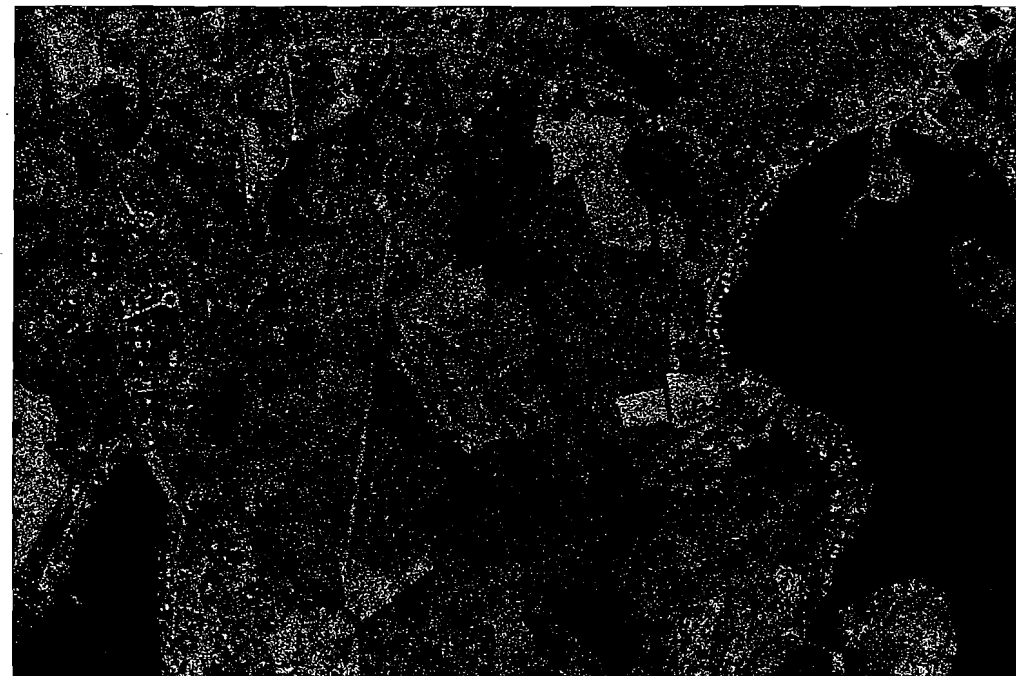


TOWN OF MILLBURY, MASSACHUSETTS  
**LAKE SINGLETARY  
WATERSHED PROTECTION PROJECT**

FOR CONSTRUCTION

MAY 2005

TOWN OF  
MILLBURY



LOCUS MAP

TOWN OF  
SUTTON

PUBLIC WORKS

JOE CHASE - MILLBURY  
MARK BRIGHAM - SUTTON

LAKE SINGLETARY  
WATERSHED ASSOCIATION

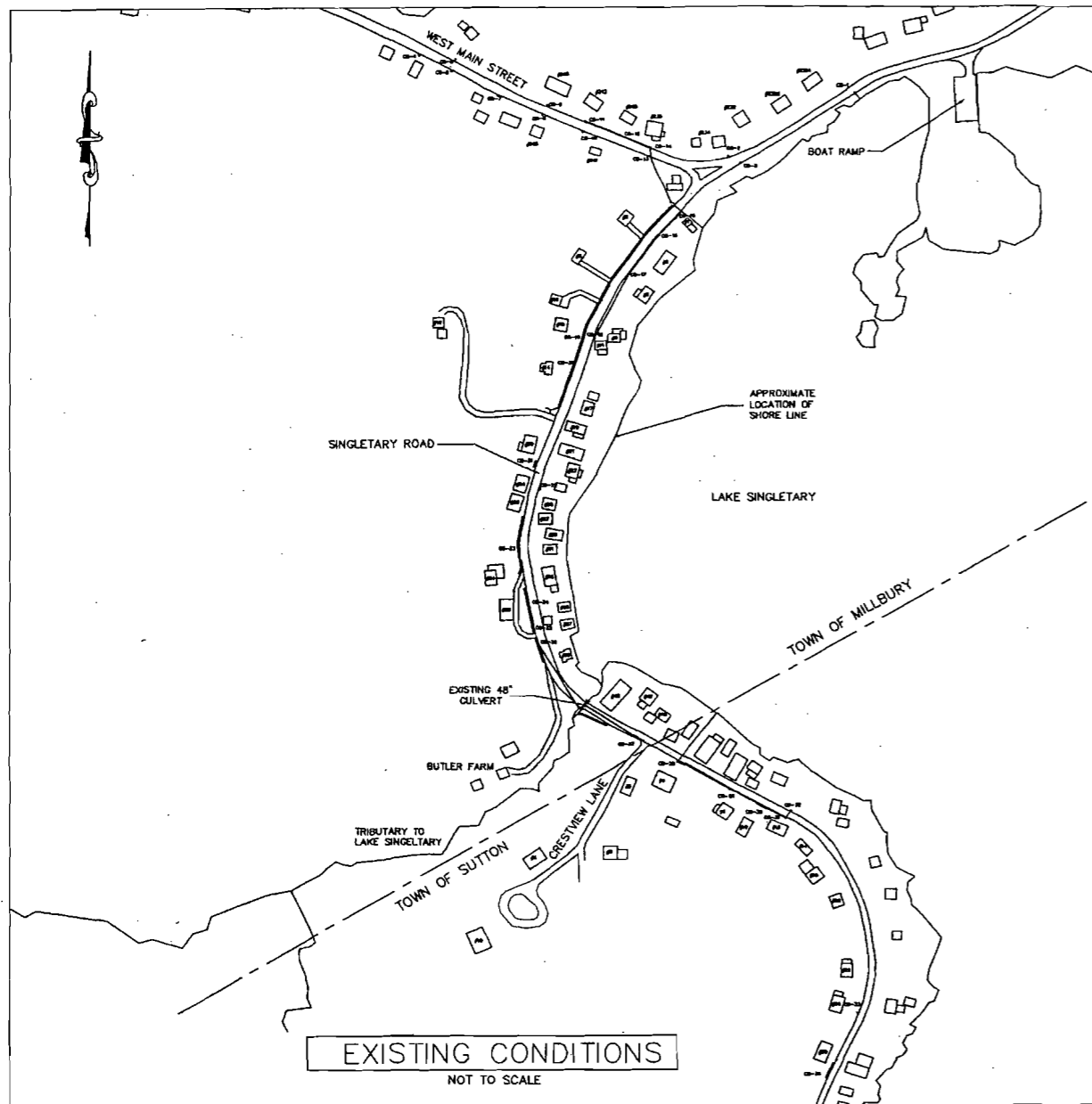
MARK BRIGGS

SHEET   TITLE

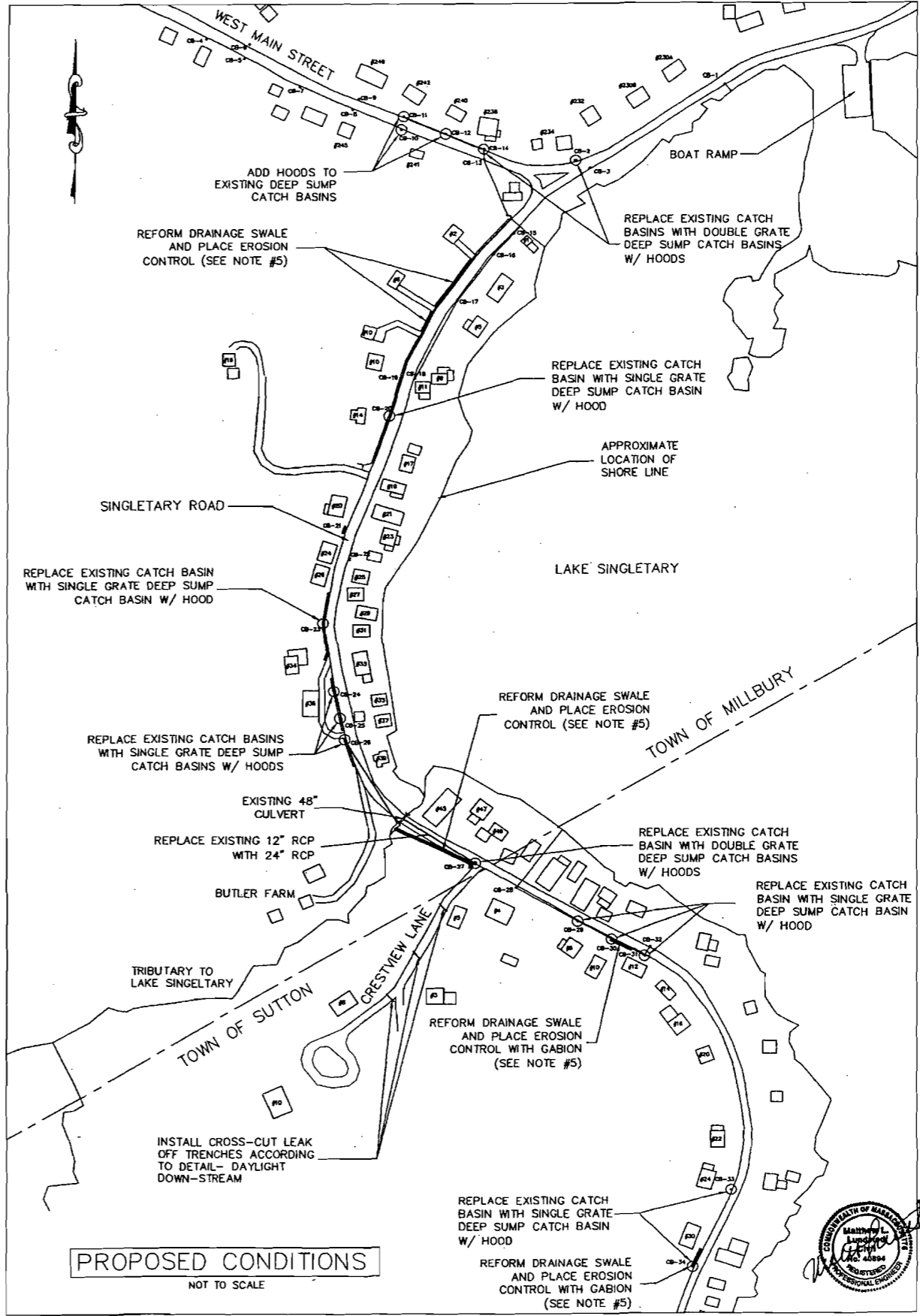
- C - 1    EXISTING AND PROPOSED PLAN VIEWS
- C - 2    DETAILS
- C - 3    DETAILS & PLAN VIEWS



COMPREHENSIVE ENVIRONMENTAL INCORPORATED \* MILFORD, MASSACHUSETTS

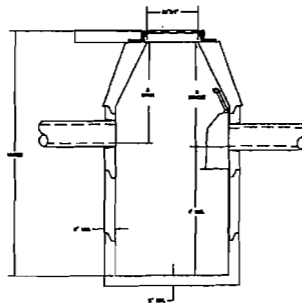


**EXISTING CONDITIONS**  
NOT TO SCALE



**PROPOSED CONDITIONS**  
NOT TO SCALE

ID	Existing Structure	Proposed Structure	Basin Type	Proposed Invert	Depth from Point of Origin	Basin Type	Proposed Invert	Depth from Point of Origin
CB-7	Single Catch Basin	Additional Double Catch Basin w/ Hood	Single Grate	Additional Double Grate	None	Approx. 2'-4" (12')	Approx. 6'-4"	
CB-14	Single Catch Basin	Additional Double Catch Basin w/ Hood	Single Grate	Additional Double Grate	Approx. 2'-8" (12')	Approx. 4'-8" (20')	Approx. 6'-4"	
