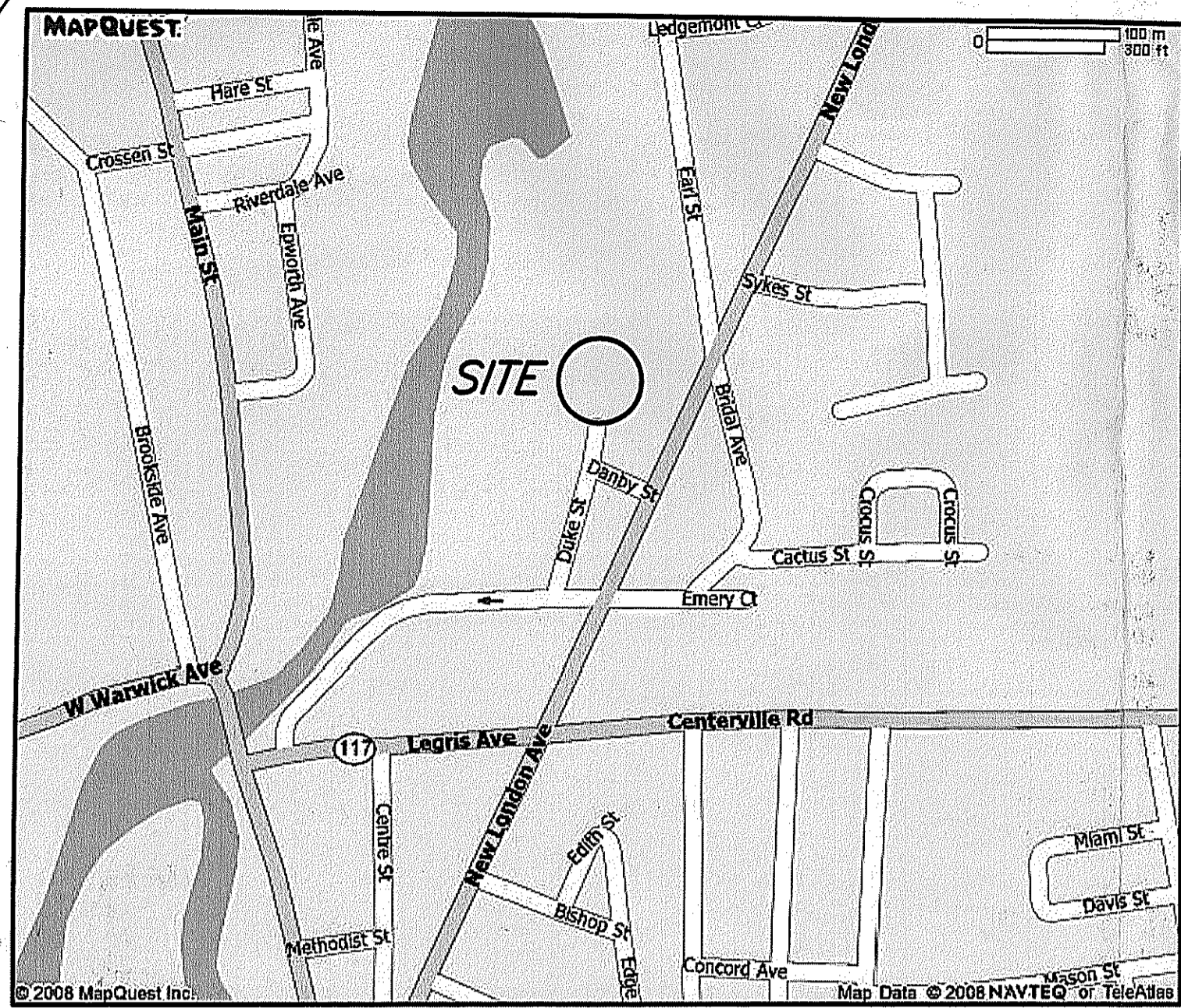


PRELIMINARY PLAN SUBMISSION
DUKE ST. CONDOMINIUMS
 DUKE STREET
 WEST WARWICK, RHODE ISLAND



LOCUS MAP

SCALE: AS SHOWN

GENERAL NOTES:

- EMBANKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE 4" OF TOPSOIL AND GRASS SEED UNLESS OTHERWISE NOTED.
- ALL EXCAVATION AND PLACEMENT OF FILL SHALL BE IN ACCORDANCE WITH R.I.D.O.T. STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES, BOTH UNDERGROUND AND OVERHEAD BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH "DIG SAFE". NO DRAINAGE STRUCTURE OR FACILITY SHALL BE DISTURBED WITHOUT PROPER PERMITS UNLESS SPECIFICALLY INDICATED ON THESE DRAWINGS. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- SPECIFICATIONS & DETAILS TO GOVERN THIS PROJECT ARE THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION 2004 EDITION & TOWN OF WEST WARWICK STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES 2003 INCLUDING ALL REVISIONS.
- ALL REQUIRED AUTHORIZATION/PERMITS TO PERFORM WORK MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- EXISTING UTILITIES HAVE BEEN PLOTTED BASED UPON BEST AVAILABLE INFORMATION AND REPRESENT APPROXIMATE LOCATIONS. THIS DRAWING SHOULD NOT BE RELIED ON WHEN PERFORMING SUBSURFACE EXCAVATIONS. DAMAGE CAUSED TO EXISTING UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR ONLY.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY CONSTRUCTION OPERATIONS INCLUDING ALL ACTIONS OR OMISSIONS OF ANY SUBCONTRACTORS, AGENTS OR EMPLOYEES. THE CONTRACTOR MUST ENSURE THAT THE CONDITIONS OF ALL PERMITS, SPECIFICATIONS AND FEDERAL, STATE AND LOCAL REGULATIONS AREA STRICTLY ENFORCED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL ASPECTS OF ON-SITE SAFETY INCLUDING ANY DAMAGE TO EXISTING STRUCTURES.
- ALL DISTURBED AREAS/STRUCTURES SHALL BE REPLACED IN KIND UNLESS OTHERWISE SHOWN.
- WORK SHOWN ON THE PLANS FOR WHICH THERE ARE NO PARTICULAR DETAILS OR SPECIFICATIONS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING 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 NECESSARY TO COMPLETE THE PROJECT. ANY CHANGES TO THE PROJECT OR THE INSTALLATION OF AN ITEM FOR WHICH NO PARTICULAR DETAIL OR SPECIFICATION WAS PROVIDED MUST BE REVIEWED BY AND MUST BE ACCEPTABLE TO THE ENGINEER.
- ALL ELEVATIONS ARE BASED ON MEAN SEA LEVEL DATUM.
- THE CONTRACTOR SHALL INSTALL ALL HAY BALES & SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH RIDEM & TOWN STANDARDS PRIOR TO ANY CONSTRUCTION.
- COMMUNICATION LINES (ELECTRIC, TELEPHONE, AND CABLE TV) SHALL BE INSTALLED UNDERGROUND UNLESS APPROVED BY THE TOWN.
- A PORTION OF THIS SITE IS SITUATED IN A ZONE A4 FLOOD ZONE AS IDENTIFIED ON FEMA MAP 440007 0002 B, REVISED APRIL 15, 1986 FOR THE TOWN OF WEST WARWICK, RI. THE ELEVATION OF THE 100-YEAR FLOOD ZONE IS 116.
- ALL CONSTRUCTION SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WELL POINTS AND OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE SURFACE AND SUBSURFACE WATER ENCOUNTERED DURING CONSTRUCTION.
- THE LIMIT OF DISTURBANCE SHALL BE LOCATED BY A RI PLS PRIOR TO CONSTRUCTION. NO CLEARING OR DISTURBANCE SHALL TAKE PLACE OUTSIDE THE LIMIT OF DISTURBANCE. THE AREA OUTSIDE THE LIMIT OF DISTURBANCE SHALL BE KEPT TOTALLY UNDISTURBED.
- ALL ROOT SYSTEMS, TREES, STUMPS, BUSHES, BOULDERS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND TRANSPORTED AWAY FROM THE PROJECT SITE, UNLESS OTHERWISE APPROVED BY THE TOWN.
- THE CONTRACTOR SHALL ADHERE TO ALL PERMITS WHICH INCLUDE AT LEAST RIDEM WETLANDS, WEST WARWICK SEWER AUTHORITY, AND KENT COUNTY WATER AUTHORITY.
- ONLY PLANS ENTITLED 'ISSUED FOR CONSTRUCTION' SHALL BE USED AT THE JOB SITE BY THE CONTRACTOR.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH PRODUCT MANUFACTURER'S RECOMMENDATIONS.

SEQUENCE AND STAGING OF LAND DISTURBING ACTIVITIES:

- SURVEY AND STAKE LIMIT OF DISTURBANCE FOR PLACEMENT OF SEDIMENTATION CONTROL DEVICES.
- PLACE SEDIMENTATION CONTROL DEVICES (HAYBALE OR SILT FENCE) AS SHOWN ON THE PLANS AND STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION CONTROL DEVICES. CONSTRUCT CONSTRUCTION ENTRANCE DEVICE 9.9.0.
- CLEAR AND GRUB SITE.
- BEGIN CONSTRUCTION OF BUILDING AND PARKING AREA (EXCAVATING AND GRADING, ETC.). TOPSOIL TO BE STRIPPED AND STOCKPILED IN APPROVED AREAS. THE STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION DEVICES.
- CONSTRUCT UTILITIES AND DRAINAGE SYSTEMS.
- PREPARE PARKING AREAS & PAVE FIRST COURSE.
- INSTALL PLANTING ON LANDSCAPE PLAN.
- PLACE SECOND COURSE OF PAVEMENT.
- REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.

SHEET#	PLAN TITLE
1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	PROPOSED PLAN
4	SOIL EROSION & SEDIMENTATION CONTROL PLAN
5	PROFILES & SANITARY SEWER DETAILS
6	DETAILS - 1
7	DETAILS - 2
8	DETAILS - 3

EROSION CONTROL & SOIL STABILIZATION PROGRAM:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND PROCEDURES SET FORTH IN THE WEST WARWICK SOIL EROSION AND SEDIMENT CONTROL ORDINANCE.
 - EXTREME CARE SHALL BE EXERCISED AS TO PREVENT ANY MATERIALS FROM ENTERING WETLANDS, THE ROADWAYS, ROADWAY DRAINAGE SYSTEMS, AND ADJACENT PROPERTY.
 - STAKED HAY BALES OR SILT FENCE SHALL BE INSTALLED WHERE SHOWN ON THE PLAN AND AS REQUIRED TO PREVENT SEDIMENTATION ONTO ADJACENT PROPERTIES, WETLANDS AND THE ROADWAY DRAINAGE SYSTEM.
 - DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
 - ALL DISTURBED SLOPES, EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15 SHALL BE SEEDED OR PROTECTED BY THAT DATE.
- SEED MIX:**
- | | |
|------------------------------|---------------------|
| RED FESCUE | 1.75 LBS/1,000 S.F. |
| COLONIAL BENT GRASS 'EXETER' | 0.11 LBS/1,000 S.F. |
| PERENIAL RYE GRASS | 0.11 LBS/1,000 S.F. |
| BIRDSFOOT TREFOLI 'EMPIRE' | 0.35 LBS/1,000 S.F. |
- TEMPORARY TREATMENTS SHALL CONSIST OF HAY, STRAW OR FIBER MULCH OR PROTECTIVE COVERS, SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE TOWN, ENGINEER OR OWNER AT NO ADDITIONAL COST.
 - HAY OR STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 3,000-4,000 LBS/ACRE.
 - ALL NEW HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED AND POTENTIAL SEDIMENTATION SOURCES ARE REMOVED.
 - STOCKPILES SHALL HAVE NO SLOPE GREATER THAN 2:1 AND SHALL BE SURROUNDED BY STAKED HAY BALES OR SILT FENCE. STOCKPILES EXPOSED FOR EXCESSIVE PERIODS OF TIME SHALL RECEIVE TEMPORARY TREATMENT CONSISTING OF HAY, STRAW OR FIBER MATTING.
 - DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT/REPLACE AS NEEDED.
 - ADDITIONAL HAY BALES/SILT FENCE OR OTHER TREATMENTS SHALL BE PROVIDED AS DIRECTED BY ENGINEER, RIDEM OR LOCAL REPRESENTATIVES AT NO ADDITIONAL COST.
 - THE CONTRACTOR SHALL REFERENCE THE "RI EROSION AND SEDIMENT CONTROL HANDBOOK" AS PREPARED BY THE US DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, (AS REVISED) AS A GUIDE.
 - THE CONTRACTOR SHALL INSPECT THE SOIL EROSION CONTROL DEVICES AFTER EVERY RAIN STORM EVENT AND/OR EVERY SEVEN DAYS (WHICH EVER IS SOONER). ANY SOIL MIGRATION PAST THE DEVICES SHALL BE REMOVED AND THE SOIL EROSION CONTROL DEVICES SHALL BE RE-ESTABLISHED TO PREVENT SOIL EROSION. ALL ACCUMULATED SEDIMENT IN FRONT OF THE DEVICES SHALL BE REMOVED AFTER EVERY RAIN STORM EVENT.
 - ALL DISTURBED SOIL AREAS SHALL BE PROTECTED AGAINST SOIL EROSION BY PLACEMENT OF HAY BALES AND/OR SILT FENCE ON THE DOWN GRADIENT SIDE OF THE DISTURBED AREA(S). SHOULD THE VOLUME AND/OR RATE OF STORMWATER RUNOFF BE TOO GREAT FOR A SINGLE DEVICE, THEN MULTIPLE DEVICES ARE REQUIRED SUCH AS SILT FENCE BACKED-UP WITH HAYBALES.
 - CATCH BASIN GRATES SHALL BE PROTECTED AGAINST SOIL MIGRATION INTO THE GRATES BY USE OF DETAIL 9.8.0.
 - AT THE END OF THE PROJECT ALL SEDIMENT IN THE CATCHBASIN SUMPS SHALL BE REMOVED.

DRAINAGE SYSTEM - INSPECTION, MAINTENANCE AND REPAIR:

- THE SUBJECT PROPERTY OWNER SHALL MAINTAIN THE PROPOSED DRAINAGE SYSTEM COMPONENTS WHICH INCLUDE DRAIN MANHOLES, PIPING, PAVED WATERWAYS, AND EXTENDED DETENTION POND.
- THE DRAINAGE SYSTEM SHOULD BE INSPECTED TWICE PER YEAR BY A QUALIFIED INDIVIDUAL, GENERALLY IN THE SPRING AND FALL.

DRAIN MANHOLES, CATCH BASINS AND PAVED WATERWAYS:

- REMOVE TRASH AND LITTER.
- REPAIR ALL STRUCTURAL DEFECTS IMMEDIATELY.
- CLEAN-OUT SEDIMENT IN CATCH BASIN SUMPS ANNUALLY. DISPOSE SEDIMENT PROPERLY IN ACCORDANCE WITH STATE REGULATIONS.

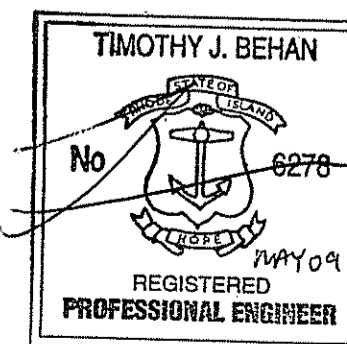
PIPES & OUTLETS:

- ALL CLOGGED OR SEDIMENT FILLED PIPES WHICH ARE MORE THAN 10% SEDIMENT FILLED SHALL BE CLEANED OUT IMMEDIATELY. WHEN CLEANING OUT PIPES, ENSURE DOWNSTREAM AREAS ARE PROTECTED FROM SEDIMENT DISCHARGES.
- REMOVE TRASH AND LITTER.
- INSPECT OUTLET RIP RAP AREAS. REPAIR ALL ERODED AREAS BY SUPPLEMENTING WITH MORE RIP RAP AND ESTABLISHING NEW VEGETATIVE GROWTH.

