

418_RV_DEM_09-2008_Plan_CVR_R2.dwg(DISK: 2-10100)

DEM SUBMISSION RESIDENTIAL DEVELOPMENT

ASSESSOR'S PLAT 15, LOTS 67, 68, 71, 72, 73 and 74 RIVERVIEW DRIVE and STREAM VIEW DRIVE CUMBERLAND, RHODE ISLAND SEPTEMBER 2008



LOCATION MAP
U.S.G.S. PAWTUCKET QUADRANGLE RHODE ISLAND
SCALE: 1" = 1000'

INDEX:

SHEET	DESCRIPTION
1	AERIAL PHOTOGRAPH / SITE MAPS
2	SITE PLAN - 1
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4	PLAN AND PROFILE - 1 (RIVERVIEW DRIVE)
5	PLAN AND PROFILE - 2 (STREAMVIEW DRIVE)
6	NOTES AND DETAILS
7	DETAILS

LEGEND:

———	PROPERTY LINE
- - - - -	EXISTING LOT LINE
———	EDGE OF PAVEMENT
- - - - -	EXISTING DRAIN LINE
15/72	ASSESSOR'S PLAT / LOT NUMBER

OWNER/APPLICANT:

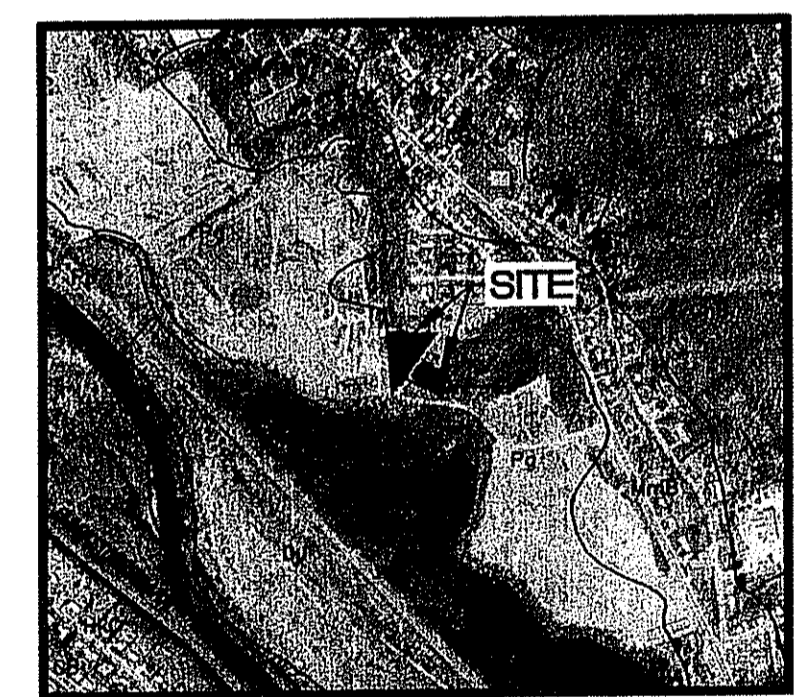
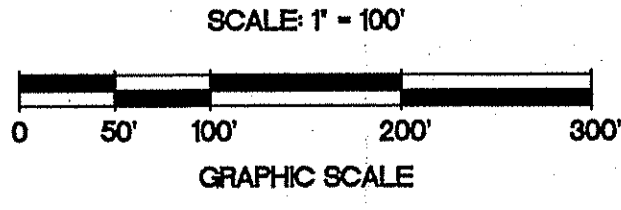
BERKELEY REALTY CO.
573 MENDON ROAD
SUITE # 1
CUMBERLAND, RHODE ISLAND
02864

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF PERMITS AND LICENSING
FRESHWATER DIVISION
10/22/08
AS SPECIAL AGENT APPROVAL
DATED 10/22/08
NO CHANGES TO THIS PLAN WITHOUT PERMITS APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

Jonathan D. Weneck



AERIAL PHOTOGRAPH
SCALE: 1" = 100'



SOILS MAP
SCALE: 1" = 1,000'

REFERENCE:
SOILS PROVIDED BY THE RHODE ISLAND GEOGRAPHIC INFORMATION SYSTEM (RIGIS). FILE: RISOLS.e00

SYMBOL	DESCRIPTION
MmB	MERRIMAC SANDY LOAM, 3 TO 8 PERCENT SLOPES
Pg	PITS, GRAVEL

REFERENCE:
AERIAL PHOTOGRAPH PROVIDED BY THE RHODE ISLAND GEOGRAPHIC INFORMATION SYSTEM (RIGIS). THIS IMAGE WAS CREATED FROM AERIAL PHOTOGRAPHY TAKEN IN APRIL OF 2004 FOR NATIONAL GRID-USA AND THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION. IMAGE FILE: 3432.sid

NO.	DATE	REVISION
1	3/23/09	SHEET 2 DEL 08-0308 COMMENTS
2	9/17/09	SHEETS 2-7 DEM 08-0308 COMMENTS

JOHN P. CAITO
REGISTERED PROFESSIONAL ENGINEER
No. 4988
STATE OF RHODE ISLAND

CAITO CORPORATION
CIVIL ENGINEERS
LAND PLANNERS
141 JAMES P. MURRAY HIGHWAY
WEST WARWICK, RHODE ISLAND
08893-9388
401-615-8600
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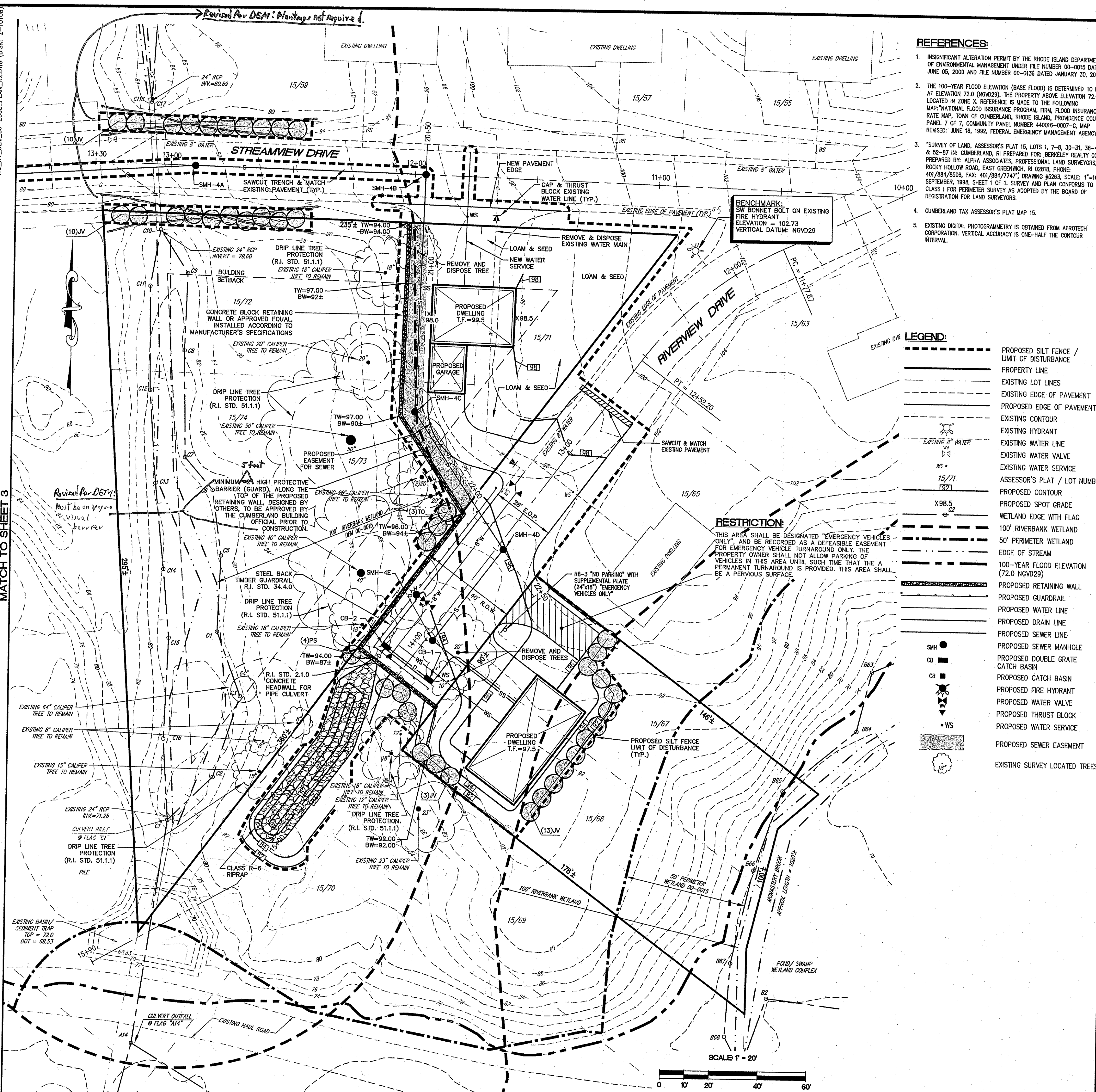
PROJECT NO: 144.416
DATE: SEPTEMBER 2008
SCALE: AS NOTED
DESIGNED BY: W.R.A.
DRAWN BY: P.T.E.
CHECKED BY: J.P.C.

AERIAL PHOTOGRAPH / SITE MAPS
RESIDENTIAL DEVELOPMENT
ASSESSOR'S PLAT 15, LOTS 67, 68, 71, 72, 73 and 74
RIVERVIEW DRIVE and STREAM VIEW DRIVE
CUMBERLAND, RHODE ISLAND
PREPARED FOR
BERKELEY REALTY CO.

DRAWING NUMBER
1
SHEET 1 OF 7

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416_RV_DEM_09-2008_PLAN_R2.DWG (DISK: 2-10100) MATCH TO SHEET 3

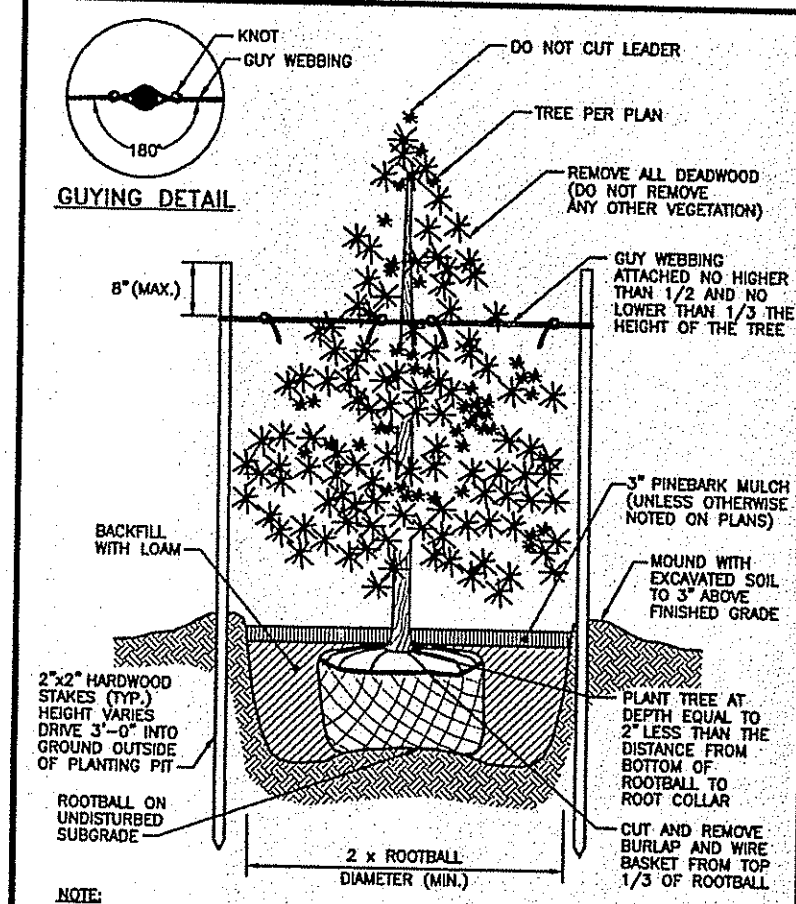
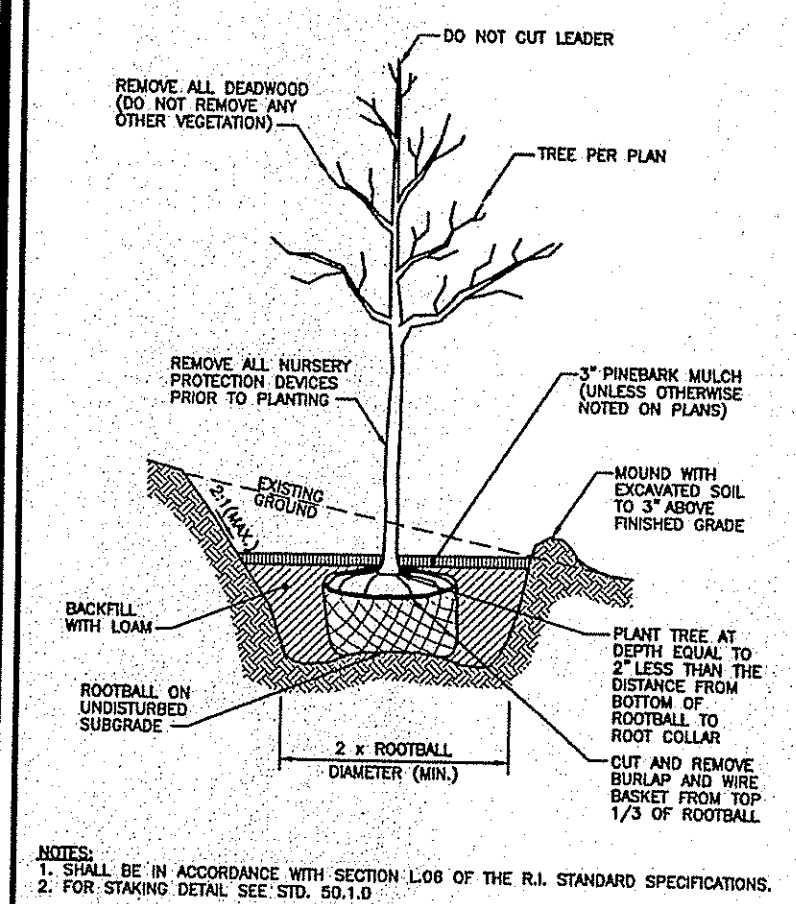


- REFERENCES:**
- INSIGNIFICANT ALTERATION PERMIT BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT UNDER FILE NUMBER 00-0015 DATED JUNE 05, 2000 AND FILE NUMBER 00-0336 DATED JANUARY 30, 2002.
 - THE 100-YEAR FLOOD ELEVATION (BASE FLOOD) IS DETERMINED TO BE AT ELEVATION 72.0 (NGVD29). THE PROPERTY ABOVE ELEVATION 72.0 IS LOCATED IN ZONE X. REFERENCE IS MADE TO THE FOLLOWING MAP: "NATIONAL FLOOD INSURANCE PROGRAM FIRM, FLOOD INSURANCE RATE MAP, TOWN OF CUMBERLAND, RHODE ISLAND, PROVIDENCE COUNTY, PANEL 7 OF 7, COMMUNITY PANEL NUMBER 440016-0007-C, MAP REVISED: JUNE 16, 1992, FEDERAL EMERGENCY MANAGEMENT AGENCY."
 - "SURVEY OF LAND, ASSESSOR'S PLAT 15, LOTS 1, 7-8, 30-31, 38-41 & 52-57 IN CUMBERLAND, RI PREPARED FOR: BERKELEY REALTY CO. PREPARED BY: ALPHA ASSOCIATES, PROFESSIONAL LAND SURVEYORS, 35 ROCKY HOLLOW ROAD, EAST GREENWICH, RI 02818, PHONE: 401/884/8506; FAX: 401/884/7747; DRAWING #263, SCALE: 1"=100', SEPTEMBER, 1998, SHEET 1 OF 1. SURVEY AND PLAN CONFORMS TO CLASS I FOR PERMETER SURVEY AS ADOPTED BY THE BOARD OF REGISTRATION FOR LAND SURVEYORS."
 - CUMBERLAND TAX ASSESSOR'S PLAT MAP 15.
 - EXISTING DIGITAL PHOTOGRAMMETRY IS OBTAINED FROM AEROTECH CORPORATION. VERTICAL ACCURACY IS ONE-HALF THE CONTOUR INTERVAL.

- LEGEND:**
- PROPOSED SILT FENCE / LIMIT OF DISTURBANCE
 - PROPERTY LINE
 - EXISTING LOT LINES
 - EXISTING EDGE OF PAVEMENT
 - PROPOSED EDGE OF PAVEMENT
 - EXISTING CONTOUR
 - EXISTING HYDRANT
 - EXISTING WATER LINE
 - EXISTING WATER VALVE
 - EXISTING WATER SERVICE
 - ASSESSOR'S PLAT / LOT NUMBER
 - PROPOSED CONTOUR
 - PROPOSED SPOT GRADE
 - WETLAND EDGE WITH FLAG
 - 100' RIVERBANK WETLAND
 - 50' PERIMETER WETLAND
 - EDGE OF STREAM
 - 100-YEAR FLOOD ELEVATION (72.0 NGVD29)
 - PROPOSED RETAINING WALL
 - PROPOSED GUARDRAIL
 - PROPOSED WATER LINE
 - PROPOSED DRAIN LINE
 - PROPOSED SEWER LINE
 - PROPOSED SEWER MANHOLE
 - PROPOSED DOUBLE GRATE CATCH BASIN
 - PROPOSED CATCH BASIN
 - PROPOSED FIRE HYDRANT
 - PROPOSED WATER VALVE
 - PROPOSED THRUST BLOCK
 - PROPOSED WATER SERVICE
 - PROPOSED SEWER EASEMENT
 - EXISTING SURVEY LOCATED TREES

RESTRICTION:
THIS AREA SHALL BE DESIGNATED "EMERGENCY VEHICLES ONLY", AND BE RECORDED AS A DEFESIBLE EASEMENT FOR EMERGENCY VEHICLE TURNAROUND ONLY. THE PROPERTY OWNER SHALL NOT ALLOW PARKING OF VEHICLES IN THIS AREA UNTIL SUCH TIME THAT A PERMANENT TURNAROUND IS PROVIDED. THIS AREA SHALL BE A PERVIOUS SURFACE.