CB-20	Single Catch Basin	Single Catch Basin w/ Hood	Concrete Top	Single Grate	TBD 1	TBD 1	See Note 1	
CB-22	Single Catch Basin	Single Catch Basin w/ Hood	Concrete Top	Single Grate	TBD 1	TBD 1	See Note 1	
CB-24	Single Catch Basin	Single Catch Basin w/ Hood	Concrete Top	Single Grate	TBD 1	TBD 1	See Note 1	
CB-25	Single Catch Basin	Single Catch Basin w/ Hood	Concrete Top	Single Grate	TBD 1	TBD 1	See Note 1	
CB-26	Single Catch Basin	Single Catch Basin w/ Hood	Concrete Top	Single Grate	TBD 1	TBD 1	See Note 1	
CB-27	Single Catch Basin	Replace with Double Catch Basin w/ Hood	Concrete Top	Double Grate	None	Approx. 4'-0" (24')	Approx. 8'-0"	
CB-29	Single Catch Basin	Single Catch Basin w/ Hood	DPW to Condemn	Single Grate	TBD 2	TBD 2	See Note 1	
CB-30	Single Catch Basin	Single Catch Basin w/ Hood	DPW to Condemn	Single Grate	TBD 2	TBD 2	See Note 1	
CB-31	Single Catch Basin	Single Catch Basin w/ Hood	DPW to Condemn	Single Grate	TBD 2	TBD 2	See Note 1	
CB-33	Single Catch Basin	Single Catch Basin w/ Hood	DPW to Condemn	Single Grate	TBD 2	TBD 2	See Note 1	
CB-34	Single Catch Basin	Single Catch Basin w/ Hood	DPW to Condemn	Single Grate	TBD 2	TBD 2	See Note 1	