EXTENDED DETENTION POND:

- INSPECT THE OUTLET CONTROL STRUCTURE IN DMH #1 TO ENSURE ALL OPENINGS ARE FREE OF DEBRIS AND ARE FUNCTIONING PROPERLY. MAKE ALL NECESSARY REPAIRS.
- INSPECT ALL SLOPES IN POND AREA. STABILIZE ERODED AREAS BY REGRADING AND ESTABLISHING NEW VEGETATIVE GROWTH.
- MOW ENTIRE POND & EMBANKMENTS REGULARLY (NO LESS THAN TWICE PER YEAR). THE POND HAS BEEN DESIGNED SO MOWING CAN TAKE PLACE WEEKLY AS LONG AS THE POND BOTTOM IS NOT TOO WET. FREQUENT MOWINGS WILL GIVE A GROOMED APPEARANCE.
- REMOVE ALL TRASH AND LITTER.
- RIP RAP AREAS SHALL BE INSPECTED FOR EROSION. RESTORE AREAS BY REGRADING AND REPAIRING THE RIP RAP AREAS.
- THE GRASSED AREAS OF THE POND SHOULD BE INSPECTED TWO TIMES PER YEAR TO CHECK FOR EROSION PROBLEMS AND SEDIMENT ACCUMULATIONS. ERODED AREAS SHOULD BE RESEED IMMEDIATELY TO STABILIZE EXPOSED SOILS, THEREBY PREVENTING EROSION AND POTENTIAL CLOGGING OF OUTLET DEVICES. AREAS SHOWING SEDIMENT ACCUMULATION SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH THE LATEST REGULATIONS.
- IF STANDING WATER IS FOUND IN THE POND MORE THAN 3 DAYS AFTER A RAINFALL EVENT, THE POND SHALL BE INSPECTED IMMEDIATELY SINCE IT IS LIKELY THE WATER QUALITY ORIFICE IS DAMAGED OR CLOGGED. REPAIRS SHOULD ENABLE THE POND TO DRAIN WITHIN 3 DAYS.

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED JUL - 1 2009 FILE # 09-0110
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

PRELIMINARY PLAN

Being Assessors Plat No. 15 Lot Nos. 483 & 484
 COVER SHEET
DUKE ST. CONDOMINIUMS

LOCATION
 Duke Street
 West Warwick, Rhode Island 02893
 PREPARED FOR
MTM INVESTMENT GROUP LP
 2091 NOOSENECK HILL ROAD
 Coventry, Rhode Island 02816

Checked By: T.J.B.
 Drawn By: T.J.B.
 Scale: AS SHOWN
 Date: OCT. 2008

REVISIONS

NO.	REVISION	DATE
1	ISSUED FOR CONSTRUCTION	10/1/08
2	FOR PERMIT SUBMISSION	10/1/08
3	FOR PRELIMINARY PLAN SUBMISSION	10/1/08
4	FOR PRELIMINARY PLAN SUBMISSION	10/1/08

TJB ENGINEERING, LLC
 CIVIL ENGINEERING
 PERMITTING * LAND PLANNING
 SUBDIVISIONS * WASTEWATER

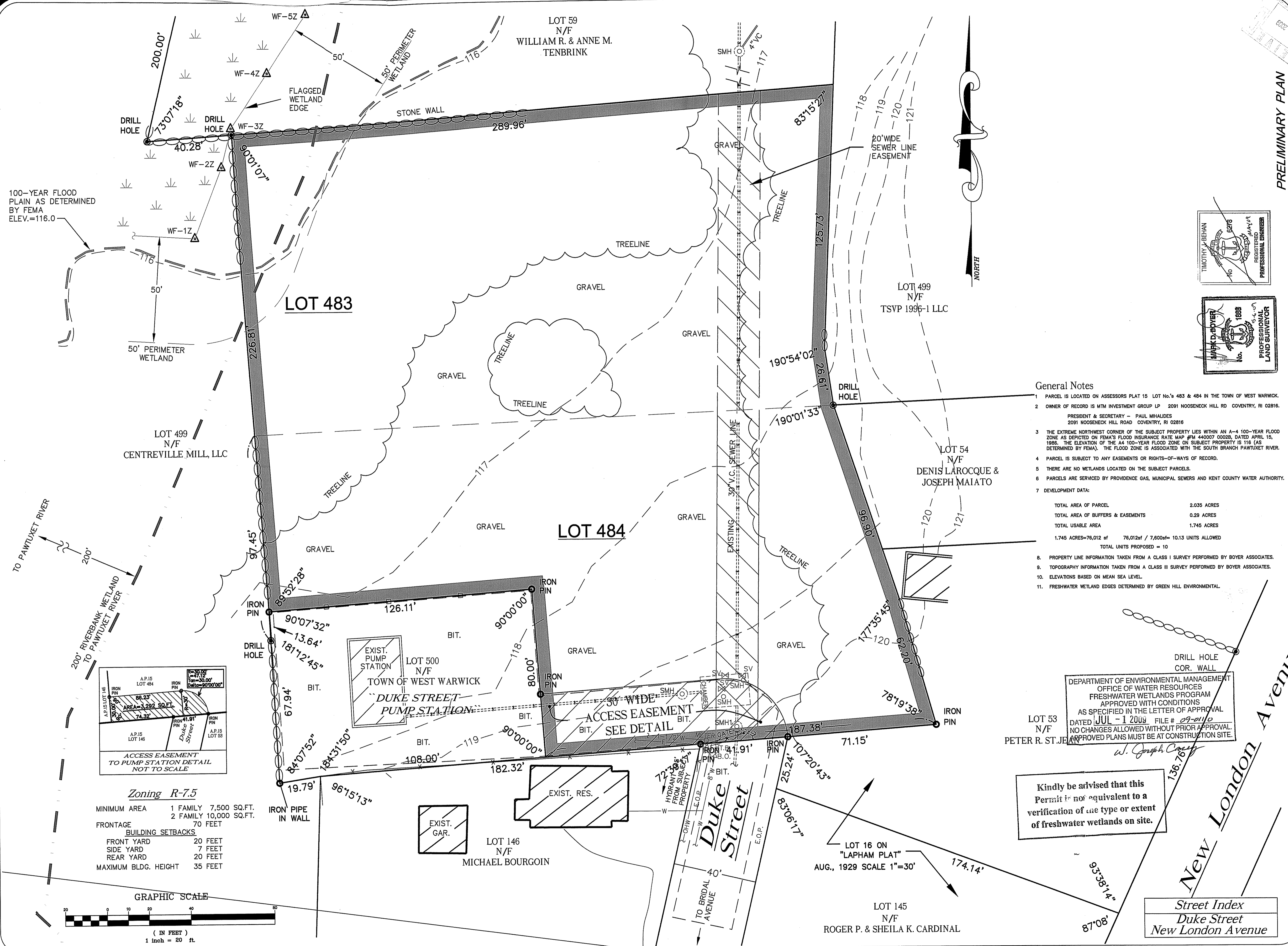
1050 MAIN STREET SUITE 30
 EAST GREENWICH, RI 02818
 PHONE: 401-986-1677

BOYER ASSOCIATES
 REGISTERED PROFESSIONAL ENGINEERS

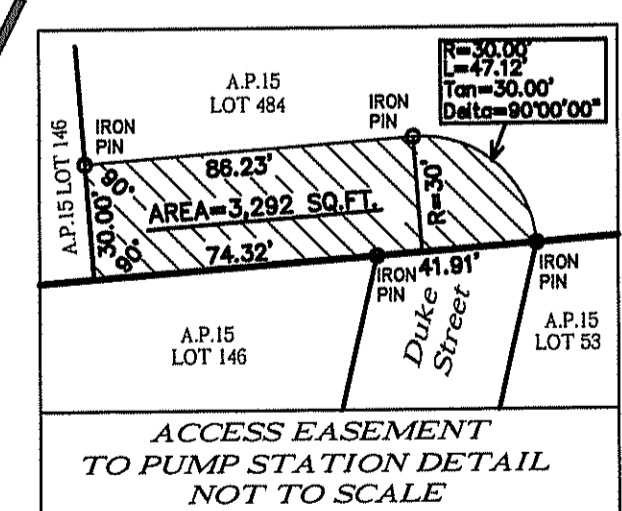
1200 MAIN STREET
 WEST WARWICK, RI 02893
 TEL: (401)821-8872 FAX (401)826-1993

Sheet **1**
 of **8** sheets

T. Joseph Casey

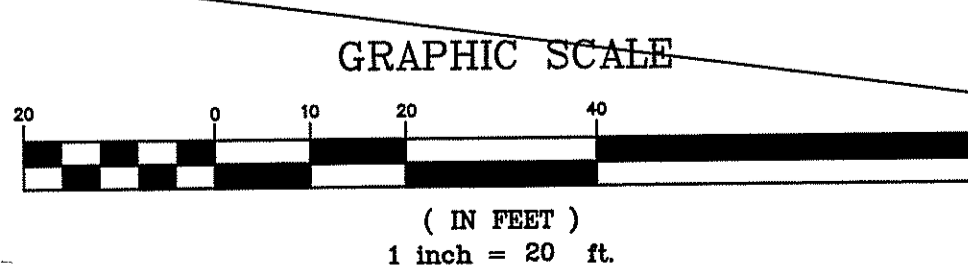


100-YEAR FLOOD PLAIN AS DETERMINED BY FEMA ELEV.=116.0



Zoning R-7.5

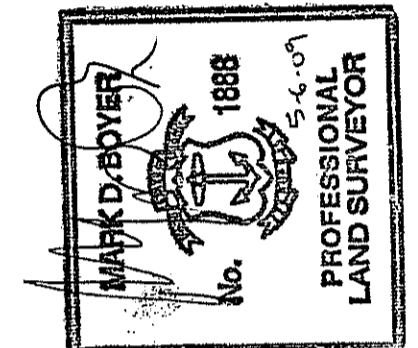
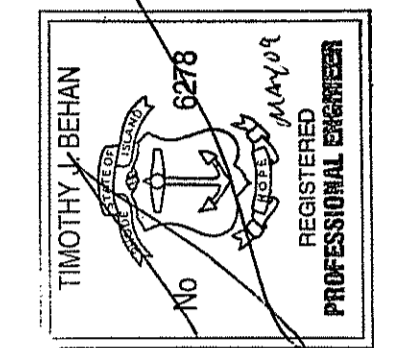
MINIMUM AREA	1 FAMILY	7,500 SQ.FT.
	2 FAMILY	10,000 SQ.FT.
FRONTAGE		70 FEET
BUILDING SETBACKS		
FRONT YARD		20 FEET
SIDE YARD		7 FEET
REAR YARD		20 FEET
MAXIMUM BLDG. HEIGHT		35 FEET



Being Assessors Plat No. 15 Lot Nos. 483 & 484
 EXISTING CONDITIONS
DUKE ST. CONDOMINIUMS
 LOCATION
 Duke Street
 West Warwick, Rhode Island 02893
 PREPARED FOR
MTM INVESTMENT GROUP LP
 2091 NOOSENECK HILL ROAD
 Coventry, Rhode Island 02816

Checked By: T.J.B. Drawn By: T.J.B. Date: OCT. 2008
 Scale: AS SHOWN

NO.	REVISIONS	DATE
1	ISSUE FOR PERMITTING	10/15/08
2	REVISIONS TO PERMITTING	10/15/08
3	REVISIONS TO PERMITTING	10/15/08
4	REVISIONS TO PERMITTING	10/15/08



- General Notes**
- PARCEL IS LOCATED ON ASSESSORS PLAT 15 LOT NO.'S 483 & 484 IN THE TOWN OF WEST WARWICK.
 - OWNER OF RECORD IS MTM INVESTMENT GROUP LP 2091 NOOSENECK HILL RD COVENTRY, RI 02816. PRESIDENT & SECRETARY - PAUL MIHALIDES 2091 NOOSENECK HILL ROAD COVENTRY, RI 02816
 - THE EXTREME NORTHWEST CORNER OF THE SUBJECT PROPERTY LIES WITHIN AN A-4 100-YEAR FLOOD ZONE AS DEPICTED ON FEMA'S FLOOD INSURANCE RATE MAP #14 440007 0002B, DATED APRIL 15, 1986. THE ELEVATION OF THE A4 100-YEAR FLOOD ZONE ON SUBJECT PROPERTY IS 116 (AS DETERMINED BY FEMA). THE FLOOD ZONE IS ASSOCIATED WITH THE SOUTH BRANCH PAWTUCKET RIVER.
 - PARCEL IS SUBJECT TO ANY EASEMENTS OR RIGHTS-OF-WAYS OF RECORD.
 - THERE ARE NO WETLANDS LOCATED ON THE SUBJECT PARCELS.
 - PARCELS ARE SERVED BY PROVIDENCE GAS, MUNICIPAL SEWERS AND KENT COUNTY WATER AUTHORITY.
 - DEVELOPMENT DATA:
 TOTAL AREA OF PARCEL 2.035 ACRES
 TOTAL AREA OF BUFFERS & EASEMENTS 0.29 ACRES
 TOTAL USABLE AREA 1.745 ACRES
 1.745 ACRES=76,012 sq ft 76,012sf / 7,600sf= 10.13 UNITS ALLOWED
 TOTAL UNITS PROPOSED = 10
 - PROPERTY LINE INFORMATION TAKEN FROM A CLASS I SURVEY PERFORMED BY BOYER ASSOCIATES.
 - TOPOGRAPHY INFORMATION TAKEN FROM A CLASS III SURVEY PERFORMED BY BOYER ASSOCIATES.
 - ELEVATIONS BASED ON MEAN SEA LEVEL.
 - FRESHWATER WETLAND EDGES DETERMINED BY GREEN HILL ENVIRONMENTAL.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
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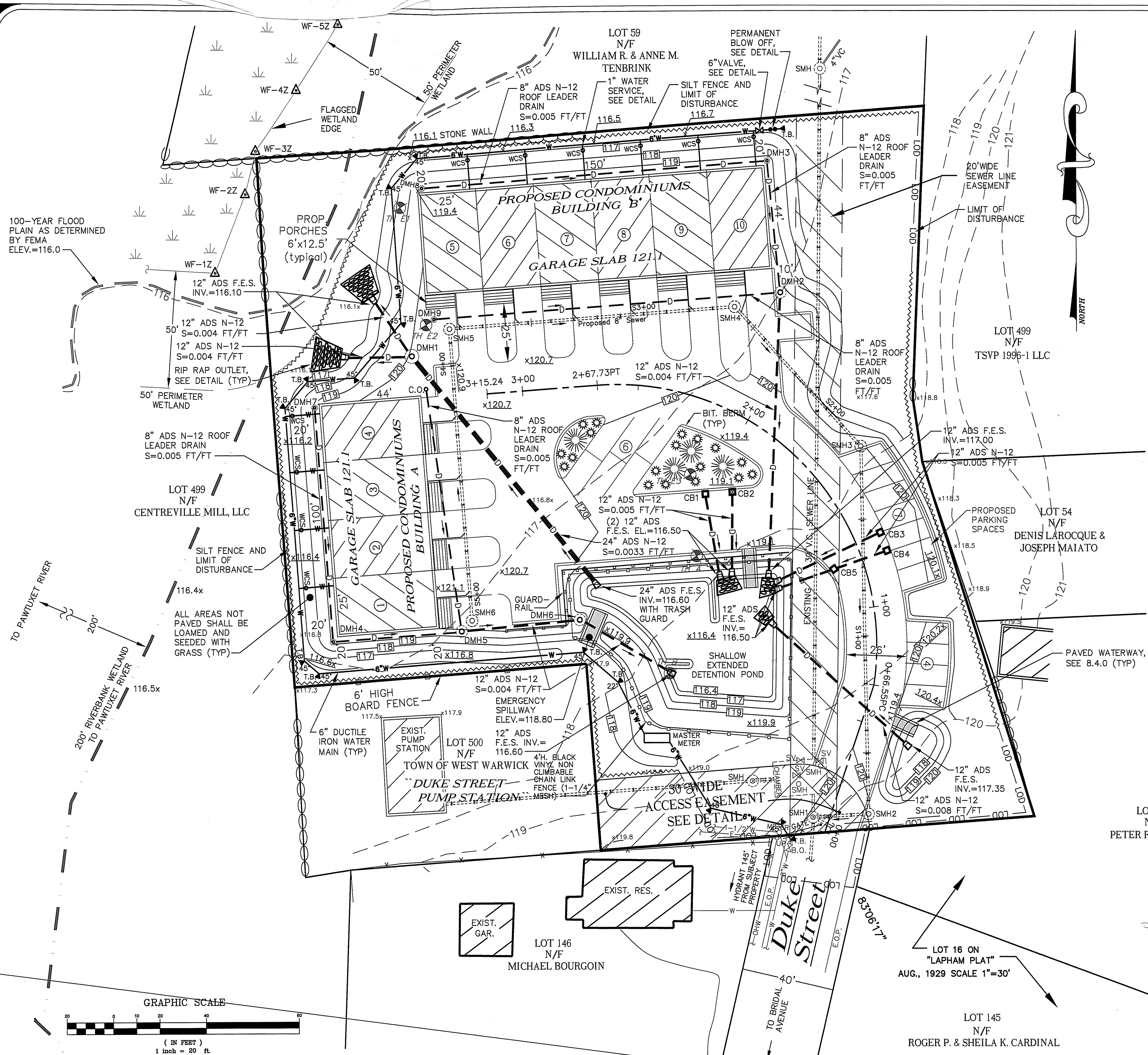
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TJB ENGINEERING, LLC
 CIVIL ENGINEERING
 PERMITTING * LAND PLANNING
 SUBDIVISIONS * WASTEWATER
 1050 MAIN STREET SUITE 30
 EAST GREENWICH, RI 02818
 PHONE: 401-996-1677

