	0"–22" Ap FINE SANDY LOAM 10YR3/3 22"–42" Bw FINE SANDY LOAM 10YR5/6 42"–96" C1 SANDY LOAM 2.5Y5/3 96"–118" C2 SILT LOAM 2.5Y6/3 WATER WEEPING @106" NO STANDING WATER, NO REFUSAL REDOX @80" 7.5YR5/8 ESTIMATED DESIGN GROUNDWATER=159.23'	0"–10" Ap FINE SANDY LOAM 10YR3/3 10"–22" Bw FINE SANDY LOAM 10YR5/6 22"–84" C1 SANDY LOAM 2.5Y5/3 84"–110" C2 SILT LOAM 2.5Y6/3 NO STANDING WATER, NO REFUSAL C2 HORIZON IS DAMP REDOX @82" 7.5YR5/8 ESTIMATED DESIGN GROUNDWATER=154.87'	0"–20" FILL 20"–28" Ap FINE SANDY LOAM 10YR3/3 28"–40" Bw FINE SANDY LOAM 10YR5/6 40"–86" C1 SANDY LOAM 2.5Y5/4 86"–116" C2 SANDY LOAM 2.5Y4/4 NO REFUSAL, NO STANDING OR WEEPING WATER NO REDOX ESTIMATED DESIGN GROUNDWATER=NONE	0"–16" Ap FINE SANDY LOAM 10YR3/3 16"–34" Bw FINE SANDY LOAM 10YR5/6 34"–84" C1 SANDY LOAM 2.5Y5/4 84"–118" C2 SANDY LOAM 2.5Y4/3 WEEPING WATER @112" NO REFUSAL REDOX @72" 7.5YR5/8 ESTIMATED DESIGN GROUNDWATER=156.6'

DATE: JULY 31, 2014

BY: BRIAN T. NELSON, SOIL EVALUATOR (METROWEST ENGINEERING, INC.)

INSPECTOR: BILL MURPHY, WAYLAND BOARD OF HEALTH

SOIL LOGS No: SOIL TEST RESULTS

DTH–6 ELEV=167.7'	DTH–7 ELEV=166.8'	DTH–8 ELEV=168.2'	DTH–9 ELEV=163.8'	DTH–10 ELEV=160.75'
0"–14" Ap FINE SANDY LOAM 10YR3/3 14"–26" Bw FINE SANDY LOAM 10YR5/6 26"–64" C1 SANDY LOAM 2.5Y5/3 64"–122" C2 SANDY LOAM 2.5Y4/4 NO STANDING OR WEEPING WATER NO REFUSAL REDOX @70" 7.5YR5/8 5% ESTIMATED DESIGN GROUNDWATER=161.87'	0"–14" Ap FINE SANDY LOAM 10YR3/3 14"–32" Bw FINE SANDY LOAM 10YR5/6 32"–58" C1 SANDY LOAM 2.5Y5/3 58"–114" C2 SANDY LOAM 2.5Y5/4 NO STANDING OR WEEPING WATER LENSES OF SILT LOAM FROM 76" DOWN ESTIMATED DESIGN GROUNDWATER=NONE	0"–26" FILL 26"–40" Bw FINE SANDY LOAM 10YR5/6 40"–78" C1 SANDY LOAM 2.5Y5/4 78"–108" C2 LOAMY SAND 2.5Y5/3 108"–126" C3 SILT LOAM 2.5Y6/3 C3 HORIZON IS DAMP NO REFUSAL REDOX @80" 7.5YR5/8 10% ESTIMATED DESIGN GROUNDWATER=161.53'	0"–16" Ap FINE SANDY LOAM 10YR3/3 16"–30" Bw FINE SANDY LOAM 10YR5/6 30"–46" Bc SANDY LOAM 2.5Y5/4 46"–98" C1 SANDY LOAM 2.5Y5/3 98"–118" C2 SANDY LOAM 2.5Y4/4 WATER STANDING @108" WATER WEEPING @88" REDOX SEEN @62", NO REFUSAL ESTIMATED DESIGN GROUNDWATER=158.63'	0"–15" Ap FINE SANDY LOAM 10YR3/3 15"–30" Bw FINE SANDY LOAM 10YR5/6 30"–66" C1 LOAMY SAND 2.5Y5/3 66"–112" C2 SILT LOAM 2.5Y5/4 WATER STANDING @100" WATER WEEPING @98" NO REFUSAL REDOX SEEN @68" 7.5YR5/8 10% ESTIMATED DESIGN GROUNDWATER=155.08'
			DTH–11 ELEV=166.0'	DTH–12 ELEV=168.2'
			0"–18" FILL 18"–30" Ap FINE SANDY LOAM 10YR3/3 30"–36" Bw FINE SANDY LOAM 10YR5/6 36"–58" C1 SANDY LOAM 2.5Y5/3 58"–128" C2 SANDY LOAM 2.5Y6/3 WATER STANDING @125" NO WEEPING WATER REDOX SEEN @60" 7.5YR5/8 5% ESTIMATED DESIGN GROUNDWATER=161.0'	0"–54" FILL 58"–82" C1 SANDY LOAM 2.5Y4/4 82"–114" C2 SANDY LOAM 2.5Y5/4 C2 HORIZON HAS LENSES OF SILT LOAM NO STANDING OR WEEPING WATER NO REFUSAL REDOX SEEN @64" 7.5YR5/8 ESTIMATED DESIGN GROUNDWATER=161.0'

DATE: AUGUST 21, 2014

BY: BRIAN T. NELSON, SOIL EVALUATOR (METROWEST ENGINEERING, INC.)

INSPECTOR: JULIA JUNGHANNS, WAYLAND BOARD OF HEALTH

PERCOLATION

NO.	DEPTH	RATE	DATE	BY	INSP.
PT–1	60"	8 MPI	07/31/14	B.N.	B.M.
PT–2	68"	13 MPI	07/31/14	B.N.	B.M.
PT–3	50"	10 MPI	07/31/14	B.N.	B.M.
PT–4	55"	MPI	07/31/14	B.N.	B.M.
PT–5	60"	MPI	07/31/14	B.N.	B.M.

PERCOLATION

NO.	DEPTH	RATE	DATE	BY	INSP.
PT–5	54"	10 MPI	08/21/14	B.N.	J.J.
PT–6	60"	3 MPI	08/21/14	B.N.	J.J.

APPROXIMATE EARTHWORK CALCULATIONS:

TOTAL FILL= 3,192 C.Y.
TOTAL CUT= 361 C.Y.

NET EARTHWORK= 2,831 C.Y. (CUT)

EARTHWORK ACTIVITIES EXEMPTED BY BYLAW

FOUNDATION BUILDING A – 28 CUBIC YARDS (CUT)
INFILTRATION SYSTEM – 208 CUBIC YARDS (CUT)
GENERAL EARTHWORK – 125 CUBIC YARDS (CUT)
FOUNDATION BUILDING A – 57 CUBIC YARDS (FILL)
FOUNDATION BUILDING A – 765 CUBIC YARDS (FILL)
EXISTING HOUSE – 274 CUBIC YARDS (FILL)
GENERAL EARTHWORK – 2,096 CUBIC YARDS (FILL)

COMMONWEALTH OF MASSACHUSETTS ROBERT A. GEMMA No. 37046 PROFESSIONAL LAND SURVEYOR
COMMONWEALTH OF MASSACHUSETTS ROBERT A. GEMMA No. 31967 REGISTERED PROFESSIONAL ENGINEER

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
20 0 10 20 40 (FEET) 80
0 4 10 20 (METERS) 30

PROPOSED GRADING PLAN
#24 SCHOOL STREET
IN
WAYLAND, MASS
(MIDDLESEX COUNTY)

PREPARED FOR:
WINDSOR PLACE LLC
73 PELHAM ISLAND ROAD
WAYLAND, MA 01778

PROPERTY OF:
WINDSOR PLACE LLC
73 PELHAM ISLAND ROAD
WAYLAND, MA 01778

ENGINEERS & SURVEYORS:
MWE
METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
WAYLAND, MA 01702
TEL.: (508)626–0063
FAX: (508)875–6440

SHEET 2 OF 6		DATE: SEPTEMBER 6, 2017
CALC'D BY: BTN	FIELD BK: 621	CAD FILE: PROP_SITE_3_R3.dwg
DRAFTER: BTN	PROJECT: WY_SCH	DWG FILE: SP090617.dwg

NOTES:

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 52, LOT 189. RECORD TITLE FROM BOOK 69050, PAGE 394.

2. UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE– AND BELOW–GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY, RECORD PLAN LOCATIONS, OR DIGSAFE PAINT–INDICATORS. METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN–MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.

3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB–SURFACE UTILITIES AND MAN–MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.

4. THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25017C0528F, BEARING AN EFFECTIVE DATE OF JULY 7, 2014.

BENCHMARKS

ELEVATIONS SHOWN ON THIS PLAN REFER TO RM 11 (ELEV.=163.84'), A CHISELED SQUARE IN THE NORTH HEADWALL OF THE CULVERT UNDER COMMONWEALTH ROAD FOR SNAKE BROOK N.G.V.D. 1929.)

T.B.M.	DESCRIPTION	ELEVATION
C	DHN SET IN 14" BLACK LOCUST	161.89'
D	DHN SET IN 10" NORWAY MAPLE	168.74'

CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG–SAFE BEFORE YOU DIG 811.

ZONING:

RESIDENCE ZONE 20,000 – 120' FRONT

MINIMUM LOT AREA= $20{,}000^{15}$ S.F.
MINIMUM LOT COVERAGE= 20%
MINIMUM FRONTAGE= 200 FT.
SETBACKS:
FRONT LOT LINE= 30^{2} FT.
FRONT ROW CENTER LINE= 55 FT.
SIDE YARD= 15^{3} FT.
REAR YARD=30 FT.
MAX. HEIGHT = 35 FT./2½ STORIES

2) IF §198–702 SHALL REQUIRE A GREATER SETBACK OR PERMIT A LESSER SETBACK, THE PROVISIONS OF SAID §198–702 SHALL PREVAIL OVER THIS TABLE.

3) SIDE YARDS SHALL MEET THE REQUIREMENTS OF §§198–702.4 AND 703.2, AND THE REQUIRED MINIMUM SIDE YARD MAY BE REDUCED IN ACCORDANCE WITH PROVISIONS OF §198–703.2

15) MINIMUM FRONT YARD WIDTH SHALL BE CALCULATED IN ACCORDANCE WITH THE REQUIREMENTS OF §198–705.1 OF THE ZONING BYLAW.

EXISTING TREE DESCRIPTION LEGEND

CODE	DESCRIPTION
BL#	BALCK LOCUST
CA#	CRAB APPLE
HM#	HEMLOCK
LI#	LINDEN
NM#	NORWAY MAPLE
NS#	NORWAY SPRUCE
RM#	RED MAPLE
SY#	SYCAMORE

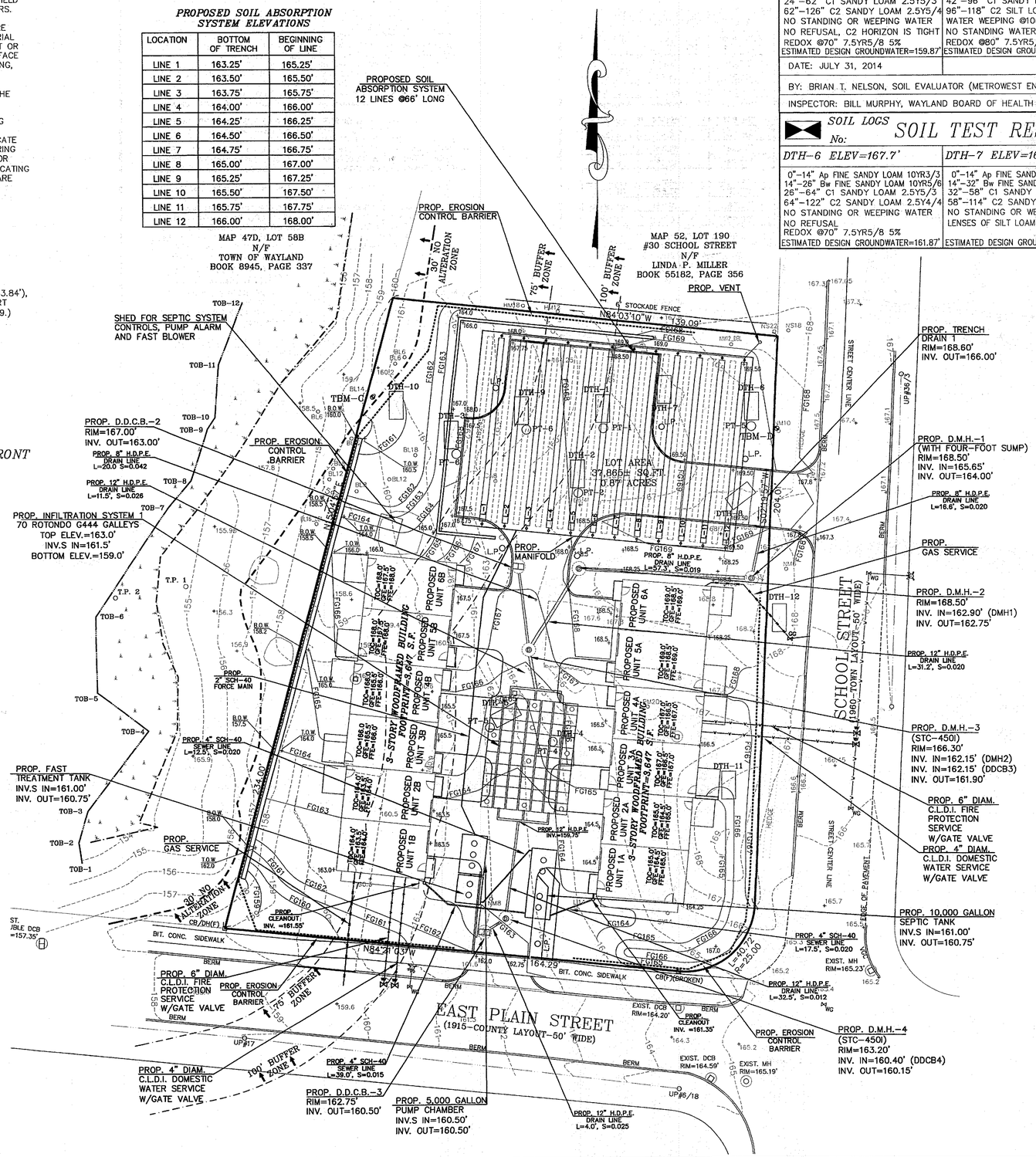
DETAIL
TREE LOCATION
RO14
TREE CODE — TREE DIAMETER

LEGEND

DCB	DRAIN CATCH BASIN
HM	MANHOLE
WG	WATER GATE
GG	GAS GATE
	HYDRANT
U.P.	UTILITY POST
DH	DRILL HOLE
(F)	FOUND
CB	CONCRETE BOUND
SB	STONE BOUND
WF	WETLAND FLAG
E.M.	ELECTRIC METER
G.M.	GAS METER
N/F	NOW OR FORMERLY
+200.0	EXISTING SPOT GRADE
----200----	EXISTING GRADING
----------	EXISTING OVERHEAD WIRE

PROPOSED SOIL ABSORPTION SYSTEM ELEVATIONS

LOCATION	BOTTOM OF TRENCH	BEGINNING OF LINE
LINE 1	163.25'	165.25'
LINE 2	163.50'	165.50'
LINE 3	163.75'	165.75'
LINE 4	164.00'	166.00'
LINE 5	164.25'	166.25'
LINE 6	164.50'	166.50'
LINE 7	164.75'	166.75'
LINE 8	165.00'	167.00'
LINE 9	165.25'	167.25'
LINE 10	165.50'	167.50'
LINE 11	165.75'	167.75'
LINE 12	166.00'	168.00'



SOIL LOGS No: SOIL TEST RESULTS

DTH–1 ELEV=165.7'	DTH–2 ELEV=165.9'	DTH–3 ELEV=161.7'	DTH–4 ELEV=164.1'	DTH–5 ELEV=162.6'
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DATE: JULY 31, 2014

BY: BRIAN T. NELSON, SOIL EVALUATOR (METROWEST ENGINEERING, INC.)