- NOTE:**
- 1) BOTTOM OF SUMP OF BASIN TO BE SET TO BE 4" BELOW LOWEST PIPE INVERT OR TO MAXIMUM EXTENT POSSIBLE IF IN ROCK/LEDGE SECTION.
  - 2) TBD 1= MILLBURY DPW TO CONFIRM INVERT LOCATIONS PRIOR TO MANUFACTURE.
  - 3) TBD 2= FOR "BLOCK BUILT" CATCH BASINS, INVERTS TO MATCH EXISTING INVERTS.
  - 4) PRECASTER: SEE DETAIL SHEET C-2 FOR DETAILS ON WEEP HOLES TO ENSURE STRUCTURES DRAIN ENTIRELY BETWEEN STORM EVENTS.

**CATCH BASIN INVERT TABLE**

- General Notes**
- 1) HOUSE NUMBER SHOWN ONLY IN PROJECT AREA.
  - 2) DPW MUST CALL DIGSAFE BEFORE CONSTRUCTION (888)-DIG-SAFE
  - 3) LOCATIONS OF DRAINAGE STRUCTURES AND UNDERGROUND PIPES ARE APPROXIMATE AND MUST BE VERIFIED IN FIELD
  - 4) MAP NOT TO SCALE. ACTUAL CONDITIONS MAY VARY FROM THOSE SHOWN.
  - 5) FOR SWALE RESTORATION USE A COMBINATION OF EROSION CONTROL FABRIC WITH NEW ENGLAND EROSION CONTROL RESTORATION MIX (FOR DETENTION BASINS AND MOST SITES) SPECIFIED ON C-3 IN THE TYPICAL SWALE RECONSTRUCTION DETAIL.
  - 6) FOR PRECAST OR BLOCK BUILT CATCH BASIN CONSTRUCTION MATCH EXISTING INVERT ELEVATIONS AND PLACE GRATED TOPS AS SPECIFIED IN THE PRECAST CATCH BASIN INVERT TABLE ON SHEET C-1.
  - 7) FOR HOOD RETROFITS INSTALL HOODS BASED ON MANUFACTURER'S SPECIFICATIONS AND SIZE BASED ON SIZING CHART IN THE TYPICAL HOOD DETAIL.
  - 8) EROSION CONTROL SUCH AS SILT FENCE AND/OR HAY BALES SHALL BE INSTALLED WITHIN THE LIMITS OF WORK TO PREVENT SEDIMENT FROM ENTERING SURROUNDING WETLANDS OR LAKE SINGLETARY.
  - 9) THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PREVENT ANY DAMAGE TO ADJACENT PROPERTIES. ALL AREAS WHICH ARE AFFECTED BY THE CONTRACTOR'S OPERATIONS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION OR BETTER.
  - 10) IN MILLBURY A TOTAL OF THREE CATCH BASINS WILL BE RETROFITTED WITH HOODS.
  - 11) IN MILLBURY A TOTAL OF FIVE CATCH BASINS WILL BE REPLACED WITH DEEP SUMP SINGLE CATCH BASINS WITH HOODS.
  - 12) IN MILLBURY A TOTAL OF THREE CATCH BASINS WILL BE REPLACED WITH DEEP SUMP DOUBLE CATCH BASINS WITH HOODS.
  - 13) IN SUTTON A TOTAL OF FIVE CATCH BASINS WILL BE REPLACED WITH BLOCK BUILT DEEP SUMP SINGLE CATCH BASINS WITH HOODS.