BOYER ASSOCIATES
 1200 MAIN STREET
 WEST WARWICK, RI 02893
 TEL: (401)821-8872 FAX (401)826-1993

Sheet **2**
 of 8 sheets

Street Index
 Duke Street
 New London Avenue



100-YEAR FLOOD PLAIN AS DETERMINED BY FEMA ELEV.=116.0

PROP. PORCHES 6'x12.5' (typical)

12" ADS F.E.S. INV.=116.10
 12" ADS N-12 S=0.004 FT/FT
 12" ADS N-12 S=0.004 FT/FT
 RIP RAP OUTLET, SEE DETAIL (TYP)

LOT 499 N/F CENTREVILLE MILL, LLC

ALL AREAS NOT PAVED SHALL BE LOAMED AND SEEDED WITH GRASS (TYP)

EXIST. PUMP STATION
 TOWN OF WEST WARWICK
 "DUKE STREET PUMP STATION"

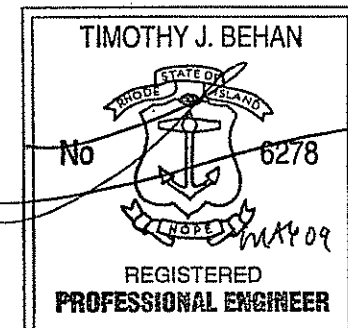
LOT 146 N/F MICHAEL BOURGOIN

LOT 145 N/F ROGER P. & SHEILA K. CARDINAL

LOT 499 N/F TSYP 1996-1 LLC

LOT 54 N/F DENIS LAROCQUE & JOSEPH MAIATO

LOT 53 N/F PETER R. ST. JEAN



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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New London Avenue

PRELIMINARY PLAN

Being Assessors Plat No. 15 Lot Nos. 483 & 484
 PROPOSED PLAN
DUKE ST. CONDOMINIUMS
 LOCATION
 Duke Street Rhode Island 02893
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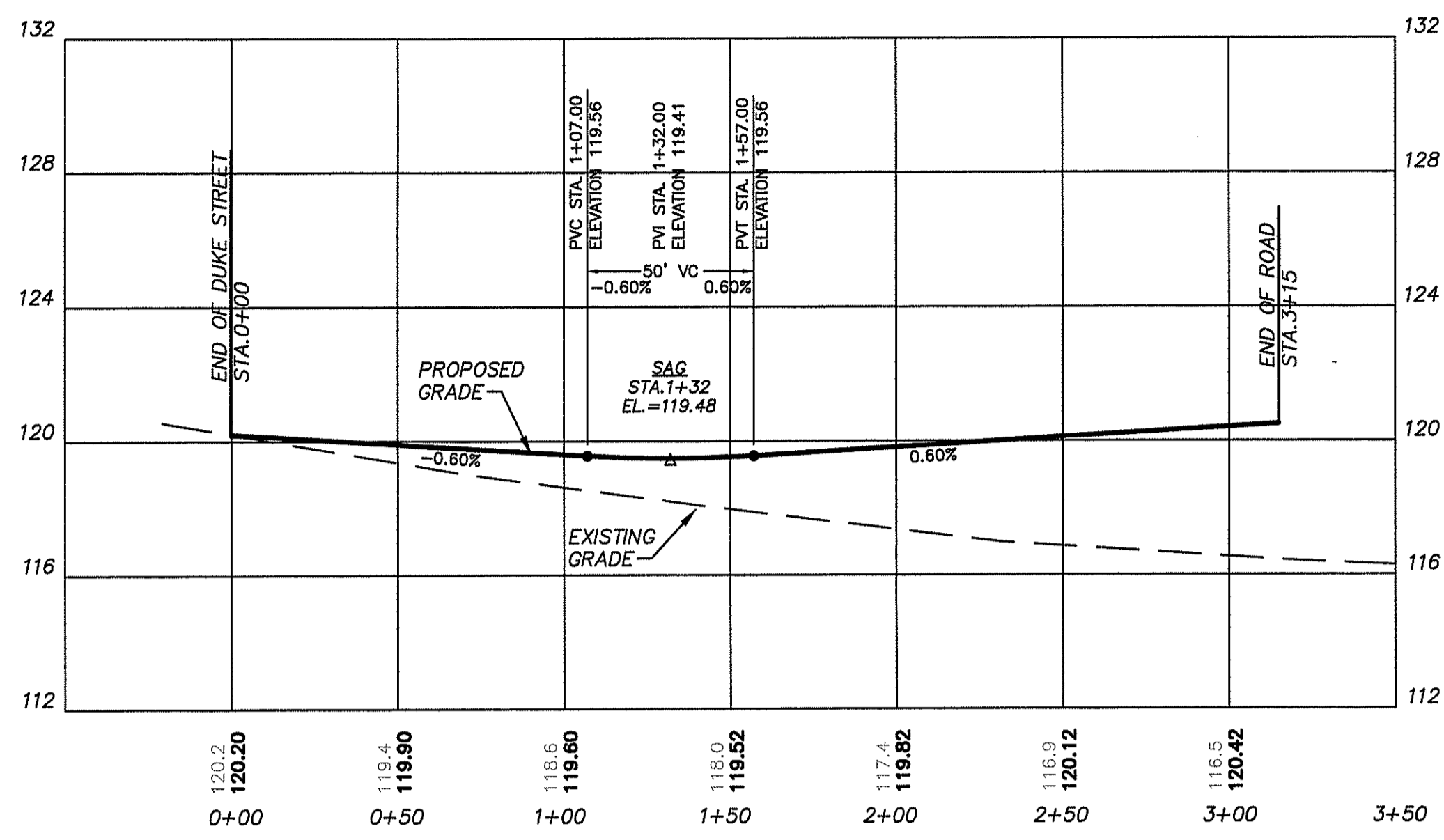
Checked By: T.J.B. Drawn By: T.J.B. Date: OCT. 2008

NO.	REVISIONS	DATE
1	ISSUE FOR PERMIT	10/1/08
2	FOR COMMENTS	10/1/08
3	FOR COMMENTS	10/1/08
4	FOR COMMENTS	10/1/08

TJB ENGINEERING, LLC
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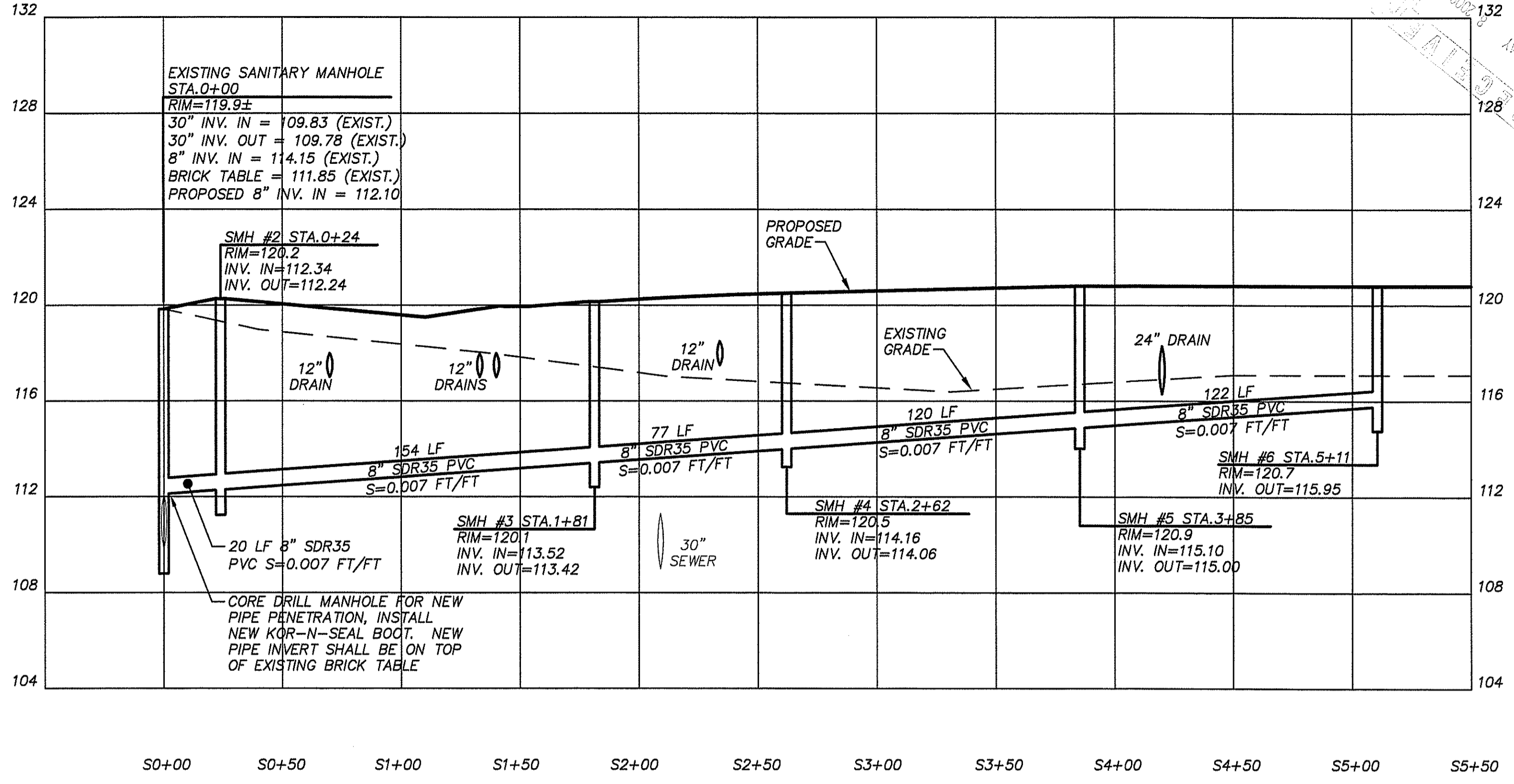
BOYER ASSOCIATES
 ESTABLISHED SINCE 1983
 1200 MAIN STREET
 WEST WARWICK, RI 02893
 TEL. (401)821-8872 FAX (401)826-1993

Sheet **3** of 8 sheets



ROAD PROFILE: STA. 0+00 TO 3+15

SCALE: 1"=40' HOR.
1"=4' VERT.



SANITARY SEWER PROFILE: STA. S0+00 TO S5+50

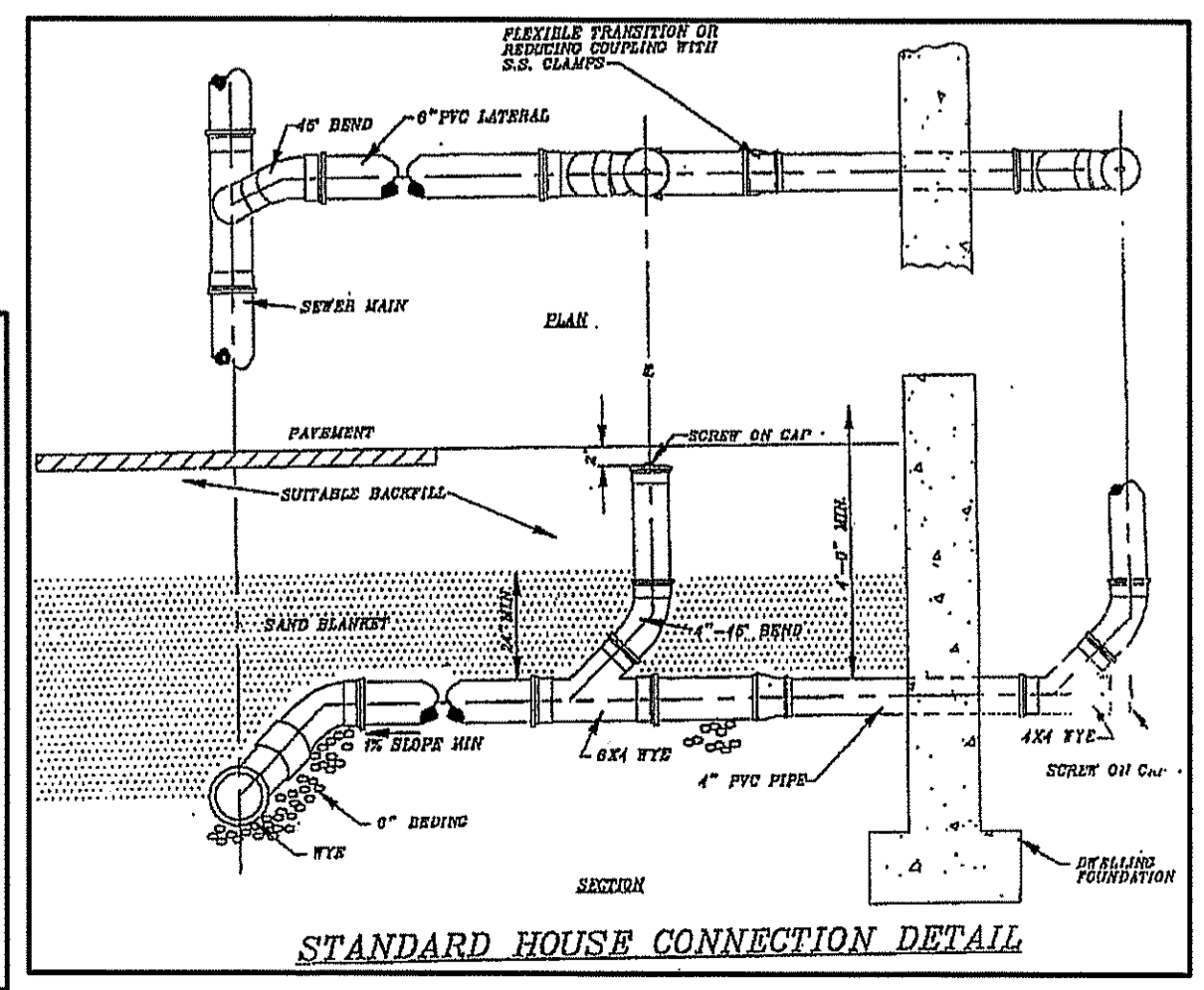
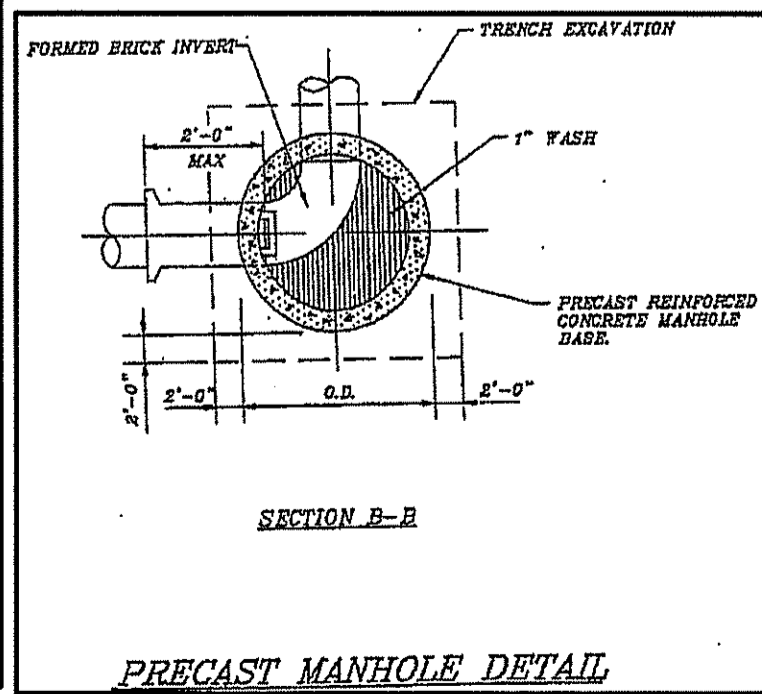
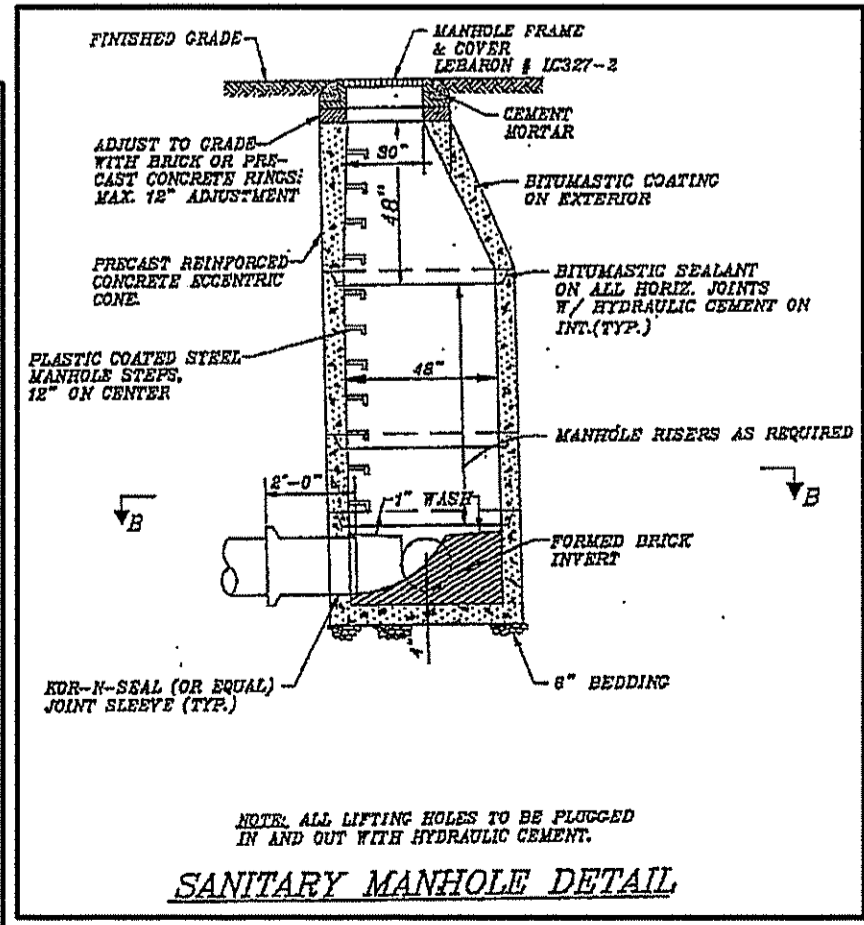
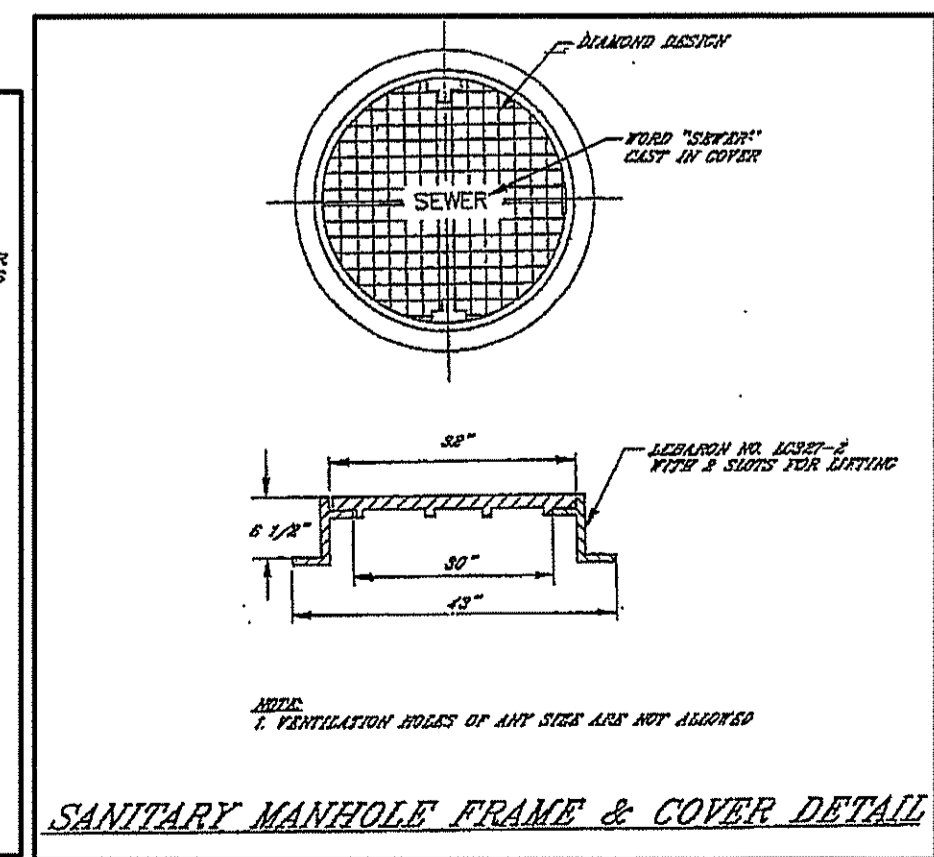
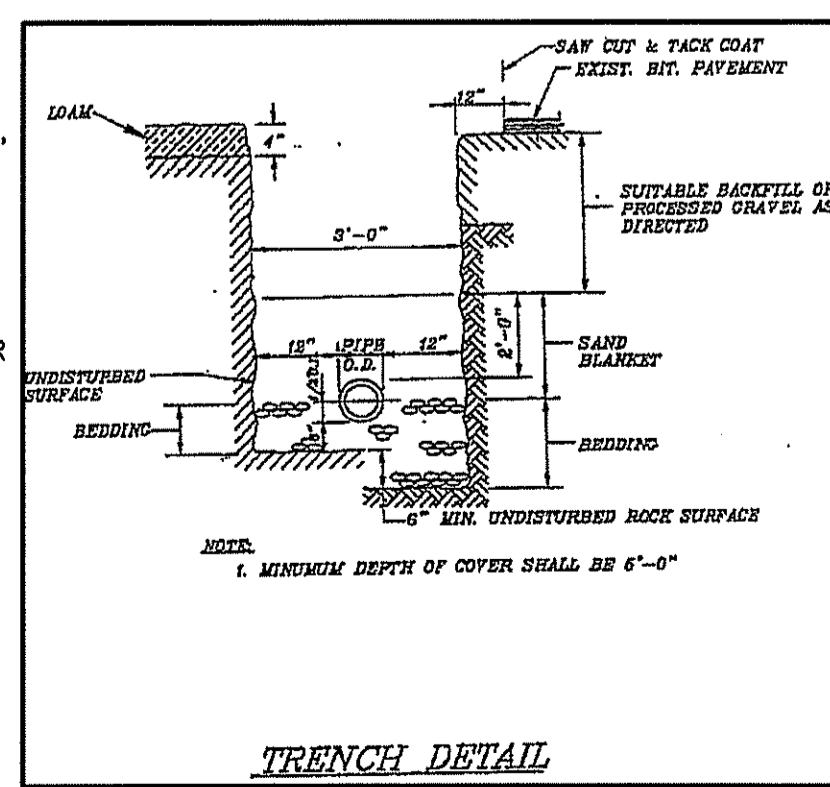
SCALE: 1"=40' HOR.
1"=4' VERT.

