

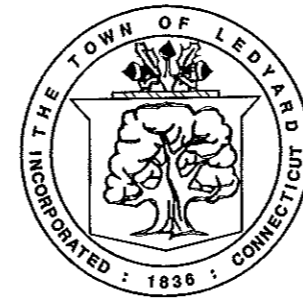
# WATER POLLUTION CONTROL AUTHORITY LEDYARD, CONNECTICUT CONSTRUCTION OF WATERMAINS AND APPURTENANT WORK AT ALJEN HEIGHTS - PHASE 2

CONTRACT No.  
2010-\*\*\*

## INDEX OF DRAWINGS

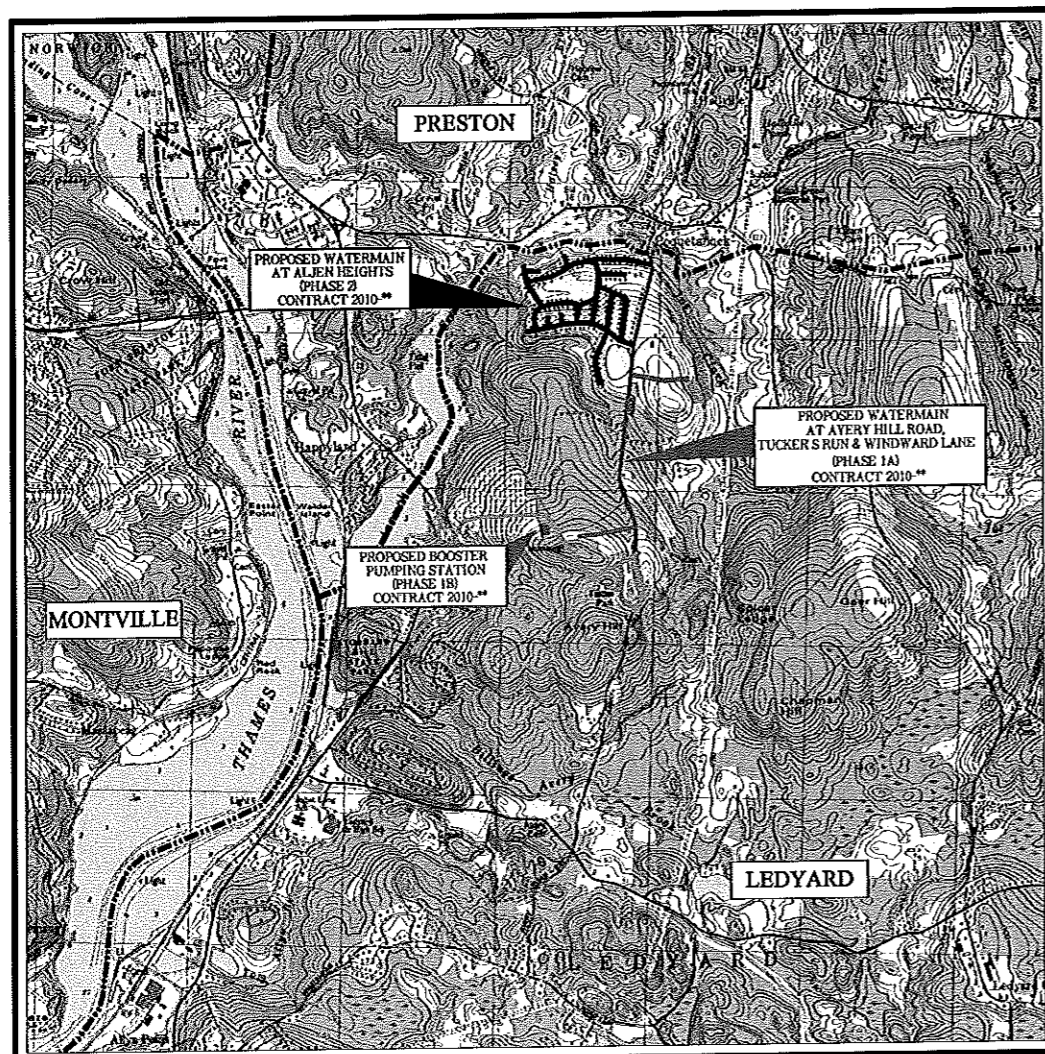
### SHEET NO. TITLE

1. PLANS 1 - MICHAEL LANE, LOUIS, HILLCREST AND ALJEN AVENUES
2. PLANS 2 - MICHAEL LANE, WHITE BIRCH & JEAN B CT., LAUREL & SUNSET AVENUES
3. PLANS 3 - ARROWHEAD & ROYAL OAKS DR., WILLOW LN., GREEN POINT & JOHN ST.
4. PLANS 4 - ARROWHEAD DRIVE, ALJEN AVENUE & BARN ROAD
5. CONSTRUCTION DETAILS
6. SEDIMENTATION, EROSION CONTROL AND KEY PLAN



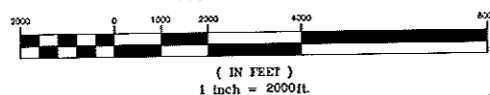
### NOTES:

1. REFER TO THE APPENDIX OF THE PROJECT MANUAL FOR GENERAL NOTES & LEGEND.
2. INFORMATION ON EXISTING CONDITIONS SHOWN ON THE DRAWINGS IS BASED ON SUMMER 2009 SURVEY BY AMORY ENGINEERS, SUPPLEMENTED BY TOWN OF LEDYARD G.I.S. MAPPING AND IS APPROXIMATE ONLY.