- GENERAL LANDSCAPE NOTES:**
- THE CONTRACTOR SHALL INSTALL ALL PLANT MATERIAL IN CONFORMANCE WITH THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
 - ALL PLANT MATERIAL SHALL MEET THE AMERICAN OF NURSERYMEN STANDARDS FOR NURSERY STOCK, LATEST EDITION, AND ITS AMENDMENTS. PLANT ONLY DURING SEASONS NORMAL TO THE PARTICULAR VARIETY. NO SUBSTITUTIONS SHALL BE ACCEPTED WITHOUT PRIOR APPROVAL BY THE LANDSCAPE ARCHITECT.
 - ALL PLANT MATERIAL FURNISHED BY THE CONTRACTOR SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR. IF THE FIRST YEAR ENDS DURING THE GUARANTEE PERIOD, THE GUARANTEE SHALL EXTEND TO THE START OF THE NEXT LEAFING. DURING THE ONE-YEAR GUARANTEE PERIOD THE CONTRACTOR SHALL EMPLOY ACCEPTED HORTICULTURAL PRACTICES TO KEEP THE PLANTS INSTALLED IN LIVING, HEALTHY CONDITION. FOLLOWING THE ONE-YEAR GUARANTEE PERIOD THE OWNER/OWNERS SHALL INSPECT ALL PLANT MATERIAL FOR HEALTHY ORNAMENTAL QUALITY. AT THAT TIME SHOULD ANY PLANT MATERIAL BE FOUND IN INADEQUATE HEALTH THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE THE PLANT IN KIND AND PROVIDE A ONE-YEAR GUARANTEE FOR THE REPLACEMENT PLANT.
 - INSTALL ALL PLANT MATERIAL AS SHOWN IN DETAILS.
 - STAKE ALL TREES OVER 5' AS SHOWN ON DETAILS. REMOVE STAKES AT THE END OF THE GUARANTEE PERIOD.
 - THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS, AND SHALL OBTAIN ALL NECESSARY PERMITS FOR THE PROJECT.
 - ALL NOTES AND DIMENSIONS ARE TYPICAL UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE SQUARE (PARALLEL OR PERPENDICULAR) UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOTIFY THE OWNER/OWNER'S REPRESENTATIVE IMMEDIATELY IN THE EVENT OF ANY DISCREPANCIES FOUND IN THE CONTRACT DOCUMENTS AND/OR IN THE FIELD, OR ON CONDITIONS UNCOVERED IN THE WORK WHICH ARE NOT REFLECTED IN THE PLANS.
 - PROTECTION OF EXISTING PLANTINGS: MAXIMUM EFFORT SHOULD BE MADE TO SAVE TREES OR OTHER PLANT SPECIMENS WHICH ARE LARGE (TWO OR MORE SPECIES, RARE TO THE AREA, OR OF SPECIAL HORTICULTURAL OR LANDSCAPE VALUE. CONTACT OWNER/LANDSCAPE ARCHITECT BEFORE REMOVING ANY SPECIMEN OF THE TYPE UNLESS OTHERWISE NOTED ON THE PLANS. NO MATERIAL OR TEMPORARY SOIL DEPOSITS SHALL BE PLACED WITHIN THE DRIP LINE OF SHRUBS OR TREES DESIGNATED ON THE LANDSCAPE PLAN TO BE RETAINED. PROTECTIVE BARRIERS ARE TO BE INSTALLED AROUND EACH PLANT AND/OR GROUP OF PLANTS THAT ARE TO REMAIN ON THE SITE. BARRIERS SHALL NOT BE SUPPORTED BY THE PLANTS THEY ARE PROTECTING, BUT SHALL BE SELF SUPPORTING. THEY SHALL BE OF MINIMUM OF FOUR FEET (4') HIGH AND CONSTRUCTED OF A DURABLE MATERIAL, SUCH AS SNOW OR SILT FENCE, THAT WILL LAST UNTIL CONSTRUCTION IS COMPLETED.
 - THE CONTRACTOR SHALL CAREFULLY PRUNE BRANCHES IN THE WAY OF CONSTRUCTION BY USING ONLY APPROVED METHODS AND TOOLS. THE USE OF AXES FOR TRIMMING OR SPURS FOR CLIMBING WILL NOT BE PERMITTED. ALL TREE AND SHRUB TRIMMING AND THE TRIMMING FOR UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED HORTICULTURAL PRACTICE. ALL TRIMMING SHALL BE PERFORMED BY OR UNDER THE DIRECT SUPERVISION OF A RHODE ISLAND LICENSED ARBORIST. ALL CUTS SHALL BE MADE PARALLEL TO AND AS CLOSE TO THE BRANCH OR STEM COLLAR AS POSSIBLE. ALL CUTS SHALL BE MADE IN A MANNER WHICH PREVENTS DAMAGE TO THE BARK. PRUNING SHALL NOT DEFORM NODAL COLLAR TYPICAL SHAPE OR SYMMETRY OF THE TREE OR SHRUB. ALL CUTS SHALL BE MADE WITH DISINFECTED, SHARP TOOLS WHICH SHALL BE APPROVED BY THE ENGINEER.
 - SHOULD ROOT PRUNING BE REQUIRED FOR THE WALL CONSTRUCTION ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. THIS WORK SHALL PROCEED PRIOR TO ANY EXCAVATION WORK WITHIN THE PROJECT LIMITS. ROOTS WHICH ARE FOUND DURING EXCAVATION, OUTSIDE THE DESIGNATED MECHANICAL ROOT PRUNING AREA, MAY REQUIRE HAND PRUNING AT THE DISCRETION OF THE ENGINEER.
 - ROOT PRUNING MACHINERY TO BE USED SHALL BE A VERMEER CRL-24 ROCKWHEEL, THE VERMEER V430A ROOT CUTTER OR AN APPROVED EQUAL. TRENCHER EQUIPMENT SHALL NOT BE PERMITTED. ALL HAND EQUIPMENT MUST BE DISINFECTED, SHARP, AND BE APPROVED BY THE ENGINEER.
 - MECHANICAL ROOT PRUNING SHALL TAKE PLACE 6 TO 12 INCHES FROM THE EDGE OF ANY PROPOSED EXCAVATION, OR AS DESIGNATED ON THE PLANS. THE AREAS TO BE PRUNED WILL BE FIELD LOCATED PRIOR TO COMMENCEMENT OF THIS ITEM BY THE CONTRACTOR AND THE ENGINEER.
 - THE CUT MADE BY THE SPECIFIED ROOT PRUNING MACHINERY SHALL BE 2 TO 4 INCHES WIDE AND 15 TO 18 INCHES DEEP. THE LENGTH SHALL BE AS DELINEATED ON THE PLANS. PAINT SHALL NOT BE USED ON WOUNDS CAUSED BY PRUNING.



RHODE ISLAND DEPARTMENT OF TRANSPORTATION

TREE PLANTING ON SLOPE

DATE: JUNE 15, 1998

SCALE: 1"=10'

PLANT LIST

KEY	BOTANICAL NAME	QTY.	SIZE
JV	JUNIPERUS VIRGINIANA	26	5'-6" B&B
PS	PINUS STROBUS	4	5'-6" B&B
TO	THUJA OCCIDENTALIS	3	5'-6" B&B

CERTIFICATION FOR EXISTING SURVEY LOCATED TREES:

THIS SURVEY AND PLAN CONFORM TO A CLASS III STANDARD FOR PLANIMETRICS AND/OR TOPOGRAPHY AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS.

BY: *Richard J. Bourbonnais, II* 9/10/09
PROFESSIONAL LAND SURVEYOR DATE

TIMOTHY H. KINDER
No. 1974
PROFESSIONAL LAND SURVEYOR

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

LANDSCAPE PLAN, NOTES AND DETAILS ONLY
PREPARED BY:
RICHARD J. BOURBONNAIS, II, R.L.A., PE
LICENSE NUMBER: 300
COA NUMBER: LA20, 133

CERTIFICATION FOR EXISTING SURVEY LOCATED TREES:

THIS SURVEY AND PLAN CONFORM TO A CLASS III STANDARD FOR PLANIMETRICS AND/OR TOPOGRAPHY AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS.

BY: *Richard J. Bourbonnais, II* 9/10/09
PROFESSIONAL LAND SURVEYOR DATE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 10/22/09 FILE # 08-030.8
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

Jonathan D. Wencel

CIVIL ENGINEERS
141 JAMES P. AUBREY HIGHWAY
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02893-0388
401-615-8600
FAX: 401-615-8606

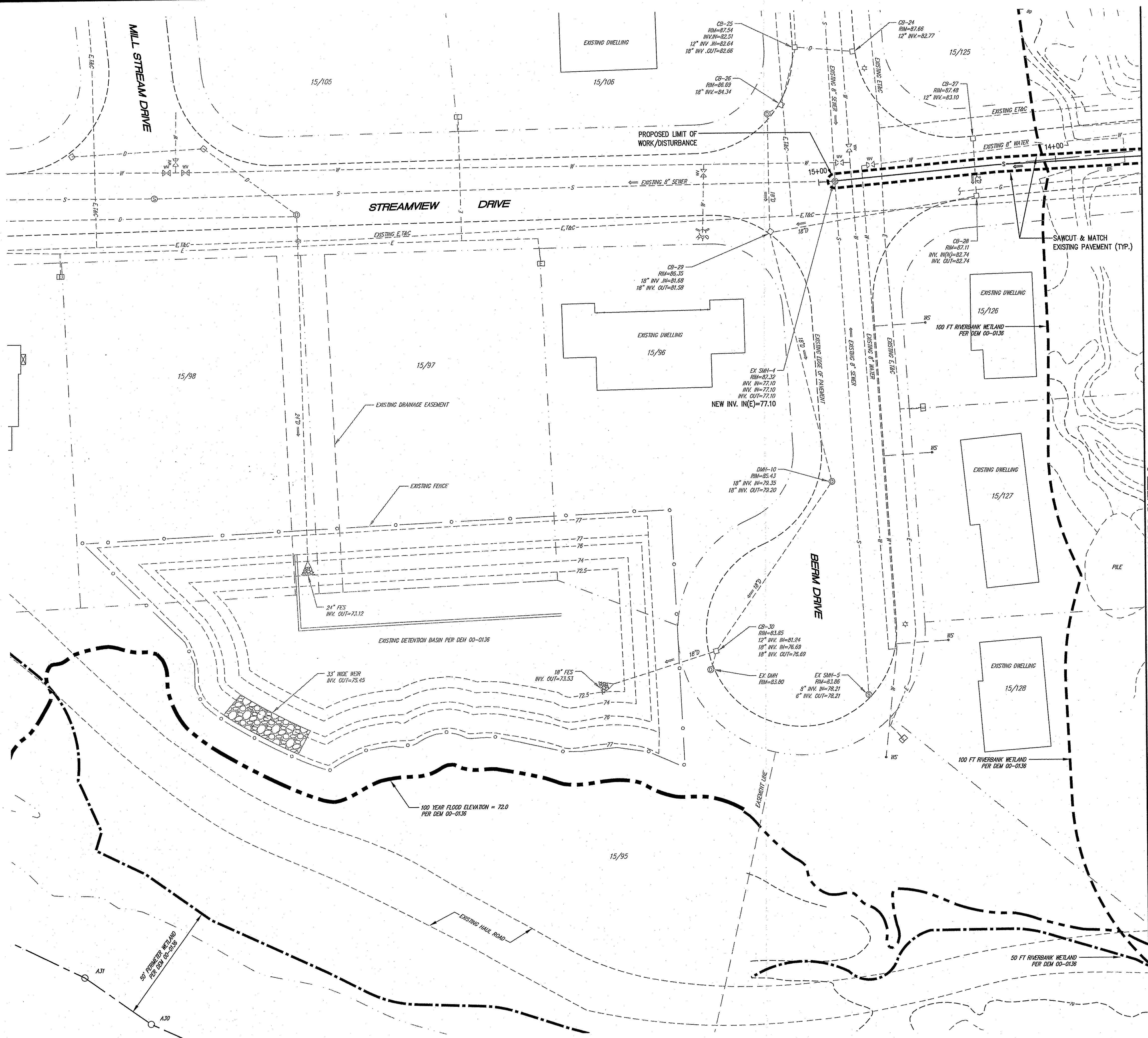
JOHN P. CALTO
CORPORATION
LAND PLANNERS

PROJECT NO.: 144.416
DATE: SEPTEMBER 2008
SCALE: 1" = 20'
DESIGNED BY: W.R.A.
DRAWN BY: P.T.E.
CHECKED BY: J.P.C.

SITE PLAN - 1

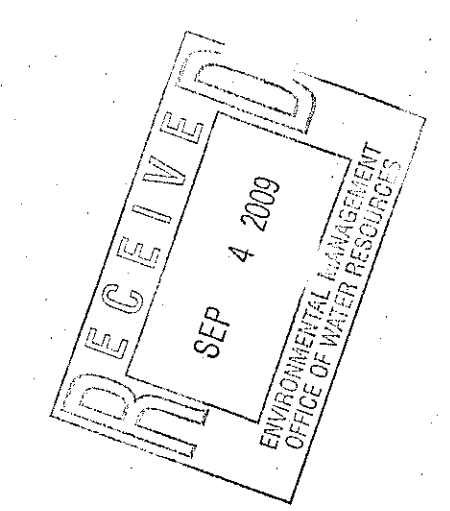
RESIDENTIAL DEVELOPMENT
ASSESSOR'S PLAT 15, LOTS 67, 68, 71, 72, 73 AND 74
RIVERVIEW DRIVE AND STREAMVIEW DRIVE
CUMBERLAND
PREPARED FOR:
BERKELEY REALTY CO.

DRAWING NUMBER
2
SHEET 2 OF 7



- LEGEND:**
- PROPOSED SILT FENCE / LIMIT OF DISTURBANCE
 - - - PROPOSED SEWER LINE
 - - - WETLAND EDGE WITH FLAG
 - - - 100' RIVERBANK WETLAND
 - - - 50' PERIMETER WETLAND
 - - - 100-YEAR FLOOD ELEVATION (72.0 NGVD29)
 - - - EXISTING LOT LINES
 - - - EXISTING EDGE OF PAVEMENT
 - - - EXISTING EASEMENT LINE
 - - - EXISTING FENCE
 - - - EXISTING CONTOUR
 - - - EXISTING WATER LINE
 - - - EXISTING DRAIN LINE
 - - - EXISTING SEWER LINE
 - - - EXISTING ELECTRIC LINE
 - - - EXISTING GAS LINE
 - - - EXISTING ELECTRIC, TELEPHONE AND CABLE
 - - - EXISTING HYDRANT
 - - - EXISTING WATER SERVICE
 - - - EXISTING WATER VALVE
 - - - EXISTING CATCH BASIN
 - - - EXISTING DRAINAGE MANHOLE
 - - - EXISTING SEWER MANHOLE
 - - - EXISTING ELECTRIC BOX
 - - - EXISTING LIGHT POLE
 - - - EXISTING FLARED END SECTION WITH RIPRAP
 - - - ASSESSOR'S PLAT / LOT NUMBER

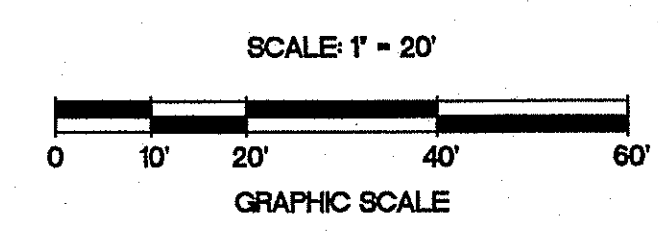
MATCH TO SHEET 2



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 10/22/09 FILE # 08-030.P
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

Christopher D. Wenzel



NO.	DATE	REVISION
1	10/27/09	DEM 08-030B COMMENTS

JOHN P. CARO
4398
REGISTERED PROFESSIONAL ENGINEER

CIVIL ENGINEERS
141 JAMES P. MURPHY HIGHWAY
WEST WARWICK, RHODE ISLAND
02893-2382
401-915-8600
FAX: 401-915-8605

Caro CORPORATION
LAND PLANNERS

PROJECT NO: 144.416
DATE: SEPTEMBER 2008
SCALE: 1" = 20'
DESIGNED BY: W.R.A.
DRAWN BY: P.T.E.
CHECKED BY: J.P.C.

SITE PLAN - 2
RESIDENTIAL DEVELOPMENT
ASSESSOR'S PLAT 15, LOTS 67, 68, 71, 72, 73 and 74
RIVERVIEW DRIVE and STREAM VIEW DRIVE
RHODE ISLAND
CUMBERLAND
PREPARED FOR
BERKELEY REALTY CO.

DRAWING NUMBER
3
SHEET 3 OF 7

416_INV_DEV_09-2008_PLAN_R2.DWG (DISC: 2-10100)

DRAINAGE STRUCTURE TABLE:

PROPOSED CB-1
DOUBLE GRATE
HIGH CAPACITY FRAME &
GRATE
RIM=92.80
INV OUT=85.14

PROPOSED CB-2
DOUBLE GRATE
HIGH CAPACITY FRAME &
GRATE
RIM=92.80
INV=85.02

PROPOSED HEADWALL
RIM=84.50
INV=84.50

SEWER STRUCTURE TABLE:

PROPOSED SMH-4E
RIM=93.80
INV=82.50

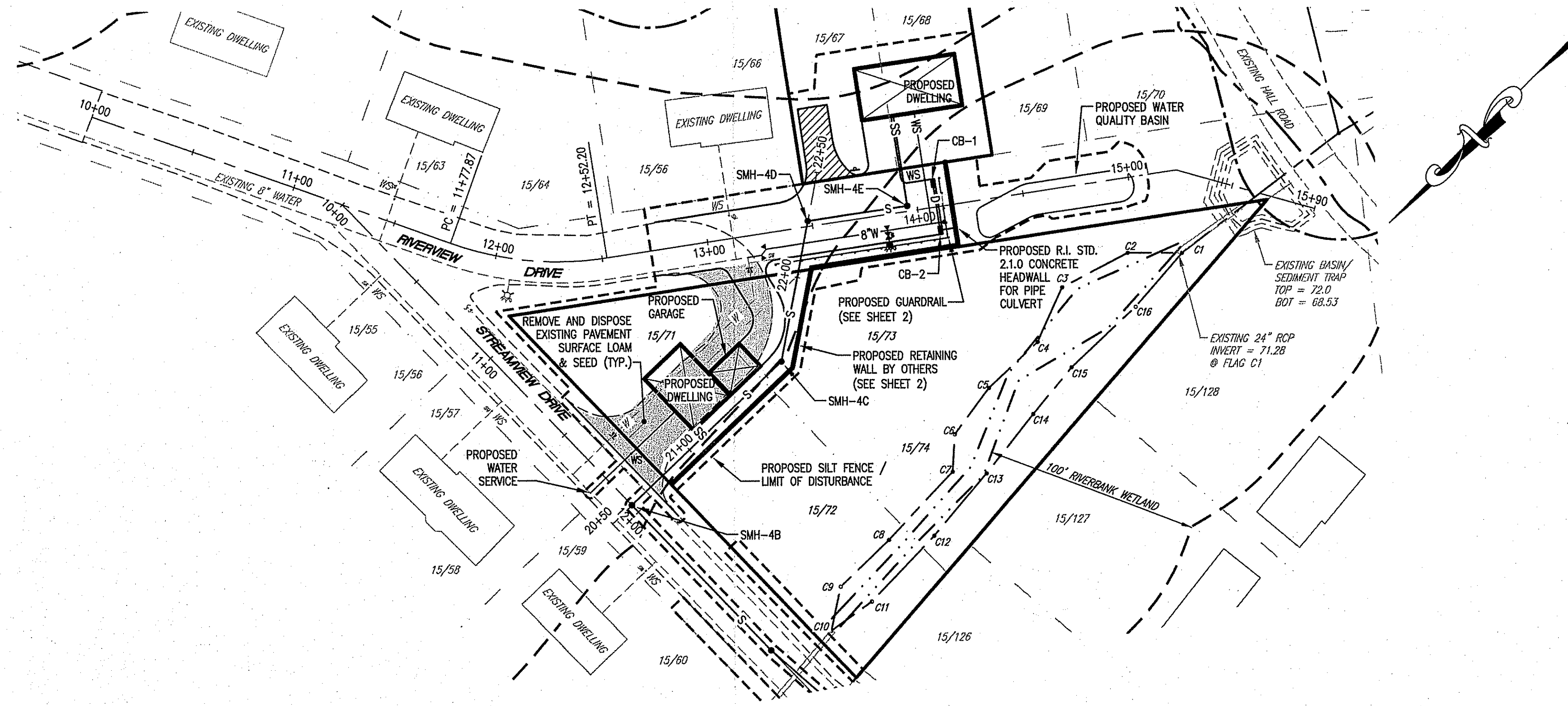
PROPOSED SMH-4D
RIM=95.90
INV=82.03

PROPOSED SMH-4C
RIM=97.00
INV=81.24

PROPOSED SMH-4B
RIM=96.70
INV=80.34

NOTE

1. PROPOSED SEWER MANHOLE RIMS 4A AND 4B SHALL BE SET FLUSH WITH EXISTING PAVEMENT.

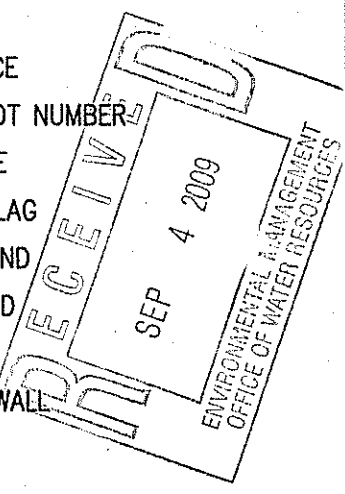


PLAN - RIVERVIEW DRIVE
SCALE: 1" = 40'
GRAPHIC SCALE

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

LEGEND:

