

**DRAINAGE PRE SCHEDULE**

STATION	PRECIPITATION	INFILTRATION	SEWER	STORM	RETENTION	PERCENT
0+00	0.00	0.00	0.00	0.00	0.00	0.00
0+50	0.00	0.00	0.00	0.00	0.00	0.00
1+00	0.00	0.00	0.00	0.00	0.00	0.00
1+50	0.00	0.00	0.00	0.00	0.00	0.00
2+00	0.00	0.00	0.00	0.00	0.00	0.00
2+50	0.00	0.00	0.00	0.00	0.00	0.00
3+00	0.00	0.00	0.00	0.00	0.00	0.00
3+50	0.00	0.00	0.00	0.00	0.00	0.00
4+00	0.00	0.00	0.00	0.00	0.00	0.00
4+50	0.00	0.00	0.00	0.00	0.00	0.00
5+00	0.00	0.00	0.00	0.00	0.00	0.00
5+50	0.00	0.00	0.00	0.00	0.00	0.00
6+00	0.00	0.00	0.00	0.00	0.00	0.00
6+50	0.00	0.00	0.00	0.00	0.00	0.00
7+00	0.00	0.00	0.00	0.00	0.00	0.00
7+50	0.00	0.00	0.00	0.00	0.00	0.00
8+00	0.00	0.00	0.00	0.00	0.00	0.00

**PROFILE ~ CROSS-COUNTRY DRAIN "B"**

STATION	ELEVATION	GRADE	VERTICAL CURVE DATA
0+00	151.0	0.00%	
0+50	151.5	1.00%	
1+00	152.0	2.00%	
1+50	152.5	3.33%	
2+00	153.0	5.00%	
2+50	153.5	7.00%	
3+00	154.0	10.00%	
3+50	154.5	15.00%	
4+00	155.0	20.00%	
4+50	155.5	30.00%	
5+00	156.0	40.00%	
5+50	156.4	50.00%	
6+00	156.0	40.00%	
6+50	155.5	30.00%	
7+00	155.0	20.00%	
7+50	154.5	15.00%	
8+00	154.0	10.00%	

**PLAN & PROFILE ~ ALLISON CIRCLE**

VERTICAL SCALE: 1" = 4'

