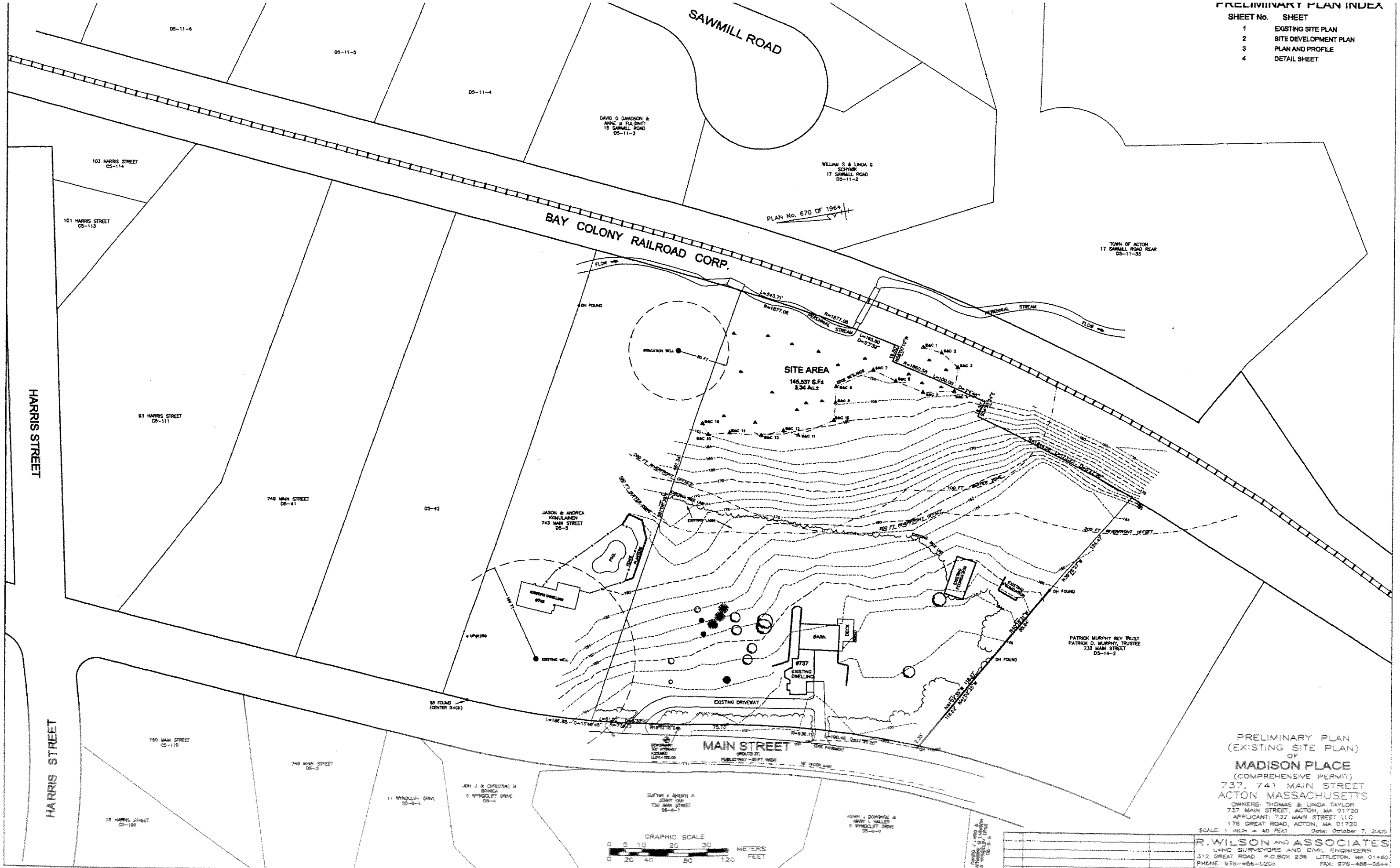
PRELIMINARY PLAN INDEX

SHEET No.	SHEET
1	EXISTING SITE PLAN
2	SITE DEVELOPMENT PLAN
3	PLAN AND PROFILE
4	DETAIL SHEET



PRELIMINARY PLAN
(EXISTING SITE PLAN)
OF
MADISON PLACE
(COMPREHENSIVE PERMIT)
737, 741 MAIN STREET
ACTON MASSACHUSETTS

OWNERS: THOMAS & LINDA TAYLOR
737 MAIN STREET, ACTON, MA 01720
APPLICANT: 737 MAIN STREET LLC
178 GREAT ROAD, ACTON, MA 01720

SCALE: 1 INCH = 40 FEET Date: October 7, 2005

NO.	REVISIONS DESCRIPTION	DATE

R. WILSON AND ASSOCIATES
LAND SURVEYORS AND CIVIL ENGINEERS
312 GREAT ROAD P.O.BOX 236 LITTLETON, MA 01460
PHONE: 978-486-0203 FAX: 978-486-0644

