

FORM O

OBSERVATION FORM*

Subdivision Name _____ DATE _____

Name of Engineer _____ From Sta. _____ to Sta. _____

Name of Applicant _____ Phone of Applicant _____

SUBJECT	RESPONSIBLE AGENCY	INITIAL OF AGENT	INSPECTION DATE
1. Site Preparation:			
a. Soil Testing: Test Pits or Borings			
• Dig Safe: Site Appropriately Marked	Planning Dept.	_____	_____
• To Be determined:			
○ Soil Type Classification:			
USDA: Septic - Sands to Clays	Planning Dept.	_____	_____
USCS: Rdwy A-1 to A-7	Planning Dept.	_____	_____
NRCS Drainage Hydrologic Soil Group: A to D	Planning Dept.	_____	_____
○ GW Elevation:	Planning Dept.	_____	_____
○ Percolation Rate: <2 to 60 mpi	Planning Dept.	_____	_____
○ Soil Density: Firmness: CBR >10%	Planning Dept.	_____	_____
○ Sieve Test: Coarse Material	Planning Dept.	_____	_____
○ Hydrometer Test: Fine Material			
Susceptibility to Frost/Heave & Soil Fines Migration: <0.02 mm or (No. 635 Sieve)	Planning Dept.	_____	_____
○ Filter Blanket Requirements Between: Rdwy Box Layers: Base, Sub-grade			
Rip-Rap: Armor Stone & Base	Planning Dept.	_____	_____
• Septic Systems: 75% of Lots to Perc	Health Dept.	_____	_____
• Drainage Systems:			
○ Detention/Retention Basins:	Planning Dept.	_____	_____
○ Roof Drain Infiltration Systems:	Health Dept.	_____	_____
○ Swales/Interceptor Trenches:	Planning Dept.	_____	_____
○ Roadway Sub-Drains:	Planning Dept.	_____	_____
• Retaining Walls:			
○ Geotechnical Certification:	Planning Dept.	_____	_____
○ Structural Eng. Certification:	Planning Dept.	_____	_____
○ Survey Certification:	Planning Dept.	_____	_____
• Bridges: Wetland Crossings etc.			
○ Geotechnical Certification:	Planning Dept.	_____	_____

- Structural Eng. Certification: Planning Dept. _____
 - Survey Certification: Planning Dept. _____
 - Roadway Box: Spaced >200' & >5' deep Planning Dept. _____
 - b. Survey Staking/Marking: Class A or Better
 - Limit of Construction:
 - Survey Certification: Planning Dept. _____
 - Roadway: Center Line Staking 100' o.c Planning Dept. _____
 - Drainage Basin: Planning Dept. _____
 - Erosion Control Devices: Planning Dept. _____
 - Site Benchmarks: 2 Minimum
 - Temporary: Planning Dept. _____
 - Permanent: Planning Dept. _____
 - c. Erosion Control Device Installation:
 - Tracking Pad(s): Planning Dept. _____
 - Hay-bales/Silt Fence: Planning Dept. _____
 - Extra Hay-bales & Silt Fence: Planning Dept. _____
 - Others: Planning Dept. _____
 - d. Preconstruction Meeting: Planning Dept. _____
- 2. Site Work:
 - a. Clearing & Grubbing:
 - Roadways: Planning Dept. _____
 - Access Paths & Easements: Planning Dept. _____
 - Walking & Bike Paths: Planning Dept. _____
 - Site Distance: Planning Dept. _____
 - Common Areas: Playground, Storage Bldg & Yard, Security Fence, Others: Planning Dept. _____
 - b. Dust Control: Planning Dept. _____
 - c. Roadway & Drainage Basin Excavation: Planning Dept. _____
 - d. Ledge Removal: Planning Dept. _____
 - e. Cuts, Fills, Compaction & Testing: Planning Dept. _____
 - f. Roadway Sub-Grade:
 - 2% Crowned to Centerline: Planning Dept. _____
 - Inspection & Testing: Planning Dept. _____
 - Replacement, Compaction & Testing: Planning Dept. _____
 - g. Roadway Drainage Blanket:
 - 2% Slope Crowned @ Centerline: Planning Dept. _____
 - Compaction & Testing: Planning Dept. _____
 - h. Embankment Grading & Stabilization: Planning Dept. _____
 - i. Retaining Walls: Planning Dept. _____
 - French Drain: Planning Dept. _____
 - Safety Fences: Planning Dept. _____
 - Structural Certification: Planning Dept. _____