DATE: 1/14/01

PROFESSIONAL ENGINEER

CHRISTIANSEN & SERGI

**DEFINITIVE SUBDIVISION PLAN**

**"LYONS FARMS"**

LOCATED IN  
**HAVERHILL, MASS.**

PREPARED BY  
**CHRISTIANSEN & SERGI**

DATE: JANUARY 4, 2001

REVISION: APRIL 19, 2001

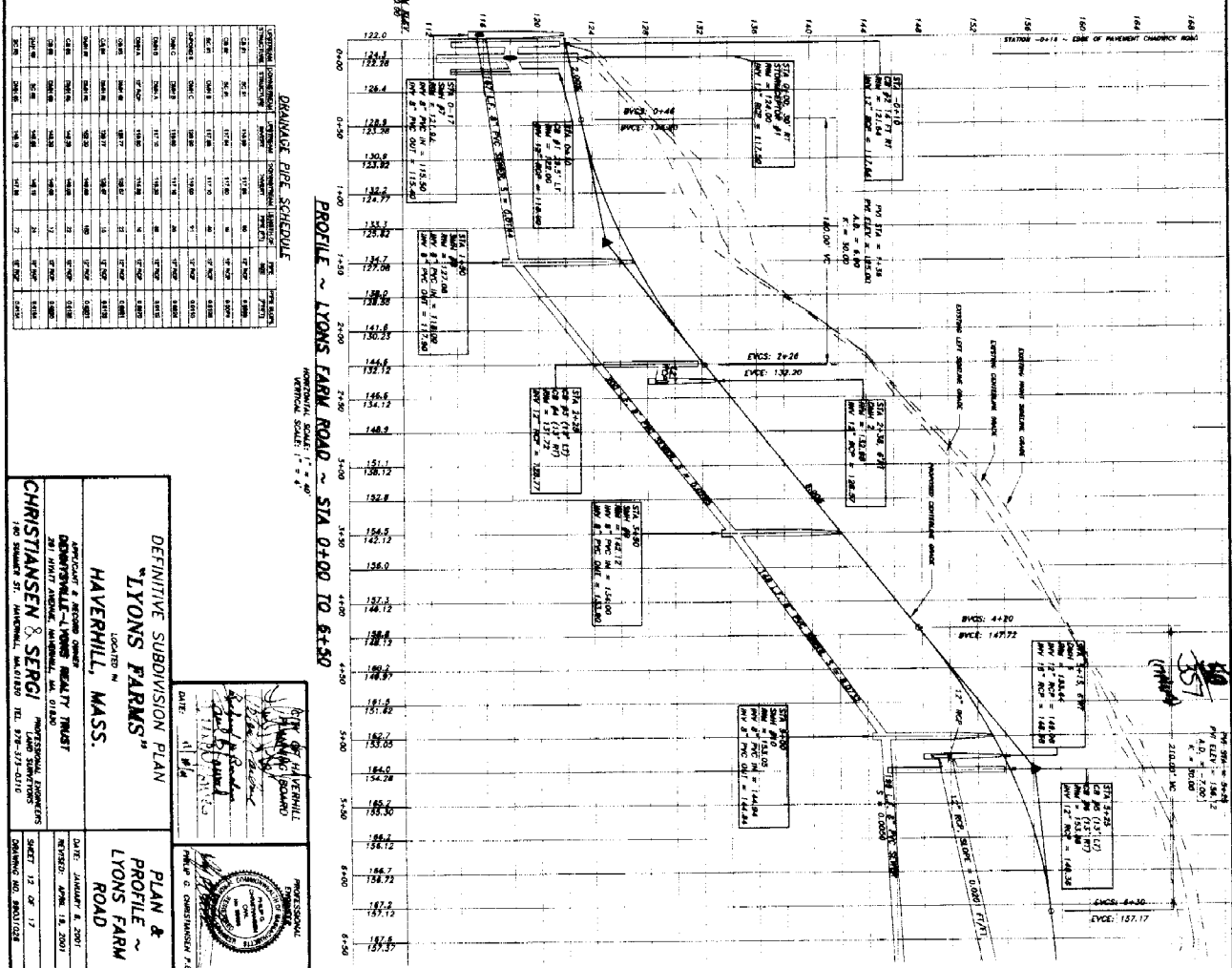
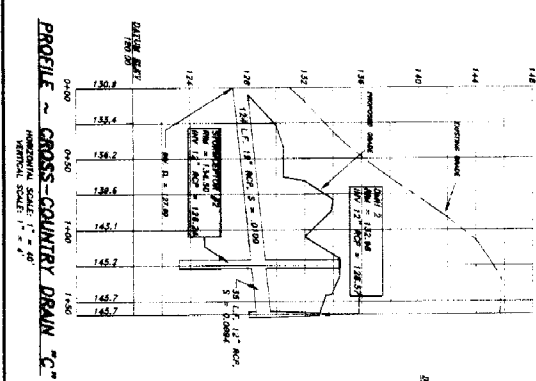
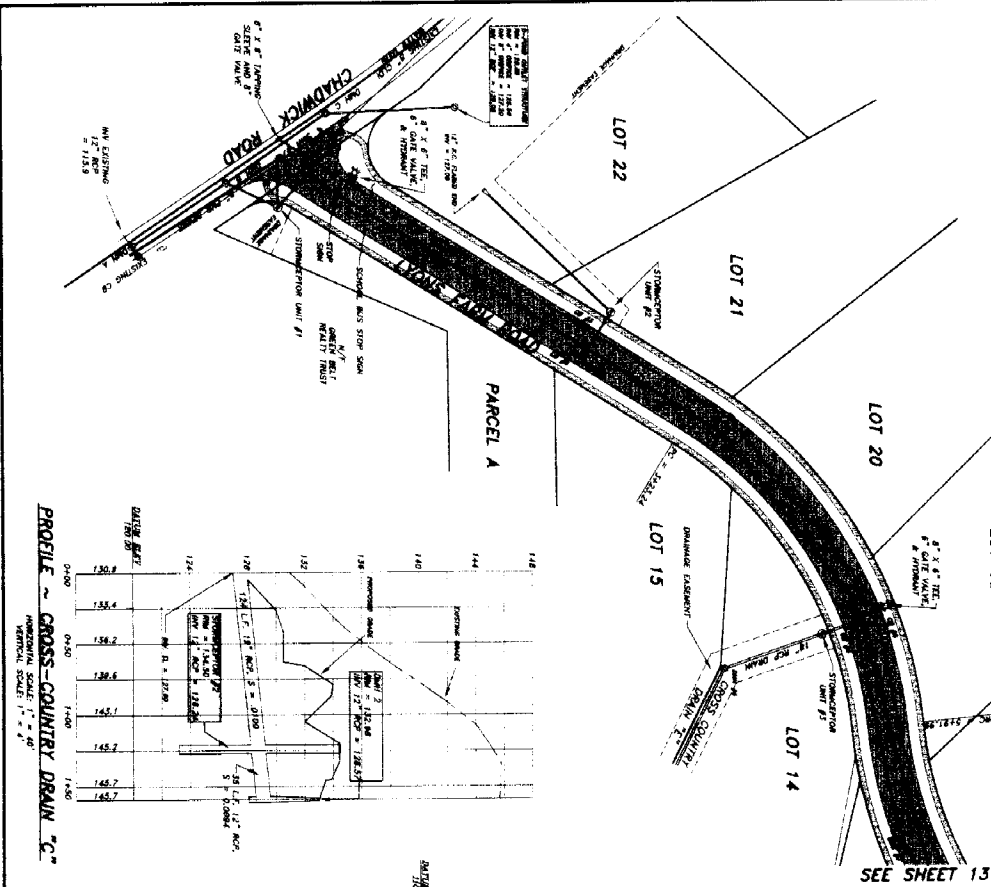
SHEET 11 OF 17