No.	Revision/Issue	Date
1	Misc. Details/Comments	3/05

**COMPREHENSIVE ENVIRONMENTAL INCORPORATED**

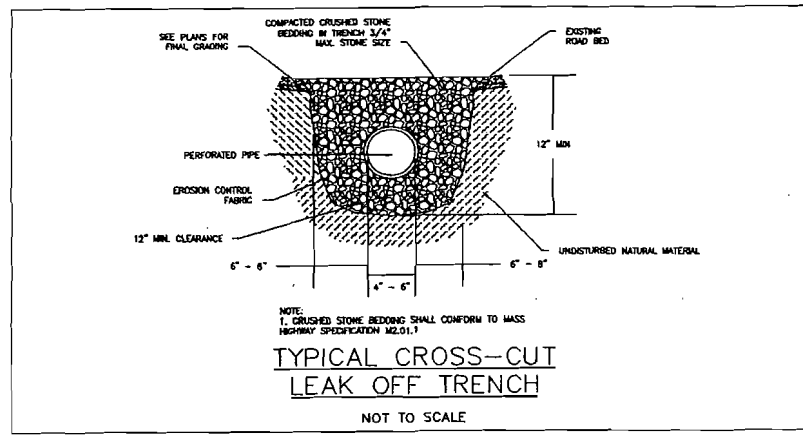
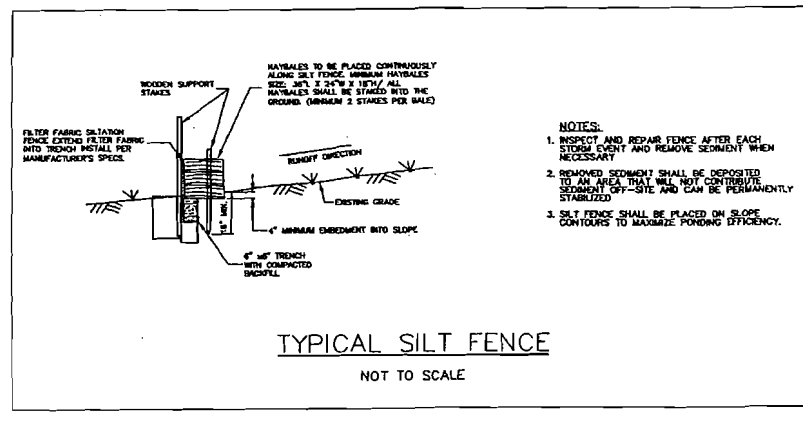
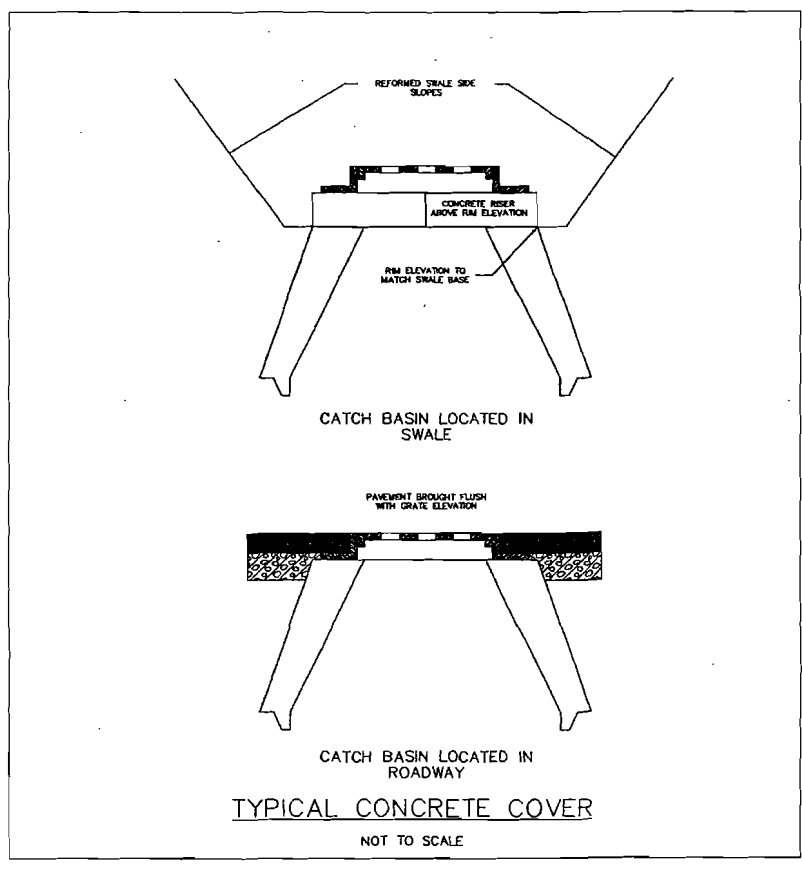