3. Utility Installation:

- a. Dig Safe: Site Appropriately Marked Planning Dept. _____
- b. Drainage System Installation & Testing:
 - Survey: Lines & Grades: Planning Dept. _____
 - Retention/Detention Basin:
 - 10 ft Access Path to & Around: Planning Dept. _____
 - Main Basin & Forebay: Planning Dept. _____
 - Berms:
 - 2.5:1 Max Sloped: Planning Dept. _____
 - Free Board: Planning Dept. _____
 - Infiltration Chambers: Planning Dept. _____
 - Basin Bottoms:
 - Crushed Stone: Planning Dept. _____
 - Grass: Planning Dept. _____
 - 2 ft Groundwater Separation: Planning Dept. _____
 - Rip-Rap Spillways: Planning Dept. _____
 - Rip-Rap Stilling Basins: Planning Dept. _____
 - Fine Grading & Stabilization: _____
 - Outlet Control Structures:
 - Anchor Hooks Grouted: Planning Dept. _____
 - Weir: Size & Elevation: Planning Dept. _____
 - Trash/Security Grates: Planning Dept. _____
 - Seepage Collar on Outlet Pipe: Planning Dept. _____
 - Structure Installation:
 - Crushed Stone Base Material: Planning Dept. _____
 - CB's, DMH's, Outlet - Controls, O&G Sep., Headwalls: _____
 - Backfill & Compaction Inspection: Planning Dept. _____
 - Pipes/Sleeves:
 - Pipe Angles >90° Planning Dept. _____
 - "O" Rings In Place: Planning Dept. _____
 - Bells Set Facing Up-gradient: Planning Dept. _____
 - RCP: Class I, II, III, IV, V Planning Dept. _____
 - Flared End Sections: Planning Dept. _____
 - Seepage Collars as necessary: Planning Dept. _____
 - DMH Components:
 - 9 ft > DMH > 9 ft: Planning Dept. _____
 - Base:
 - Dia: 4, 5, 6 & 8 ft Planning Dept. _____
 - Riser Rings: Planning Dept. _____
 - Eccentric Cone: Planning Dept. _____
 - Concentric Cone: Planning Dept. _____
 - Flat Slab Top: Planning Dept. _____
 - Grade Ring: Planning Dept. _____
 - Install Inverts: Brick or Concrete Planning Dept. _____
 - Install By-Pass Weir: Planning Dept. _____

- Temporary Cover: Stl Plate Planning Dept. _____
- Access Steps & Alignment: Poly Step Bowco Industries, Inc ASTM -c-478 Planning Dept. _____
- Pipe Location to Horizontal Joint: Planning Dept. _____
- Pipes Grouted: Planning Dept. _____
- Horizontal Joints Sealed: Planning Dept. _____
- Catch-Basin Components:
 - Base Diameter for:
 - Single Grate: 4', 5', 6' etc. Planning Dept. _____
 - Double Grate: >6' dia. Planning Dept. _____
 - Riser Rings: Planning Dept. _____
 - Eccentric Cone: Planning Dept. _____
 - Concentric Cone: Planning Dept. _____
 - Flat Slab Top: Planning Dept. _____
 - Grade Ring: Planning Dept. _____
 - Install Gas Trap Hoods with Cap: Planning Dept. _____
 - Temporary Cover: Stl Plate: Planning Dept. _____
 - Pipes Grouted: Planning Dept. _____
 - Horizontal Joints Sealed: Planning Dept. _____
- Headwall Components:
 - Types:
 - Headwall up to 30" Pipe: Planning Dept. _____
 - Headwall > 30" Pipe: Planning Dept. _____
 - Headwall w/ Wing Walls: Planning Dept. _____
 - Double Headwall: Planning Dept. _____
 - Trash/Security/Rodent Grates: Planning Dept. _____
 - Anchor Hooks Grouted: Planning Dept. _____
 - Safety Fence: Planning Dept. _____
- Roadway Sub-Drains:
 - Excavate: Planning Dept. _____
 - Install Filter Fabric: Planning Dept. _____
 - Crushed Stone: Dbl Washed Planning Dept. _____
 - Access Ports @ End: Planning Dept. _____
- Swales & Interceptor Trenches: Planning Dept. _____
- Interceptor Trenches:
 - Excavate: Planning Dept. _____
 - Install Filter Fabric: Planning Dept. _____
 - Crushed Stone: Dbl Washed Planning Dept. _____
 - Access Port @ End: Planning Dept. _____
 - Outfall Pipe: Rodent Screens Planning Dept. _____
 - Temporary Sediment Control Devices:
 - Swales: Hay-bales & Silt Fence, Check Dams: Planning Dept. _____
 - Dewatering: Sediment Basin: Planning Dept. _____
- c. Water System Installation:
 - Pipes/Sleeves: Public Works _____