**NOTES:**

- ALL DRAINAGE PIPES ARE TO BE 12" CLASS V REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED.
- ALL SEWER PIPES ARE TO BE 8" PVC UNLESS OTHERWISE NOTED.
- ALL CATCH BASINS ARE TO HAVE VERTICAL CURVE DRAIN PIPES.
- WATER AND SEWER MAINS SHALL BE INSTALLED A MINIMUM OF 10 FEET DEEP. THE DEPTH SHALL BE MEASURED FROM THE FINISH GRADE OF THE STREET OR THE FINISH GRADE OF THE DRIVEWAY, WHICHEVER IS DEEPER. THE VERTICAL SEPARATION IS POSSIBLE, BOTH PIPES SHALL BE ENCASED IN CONCRETE.
- THE STAIRING SHOWN FOR THE SEWER AND DRAIN MAINS REFLECTS THE FINISH GRADE OF THE DRIVEWAY AT 150 FEET OFF THE FACE OF THE CURBWAY. THE FINISH GRADE OF THE DRIVEWAY AT 150 FEET OFF THE FACE OF THE CURBWAY IS SHOWN FOR THE DRIVEWAY AT 150 FEET OFF THE FACE OF THE CURBWAY.
- THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON RECORD DRAWINGS, FIELD SURVEY AND GROUND PENETRATING RADAR. THE LOCATION OF ALL UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ALL UTILITIES SHALL BE MARKED WITH FLAG AND WITH EXTENSION PLAN - CHADWICK ROAD PREPARED BY AMUNDSON SURVEY CO. DATED MAY 3, 1999 AND LAST REVISED APRIL 20, 1999.
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DATE: 1/14/01

FOR RECORD USE ONLY  
 PLAN BOOKS 1 PLAN  
 DATE: 1/8/01  
 1/8/01



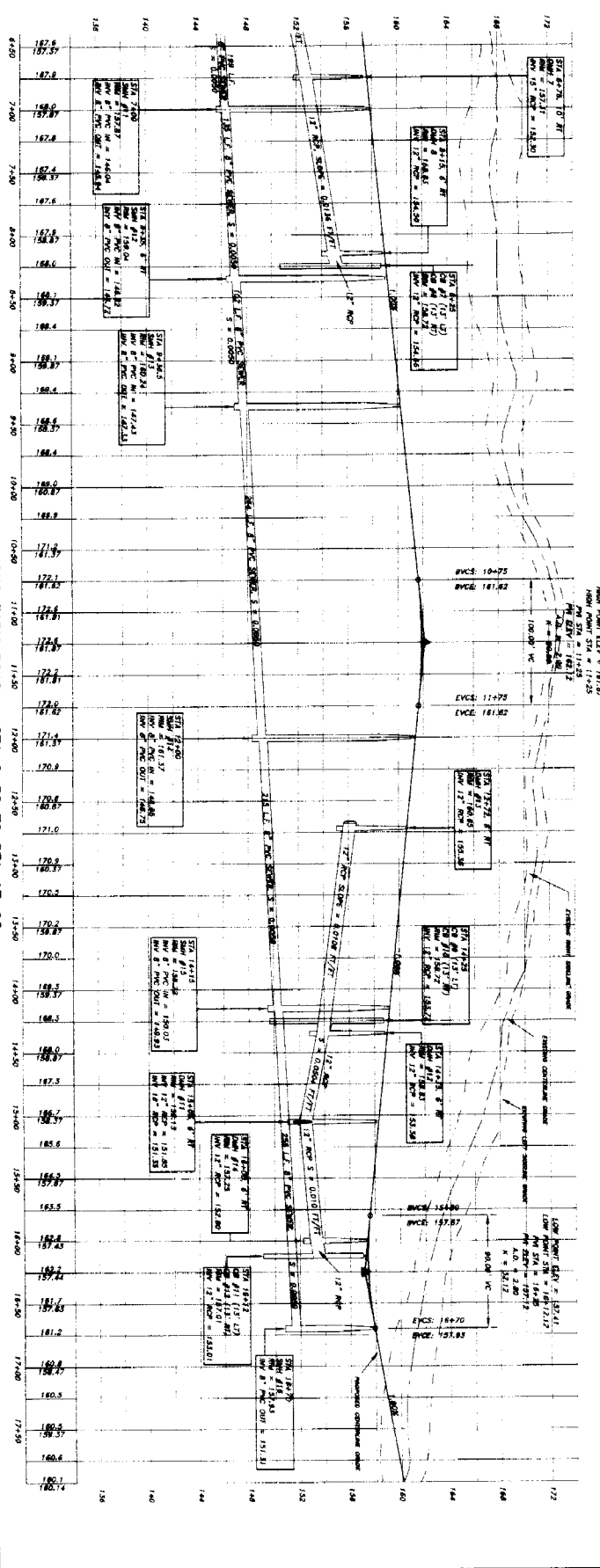
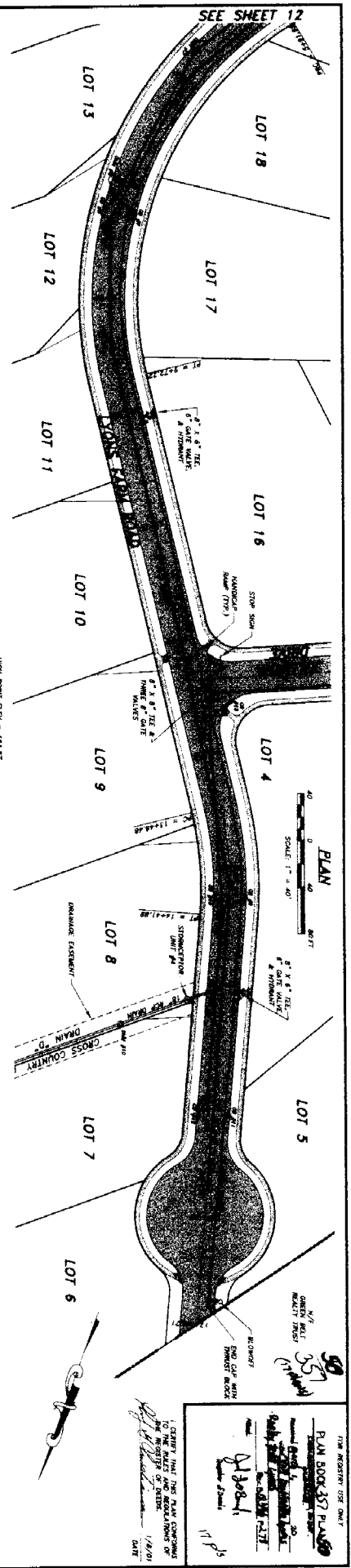
Drainage Pipe Schedule