### LOCUS PLAN

GRAPHIC SCALE

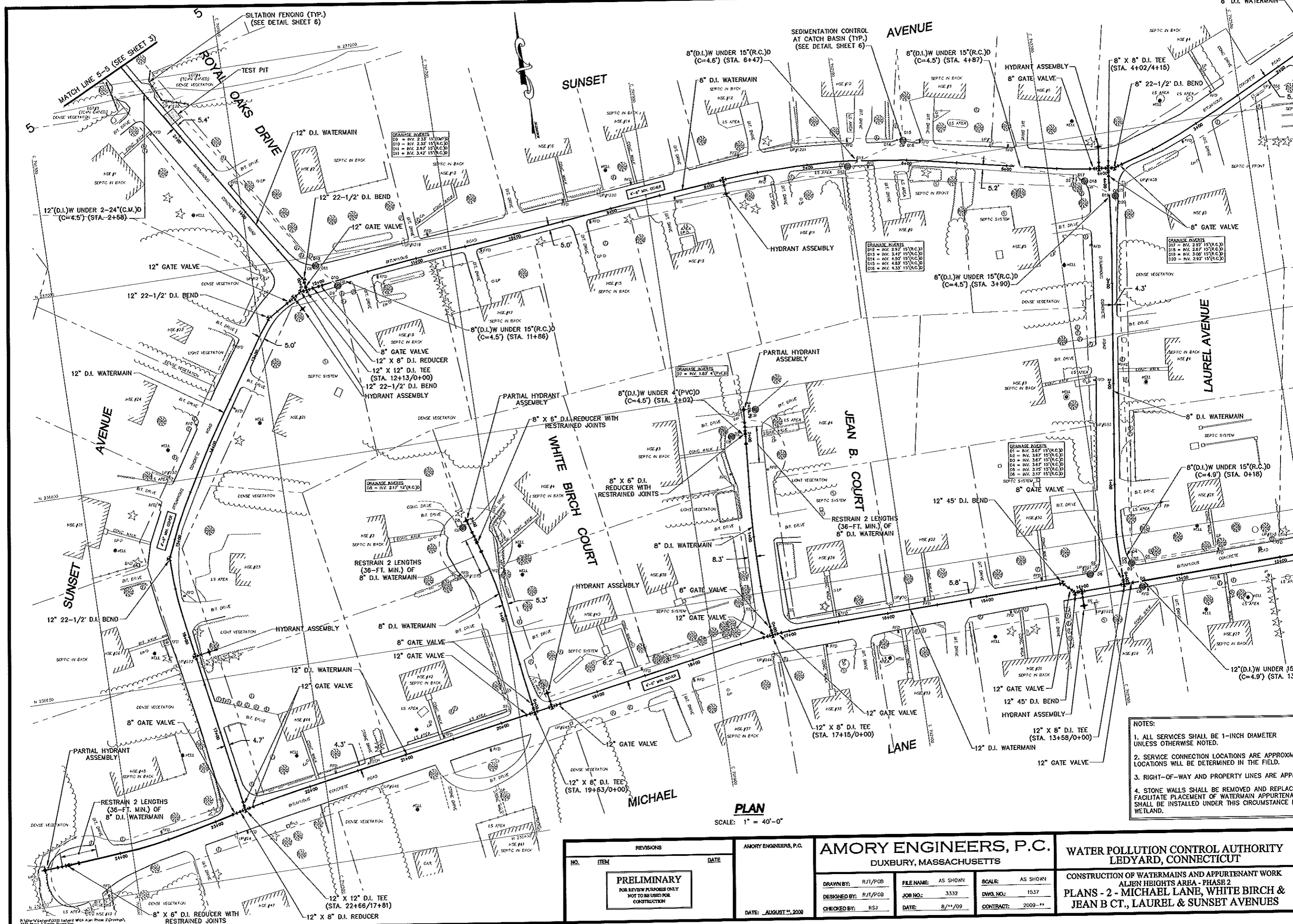


AUGUST 2009

AMORY ENGINEERS, P.C.  
DUXBURY, MASSACHUSETTS

LATEST REVISION: AUG





**PLAN**  
SCALE: 1" = 40'-0"

- NOTES:**
1. ALL SERVICES SHALL BE 1-INCH DIAMETER UNLESS OTHERWISE NOTED.
  2. SERVICE CONNECTION LOCATIONS ARE APPROXIMATE LOCATIONS WILL BE DETERMINED IN THE FIELD.
  3. RIGHT-OF-WAY AND PROPERTY LINES ARE APPROXIMATE.
  4. STONE WALLS SHALL BE REMOVED AND REPLACED WITH CONCRETE TO FACILITATE PLACEMENT OF WATERMAIN APPURTENANCES. SHALL BE INSTALLED UNDER THIS CIRCUMSTANCE IF WETLAND.

REVISIONS		
NO.	ITEM	DATE
<p><b>PRELIMINARY</b> FOR REVIEW PURPOSES ONLY NOT TO BE USED FOR CONSTRUCTION</p>		

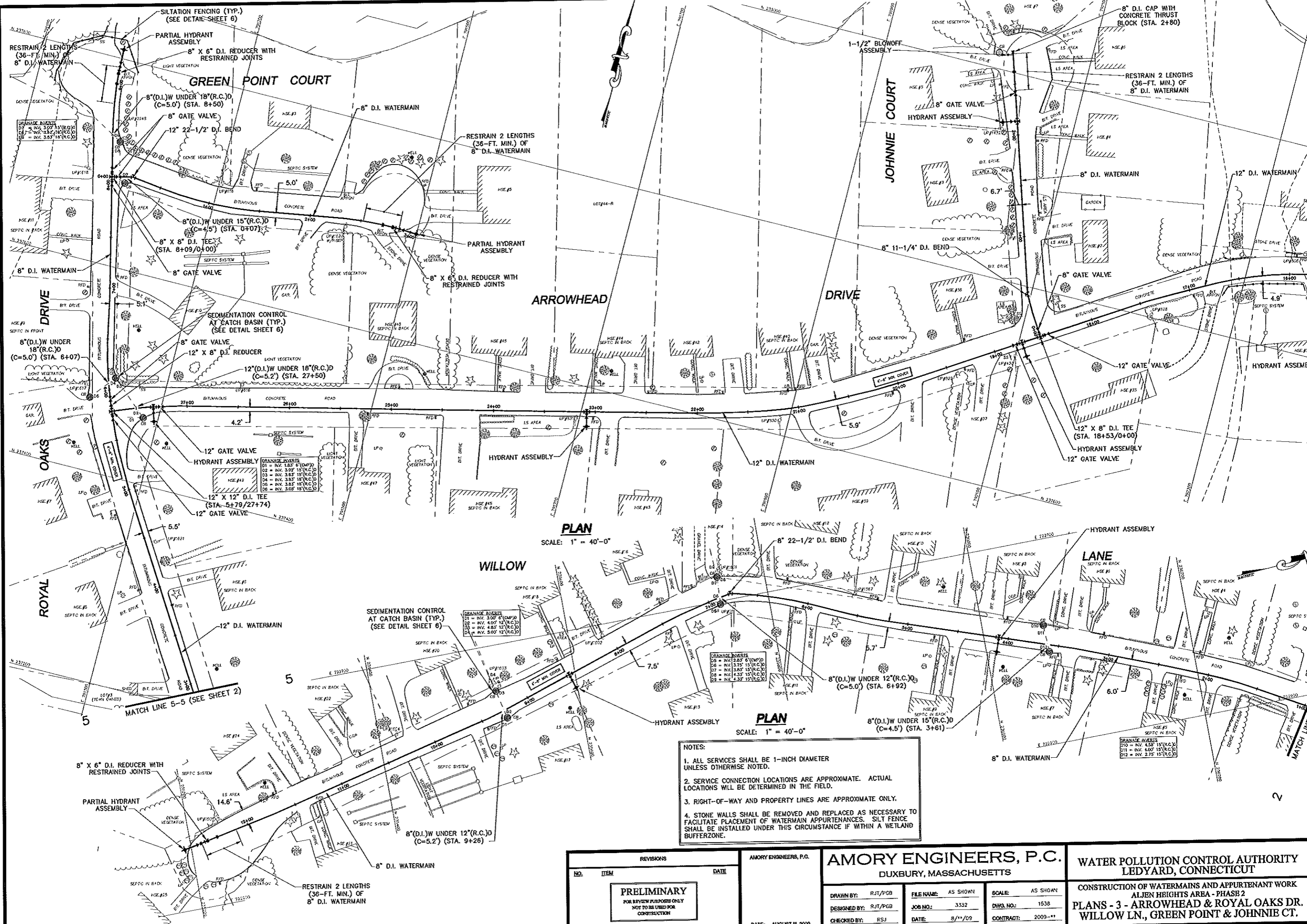
AMORY ENGINEERS, P.C.  
DATE: AUGUST 11, 2009