• Thrust Blocks:	Public Works	_____	_____
• Service Stubs:	Public Works	_____	_____
• Water Gates for Water Main & Hydrants:	Public Works	_____	_____
• Curb Boxes:	Public Works	_____	_____
• Hydrants:			
Raised/Lowered:	Public Works	_____	_____
Rotated:	Public Works	_____	_____
Painted:	Public Works	_____	_____
• Blow-off Taps:	Public Works	_____	_____
• Testing & Disinfecting:	Public Works	_____	_____
d. Sewer System Installation:			
• Pipes/Sleeves:	Public Works	_____	_____
o Seepage Collars:	Public Works	_____	_____
• Service Stubs:	Public Works	_____	_____
• SMH's:			
Drop Inlet Assembly:	Public Works	_____	_____
• Pressure Testing:	Public Works	_____	_____
e. Gas System Installation:			
• Pipes/Sleeves:	Middleboro G&E	_____	_____
• Service Stubs:	Middleboro G&E	_____	_____
• Service Line Sleeve Conduit:	Middleboro G&E	_____	_____
• Gas Gates for Gas Main & Residence:	Middleboro G&E	_____	_____
• Pressure Testing:	Middleboro G&E	_____	_____
f. Electrical System Installation:			
• Utility Pole Relocation /Installation:	Middleboro G&E	_____	_____
• Line/Sleeves:	Middleboro G&E	_____	_____
• Service Line:	Middleboro G&E	_____	_____
• Service Line Sleeve Conduit:	Middleboro G&E	_____	_____
• Transformer/Handholes:	Middleboro G&E	_____	_____
• Testing:	Middleboro G&E	_____	_____
g. Telephone & Cable Line Installation:			
• Service Stubs:	Verizon	_____	_____
• Service Line Sleeve Conduit:	Verizon	_____	_____
• Pedestals:	Verizon	_____	_____
• Testing:	Verizon	_____	_____
h. Fire Suppression System Installation:			
• Lines/Sleeves:	Fire Dept.	_____	_____
• Water Gates:	Fire Dept.	_____	_____
• Pipe Stands:	Fire Dept.	_____	_____
• Testing:	Fire Dept.	_____	_____
4. Roadway Gravel Base:			
a. 2% Crowned to Centerline:	Planning Dept.	_____	_____
b. Compaction & Testing:	Planning Dept.	_____	_____
c. Install CB Castings to Gravel Base Surface:			

- Castings: LeBaron or Equal Planning Dept. _____
 - Grate: 2.5 cfs/grate (max) Check Planning Dept. _____
 - Hay-bales/Silt Fence, Stl Plate/Filter-Stone, Or Filter Fabric, Filter Berms: Planning Dept. _____
- d. Survey: Lines & Grade Certificate with List of Exceptions: Planning Dept. _____
5. Sidewalk & Driveway Apron Gravel Base:
- a. 2% Max Sloped to Rdway: Planning Dept. _____
 - b. Compaction & Testing: Planning Dept. _____
 - c. Survey: Lines & Grade Certificate with List of Exceptions: Planning Dept. _____
6. Curb, Curb Cut and Gutter Installation:
- a. Police Detail: Planning Dept. _____
 - b. Saw Cutting: Planning Dept. _____
 - c. Pavement Removal: Planning Dept. _____
 - d. Utilities Upgrade as Necessary:
 - Drainage Structures: Planning Dept. _____
 - Water Mains: Planning Dept. _____
 - Gas Mains: Planning Dept. _____
 - Electrical Mains: Planning Dept. _____
 - e. Gravel Base Replacement:
 - 2% Crowned to Centerline: Planning Dept. _____
 - Compaction & Testing: Planning Dept. _____
 - f. Roadway Binder Course:
 - 2% Crowned to Centerline: Planning Dept. _____
 - Compaction & Testing: Planning Dept. _____
 - g. Roadway Final Course:
 - 2% Crowned to Centerline: Planning Dept. _____
 - Compaction & Testing: Planning Dept. _____
 - g. Survey: Lines & Grade Certificate with List of Exceptions: Planning Dept. _____
7. Roadway Binder Course(s):
- a. Survey: Offsets, Radii & CDS Ctr. Pts. Planning Dept. _____
 - b. Install/Raise Castings to Lines & Grades: Planning Dept. _____
 - CB to Grade: Planning Dept. _____
 - DMH Plated: Planning Dept. _____
 - Gas & Water Gates: Planning Dept. _____
 - c. Install Silt Sacks: Planning Dept. _____
 - c. Inspection of Lines & Grades: Planning Dept. _____
 - d. Grade Adjustment as Necessary: Planning Dept. _____
 - e. Installation, Rolling & Testing: Planning Dept. _____
 - 18" Monolithic Cape-Cod-Berm: Planning Dept. _____
 - f. Survey: Lines & Grade Certificate with