FILE NO. 1164 1164-EXISTING.DWG

ASSESSOR'S LOT 1 ~ 737 MAIN STREET, ACTON
ASSESSOR'S MAP D-5, PARCELS 9 & 10
OWNERS: THOMAS W. & LINDA K. TAYLOR (DEED: BOOK 12518 PAGE 520)
APPLICANT: 737 MAIN STREET LLC, 178 GREAT ROAD, ACTON MA

THE SITE IS SHOWN AS LOT 1 (81,030 S.F.) AND LOT 2 (63,371 S.F.) ON A PLAN ENTITLED "PLAN OF LAND IN NORTH ACTON, OWNED BY FREDERICK W. & FLORENCE C. ABBOT", DATED FEB. 8, 1964", PREPARED BY FRED K. HANACK, REG. LAND SURVEYOR & ENGINEER, 836 MAIN ST., ACTON MASS. AND RECORDED WITH MIDDLESEX SOUTH DISTRICT REGISTRY OF DEEDS AS PLAN NO. 670 OF 1964.

ZONING DISTRICT: RESIDENCE 2 (R-2)
MINIMUM LOT AREA: 20,000 S.F.
MINIMUM LOT FRONTAGE: 150 FT.
MINIMUM FRONT YARD: 30 FT.
MINIMUM SIDE & REAR YARD: 10 FT.
MINIMUM OPEN SPACE: NR

THE SITE IS LOCATED WITHIN THE TOWN OF ACTON GROUNDWATER PROTECTION DISTRICT: ZONE 3.

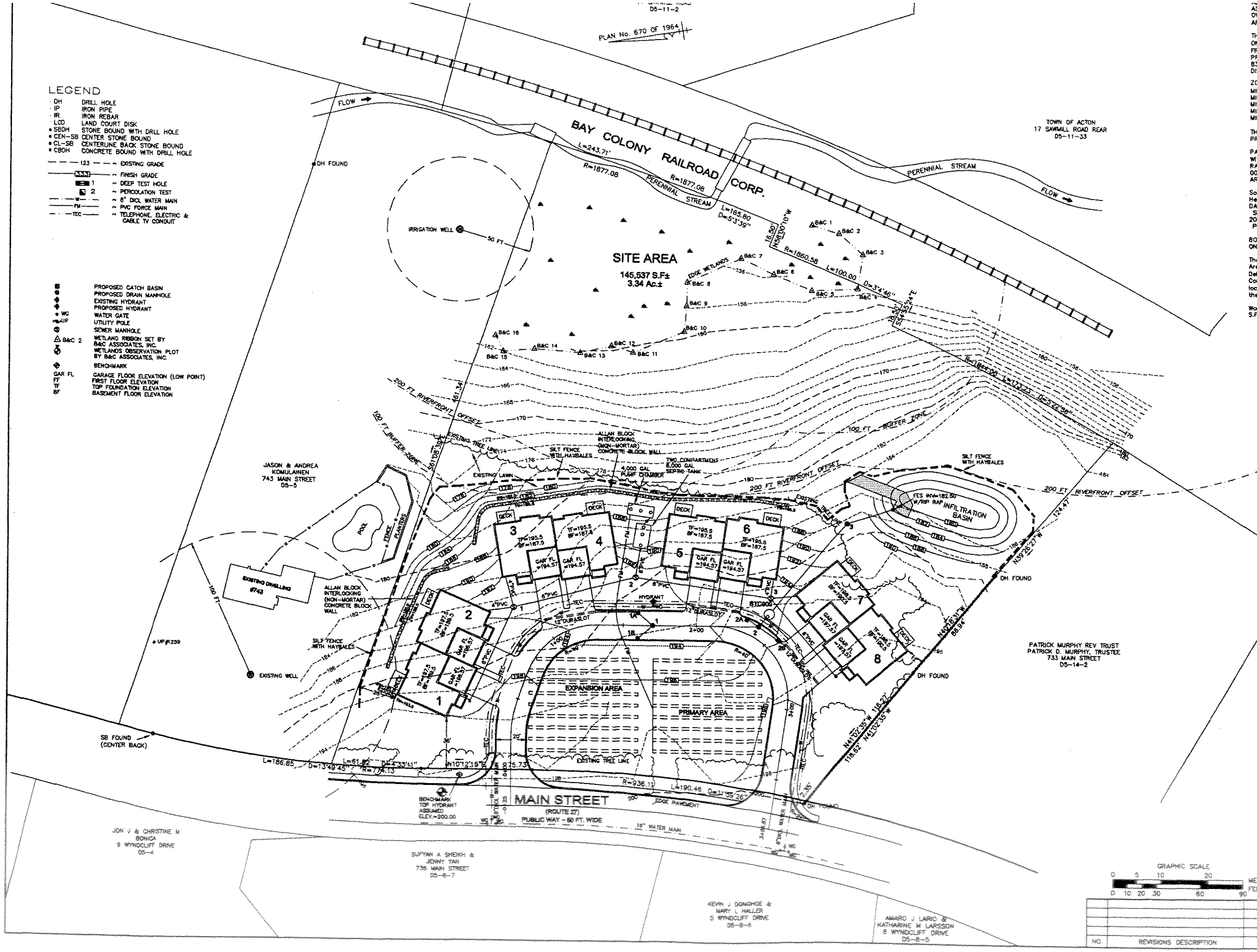
PART OF THE SITE, ADJACENT TO THE PERENNIAL STREAM, IS LOCATED WITHIN THE 500-YEAR FLOOD (ZONE X) AS SHOWN ON FLOOD INSURANCE RATE MAP, TOWN OF ACTON MASS., COMMUNITY PANEL NUMBER 250176 0005C, MAP REVISED: JANUARY 6 1988. THE PROPOSED DEVELOPMENT AREA IS LOCATED OUTSIDE THE 500-YEAR FLOOD AREA.