- PROPOSED SILT FENCE / LIMIT OF DISTURBANCE
- PROPERTY LINE
- EXISTING LOT LINES
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- EXISTING HYDRANT
- EXISTING WATER LINE
- EXISTING WATER VALVE
- EXISTING WATER SERVICE
- ASSESSOR'S PLAT / LOT NUMBER
- X98.5 PROPOSED SPOT GRADE
- WETLAND EDGE WITH FLAG
- 100' RIVERBANK WETLAND
- 50' PERIMETER WETLAND
- EDGE OF STREAM
- PROPOSED RETAINING WALL
- PROPOSED GUARDRAIL
- PROPOSED WATER LINE
- PROPOSED DRAIN LINE
- PROPOSED SEWER LINE
- SMH • PROPOSED SEWER MANHOLE
- DMH • PROPOSED DRAINAGE MANHOLE
- CB • PROPOSED DOUBLE GRATE CATCH BASIN
- CB • PROPOSED CATCH BASIN
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED THRUST BLOCK
- WS PROPOSED WATER SERVICE
- EXISTING PAVEMENT TO BE REMOVED



JOHN P. CATTO
PROFESSIONAL ENGINEER

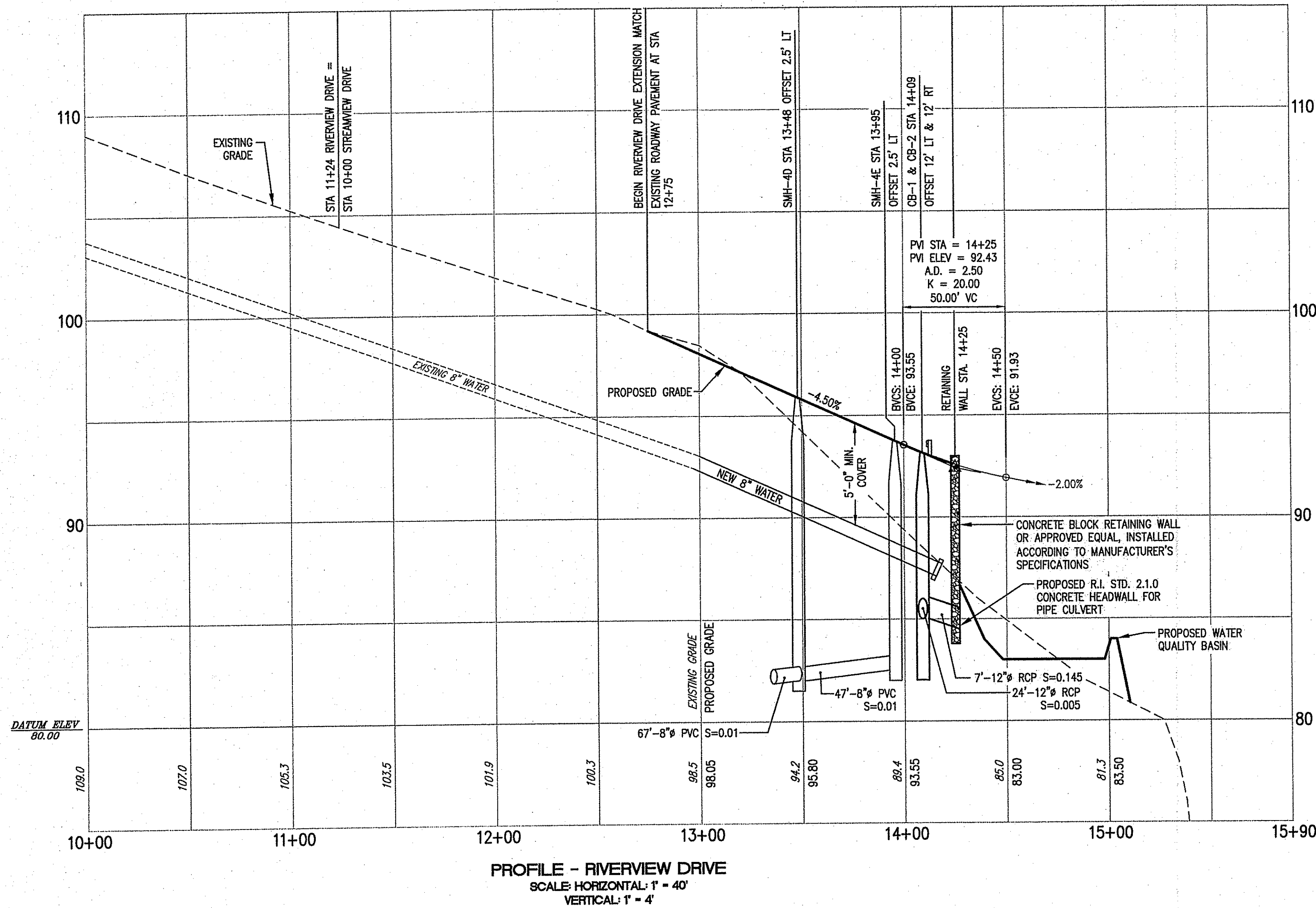
CIVIL ENGINEERS
CORPORATION
LAND PLANNERS

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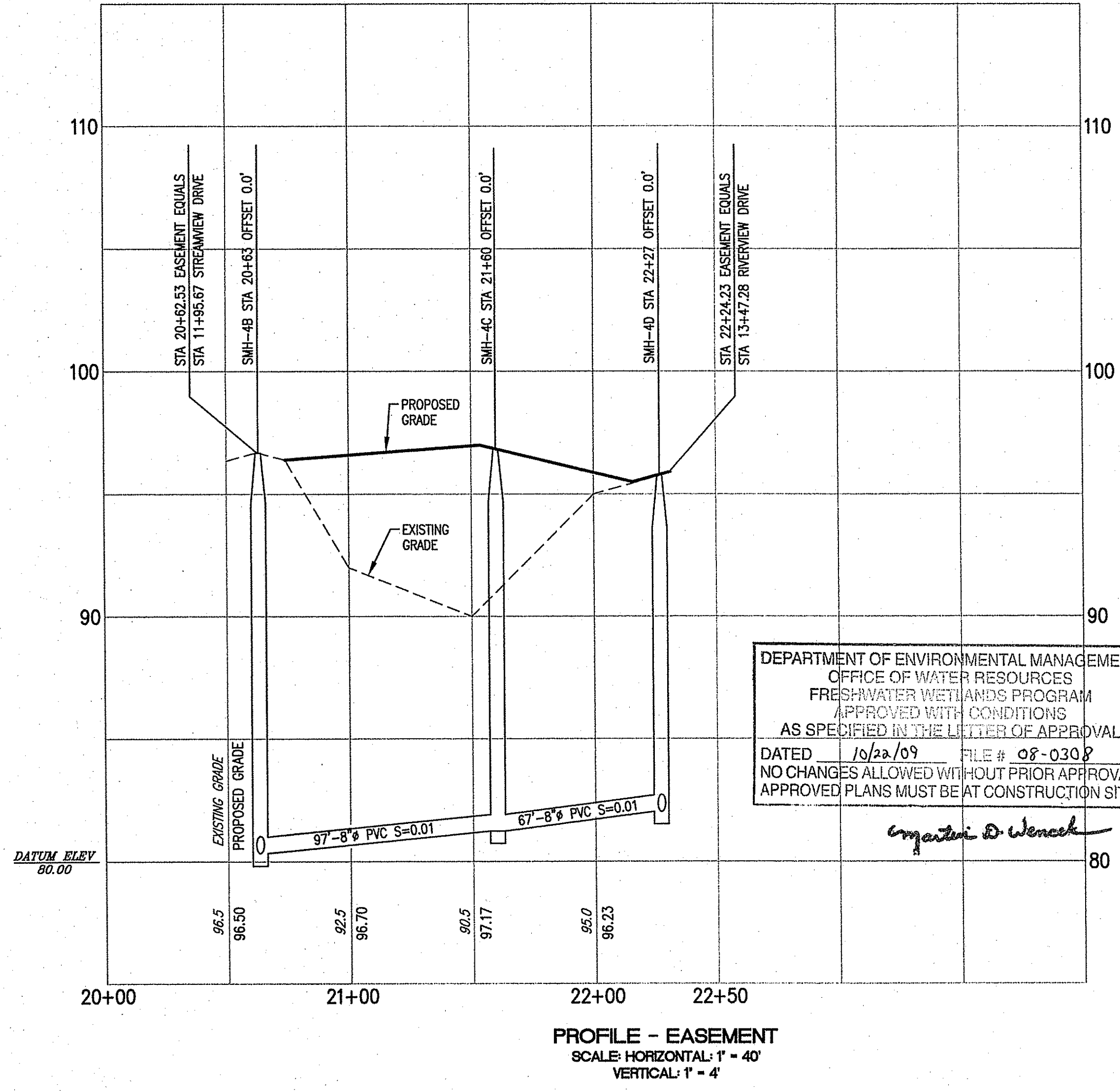
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DATE: SEPTEMBER 2008
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DESIGNED BY: W.R.A.
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PLAN AND PROFILE - 1
RESIDENTIAL DEVELOPMENT
ASSESSOR'S PLAT 15, LOTS 67, 68, 71, 72, 73 and 74
RIVERVIEW DRIVE and STREAM VIEW DRIVE
RHODE ISLAND
CUMBERLAND
PREPARED FOR
BERKELEY REALTY CO.

DRAWING NUMBER
4
SHEET 4 OF 7



PROFILE - RIVERVIEW DRIVE
SCALE: HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'



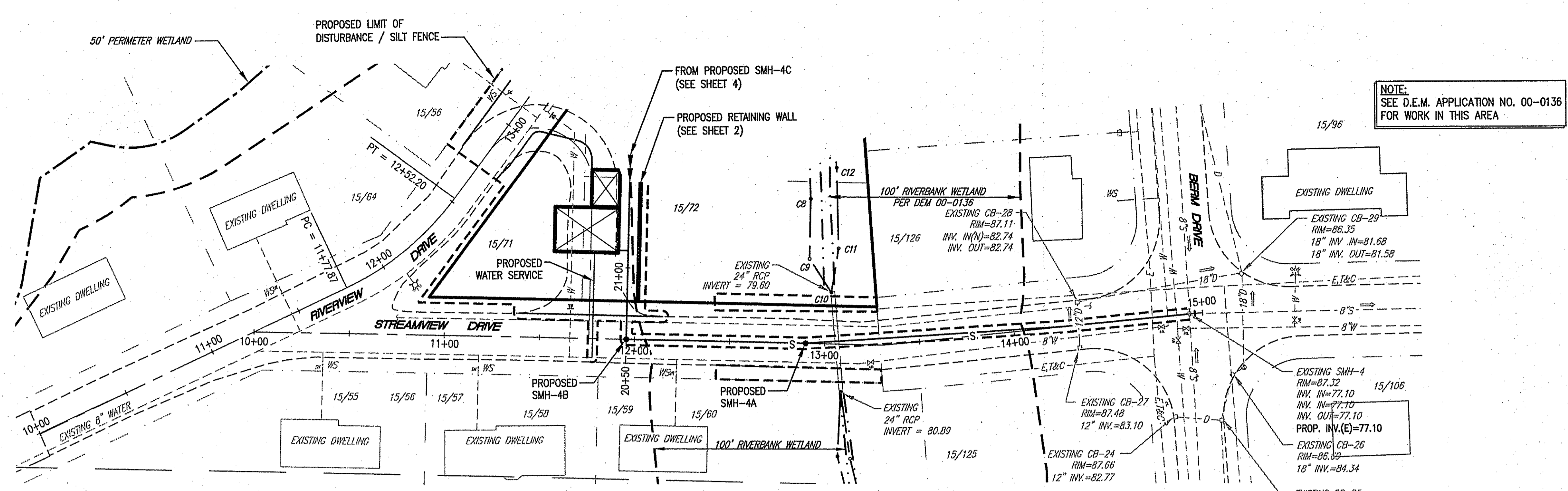
PROFILE - EASEMENT
SCALE: HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 10/22/09 FILE # 08-030P
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

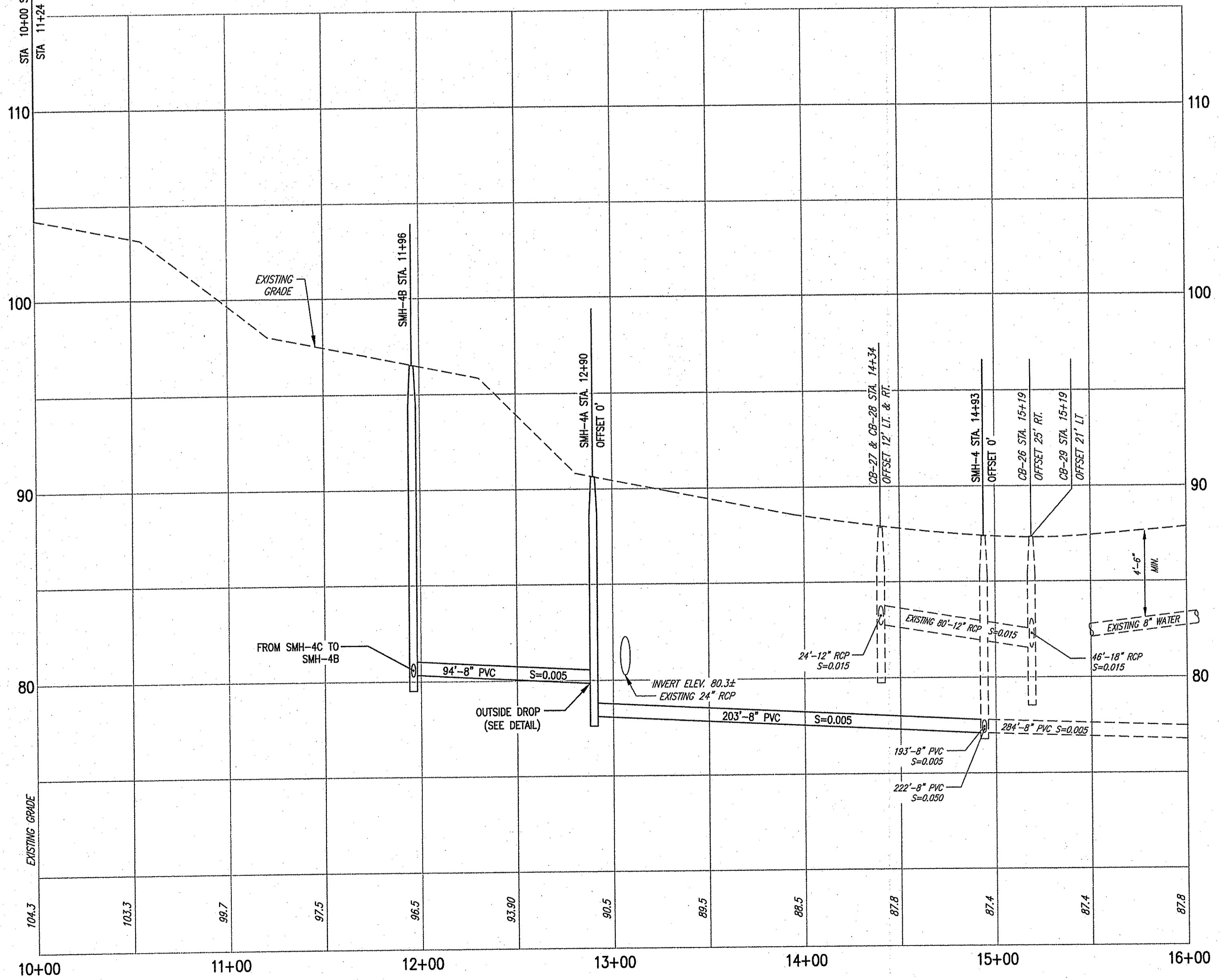
Martin D. Wencel

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416_RV_DEN_09-2008_Plan_82.DWG (DSK: 2-1010)

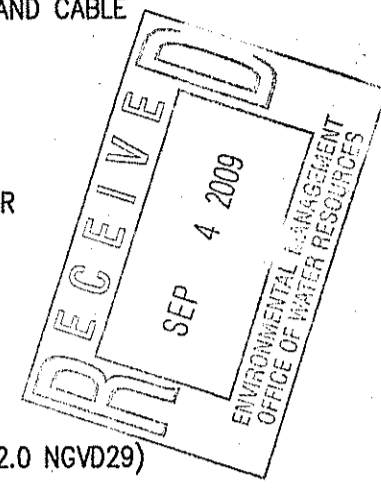


PLAN - STREAMVIEW DRIVE
SCALE: 1" = 40'
GRAPHIC SCALE



PROFILE - STREAMVIEW DRIVE
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

- LEGEND:**
- PROPOSED SILT FENCE / LIMIT OF DISTURBANCE
 - PROPERTY LINE
 - EXISTING LOT LINES
 - EXISTING EDGE OF PAVEMENT
 - PROPOSED EDGE OF PAVEMENT
 - EXISTING HYDRANT
 - EXISTING WATER LINE
 - EXISTING WATER LINE
 - EXISTING DRAIN LINE
 - EXISTING SEWER LINE
 - EXISTING ELECTRIC LINE
 - EXISTING ELECTRIC, TELEPHONE AND CABLE
 - EXISTING HYDRANT
 - EXISTING WATER VALVE
 - EXISTING WATER SERVICE
 - ASSESSOR'S PLAT / LOT NUMBER
 - WETLAND EDGE WITH FLAG
 - 100' RIVERBANK WETLAND
 - 50' PERIMETER WETLAND
 - EDGE OF STREAM
 - 100-YEAR FLOOD ELEVATION (72.0 NGVD29)
 - PROPOSED RETAINING WALL BY OTHERS
 - PROPOSED SEWER LINE
 - PROPOSED SEWER MANHOLE
 - PROPOSED FIRE HYDRANT
 - PROPOSED THRUST BLOCK



NO.	DATE	REVISION	COMMENTS
1	9/14/09	DEM 08-0308	COMMENTS

JOHN P. CATO
CIVIL ENGINEER
PROFESSIONAL ENGINEER

CIVIL ENGINEERS
CORPORATION
LAND PLANNERS

PROJECT NO: 144416
DATE: SEPTEMBER 2008
SCALE: AS NOTED
DESIGNED BY: W.R.A.
DRAWN BY: P.T.E.
CHECKED BY: J.P.C.