INSPECTOR: BILL MURPHY, WAYLAND BOARD OF HEALTH

SOIL LOGS No: SOIL TEST RESULTS

DTH–6 ELEV=167.7'	DTH–7 ELEV=166.8'	DTH–8 ELEV=168.2'	DTH–9 ELEV=163.8'	DTH–10 ELEV=160.75'
0"–14" Ap FINE SANDY LOAM 10YR3/3 14"–26" Bw FINE SANDY LOAM 10YR5/6 26"–64" C1 SANDY LOAM 2.5Y5/3 64"–122" C2 SANDY LOAM 2.5Y4/4 NO STANDING OR WEEPING WATER NO REFUSAL REDOX @70" 7.5YR5/8 5% ESTIMATED DESIGN GROUNDWATER=161.87'	0"–14" Ap FINE SANDY LOAM 10YR3/3 14"–32" Bw FINE SANDY LOAM 10YR5/6 32"–58" C1 SANDY LOAM 2.5Y5/4 58"–114" C2 SANDY LOAM 2.5Y5/4 NO STANDING OR WEEPING WATER LENSES OF SILT LOAM FROM 76" DOWN ESTIMATED DESIGN GROUNDWATER=NONE	0"–26" FILL 26"–40" Bw FINE SANDY LOAM 10YR5/6 40"–78" C1 SANDY LOAM 2.5Y5/4 78"–108" C2 LOAMY SAND 2.5Y5/3 108"–126" C3 SILT LOAM 2.5Y6/3 C3 HORIZON IS DAMP NO REFUSAL REDOX @80" 7.5YR5/8 10% ESTIMATED DESIGN GROUNDWATER=161.53'	0"–16" Ap FINE SANDY LOAM 10YR3/3 16"–30" Bw FINE SANDY LOAM 10YR5/6 30"–46" Bc SANDY LOAM 2.5Y5/4 46"–98" C1 SANDY LOAM 2.5Y5/3 98"–118" C2 SANDY LOAM 2.5Y4/4 WATER STANDING @108" WATER WEEPING @88" REDOX SEEN @62", NO REFUSAL ESTIMATED DESIGN GROUNDWATER=158.63'	0"–15" Ap FINE SANDY LOAM 10YR3/3 15"–30" Bw FINE SANDY LOAM 10YR5/6 30"–66" C1 LOAMY SAND 2.5Y5/3 66"–112" C2 SILT LOAM 2.5Y5/4 WATER STANDING @100" WATER WEEPING @98" NO REFUSAL REDOX SEEN @68" 7.5YR5/8 10% ESTIMATED DESIGN GROUNDWATER=155.08'
DTH–11 ELEV=166.0'	**DTH–12 ELEV=168.2'**			
0"–18" FILL 18"–30" Ap FINE SANDY LOAM 10YR3/3 30"–36" Bw FINE SANDY LOAM 10YR5/6 36"–58" C1 SANDY LOAM 2.5Y5/3 58"–128" C2 SANDY LOAM 2.5Y6/3 WATER STANDING @125" NO WEEPING WATER REDOX SEEN @60" 7.5YR5/8 5% ESTIMATED DESIGN GROUNDWATER=161.0'	0"–54" FILL 58"–82" C1 SANDY LOAM 2.5Y4/4 82"–114" C2 SANDY LOAM 2.5Y5/4 C2 HORIZON HAS LENSES OF SILT LOAM NO STANDING OR WEEPING WATER NO REFUSAL REDOX SEEN @64" 7.5YR5/8 ESTIMATED DESIGN GROUNDWATER=161.0'			

DATE: AUGUST 21, 2014

BY: BRIAN T. NELSON, SOIL EVALUATOR (METROWEST ENGINEERING, INC.)

INSPECTOR: JULIA JUNGHANNS, WAYLAND BOARD OF HEALTH

PERCOLATION

NO.	DEPTH	RATE	DATE	BY	NSP.
PT–1	60"	8 MPI	07/31/14	B.N.	B.M.
PT–2	68"	13 MPI	07/31/14	B.N.	B.M.
PT–3	50"	10 MPI	07/31/14	B.N.	B.M.
PT–4	55"	MPI	07/31/14	B.N.	B.M.
PT–5	60"	MPI	07/31/14	B.N.	B.M.

PERCOLATION

NO.	DEPTH	RATE	DATE	BY	NSP.
PT–5	54"	10 MPI	08/21/14	B.N.	J.J.
PT–6	60"	3 MPI	08/21/14	B.N.	J.J.

COMMONWEALTH OF MASSACHUSETTS ROBERT A. GEMMA No. 37046 PROFESSIONAL LAND SURVEYOR

COMMONWEALTH OF MASSACHUSETTS ROBERT A. GEMMA No. 31967 REGISTERED PROFESSIONAL ENGINEER

9/5/17

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
20 0 10 20 40 (FEET) 80
0 4 10 20 (METERS) 30

PROPOSED SITE PLAN
#24 SCHOOL STREET
IN
WAYLAND, MASS
(MIDDLESEX COUNTY)

PREPARED FOR:
WINDSOR PLACE LLC
73 PELHAM ISLAND ROAD
WAYLAND, MA 01778

PROPERTY OF:
WINDSOR PLACE LLC
73 PELHAM ISLAND ROAD
WAYLAND, MA 01778

ENGINEERS & SURVEYORS:
MWE
METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
WAYLAND, MA 01702
TEL.: (508)626–0063
FAX: (508)875–6440

SHEET 3 OF 6		DATE: SEPTEMBER 6, 2017
CALC'D BY: BTN	FIELD BK: 621	CAD FILE: PROP_SITE_3_R3.dwg
DRAFTER: BTN	PROJECT: WY_SCH	DWG FILE: SP090617.dwg

NOTES:

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 52, LOT 189. RECORD TITLE FROM BOOK 69050, PAGE 394.

2. UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY, RECORD PLAN LOCATIONS, OR DIGSAFE PAINT-INDICATORS. METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.

3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.

4. THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25017C0528F, BEARING AN EFFECTIVE DATE OF JULY 7, 2014.

BENCHMARKS

ELEVATIONS SHOWN ON THIS PLAN REFER TO RM 11 (ELEV.=163.84'), A CHISELED SQUARE IN THE NORTH HEADWALL OF THE CULVERT UNDER COMMONWEALTH ROAD FOR SNAKE BROOK N.G.V.D. 1929.)

T.B.M.	DESCRIPTION	ELEVATION
C	DHN SET IN 14" BLACK LOCUST	161.89'
D	DHN SET IN 10" NORWAY MAPLE	168.74'

CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.

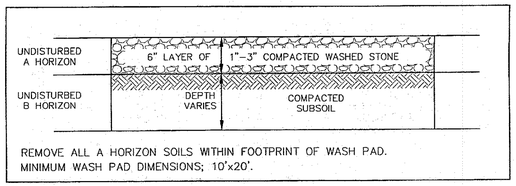
ZONING:

RESIDENCE ZONE 20,000 – 120' FRONT

MINIMUM LOT AREA= 20,000[15] S.F.
MINIMUM LOT COVERAGE= 20%
MINIMUM FRONTAGE= 200 FT.
SETBACKS:
FRONT LOT LINE= 30[2] FT.
FRONT ROW CENTER LINE= 55 FT.
SIDE YARD= 15[3] FT.
REAR YARD=30 FT.
MAX. HEIGHT = 35 FT./2½ STORIES

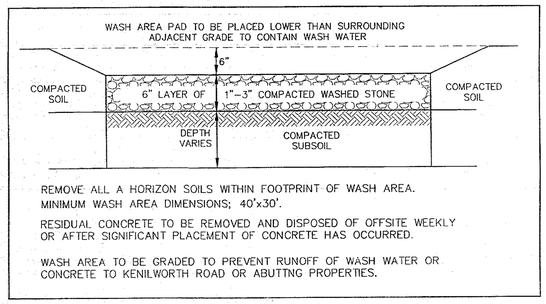
STONE WASH PAD

NOT TO SCALE



CONCRETE TRUCK WASH AREA

NOT TO SCALE



EROSION CONTROL NOTES:

1.) CONTRACTOR SHALL MODIFY SEDIMENTATION CONTROLS AS NECESSARY DURING CONSTRUCTION.

2.) CONTRACTOR SHALL INSPECT AND CLEAN ALL SILTATION CONTROL MEASURES ON A WEEKLY BASIS AND AFTER ALL STORMS WITH A PRECIPITATION AMOUNT IN EXCESS OF 1". CONTRACTOR SHALL IMMEDIATELY REPAIR ANY DEFICIENCIES FOUND ON SILTATION CONTROL MEASURES.

3.) CONTRACTOR SHALL MAINTAIN AN INVENTORY OF EMERGENCY SUPPLIES ON SITE IN A PROTECTED LOCATION INCLUDING, BUT NOT LIMITED TO HAYBALES, SILT FENCE, WASHED STONE, PVC PIPE, MULCH AND SEED.