Soil testing was witnessed by Brent Reagor, Town of Acton, Board Of Health Agent.
DATES OF TESTING:
SOIL EVALUATIONS, MARCH 30, JULY 5, & SEPTEMBER 28, OCTOBER 7, 2005
PERCOLATION TESTS, MARCH 30, 2005

BORDERING VEGETATED WETLANDS WERE DELINEATED BY B&C ASSOCIATES ON JUNE 7, 2005.

The boundary of the Bordering Vegetated Wetlands and the Riverfront Area were confirmed as accurate by an Order of Resource Area Delineation (DEP File Number: 85-913) issued by The Town of Acton Conservation Commission on September 21, 2005. Part of this site is located within the estimated habitat area "MI-7489" as indicated on the Estimated Habitats Rare Wildlife & Certified Pools: July 1, 2003.

Work is proposed within the 100 Buffer Zone, behind Units 3 & 4. 1,000 S.F. of existing lawn will be affected.



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GRAPHIC SCALE
0 5 10 20 METERS
0 10 20 30 60 90 FEET

SCALE: 1 INCH = 30 FEET Date: October 7, 2005

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PHONE: 978-486-0203 FAX: 978-486-0644

FILE NO. 1164 1164-PSITE-930.DWG Sheet No. 2 of 4

OPERATION AND MAINTENANCE PLAN – Stormwater Management System.

During construction 737 MAIN STREET LLC shall be responsible for maintenance of the site. After site development the proposed stormwater management structures are to be monitored and maintained by the future Madison Place Condominium Association.

1. Run-off from surface impervious surfaces (roads, drives & walks) will be captured by deep-sump catch basins (with gas-oil traps) and/or 12" Duraslots connected to deep-sump catch basins (with gas-oil traps).

The following shall be done semi-annually, after spring snow melt and in late autumn.
a. Street sweeping to remove sediments before it enters into the catch basins.
b. Cleaning all catch basins and 12" Duraslots to remove accumulated sand, sediment and floatable product.

2.Stormceptor unit:
Runoff will be pre-treated by an oil/sediment separator (Inline-Stormceptor Model STC900) that has an internal high flow by-pass that prevents the scour and re-suspension of previously trapped pollutants during high flow conditions.

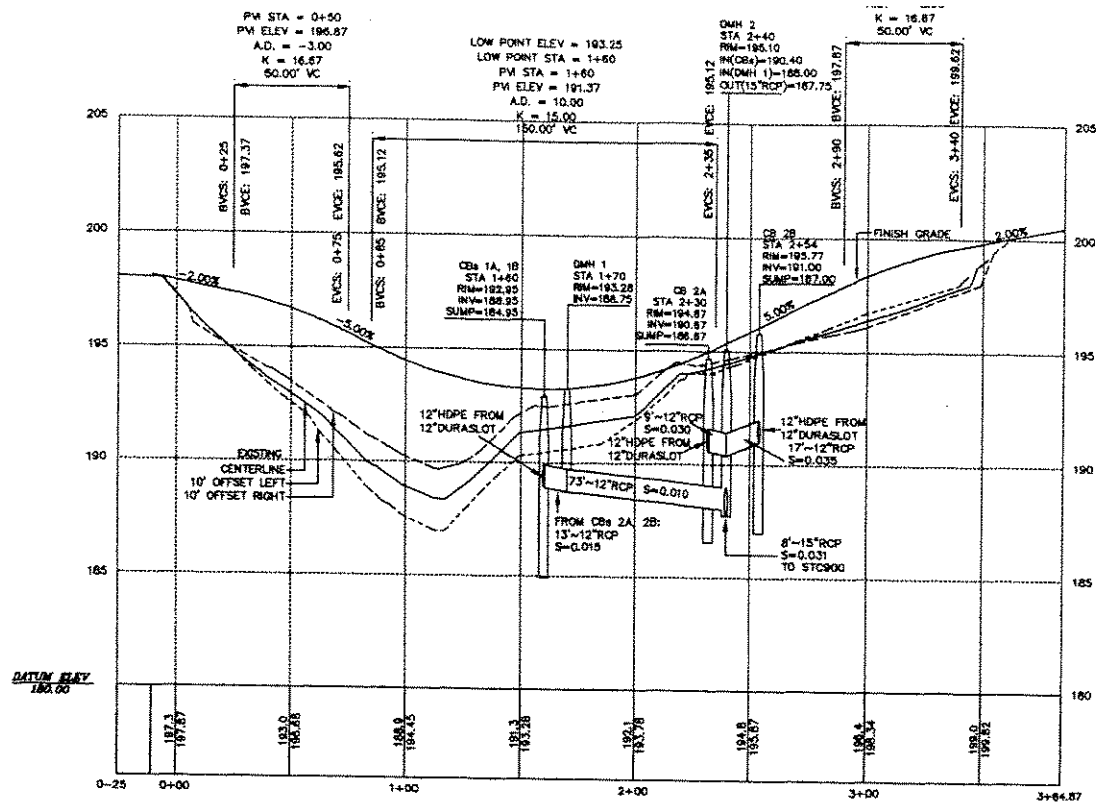
a. Clean with a vacuum truck, once the stored volume reaches 15% of capacity or immediately in the event of a spill.
b. Perform quarterly inspections during the first year of installation to establish maintenance schedule (at least semi-annually afterwards: after spring snow melt and in late autumn).
c. Remove oil and sediment through the 24-inch diameter riser pipe. Floatables and hydrocarbons may be removed through the 6-inch inspection port.