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

SEWER STRUCTURE TABLE:

PROPOSED SMH-4B
RIM=96.70
INV=80.34

PROPOSED SMH-4A
RIM=90.65
INV=79.89
INV.OUT=78.12

EXISTING SMH-4
RIM=87.32
INV.IN=77.10
INV.OUT=77.10
PROPOSED INV.(E)=77.10

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 10/22/09 FILE # 08-0308
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

- NOTE**
- PROPOSED SEWER MANHOLE RIMS 4A AND 4B SHALL BE SET FLUSH WITH EXISTING PAVEMENT.

Matthew D. Wenzel

PLAN AND PROFILE - 2
RESIDENTIAL DEVELOPMENT
ASSESSOR'S PLAT 15, LOTS 67, 68, 71, 72, 73 and 74
RIVERVIEW DRIVE and STREAM VIEW DRIVE
RHODE ISLAND
CUMBERLAND
PREPARED FOR
BERKELEY REALTY CO.

DRAWING NUMBER
5
SHEET 5 OF 7

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416-RV-DEW-09-2008-PLAN-REV.DWG (DISK: Z-1010)

Department of Environmental Management
Division of Water Resources (DWR)
SEWER LINE/WATER MAIN SEPARATION POLICY
FOR DESIGN OF SANITARY SEWERS

A. Lateral placement of sewers and water mains
Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main.

In cases where it is not possible to maintain a 10 foot horizontal separation, the Division may allow deviation on a case-by-case basis, if supported by data from the design engineer.

- 1. The sewer and water main are laid in separate trenches, or
2. The sewer and water main may be installed in the same trench with the water main placed on a bench of undisturbed earth, and
3. In either case, the crown of the sewer shall be at least 18 inches below the invert of the water main.

In situations where it is impossible to obtain proper horizontal and vertical separation as stipulated above, the following protection shall be provided:

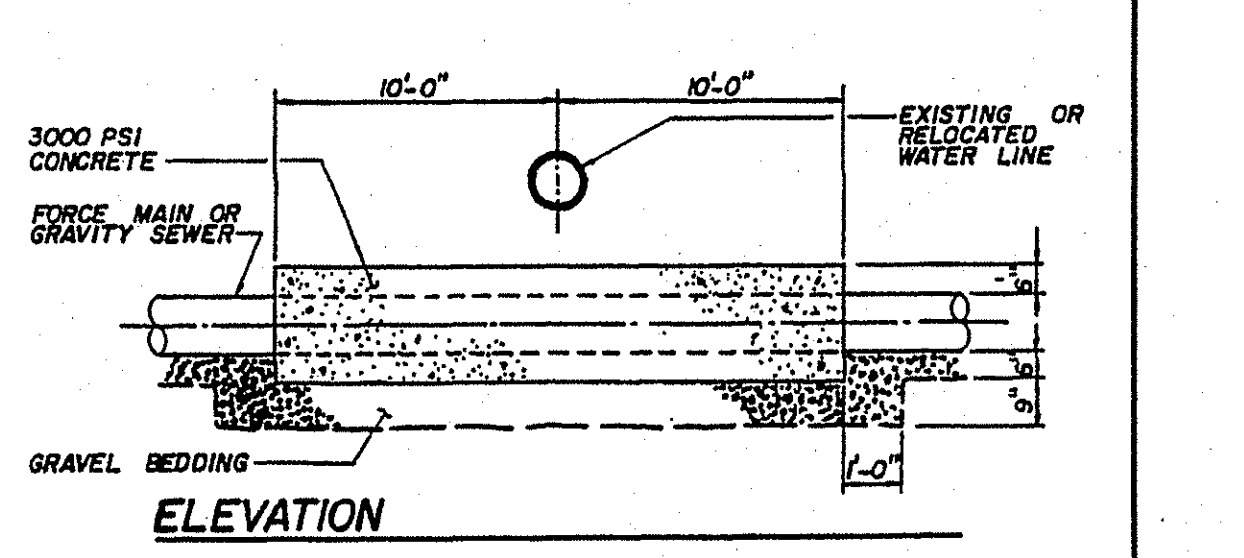
- 1. Encasement of the sewer pipe in concrete (min. 6 inch thickness) or a carrier pipe for at least 10 feet either side of the area not complying with the minimum horizontal and vertical separation, or
2. Design and construction of the sewer equal to water main pipe (cement-lined ductile iron or other AWWA-approved material for potable water conveyance), and pressure tested in accordance with AWWA specifications.

B. Sewers crossing water mains

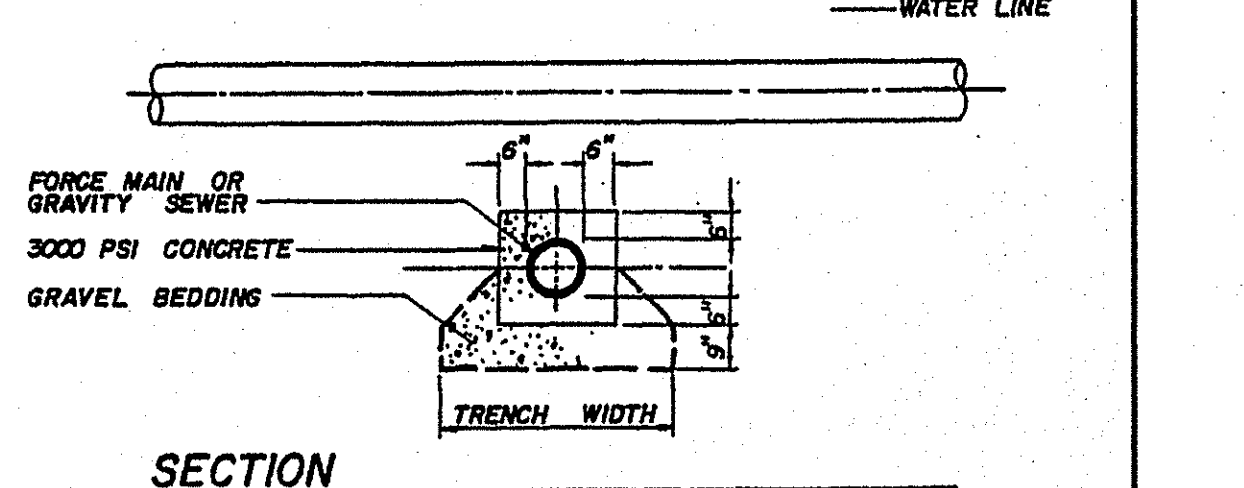
Sewers crossing over water mains should be avoided, but if conditions warrant this situation, then adequate structural support shall be provided for the sewer to maintain line and grade. Sewers crossing under water mains shall be laid to provide a minimum vertical separation of 18 inches between the invert of the water main and the crown of the sewer.

Where conditions prevent an 18 inch vertical separation from being maintained, the following methods shall be specified:

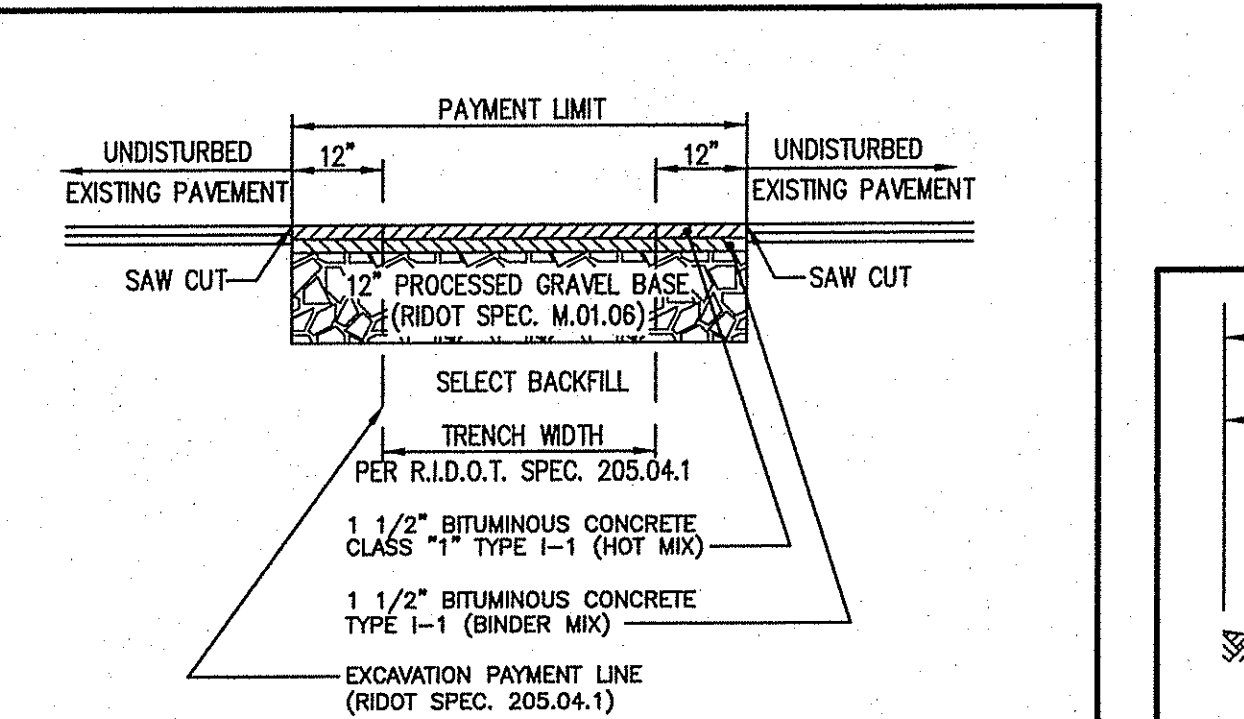
- 1. The sewer shall be designed and constructed equal to water main pipe (cement-lined ductile iron pipe, PVC or other AWWA-approved material for potable water conveyance) for a distance of 10 feet on each side of the crossing, measured perpendicular to the water main and pressure tested in accordance with AWWA specifications, or
2. Either the water main or the sewer may be encased in concrete (min. 6 inch thickness) or a carrier pipe for a distance of 10 feet on each side of the crossing, measured perpendicular to the water main. The carrier pipe shall be designed and constructed of materials which are satisfactory to the Division, or
3. Any other methods, if supported by data from the design engineer, which ensure adequate watertightness and are satisfactory to the Division.



Concrete sleeve will be required when vertical clearance between water line & force main or gravity sewer is less than 18 inches.



CONCRETE SLEEVE NOT TO SCALE



NOTE: 12" GRAVEL BASE & PERMANENT PAVEMENT SHALL BE EXTENDED TO ALL AREAS EXCAVATED OUTSIDE THE PAYMENT LIMIT LINE AT NO ADDITIONAL EXPENSE TO THE OWNER.

GENERAL NOTES:

1. THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION, AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO.

2. ALL REQUIRED SITE IMPROVEMENTS SHALL BE INSPECTED BY THE TOWN ENGINEER TO ENSURE SATISFACTORY COMPLETION. IN NO CASE SHALL THE INSTALLATION OF ANY IMPROVEMENTS BE STARTED UNTIL WRITTEN NOTIFICATION IS GIVEN TO THE TOWN ENGINEER.

3. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD.

4. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF RHODE ISLAND, FEDERAL GOVERNMENT, AND THE TOWN OF CUMBERLAND AND THE NARRAGANSETT BAY COMMISSION PRIOR TO COMMENCING ANY WORK.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEEDING AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE TOWN OF CUMBERLAND SOIL EROSION AND SEDIMENT CONTROL ORDINANCE.

6. ALL STORM DRAIN PIPING SHALL BE REINFORCED CONCRETE PIPE, CLASS III, WITH ALL EXTERIOR JOINTS MORTARED.

7. THE INSTALLATION OF THE SANITARY SEWER SHALL CONFORM TO THE CONSTRUCTION DETAILS AND REQUIREMENTS OF THE TOWN OF CUMBERLAND DEPARTMENT OF PUBLIC WORKS, "DEPARTMENT OF ENVIRONMENTAL MANAGEMENT DIVISION OF WATER RESOURCES (DWR) ALSO SEE THE SEWER LINE / WATER MAIN SEPARATION POLICY FOR DESIGN OF SANITARY SEWERS".

8. WATER MAIN AND SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE POLICIES AND PRACTICES OF THE CUMBERLAND WATER DEPARTMENT, AND MUST BE INSPECTED BY SUCH DEPARTMENT PERSONNEL AS DIRECTED BY THE SUPERINTENDENT.

9. THE ENTIRE PROPERTY IS LOCATED WITHIN "ZONE X" AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN AS IDENTIFIED ON BELOW:

"NATIONAL FLOOD INSURANCE PROGRAM: FIRM FLOOD INSURANCE RATE MAP: TOWN OF CUMBERLAND, RHODE ISLAND, PROVIDENCE COUNTY, PANEL 7 OF 7; COMMUNITY PLAN NUMBER 44016-0007; MAP REVISED JUNE 16, 1992; FEDERAL EMERGENCY MANAGEMENT AGENCY".

10. ALL MATERIAL FOR FILL SHALL BE CLEAN AND FREE OF MATERIAL WHICH COULD POLLUTE ANY DOWN STREAM WATERCOURSE.

11. VERTICAL DATUM: MEAN SEA LEVEL (NGVD 29).

12. STATE REGULATED FRESH WATER WETLANDS VERIFIED BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT UNDER APPLICATION 00-0015.

13. FILL MATERIAL SHALL BE COMPACTED IN ONE FOOT (MAXIMUM) LIFTS TO AT LEAST 98% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-1557 (MODIFIED PROCTOR TEST).

14. ALL WORK SHALL CONFORM TO THE TOWN OF CUMBERLAND, THE CUMBERLAND WATER DEPARTMENT AND THE CUMBERLAND DEPARTMENT OF PUBLIC WORKS.

15. DUST CONTROL IN THE FORM OF CALCIUM CHLORIDE SHALL BE APPLIED AS CONDITIONS WARRANT OR AS DIRECTED BY THE TOWN OF CUMBERLAND BUILDING OFFICIAL.

16. WORK SHOWN ON THE PLANS FOR WHICH THERE ARE NO PARTICULAR DETAILS OR SPECIFICATIONS DOES NOT RELIEVE THE CONTRACTOR FROM FINISHING AND INSTALLING THE WORK. THE CONTRACTOR SHALL THOROUGHLY EXAMINE THE CONTRACT DOCUMENTS AND PLANS AND INSPECT THE SITE, AND THE BID PRICE SHALL INCLUDE ALL SERVICES AND MATERIALS AS NECESSARY TO COMPLETE THE PROJECT. ANY CHANGES TO THE PROJECT OR THE INSTALLATION OF AN ITEM OF WHICH NO PARTICULAR DETAIL OR SPECIFICATION WAS PROVIDED MUST BE REVIEWED BY AND ACCEPTABLE TO THE ENGINEER.

17. SANITARY SEWER P.V.C. PIPE FITTINGS SHALL MEET ASTM SPECIFICATION D-3034-SOR-35.

SEDIMENTATION CONTROL PROGRAM:

1. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING DOWNSTREAM WATERCOURSES AND STORM WATER DRAINAGE SYSTEMS.

2. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUN-OFF FLOW DURING STORMS AND PERIODS OF RAINFALL.

3. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.

4. CARE SHALL BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECTED TO STORM WATER FLOWAGE.

5. ADDITIONAL HAY BALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.

6. SEDIMENTATION TRAPS SHALL BE PROVIDED AT ALL DRAINAGE STRUCTURES DURING CONSTRUCTION.

7. EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THE SITE PRIOR TO THE START OF CONSTRUCTION AND BE PROPERLY MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED INCLUDING:

A) THE INSTALLATION OF A CONTINUOUS LINE OF SILT FENCE AND/OR STAKED HAY BALES IN ALL LOCATIONS SHOWN ON THE APPROVED SITE PLANS AND WHERE OTHERWISE NECESSARY TO PREVENT SEDIMENTS FROM ENTERING DOWNSTREAM WATERCOURSES AND STORM WATER DRAINAGE SYSTEMS.

B) ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER PRIOR TO THE COMPLETION OF THE PROJECT. AREAS EXPOSED FOR EXTENDED PERIODS ARE TO BE COMPLETELY COVERED WITH SPREAD HAY MULCH.

C) CATCH BASINS WILL BE PROTECTED WITH HAY BALE FILTERS THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED. SUMPS ARE TO BE CLEANED IMMEDIATELY FOLLOWING INSTALLATION OF PERMANENT PAVEMENT.

D) OUTFALLS ARE TO BE PROTECTED BY HAY BALE FILTERS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER.

E) ALL CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.

8. THE LIMITS OF ALL CLEARINGS, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE SHALL REMAIN TOTALLY UNDISTURBED.

9. BANKS OR SLOPES SHALL BE STABILIZED AS SOON AS POSSIBLE AND SHALL BE PROTECTED WITH A HAY, STRAW OR FIBER MULCH.

10. REFERENCE THE "R.L. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, AS A GUIDE.

EROSION CONTROL AND SOIL STABILIZATION PROGRAM:

1. DENUDED SLOPES SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME, SUCH AS THE INACTIVE WINTER SEASONS.

2. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW, FIBER MULCH OR TEMPORARY COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELISOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.

3. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 2000 LBS./ACRE.

4. ALL HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN-PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.

5. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL, MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR DEBRIS. TOPSOIL SHALL CONFORM WITH RHODE ISLAND STANDARD SPECIFICATION M.20.01.

6. THE SEED MIX SHALL BE INOCULATED WITHIN 24-HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.

7. THE CONTRACTOR MUST REPAIR AND/OR RE-SEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR, AND SHALL DO SO AT NO ADDITIONAL EXPENSE.

8. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 15TH AS INDICATED IN THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, 1989, CHAPTER FOUR, SECTIONS A AND B, AS AMENDED.

9. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.

10. STOCKPILES OF TOPSOIL AND EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%), SHALL ALSO BE SEEDED AND/OR STABILIZED AND SHALL BE COMPLETELY ENCLOSED WITH STAKE HAY BALES AND/OR SILT FENCE. (SEE DETAIL).

11. ON BOTH STEEP AND LONG SLOPES, CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.

12. TREES TO BE RETAINED SHALL BE FENCED OR ROPED OFF TO PROTECT THEM FROM CONSTRUCTION EQUIPMENT.

13. ALL PROPOSED PLANTINGS MUST BE ACCOMPLISHED AS EARLY AS POSSIBLE UPON COMPLETION OF GRADING AND CONSTRUCTION, AND AT LEAST PRIOR TO ANY ON-SITE OCCUPANCY.

14. ALL PROPOSED PLANTINGS MUST BE MAINTAINED BY THE CONTRACTOR TO ENSURE SURVIVAL.

15. SHOULD ANY OR ALL OF THE PROPOSED PLANTS FAIL TO SURVIVE AT LEAST ONE (1) FULL GROWING SEASON FROM THE TIME THEY HAVE BEEN PLANTED, THE OWNER SHALL BE FULLY RESPONSIBLE FOR REPLACING AND MAINTAINING THE SAME PLANT SPECIES FOR ONE (1) ADDITIONAL GROWING SEASON.

STORM DRAINAGE SYSTEM MAINTENANCE PLAN:

THE FOLLOWING LIST OF MAINTENANCE TASKS AND FREQUENCIES MUST BE ADHERED TO IN ORDER TO ENSURE A SUCCESSFUL LONG TERM OPERATION OF THE STORM DRAINAGE SYSTEM.