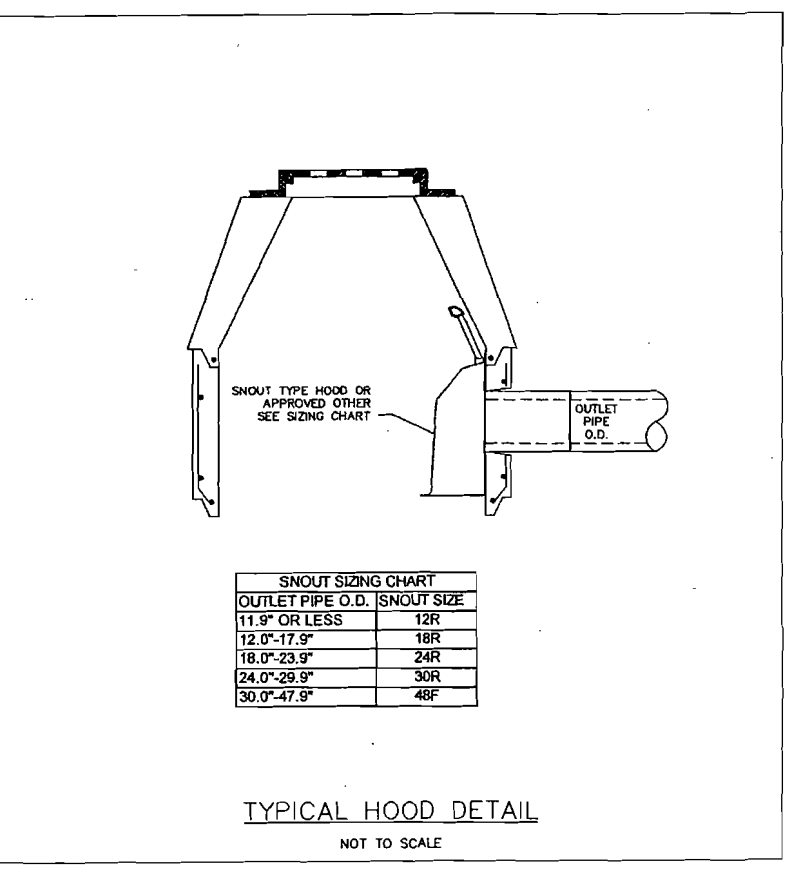
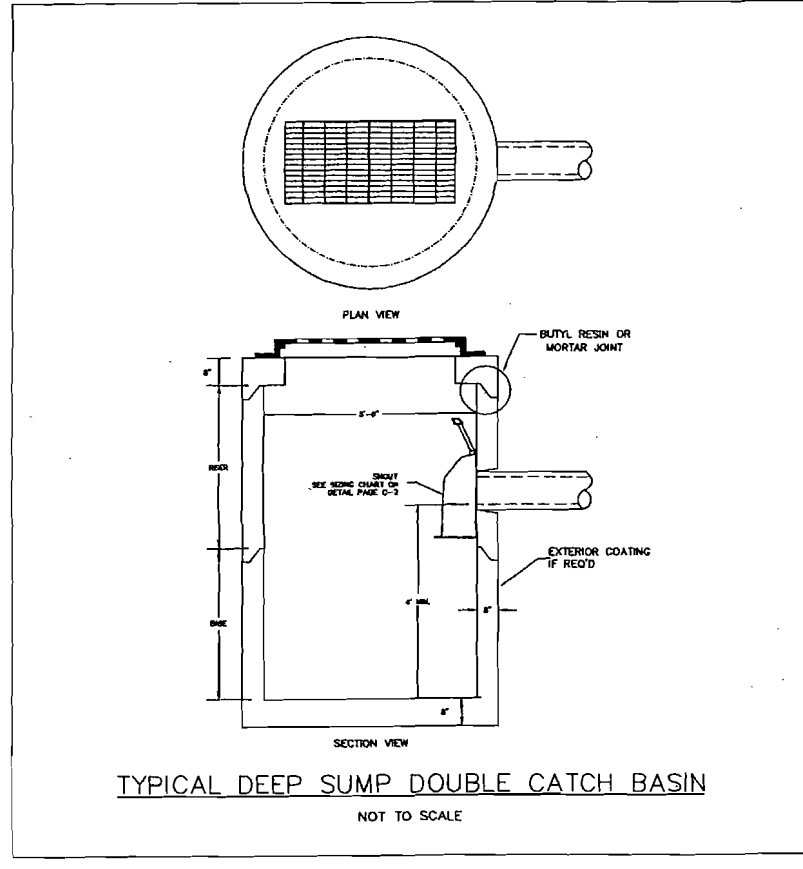
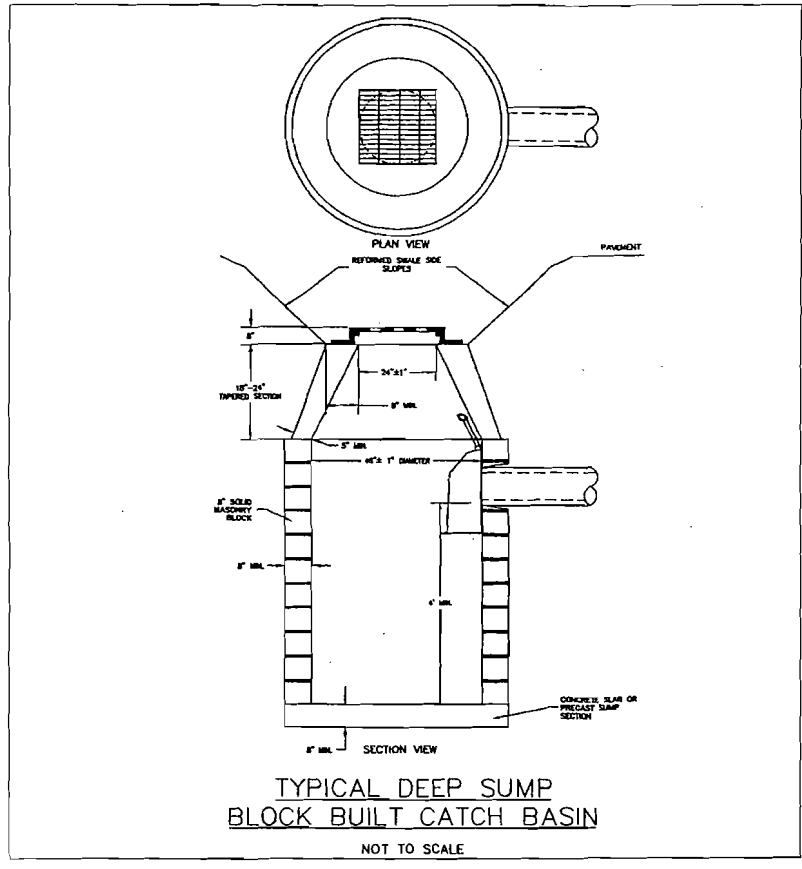
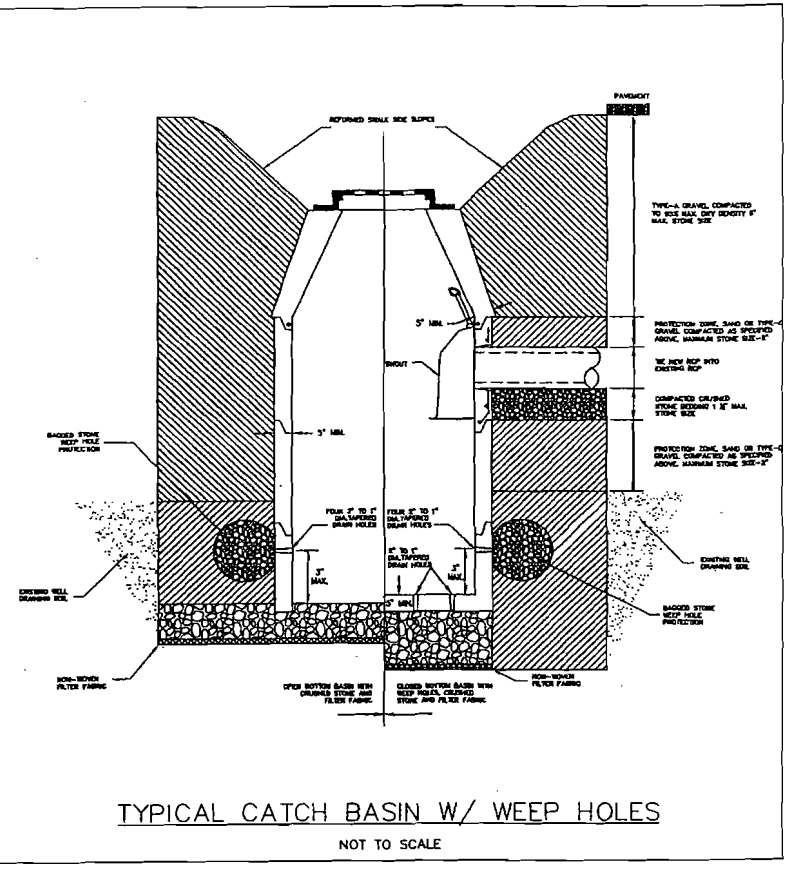
64 DILLA STREET MILFORD, MA 01757