4.) ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED BEFORE OR THROUGH THE WINTER TO ELIMINATE DESTABILIZATION OR SILTATION DURING THE SPRING THAW.

5.) ANY RELEASE OF WATER FROM TEMPORARY SILTATION PONDS SHALL BE FREE OF SILT AND SEDIMENT AND SHALL MEET WATER QUALITY STANDARDS FOR CLASS B WATER IN THE COMMONWEALTH OF MASSACHUSETTS.

6.) IF GROUNDWATER DE-WATERING IS REQUIRED, CONTRACTOR SHALL IMPLEMENT A FILTERING SYSTEM FOR PUMPED GROUNDWATER TO REMOVE SILT AND SEDIMENT. THE DIRECT DISCHARGE OF ANY DE-WATERING OPERATION INTO A WETLAND IS PROHIBITED.

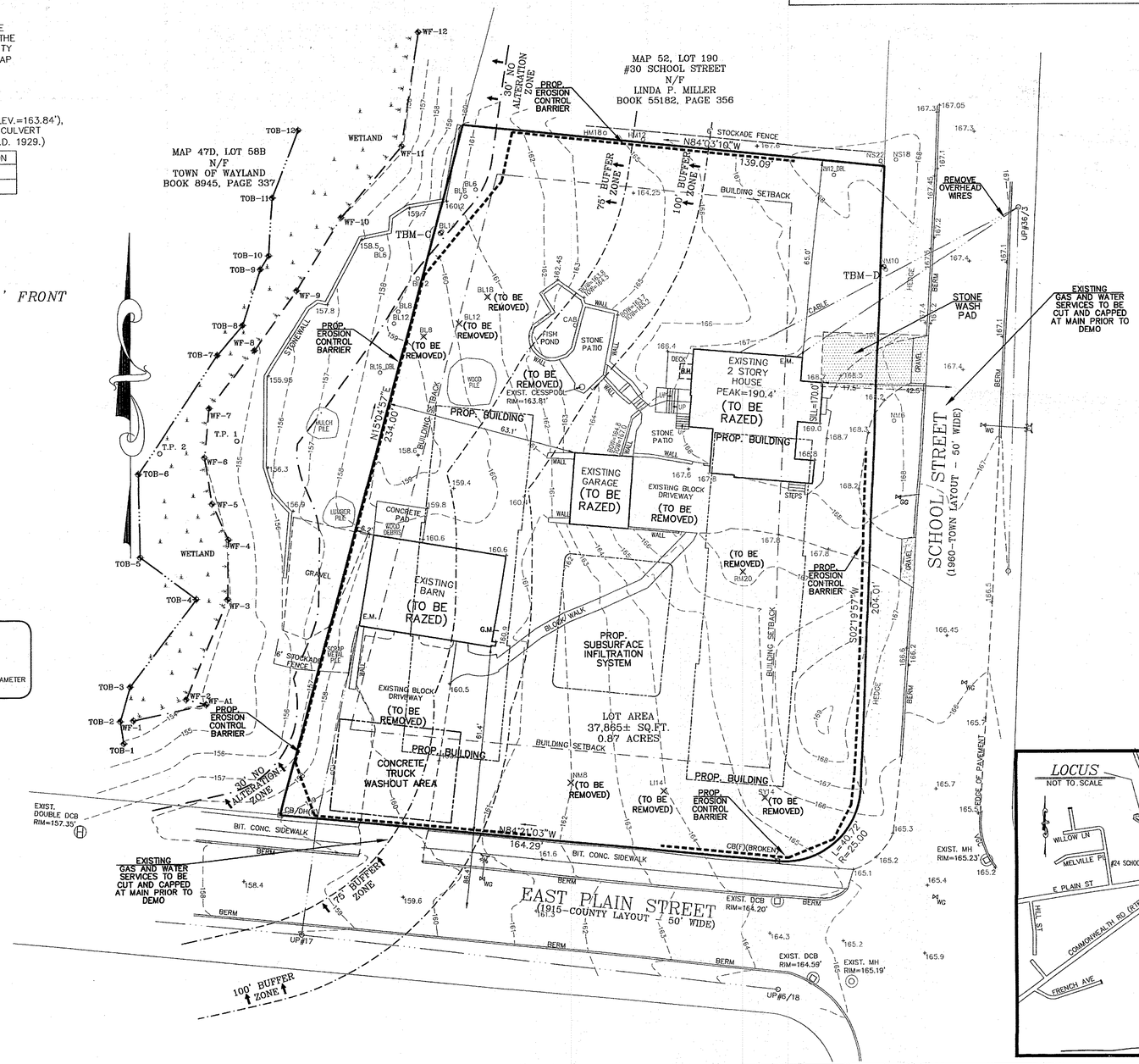
7.) CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL SEDIMENTS WHEN THEY HAVE ACCUMULATED TO A HEIGHT APPROXIMATELY EQUAL TO ONE HALF OF THE HEIGHT OF THE CORRESPONDING EROSION AND SEDIMENTATION CONTROL MEASURE.

8.) CONTRACTOR SHALL KEEP COPIES OF THE EROSION CONTROL PLAN AND INSPECTION REPORTS SO THEY ARE ACCESSIBLE AT ALL TIMES.

9.) CONTRACTOR TO PROTECT ALL DRAINAGE INLETS FROM SILT AND SEDIMENT UNTIL THEIR TRIBUTARY AREAS ARE FULLY STABILIZED.

10.) CONTRACTOR TO SWEEP STREET IN FRONT OF WORK AREA BI-WEEKLY TO PREVENT ACCUMULATION OF SILT AND SEDIMENT ON EAST PLAIN STREET OR SCHOOL STREET.

11. ANY DEWATERING PERFORMED ON SITE REQUIRING A CONNECTION OR DISCHARGE TO THE MUNICIPAL DRAINAGE SYSTEM MUST BE APPROVED BY THE TOWN ENGINEER PRIOR TO DISCHARGE.



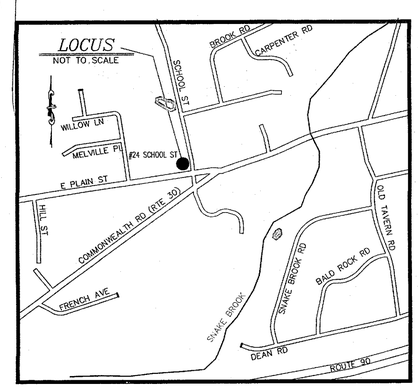
EXISTING TREE DESCRIPTION LEGEND

CODE	DESCRIPTION
BL#	BALCK LOCUST
CA#	CRAB APPLE
HM#	HEMLOCK
LI#	LINDEN
NM#	NORWAY MAPLE
NS#	NORWAY SPRUCE
RM#	RED MAPLE
SY#	SYCAMORE

DETAIL
TREE LOCATION
TREE CODE — RO14 — TREE DIAMETER

LEGEND

DCB	DRAIN CATCH BASIN
HM	MANHOLE
WG	WATER GATE
GG	GAS GATE
	HYDRANT
U.P.	UTILITY POST
DH	DRILL HOLE
(F)	FOUND
CB	CONCRETE BOUND
SB	STONE BOUND
WF	WETLAND FLAG
E.M.	ELECTRIC METER
G.M.	GAS METER
N/F	NOW OR FORMERLY
+ 200.0	EXISTING SPOT GRADE
—200—	EXISTING GRADING
	EXISTING OVERHEAD WIRE



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
(FEET) 20 0 10 20 40 80
(METERS) 0 4 10 20 30

EROSION AND SEDIMENT CONTROL PLAN
#24 SCHOOL STREET
IN
WAYLAND, MASS

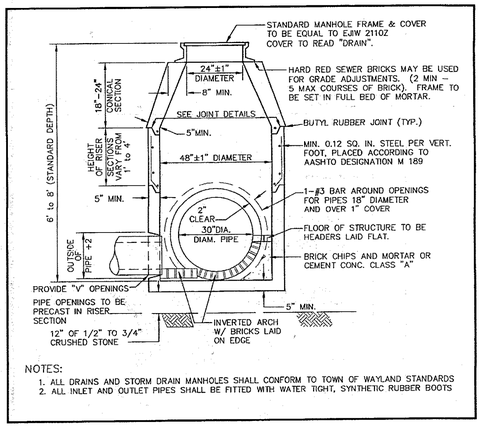
PREPARED FOR:
WINDSOR PLACE LLC
73 PELHAM ISLAND ROAD
WAYLAND, MA 01778

PROPERTY OF:
WINDSOR PLACE LLC
73 PELHAM ISLAND ROAD
WAYLAND, MA 01778

ENGINEERS & SURVEYORS:
MWE
METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TEL.: (508)626-0063
FAX: (508)875-6440