1. SEDIMENTS SHALL BE REMOVED FROM STORM DRAINAGE INFRASTRUCTURES (CATCH BASINS, MANHOLES, PIPES, INLETS, OUTLET STRUCTURE) IMMEDIATELY FOLLOWING SITE STABILIZATION AND AFTER THE FIRST INITIAL YEAR OF OPERATION. THEREAFTER, SEDIMENTS SHALL BE REMOVED FROM STORM DRAINAGE INFRASTRUCTURES EVERY 4 YEARS. REMOVAL OF SEDIMENTS WILL BE NECESSARY AT MORE FREQUENT TIME INTERVALS IF THE SEDIMENT STORAGE CAPACITIES OF STORM BMP'S ARE EXCEEDED.

2. ALL EROSION CONTROLS, INCLUDING BUT NOT LIMITED TO, STAKED HAY BALES, SILT FENCE, FIBER MULCH OR PROTECTIVE COVERS SUCH AS MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELISOR BLANKETS) SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER AN EVENT WHICH GENERATES 0.25 INCHES OF RAIN IN A TWENTY-FOUR (24) PERIOD.

3. ALL DISTURBED AREAS, RIPRAP, GRASSED AREAS AND SIDE SLOPES AND GRASSED AREAS SHALL BE INSPECTED AT LEAST TWICE PER YEAR TO CHECK FOR EROSION PROBLEMS. PROBLEM AREAS SHALL BE REPAIRED AND/OR RE-SEED IMMEDIATELY TO STABILIZE EXPOSED SOILS, THEREBY PREVENTING EROSION AND POTENTIAL CLOSING OF STORM WATER INFRASTRUCTURES.

4. INSPECTION OF THE STORM DRAINAGE INFRASTRUCTURES (CATCH BASINS, MANHOLES, PIPES, INLETS, OUTLET STRUCTURE) AND EROSION CONTROLS SHALL BE PERFORMED AT LEAST ON AN ANNUAL BASIS, PREFERABLY DURING A STORM EVENT TO INSPECT FOR PROPER FUNCTIONING OF THE FACILITY.

5. INSPECTION OF STORM DRAINAGE INFRASTRUCTURES SHALL OCCUR ON AN ANNUAL BASIS, AT A MINIMUM, TO CHECK FOR DEBRIS REMOVAL (SEDIMENT AND HYDROCARBONS) AND STRUCTURAL INTEGRITY OR DAMAGE. SUCH DEFICIENCIES MUST BE CORRECTED IMMEDIATELY. REMOVAL AND DISPOSAL OF ACCUMULATED DEBRIS SHALL BE IN ACCORDANCE WITH STATE AND FEDERAL GUIDELINES. IN THE CASE OF AN OIL AND/OR BULK LIQUID SPILL, THE SYSTEM MUST BE CLEANED IMMEDIATELY FOLLOWING THE SPILL. ALL COSTS INCURRED FOR MAINTENANCE, CLEANING, AND INSPECTIONS ARE THE RESPONSIBILITY OF THE PROPERTY OWNER. IN CERTAIN CASES, THE APPROPRIATE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (DEM) PROGRAM MAY REQUIRE DOCUMENTATION OF MAINTENANCE.

6. ANY INADVERTENT OR DELIBERATE DISCHARGE OF WASTE OIL OR ANY OTHER POLLUTANT TO THE STORM WATER DISCHARGE SYSTEM REQUIRES IMMEDIATE NOTIFICATION OF THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, OIL POLLUTION CONTROL PROGRAM, AT 222-1360, AS PER OIL POLLUTION CONTROL REGULATIONS. DURING NON-WORKING HOURS, NOTIFICATION OF SPILLS CAN BE MADE TO THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AT 222-3070, THE 24-HOUR EMERGENCY RESPONSE PHONE NUMBER.

7. REPAIR OR REPLACEMENT OF ANY PORTION OF STORM DRAINAGE INFRASTRUCTURES (RIPRAP, CATCH BASINS, MANHOLES, PIPES, INLETS, OUTLET STRUCTURE) AND EROSION CONTROLS, INCLUDING BUT NOT LIMITED TO, STAKED HAY BALES, SILT FENCE, FIBER MULCH OR PROTECTIVE COVERS SUCH AS MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELISOR BLANKETS) SHALL BE DONE WITHIN THIRTY (30) DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT SHALL BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.

8. ALL STORM WATER CONTROL MEASURES, DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, INCLUDING UN-STABILIZED SOIL STOCKPILES, DISCHARGE LOCATIONS AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE, MUST BE INSPECTED BY OR UNDER THE SUPERVISION OF THE PERMITTEE AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER AN EVENT WHICH GENERATES 0.25 INCHES OF RAIN IN A TWENTY-FOUR (24) PERIOD. SUCH AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE WATERS OF THE STATE OR A SEPARATE STORM SEWER SYSTEM. ALL BMP'S (BEST MANAGEMENT PRACTICES) SHALL BE MAINTAINED TO PREVENT UNCONTROLLED RELEASES OF MEASURABLE AMOUNTS OF SEDIMENT OR SEDIMENT-LADEN WATER FROM TRAVELING BEYOND THE LIMITS OF DISTURBANCE. IF AN INSPECTION REVEALS A DISCHARGE OF SEDIMENT TO THE WATERS OF THE STATE OR A SEPARATE STORM SEWER SYSTEM, THE PERMITTEE MUST NOTIFY THIS OFFICE OF THE NATURE OF THE DISCHARGE, THE MEASURES TAKEN TO CLEAN UP THE DISCHARGE, AND THE MEASURES TAKEN TO PREVENT FUTURE RELEASES. ON THE RESULTS OF SITE INSPECTIONS, THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE REVISED TO CONFORM TO THE APPROVED CONSTRUCTION PLANS, AS APPROPRIATE, BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING AN INSPECTION THAT FINDS A DEFICIENCY.

9. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROLS AND STORM DRAINAGE INFRASTRUCTURES, INCLUDING BUT NOT LIMITED TO, STAKED HAY BALES, SILT FENCE, FIBER MULCH OR PROTECTIVE COVERS SUCH AS MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELISOR BLANKETS), CATCH BASINS, MANHOLES, PIPES, INLETS, FLARED END SECTIONS, RIPRAP, OUTLET STRUCTURE DURING CONSTRUCTION AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE IMPROVEMENTS UPON COMPLETION OF CONSTRUCTION.

10. THE LEGAL LIABILITY FOR AND MAINTENANCE OF THE DETENTION BASIN (A.K.A. HOLDING POND) SHALL BE THE SOLE RESPONSIBILITY OF THE LANDOWNER. MAINTENANCE OF STORM WATER INFRASTRUCTURES SHALL BE IN ACCORDANCE WITH THE TOWN OF CUMBERLAND HOLDINGS POND ORDINANCE AS AMENDED, AND THE STATE OF RHODE ISLAND STORM WATER DESIGN AND INSTALLATION STANDARDS MANUAL AS AMENDED.

11. THIS STORM DRAINAGE MAINTENANCE PLAN SHALL NOT RELIEVE THE OWNER/PERMITTEE/DEVELOPER FROM ANY RESPONSIBILITY FURNISHED UNDER OTHER ENVIRONMENTAL STATUTES OR REGULATIONS.

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NOTICE TO UTILITY CONTRACTOR:

THE FOLLOWING PROCEDURES SHALL BE STRICTLY ADHERED TO AFTER THE INSTALLATION OF WATER MAINS, SERVICES OR AS DIRECTED BY THE CUMBERLAND WATER DEPARTMENT.

FLUSHING, FILLING, TESTING OF WATER MAINS: THE CONTRACTOR SHALL UTILIZE A BY-PASS PIPING SYSTEM FOR FLUSHING, FILLING, TESTING AND CHLORINATION OF VARIOUS SIZED WATER MAINS. THE BY-PASS PIPING SHALL CONSIST OF COPPERATION STOPS OR VALVES ON THE SUPPLY LINE AND THE MAIN TO BE FILLED. TWO (2) OR MORE CHECK VALVES SHALL BE INSTALLED IN THE BY-PASS PIPE TO INSURE THAT NO WATER IS ALLOWED TO RETURN TO THE SUPPLY LINE.

1) FIVE HYDRANTS MAY BE UTILIZED IF PROPERLY FLUSHED AND THE ABOVE BY-PASS PIPING INSTALLED.

2) LINE VALVES SHALL NOT BE UTILIZED TO FILL, FLUSH, TEST OR CHLORINATE WATER MAINS.

3) MAINS SHALL BE PRESSURE TESTED TO 1.5 TIMES SYSTEM WORKING PRESSURE, AND SHALL BE REQUIRED TO HOLD FOR AT LEAST 2 HOURS.

4) WATER MAINS AND SERVICES SHALL BE THOROUGHLY FLUSHED. A TURBIDITY READING BELOW (5) FIVE SHALL BE MONITORED BY THE WATER DEPARTMENT CHEMIST BEFORE FLUSHING IS DISCONTINUED AND CHLORINATION MAY BEGIN. FLUSHING SHALL BE AT RATE SUFFICIENT TO CREATE A WATER VELOCITY OF AT LEAST 2.5 FEET PER SECOND THROUGH THE PIPE.

CHLORINATION OF WATER MAINS AND SERVICES: ALL MAINS AND APPURTENANCES SHALL BE CHLORINATED IN ACCORDANCE WITH PROVISIONS OF THE AMERICAN WATER WORKS ASSOCIATION STANDARD 0501-81, OR LATEST REVISION THEREOF, AND AS FOLLOWS:

a) A CORPORATION STOP SHALL BE PROVIDED AT A LOCATION FOR FEEDING OF THE LIQUID CHLORINE SOLUTION, AND AT LOCATIONS DESIGNATED BY THE WATER DEPARTMENT. COPPER TUBING SHALL BE USED FOR ALL CHLORINATION AND SAMPLING PIPES. CHLORINE SHALL BE FED IN A LIQUID SOLUTION, MADE FROM CRYSTALLINE SODIUM HYPOCHLORITE.

b) THE INITIAL CHLORINE CONCENTRATION IN THE PIPE SHALL BE AT LEAST 25 MG/L. WHEN TESTED BY THE WATER DEPARTMENT. THE TREATED WATER WILL REMAIN IN THE WATER MAIN FOR AT LEAST TWENTY-FOUR (24) HOURS. AFTER THE TWENTY-FOUR HOUR RETENTION PERIOD THE CHLORINE CONCENTRATION IN THE PIPE SHALL BE NO LESS THAN 10 MG/L WHEN TESTED BY THE WATER DEPARTMENT. IF AFTER THE APPLICATION RETENTION PERIOD, THE CHLORINE CONCENTRATION IS AT LEAST 10 MG/L, THE HEAVILY CHLORINATED WATER SHALL BE FLUSHED FROM THE MAIN UNTIL THE CHLORINE CONCENTRATION IN THE WATER LEAVING THE MAIN WHEN TESTED IS NO HIGHER THAN 1 MG/L, AND THE TURBIDITY IS LESS THAN 1.0. IF THE CHLORINE CONCENTRATION WHEN TESTED IS LESS THAN 10 MG/L, STEP (b) SHALL BE REPEATED.

c) BACTERIOLOGICAL TESTING SHALL BE DONE BY THE WATER DEPARTMENT CHEMIST AFTER THE FINAL FLUSHING AND BEFORE THE WATER MAIN IS PUT INTO SERVICE. THE SAMPLE OR SAMPLES SHALL BE COLLECTED IMMEDIATELY AFTER FINAL FLUSHING AND AGAIN, IF NECESSARY, AT LEAST TWENTY-FOUR (24) HOURS AFTER FINAL FLUSHING. THESE SAMPLES USUALLY REQUIRE A FORTY-EIGHT (48) HOUR PERIOD TO INSURE THAT NO COLIFORM ORGANISMS EXIST. IF THE TESTING IS POSITIVE, THE PROCEDURE SHALL BE REPEATED. NO WATER MAIN SHALL BE PUT INTO SERVICE WITHOUT THE PERMISSION OF THE TOWN OF CUMBERLAND PUBLIC WORKS ENGINEER.

d) UNDER CERTAIN CONDITIONS EMERGENCY TYPE CHLORINATION MAY BE CONDUCTED WITH THE APPROVAL OF THE WATER DEPARTMENT SUPERVISOR.

e) CHLORINATION OF VALVES, FITTINGS AND SHORT LENGTHS OF MAIN SHALL BE THOROUGHLY DISINFECTED BY CONTACT SWABBING AND/OR BRUSHING WITH A HIGH STRENGTH SODIUM OR CALCIUM HYPOCHLORITE SOLUTION IN THE CONCENTRATION OF 500 MILLIGRAMS OF AVAILABLE CHLORINE PER LITER OF WATER.

f) THE FOLLOWING TEST PROCEDURES SHALL BE STRICTLY ADHERED TO AFTER THE INSTALLATION OF SANITARY SEWERS AND MANHOLES OR AS DIRECTED BY THE CUMBERLAND PUBLIC WORKS DEPARTMENT.

LEAKAGE TESTS FOR NON-PRESSURE PVC SEWER PIPE: A. LEAKAGE TESTS WILL BE REQUIRED FOR ALL SEWERS AND MANHOLES.

1. LEAKAGE INTO OR FROM THE SEWERS AND STRUCTURES WILL BE DETERMINED RESPECTIVELY BY INFILTRATION TESTS OR BY EXFILTRATION TESTS AS SPECIFIED HEREIN OR AS DIRECTED.

2. THE MAXIMUM ALLOWABLE AMOUNT OF INFILTRATION INTO SEWERS OR EXFILTRATION FROM THE SEWERS AS DETERMINED RESPECTIVELY BY THE TESTS, INCLUDING MANHOLES, SHALL BE AT THE RATE OF NOT GREATER THAN 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE OF PIPE PER 24 HOURS, (INCLUDING MANHOLES) AND THERE SHALL BE NO GUSHING OR SPURTING STREAMS OF WATER INTO OR FROM THE SEWERS AND MANHOLES.

3. WHERE THE GROUND WATER LEVEL CAN BE MAINTAINED AT A HEIGHT OF NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE FOR THE FULL LENGTH OF THE SECTION OF THE SEWER BEING TESTED FOR LEAKAGE, THE LEAKAGE INTO THE SEWERS AND MANHOLES SHALL BE DETERMINED AS SPECIFIED UNDER "INFILTRATION TESTS."

4. WHERE GROUND WATER CANNOT BE MAINTAINED AT A LEVEL OF NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE FOR FULL LENGTH OF THE SECTION OF SEWER PIPE BEING TESTED, THE LEAKAGE FROM THE SEWERS AND MANHOLES SHALL BE DETERMINED AS SPECIFIED UNDER "EXFILTRATION TESTS."

5. LEAKAGE TESTS SHALL BE PERFORMED ON SUCH SUBDIVIDED SECTIONS OF THE PIPELINE AND FOR TIME PERIODS, WHICH IN THE OPINION OF THE OWNER WILL PROVIDE AN ACCURATE MEASUREMENT OF TOTAL LEAKAGE.

6. THE CONTRACTOR SHALL DO ALL THE WORK, PROVIDE ALL NECESSARY WIERS OR SUCH OTHER MEASURING DEVICES AS REQUIRED, DO ALL PUMPING AND FURNISH ALL EQUIPMENT NECESSARY FOR THE PROPER PERFORMANCE OF LEAKAGE TESTS, AT NO ADDITIONAL COST TO THE OWNER.

7. INFILTRATION TESTS

1. THESE TESTS SHALL BE CONDUCTED AT SUCH TIME AS THE GROUND WATER LEVEL IS AT A HEIGHT OF NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE FOR THE FULL LENGTH OF THE SECTION OF SEWER BEING TESTED.

2. THE GROUND WATER LEAKAGE INTO THE PIPES WILL BE MEASURED BY THE OWNER AT SUCH POINT OR POINTS AS HE MAY DIRECT.

3. THE CONTRACTOR SHALL CONSTRUCT SUCH WIERS OR OTHER MEANS OF MEASUREMENT AS SHALL BE REQUIRED AND SHALL DO SUCH PUMPING AS SHALL BE NECESSARY TO ENABLE THE TESTS TO BE MADE SATISFACTORYLY.