**LAKE SINGLETARY WATERSHED PROTECTION PROJECT**

EXISTING AND PROPOSED PLAN VIEWS

PROJECT NO: 100-1  
DATE: APRIL 1, 2004  
DRAWN BY: BCL  
CHECKED BY: MLL  
SCALE: NOT TO SCALE

Sheet  
**C-1**



- General Notes
- 1) DETAILS ARE NOT DRAWN TO SCALE.
  - 2) REMOVED PAVEMENT SHOULD BE REPLACED WITH 6" OF CRUSHED GRAVEL AND A 2-1/2" BINDER COARSE AND A 1-1/2" WEARING COARSE.
  - 3) INSTALL PRECAST CATCH BASINS TO MATCH EXISTING INVERT ELEVATIONS. PLACE BACKFILL MATERIAL AS SPECIFIED IN TYPICAL CATCH BASIN W/ WEEP HOLES DETAIL.
  - 4) CONSTRUCT BLOCK BUILT CATCH BASINS TO MATCH EXISTING INVERT ELEVATIONS.
  - 5) INSTALL SNOUT TYPE HOOD OR APPROVED EQUAL ON ALL OUTLETS. SIZE SNOUT BASED ON OUTLET PIPE SIZE. SEE SIZING CHART ON TYPICAL HOOD DETAIL.
  - 6) INSTALL GRATED TOPS ON ALL CATCH BASINS AS SPECIFIED IN PRECAST CATCH BASIN INVERT TABLE ON SHEET C-1. AND TYPICAL CATCH BASIN COVER DETAIL ON SHEET C-2.
  - 7) EROSION CONTROL SUCH AS SILT FENCE AND/OR HAY BALES SHALL BE INSTALLED WITHIN THE LIMITS OF WORK TO PREVENT SEDIMENT FROM ENTERING SURROUNDING WETLANDS OR LAKE SINGLETARY.
  - 8) THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PREVENT ANY DAMAGE TO ADJACENT PROPERTIES. ALL AREAS WHICH ARE AFFECTED BY THE CONTRACTOR'S OPERATIONS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION OR BETTER.

No.	Misc. Details/Comments	Date
1	Misc. Details/Comments	3/05

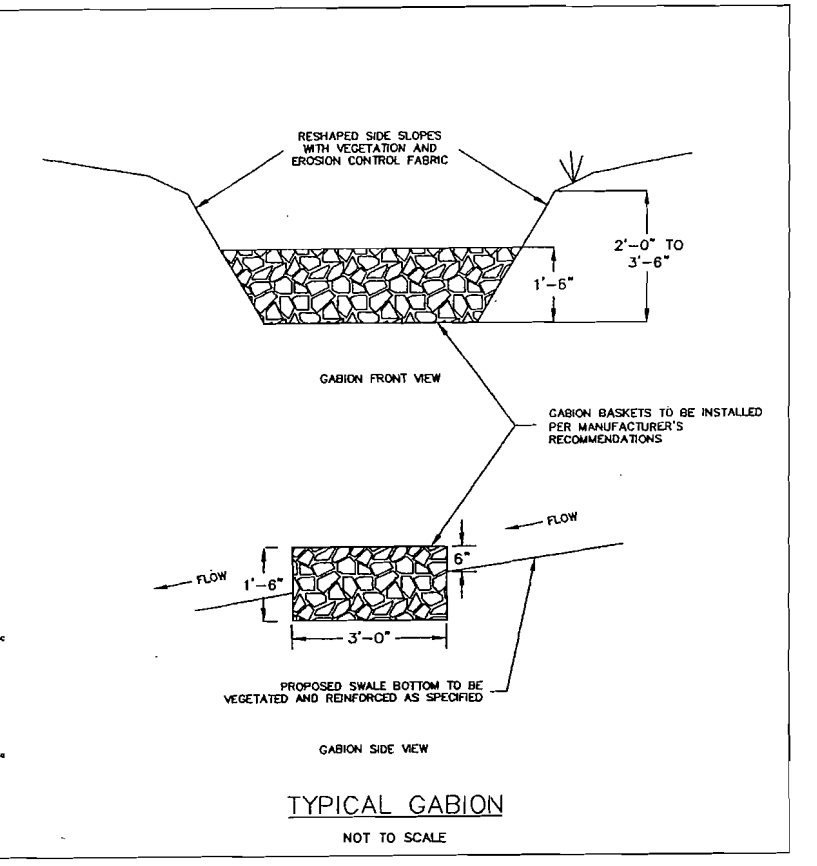
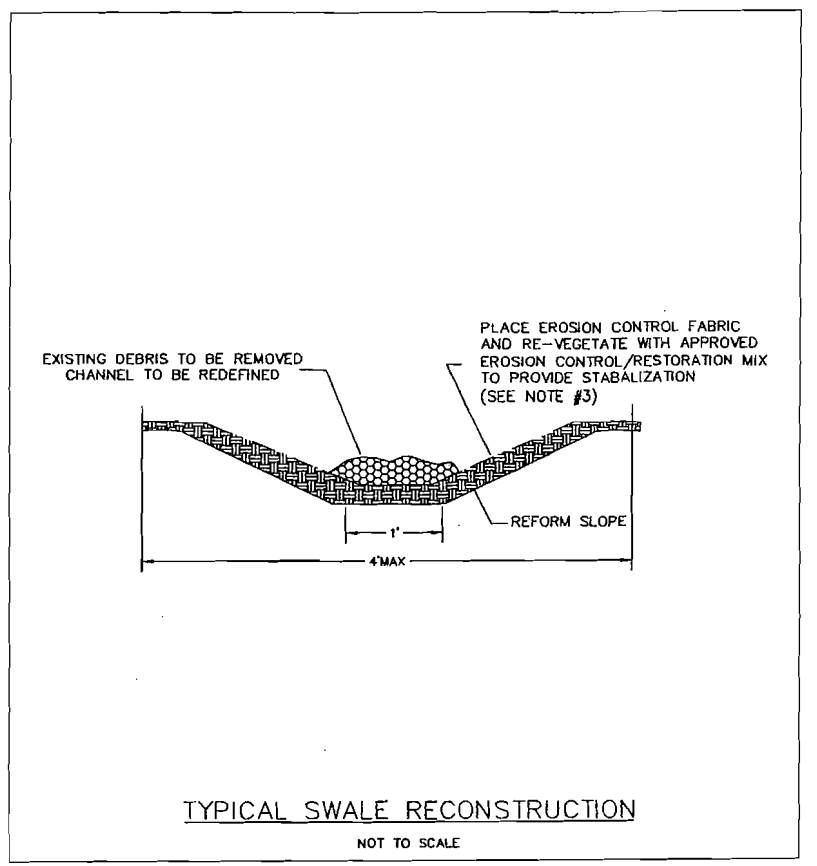
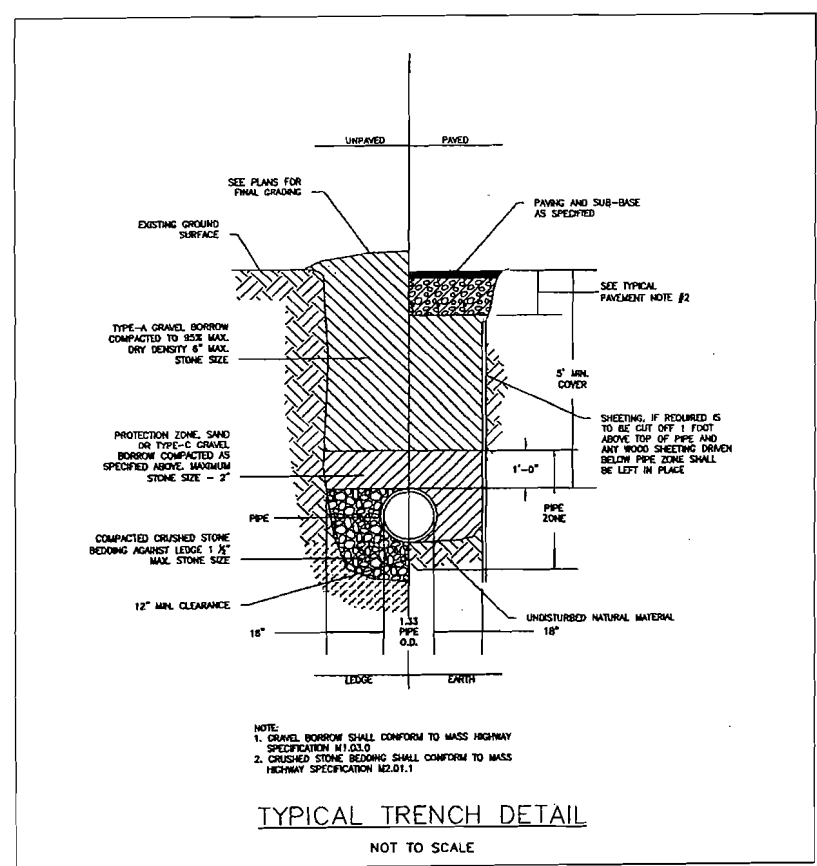
**COMPREHENSIVE ENVIRONMENTAL  
INCORPORATED**