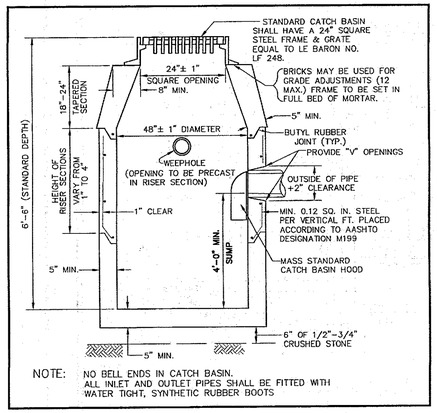
SHEET 4 OF 6		DATE: SEPTEMBER 6, 2017
CALC'D BY: RAG	FIELD BK: 621	CAD FILE: PROP._EROSION_CONTROL_R1.dwg
DRAFTER:	PROJECT: WY_SCH	DWG FILE: SP090617.dwg

PRECAST CONCRETE DRAIN MANHOLE
NOT TO SCALE



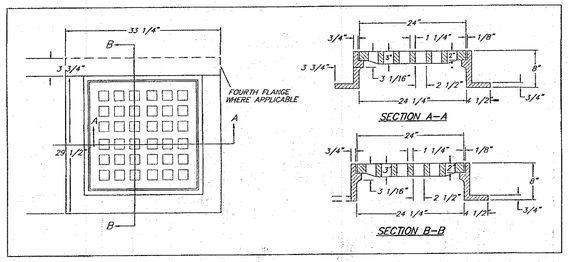
NOTES:
1. ALL DRAINS AND STORM DRAIN MANHOLES SHALL CONFORM TO TOWN OF WAYLAND STANDARDS
2. ALL INLET AND OUTLET PIPES SHALL BE FITTED WITH WATER TIGHT, SYNTHETIC RUBBER BOOTS

PRECAST CONCRETE CATCH BASIN
NOT TO SCALE



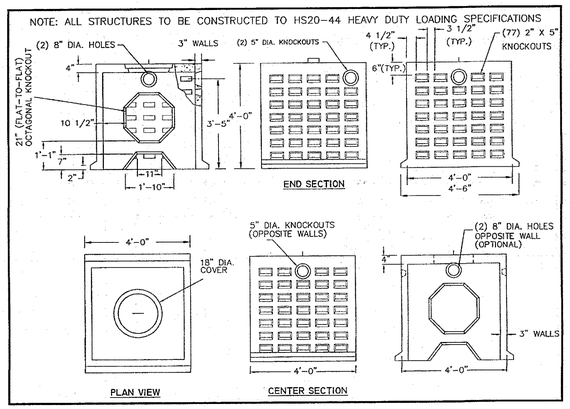
NOTE: NO BELL ENDS IN CATCH BASIN. ALL INLET AND OUTLET PIPES SHALL BE FITTED WITH WATER TIGHT, SYNTHETIC RUBBER BOOTS

SQUARE CATCH BASIN FRAME & GRATE
NOT TO SCALE

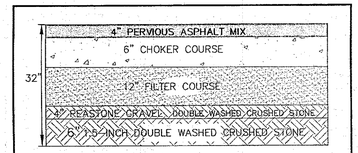


DRAINAGE INFILTRATION LEACHING GALLEYS
NOT TO SCALE

NOTE: ALL STRUCTURES TO BE CONSTRUCTED TO HS20–44 HEAVY DUTY LOADING SPECIFICATIONS



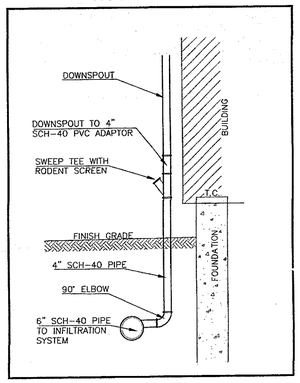
POROUS PAVEMENT
NOT TO SCALE



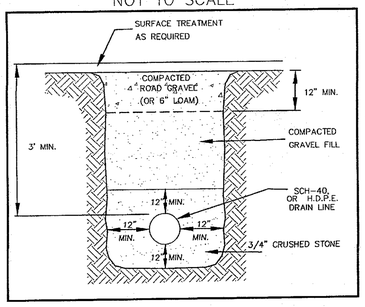
US STANDARD SIEVE SIZE	PERCENT PASSING (%)		
INCHES/MM	CHOKER COURSE (AASHTO NO. 57)	FILTER COURSE (MODIFIED NHDOT304.1)	RESERVOIR COURSE (AASHTO NO. 3)
6/150		100	
2½/63			100
2/50			90–100
1½/37.5	100		35–70
1/25	95–100		0–15
¾/19			
½/12.5	25–60		0–5
3/8/9.5			
#4/4.75	0–10	70–100	
#8/2.36	0–5		
#200/0.075		0–5**	
% COMPACTION ASTM D698/ AASHTO T99	95	95	95

** PREFERABLY LESS THAN 4% FINES

DOWNSPOUT DETAIL
NOT TO SCALE



TYPICAL DRAIN LINE TRENCH
NOT TO SCALE

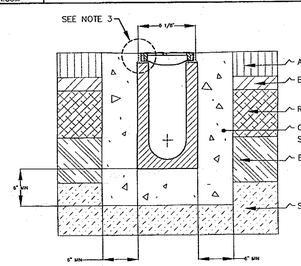


DRIVEWAY TRENCH DRAIN
NOT TO SCALE

ACO drain — INSTALLATION DRAWING — S100K: Load Class E : Asphalt

DRWG# 1251 Date: 1.04.01 — WWW.ACOUSA.COM

ACO Polymer Products Inc. P.O. Box 245 Chardon, OH 44024 PH: 440-285-7000 FX: 440-285-8517 e-mail: sales@acousa.com



NOTES:
1. It is necessary to ensure the minimum dimensions shown are suitable for the existing ground conditions. Engineering advice may be required.
2. A minimum concrete strength of 3000 PSI is recommended. The concrete should be vibrated to eliminate air pockets.
3. The finished level of the concrete surround must be approx. 1/8" above the top of the channel edge.
4. Refer to ACO'S latest installation instructions for complete details.

ACO drain — SPECIFICATION CLAUSE — S100K Trench Drain System

DRWG# 1251 Date: 1.04.01 — WWW.ACOUSA.COM

ACO Polymer Products Inc. P.O. Box 245 Chardon, OH 44024 PH: 440-285-7000 FX: 440-285-8517 e-mail: sales@acousa.com

The surface drainage system shall be polymer concrete S100K channel system with ductile iron roll and grate as manufactured by ACO Polymer Products, Inc., Chardon, Oh.

Channels will be manufactured from polyester resin polymer concrete with an integrally cast in ductile iron roll and supplied with ductile iron grates.

The system shall be 4 inches (100mm) nominal inside width with a 6.3 in. (160mm) overall width and a built-in slope of 0.6%. All channelsshall be interlocking with a male/female joint. Each channel shall have a 4.5 in. (114mm) schedule 40 and 6 in. (150mm) oval drill-out on the bottom for vertical connection with underground piping.

The complete drainage system shall be by ACO Polymer Products, Inc. Any deviation or partial system design and/or improper installation willvoid any and all warranties provided by ACO Polymer Products, Inc.

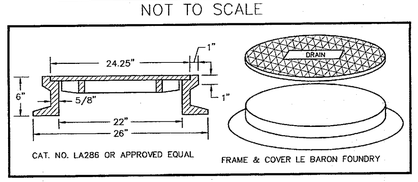
The channel sytem shall be independantly certified to withstand loadings to load class F (DIN19580). Grates shall be secured using "Powerlok"Boltless locking system. Grate and Locking system shall be fully removable from channel.

Polymer Concrete shall have material properties of: compressive strength range between 14,000–14,500 psi, flexural strength between 3600–4500 psi; tensile strength of 1500 psi. The material water absorption rate shall not exceed 0.1% by weight and shall be resistant to prolonged salt exposure, repetitive frost cycles and chemically resistant to dilute acids and alkalis.

The system shall be installed in accordance with the manufacturer's instructions and recommendations.

