

**PAWTUCKET WATER SUPPLY BOARD
WATER TREATMENT PLANT
RIPDES IMPROVEMENTS**

Environmental Management
MAR 28 2012
Office of Water Resources

LINED RESIDUALS SETTLING BASIN (LRSB) DECANT DRAIN LINE EXTENSION

BOARD OF DIRECTORS

WILLIAM MASUCK (CHAIRPERSON)
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JOANNA L'HEUREUX (EX-OFFICIO)

GENERAL MANAGER & CHIEF ENGINEER

JAMES DECELLES, P.E.

ASSISTANT CHIEF ENGINEER

GREGG GIASSON, P.E.



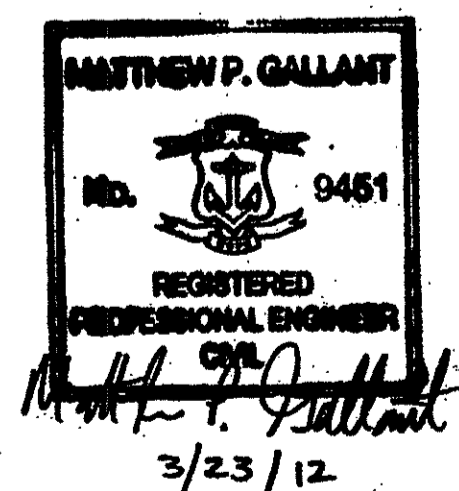
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MARCH 2012

**FOR PERMITTING REVIEW ONLY
NOT FOR CONSTRUCTION**

LOCATION PLAN
NOT TO SCALE



Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 23 2012 FILE # 12-0057
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**CDM
Smith**

PROVIDENCE, RHODE ISLAND

Water

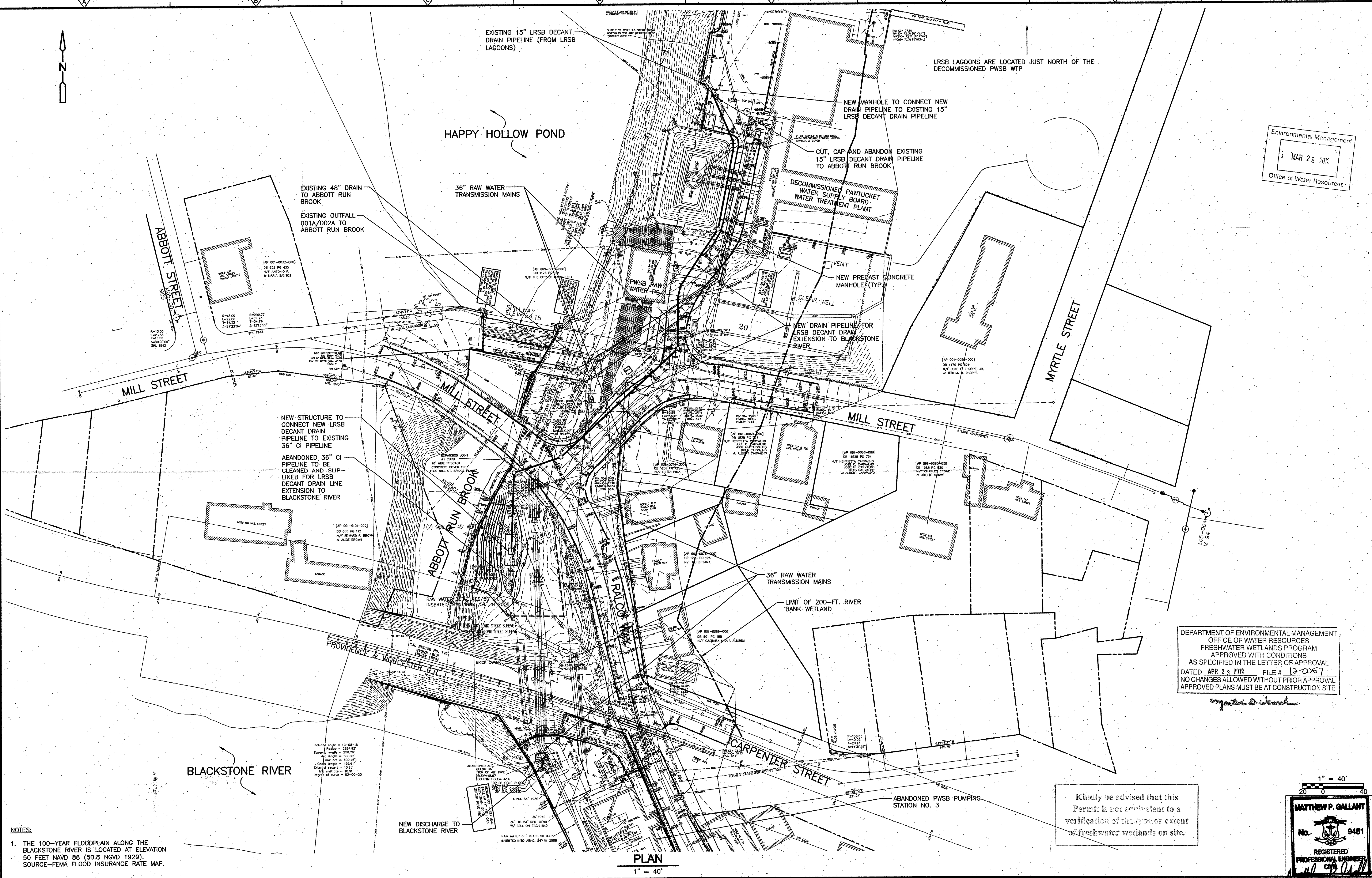
Environment

Transportation

Energy

Facilities

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- NOTES:**
1. THE 100-YEAR FLOODPLAIN ALONG THE BLACKSTONE RIVER IS LOCATED AT ELEVATION 50 FEET NAVD 88 (50.8 NGVD 1929). SOURCE-FEMA FLOOD INSURANCE RATE MAP.

PLAN
 1" = 40'

1" = 40'
 20 0 40

MATTHEW P. GALLANT
 No. 9451
 REGISTERED PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. GALLANT
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: J. KEANEY
 CROSS CHK'D BY: J. KEANEY
 APPROVED BY: P. HUGHES
 DATE: MARCH 2012

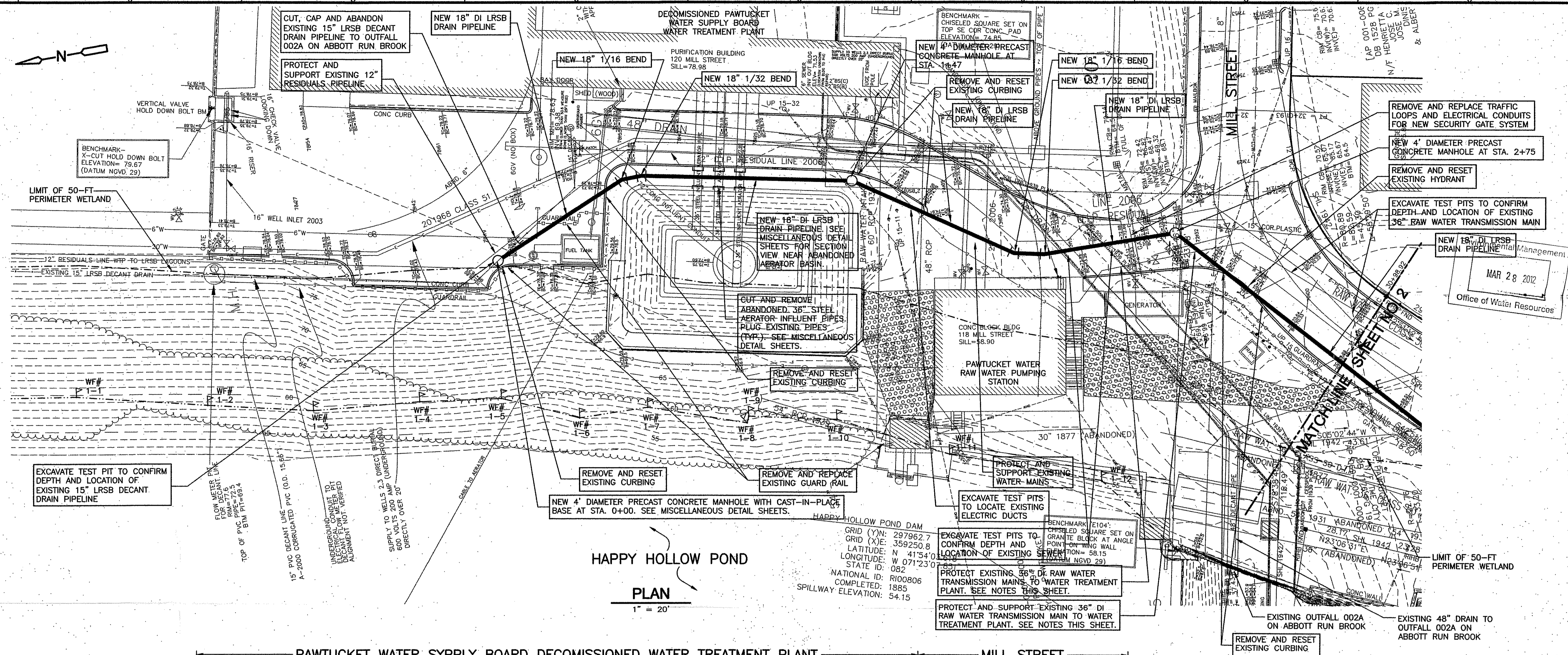
CDM Smith
 260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360

**PAWTUCKET WATER SUPPLY BOARD
 WATER TREATMENT PLANT
 RIPDES IMPROVEMENTS
 LINED RESIDUALS SETTLING BASIN
 (LRSB) DECANT DRAIN LINE EXTENSION**