**AMORY ENGINEERS, P.C.**  
DUXBURY, MASSACHUSETTS

DRAWN BY: RJT/PGB	FILE NAME: AS SHOWN	SCALE: AS SHOWN
DESIGNED BY: RJT/PGB	JOB NO.: 3332	DWG. NO.: 1537
CHECKED BY: RSJ	DATE: 8/11/09	CONTRACT: 2009-11

**WATER POLLUTION CONTROL AUTHORITY**  
LEDYARD, CONNECTICUT

CONSTRUCTION OF WATERMAINS AND APPURTENANT WORK  
ALIEN HEIGHTS AREA - PHASE 2  
**PLANS - 2 - MICHAEL LANE, WHITE BIRCH & JEAN B CT., LAUREL & SUNSET AVENUES**



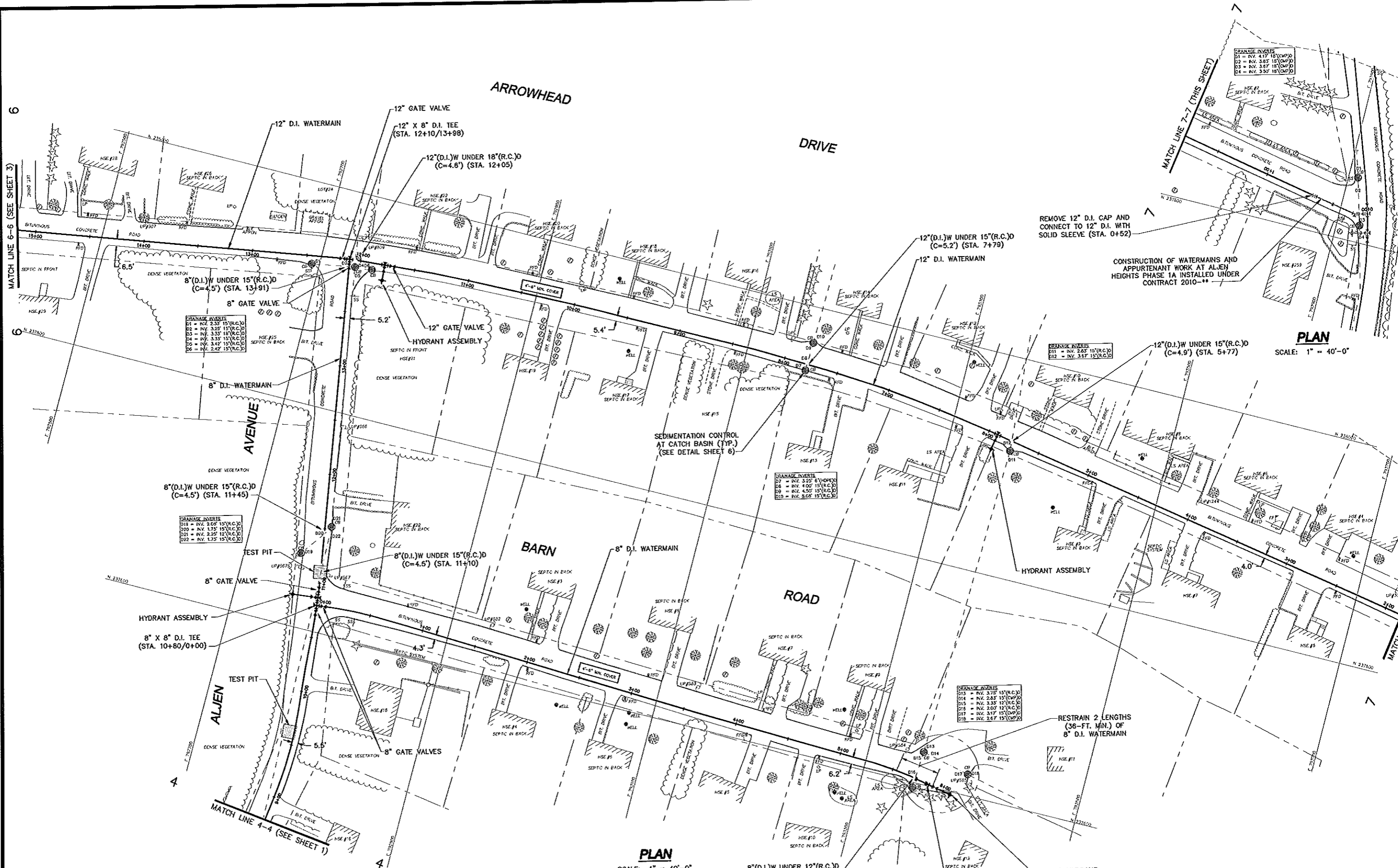
**PLAN**  
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  4. STONE WALLS SHALL BE REMOVED AND REPLACED AS NECESSARY TO FACILITATE PLACEMENT OF WATERMAIN APPURTENANCES. SILT FENCE SHALL BE INSTALLED UNDER THIS CIRCUMSTANCE IF WITHIN A WETLAND BUFFERZONE.