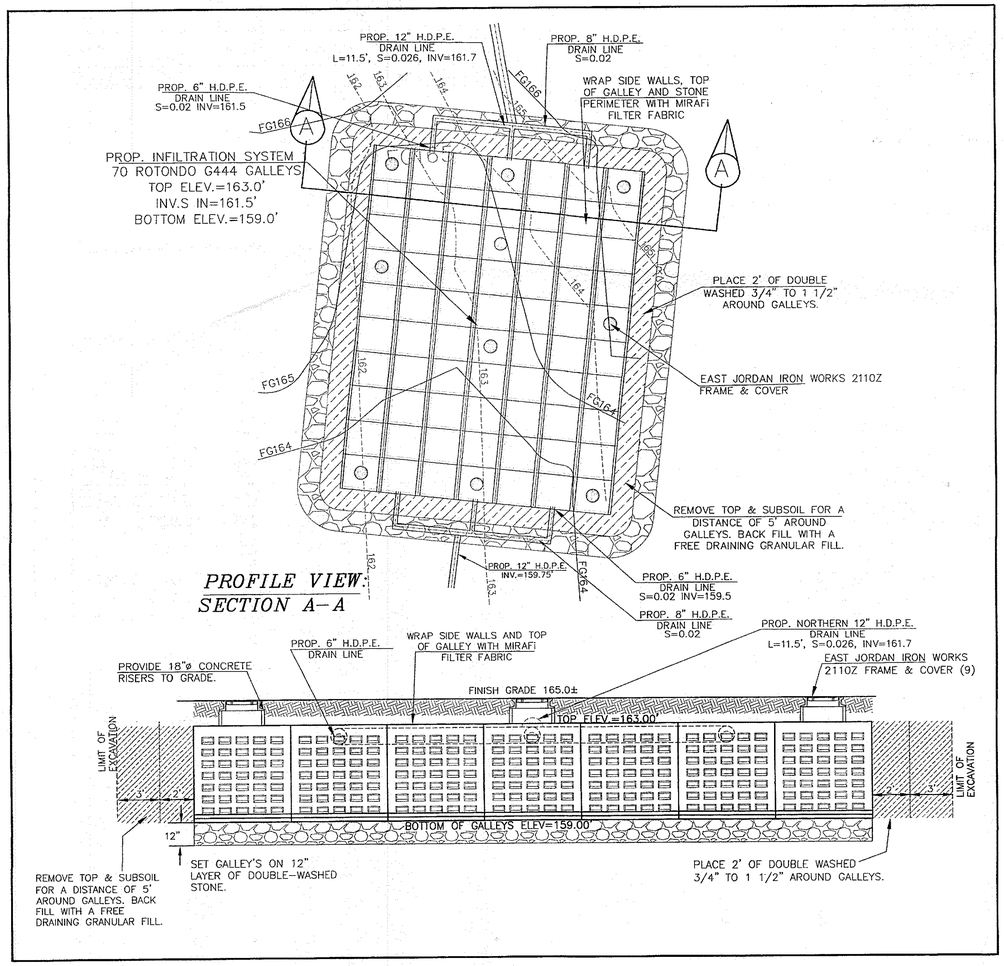
USE ACO POWER DRAIN MODEL S–100K OR EQUIVALENT

STANDARD DRAIN MANHOLE FRAME & COVER
NOT TO SCALE

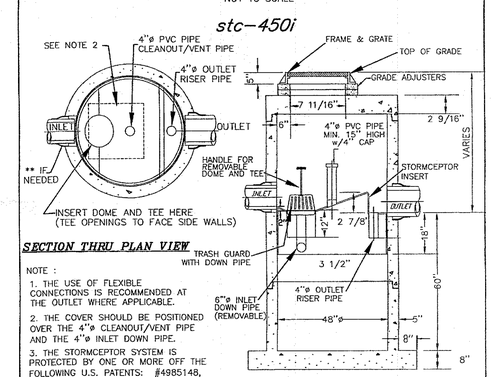


CAT. NO. LA286 OR APPROVED EQUAL — FRAME & COVER LE BARON FOUNDRY

PROPOSED INFILTRATION SYSTEM 1
NOT TO SCALE



STORMCEPTOR
NOT TO SCALE



NOTE :
1. THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE OUTLET WHERE APPLICABLE.
2. THE COVER SHOULD BE POSITIONED OVER THE 4"ø CLEANOUT/VENT PIPE AND THE 4"ø INLET DOWN PIPE.
3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OFF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5753115, #5849181.
4. CONTRACTOR TO PROVIDE CRANE TO SET UNIT (HEAVIEST SECTION WEIGHS 5000 LB)

COMMONWEALTH OF MASSACHUSETTS — ROBERT A. GEMMA No. 37046 — PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS — ROBERT A. GEMMA No. 31967 — REGISTERED PROFESSIONAL SURVEYOR

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

PROPOSED DETAILS PLAN
#24 SCHOOL STREET
IN
WAYLAND, MASS
(MIDDLESEX COUNTY)

PREPARED FOR: WINDSOR PLACE LLC, 73 PELHAM ISLAND ROAD, WAYLAND, MA 01778

PROPERTY OF: WINDSOR PLACE LLC, 73 PELHAM ISLAND ROAD, WAYLAND, MA 01778

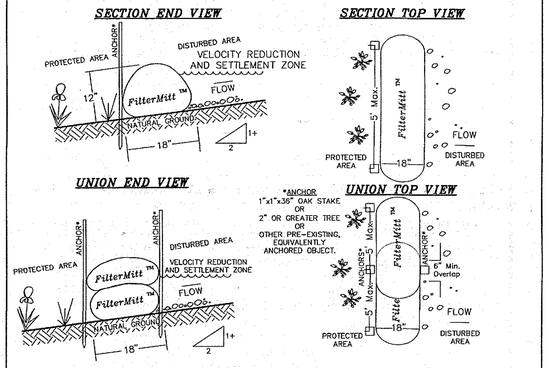
ENGINEERS & SURVEYORS: MWE — METROWEST ENGINEERING, INC., 75 FRANKLIN STREET, WAYLAND, MA 01702, TEL.: (508)626-0063, FAX: (508)875-6440

SHEET 5 OF 6		DATE: SEPTEMBER 6, 2017
CALC'D BY: BTN	FIELD BK: 621	CAD FILE: PROP_SITE_3_R3.dwg
DRAFTER: BTN	PROJECT: WY_SCH	DWG FILE: SP090617.dwg

EROSION CONTROL BARRIER

NOT TO SCALE

FilterMitt™ **by Groundscapes Express, Inc.**
2:1 SLOPES OR GREATER



USE 18-INCH DIAMETER FILTER MITT.

***FilterMitt*™ COMPONENTS:**

OUTSIDE CASING: 100% organic hessian.

FILLER INGREDIENT: *FiberRoot Mulch*™

- A blend of coarse and fine compost and shredded wood.
- Particle sizes: 100% passing a 3" screen; 90–100% passing a 1" screen; 70–100% passing a 0.75" screen; 30–75% passing a 0.25" screen.
- Weight: Approx. 850 lbs./cu.yd. (Ave. 30 lbs./l.f.)

For more information visit:
www.groundscapesexpress.com
or contact us at:
Groundscapes Express, Inc.
P.O. Box 737
Wrentham, MA 02093
(508) 384-7140

***FilterMitt*™ INSTALLATION:**

With the newest technology and equipment, sections can be constructed on site in lengths from 1' to 100'.

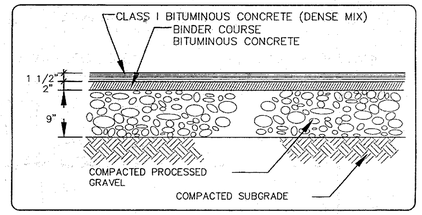
Sections can also be delivered to the site in lengths from 1' to 8'.

The flexibility of *FilterMitt*™ allows it to conform to any contour or terrain while holding a slightly oval shape at 12" high by 18" wide.

Where section ends meet, there shall be an overlap of 6" or greater. Both sides shall be anchored (oak stakes, trees, etc.) to stabilize the union. Additional anchors shall also be placed at 5' intervals (max.) on the downslope or protected side to prevent movement.