SEWER NOTES:

- ALL CONSTRUCTION, MATERIALS, SPECIFICATIONS, AND PROCEDURES SHALL CONFORM WITH THE "STANDARD SANITARY SEWER REQUIREMENTS OF THE TOWN OF WEST WARWICK" AND ALL APPLICABLE FEDERAL, STATE AND TOWN BUILDING AND PLUMBING CODES. ANY DEVIATIONS FROM THESE PRESCRIBED PROCEDURES AND MATERIALS SHALL BE APPROVED BY THE SUPERINTENDANT BEFORE INSTALLATION. THE CONTRACTOR SHALL REVIEW SAID STANDARD PRIOR TO ANY WORK.
- PROTECTION OF WATER LINES:
 - HORIZONTAL SEPARATION:** SEWERS SHALL BE LAID AT A MINIMUM AT LEAST 10 FEET, HORIZONTALLY, FROM ANY EXISTING OR PROPOSED WATER MAIN OR SERVICE. SHOULD LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, THE SEWER LINE SHALL BE CONSTRUCTED OF CLASS 150 (DR18) POLYVINYL CHLORIDE PRESSURE PIPE.
 - VERTICAL SEPARATION:** WHENEVER SEWERS CROSS UNDER WATER MAINS, OR SERVICES, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. WHEN THE ELEVATION OF THE SEWER CANNOT BE RELOCATED TO PROVIDE THIS SEPARATION OR THE SEWER LINE SHALL BE CONSTRUCTED OF CLASS 150 (DR18) POLYVINYL CHLORIDE PRESSURE PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE WATER MAIN.
- CLEAN-OUTS TO GRADE ON THE 6" SERVICE LINES SHALL BE INSTALLED AT EVERY FITTING OVER 22-1/2 DEGREES AND AT 75 FOOT INTERVALS.
- PIPE SHALL BE LAID IN THE DRY AND AT NO TIME SHALL WATER IN THE TRENCH BE PERMITTED TO FLOW INTO THE SEWER.
- BACKFILL FROM THE CENTERLINE OF THE PIPE TO A HEIGHT OF TWO FEET ABOVE THE PIPE SHALL BE SAND BLANKET MATERIAL PLACED EVENLY THE FULL WIDTH OF THE TRENCH AND COMPACTED IN 12-INCH LAYERS. THE REMAINDER OF THE TRENCH SHALL BE BACKFILLED EVENLY WITH SUITABLE (EXCAVATED OR BORROW) BACKFILL MATERIAL AND COMPACTED IN 12-INCH LAYERS. CUSHION AND BACKFILL MATERIAL SHALL BE COMPACTED TO 95% MAXIMUM DENSITY BY TAMPING AND COMPACTING IN LAYERS (ONE (1) FOOT MAXIMUM) TO ACHIEVE THE REQUIRED COMPACTION.
- THE CONTRACTOR SHALL SUBMIT AN AS-BUILT DRAWING AFTER COMPLETION OF THE SERVICE CONNECTION UTILIZING DISTANCES FROM PERMANENT STRUCTURES. THE DEPTH AT THE SEWER MAIN PROPERTY LINE AND AT THE DWELLING UNIT SHALL BE RECORDED AS WELL AS TIES TO ALL CLEANOUTS AND BENDS.
- ALL PIPE AND FITTINGS SHALL BE PVC SDR35 MEETING ASTM D3034.
- ALL CONSTRUCTION SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WELL POINTS AND OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE SURFACE AND SUBSURFACE WATER ENCOUNTERED DURING CONSTRUCTION.
- MANHOLE FRAME & COVERS SHALL BE ADJUSTED TO FINISH GRADE WITH RED BRICK AND MORTAR. OTHER TYPES OF BRICK AND/OR PRECAST CONCRETE RINGS ARE NOT ACCEPTABLE.
- BACKFLOW PREVENTER:** ALL HOUSE CONNECTIONS ARE TO BE EQUIPPED WITH A BACKFLOW PREVENTER. BACKFLOW PREVENTERS MUST CONFORM WITH THE WEST WARWICK BUILDING INSPECTOR'S REQUIREMENTS AND THE BUILDING OFFICIALS CODE ADMINISTRATORS BASIC NATIONAL PLUMBING CODE, ARTICLE 10, SECTION P-1003.0.
- INSPECTION:** ALL SEWER LINE CONSTRUCTION SHALL BE INSPECTED BY THE SEWER AUTHORITY PRIOR TO BACKFILLING.
- TESTING:** THE CONTRACTOR SHALL TEST EACH MANHOLE REACH AS SOON AS CONSTRUCTION OF SUCH REACH IS COMPLETE. THE CONTRACTOR WILL BE REQUIRED TO PERFORM THE PIPE DEFLECTION TEST ON EACH SECTION OF PIPE INSTALLED, VACUUM TEST OF MANHOLES AND AN INFILTRATION TEST OR LOW PRESSURE TEST AS APPLICABLE. ALL TESTING SHALL BE WITNESSED BY THE SEWER AUTHORITY.

TRENCH MATERIAL SPECIFICATION:

- BEDDING MATERIAL:** THE BEDDING MATERIAL SHALL BE CRUSHED STONE CONSISTING OF DURABLE CRUSHED ROCK IN DURABLE CRUSHED GRAVEL STONE, FREE FROM ICE, SNOW, SAND, CLAY, LOAM, OR OTHER DELETERIOUS MATERIAL. THE CRUSHED STONE SHALL CONFORM TO THE REQUIREMENTS OF 100% PASSING THE ONE (1) INCH SCREEN, 90-100% PASSING THE THREE-QUARTER (3/4) INCH SCREEN, 10-50% PASSING THE ONE-HALF (1/2) INCH SCREEN, 0-20% PASSING THE THREE-EIGHTHS (3/8) INCH SCREEN AND 0-5% PASSING THE NUMBER FOUR (4) SIEVE.
- SAND BLANKET:** THE SAND SHALL BE FREE FROM ICE, SNOW, ROOTS, RUBBISH, AND OTHER DELETERIOUS OR ORGANIC MATTER. THE SAND BLANKET SHALL CONFORM TO 22 THE REQUIREMENTS OF 100% PASSING ONE-HALF (1/2) INCH SCREEN, 85-100% PASSING THE THREE-EIGHTHS (3/8) INCH SCREEN, 60-85% PASSING THE NUMBER FOUR (4) SIEVE, 35-60% PASSING THE NUMBER SIXTEEN (#16) SIEVE, 10-35% PASSING THE NUMBER FIFTY (#50) SIEVE AND 2-10% PASSING THE NUMBER ONE-HUNDRED (#100) SIEVE.
- BACKFILL:** BACKFILL SHALL BE EXCAVATED MATERIALS FREE-DRAINING CLEAN GRANULAR SOIL SUITABLE FOR BACKFILL UP TO 20 PERCENT OF BACKFILL MATERIAL MAY BE ROCK-LIKE MATERIALS NOT TO EXCEED 0.05 CUBIC FEET IN VOLUME, NOR MORE THAN 6 INCHES IN LENGTH. THE BACKFILL SHALL NOT CONTAIN ANY DEBRIS, PAVEMENT, FROZEN MATERIAL, ORGANIC MATTER, OR PEAT.

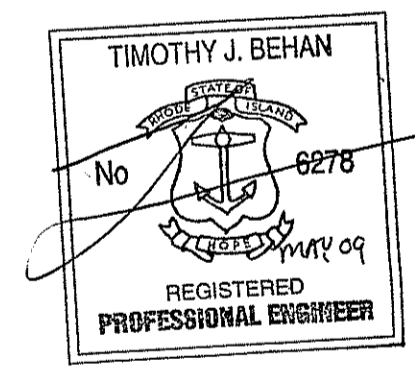


SANITARY SEWER DETAILS

SCALE: NOT TO SCALE

Kindly be advised that this Permit is not equivalent to a verification of the type or amount 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 JUL - 1 2008 FILE # 09-010
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.



W. Joseph Casey

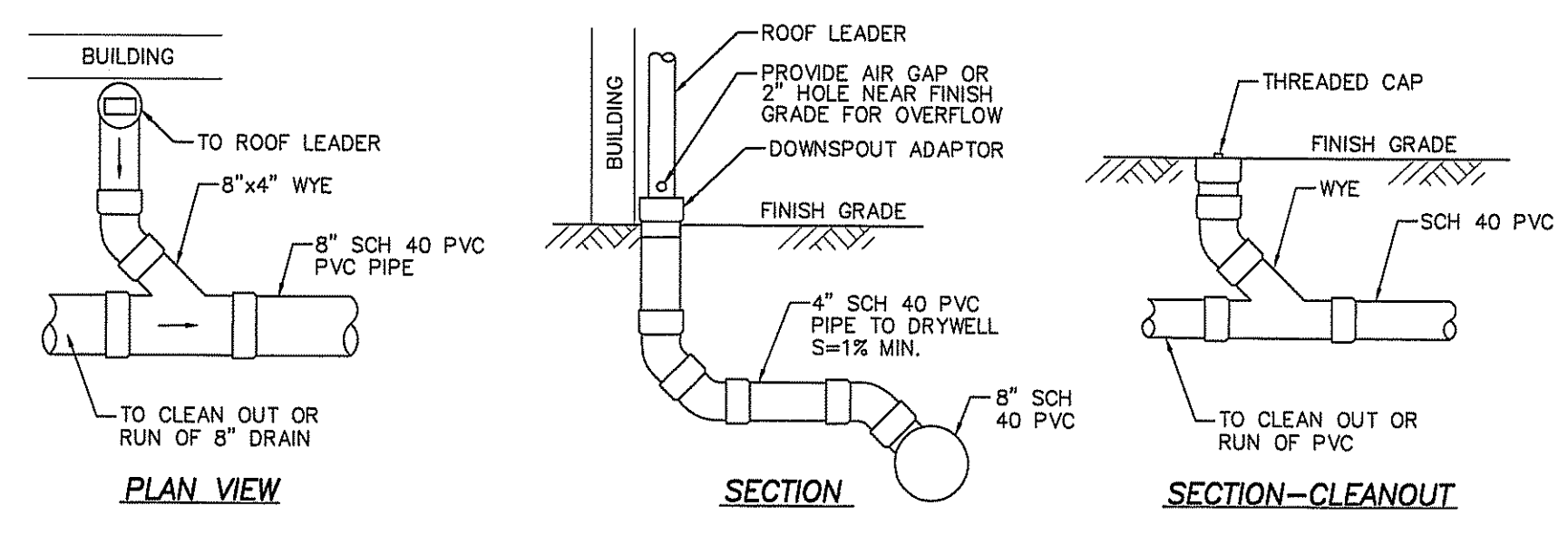
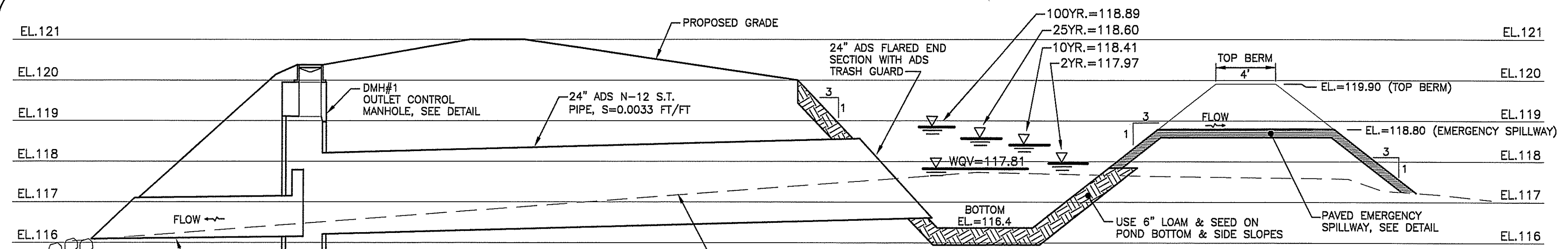
PRELIMINARY PLAN
Being Assessors Plat No. 15 Lot Nos. 483 & 484
PROFILES & SANITARY SEWER DETAILS
DUKE ST. CONDOMINIUMS
LOCATION
Duke Street
West Warwick, Rhode Island 02893
PREPARED FOR
MTM INVESTMENT GROUP LP
2091 NOOSENECK HILL ROAD
Coventry, Rhode Island 02816