<table border="1"> <thead> <tr> <th>NO.</th> <th>REVISIONS</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;"><b>PRELIMINARY</b> FOR REVIEW PURPOSES ONLY NOT TO BE USED FOR CONSTRUCTION</td> </tr> </tbody> </table>		NO.	REVISIONS	DATE	<b>PRELIMINARY</b> FOR REVIEW PURPOSES ONLY NOT TO BE USED FOR CONSTRUCTION			AMORY ENGINEERS, P.C. DUXBURY, MASSACHUSETTS DATE: AUGUST 11, 2009	<b>AMORY ENGINEERS, P.C.</b> DUXBURY, MASSACHUSETTS DRAWN BY: RJT/PGB DESIGNED BY: RJT/PGB CHECKED BY: RSJ FILE NAME: AS SHOWN JOB NO.: 3332 DATE: 8/11/09 SCALE: AS SHOWN DWG. NO.: 1538 CONTRACT: 2009-11	<b>WATER POLLUTION CONTROL AUTHORITY</b> LEDYARD, CONNECTICUT CONSTRUCTION OF WATERMANS AND APPURTENANT WORK ALJEN HEIGHTS AREA - PHASE 2 <b>PLANS - 3 - ARROWHEAD &amp; ROYAL OAKS DR.</b> WILLOW LN., GREEN POINT & JOHNNIE CT.
NO.	REVISIONS	DATE								
<b>PRELIMINARY</b> FOR REVIEW PURPOSES ONLY NOT TO BE USED FOR CONSTRUCTION										

1/2" = 40' (1/4" = 20') (1/8" = 10') (1/16" = 5') (1/32" = 2.5') (1/64" = 1.25')



REMOVE 12" D.I. CAP AND CONNECT TO 12" D.I. WITH SOLID SLEEVE (STA. 0+52)

CONSTRUCTION OF WATERMAINS AND APPURTENANT WORK AT ALJEN HEIGHTS PHASE 1A INSTALLED UNDER CONTRACT 2010-\*\*

**PLAN**  
SCALE: 1" = 40'-0"

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SCALE: 1" = 40'-0"

- NOTES:**
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REVISIONS		
NO.	ITEM	DATE
<b>PRELIMINARY</b> FOR REVIEW PURPOSES ONLY NOT TO BE USED FOR CONSTRUCTION		

AMORY ENGINEERS, P.C.  
DATE: AUGUST 22, 2009

**AMORY ENGINEERS, P.C.**  
DUXBURY, MASSACHUSETTS

DRAWN BY: RJT/PGB	FILE NAME: AS SHOWN	SCALE: AS SHOWN
DESIGNED BY: RJT/PGB	JOB NO.: 3332	DWG. NO.: 1539
CHECKED BY: RSJ	DATE: 8/**/09	CONTRACT: 2003-**

**WATER POLLUTION CONTROL AUTHORITY**  
LEDYARD, CONNECTICUT

CONSTRUCTION OF WATERMAINS AND APPURTENANT WORK  
ALJEN HEIGHTS AREA - PHASE 2  
**PLANS - 4 - ARROWHEAD DRIVE**  
**ALJEN AVENUE & BARN ROAD**

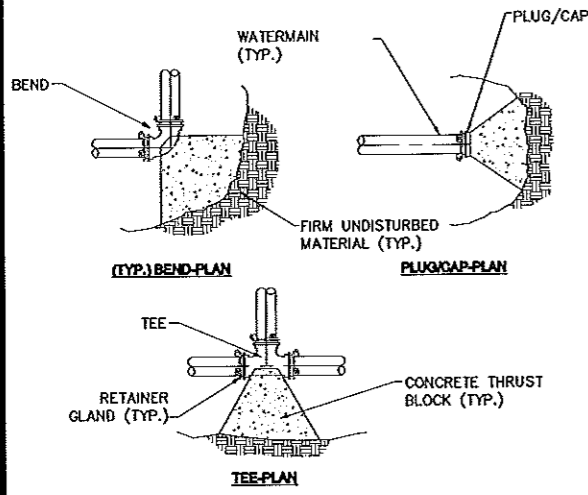
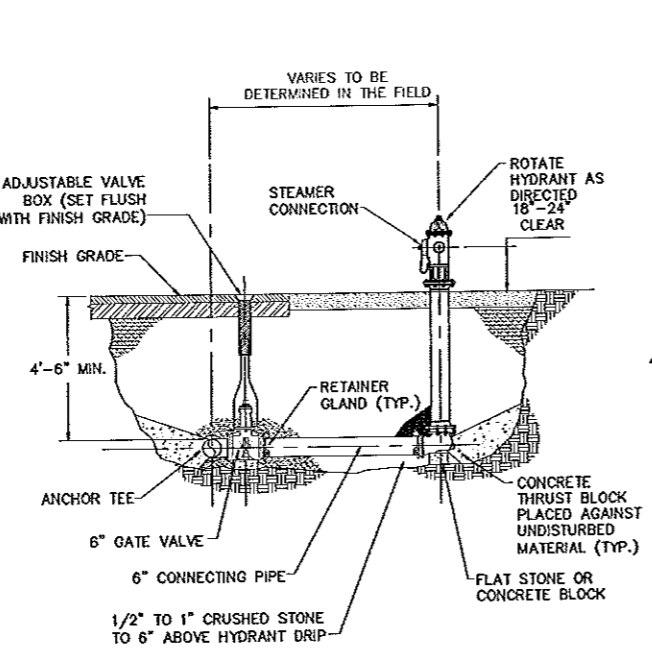
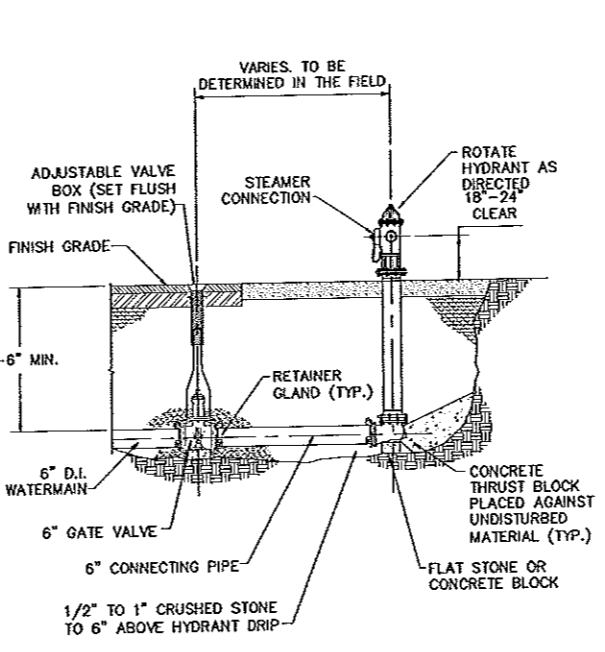