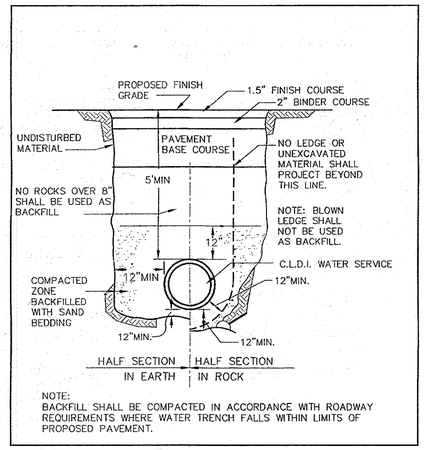
BITUMINOUS CONCRETE PAVEMENT

NOT TO SCALE



WATER MAIN TRENCH DETAIL

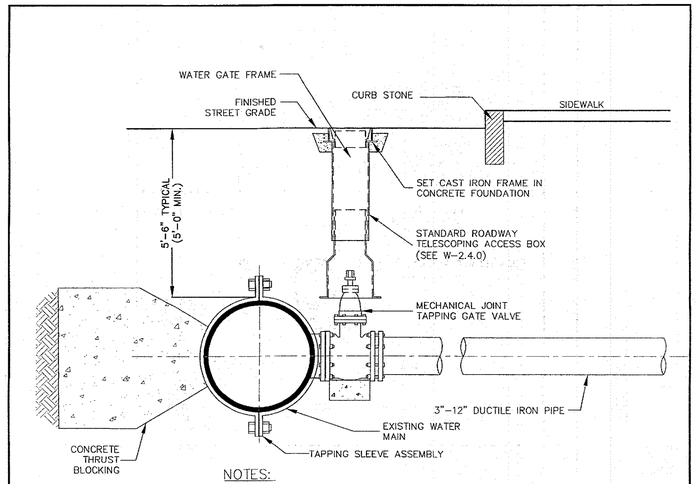
NOT TO SCALE



NOTE:
BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH ROADWAY REQUIREMENTS WHERE WATER TRENCH FALLS WITHIN LIMITS OF PROPOSED PAVEMENT.

TYPICAL DOMESTIC AND FIRE SERVICE CONNECTION

NOT TO SCALE

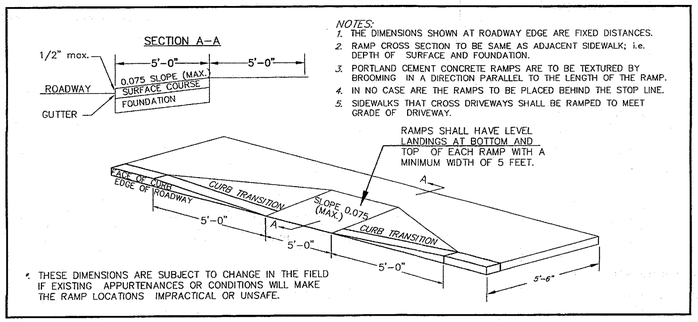


NOTES:

1. MAXIMUM TAPPING SLEEVE SHALL NOT BE GREATER THAN ½ DIAMETER OF CONNECTING MAIN.
2. MEGA LUG RESTRAINTS ON ALL MECHANICAL JOINTS.
3. SEPARATE DOMESTIC AND FIRE SERVICES SHALL BE INSTALLED FROM THE BUILDING SERVICED TO THE PUBLIC WATER MAIN.
4. THE PROPERTY OWNER IS RESPONSIBLE FOR MAINTENANCE OF THE FIRE SERVICE FROM THE BUILDING SERVICED TO THE PUBLIC WATER MAIN

CONCRETE RAMP DETAIL

NOT TO SCALE

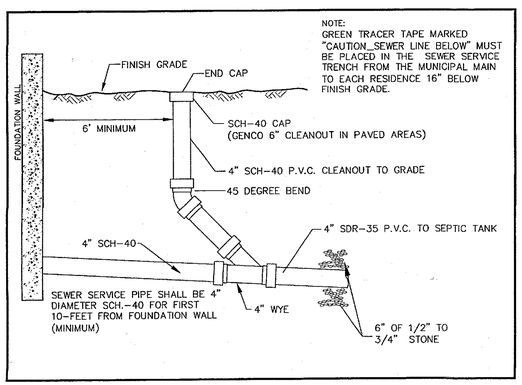


NOTES:
1. THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
2. RAMP CROSS SECTION TO BE SAME AS ADJACENT SIDEWALK; i.e. DEPTH OF SURFACE AND FOUNDATION.
3. PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
4. IN NO CASE ARE THE RAMPS TO BE PLACED BEHIND THE STOP LINE.
5. SIDEWALKS THAT CROSS DRIVEWAYS SHALL BE RAMPED TO MEET GRADE OF DRIVEWAY.

* THESE DIMENSIONS ARE SUBJECT TO CHANGE IN THE FIELD IF EXISTING APPURTENANCES OR CONDITIONS WILL MAKE THE RAMP LOCATIONS IMPRACTICAL OR UNSAFE.

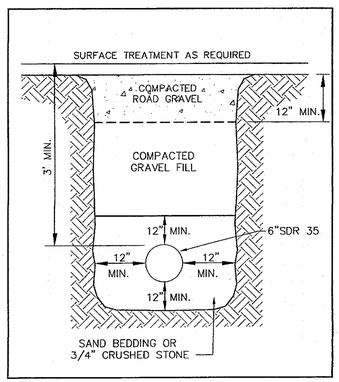
TYPICAL SEWER SERVICE CONNECTION

NOT TO SCALE



TYPICAL SEWER TRENCH

NOT TO SCALE



DRAINAGE MATERIALS NOTES:

PRECAST CONCRETE DRAIN MANHOLE MATERIALS AND INSTALLATION

1.) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS, THE TOWN OF WAYLAND DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
2.) STORMCEPTOR UNITS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
3.)FILTER FABRIC SHALL BE MIRAFI 140N (TENCATE INDUSTRIES) OR APPROVED EQUAL.
4.) MANHOLES SHALL BE CONSTRUCTION OF REINFORCED PRECAST CONCRETE BASE SECTION, BARREL SECTION AND DOME SECTION MEETING THE REQUIREMENTS OF ASTM C78 AND AASHTO M199. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I.
5.) IN CASES WHERE VERTICAL TOLERANCE DOES NOT PERMIT A CONE TOP SECTION, A PRECAST CONCRETE FLAT SECTION MAY BE USED.
6.) MANHOLES SHALL MEET OR EXCEED HS-20 LOADING REQUIREMENTS.
7.) MANHOLES SHALL HAVE A MINIMUM OPENING OF 26-INCHES AND A MINIMUM INSIDE DIAMETER OF FOUR-FEET (4').
7.) MANHOLES SHALL HAVE TONGUE AND GROOVE JOINTS BETWEEN SECTIONS THAT ARE MORTARED OR SEALED WITH BUTYL RUBBER SEALANTS.
8.) PIPE INLETS AND OUTLETS SHALL BE SEALED WITH MORTAR OR RUBBER SEALANTS OR BOOT TYPE CONNECTIONS.
9.) DRAIN MANHOLES SHALL BE PLACED ON A LAYER OF COMPACTED, LEVEL, BEDDING MATERIAL NOT LESS THAN SIX-INCHES IN HEIGHT.
10.) MANHOLE SECTIONS SHALL BE CAREFULLY PLACED SO THAT ALL SECTIONS ARE LEVEL AND PLUMB.
11.) EXCAVATION AROUND THE MANHOLE STRUCTURES SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH (12") LIFTS WITH SUITABLE MATERIALS.
12.) ROAD BASE MATERIAL AND PAVEMENT MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
13.) MANHOLE ACCESS FRAME AND COVER SHALL CONSIST OF EAST JORDAN IRONWORKS 2111A/2111Z FRAME AND COVER.
14.) FRAME AND COVER SHALL BE ADJUSTED TO FINISH GRADE USING LAYERS OF MORTAR AND BRICK.
15.) FRAME AND COVERS SHALL MEET ASTM A888 ANDMADE FROM CLASS 20, GREY CAST IRON.