NO.	REVISIONS	DATE
1	AS SHOWN	OCT. 2008
2	REVISION COMMENTS	
3	BY	
4	DATE	
5	BY	
6	DATE	
7	BY	
8	DATE	

TJB ENGINEERING, LLC
CIVIL ENGINEERING
PERMITTING * LAND PLANNING
SUBDIVISIONS * WASTEWATER
1060 MAIN STREET SUITE 30
EAST GREENWICH, RI 02818
PHONE: 401-996-1677

BOYER ASSOCIATES
REGISTERED PROFESSIONAL ENGINEERS
1200 MAIN STREET
WEST WARWICK, RI 02893
TEL. (401)821-8872 FAX (401)826-1993

Sheet **5**
of 8 sheets



ROOF DRAIN SYSTEM - MISC. DETAILS

NOTE: SDR 35 PVC PIPE IS ACCEPTABLE WHEN NOT SUBJECT TO VEHICULAR TRAFFIC

CATCH BASIN/RAIN MANHOLE SCHEDULE:

DMH	RIM	INV (IN)	INV (IN)	INV (OUT)	INV (OUT)	TYPE	SIZE	SUMP	OUTLET DEVICE	COVER/GRATE	EXTENDED BASE
CB1	119.15	-	-	116.67 (12")	-	PRECAST CONC.	4'0"	3'	N/A	LeBaron LF244-2	YES
CB2	119.10	-	-	116.67 (12")	-	PRECAST CONC.	4'0"	3'	N/A	LeBaron LF244-2	YES
CB3	119.10	-	-	116.73 (12")	-	PRECAST CONC.	4'0"	3'	N/A	LeBaron LF244-2	YES
CB4	119.10	-	-	116.77 (12")	-	PRECAST CONC.	4'0"	3'	N/A	LeBaron LF244-2	YES
CB5	119.10	116.66 (12")	-	116.61 (12")	-	PRECAST CONC.	4'0"	3'	N/A	LeBaron LF244-2	YES
DMH2	120.50	116.20 (24")	-	116.10 (12")	116.10 (12")	PRECAST CONC.	6'0"	1'	SEE DETAIL	LeBaron LA264 w/ "DRAIN"	YES
DMH3	119.90	117.82 (8")	117.55 (8")	117.22 (12")	-	PRECAST CONC.	4'0"	NONE	N/A	LeBaron LA264 w/ "DRAIN"	YES
DMH4	119.90	117.36 (8")	-	117.36 (8")	-	DRAINTECH	12"x12"	NONE	N/A	12"x12" GRATE	N/A
DMH5	119.90	117.15 (12")	-	117.05 (12")	-	PRECAST CONC.	4'0"	NONE	N/A	LeBaron LA264 w/ "DRAIN"	YES
DMH6	119.90	116.87 (12")	-	116.77 (12")	-	PRECAST CONC.	4'0"	NONE	N/A	LeBaron LA264 w/ "DRAIN"	YES
DMH7	119.90	117.86 (8")	-	117.86 (8")	-	DRAINTECH	12"x12"	NONE	N/A	12"x12" GRATE	N/A
DMH8	119.90	118.56 (8")	-	118.56 (8")	-	DRAINTECH	12"x12"	NONE	N/A	12"x12" GRATE	N/A
DMH9	120.70	118.29 (8")	-	118.29 (8")	-	DRAINTECH	12"x12"	NONE	N/A	12"x12" GRATE	N/A

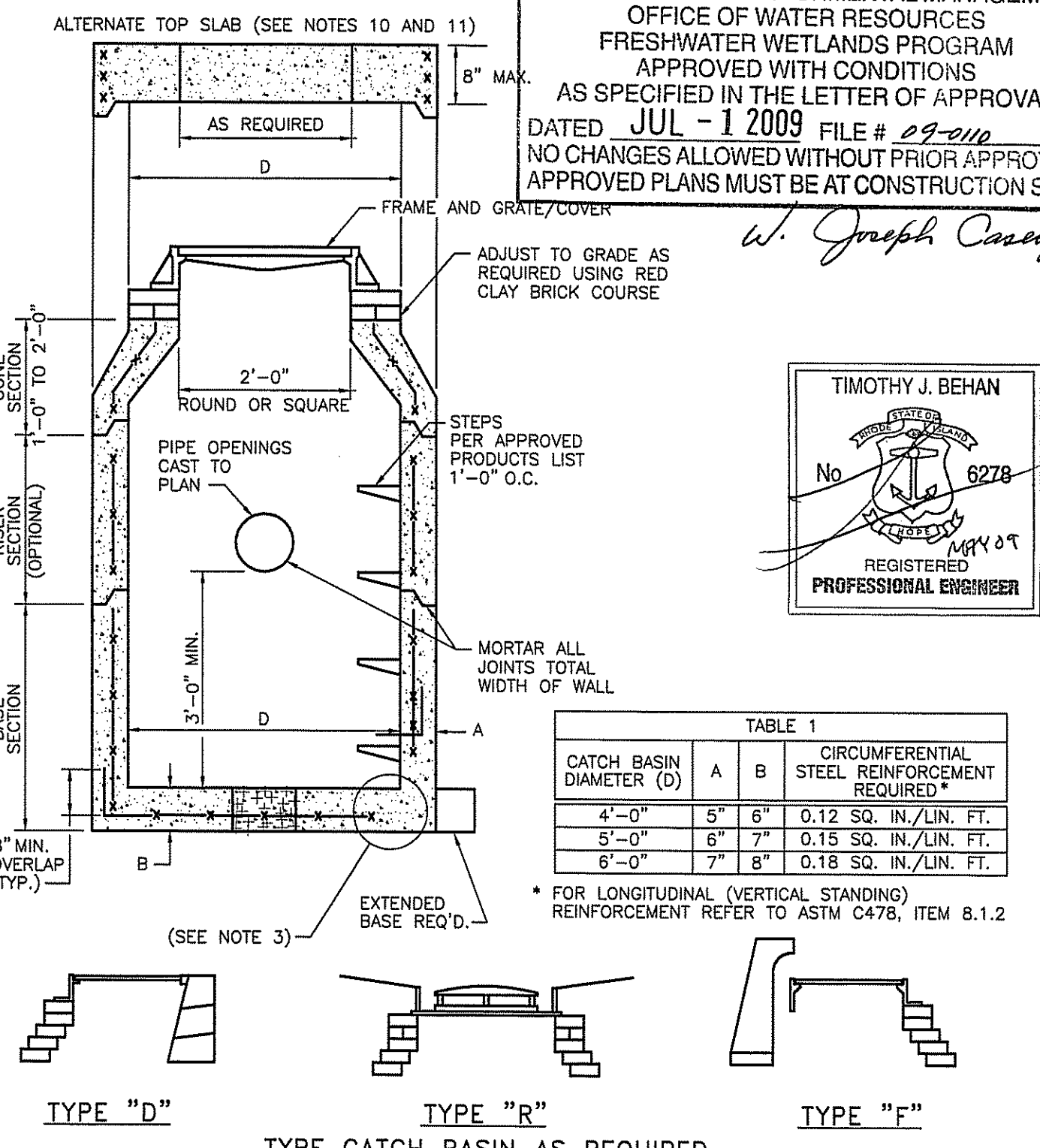
- NOTES:
1. ALL PRECAST CONCRETE CATCH BASINS & MANHOLES SHALL HAVE EXTENDED BASES.
 2. ALL PRECAST CONCRETE CATCH BASINS & MANHOLES SHALL HAVE 8" TOP SLABS DUE TO LOW PROFILE DRAINS. 6" DIA. MANHOLE CAN HAVE 10" TOP SLAB.
 3. FRAMES & COVERS/GRATES CAN BE SUBSTITUTED IF APPROVED BY ENGINEER, NOTE LOW PROFILE GRATES ARE REQUIRED (4" HEIGHT).
 4. ALL COMPONENTS SHALL BE RATED FOR H-20 LOADINGS EXCEPT FOR DRAINTECH PRODUCTS.
 5. DRAINTECH STRUCTURE SHALL BE THE "12" SQUARE 4-HOLE BASIN OR APPROVED EQUAL. ADJUST TO FINISH GRADE WITH DRAINTECH "12" SQUARE RISERS". PROVIDE "12" SQUARE GRATE" AS A STRUCTURE COVER. USE DRAINTECH "UNIVERSAL END PLUGS" TO CAP UNUSED PIPE OPENINGS IN BASIN. USE DRAINTECH LOCKING PIPE ADAPTORS TO CONNECT DRAIN PIPE TO BASIN. SUBMIT SHOP DRAWINGS TO ENGINEER FOR ALTERNATE PRODUCTS.

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 JUL - 1 2009 FILE # 09-010
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

W. Joseph Casey

TIMOTHY J. BEHAN
No. 6278
REGISTERED PROFESSIONAL ENGINEER



- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
 2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
 3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
 4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
 5. ONE FOUR MONOLITHIC BASE SECTION.
 6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
 7. CORBEL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE 4'-0" CATCH BASIN ONLY.
 8. FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
 9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
 10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
 11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
 12. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN
R.I. STANDARD 4.4.0

EXTENDED DETENTION POND

ELEV. FT.	STORAGE	DISCHARGE
116.4	10 cf	0.01 cfs
117.0	1,872 cf	0.03 cfs
117.5	3,866 cf	0.04 cfs
118.0	6,097 cf	0.09 cfs
118.5	8,473 cf	4.11 cfs
119.0	11,020 cf	8.41 cfs
119.5	13,527 cf	16.98 cfs

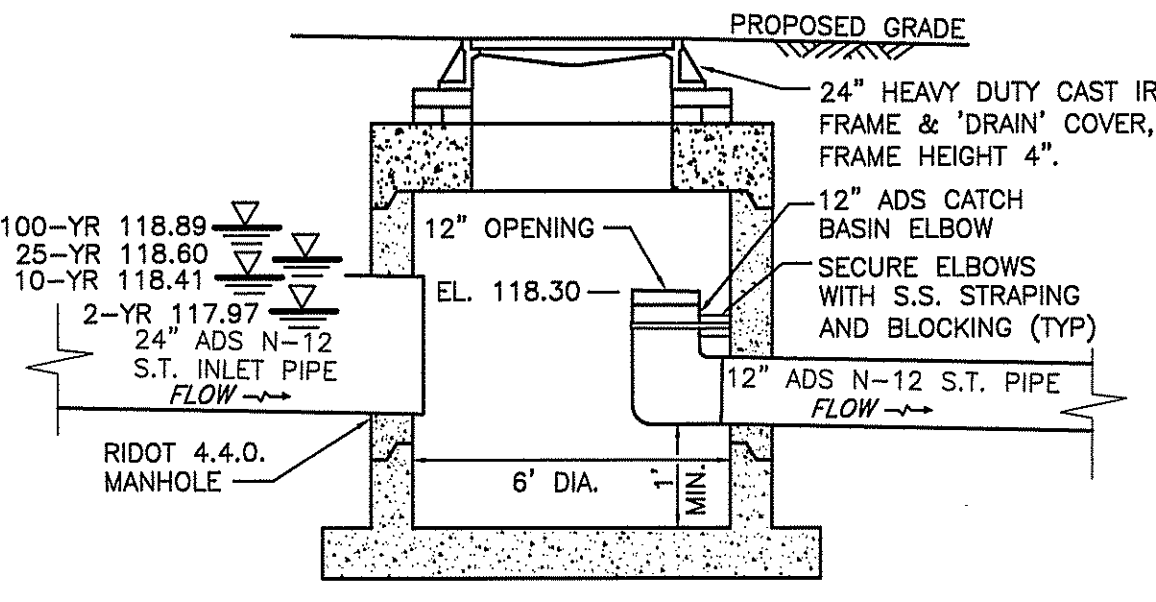
EMERGENCY SPILLWAY

STORM	DISCHARGE
2-YEAR	0.00 cfs
10-YEAR	0.00 cfs
25-YEAR	0.00 cfs
100-YEAR	0.34 cfs

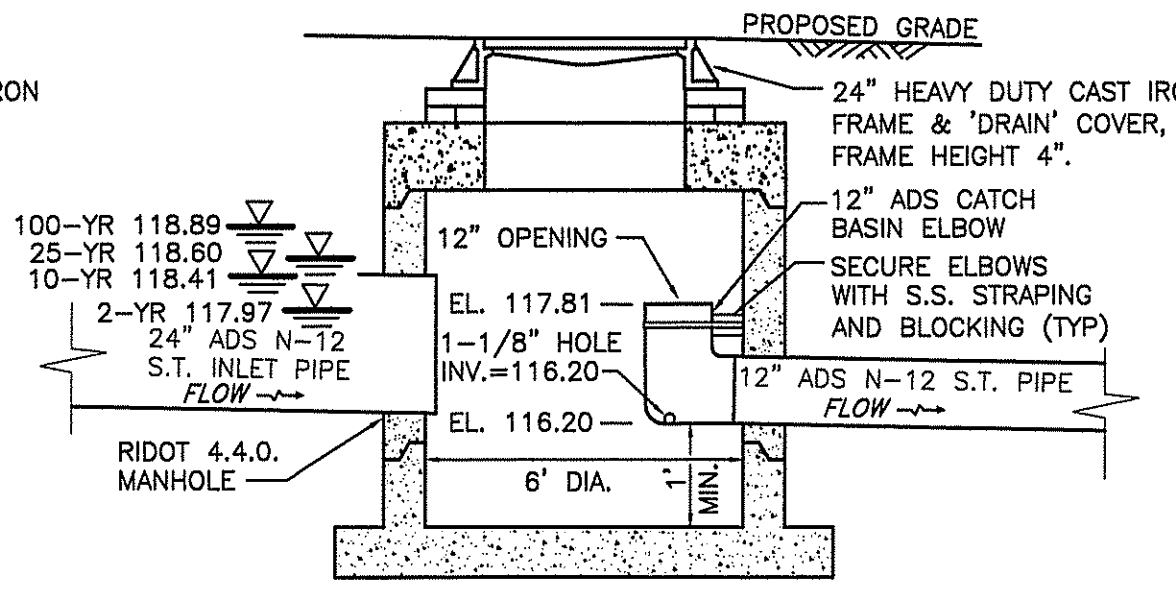
SHGW DETERMINATION IN PROPOSED BASIN:

EXTENDED DETENTION POND NO.	TEST HOLE NO'S	SHGW ELEV.	BASIN ELEV.	SEPARATION DISTANCE (FT)
1	B	115.1	116.4	1.3

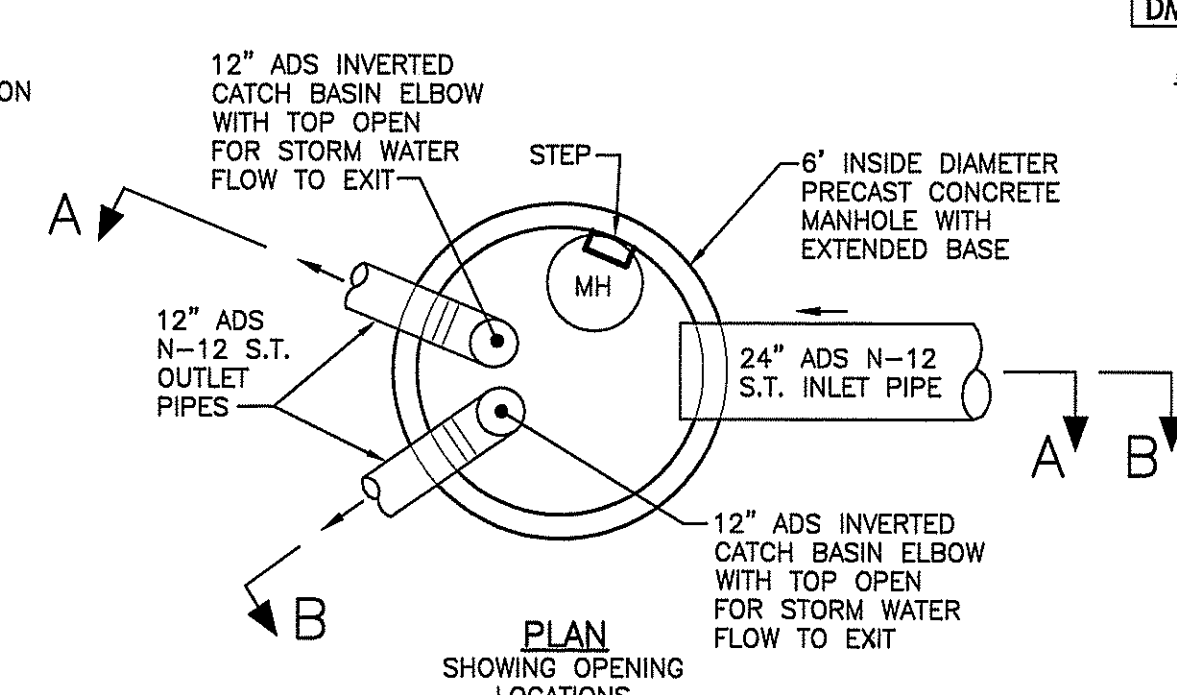
EXTENDED DETENTION POND SECTION
SCALE: 1" = 0.5' VERT.