STATION	PIPE SIZE	LENGTH	MANHOLE	INVERT	OUTLET	NOTE
0+00	18"	100'	1	145.4	145.2	
0+50	18"	100'	2	145.2	145.0	
1+00	18"	100'	3	145.0	144.8	
1+50	18"	100'	4	144.8	144.6	
2+00	18"	100'	5	144.6	144.4	
2+50	18"	100'	6	144.4	144.2	
3+00	18"	100'	7	144.2	144.0	
3+50	18"	100'	8	144.0	143.8	
4+00	18"	100'	9	143.8	143.6	
4+50	18"	100'	10	143.6	143.4	
5+00	18"	100'	11	143.4	143.2	
5+50	18"	100'	12	143.2	143.0	
6+00	18"	100'	13	143.0	142.8	
6+50	18"	100'	14	142.8	142.6	

DEFINITIVE SUBDIVISION PLAN  
 "LYONS FARMS"  
 LOCATED IN  
 HAVERHILL, MASS.  
 APPLICANT & RECORD OWNER  
 DENNISVILLE-LYONS REALTY TRUST  
 281 FIRST AVENUE, HAVERHILL, MA 01830  
 CHRISTIANSEN & SERGI PROFESSIONAL ENGINEERS  
 180 SPANARD ST., HAVERHILL, MASS 01830 TEL: 978-371-8116

DATE: 11/14/01  
 PROFESSIONAL ENGINEER  
 CHRISTIANSEN & SERGI

PLAN & PROFILE ~ LYONS FARM ROAD  
 DATE: JANUARY 8, 2001  
 REVISION: APRIL 18, 2001  
 SHEET 12 OF 17  
 DRAWING NO. 0001024



**DRAINAGE PIPE SCHEDULE**

PIPE SIZE	LENGTH	DATE	BY
12" PVC	100	1/8/01	AS
18" PVC	100	1/8/01	AS
24" PVC	100	1/8/01	AS
30" PVC	100	1/8/01	AS
36" PVC	100	1/8/01	AS

**MANHOLE DATA**

MANHOLE NO.	STATION	ELEVATION	DIAMETER
M1	6+50	187.6	18"
M2	7+00	187.8	18"
M3	7+50	188.0	18"
M4	8+00	188.2	18"
M5	8+50	188.4	18"
M6	9+00	188.6	18"
M7	9+50	188.8	18"
M8	10+00	189.0	18"
M9	10+50	189.2	18"
M10	11+00	189.4	18"
M11	11+50	189.6	18"
M12	12+00	189.8	18"
M13	12+50	190.0	18"
M14	13+00	190.2	18"
M15	13+50	190.4	18"
M16	14+00	190.6	18"
M17	14+50	190.8	18"
M18	15+00	191.0	18"
M19	15+50	191.2	18"
M20	16+00	191.4	18"
M21	16+50	191.6	18"
M22	17+00	191.8	18"
M23	17+50	192.0	18"