List of Exceptions:	Planning Dept.	_____	_____
8. Handicap Ramps:			
a. Survey: Lines & Grades:			
b. Form, Stake and check Prior to Placing Cement Concrete:	Planning Dept.	_____	_____
b. Installation: Concrete with Detection Strip	Planning Dept.	_____	_____
c. Survey: Lines & Grades Certificate with List of Exceptions:	Planning Dept.	_____	_____
9. Sidewalk & Driveway Apron Binder Course:			
a. Installation, Rolling & Testing:	Planning Dept.	_____	_____
b. Survey: Lines & Grade Certificate with List of Exceptions:	Planning Dept.	_____	_____
10. Walking & Bike Paths:			
a. Tree Pruning:			
• 80" Min. Walking Paths:	Planning Dept.	_____	_____
• 84" to 96" Min. Bike Paths:	Planning Dept.	_____	_____
11. Guardrail Installation:			
a. FHWA: Stl Backed Wooden Guardrail	Planning Dept.	_____	_____
12. Chain Link Fence Installation:			
Required When Basin Has:			
Berms >3:1 Slopes & Water Depth >2.0 ft	Planning Dept.	_____	_____
MassDOT E404.4.0, E404.5.0			
a. Top Rail:	Planning Dept.	_____	_____
b. Gates: MassDOT E404.6.0	Planning Dept.	_____	_____
• Aligned:	Planning Dept.	_____	_____
• Open w/out Obstruction:	Planning Dept.	_____	_____
• Center Stop for Latch:	Planning Dept.	_____	_____
13. Street Lights:			
a. Street Lighting @ Intersection:	Middleboro G&E	_____	_____
b. Driveway Lanterns:	Planning Dept.	_____	_____
14. Grass Installation: Roadway Layout & Easements:			
a. Loam Testing:	Planning Dept.	_____	_____
b. Slope Stabilization: Jute Fabric	Planning Dept.	_____	_____
c. Loam Fine Grading & Hydro-seeding:	Planning Dept.	_____	_____
d. Watering/Fertilizer/Herbicide:	Planning Dept.	_____	_____
15. Form "J" Inspection: To Be Completed			
a. Drainage As-Built Plan: 100% Complete			
• Detention/Retention Basins:	Planning Dept.	_____	_____
• Roadway & Sidewalk Binder:	Planning Dept.	_____	_____

- Apron Elev. @ R.O.W. Marked: Planning Dept. _____
- Site Stabilization: Planning Dept. _____
- Erosion Control Devices Repaired: Planning Dept. _____
- Signage Installed: Planning Dept. _____
- Site Cleanup:
 - Remove Stockpiles: Planning Dept. _____
 - Remove Debris: Planning Dept. _____
 - Remove Fallen Trees: Planning Dept. _____
 - Street Swept: Planning Dept. _____
 - CB's, DMH's, O&G Separators
Vacuumed Cleaned: Planning Dept. _____
 - Drainage Pipes Water Jetted: Planning Dept. _____
- Engineering/Survey: Lines & Grade
Certificate with List of Exceptions: Planning Dept. _____
- Check for:
 - Drainage Basin: Seeps, Slumps Planning Dept. _____
 - Drainage Structures: Sink Holes,
Groundwater Intrusion Planning Dept. _____
- Repairs as Necessary: Planning Dept. _____

16. Roadway & Sidewalk Final Course:

- a. Raise Castings to Line & Grade:
 - CB, DMH, EMH, G.G., W.G., W.S.: Planning Dept. _____
- b. Check Roadway & Sidewalk Widths: Planning Dept. _____
- c. Check for Low and High Points:
 - Crown: Planning Dept. _____
 - Gutter-Line: Planning Dept. _____
- d. Tack Coat: Planning Dept. _____
- e. Adjust Grade w/ Leveling Course & Repair
Binder Course as Necessary: Planning Dept. _____
- f. 2% Crowned to Centerline: Planning Dept. _____
- g. Rolling & Testing: Planning Dept. _____
- h. Joint Seal & Back Sand: Planning Dept. _____
- i. Survey: Lines & Grade Certificate: Planning Dept. _____