3. One storm-water recharge area, an infiltration basin, is proposed. Two monitoring wells will be installed, one up-gradient and one down-gradient of the recharge area. To enable monitoring of runoff water-quality a baseline sample will be taken prior to construction and semi-annually until the site is stabilized.

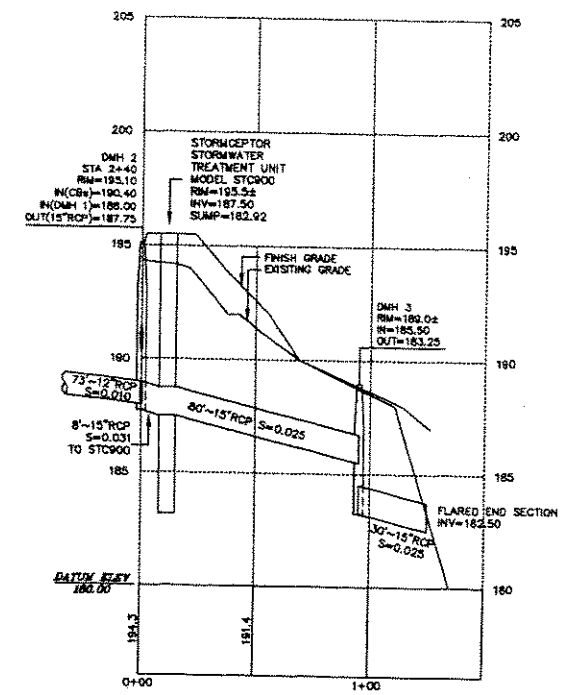
4. Maintenance shall also include: preservation of the structural integrity of the stormwater system including yearly inspection of all observable components; including the recharge area via the monitoring ports. Structures shall be repaired and/or replaced as needed.