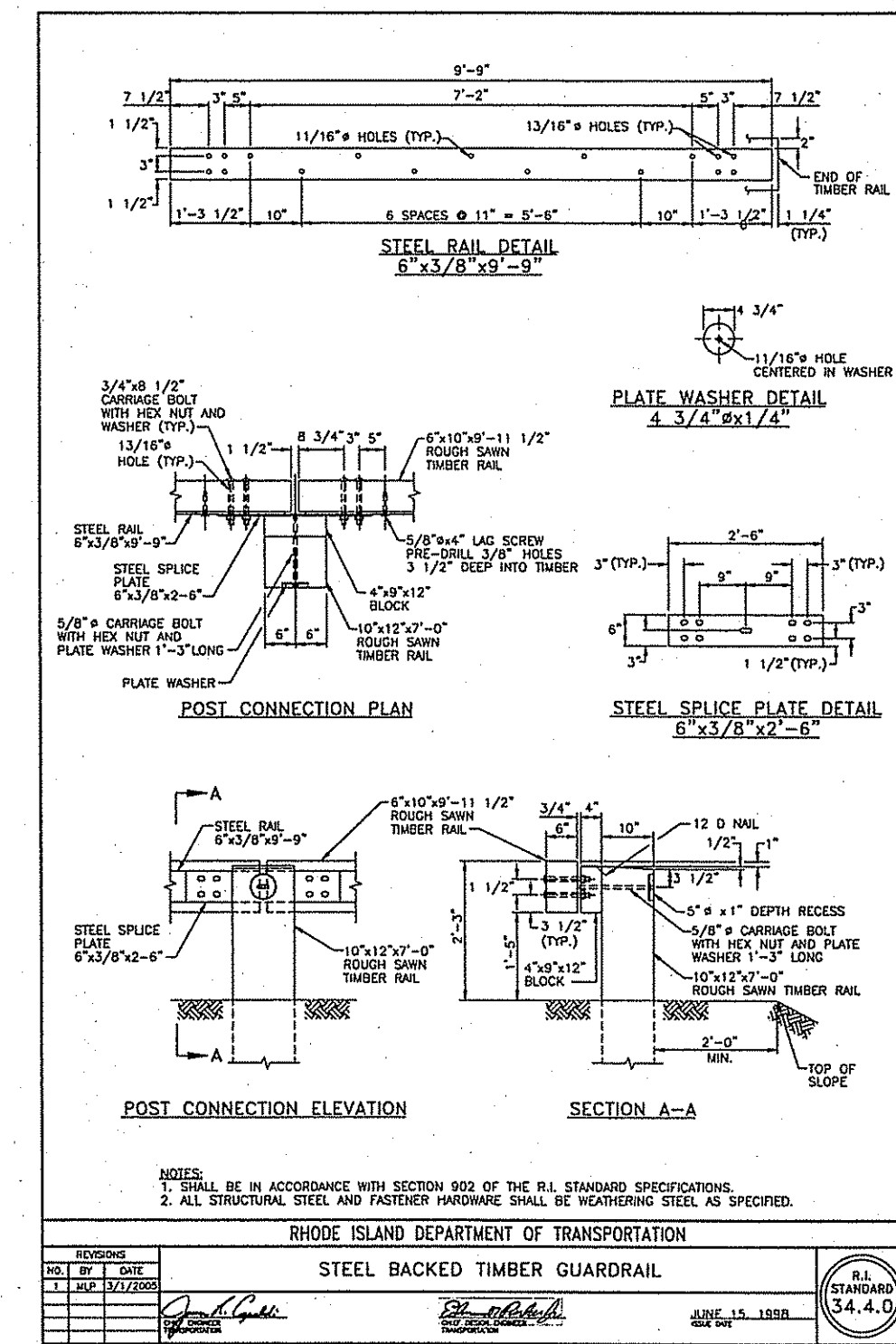
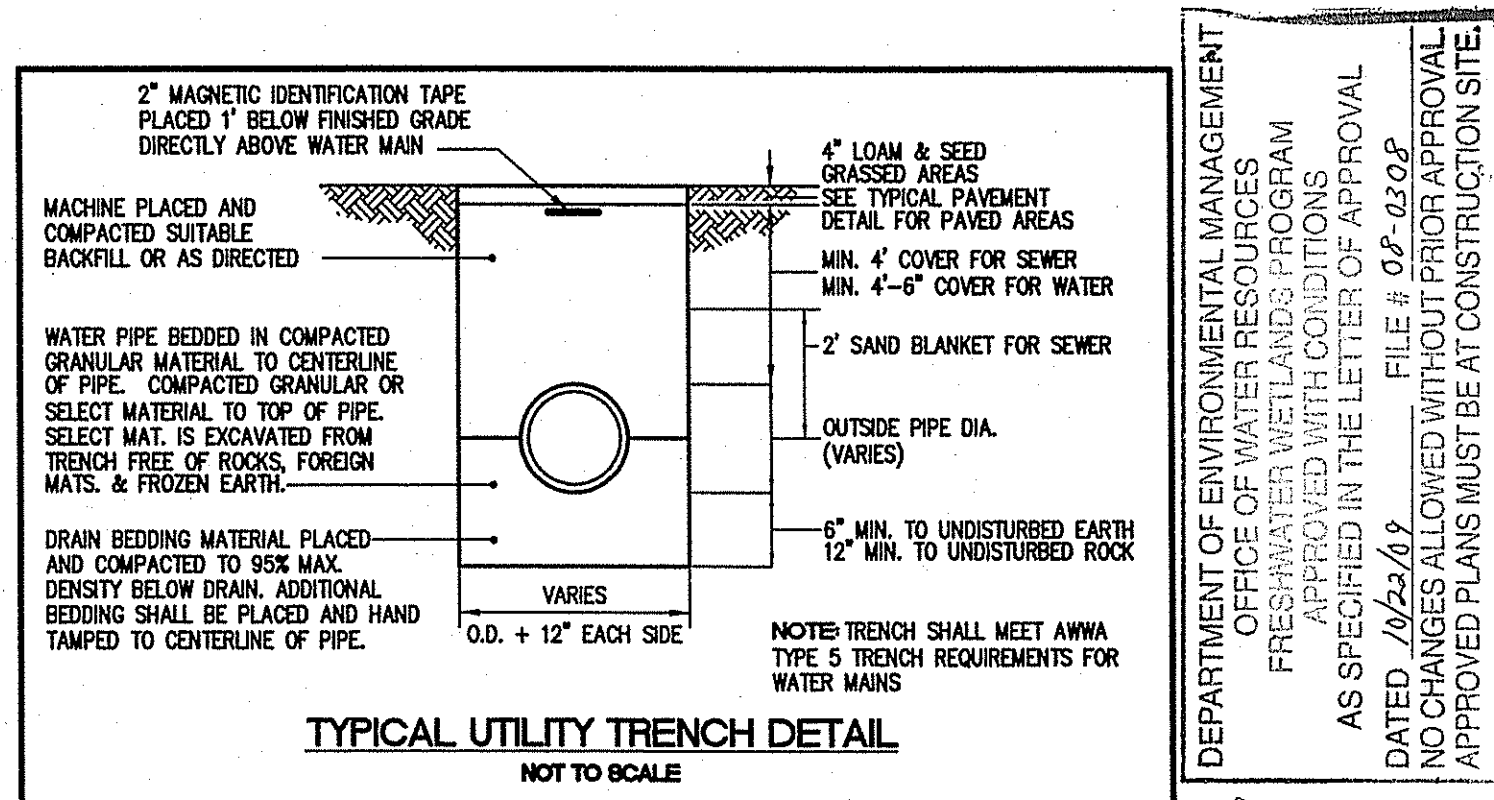
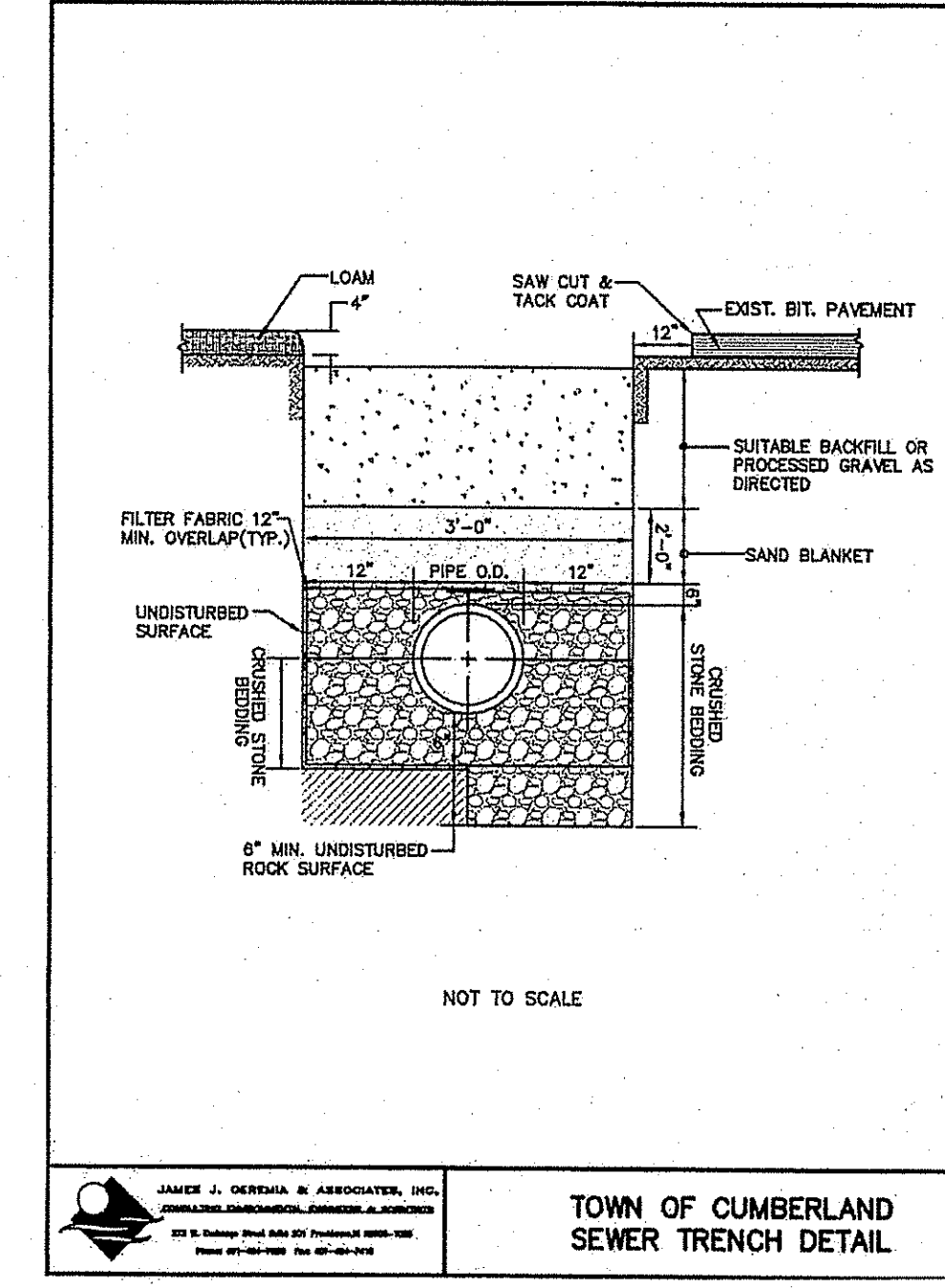
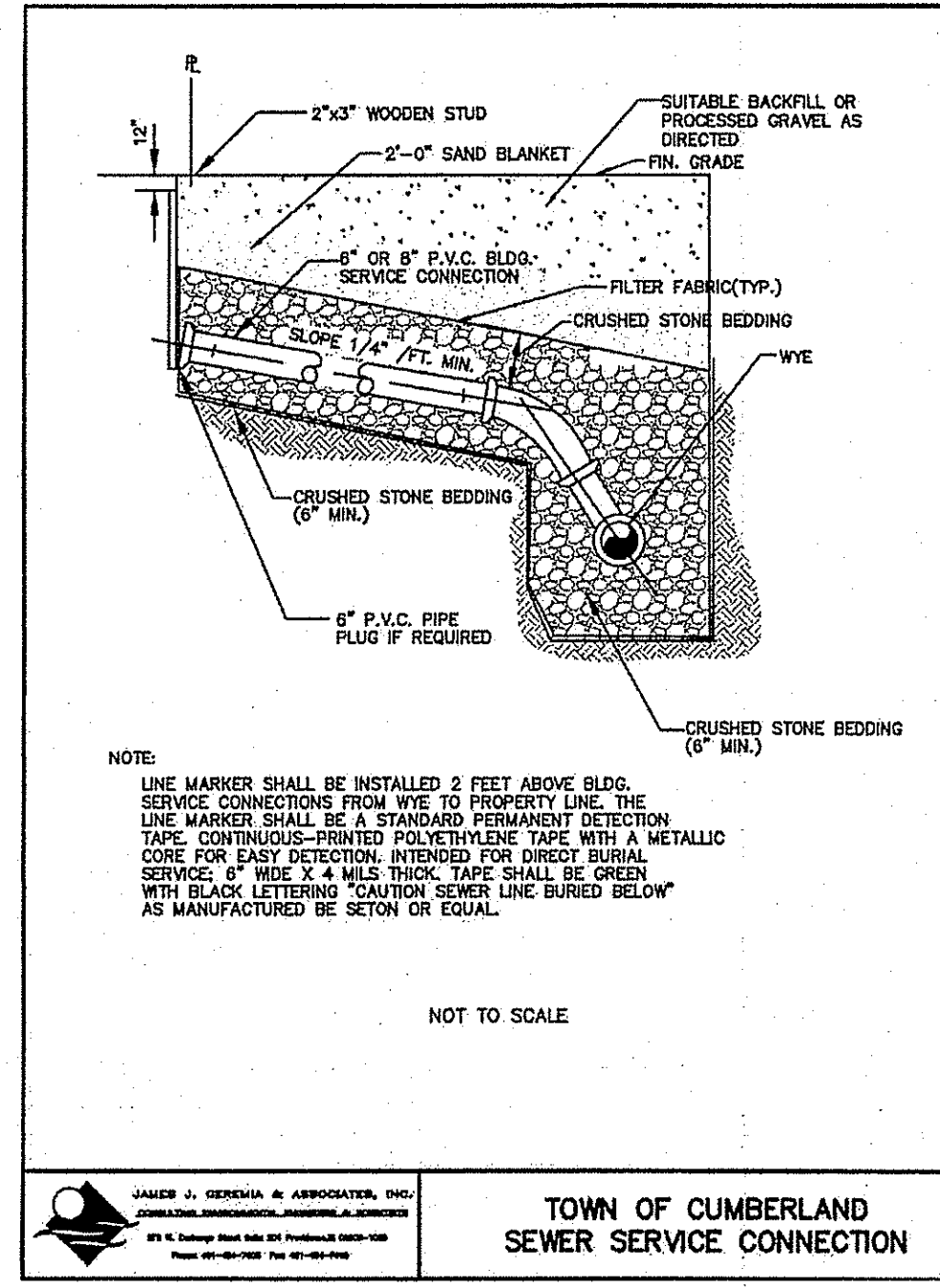
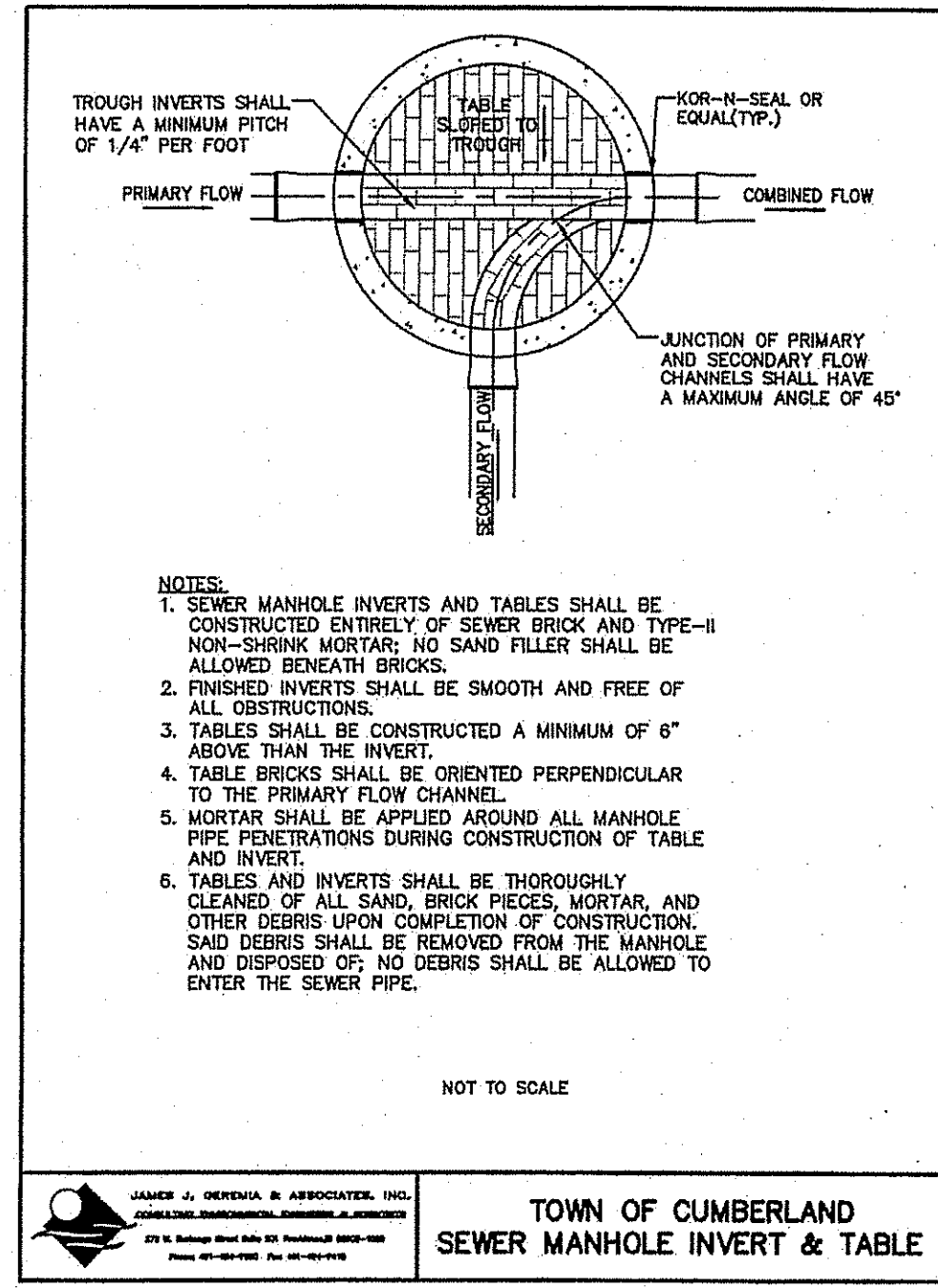
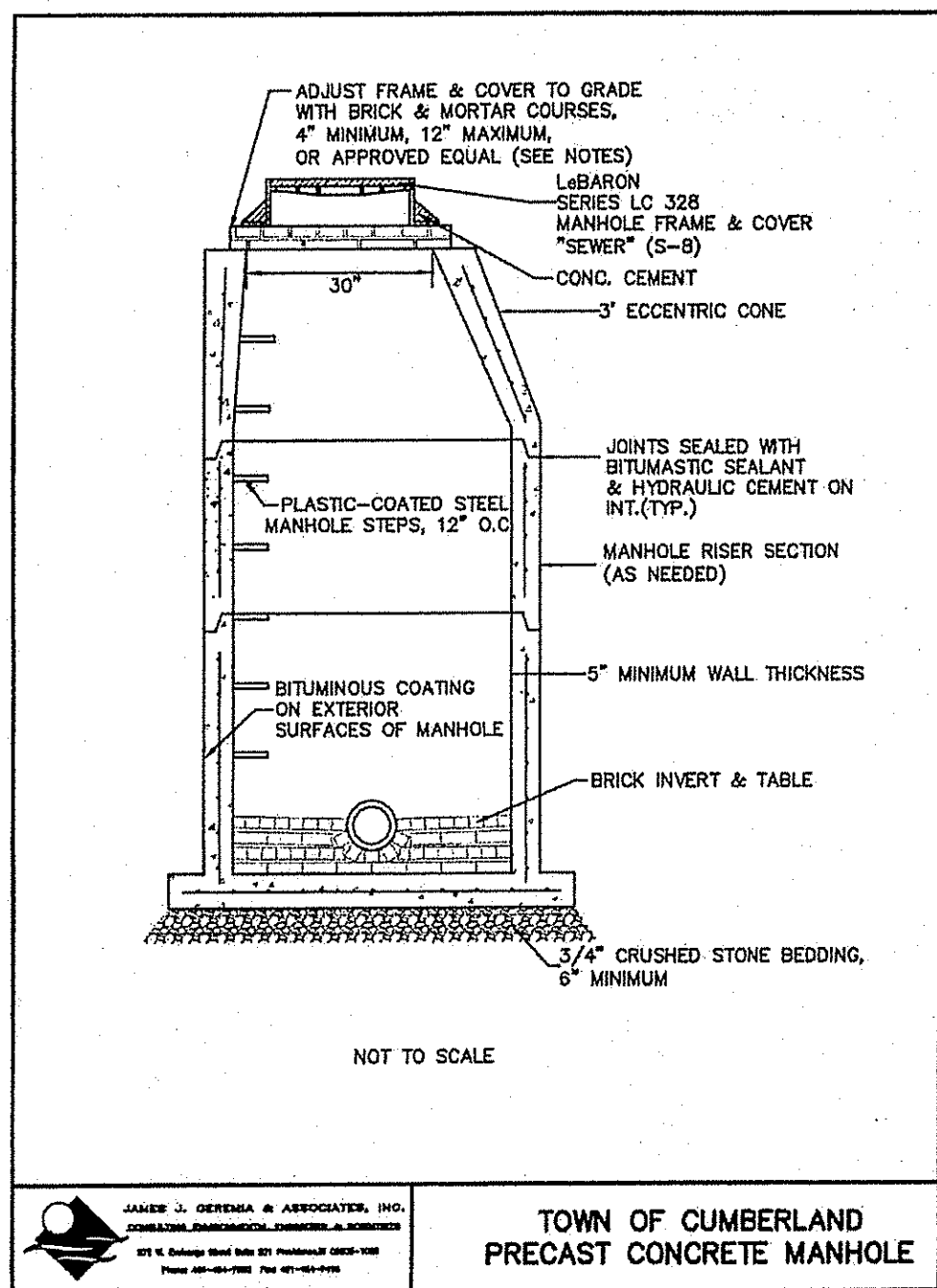
8. EXFILTRATION TESTS

1. WHERE EXFILTRATION TESTS ARE REQUIRED, THE SECTION OF THE SEWER TO BE TESTED SHALL BE SUBJECT TO AN INTERNAL PRESSURE.

2. THE LOWER END OF THE SECTION OF SEWER TO BE TESTED SHALL BE CLOSED AND THE ENTIRE SECTION OF THE SEWER, INCLUDING MANHOLES, SHALL BE FILLED WITH CLEAN WATER SO AS TO OBTAIN A MINIMUM HEAD OF 2 FEET ABOVE THE TOP OF THE PIPES.