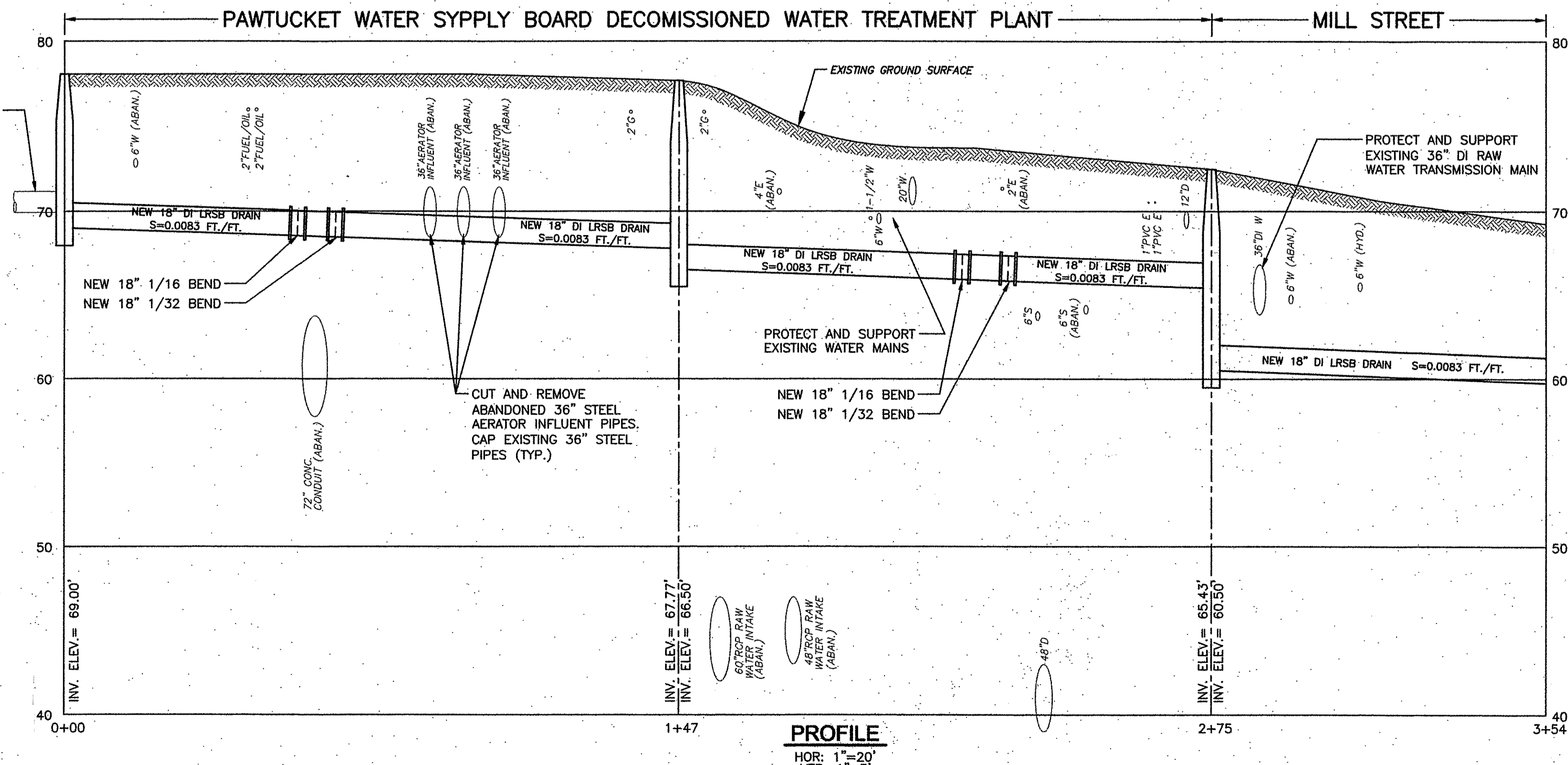
GENERAL PLAN-OVERVIEW OF WORK

PROJECT NO. 1831-B3003
 FILE NAME: CSTPL004
 SHEET NO. **GP**
 Accession No: 1831-P-XXXX

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HAPPY HOLLOW POND
PLAN
 1" = 20'



PROFILE
 HOR: 1" = 20'
 VER: 1" = 5'

- NOTES:**
1. CONTRACTOR SHALL COORDINATE WORK TO INSTALL NEW LRSB DRAIN PIPELINE NEAR AND ACROSS EXISTING 36" DI RAW WATER TRANSMISSION MAINS WITH THE PAWTUCKET WATER SUPPLY BOARD. NORMALLY, BOTH 36" RAW WATER TRANSMISSION MAINS SUPPLY RAW WATER TO THE WATER TREATMENT PLANT (85 BRANCH STREET, PAWTUCKET). PAWTUCKET WATER MAY CHOOSE TO ISOLATE ONE 36" RAW WATER TRANSMISSION MAIN AT A TIME TO PROTECT THE WATER SUPPLY DURING CONSTRUCTION. THE SAFETY AND INTEGRITY OF THE WATER SYSTEM IS OF PRIME IMPORTANCE.
 2. ALL WORK IS LOCATED WITHIN PERIMETER WETLAND.
 3. THE 100-YEAR FLOODPLAIN ALONG THE BLACKSTONE RIVER IS LOCATED AT ELEVATION 50 FEET NAVD 88 (50.8 NGVD 1929). SOURCE-FEMA FLOOD INSURANCE RATE MAP.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED APR 22 2012 FILE # 12-0067
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Margaret D. Wenzel

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1" = 20'

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 No. 9481
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. GALLANT
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: J. KEANEY
 CROSS CHK'D BY: J. KEANEY
 APPROVED BY: P. HUGHES
 DATE: MARCH, 2012

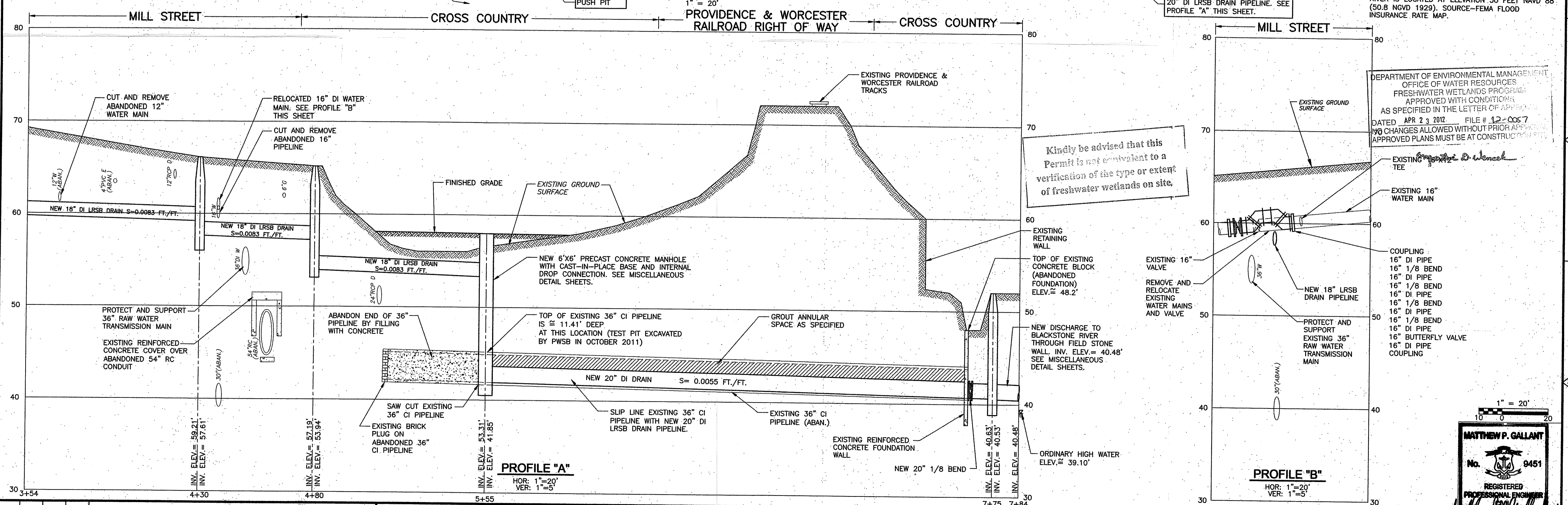
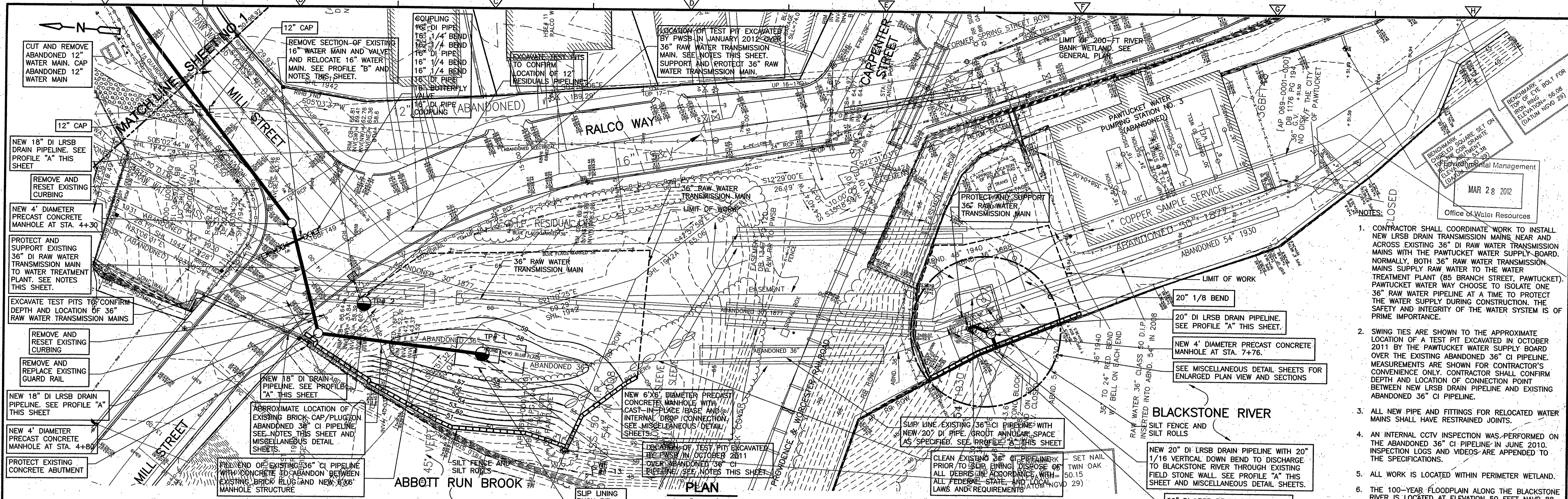
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 260 West Exchange Street, Suite 300
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PAWTUCKET WATER SUPPLY BOARD
 WATER TREATMENT PLANT
 RIPDES IMPROVEMENTS
**LINED RESIDUALS SETTLING BASIN
 (LRSB) DECANT DRAIN LINE EXTENSION**