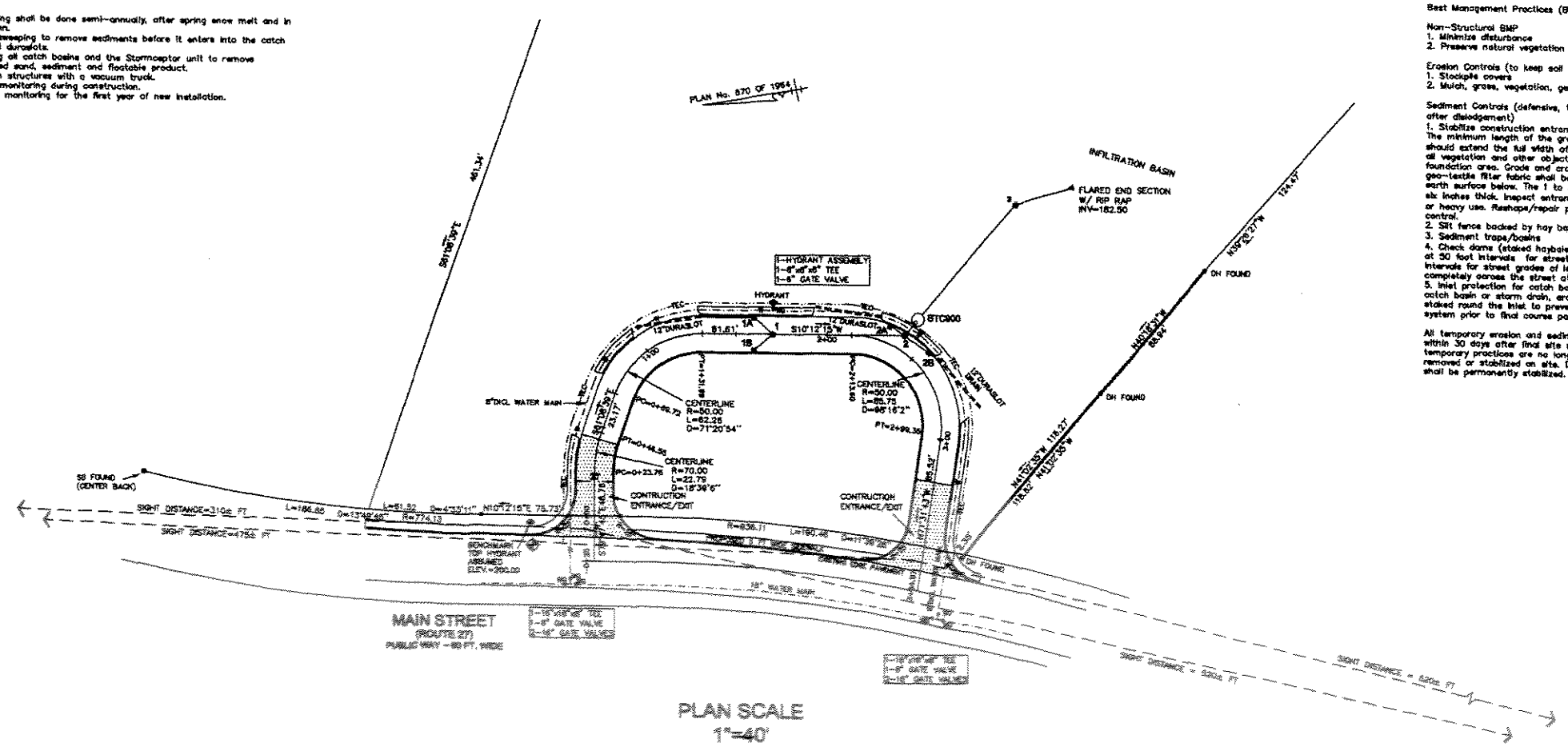
5. Erosion control shall be maintained and shall include any required re-grading, re-vegetation and/or replacing of rip-rap.

The following shall be done semi-annually, after spring snow melt and in late autumn.
1. Street sweeping to remove sediments before it enters into the catch basins and duraslots.
2. Cleaning all catch basins and the Stormceptor unit to remove accumulated sand, sediment and floatable product.
3. Maintain structures with a vacuum truck.
4. Weekly monitoring during construction.
5. Monthly monitoring for the first year of new installation.



PROFILE SCALE
Horizontal: 1"=40'
Vertical: 1"=4'





PLAN SCALE
1"=40'

EROSION AND SEDIMENTATION CONTROL PLAN:
The purpose of this plan is to 1. Keep disturbed areas small, 2. Stabilize and protect disturbed areas as soon as possible, 3. Keep storm runoff velocities low, 4. Protect disturbed areas from storm water runoff, and 5. Retain sediment with the site area and from adversely impacting the wetland resource area.

Best Management Practices (BMPs)

Non-Structural BMP
1. Minimize disturbance
2. Preserve natural vegetation

Erosion Controls (to keep soil from leaving site or entering wetlands)
1. Stockpile covers
2. Mulch, grass, vegetation, geo-textiles

Sediment Controls (defensive, trapping soil particles from flowing water after dislodgement)
1. Stabilize construction entrance/exit
The minimum length of the gravel pad should be 50 feet. The pad should extend the full width of the construction access road(s). Remove all vegetation and other objectionable material from the foundation area. Grade and crown foundation for positive drainage. A geo-textile filter fabric shall be placed between the stone fill and the earth surface below. The 1 to 3-inch stone should be placed at least six inches thick. Inspect entrance/exit pad weekly and after heavy rains or heavy use. Reshape/repair pad as needed for drainage and runoff control.
2. Silt fence backed by hay bales
3. Sediment traps/basins
4. Check dams (staked haybales) shall be provided on unpaved streets at 50 foot intervals for street grades of 4% to 10% and at 100 foot intervals for street grades of less than 4%. Check dams shall extend completely across the street at right angles to the centerline.
5. Inlet protection for catch basins: Immediately upon installation of any catch basin or storm drain, erosion control devices shall be set and staked round the inlet to prevent sediment from entering the drainage system prior to final course paving.

All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary practices are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.