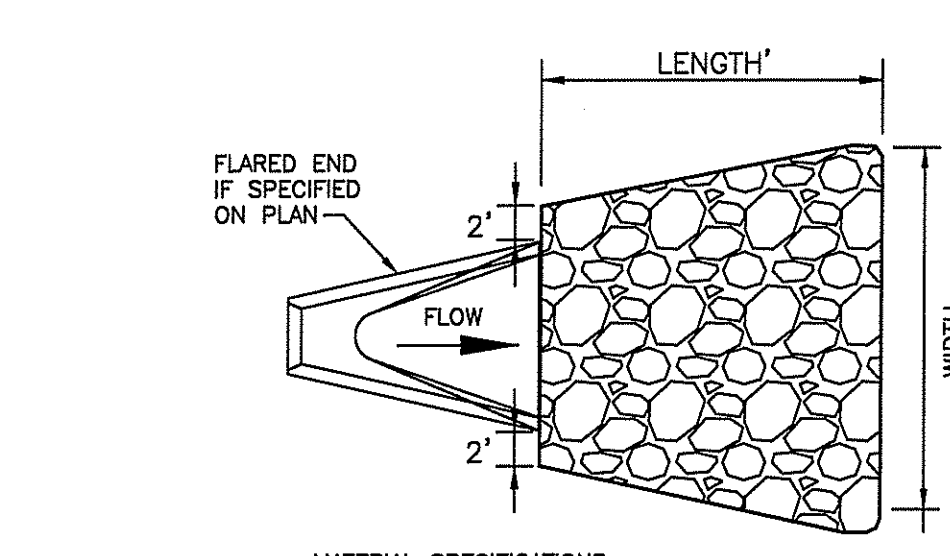
- NOTES:
1. REFER TO OTHER SHEETS FOR INVERT ELEVATIONS.
 2. SOME OTHER OUTLET PIPES NOT SHOWN.



- NOTES:
1. REFER TO OTHER SHEETS FOR INVERT ELEVATIONS.
 2. SOME OTHER OUTLET PIPES NOT SHOWN.



OUTLET CONTROL MANHOLE (DMH #1)
NOT TO SCALE

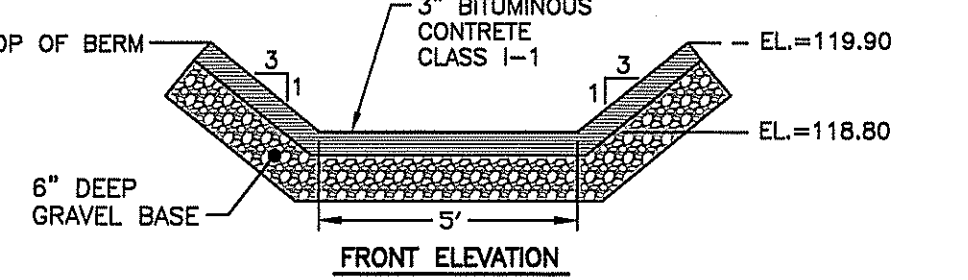
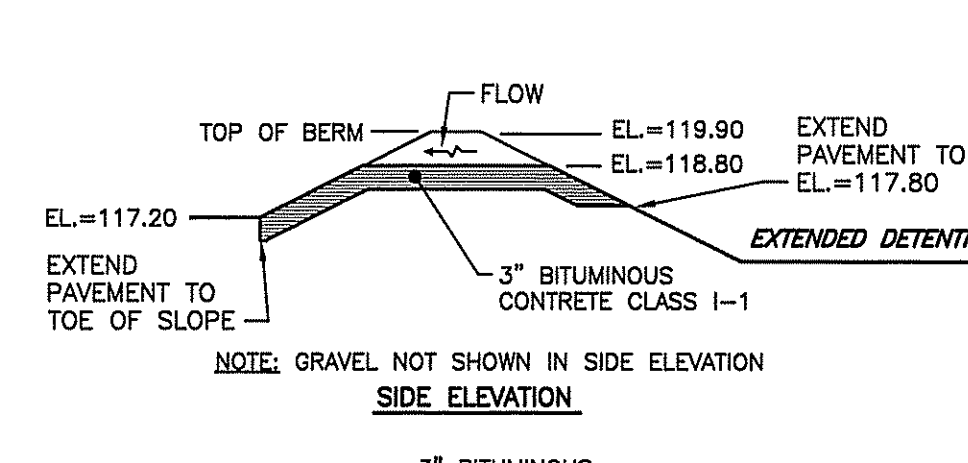
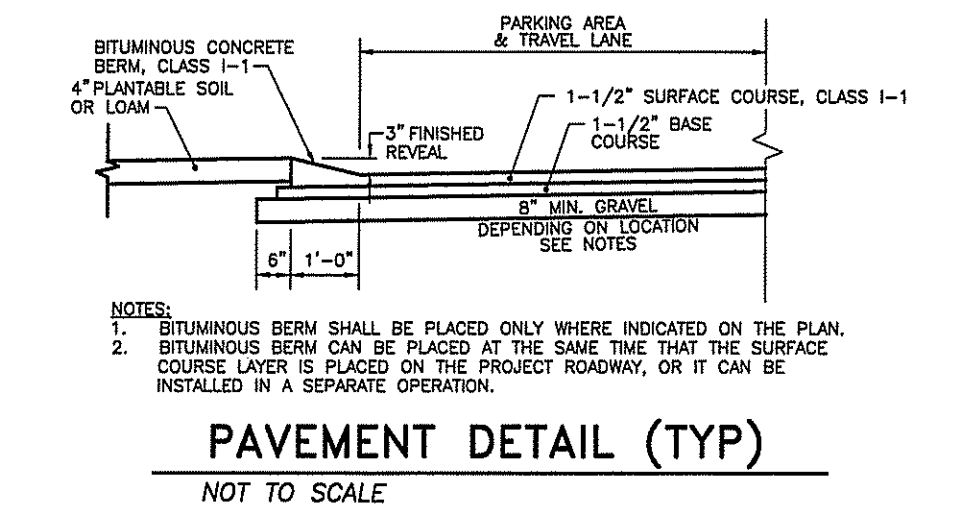


MATERIAL SPECIFICATIONS:

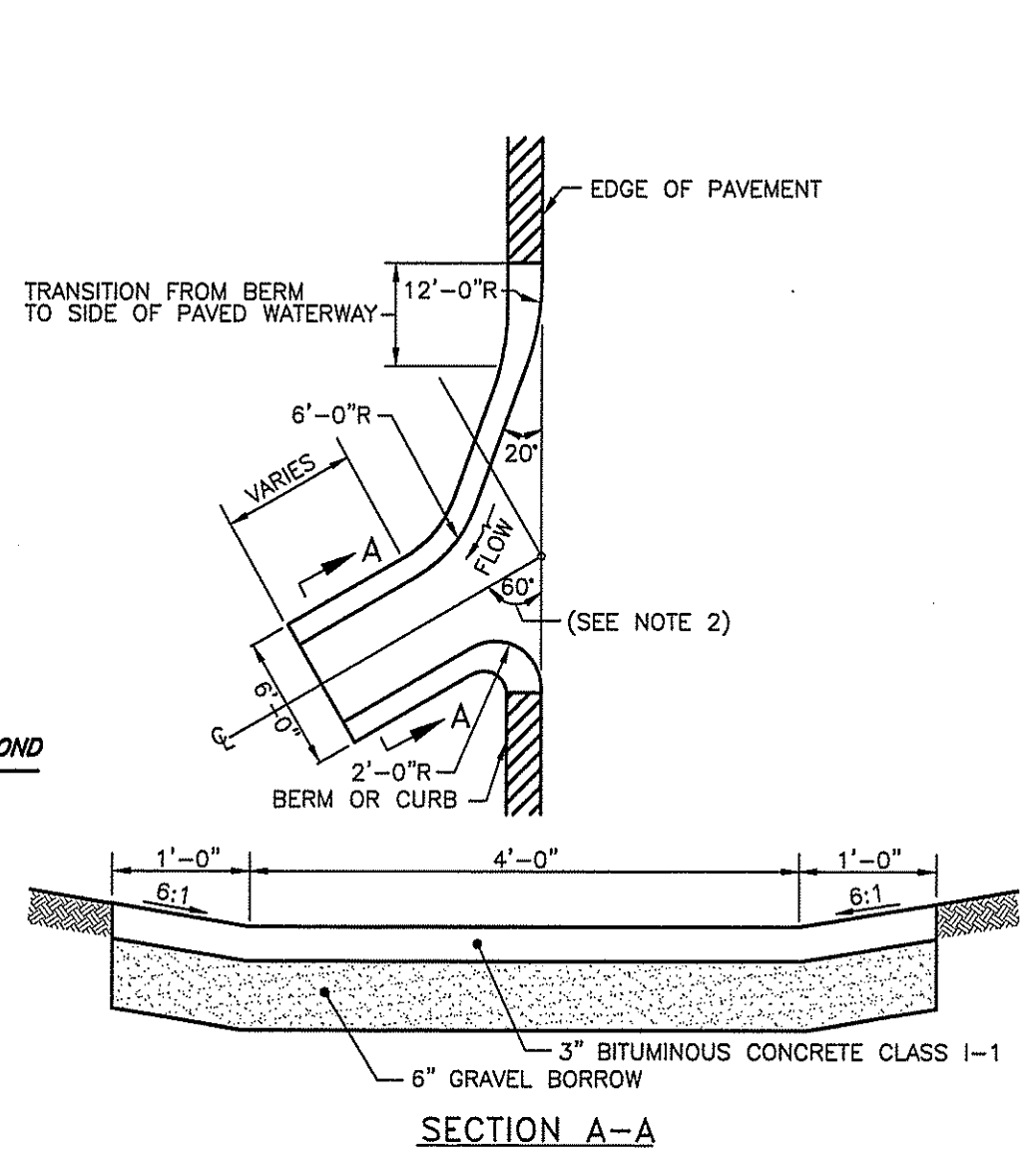
R-6 RIP RAP: 100% PASS - 26" 0-50% PASS - 13" 0-15% PASS - 8"	R-5 RIP RAP: 100% PASS - 20" 0-50% PASS - 10" 0-15% PASS - 6"
FS-3 FILTER STONE: 100% PASS - 6.5" 0-50% PASS - 2.5" 0-15% PASS - NO.4	R-4 RIP RAP: 100% PASS - 14" 0-50% PASS - 7" 0-15% PASS - 4"
FS-2 FILTER STONE: 100% PASS - 2" 0-50% PASS - NO.4 0-15% PASS - NO.16	R-3 RIP RAP: 100% PASS - 8" 0-50% PASS - 4" 0-15% PASS - 2"
FS-1 FILTER STONE: 100% PASS - 1/2" 0-50% PASS - NO.16 0-15% PASS - NO. 50	

LOCATION OF RIP RAP OUTLET	FILTER STONE DEPTH & SIZE	RIP RAP DEPTH & SIZE	LENGTH	WIDTH
Flared end sections from DMH 1	6" FS-2	15" R-5	15'	18"
Flared end into D-pond near entrance	6" FS-1	12" R-3	6'	6"
(3) Flared ends into D-pond	6" FS-1	12" R-3	6'	10"

OUTLET RIP RAP DETAIL
NOT TO SCALE

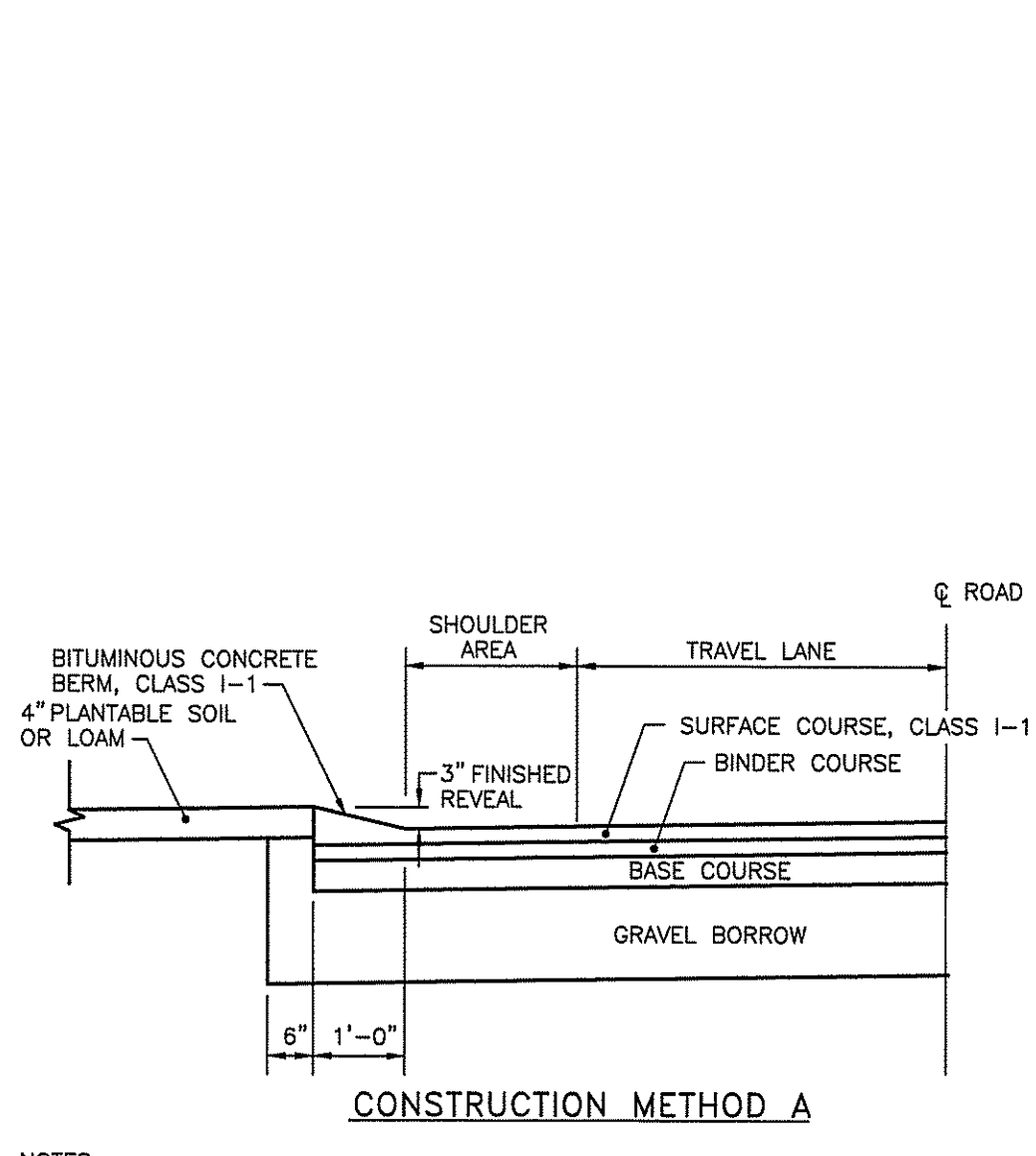


EXTENDED DETENTION POND EMERGENCY SPILLWAY DETAIL
NOT TO SCALE



- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 711 OF THE R.I. STANDARD SPECIFICATIONS.
 2. WHEN PAVED WATERWAY IS USED AT A LOW POINT THIS ANGLE SHALL BE 90°.