**LRSB DECANT DRAIN LINE EXTENSION
 PLAN AND PROFILE I**

PROJECT NO. 1831-83003
 FILE NAME: CSTPL002
 SHEET NO. 1
 Accession No: 1831-P-XXXXX

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- NOTES:**
- CONTRACTOR SHALL COORDINATE WORK TO INSTALL NEW LRSB DRAIN TRANSMISSION MAINS NEAR AND ACROSS EXISTING 36" DI RAW WATER TRANSMISSION MAINS WITH THE PAWTUCKET WATER SUPPLY BOARD. NORMALLY, BOTH 36" RAW WATER TRANSMISSION MAINS SUPPLY RAW WATER TO THE WATER TREATMENT PLANT (85 BRANCH STREET, PAWTUCKET). PAWTUCKET WATER MAY CHOOSE TO ISOLATE ONE 36" RAW WATER PIPELINE AT A TIME TO PROTECT THE WATER SUPPLY DURING CONSTRUCTION. THE SAFETY AND INTEGRITY OF THE WATER SYSTEM IS OF PRIME IMPORTANCE.
 - SWING TIES ARE SHOWN TO THE APPROXIMATE LOCATION OF A TEST PIT EXCAVATED IN OCTOBER 2011 BY THE PAWTUCKET WATER SUPPLY BOARD OVER THE EXISTING ABANDONED 36" CI PIPELINE. MEASUREMENTS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE ONLY. CONTRACTOR SHALL CONFIRM DEPTH AND LOCATION OF CONNECTION POINT BETWEEN NEW LRSB DRAIN PIPELINE AND EXISTING ABANDONED 36" CI PIPELINE.
 - ALL NEW PIPE AND FITTINGS FOR RELOCATED WATER MAINS SHALL HAVE RESTRAINED JOINTS.
 - AN INTERNAL CCTV INSPECTION WAS PERFORMED ON THE ABANDONED 36" CI PIPELINE IN JUNE 2010. INSPECTION LOGS AND VIDEOS ARE APPENDED TO THE SPECIFICATIONS.
 - ALL WORK IS LOCATED WITHIN PERIMETER WETLAND.
 - THE 100-YEAR FLOODPLAIN ALONG THE BLACKSTONE RIVER IS LOCATED AT ELEVATION 50 FEET NAVD 88. (50.8 NGVD 1929). SOURCE-FEMA FLOOD INSURANCE RATE MAP.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. GALLANT
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: J. KEANEY
 CROSS CHK'D BY: J. KEANEY
 APPROVED BY: P. HUGHES
 DATE: MARCH 2012

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PAWTUCKET WATER SUPPLY BOARD
 WATER TREATMENT PLANT
 RIPDES IMPROVEMENTS
**LINED RESIDUALS SETTLING BASIN
 (LRSB) DECANT DRAIN LINE EXTENSION**