CONSTRUCTION SCHEDULE
1. Install two construction entrance/exits at both ends of the proposed road at Main Street.
2. Install siltation fence and haybales adjacent to wetland resource areas and along property lines as shown on plan.
3. Stockpile topsoil, place silt fence/haybales around base, provide dust protection as required.
4. Rough grade site, road and driveways; divert concentrated run-off from top of slopes until they are stabilized with vegetation. Haybale check dams shall be used to divert runoff into stabilized areas or the sediment basin. Maintain diversions along the top of the fill slope daily. It is important to clear only the areas needed, thus keeping exposed areas to a minimum. Phase the clearing and grading so that only those areas that are actively being worked are uncovered.
5. Construct infiltration basin.
6. Build retaining stone/block walls at base of fill slope. Maximum slope at base of fill, between/behind building, will be 5:1. Fill shall be placed in layers not to exceed 9 inches in depth and compacted.
7. Install drainage system from the downstream end up. Provide inlet protection for all catchbasins until contributing areas have been stabilized. Provide outlet protection around flared end section. Trench excavations shall be limited to the minimum length required for daily installation. All trenches shall be back-filled at night. The ends of pipe shall be closed nightly with plywood.
8. Sediment Basin: Use area within road loop as a sediment basin until infiltration basin is stabilized.
9. Inspect drainage system weekly; clean accumulated sand/silt from catch basins, from sediment basin and from behind siltation devices. The sedimentation source shall be abated.
10. Finish the slopes around the buildings as soon as rough grading is complete. Leave the surface slightly roughened and vegetate and mulch as soon as possible.
11. Complete final grading of road and driveways, stabilize with gravel, stabilize fill slopes with mulch (salt marsh hay or straw, not hay) or geo-textiles or quick growing vegetation as shown on plans.
12. Pave binder course) and contributing areas are stabilized.
13. Complete the final grading of grounds, topsoil critical areas, and permanently vegetate, landscape, and mulch.
14. Pave (finish course) and permanently vegetate any remaining disturbed areas
15. Clean accumulated silt from catch basins, from infiltration basin and from behind siltation devices.
16. Remove all temporary siltation devices.

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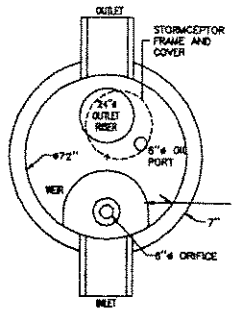
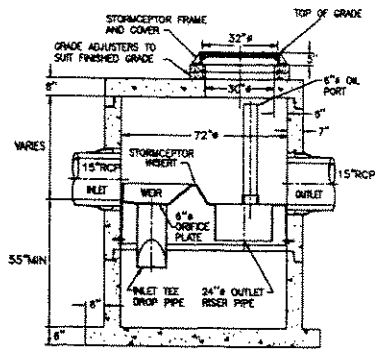
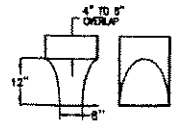
FILE NO. 1164 1164-PROF.DWG Sheet No. 3 of 4



PLAN VIEW OF INSERT

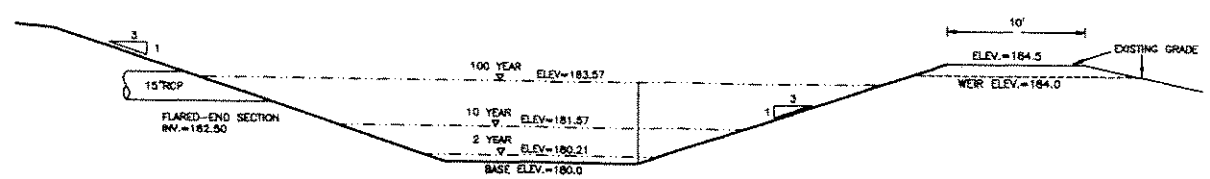


SECTION THRU CHAMBER

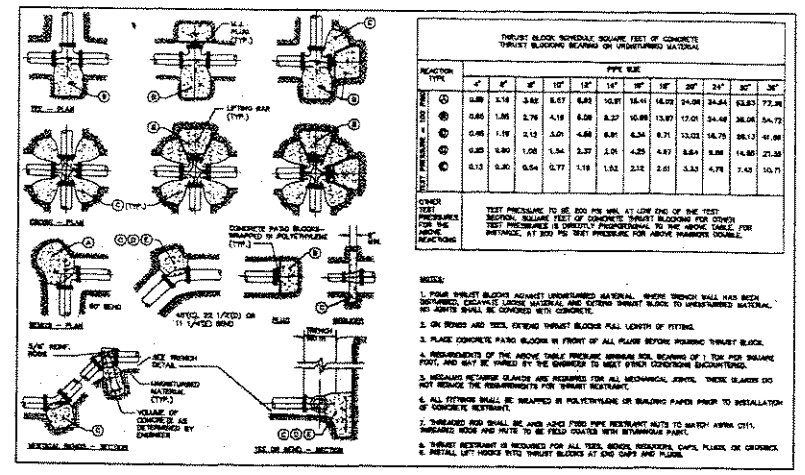


ENLARGED INLET TEE DROP PIPE

NOTE :
1. THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. THE COVER SHOULD BE POSITIONED OVER THE 24"ø OUTLET RISER PIPE AND THE 6"ø OIL PORT.
3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5753115, #5849181.