PAVED WATERWAY
R.I. STANDARD 8.4.0



- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
 2. BITUMINOUS BERM CAN BE PLACED AT THE SAME TIME THAT THE SURFACE COURSE LAYER IS PLACED ON THE PROJECT ROADWAY, OR IT CAN BE INSTALLED IN A SEPARATE OPERATION.

BITUMINOUS BERM
R.I. STANDARD 7.5.1

PRELIMINARY PLAN
DETAIL SHEET - 1
DUKE ST. CONDOMINIUMS
Being Assessors Plat No. 15 Lot Nos. 483 & 484
LOCATION
Duke Street
West Warwick, Rhode Island 02893
MTM INVESTMENT GROUP LP
2051 NOOSENECK HILL ROAD
Covenetry, Rhode Island 02816

Checked By: T.J.B. Date: OCT. 2008
Scale: AS SHOWN

NO.	REVISION	DATE
1	CONTRACT BOARD COMPLETION	10/20/08
2	PERMITS	10/20/08
3	PERMITS	10/20/08
4	PERMITS	10/20/08

TJB ENGINEERING, LLC
CIVIL ENGINEERING
PERMITTING * LAND PLANNING
SUBDIVISIONS * WASTEWATER
1050 MAIN STREET SUITE 30
EAST GREENWICH, RI 02818
PHONE: 401-996-1677

BOYER ASSOCIATES
ESTABLISHED SINCE 1989
1200 MAIN STREET
WEST WARWICK, RI 02893
TEL: (401)821-8872 FAX (401)826-1993

Sheet **6**
of 8 sheets

WATER SYSTEM NOTES:

- CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL KENT COUNTY WATER AUTHORITY (KCWA) RULES, REGULATIONS, AND INSTALLATION REQUIREMENTS. CONSTRUCTION MATERIALS AND METHODS FOR WATER MAINS AND SERVICE CONNECTIONS HAVE BEEN STANDARDIZED BY KCWA. THE CONTRACTOR SHALL ONLY USE KCWA APPROVED MATERIALS AND METHODS.
- PIPELINE MAINS: ALL DUCTILE-IRON PIPE AND APPURTENANCES SHALL BE FROM A SINGLE MANUFACTURER SOURCE. FOREIGN PIPE FITTINGS AND GASKETS ARE STRICTLY FORBIDDEN. DUCTILE IRON PIPE SHALL CONFORM TO ANSI/AWWA C151/A21.51, ANSI/AWWA C150/A21.50 CLASS 52 DOUBLE CEMENT MORTAR LINED. GASKETS SHALL CONFORM TO ANSI/AWWA C111/A21.1. ALL PIPES SHALL HAVE A BITUMINOUS OUTSIDE COATING IN ACCORDANCE WITH ANSI/AWWA C151/A21.51 AND ANSI/AWWA C153/A21.53 RESPECTIVELY. ALL PIPES SHALL BE CEMENT-MORTAR LINED AND SEAL COATED IN ACCORDANCE WITH ANSI/AWWA C104/A21.14 EXCEPT THE LINING THICKNESS SHALL BE TWICE THAT SPECIFIED JOINTS FOR PIPE SHALL BE PUSH-ON (TYTON STYLE ONLY) OR MECHANICAL JOINT CONFORMING TO ANSI/AWWA C111. ALL MECHANICAL JOINT PIPES SHALL BE SUPPLIED WITH ACCESSORIES, RESTRAINED JOINTS SHALL BE SUITABLE FOR 150 PSI WORKING PRESSURE AND FABRICATED OF HEAVY SECTION DUCTILE IRON CASTING. GASKETS SHALL MEET THE MATERIAL REQUIREMENTS OF ANSI/AWWA AND MADE IN THE USA.

TYPE: DUCTILE IRON MEETING ANSI/AWWA C151/A21.51
 CLASS: ANSI/AWWA C150/A21.50
 SPECIAL THICKNESS CLASS 52
 LINING: DOUBLE CEMENT MORTAR MEETING ANSI/AWWA C151/A21.51
 END JOINTS: MECHANICAL JOINT MEETING ANSI/AWWA C111/A21.11
 MECHANICAL JOINT: MEETING ANSI/AWWA C111/A21.11
 COATING EXTERIOR: ANSI/AWWA C104/A21.14
 COATING INTERIOR: ALL REQUIREMENTS OF EPA FOR POTABLE WATER
 GASKET: RUBBER MEETING ANSI/AWWA C111/A21.11. NITRILE (IN CONTAMINATED SOIL).

- DUCTILE IRON FITTINGS SHALL CONFORM TO ANSI/AWWA C153/A21.53. FOREIGN FITTINGS, GASKET GLANDS AND ACCESSORIES ARE STRICTLY FORBIDDEN. ALL FITTINGS SHALL HAVE A BITUMINOUS OUTSIDE COATING IN ACCORDANCE WITH ANSI/AWWA C151/A21.51 AND ANSI/AWWA C153/A21.53 RESPECTIVELY. ALL FITTINGS SHALL BE CEMENT-MORTAR LINED AND SEAL COATED IN ACCORDANCE WITH ANSI/AWWA C104/A21.14 EXCEPT THE LINING THICKNESS SHALL BE TWICE THAT SPECIFIED. JOINTS FOR FITTINGS SHALL BE MECHANICAL JOINT CONFORMING TO ANSI/AWWA C111. ALL MECHANICAL JOINT FITTINGS SHALL BE SUPPLIED WITH GLANDS AND ACCESSORIES.

TYPE: 4 INCH TO 12 INCH DUCTILE IRON COMPACT MEETING ANSI/AWWA C153/A21.53. 16 INCH AND LARGER DUCTILE IRON MEETING ANSI/AWWA C153/A21.53 OR ANSI/AWWA C110/A21.10.
 PRESSURE CLASS: PIPE FITTINGS SHALL HAVE A PRESSURE RATING OF 350 FOR 24-INCH AND SMALLER AND 250 PSI FOR 30-INCH AND LARGER. FITTINGS SHALL AT A MINIMUM HAVE THE SAME PRESSURE RATING AS THE CONNECTING PIPE.
 GASKETS: RUBBER MEETING ANSI/AWWA C111/A21.11. NITRILE (IN CONTAMINATED SOIL).

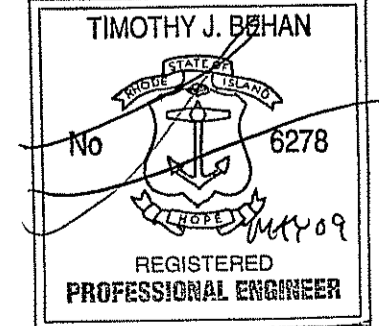
- MAIN LINE VALVES SHALL BE CAST IRON OR DUCTILE IRON 250-PSI WORKING PRESSURE. OPERATING STEM SHALL BE PROVIDED WITH A MINIMUM OF TWO (2) O-RING STEM SEALS. BONNET AND GLAND BOLTS/WASHERS SHALL BE STAINLESS STEEL. WEDGES SHALL BE FULLY ENCAPSULATED. THE INTERIOR AND EXTERIOR SURFACES OF ALL CAST IRON OR DUCTILE IRON COMPONENTS SHALL BE FUSION BOND EPOXY COATED, 8 MILS MINIMUM THICKNESS. EPOXY COATING MUST BE UN Damaged WITH NO CHIPS OR ABRASIONS. FIELD TOUCH-UP OF INTERIOR COATING IS NOT ALLOWED. FIELD TOUCH-UP OF EXTERIOR SURFACES SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOATING SPECIFICATIONS ONLY. CONTRACTORS SHALL USE SPECIAL HANDLING AND INSTALLATION PRECAUTIONS WITH THE USE OF EPOXY COATED VALVES AS NECESSARY TO ENSURE THAT NO COATING SYSTEM DAMAGE OCCURS. AT A MINIMUM FIBER SLINGS OR BELTS SHALL BE USED FOR ALL HANDLING. ALL EPOXY-COATED VALVES SHALL BE PALLETIZED AND PROPERLY SHRINK-WRAPPED UPON DELIVERY TO ASSURE COATING SYSTEM INTEGRITY IS NOT COMPROMISED. ALL EPOXY VALVES FOUND MISHANDLED AT DELIVERY OR DURING INSTALLATION SHALL BE REJECTED AND REMOVED FROM THE JOB SITE. ALL VALVES SHALL BE MANUFACTURED TO MEET OR EXCEED AWWA C509 AND ISO 9000 ALONG WITH THE DESIGN AND OPERATING CHARACTERISTICS OF THE FOLLOWING DEVICES:

RESILIENT SEAT GATE 4 INCH TO 12 INCH:
 TYPE: BURIED SERVICE NON-RISING STEM. ABOVE GRADE SERVICE OR PITS OS & Y WITH HAND WHEEL OR NON-RISING STEM WITH HAND WHEEL.
 WORKING PRESSURE: 250 PSI.
 OPENING: LEFT OR RIGHT DEPENDING ON SYSTEM LOCATION.
 STEM: 420 STAINLESS STEEL OR EQUAL WITH MINIMUM 60,000 PSI YIELD STRENGTH.
 FASTENERS: STAINLESS STEEL, TYPE 304 FOR ALL OF THE VALVE. INTERNAL & EXTERIOR TO BE COATED WITH FUSE BONDED HOLIDAY FREE EPOXY COATING MINIMUM 8 MILS NOMINAL THICKNESS MEETING OR EXCEEDING AWWA C550.
 COATINGS: FULLY RUBBER ENCAPSULATED CAST IRON, DUCTILE IRON OR BRONZE GATE MEETING AWWA C509.
 WEDGES: 2 INCH SQUARE OPERATING NUT WITH HEXAGON STAINLESS STEEL BOLT FASTENER.
 OPERATING NUT: MINIMUM TWO O-RING SEALS.
 STEM SEAL: MECHANICAL JOINT.
 CONNECTION: MECHANICAL JOINT.

- NOT USED
- VALVE ROAD BOXES ALL VALVES (EXCEPT SWING-CHECK) SHALL BE EQUIPPED WITH A CAST IRON "BUFFALO" TYPE, ADJUSTABLE (SLIDING) VALVE ROAD BOX. THE UPPER PORTION SHALL BE 26 INCH LONG AND THE BOTTOM SECTION 48 INCH (MIN). COVERS SHALL BE 5-1/4" IN DIAMETER SOLID RING SEAT WITH THE WORD "WATER" (IN CAPS) CAST UPON IT.
 THE UPPER PORTION OF THE BOX SHALL BE MANUFACTURED WITH A HEAVY FLANGE HAVING SUFFICIENT BEARING AREA TO PREVENT SETTLEMENT. THE LOWER SECTION SHALL BE CONFIGURED TO ENCLOSE THE VALVE STUFFING BOX WITH AN INSIDE DIAMETER OF AT LEAST 4-1/4 INCH. THE INSTALLED BOX SHALL BE CAPABLE OF VERTICAL ADJUSTMENT OF A MINIMUM OF 6 INCH WHILE MAINTAINING AN OVERLAP OF A LEAST 4 INCH BETWEEN SECTIONS.

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 JUL - 1 2009 FILE # 09-010
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE.



W. Joseph Carey

APPROVED FOR CONSTRUCTION

DATE: 10.07.02

BY: AWM DATE: 01.31.03

REVISIONS

NO. BY DATE

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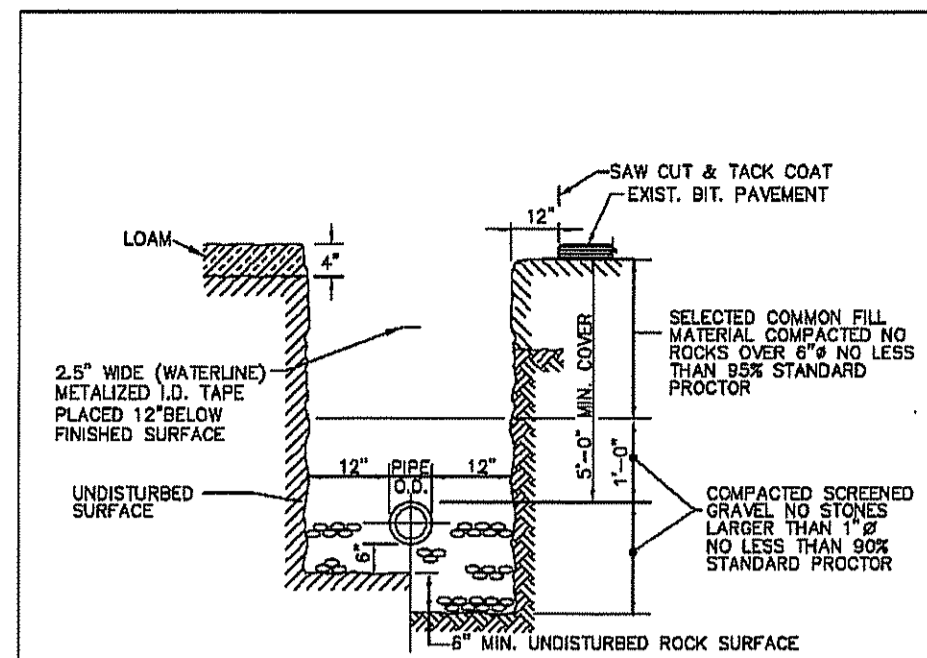
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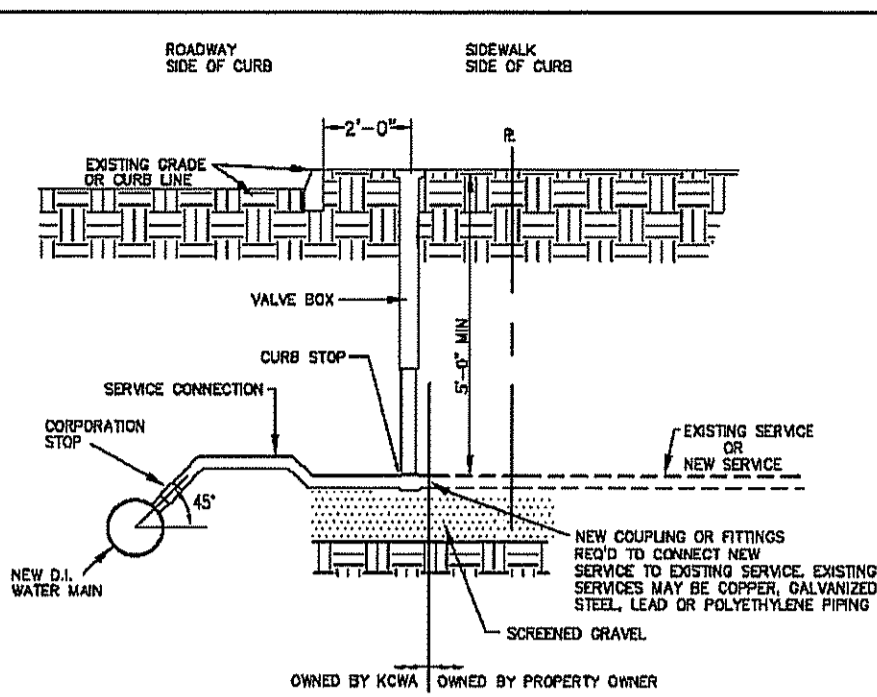
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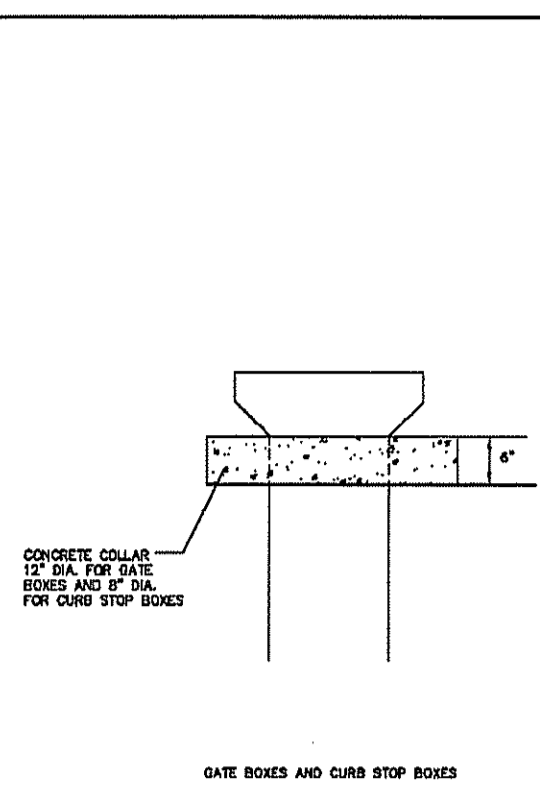
NOTES:
1. ROADWAY RESTORATION IN ACCORDANCE WITH COMMUNITY DR. RIGHT.