3. THE RATE OF LEAKAGE FROM EACH SECTION OF THE SEWER BEING TESTED WILL BE DETERMINED BY THE OWNER BY MEASURING THE AMOUNT OF WATER REQUIRED TO MAINTAIN THE MINIMUM HEAD OF 2 FEET ABOVE THE TOP OF THE PIPES FOR THE FULL LENGTH OF EACH SECTION OF THE SEWERS BEING TESTED.

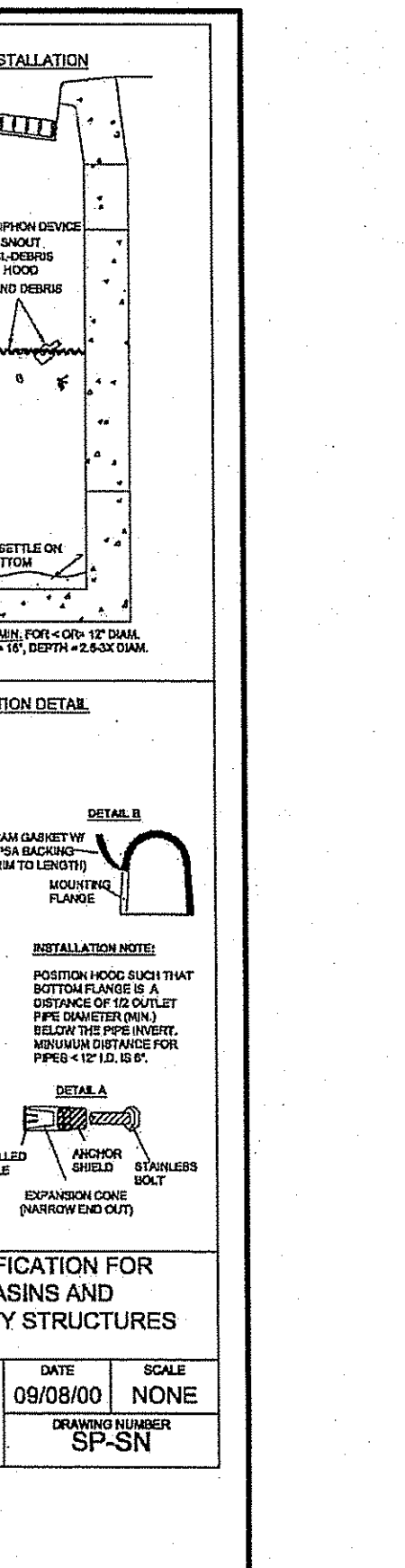
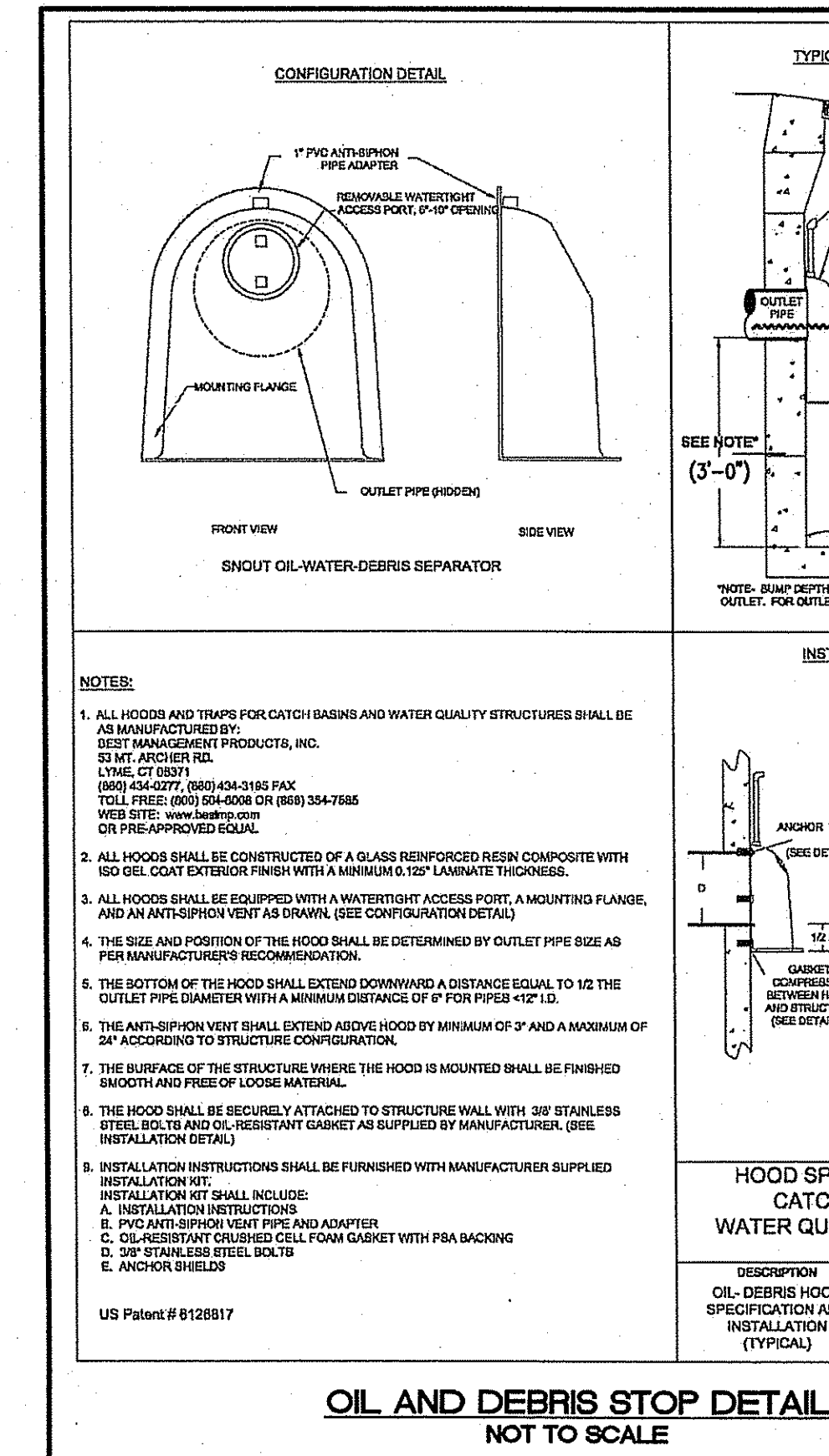
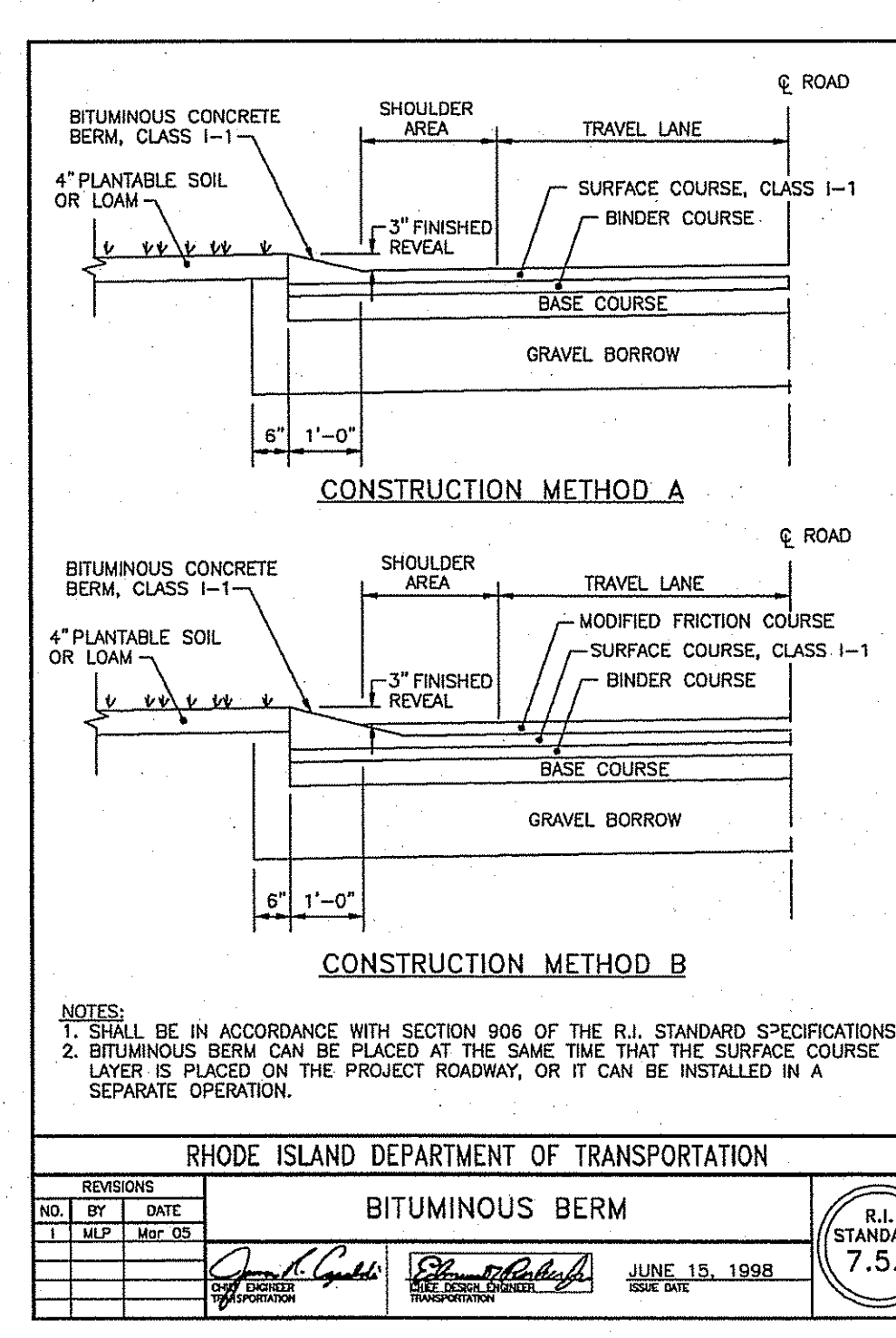
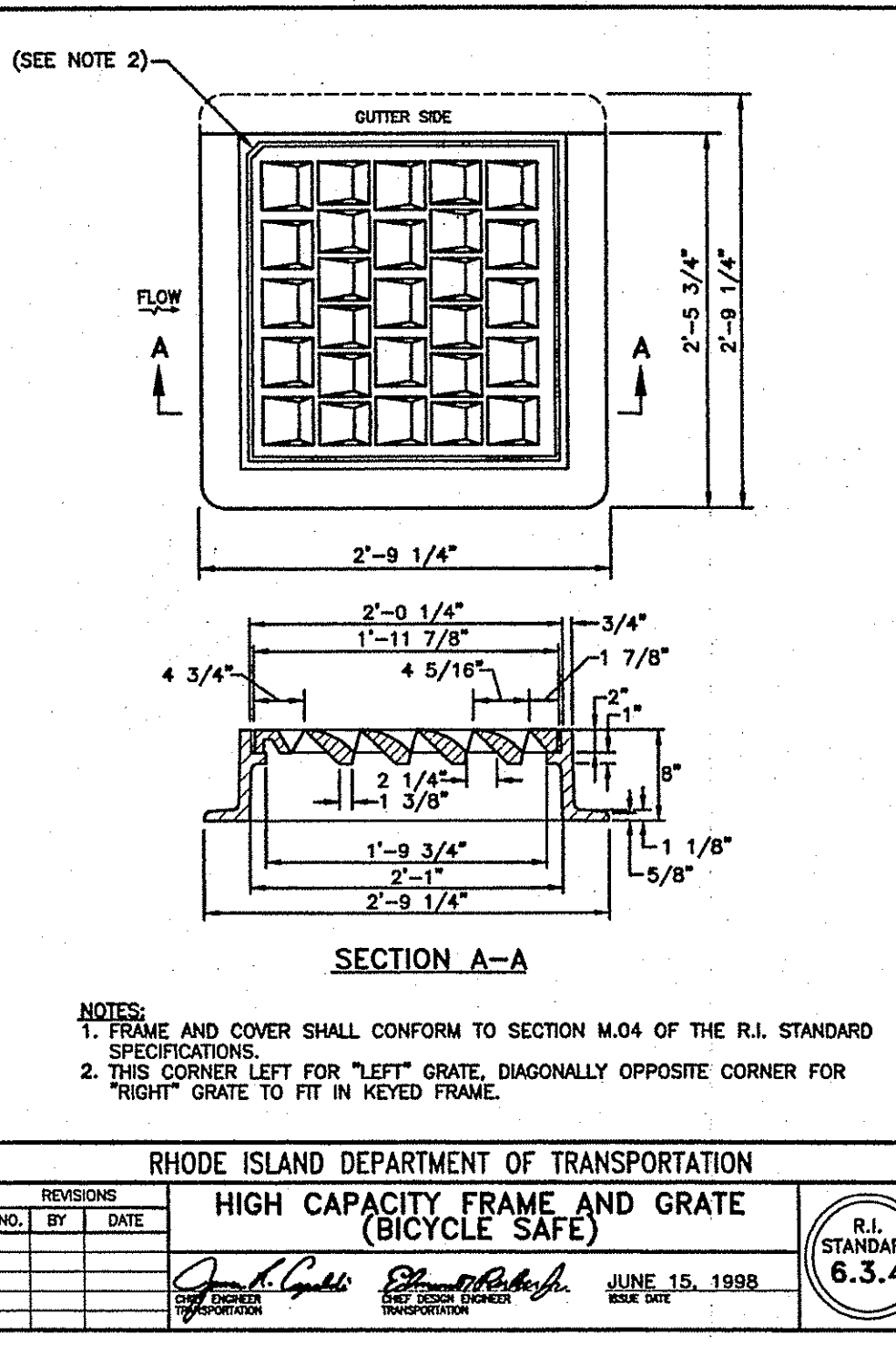
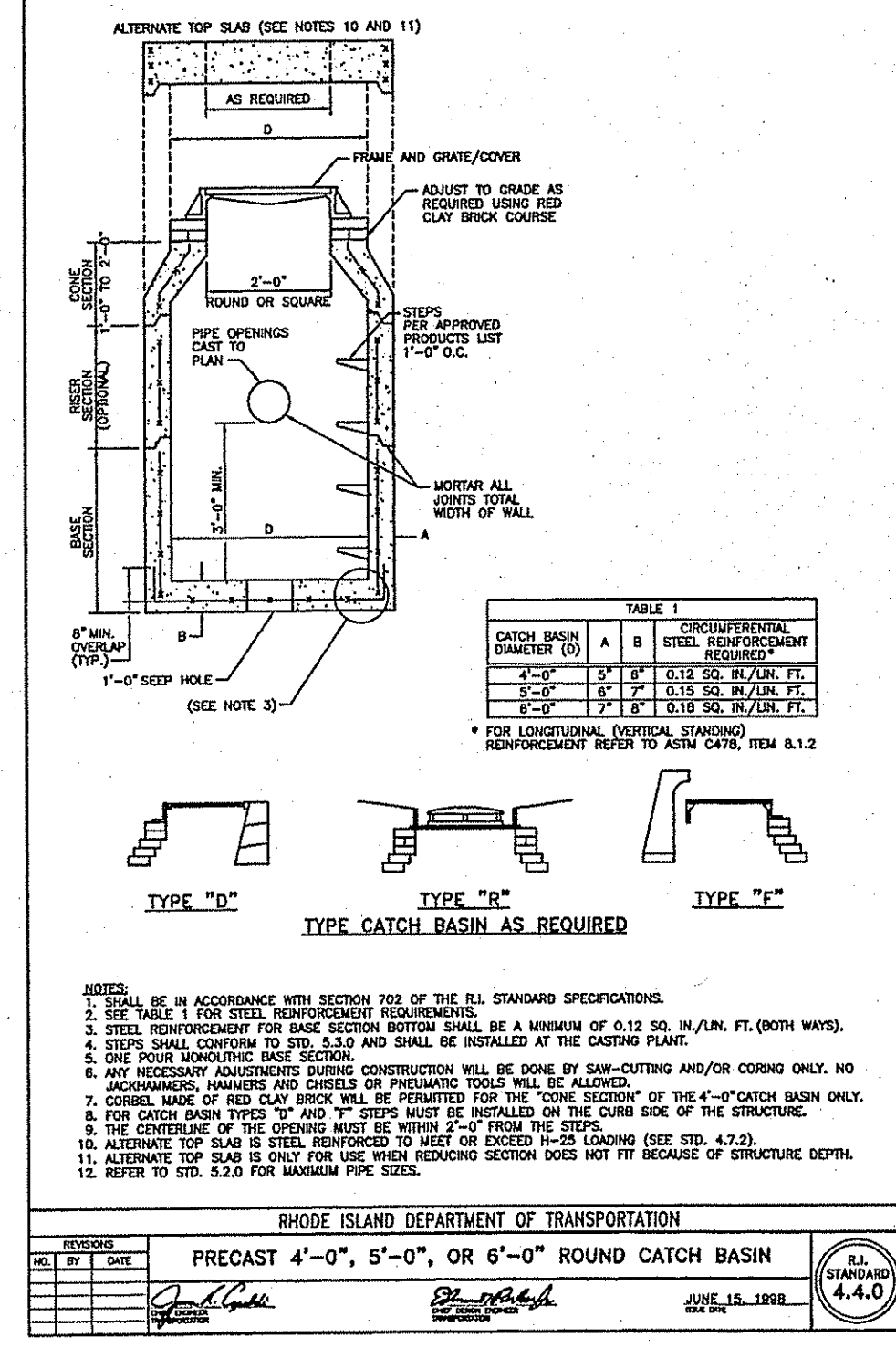
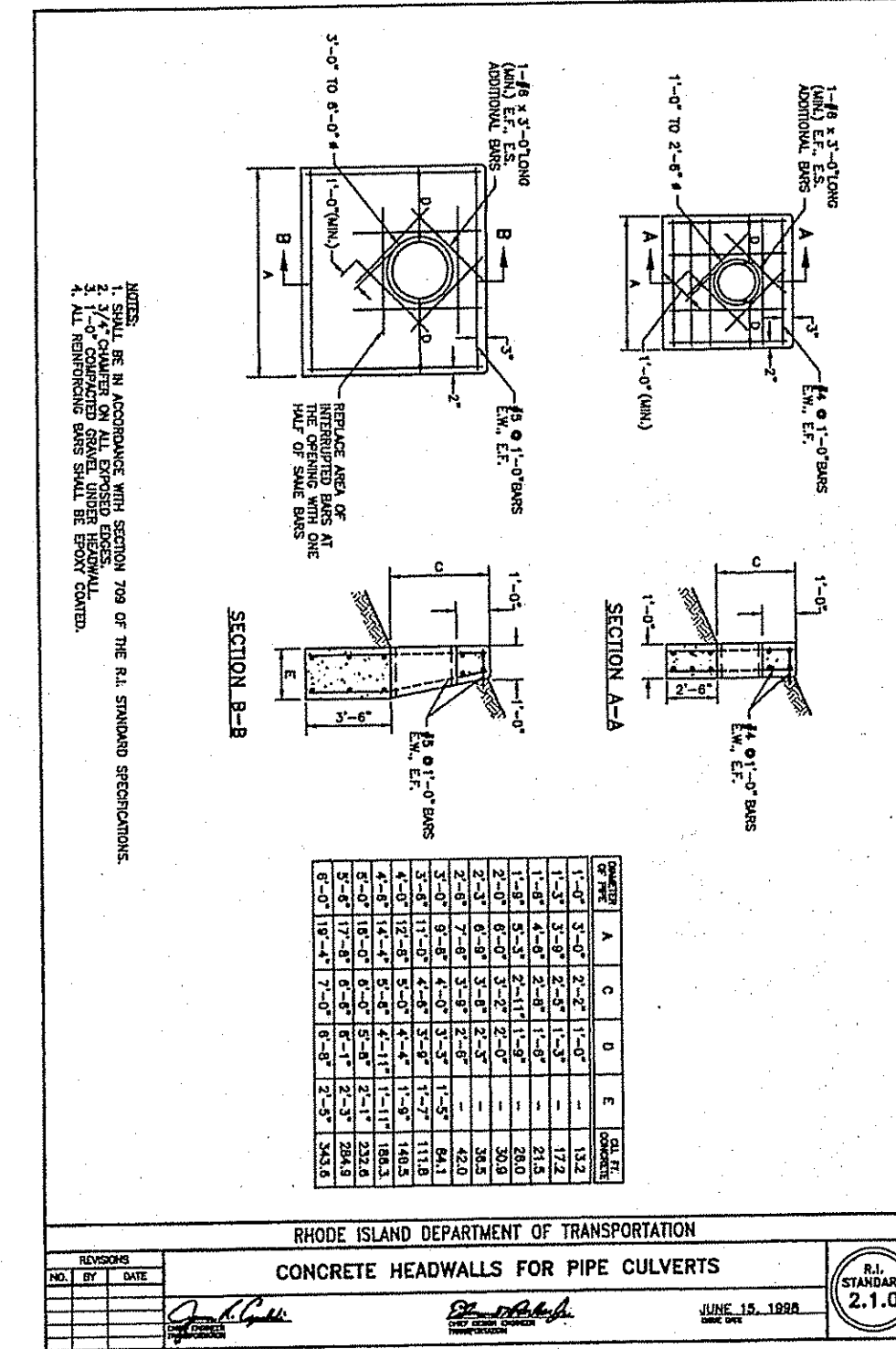
4. WHENEVER SEWERS CANNOT BE TESTED BY WATER BECAUSE OF EXCESSIVE SLOPES, OR FOR OTHER REASONS ACCEPTABLE TO THE ENGINEERS, LOW PRESSURE AIR TEST SHALL BE USED TO TEST THE GRAVITY SEWER LINES. UTILIZING EQUIPMENT SPECIFICALLY DESIGNED FOR THE PURPOSE INTENDED, COMPLETE WITH REGULATOR OR SAFETY VALVE TO PREVENT INTERNAL AIR PRESSURE EXCEEDING 8 PSIG, ALL AIR TO BE USED PASSING THROUGH A SINGLE CONTROL PANEL. USE PREMIATED FLUOS WITH A MINIMUM LENGTH GREATER THAN DIAMETER OF PIPE BEING TESTED, CONSTRUCTED SO AS TO ELIMINATE THE NEED FOR ANY EXTERNAL BRACING OR BLOCKING. INTRODUCE LOW PRESSURE AIR INTO THE SEALED LINE UNTIL SAME IS 4 PSIG GREATER THAN MAXIMUM PRESSURE EXERCISED BY GROUND WATER ABOVE THE INVERT OF THE PIPE AT TIME OF TEST, BUT DO NOT PERMIT INTERNAL AIR PRESSURE TO EXCEED 8 PSIG. ALLOW APPROXIMATELY TWO MINUTES FOR AIR PRESSURE TO STABILIZE. ADDING AIR AS NECESSARY TO MAINTAIN THE PRESSURE. AFTER THE STABILIZATION PERIOD, REMOVE THE AIR SUPPLY SOURCE, WHEN THE PRESSURE DROPS TO 3.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WATERS PROGRAM
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 10/22/07 FILE # 02-030-P
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