TABLE OF BEARING AREAS (S.F.)			
SIZE OF MAIN (IN.)	BENDS (90)	BENDS (45 & UNDER)	TEES, CAPS OR PLUGS
16	22	12	16
12	12	6	9
≤8	6	3	4

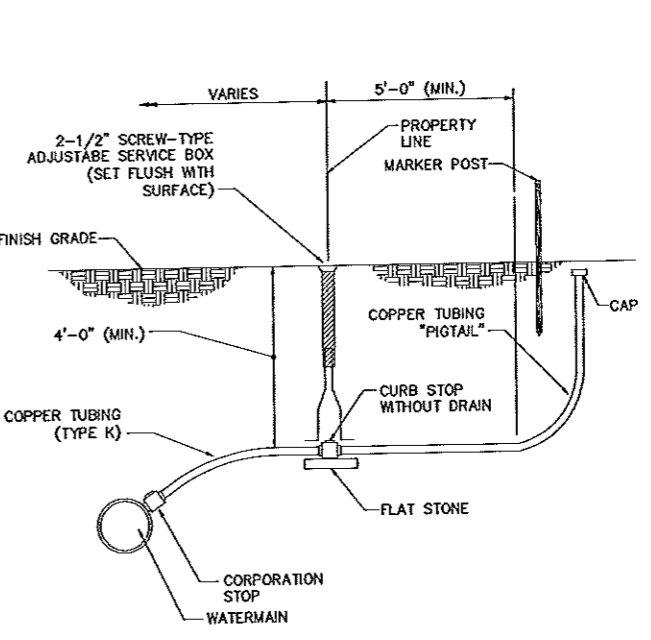
NOTES:  
 1. CONCRETE FOR THRUST BLOCKS SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS, UNLESS DETERMINED OTHERWISE BY THE ENGINEER.  
 2. THRUST BLOCK BEARING AREAS SHALL BE IN ACCORDANCE WITH TABLE, UNLESS DETERMINED OTHERWISE BY THE ENGINEER DUE TO SOIL CONDITIONS.  
 3. THRUST BLOCK SIDES SHALL BE FORMED WITH PLYWOOD.



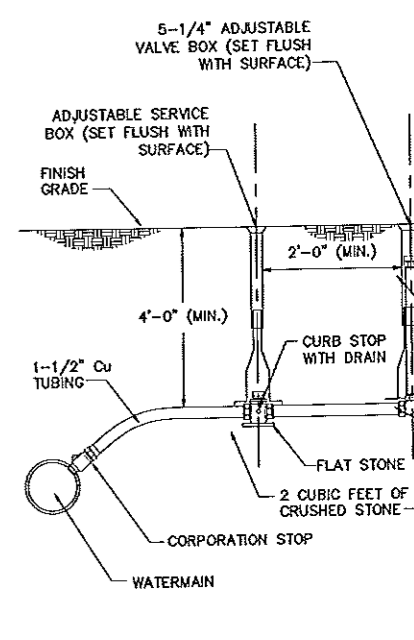
NOTE: DEPTH OF HYDRANT BURY TO SUIT INSTALLED DEPTH OF COVER OVER WATERMAIN.



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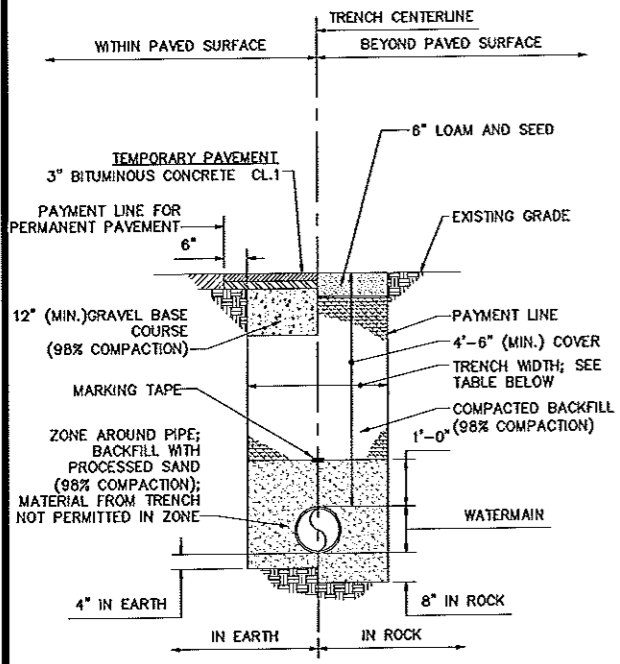


NOTES:  
 1. ALL JOINTS SHALL BE COMPRESSION TYPE.  
 2. COPPER TUBING TO BE BACKFILLED WITH SAND BY HAND TO 6" ABOVE TUBING.



NOTES:  
 1. ALL JOINTS SHALL BE COMPRESSION TYPE.  
 2. Cu TUBING TO BE BACKFILLED WITH SAND BY HAND TO 6" ABOVE TUBING.

**THRUST BLOCK DETAILS**  
NOT TO SCALE

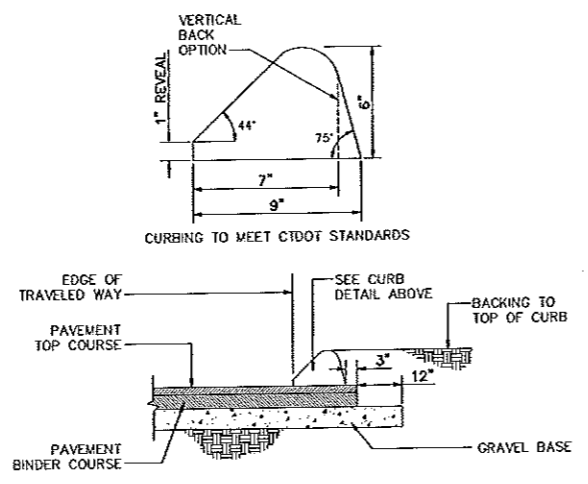


TRENCH WIDTH TABLE		
PIPE DIA.	12" & UNDER	16"
TRENCH WIDTH	4'-0"	4'-4"

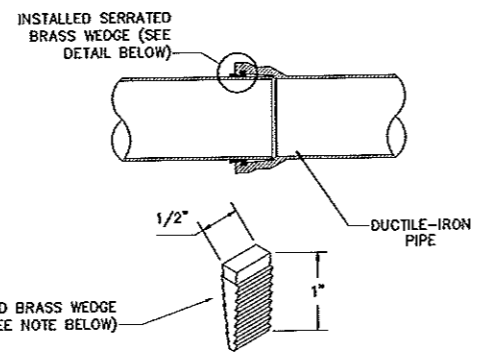
NOTES:  
 1. PAYMENT FOR PAVEMENT INSTALLED BEYOND PAYMENT LINE WILL BE MADE ONLY WHEN SUCH INSTALLATION IS APPROVED BY THE ENGINEER.  
 2. MILL & OVERLAY FROM EDGE OF ROAD TO CENTERLINE OR AS DIRECTED BY THE ENGINEER.  
 3. MILL & OVERLAY DEPTH SHALL BE 1-1/2".  
 4. ALL VERTICAL EDGES OF REMAINING PAVEMENT SHALL BE PAINTED WITH A LIGHT COAT OF CUTBACK ASPHALT.