17. Roof Drain Infiltration Systems: Health Dept. _____

18. Drinking Water Wells: Health Dept. _____

19. Septic Systems:

- a. Proximity to Drainage Systems:
 - Roadway Sub-drains - Intercept GW: Health Dept. _____
 - Infiltration Systems: Health Dept. _____
 - Roof Drains: Health Dept. _____
 - Drainage Basins: Health Dept. _____

20. Landscaping: Street Trees & Buffers:

- a. Determine & Mark Tree/Bush Locations: Planning Dept. _____
- b. Nursery: Northern Grown Nursery Stock Planning Dept. _____
- c. Dig Safe: Site Marked Planning Dept. _____
- d. Pick out Plant @ Nursery: Planning Dept. _____
- e. Delivery:
 - 1 yr Warranties Provided: Planning Dept. _____
 - Nursery Shipping Lists: Planning Dept. _____
 - Tagged: Botanical Name, Cultivar, Size: Planning Dept. _____
- f. Excavation & Planting: Planning Dept. _____
- g. Root Shield Installation: Planning Dept. _____
- h. Backfill w/ Amendment Soil: Planning Dept. _____
- i. Staking & Guying: Planning Dept. _____
- j. Install Tree Saucer with Mulch: Planning Dept. _____
- k. Watering: Planning Dept. _____
- l. Weeding as Necessary: Planning Dept. _____
- m. Pruning - Crown Cleaning Only:
 - Dead, Dying, Diseased Branches, Water Sprouts: Planning Dept. _____
- n. Fertilizing: Planning Dept. _____
- o. Spraying for Pest: Planning Dept. _____

21. Lot Clearance & Grading:

- a. Lot Grading to Street: Planning Dept. _____
- b. Lot Slope to Roadway: Planning Dept. _____

22. Monuments:

- a. Granite Bounds: Planning Dept. _____
- b. Concrete Bounds: Planning Dept. _____
- c. Drill-Holes, R.R. Spikes, I.P., Others: Planning Dept. _____

23. Signage & Markings:

- a. Retro-reflectivity: Public Works _____
- b. Size: Public Works _____
- c. Height: 7 ft Min Public Works _____
- d. Location: Sign 2 ft Min. from Gutter-Line Public Works _____
- e. Types:
 - Private Way Sign Until Excepted: Planning Dept. _____
 - Stop Signs: 50 ft Max from Gutter-Line Planning Dept. _____
 - Stop Line: 4 ft Min from X-Walk & 4 ft Min & 30 ft Max from Gutter-Line Planning Dept. _____
 - Street Name Signs:
 - Letter Height: Use Table 2D-2 Planning Dept. _____
 - Std Green w/ White Lettering: Planning Dept. _____
 - Blue w/ White Lettering: Planning Dept. _____
 - Brown w/ White Lettering: Planning Dept. _____

- White w/ Black Lettering: Planning Dept. _____
- Dead End Signs: Planning Dept. _____
- No Parking Signs: Planning Dept. _____

24. Final Cleanup:

- a. Catch Basins & Manholes: Planning Dept. _____
- b. Street Sweeping: Planning Dept. _____
- c. Lawn Mowing: Planning Dept. _____
- d. Debris Removal: Planning Dept. _____
- e. Removal of Erosion Control Devices: Planning Dept. _____
- f. Removal of Irrigation System: Planning Dept. _____

25. Maintenance:

- a. Erosion Control Devices: Planning Dept. _____
- b. Drainage Systems: Planning Dept. _____
- c. Stabilization: Jute Fabric, Hydro-seeding: Planning Dept. _____
- d. Plantings:
 - Watering: Planning Dept. _____
 - Fertilizing: Planning Dept. _____
 - Spraying: Planning Dept. _____
 - Wound Tracing: Planning Dept. _____
 - Pruning: Crown Cleaning & Thinning Only: Planning Dept. _____
 - Tree Replacement: Planning Dept. _____
 - Tree Straightening: Planning Dept. _____
- e. Grass Areas: Repair of washouts, Hydro-Seed, Fertilize, Application of Herbicide: Planning Dept. _____

 *Responsible agency and Planning Board shall be notified at least forty-eight (48) hours before each required inspection as listed. No inspection may be waived except by joint approval of Planning Board and responsible agency.