**DEFINITIVE SUBDIVISION PLAN**  
**"LYONS FARMS"**  
 LOCATED IN  
**HAVERHILL, MASS.**

DATE: 1/8/01

**PLANNING BOARD**  
 Haverhill, Massachusetts

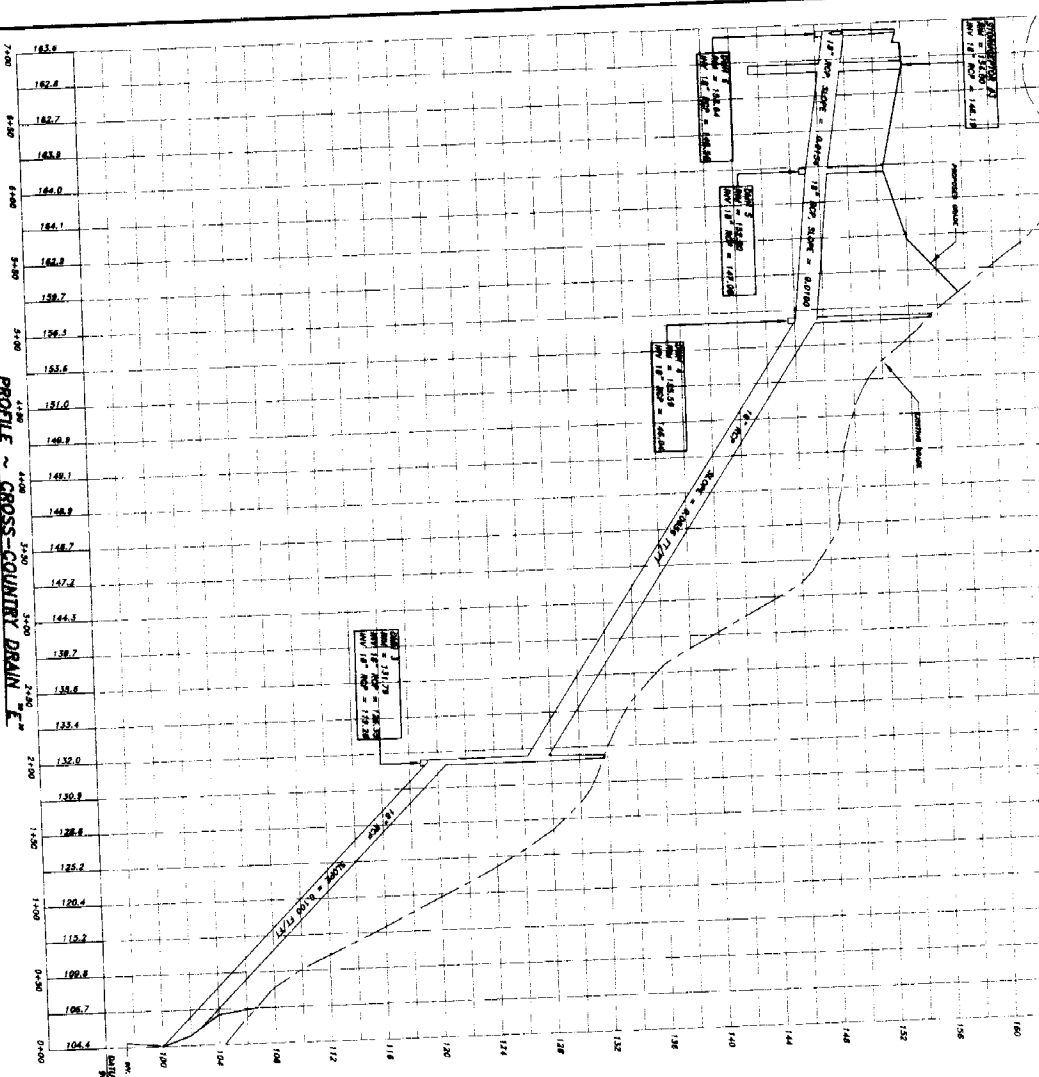
**SEAL**

**CHRISTIANSEN & SERGI**  
 PROFESSIONAL ENGINEERS  
 180 MARKET ST., HAVENHILL, MASSACHUSETTS TEL: 978-375-2110

**DATE:** JANUARY 8, 2001  
**REVISION:** APRIL 15, 2001  
**SHEET:** 13 OF 17  
**DRAWING NO.:** 080100A

**DRAINAGE PIPE SCHEDULE**

PIPE SIZE	DEPTH	SPACING	INVERT	OUTLET	MANHOLE
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0