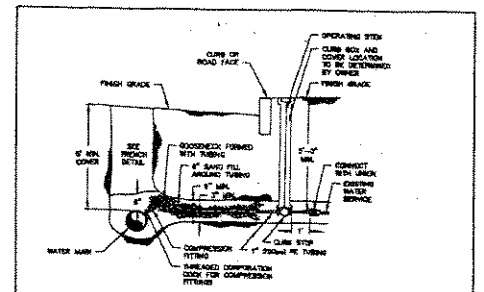


INFILTRATION BASIN DETAIL

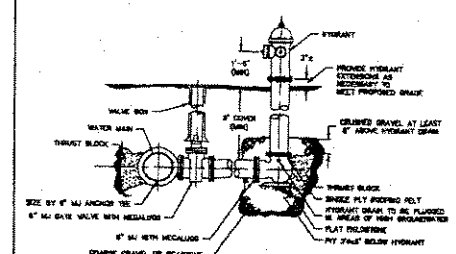


THRUST BLOCK SCHEDULE SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL												
		PIPE SIZE										
REACTION TYPE	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
①	0.88	1.18	3.62	5.57	6.63	10.91	16.44	18.03	24.86	34.84	53.83	72.36
②	0.66	1.06	2.76	4.18	6.08	8.37	10.88	13.87	17.01	24.49	36.06	54.72
③	0.46	1.19	2.13	3.01	4.68	6.91	6.34	8.71	13.03	16.75	28.13	41.88
④	0.23	0.60	1.06	1.54	2.37	2.01	4.25	4.97	6.64	8.88	14.85	21.38
⑤	0.12	0.30	0.54	0.77	1.18	1.52	2.12	2.61	3.33	4.75	7.43	10.71
TEST PRESSURE = 150 PSI												
OTHER TEST PRESSURES FOR SAME REACTIONS	TEST PRESSURE TO BE 200 PSI MIN. AT LOW END OF THE TEST SECTION. SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 300 PSI TEST PRESSURE FOR ABOVE NUMBERS DOUBLE.											

NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, COMPACTED LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
4. REQUIREMENTS OF THE ABOVE TABLE PRESUME GOOD SOIL BEARING OF 1500 PSF, SQUARE FOOT, AND MAY BE VARIED BY THE ENGINEER TO MEET SITE CONDITIONS ENCOUNTERED.
5. MEGALUG RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THERE GLANDS DO NOT REPLACE THE REQUIREMENTS FOR THRUST RESTRAINT.
6. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
7. THREADED ROD SHALL BE ASTM A307 GRADE B. NUTS TO MATCH ASTM C111, THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
8. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS, PLUGS, OR CROSSES. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.