**WATERMAIN TRENCH DETAIL**  
**TOWN RIGHT OF WAY**  
NOT TO SCALE

**HYDRANT ASSEMBLY DETAIL**  
NOT TO SCALE



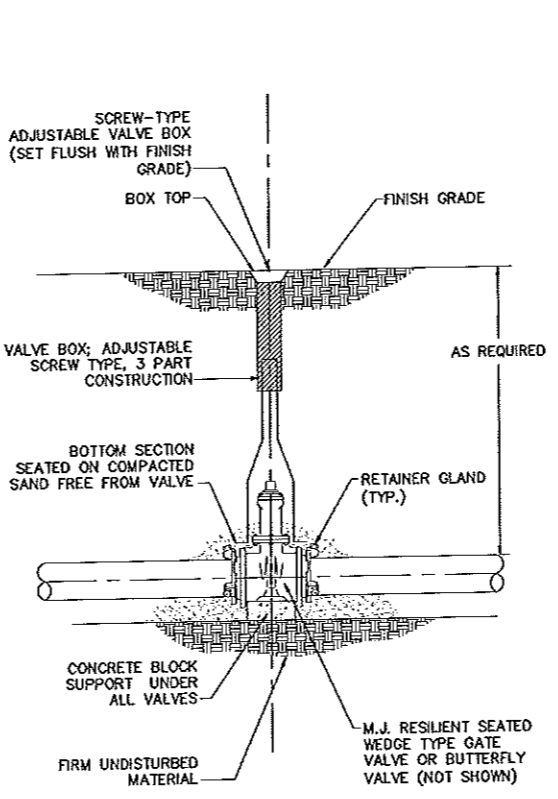
**BITUMINOUS CONCRETE CURB**  
NOT TO SCALE



NOTES:  
 1. BRASS WEDGES ARE TO BE INSTALLED ON ALL DUCTILE-IRON, PUSH-ON PIPING, INCLUDING HYDRANT BRANCHES, ETC; TO PROVIDE FOR ELECTRICAL THAWING.  
 2. FOR 2" THROUGH 12" PIPE, TWO WEDGES SHALL BE USED PER JOINT; FOR LARGER DIAMETER PIPE, FOUR WEDGES SHALL BE USED PER JOINT.  
 3. EACH WEDGE IS DRIVEN INTO THE OPENING BETWEEN THE PLAIN END AND THE BELL UNTIL SNUG. WHEN FOUR WEDGES ARE USED, THEY ARE INSTALLED SIDE BY SIDE, IN PAIRS.

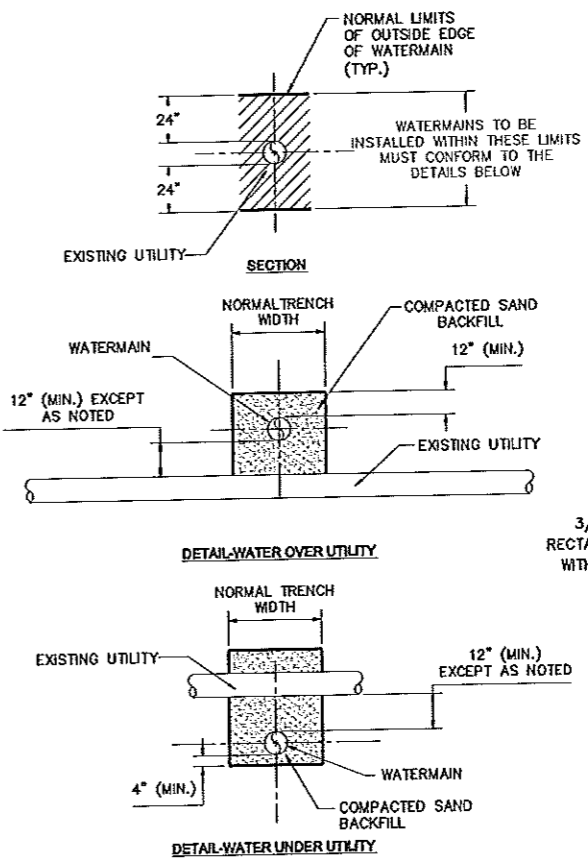
**SERRATED BRASS WEDGE DETAIL**  
NOT TO SCALE

**PARTIAL HYDRANT ASSEMBLY DETAIL**  
NOT TO SCALE



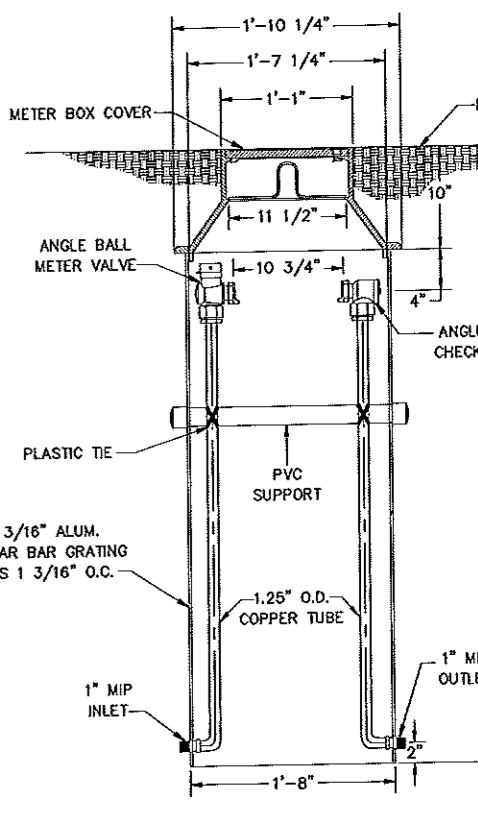
**TYPICAL VALVE DETAIL**  
NOT TO SCALE

**SERVICE CONNECTION DETAIL**  
NOT TO SCALE



**TYPICAL UTILITY CROSSING DETAIL**  
NOT TO SCALE

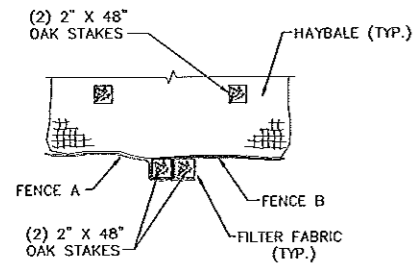
**1-1/2" BLOWOFF DETAIL**  
NOT TO SCALE