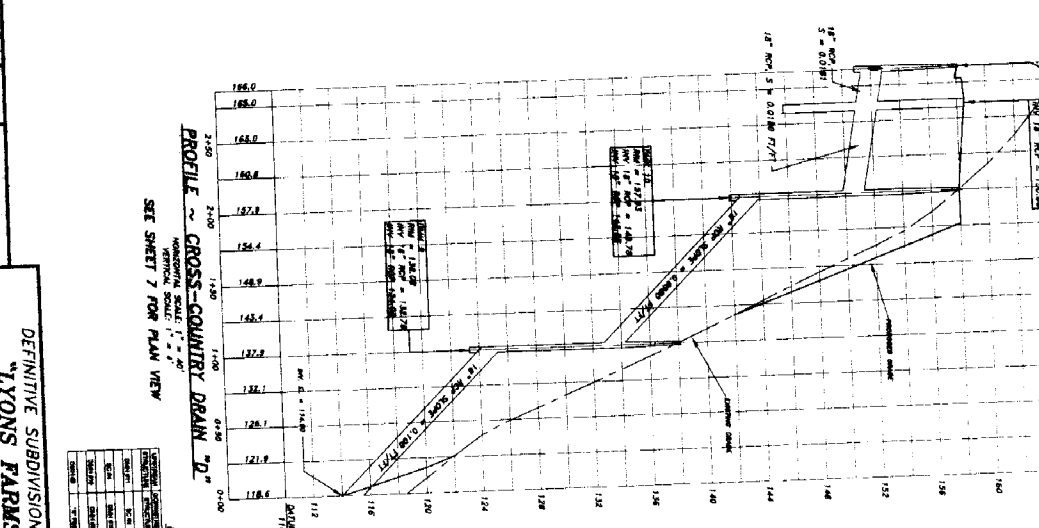
CITY OF HAVERHILL  
 PLANNING DEPARTMENT  
 DATE: 11/11/11

APPROVED:  
 [Signature]  
 DATE: 11/11/11

**DEFINITIVE SUBDIVISION PLAN**  
**"LYONS FARMS"**  
 LOCATED IN  
**HAVERHILL, MASS.**

APPROVED & SEALS:  
 [Seal]  
 DATE: 11/11/11

**CHRISTANSEN & SERGI**  
 PROFESSIONAL ENGINEERS  
 100 SUMMIT ST., HAVERHILL, MASS. 01830  
 TEL. 978-379-0310



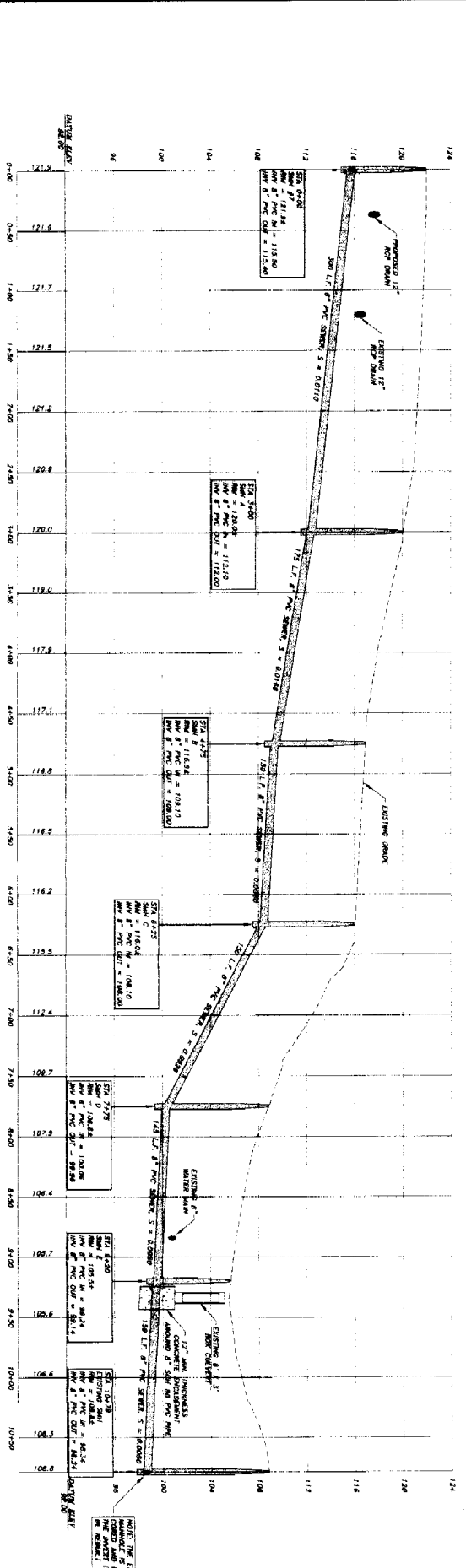
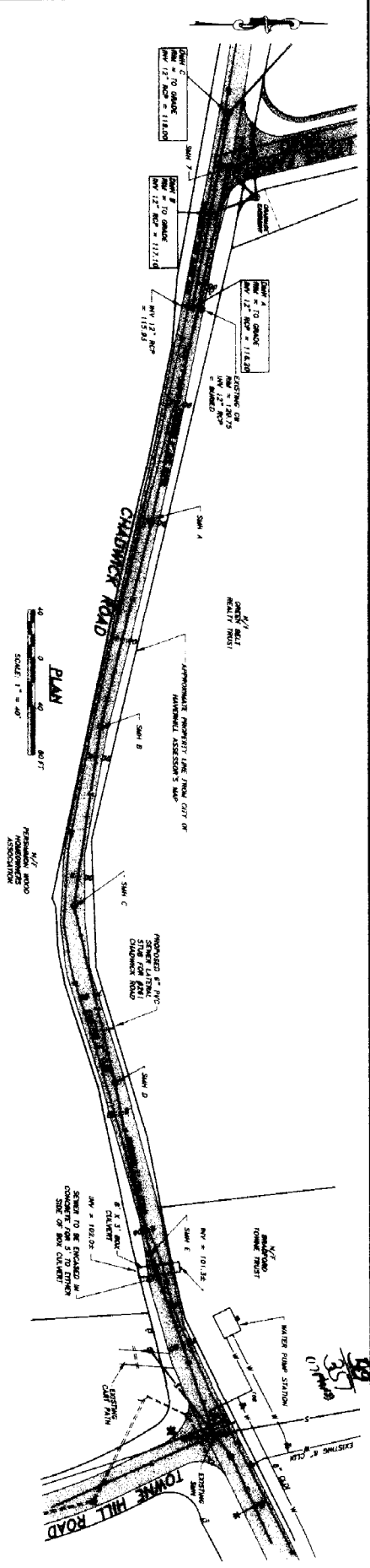
**DRAINAGE PIPE SCHEDULE**