RECEIVED
SEP 4 2009
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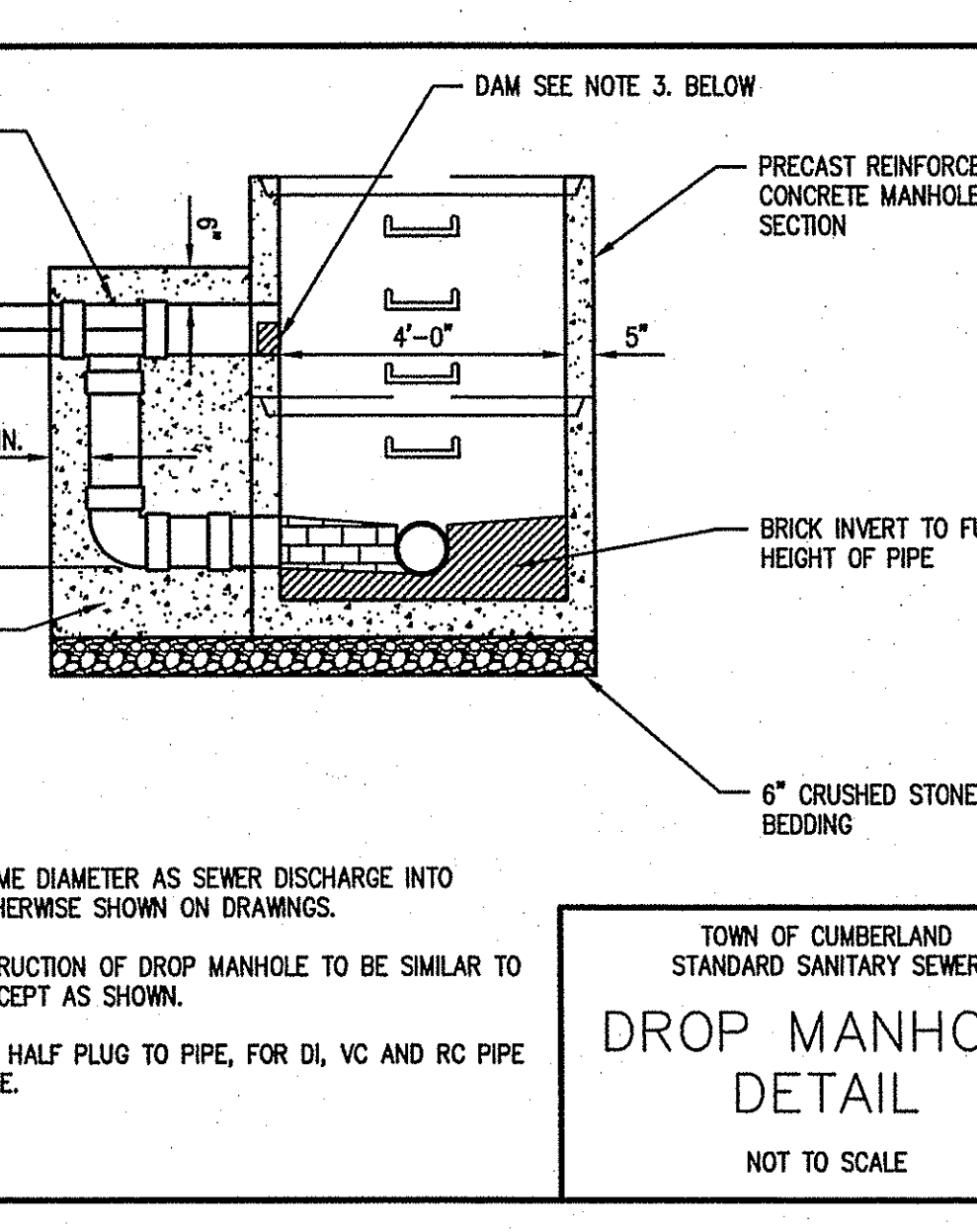
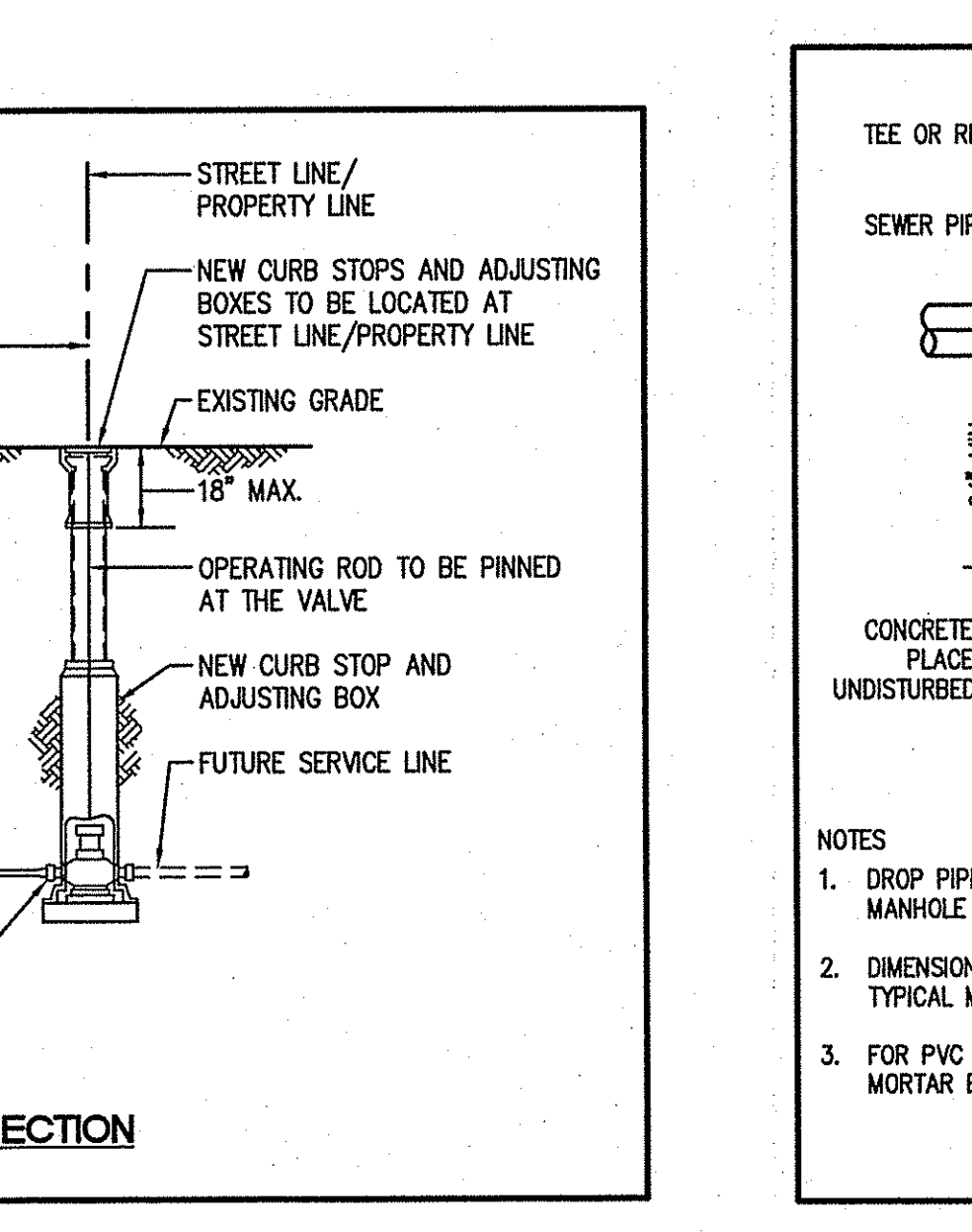
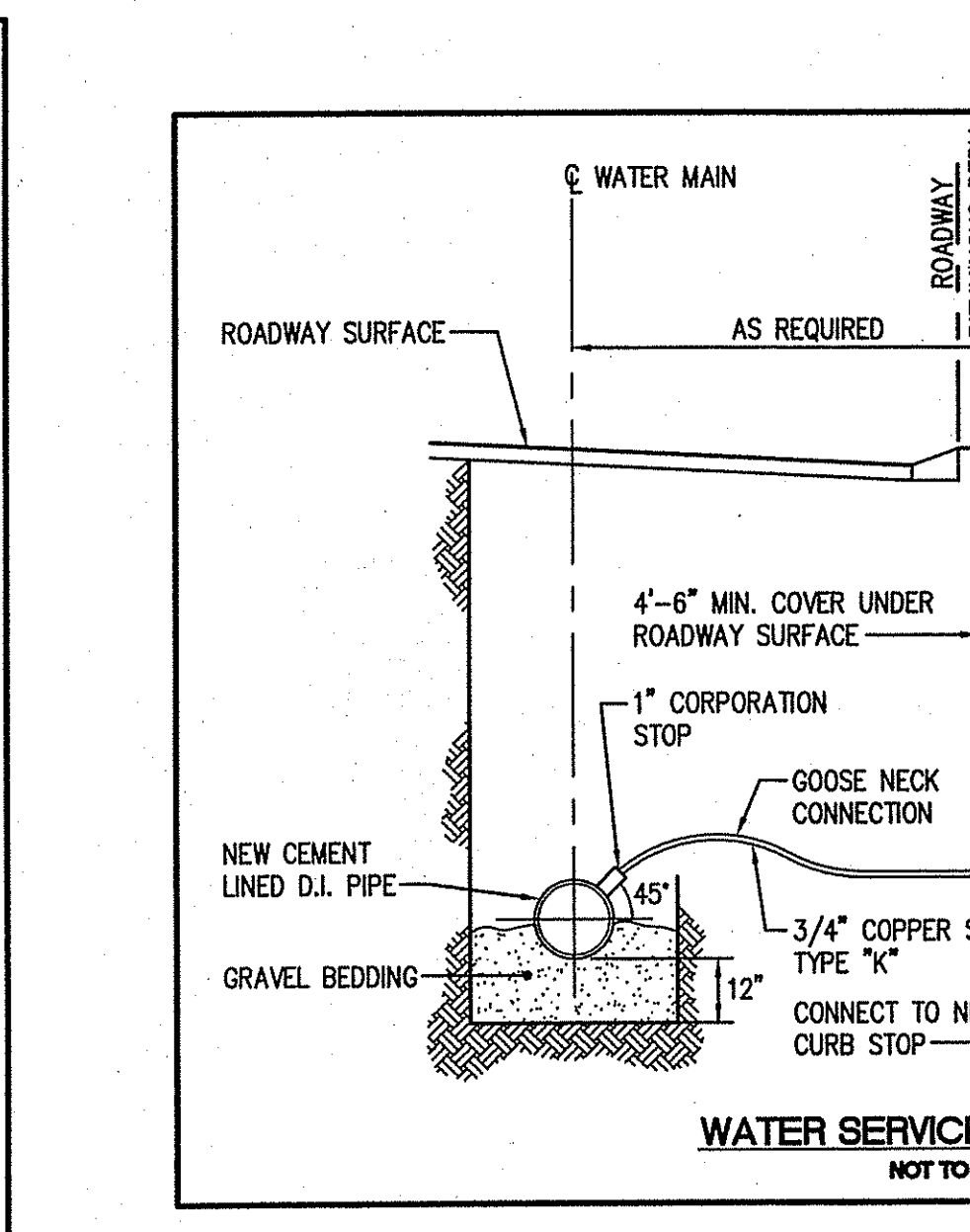
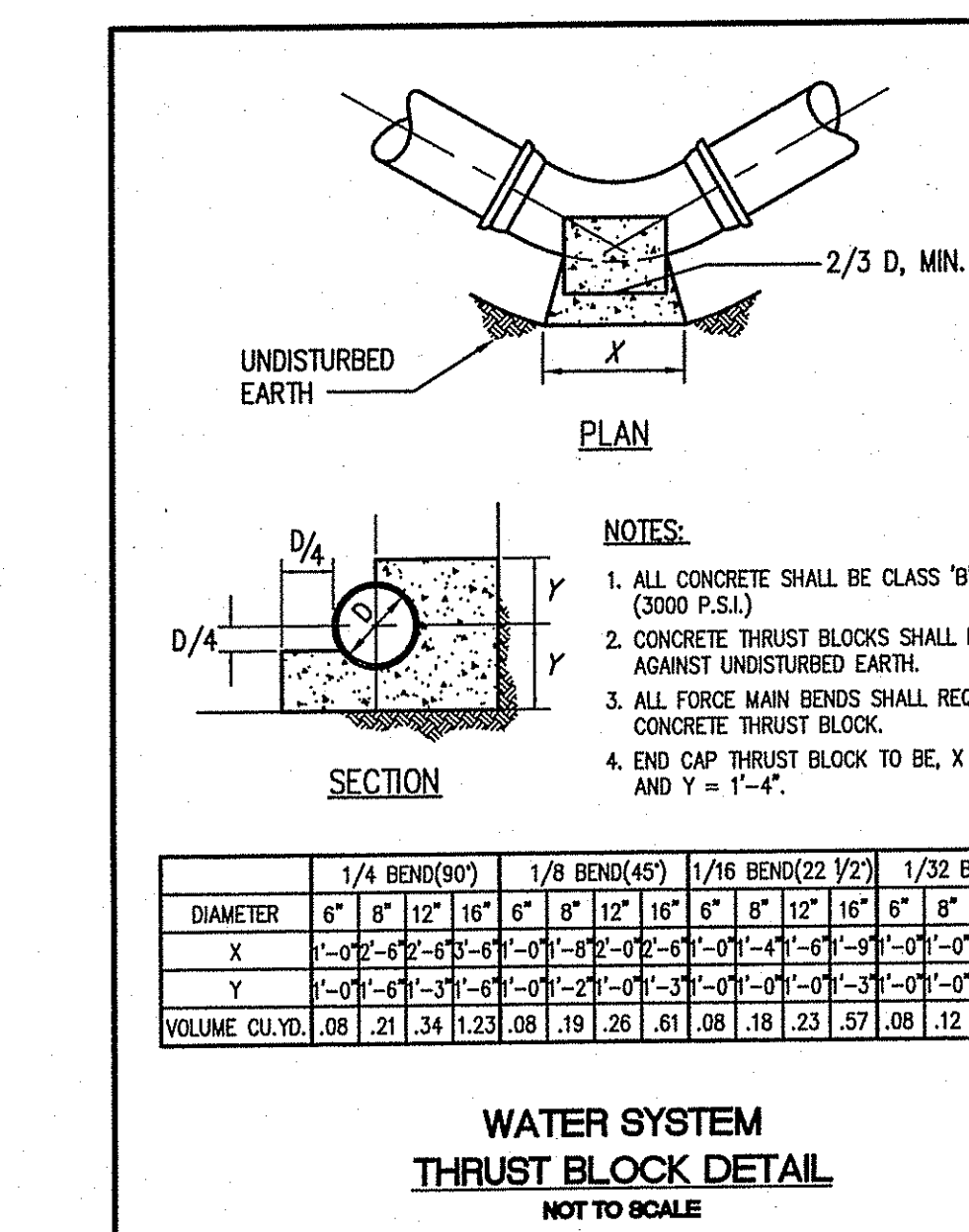
CIVIL ENGINEERS
CORPORATION
LAND PLANNERS

PROJECT NO: 144.416
DATE: SEPTEMBER 2008
SCALE: AS NOTED
DESIGNED BY: W.R.A.
DRAWN BY: P.T.C.
CHECKED BY: J.P.C.

RESIDENTIAL DEVELOPMENT
ASSESSOR'S PLAT 15, LOTS 67, 68, 71, 72, 73 and 74
RIVERVIEW DRIVE and STREAM VIEW DRIVE
CUMBERLAND

PREPARED FOR
BERKELEY REALTY CO.

DRAWING NUMBER
7
SHEET 7 OF 7



US Patent # 6128917

DESCRIPTION: OIL-DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)

DATE: 08/08/00

SCALE: NONE

DRAWN BY: SP-SN