64 DILLA STREET MILFORD, MA 01757

LAKE SINGLETARY  
WATERSHED PROTECTION  
PROJECT

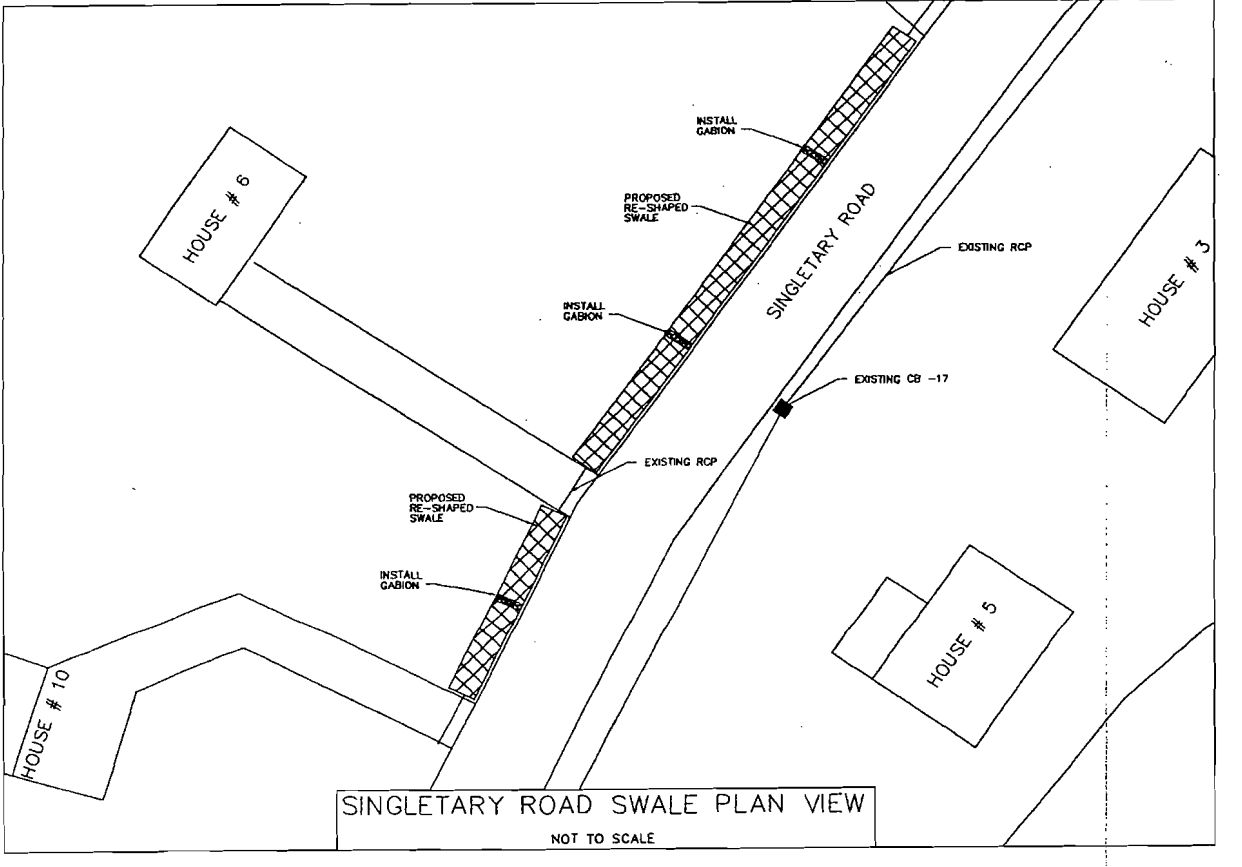
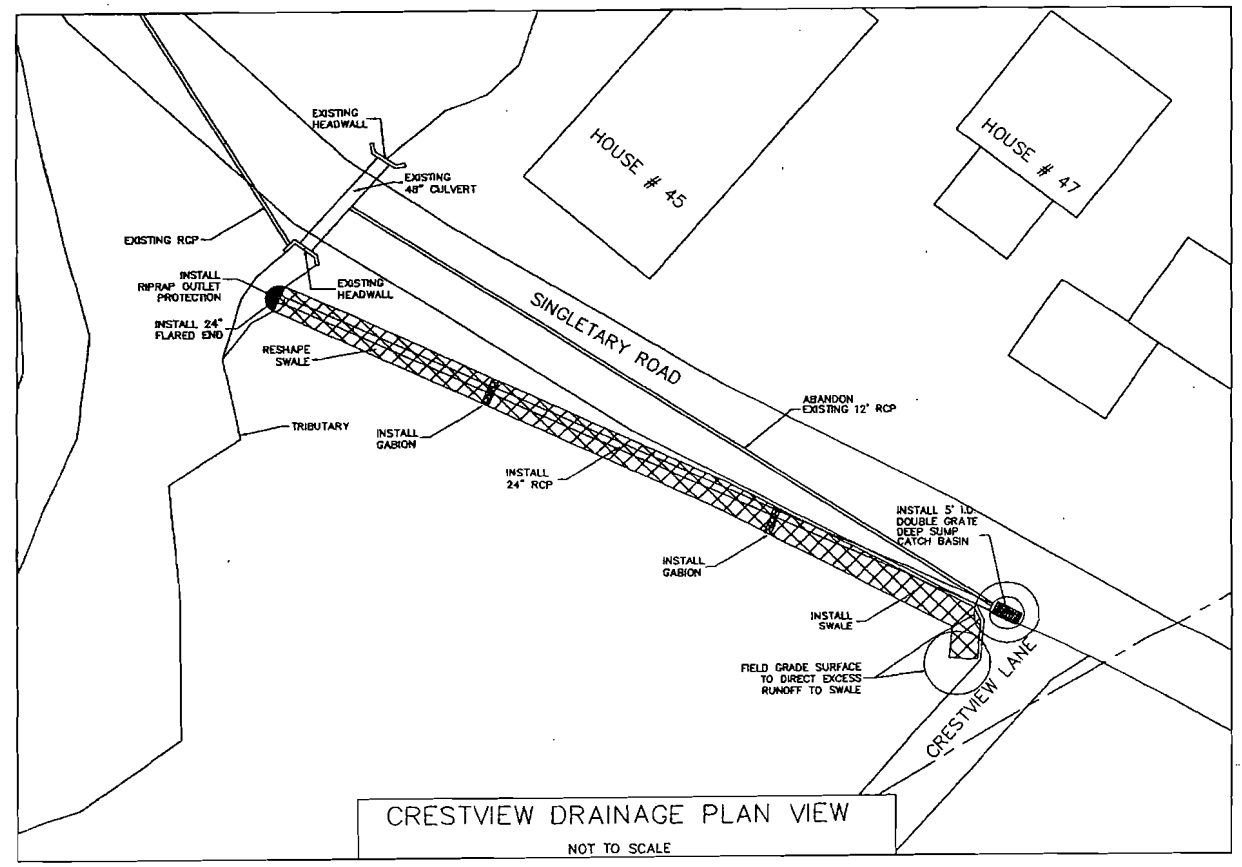
DETAILS &  
PLAN VIEWS

PROJECT NO. 188-1	Sheet
DATE: APRIL 1, 2004	
DRAWN BY: BCL	
CHECKED BY: MLL	
SCALE: NOT TO SCALE	C-2



General Notes

- 1) DETAILS ARE NOT DRAWN TO SCALE.
- 2) REMOVED PAVEMENT SHOULD BE REPLACED WITH 6" OF CRUSHED GRAVEL AND A 2-1/2" BINDER COARSE AND A 1-1/2" WEARING COARSE.
- 3) FOR SLOPE STABILIZATION USE A COMBINATION OF EROSION CONTROL FABRIC AND APPROVED NEW ENGLAND EROSION CONTROL/RESTORATION MIX WITH THE FOLLOWING SPECIES:  
 SWITCHGRASS (*Panicum virgatum*)  
 CREEPING RED FESCUE (*Festuca rubra*)  
 VIRGINIA WILD RYE (*Elymus virginicus*)  
 FOX SEDGE (*Carex vulpinoidea*)  
 CREEPING BENTGRASS (*Agrostis stolonifera*)  
 SILKY WILD RYE (*Elymus villosus*)  
 NODDING BUR-MARIGOLD (*Bidens cernua*)  
 SOFT RUSH (*Juncus effusus*)  
 GRASS LEAVED GOLDENROD (*Solidago graminifolia*)  