PIPE SIZE	DEPTH	SPACING	INVERT	OUTLET	MANHOLE
12"	36"	30'	126.0	126.0	126.0
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12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0
12"	36"	30'	126.0	126.0	126.0

CERTIFY THAT THE PLAN COMPIES WITH THE MAINTAINANCE REQUIREMENTS OF THE CITY OF HAVERHILL.  
 [Signature]  
 DATE: 11/11/11

**PROFILES ~ CROSS-COUNTRY DRAINS "D" & "E"**

DATE: JANUARY 6, 2011  
 DRAWN BY: JAMES L. BROWN  
 SHEET 14 OF 17  
 DRAWING NO. 10011111



PROFILE ~ CHADWICK ROAD SEWER EXTENSION  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 2'

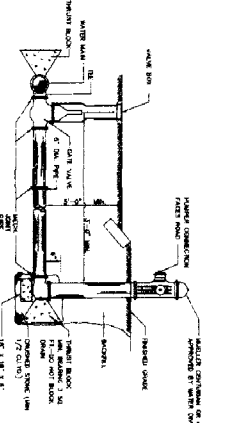
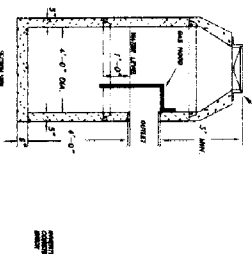
1. VERIFY THAT THIS PLAN CORRESPONDS TO THE ASSESSED RECORDS OF THE CITY OF LYONS FIELDS.  
 DATE: 1/8/01  
 FOR REVIEW USE ONLY

PLAN BOOK: 5121-1/17  
 DATE: 1/8/01  
 FOR REVIEW USE ONLY

- NOTES:
1. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON A COMBINATION OF FIELD LOCATIONS AND COMPILED INFORMATION FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND CONTRACTORS SHOULD VERIFY IN WRITING ALL UTILITY COMPANIES AND CONTRACTORS SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION WORK AND CALL ONE-SHIFT AT 1-800-ONE-SHIFT.
  2. TEST PITS SHOULD BE ONE PRIOR TO THE INSTALLATION OF THE SEWER MAIN AT ALL INDICATED CROSSINGS WITH OTHER UTILITIES TO VERIFY THE DEPTHS OF THE EXISTING PIPES.
  3. THE LIMITS OF THE CHADWICK ROAD RIGHT OF WAY SHOWN HEREON ARE APPROXIMATE AND BASED ON THE CITY OF LYONS FIELDS ASSESSED RECORDS AND OTHER PLANS OF RECORD.
  4. THE CONCRETE ENCLOSURE AT STA 8+30 SHALL EXTEND TO THE BOTTOM OF THE CURB AND SHALL BE PLACED ON UNDISTURBED MATERIAL. PRIOR TO THE EXCAVATION OF THE SEWER THE SEWER PIPE SHALL BE REPAIRED WITH A MINIMUM OF 2 FEET OF 12" CONCRETE FROM THE CENTERLINE TO ALLOW FOR SUFFICIENT STABILITY OF CONCREIT AND THE

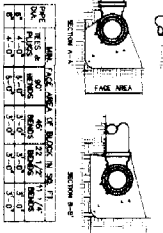
PRT. OF HAVERTHILL  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 2001  
 DATE: 1/8/01

DEFINITIVE SUBDIVISION PLAN  
 "LYONS FIELDS"  
 LOCATED IN  
 HAVERTHILL, MASS.  
 CHRISTIANSEN & SERGI  
 PROFESSIONAL ENGINEERS  
 120 SUMMIT ST. HAVERTHILL, MA 01830 TEL: 978-273-9310  
 DATE: JANUARY 8, 2001  
 SHEET 13 OF 17  
 REVISION: NONE 1/8, 2001  
 PLAN & PROFILE ~ CHADWICK ROAD SEWER EXTENSION