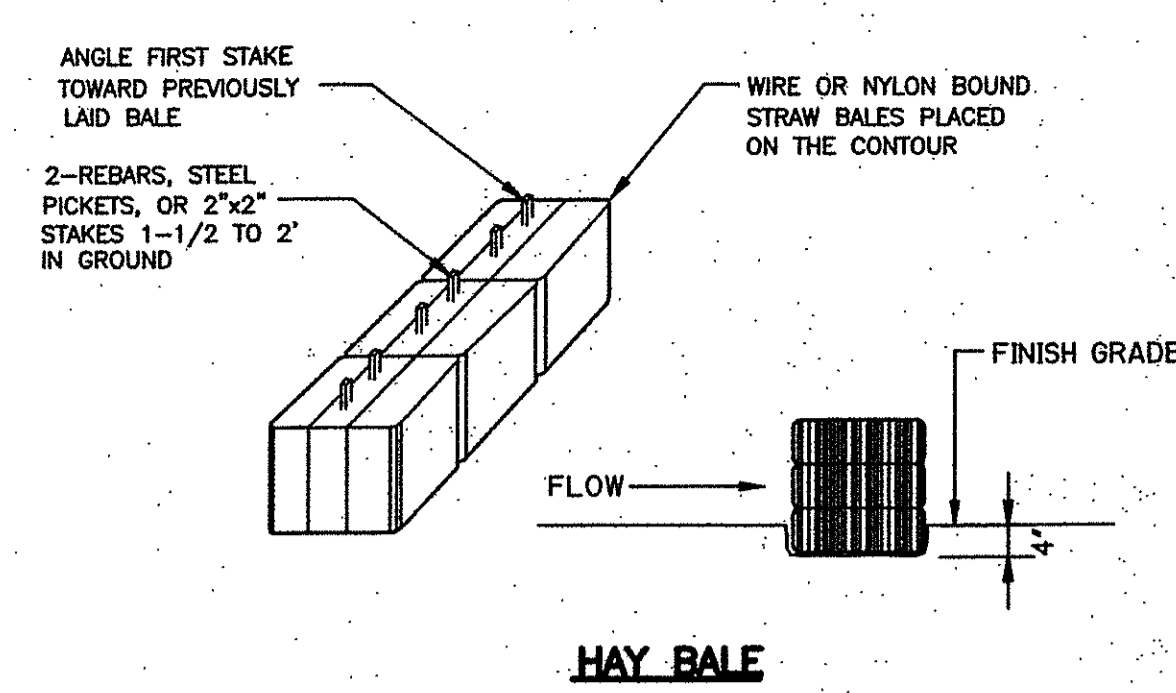
**LRSB DECANT DRAIN LINE EXTENSION
 PLAN AND PROFILE II**

PROJECT NO. 1831-83003
 FILE NAME: CSTPL003
 SHEET NO. **2**

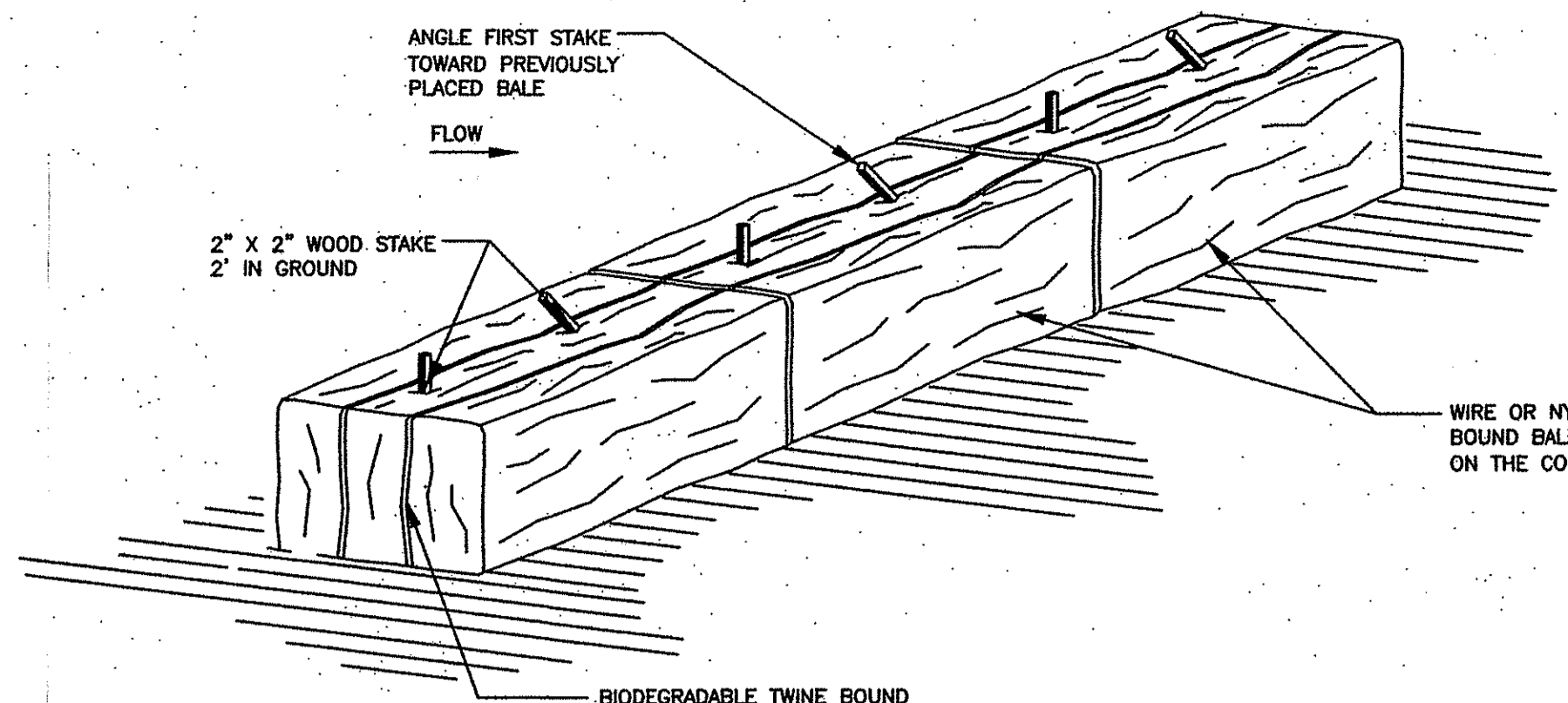
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MATTHEW P. GALLANT
 No. 9451
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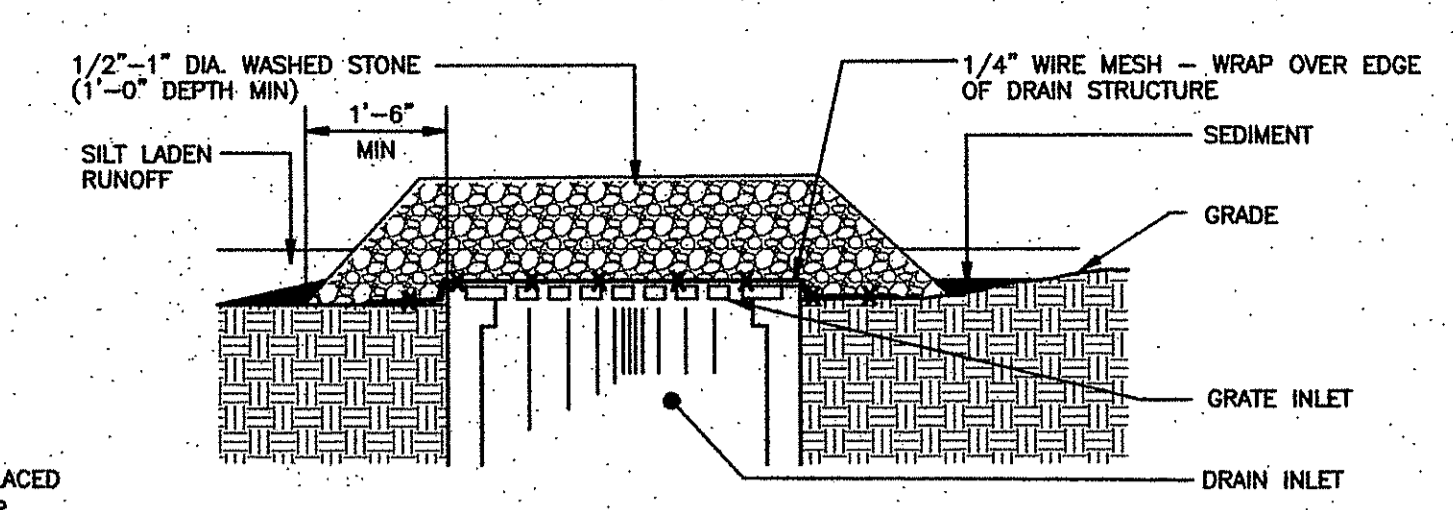
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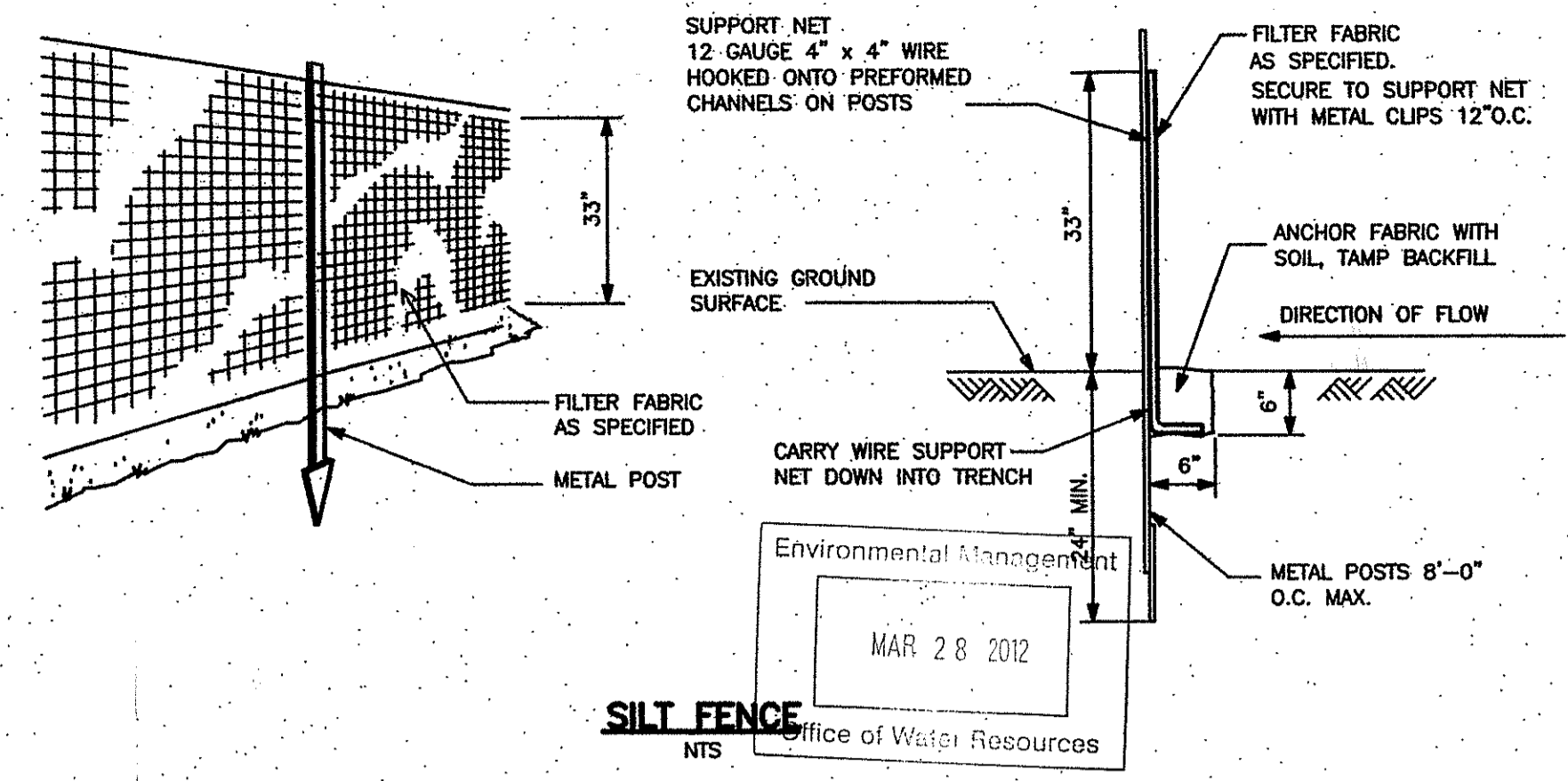
HAY BALE
NTS