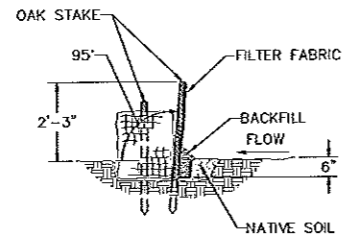
NOTE: METER BOX SHALL BE AS SPECIFIED IN THE CONTRACT SPECIFICATIONS

**METER PIT DETAIL**  
NOT TO SCALE

REVISIONS NO. ITEM DATE		AMORY ENGINEERS, P.C. DUXBURY, MASSACHUSETTS		WATER POLLUTION CONTROL AUTHORITY LEDYARD, CONNECTICUT	
PRELIMINARY FOR REVIEW PURPOSES ONLY NOT TO BE USED FOR CONSTRUCTION		DATE: AUGUST 22, 2009		CONSTRUCTION OF WATERMAINS AND APPURTENANT WORK ALJEN HEIGHTS AREA - PHASE 2	
DRAWN BY: RJT/PGB		FILE NAME: AS SHOWN		SCALE: AS SHOWN	
DESIGNED BY: RJT/PGB		JOB NO.: 3332		DWG. NO.: 1540	
CHECKED BY: RSJ		DATE: 8/**/09		CONTRACT: 2009-11	
<b>CONSTRUCTION DETAILS</b>					

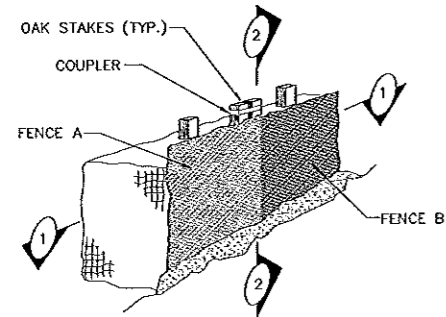


SECTION 1-1

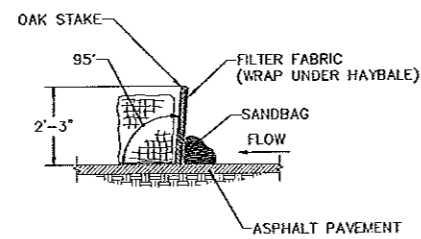


SECTION 2-2  
(USE IN AREAS OF SOIL)

OR



ELEVATION

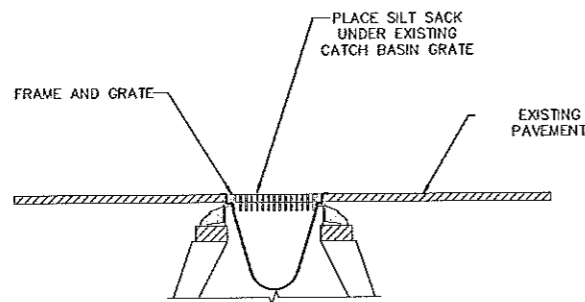


SECTION 2-2  
(USE IN AREAS OF PAVEMENT)

1. SILT FENCE / HAYBALES TO BE PLACED PRIOR TO START OF WORK.
2. OAK STAKES TO BE DRIVEN AT LEAST 18" MIN. INTO NATIVE SOIL.