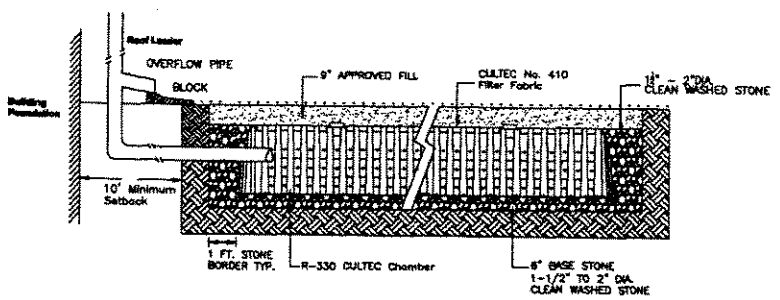


TYPICAL SERVICE CONNECTION DETAIL
NOT TO SCALE

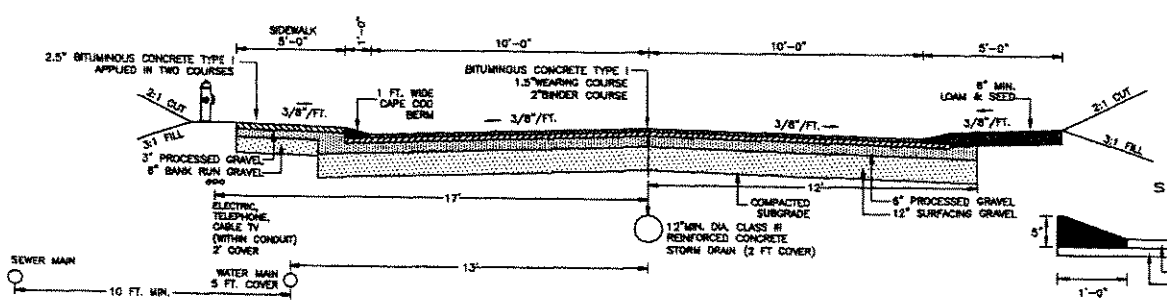


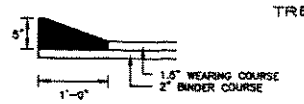
HYDRANT ASSEMBLY DETAIL
NOT TO SCALE

DRYWELL DETAIL

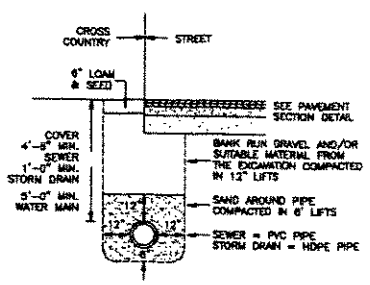


TYPICAL ROAD CROSS SECTION

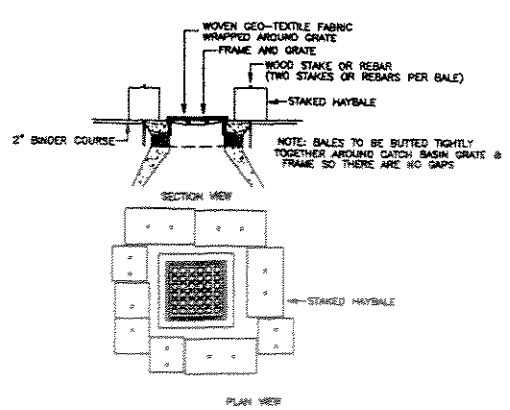




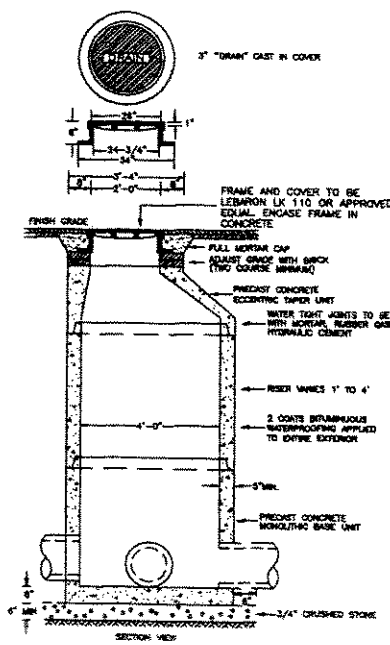
CAPE COD BERM



SEWER, STORM DRAIN, AND WATER MAIN TRENCH DETAIL

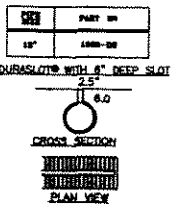


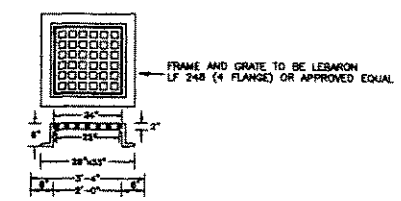
FILTERED CATCHBASIN DETAIL
(Inlet Protection)

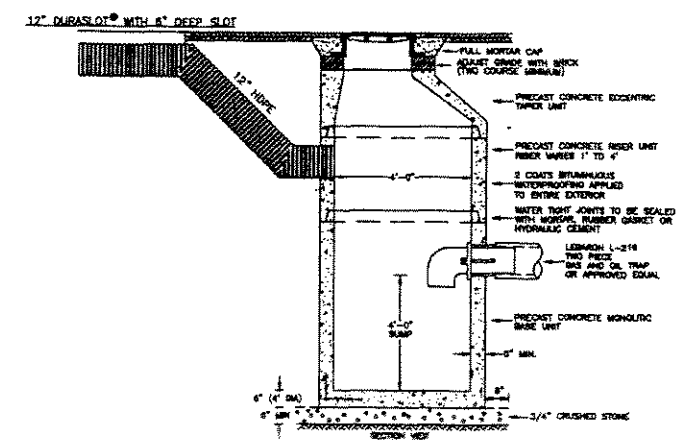


DRAIN MANHOLE
48" DIA

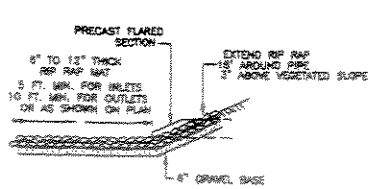
CODE	PART NO.
12"	1000-DS







CATCH BASIN
48" DIA

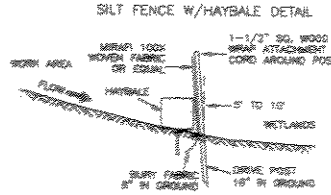


FLARED END SECTION
RIP RAP OUTLET/INLET

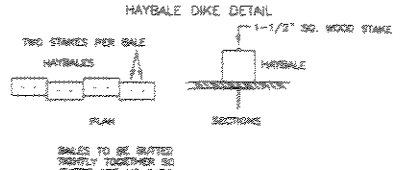
NOTE: RIP RAP SHALL BE DURABLE ANGULAR STONE WHICH MEETS FOLLOWING GRADATION.

SIZE	% WEIGHT SMALLER
100 LB	100%
60 LB	80%
35 LB	50%
2 LB	10%

SILT FENCE W/HAYBALE DETAIL



HAYBALE DIKE DETAIL



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FILE NO. 1164 1164-Details.DWG Sheet No. 4 of 4