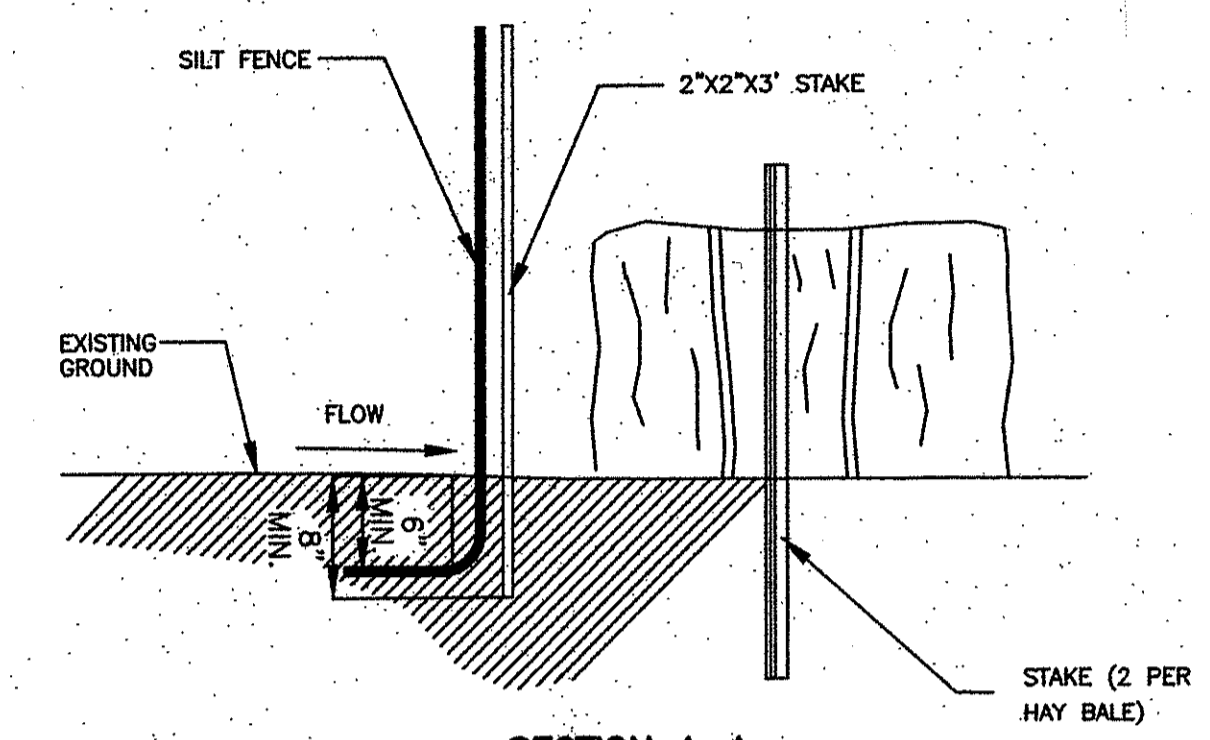
STAKED HAY BALES-ANCHORING
NTS



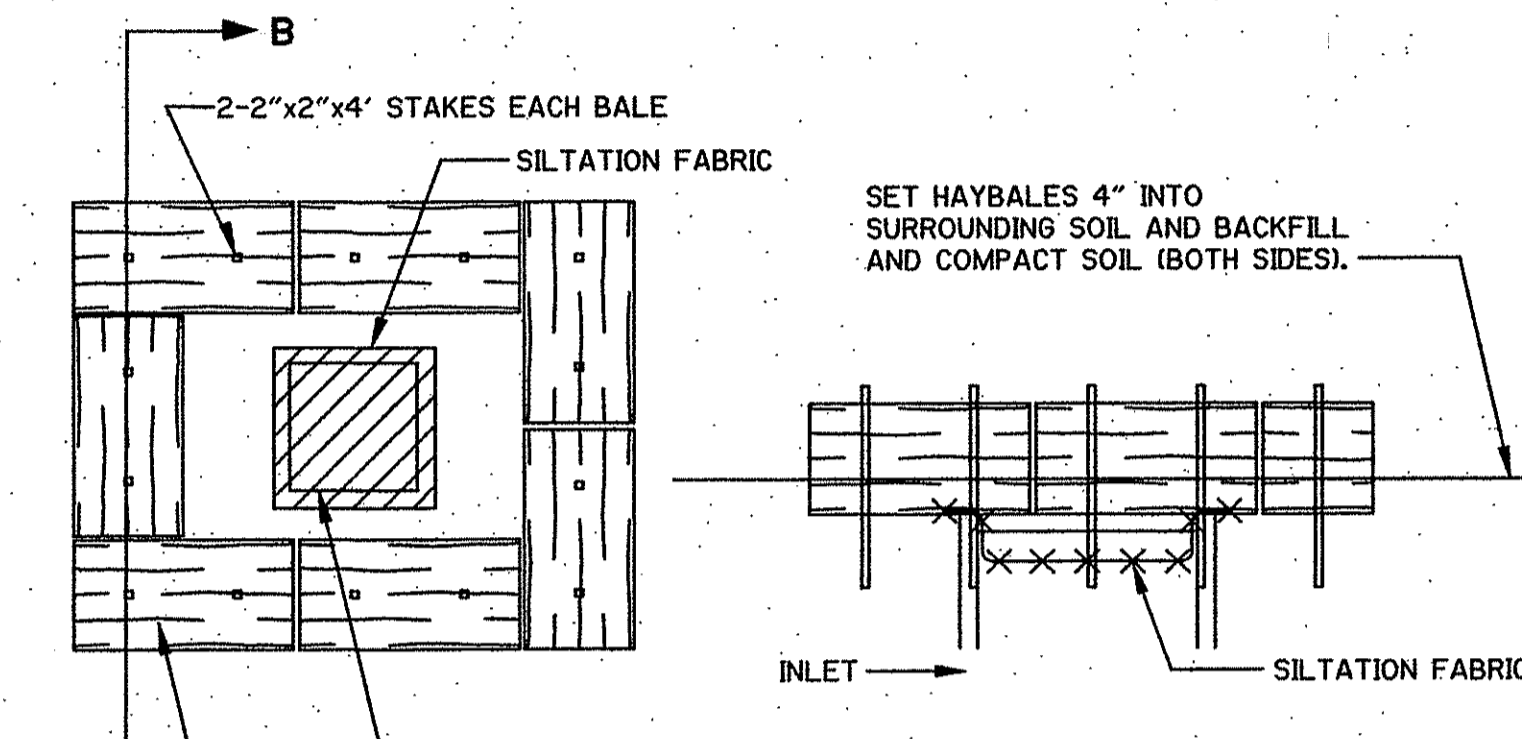
DROP INLET SEDIMENT FILTER
NTS



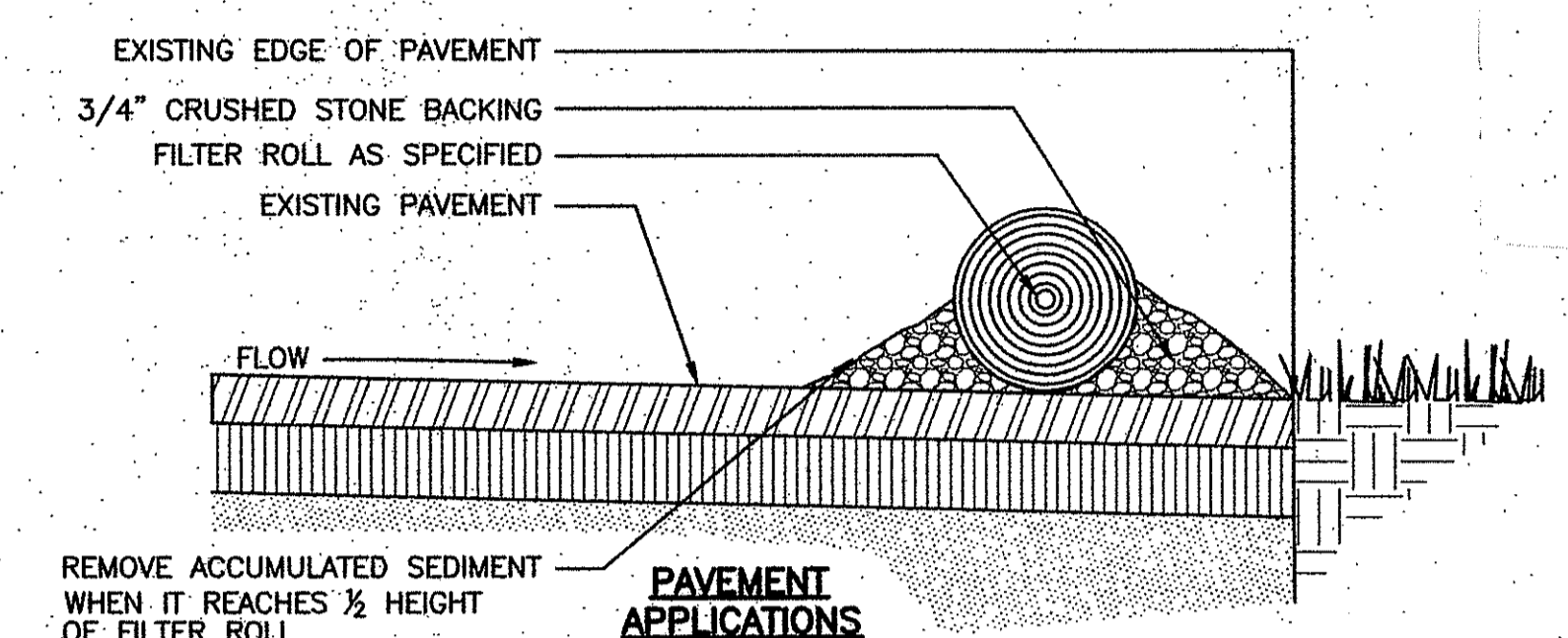
SILT FENCE
NTS



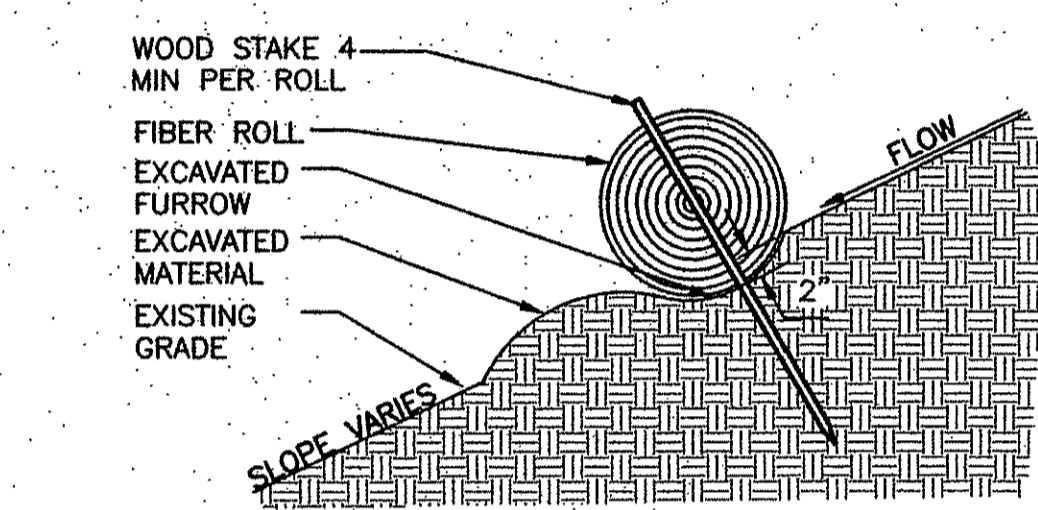
SECTION A-A



CATCH BASIN HAY BALE TREATMENT
NTS

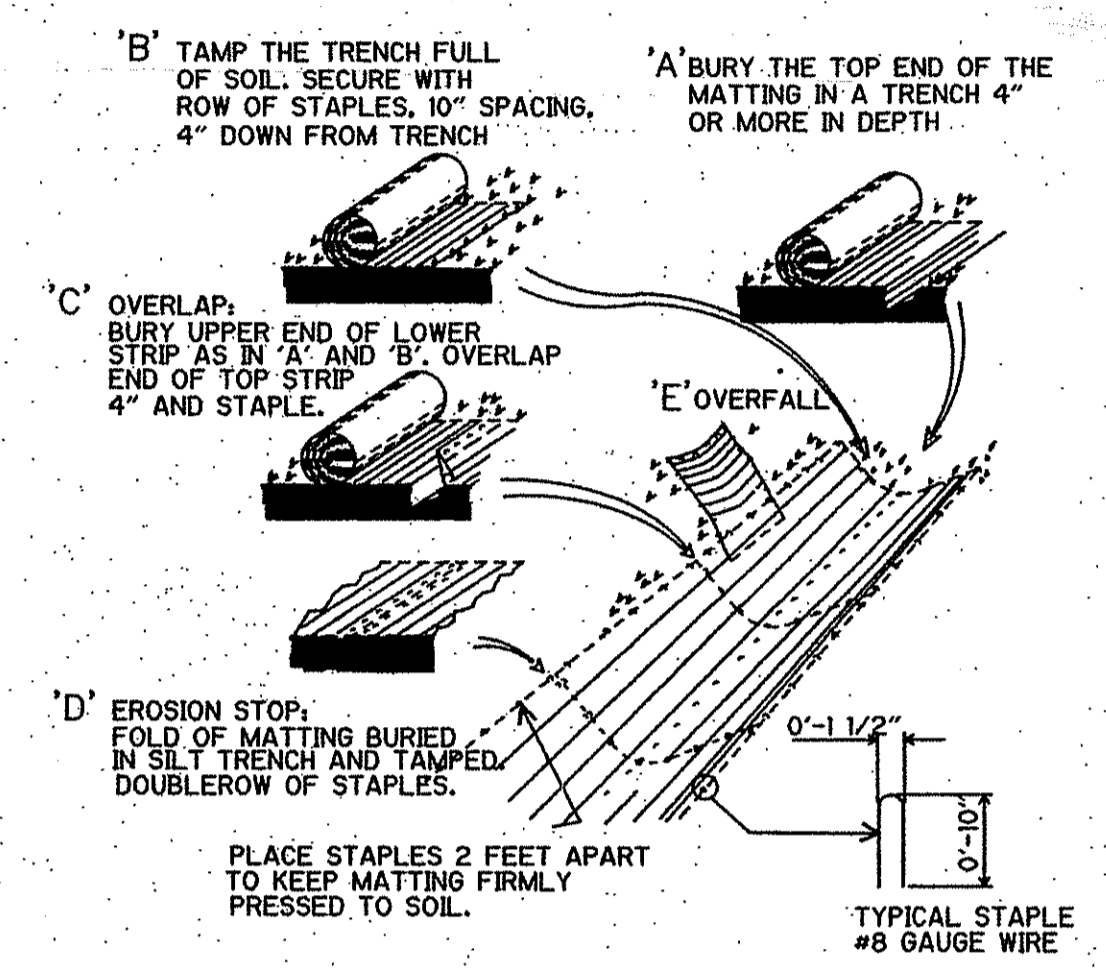


PAVEMENT APPLICATIONS



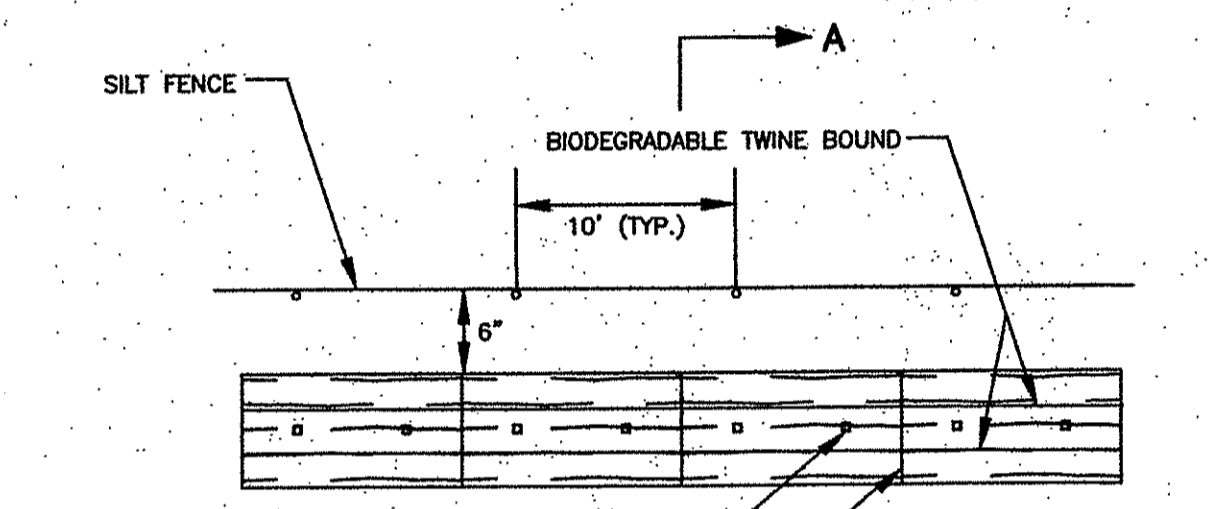
LANDSCAPE APPLICATIONS

FIBER ROLL/SILT SOCK
NTS

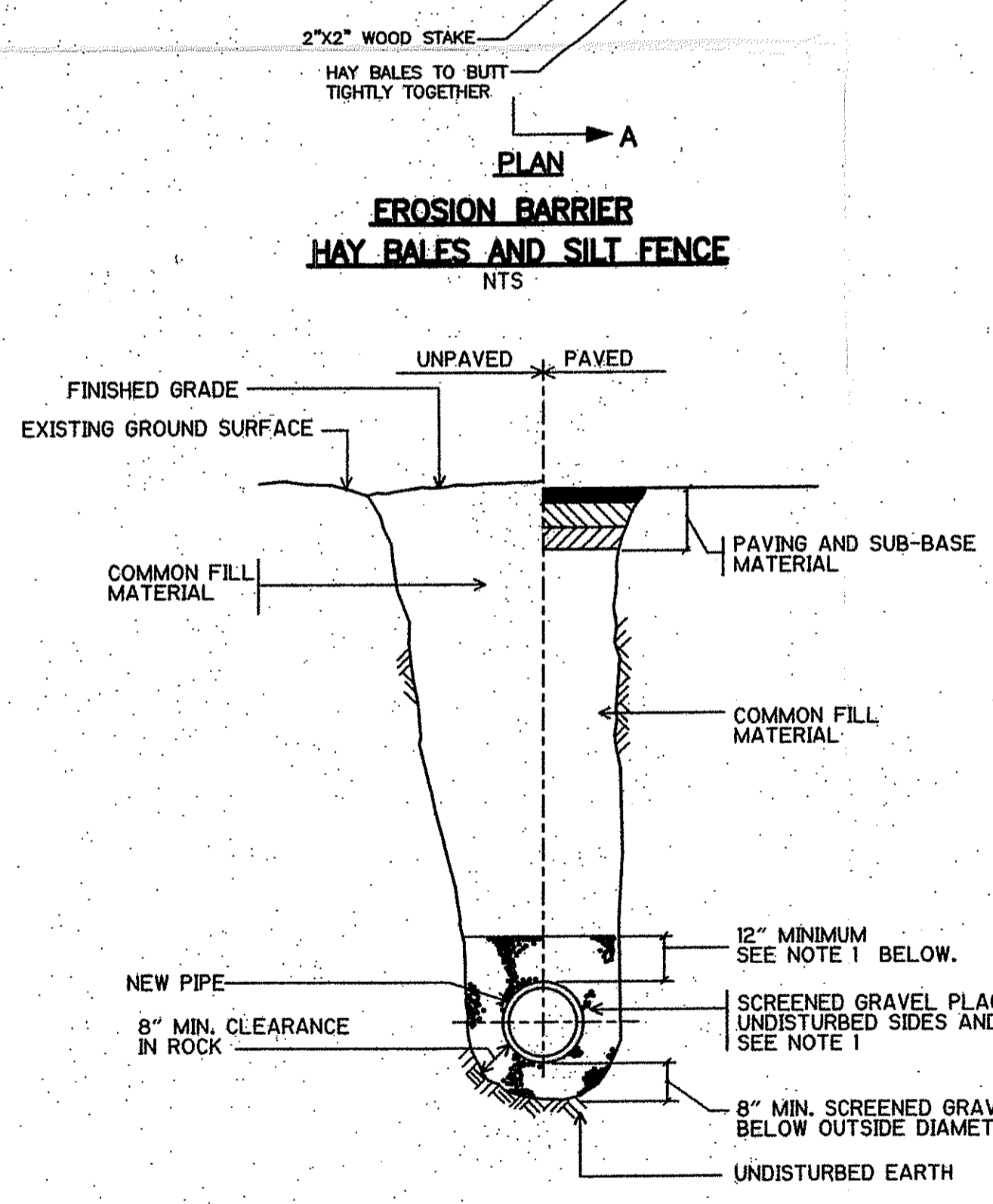


EROSION CONTROL BLANKET
NTS

NOTE:
1.) APPLY ON ALL SLOPES 4(H):1(V) OR STEEPER.

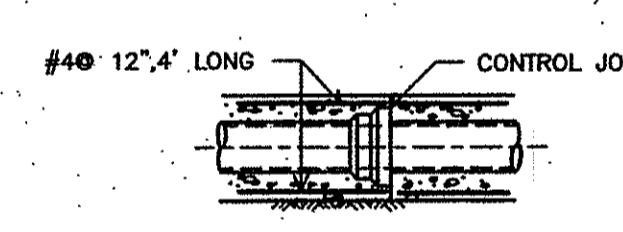


EROSION BARRIER HAY BALES AND SILT FENCE
NTS

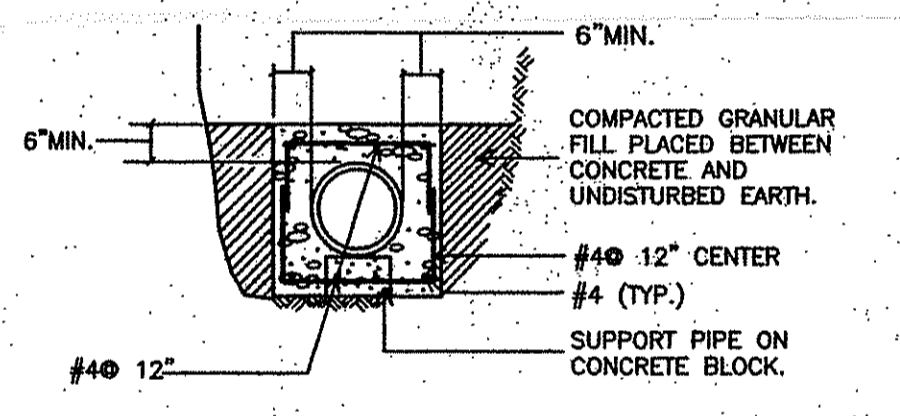


TYPICAL TRENCH FOR DRAIN PIPE
NTS

- NOTES:
- FOR PIPES OTHER THAN P.V.C., SELECT COMMON FILL MAY BE USED FROM MID-DIAMETER OF PIPE TO 12" ABOVE TOP OF PIPE. SEE DETAIL THIS SHEET.
 - TRENCHES LOCATED ON THE ROAD SHOULDER SHALL BE TREATED THE SAME AS STREET EXCEPT FOR PAVING.
 - PROVIDE AT LEAST ONE IMPERVIOUS DAM IN GRAVEL BEDDING BETWEEN EACH MANHOLE OR EVERY 300 FT., WHICHEVER IS LESS.