 SENSITIVE FERN (*Onoclea sensibilis*)  
 JOE PYE WEED (*Eupatorium maculatum*)  
 BONESET (*Eupatorium perfoliatum*)  
 FLAT TOP ASTER (*Aster umbellatus*)  
 NEW YORK ASTER (*Aster novi-belgii*)  
 BLUE VERVAIN (*Verbena hastata*)
- 4) EROSION CONTROL SUCH AS SILT FENCE AND/OR HAY BALES SHALL BE INSTALLED WITHIN THE LIMITS OF WORK TO PREVENT SEDIMENT FROM ENTERING SURROUNDING WETLANDS OR LAKE SINGLETARY.
- 5) THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PREVENT ANY DAMAGE TO ADJACENT PROPERTIES. ALL AREAS WHICH ARE AFFECTED BY THE CONTRACTOR'S OPERATIONS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION OR BETTER.



Professional Engineer Seal: Matthew J. Murphy, No. 40894, State of Massachusetts

1	Misc. Details/Comments	3/05
No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED  
 64 DILLA STREET MILFORD, MA 01757

LAKE SINGLETARY WATERSHED PROTECTION PROJECT  
 DETAILS & PLAN VIEWS

PROJECT NO: 188-1	Sheet
DATE: APRIL 1, 2004	C-3
DRAWN BY: BCL	
CHECKED BY: MLL	
SCALE: NOT TO SCALE	