**SILTFENCE / HAYBALE DETAIL**

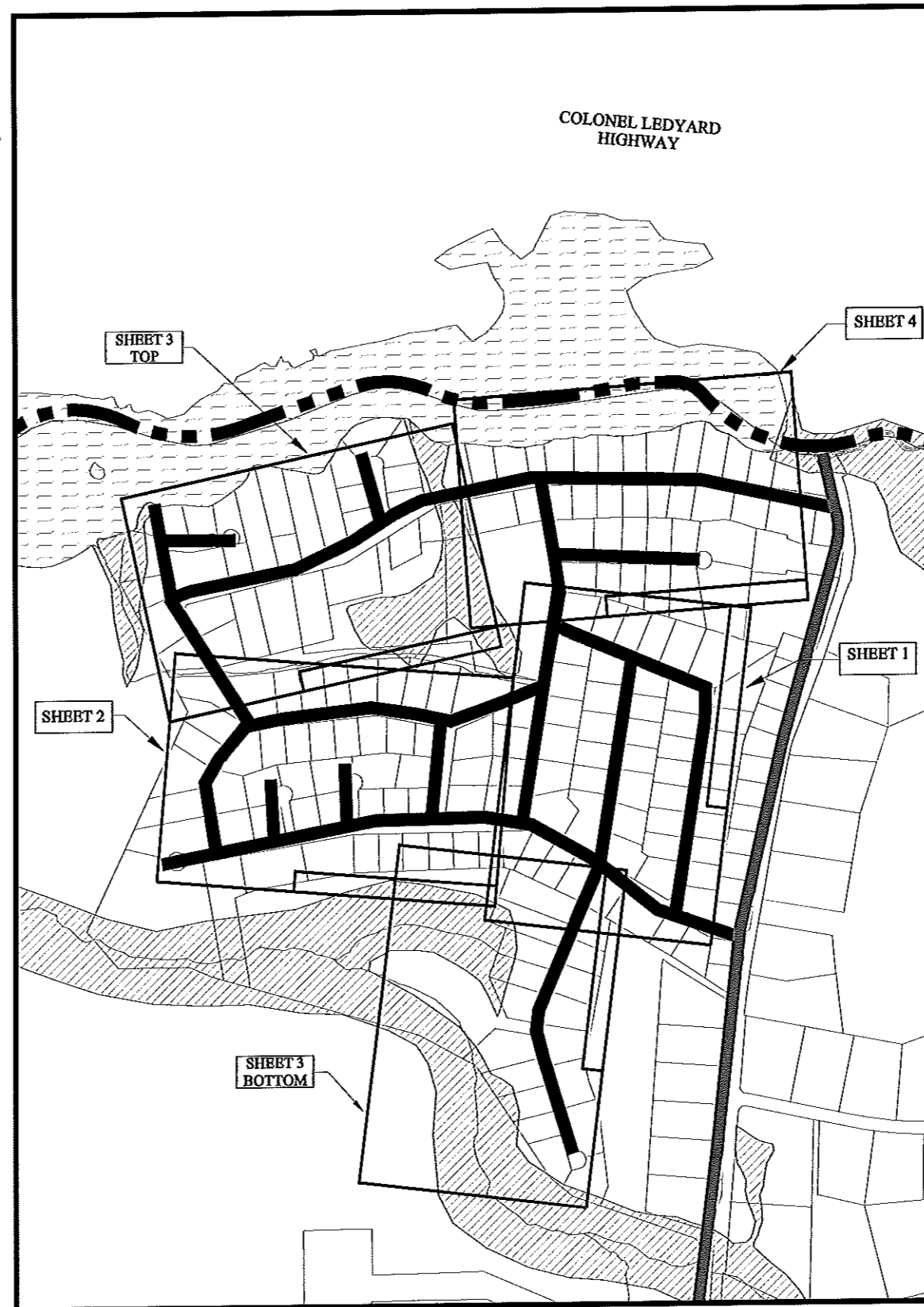
NOT TO SCALE



1. SILT SACKS SHALL BE INSPECTED WEEKLY AND SILT SHALL BE REMOVED, WHEN ACCUMULATED, TO ALLOW CATCH BASIN TO FUNCTION PROPERLY.
2. SILT SACK AS MANUFACTURED BY ACF ENVIRONMENTAL (800-448-3636) OR APPROVED EQUAL.

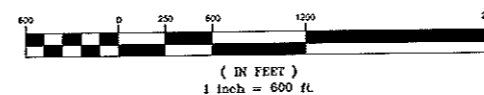
**SEDIMENTATION CONTROL AT  
CATCH BASINS AND DROP INLETS - SILT SACKS**

NOT TO SCALE



**KEY PLAN**

GRAPHIC SCALE



- WETLANDS (TYP.)
- WATER BODY (TYP.)

**SEDIMENTATION AND EROSION CONTROL NOTES**

1. EROSION CONTROLS IN THE FORM OF SILTATION FENCING AND SEDIMENTATION CONTROL AT CATCH BASINS HAVE BEEN DELINEATED ON EACH PLAN. THESE CONTROLS ARE INTENDED TO HALT THE TRANSPORT OF SEDIMENT DURING WATERMAIN INSTALLATION. THEY SHALL BE INSTALLED IN LOCATIONS NOTED. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ALONG THE ROUTE, THE CONTRACTOR SHALL MAINTAIN THESE CONTROLS THROUGHOUT THE CONSTRUCTION PERIOD, REMOVING SEDIMENT AS FREQUENTLY AS REQUIRED TO PREVENT A COLLAPSE IN THE FENCING AND ANY DISCHARGE TO WETLAND AREAS.
2. THE ANTICIPATED CONSTRUCTION SEQUENCE IS AS FOLLOWS:
  - INSTALLATION OF EROSION CONTROLS PRIOR TO CONSTRUCTION.
  - SAW CUTTING OF PAVEMENT ALONG WATERMAIN ROUTE.
  - INSTALLATION OF WATERMAINS AS NOTED ON THE PLAN DETAILS.
  - STOCKPILING OF ANY REUSABLE TRENCH MATERIALS SHALL BE SURROUNDED BY SILTATION FENCING AND, IF KEPT FOR AN EXTENDED PERIOD OF TIME, IT SHALL BE SEEDED AND MULCHED TO PREVENT EROSION. STOCKPILES OF MATERIALS SHALL BE KEPT TO A MINIMUM OF 50 FEET FROM WETLAND AREAS.
  - PAVING OF WATERMAIN TRENCH WEEKLY (TOWN ROADWAY).
  - ROADWAY PERMANENT PAVEMENT INSTALLATION.
  - ALL AREAS DISTURBED BY CONSTRUCTION NOT BEING REPAVED SHALL BE LOAMED AND SEEDED, MULCHED, STABILIZED AND MAINTAINED UNTIL A FIRM VEGETATIVE COVER AND ROOT GROWTH HAVE BEEN ESTABLISHED.
  - TOPSOIL SHALL BE PLACED TO A COMPACTED DEPTH OF 6 INCHES. FERTILIZER AND LIMESTONE SHALL BE APPLIED AT A RATE CONSISTENT WITH TESTING OF THE TOPSOIL TO BE APPLIED.
  - SEED MIXTURES SHALL BE AS FOLLOWS:
    - 0.20 LBS./ACRB OF REED CANARY GRASS
    - 0.5 LBS./ACRB OF REDTOP
  - PROVIDE HAY OR STRAW MULCH FOR ALL NEWLY SEEDED AREAS; FOR SLOPES OF 3:1 OR GREATER, ALSO PROVIDE SOIL STABILIZATION MATTING FIRMLY ATTACHED TO THE TOP AND BOTTOM OF SLOPES.
  - OPTIMUM SEEDING DATES ARE FROM APRIL 1 THROUGH JUNE 1 AND AGAIN FROM AUGUST THROUGH SEPTEMBER 15. IF SEEDED OUTSIDE THESE DATES, SPECIAL PROVISIONS MUST BE MADE FOR STABILIZATION WITH THE USE OF MULCH AND/OR MATTING.
3. THE INSTALLATION AND MAINTENANCE OF SEDIMENTATION AND EROSION CONTROLS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR HIRED BY THE TOWN OF LEDYARD WATER POLLUTION CONTROL AUTHORITY. HIS ACTIVITIES SHALL BE MONITORED BY THE TOWN ENGINEER AND THE WETLANDS ENFORCEMENT OFFICER.

REVISIONS		
NO.	ITEM	DATE
<b>PRELIMINARY</b> FOR REVIEW PURPOSES ONLY NOT TO BE USED FOR CONSTRUCTION		

AMORY ENGINEERS, P.C.  
DATE: AUGUST 14, 2009

**AMORY ENGINEERS, P.C.**  
DUXBURY, MASSACHUSETTS

DRAWN BY: RJT/PGS	FILE NAME: AS SHOWN	SCALE: AS SHOWN
DESIGNED BY: RJT/PGS	JOB NO.: 3332	DWG. NO.: 1541
CHECKED BY: RSJ	DATE: 8/11/09	CONTRACT: 2009-11

**WATER POLLUTION CONTROL AUTHORITY  
LEDYARD, CONNECTICUT**

CONSTRUCTION OF WATERMAINS AND APPURTENANT WORK  
ALJEN HEIGHTS AREA - PHASE 2  
**SEDIMENTATION, EROSION CONTROL  
AND KEY PLAN**