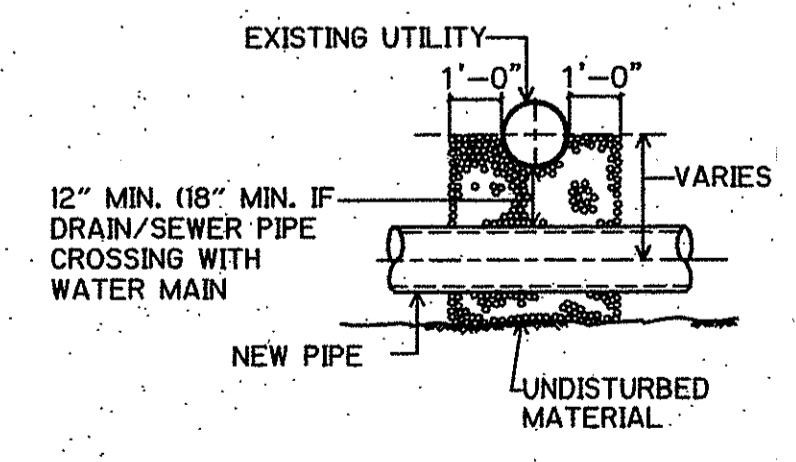
PLAN



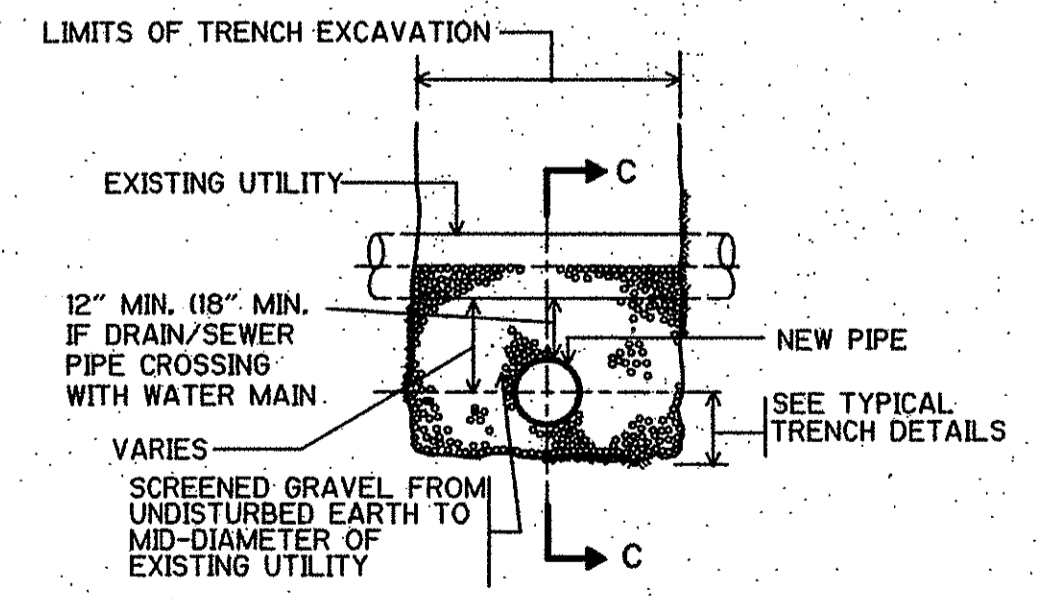
SECTION

- NOTES:
- CONTROL JOINTS AND PIPE JOINTS FOR ENCASEMENT SHALL COINCIDE FOR SPACING. MAX. DISTANCE BETWEEN CONTROL JOINTS SHALL BE 24'.
 - REINFORCING STEEL TO BE USED ONLY WHEN DEPTH OF COVER TO TOP OF SURFACE OF CONCRETE IS 4'-0" OR LESS.

CONCRETE ENCASEMENT
NTS



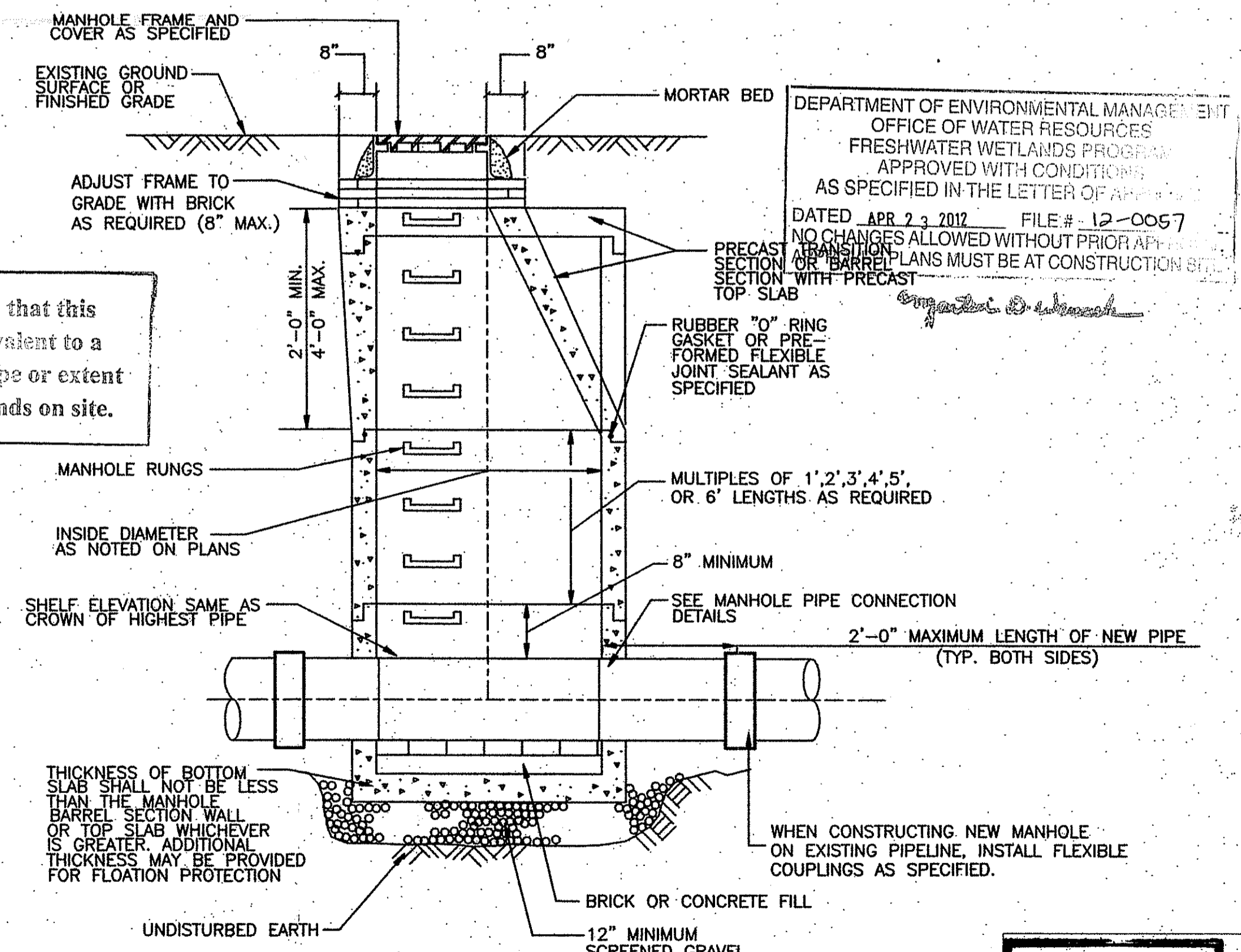
SECTION C-C



TYPICAL SECTION

- NOTE:
- TO THE EXTENT POSSIBLE, NEW DRAIN PIPELINES SHALL CROSS UNDER WATER MAINS. IF NEW DRAIN PIPELINES MUST BE INSTALLED OVER WATER MAINS, THEY SHALL BE INSTALLED SO THAT ONE FULL LENGTH OF NEW PIPE IS CENTERED OVER THE WATER MAIN CROSSING SO THAT THE PIPELINE JOINTS ARE EQUIDISTANT AND AS FAR AWAY AS POSSIBLE FROM THE WATER MAIN. THE WATER MAIN SHALL BE EXPOSED AND ENCASED IN CONCRETE FOR A MINIMUM OF 10 FEET ON EACH SIDE OF THE NEW DRAIN PIPE CENTERLINE AT THE CROSSING LOCATION.

UTILITIES CROSSING
NTS



SECTION D-D PRECAST CONCRETE MANHOLE
NTS

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CROSS CHK'D BY: J. KEANEY
APPROVED BY: P. HUGHES
DATE: MARCH 2012

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280 West Exchange Street, Suite 300
Providence, RI 02903
Tel: (401) 751-6360

PAWTUCKET WATER SUPPLY BOARD
WATER TREATMENT PLANT
RIPDES IMPROVEMENTS
LINED RESIDUALS SETTLING BASIN (LRSB) DECANT DRAIN LINE EXTENSION

MISCELLANEOUS DETAILS I

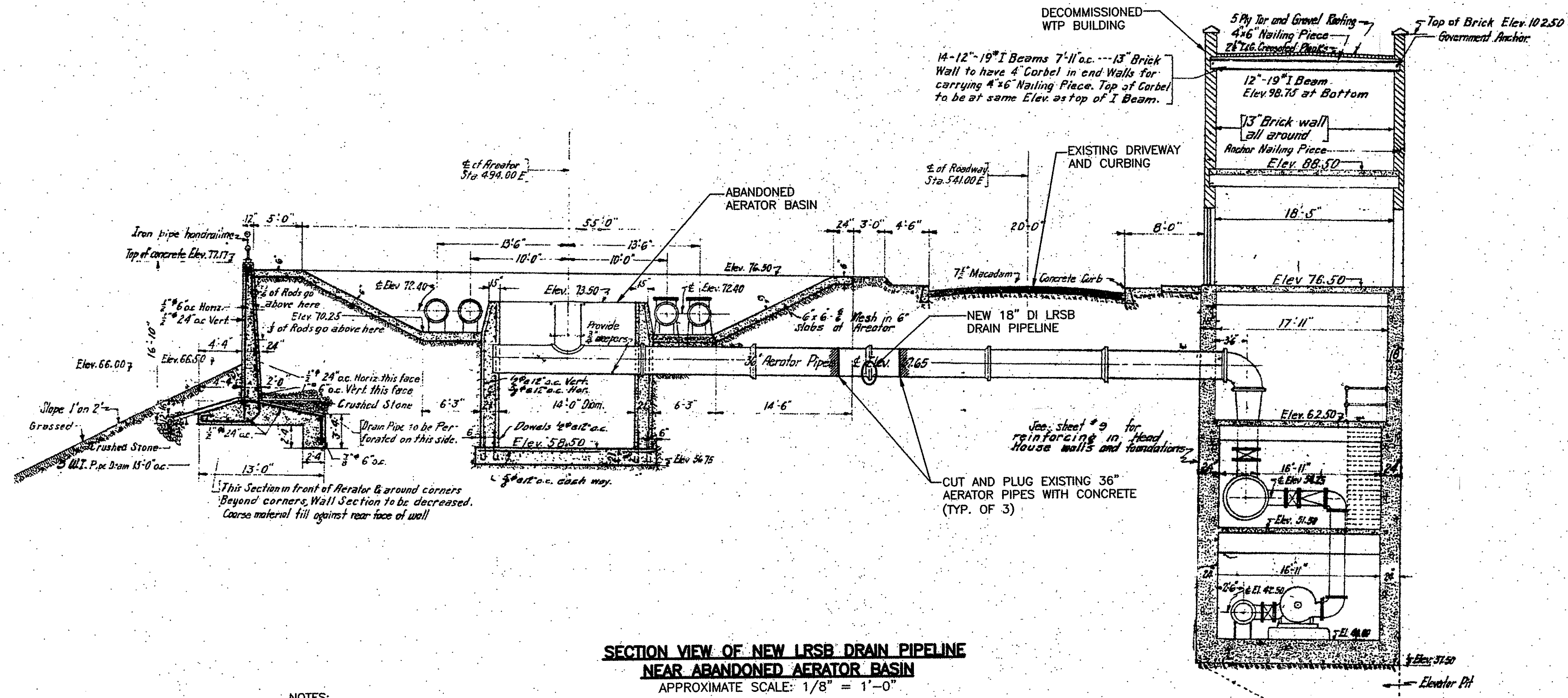
PROJECT NO. 1831-83003
FILE NAME: CSTD1001
SHEET NO. C-1
Accession No: 1831-P-XXXX