PRECAST CONCRETE DRAIN CATCH BASIN MATERIALS AND INSTALLATION

1.) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS, THE TOWN OF WAYLAND DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
2.) ALL CATCH BASINS SHALL HAVE A SUMP OF AT LEAST FOUR-FEET (48-INCHES) BELOW THE INVERT OF THE OUTLET PIPE AND SHALL HAVE A HOOD ON OUTLET PIPES.
3.) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
4.) CATCH BASINS SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE BASE SECTION, BARREL SECTION AND DOME SECTION MEETING THE REQUIREMENTS OF ASTM C78 AND AASHTO M199. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I.
5.) IN CASES WHERE VERTICAL TOLERANCE DOES NOT PERMIT A CONE TOP SECTION, A PRECAST CONCRETE FLAT SECTION MAY BE USED.
6.) CATCH BASINS SHALL MEET OR EXCEED HS-20 LOADING REQUIREMENTS.
7.) CATCH BASINS SHALL HAVE A MINIMUM OPENING OF 26-INCHES AND A MINIMUM INSIDE DIAMETER OF FOUR-FEET (4').
7.) CATCH BASINS SHALL HAVE TONGUE AND GROOVE JOINTS BETWEEN SECTIONS THAT ARE MORTARED OR SEALED WITH BUTYL RUBBER SEALANTS.
8.) PIPE INLETS AND OUTLETS SHALL BE SEALED WITH MORTAR OR RUBBER SEALANTS OR BOOT TYPE CONNECTIONS.
9.) DRAIN MANHOLES SHALL BE PLACED ON A LAYER OF COMPACTED, LEVEL, BEDDING MATERIAL NOT LESS THAN SIX-INCHES IN HEIGHT.
10.) CATCH BASIN SECTIONS SHALL BE CAREFULLY PLACED SO THAT ALL SECTIONS ARE LEVEL AND PLUMB.
11.) EXCAVATION AROUND THE MANHOLE STRUCTURED SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH (12") LIFTS WITH SUITABLE MATERIALS.
12.) ROAD BASE MATERIAL AND PAVEMENT MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
13.) MANHOLE ACCESS FRAME AND COVER SHALL CONSIST OF EAST JORDAN IRONWORKS 5523A/5524Z FRAME AND 5520 M5 COVER.
14.) FRAME AND COVER SHALL BE ADJUSTED TO FINISH GRADE USING LAYERS OF MORTAR AND BRICK.

H.D.P.E. DRAIN PIPE MATERIALS AND INSTALLATION

1.) ALL PIPE SHALL CONFORM TO MASSDOT SECTION M5.03.10.
2.) PIPE SHALL BE SMOOTH INTERIOR WALL AND CORRUGATED EXTERIOR WALL AND SHALL BE BELL AND SPIGOT CONNECTION.
3.) PIPE SHALL COMPLY WITH REQUIREMENTS AND MARKINGS FOUND IN AASHTO DESIGNATIONS M252 AND M294.
4.) ALL PIPE SHALL SUPPORT AN HS-20 LIVE LOAD WITH A MAXIMUM DEFLECTION OF 5% OF THE PIPE DIAMETER.
5.) ALL PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN POLYETHYLENE COMPOUNDS WHICH CONFORM TO CURRENT AASHTO CLASSIFICATIONS AND ALSO AS DEFINED IN ASTM D3530.
6.) PIPES SHALL BE CAREFULLY LAID TO LINES AND GRADES AS SHOWN ON DESIGN PLANS.
7.) PIPE BEDDING MATERIAL SHALL BE PLACED TO A DEPTH OF NO LESS THAN SIX-INCHES BELOW THE INVERT OF THE PIPE.
8.) TRENCHES FOR DRAIN LINES SHALL PROVIDE MINIMUM OF TWELVE-INCHES (12") OF HORIZONTAL CLEARANCE FROM SIDES OF PIPE TO EDGE OF TRENCH.
9.) INSTALLATION OF H.D.P.E. PIPE SHALL BE IN ACCORDANCE WITH ASTM D2321 AND AS RECOMMENDED BY THE MANUFACTURER.
10.) WATER TIGHT JOINTS SHALL BE USED ON ALL PIPES IN ACCORDANCE WITH ASTM D3212. PIPE JOINTS SHALL BE BELL AND SPIGOT WITH ELASTOMERIC RUBBER GASKETS MEETING OR EXCEEDING ASTM F477.
11.) PIPE BEDDING MATERIAL OR 3/4" CRUSHED STONE SHALL BE CAREFULLY BACKFILLED AND COMPACTED AROUND PIPE TO A DEPTH OF TWELVE-INCHES ABOVE THE TOP OF PIPE.
12.) MATERIAL FOR BACKFILLING THE REMAINDER OF THE TRENCH, PAVEMENT AND PAVEMENT BASE MATERIAL EXCLUDED, SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH LIFTS WITH SUITABLE MATERIAL WITH NO STONES GREATER THAN FOUR-INCHES IN DIAMETER. MATERIAL SHOULD BE FREE OF ORGANICS AND DEBRIS.
13.) TRENCH SHALL BE FINISHED WITH SIX-INCHES (6") OF LOAM AND SEED IN NON PAVED AREAS AND PREPARED IN ACCORDANCE WITH PAVEMENT STRUCTURE IN PAVED AREAS.

SUBSURFACE INFILTRATION SYSTEM MATERIALS AND INSTALLATION

1.) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS AND THE TOWN OF WAYLAND DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
2.) SUBSURFACE LEACHING CHAMBERS SHALL BE SHEA DW-SDW GALLEYS OR APPROVED EQUAL.
3.) FILTER FABRIC SHALL BE MIRAFI 140N (TENCATE INDUSTRIES) OR APPROVED EQUAL.
4.) ACCESS MANHOLES SHALL BE REQUIRED AT LOCATIONS SPECIFIED ON DESIGN PLANS.
5.) ACCESS MANHOLES SHALL CONSIST OF EAST JORDAN IRON WORKS 2111Z/2111A, HEAVY DUTY FRAME AND COVER AND SHALL MEET OR EXCEED HS-20 LOADING REQUIREMENTS.
6.) ACCESS MANHOLES SHALL BE ADJUSTED TO FINISH GRADE WITH PRECAST CONCRETE RISERS AND/OR LAYERS OF BRICK AND MORTAR.
7.) EXCAVATION FOR PRECAST LEACHING CHAMBERS SHALL BE DONE CAREFULLY TO AVOID SMEARING AND COMPACTION OF BOTTOM AND EXCAVATION SIDEWALLS.
8.) ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH FREE DRAINING MATERIAL, INCLUDING BUT NOT LIMITED TO TITLE V SAND.
9.) ALL PRECAST LEACHING CHAMBERS SHALL BE PLACED ON A TWELVE-INCH (12") DEEP LAYER OF COMPACTED 3/4" TO 1 1/2" DOUBLE WASHED CRUSHED STONE.
10.) PRECAST LEACHING CHAMBERS SHALL BE CAREFULLY PLACED AT THE SAME ELEVATION IN ROWS AND BUTTED TOGETHER SO NO VOIDS EXIST BETWEEN UNITS.
11.) AREAS BETWEEN ROWS OF PRECAST LEACHING CHAMBERS SHALL BE FILLED WITH 3/4" TO 1 1/2" DOUBLE WASHED STONE.
12.) ALL PIPES SHALL BE SECURELY MORTARED IN PLACE TO PROVIDE WATER TIGHT CONNECTIONS.
13.) FILTER FABRIC SHALL BE INSTALLED AROUND THE SIDES, AND ON TOPO OF THE PRECAST LEACHING CHAMBERS.
14.) CONTRACTOR SHALL OVERLAP ROWS OF FILTER FABRIC ONE-HALF FOOT (0.5') AND CAREFULLY BACKFILL AROUND AND ON TOP OF THE LEACHING CHAMBERS TO AVOID SHIFTING OR TEARING FILTER FABRIC.
15.) INSTALL AND COMPACT 3/4" TO 1 1/2" DOUBLE WASHED STONE IN TWELVE-INCH (12") LIFTS FOR A DISTANCE OF TWO-FEET (2') AROUND THE PERIMETER OF LEACHING CHAMBERS.

COMMONWEALTH OF MASSACHUSETTS ROBERT A. GEMMA No. 37046 PROFESSIONAL LAND SURVEYOR

COMMONWEALTH OF MASSACHUSETTS ROBERT A. GEMMA No. 31967 REGISTERED PROFESSIONAL ENGINEER

9/5/17

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
20 0 10 20 40 (FEET) 80
0 4 10 20 (METERS) 30

PROPOSED DETAILS PLAN

#24 SCHOOL STREET
IN
WAYLAND, MASS
(MIDDLESEX COUNTY)

PREPARED FOR:
WINDSOR PLACE LLC
73 PELHAM ISLAND ROAD
WAYLAND, MA 01778

PROPERTY OF:
WINDSOR PLACE LLC
73 PELHAM ISLAND ROAD
WAYLAND, MA 01778

ENGINEERS & SURVEYORS:
MWE
METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
WAYLAND, MA 01702
TEL.: (508)626-0063
FAX: (508)875-6440

SHEET 6 OF 6		DATE: SEPTMEBER 6, 2017
CALC'D BY: BTN	FIELD BK: 621	CAD FILE: PROP_SITE_3_R3.dwg
DRAFTER: BTN	PROJECT: WY_SCH	DWG FILE: SP090617.dwg