**HYDRAULIC CONNECTOR**

NOT TO SCALE



**STANDARD THRUST BLOCKING**

NOT TO SCALE

THRUST BLOCKS ARE TO BE INSTALLED AT ALL BENDS, TEES, PLACES, AND HYDRANTS

**WATER MAIN INSTALLATION NOTES**

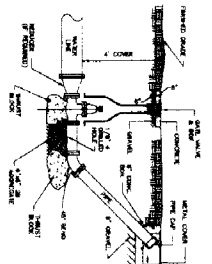
1. ALL PIPES SHALL BE TESTED TO A PRESSURE 1.5 TIMES WORKING PRESSURE FOR A ONE HOUR MINIMUM DURATION.
2. THE WATER SYSTEM IS TO BE CONSIDERED TO BE THE PROPERTY OF THE CITY OF LYONS PARKS AND SHALL BE MAINTAINED BY THE CITY OF LYONS PARKS.
3. ALL PIPES SHALL BE INSTALLED AND TESTED ACCORDING TO A.S.P.A. STANDARDS PRACTICE TO PIPING.
4. ALL WATER MAINS TO BE CONSIDERED TO BE CONSIDERED TO BE THE PROPERTY OF THE CITY OF LYONS PARKS.
5. ALL WATER MAINS SHALL BE CONSIDERED TO BE THE PROPERTY OF THE CITY OF LYONS PARKS.
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16. ALL WATER MAINS SHALL BE CONSIDERED TO BE THE PROPERTY OF THE CITY OF LYONS PARKS.
17. ALL WATER MAINS SHALL BE CONSIDERED TO BE THE PROPERTY OF THE CITY OF LYONS PARKS.
18. ALL WATER MAINS SHALL BE CONSIDERED TO BE THE PROPERTY OF THE CITY OF LYONS PARKS.

**WATER SERVICE NOTES**

1. THE WATER SERVICE SHALL BE INSTALLED AND TESTED ACCORDING TO A.S.P.A. STANDARDS PRACTICE TO PIPING.
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18. THE WATER SERVICE SHALL BE INSTALLED AND TESTED ACCORDING TO A.S.P.A. STANDARDS PRACTICE TO PIPING.

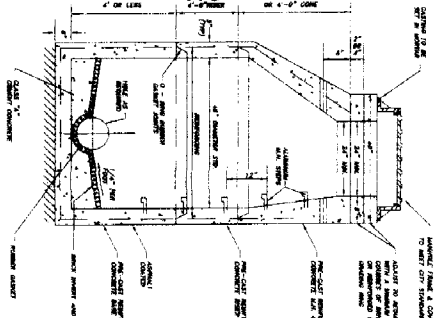
**BLOW-OFF INSTALLATION**

NOT TO SCALE



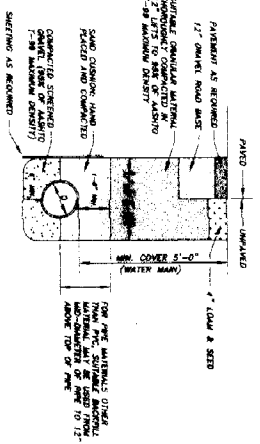
**SEWER MANHOLE**

NOT TO SCALE



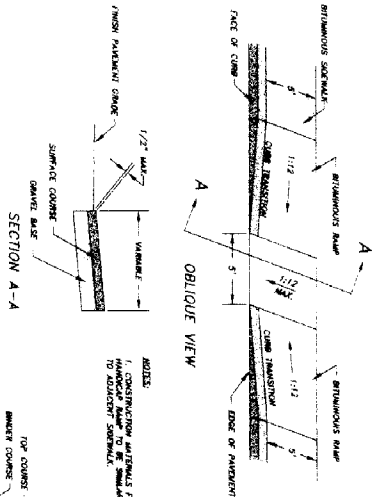
**TYPICAL TRENCH**

NOT TO SCALE



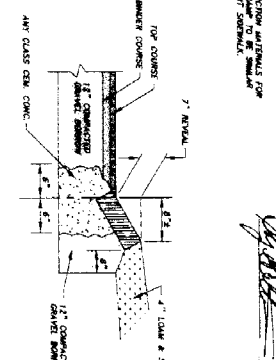
**HANDICAP RAMP**

NOT TO SCALE



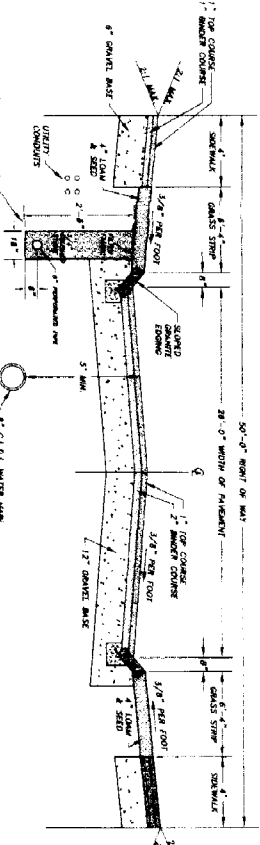
**SLOPED GRANITE EDGING**

NOT TO SCALE



**TYPICAL ROADWAY CROSS-SECTION**

NOT TO SCALE



**DEFINITIVE SUBDIVISION PLAN**  
**LYONS PARKS**  
 LOCATED IN  
**HAVERHILL, MASS.**

**CONSTRUCTION DETAILS**

DATE: JANUARY 2, 2001  
 NUMBER: 4719/21  
 SHEET 19 OF 17  
 DRAWING NO. 2001019

CHRYSTIANSEN & SERGI ARCHITECTURAL CORPORATION  
 81 HUNT AVENUE, HAVERHILL, MA 01830  
 TEL: 978-371-9415

**PLAN 300-357 PLANS**

FOR RECORD USE ONLY

DATE: 11/15