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MATTHEW P. GALLANT
No. 0451
REGISTERED PROFESSIONAL ENGINEER

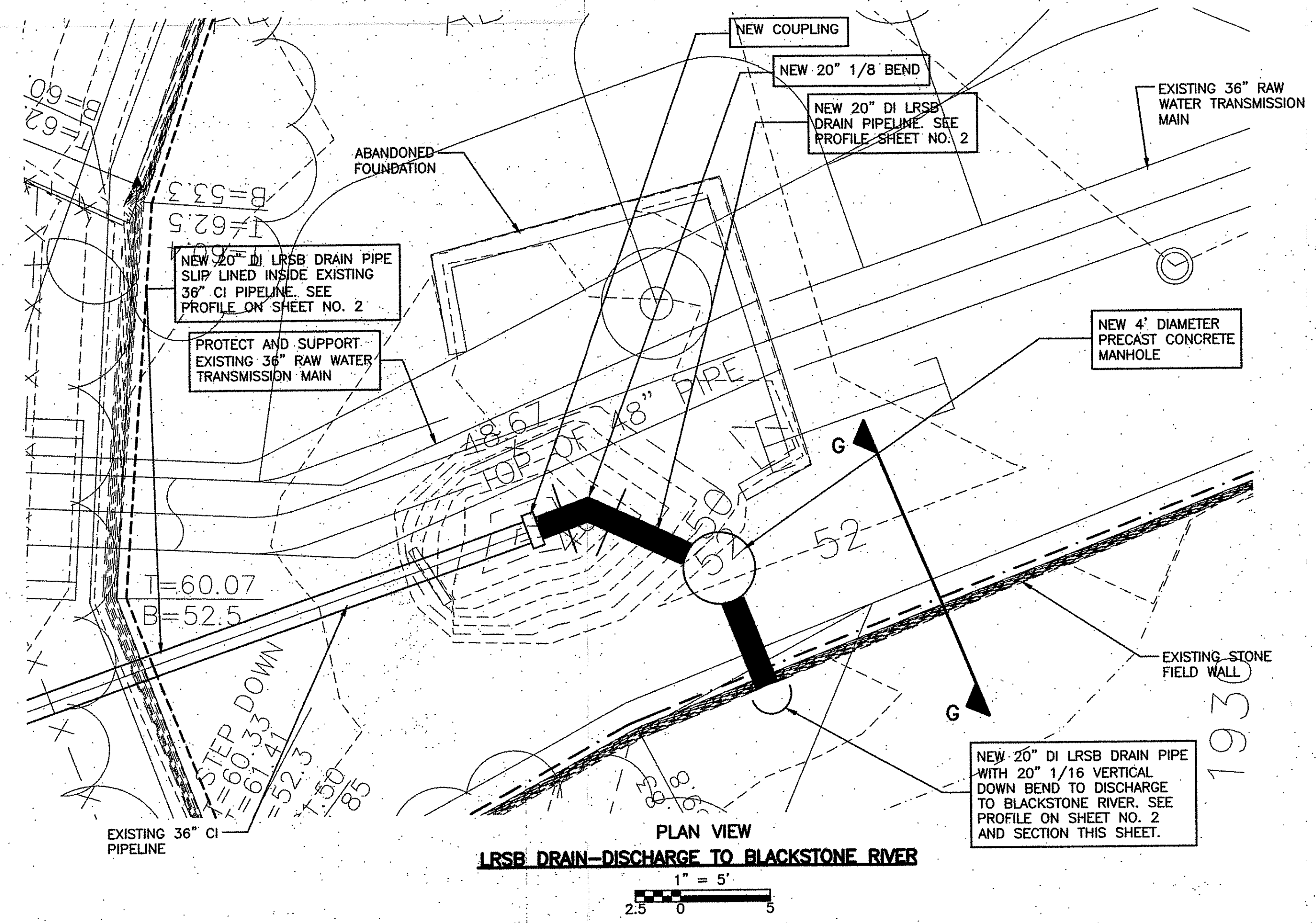
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Environmental Management
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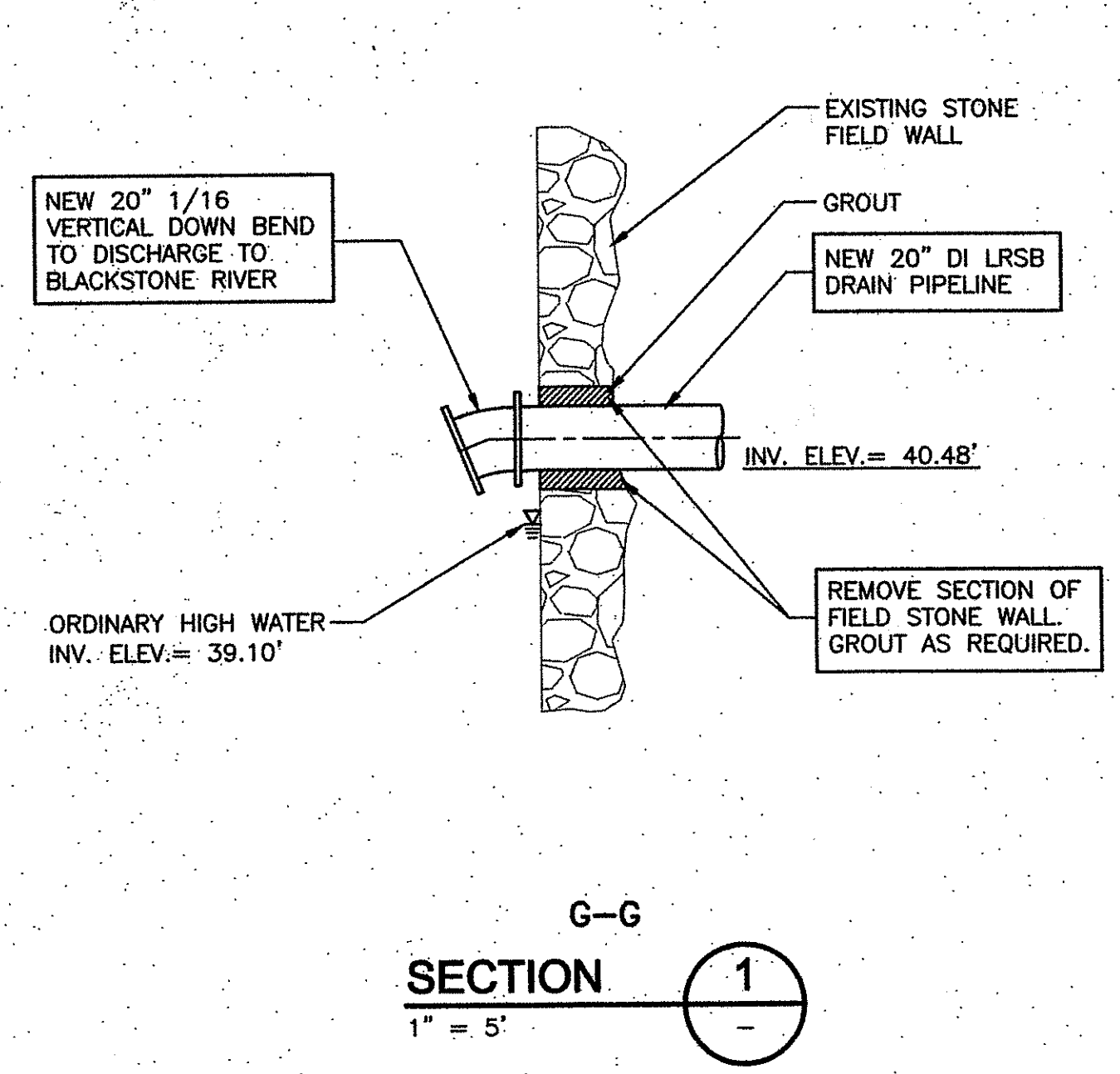


**SECTION VIEW OF NEW LRSB DRAIN PIPELINE
NEAR ABANDONED AERATOR BASIN**
APPROXIMATE SCALE: 1/8" = 1'-0"

- NOTES:**
- SECTION VIEW OBTAINED FROM "CITY OF PAWTUCKET PROPOSED WATER FILTRATION PLANT, CONTRACT 3, SHEET 7, DATED MARCH 21, 1939 BY CHARLES A. MARGUIRE CONSULTING ENGINEER. IT IS NOT WARRANTED THAT THIS SECTION VIEW SHOWS AS-BUILT CONDITIONS NOR IS IT WARRANTED FOR ITS ACCURACY. THIS SECTION VIEW IS INTENDED TO SHOW THE GENERAL CONDITIONS THAT MAY EXIST IN THE VICINITY OF THE ABANDONED AERATOR BASIN.
 - ALL ELEVATIONS SHOWN ON THIS SECTION VIEW CORRESPOND TO CITY OF PAWTUCKET MEAN HIGH WATER DATUM.



**PLAN VIEW
LRSB DRAIN-DISCHARGE TO BLACKSTONE RIVER**
1" = 5'



**SECTION G-G
SECTION 1**
1" = 5'

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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MISCELLANEOUS DETAILS IV

SHEET NO.
C-4
Accession No: 1831-P-XXXX

MATTHEW P. GALLANT
No. 9451
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO. 1831-83003
FILE NAME: CSTD005
SHEET NO.
C-4
Accession No: 1831-P-XXXX

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