KCWA KENT COUNTY WATER AUTHORITY
TRENCH INSTALLATION IN ROCK AND SOIL
"proudly serving" NOT TO SCALE DATE: 09/2006

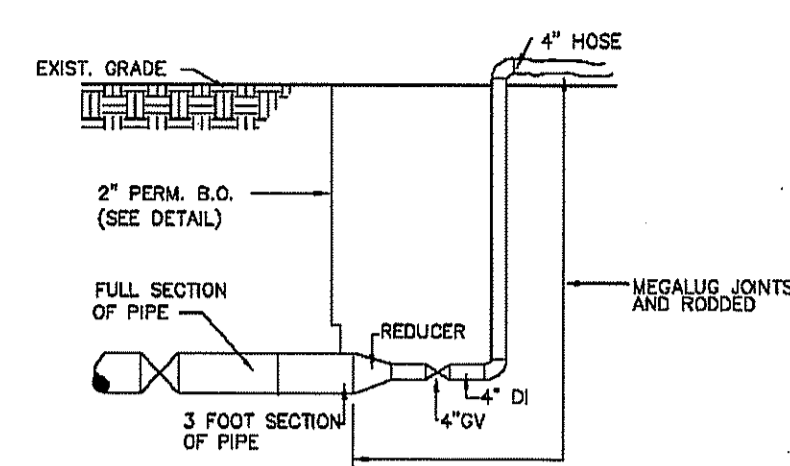


NOTE:
1) SERVICE MATERIALS PER KCWA SPECIFICATION UNLESS CITY OR TOWN CODES REQUIRE SPECIFIC MATERIALS THAT HAVE BEEN APPROVED BY KCWA.
2) SERVICE LINE FROM CURB BOX TO BUILDING SHALL BE INSPECTED, TESTED AND APPROVED BY THE LOCAL PLUMBING INSPECTOR.

KCWA KENT COUNTY WATER AUTHORITY
SERVICE CONNECTION
"proudly serving" NOT TO SCALE DATE: 09/2006

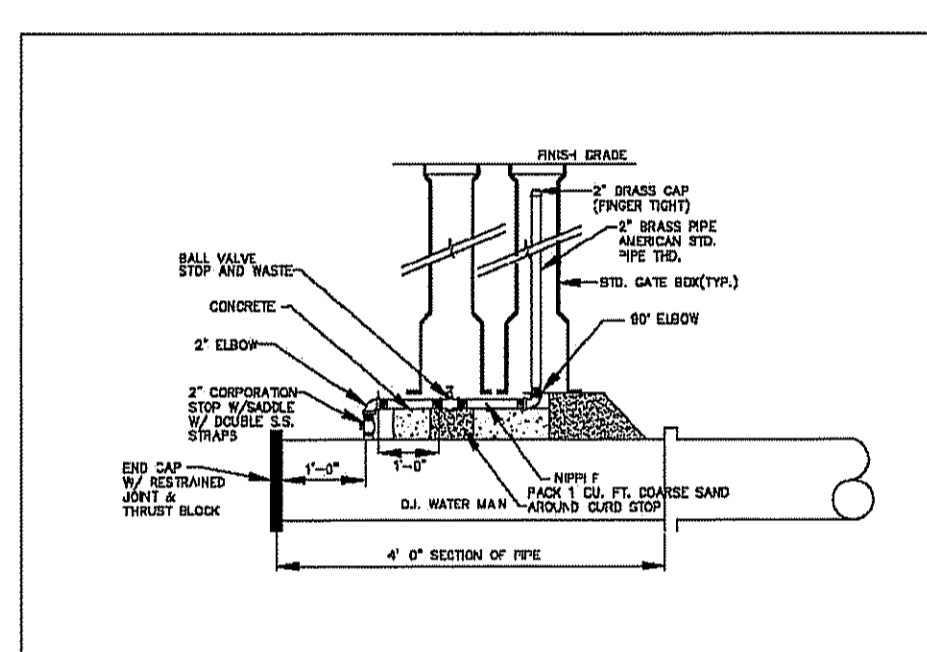


KCWA KENT COUNTY WATER AUTHORITY
CONCRETE COLLAR
"proudly serving" NOT TO SCALE DATE: 09/2006

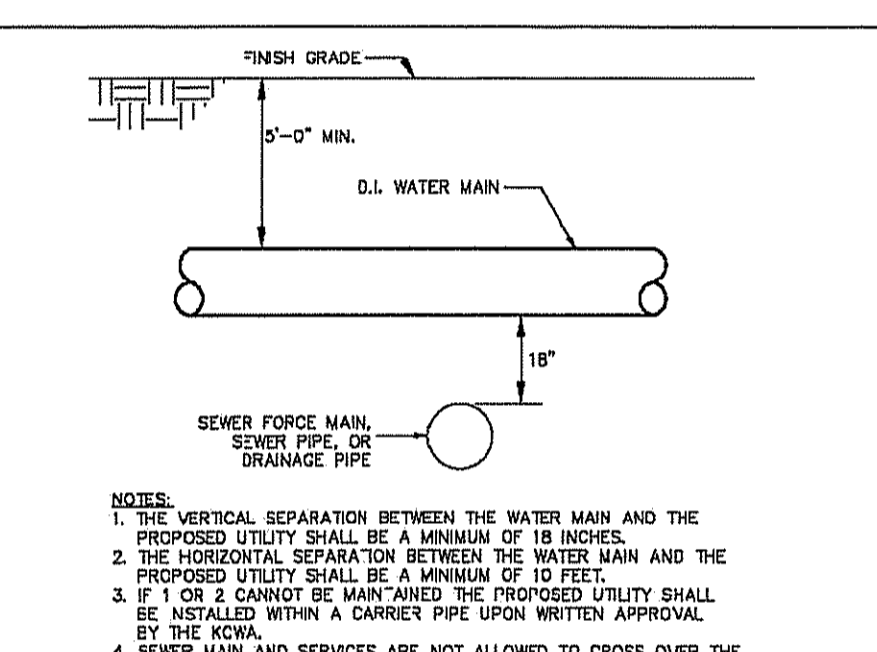


AFTER THE COMPLETION OF THE FINAL FLUSHING THE CONTRACTOR SHALL REMOVE THE TEMPORARY FLUSHING CONNECTION AND INSTALL A CAP WITH METALLOGS AND A THRUST BLOCK.

KCWA KENT COUNTY WATER AUTHORITY
TEMPORARY FLUSHING CONNECTION ON DEAD END WATER MAIN
"proudly serving" NOT TO SCALE DATE: 09/2006

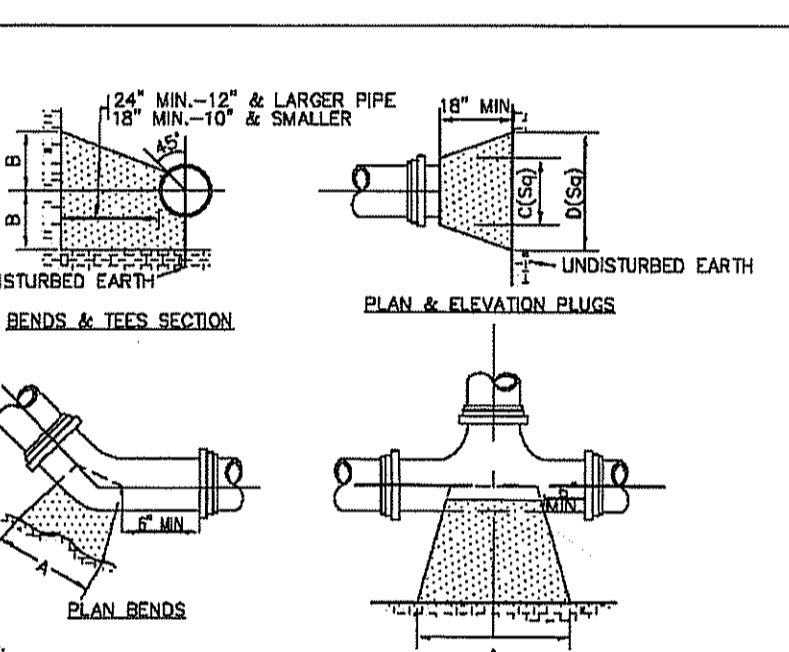


KCWA KENT COUNTY WATER AUTHORITY
PERMANENT BLOWOFF ASSEMBLY
"proudly serving" NOT TO SCALE DATE: 09/2006



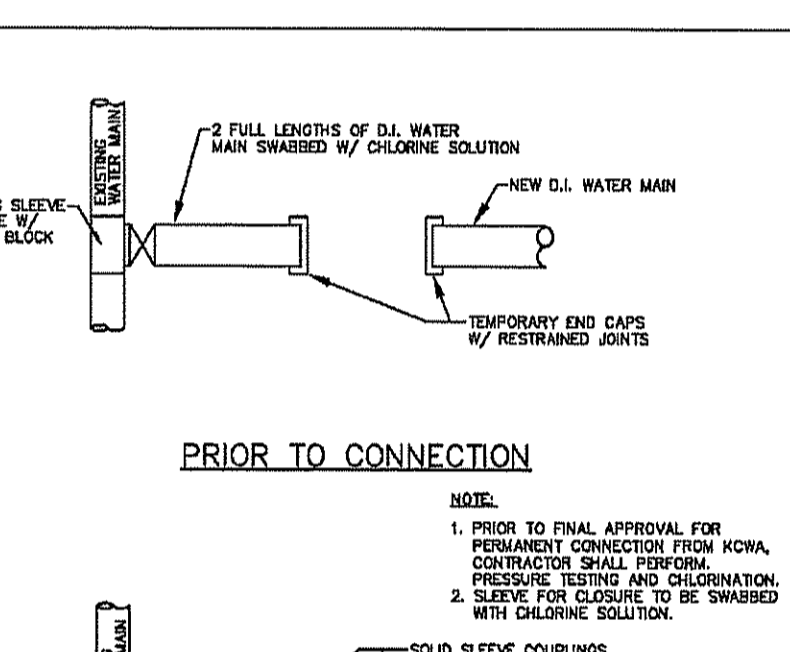
NOTES:
1. THE VERTICAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 18 INCHES.
2. THE HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 10 FEET.
3. IF 1' OR 2' CANNOT BE MAINTAINED THE PROPOSED UTILITY SHALL BE INSTALLED WITHIN A CARRIER PIPE UPON WRITTEN APPROVAL BY THE KCWA.
4. SEWER MAIN AND SERVICES ARE NOT ALLOWED TO CROSS OVER THE TOP OF WATER MAIN.
5. CONCRETE ENCASUREMENT IS NOT ALLOWED.

KCWA KENT COUNTY WATER AUTHORITY
UTILITY SEPARATION
"proudly serving" NOT TO SCALE DATE: 09/2006



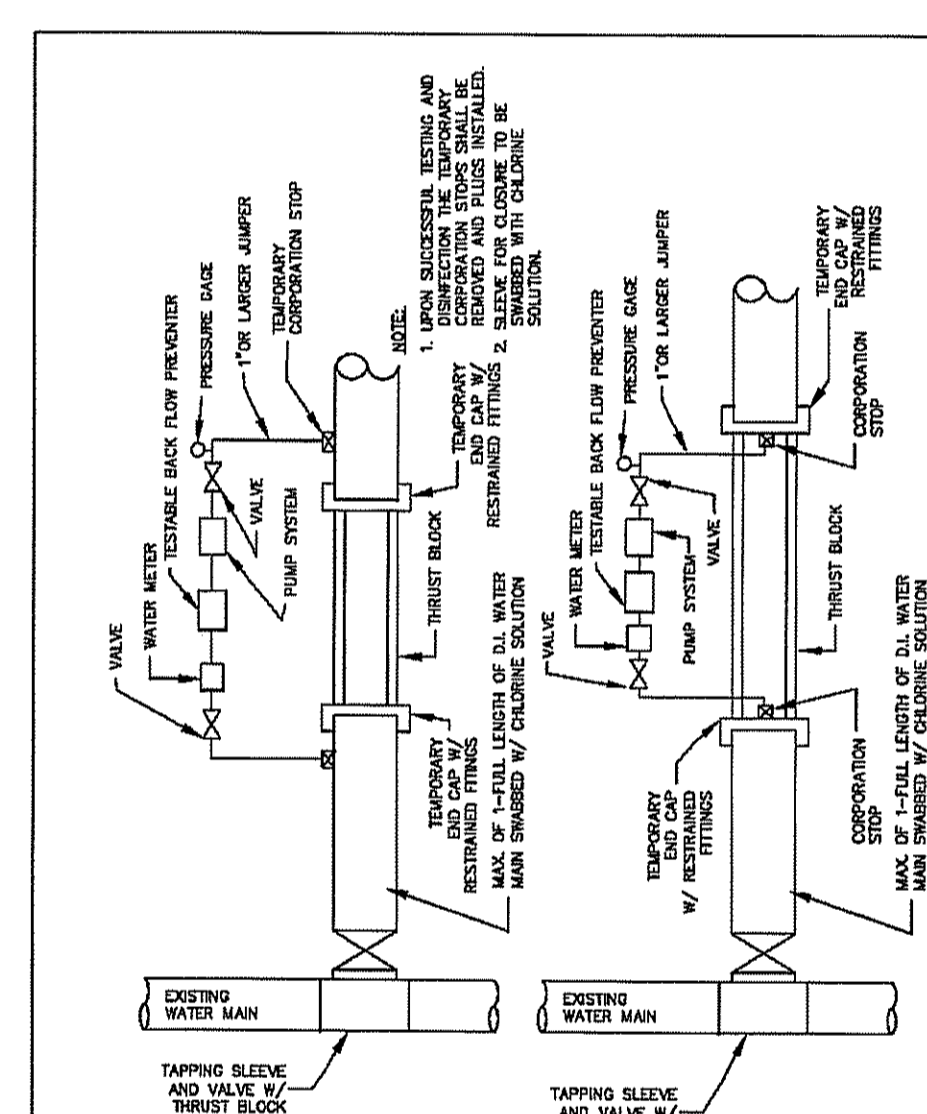
NOTES:
1) ALL CONCRETE SHALL BE 4000 P.S.I @ 28 DAYS.
2) CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.
3) FORMS TO BE USED AS NECESSARY.
4) ALL BOLTS AND NUTS TO BE PROTECTED FROM CONCRETE AND EASILY ACCESSIBLE WHEN THRUST BLOCK INSTALLED.
5) REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF R.I. SHALL VERIFY ALL CALCULATIONS DURING DESIGN TO MEET CONDITIONS OF PROJECT AND KCWA REQUIREMENTS.

KCWA KENT COUNTY WATER AUTHORITY
THRUST BLOCK
"proudly serving" NOT TO SCALE DATE: 09/2006



NOTE:
1. PRIOR TO FINAL APPROVAL FOR PERMANENT CONNECTION FROM KCWA, CONTRACTOR SHALL PERFORM PRESSURE TESTING AND CHLORINATION.
2. SLEEVES FOR CLOSURE TO BE SWABBED WITH CHLORINE SOLUTION.

KCWA KENT COUNTY WATER AUTHORITY
CONNECTION OF NEW WATER MAIN TO EXISTING WATER MAIN
"proudly serving" NOT TO SCALE DATE: 09/2006



KCWA KENT COUNTY WATER AUTHORITY
TEMPORARY CONNECTION FOR PRESSURE TESTING AND DISINFECTION
"proudly serving" NOT TO SCALE DATE: 09/2006

PRELIMINARY PLAN

Being Assessors Plat No. 15 Lot Nos. 483 & 484
DETAIL SHEET - 3
DUKE ST. CONDOMINIUMS
LOCATION
Duke Street
West Warwick, Rhode Island 02893
PREPARED FOR
MTM INVESTMENT GROUP LP
2091 NOOSENECK HILL ROAD
Coventry, Rhode Island 02816

Checked By: T.J.B. Date: OCT. 2008
Scale: AS SHOWN

NO.	REVISION	DATE
1	ISSUE FOR SUBMISSION	10/1/08
2	REVISED COMMENTS	10/1/08
3	PRELIMINARY PLAN SUBMISSION	10/1/08
4	FINAL PLAN SUBMISSION	10/1/08
5	FINAL PLAN SUBMISSION	10/1/08

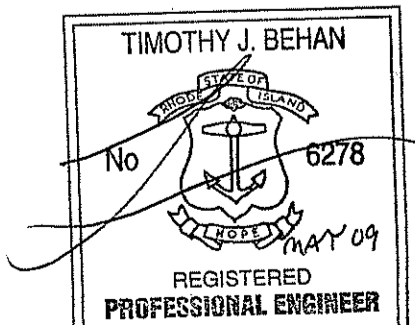
TJB ENGINEERING, LLC
CIVIL ENGINEERING
PERMITTING * LAND PLANNING
SUBDIVISIONS * WASTEWATER
1050 MAIN STREET SUITE 30
EAST GREENWICH, RI 02818
PHONE: 401-996-1677

BOYER ASSOCIATES
ESTABLISHED SINCE 1983
1200 MAIN STREET
WEST WARWICK, RI 02893
TEL. (401)821-8872 FAX (401)826-1993

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

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W. Joseph Casey



Sheet 8 of 8 sheets