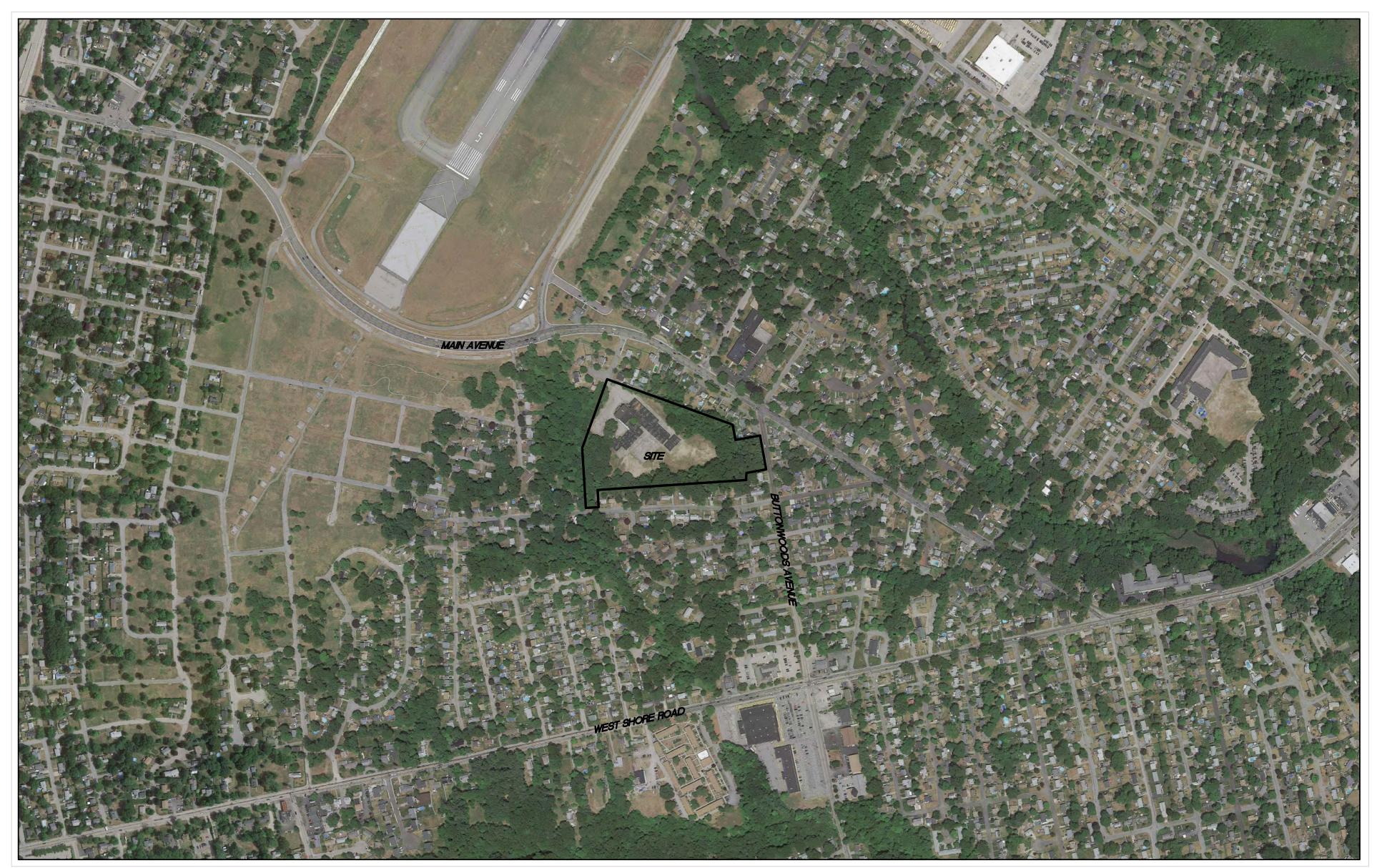
PRELIMINARY PLAN 40 WICKES WAY

ASSESSOR'S PLAT 347, LOT 476 50 CHILD LANE WARWICK, RHODE ISLAND

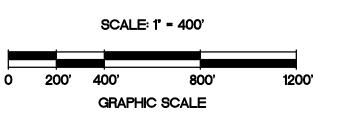


AERIAL PHOTOGRAPH

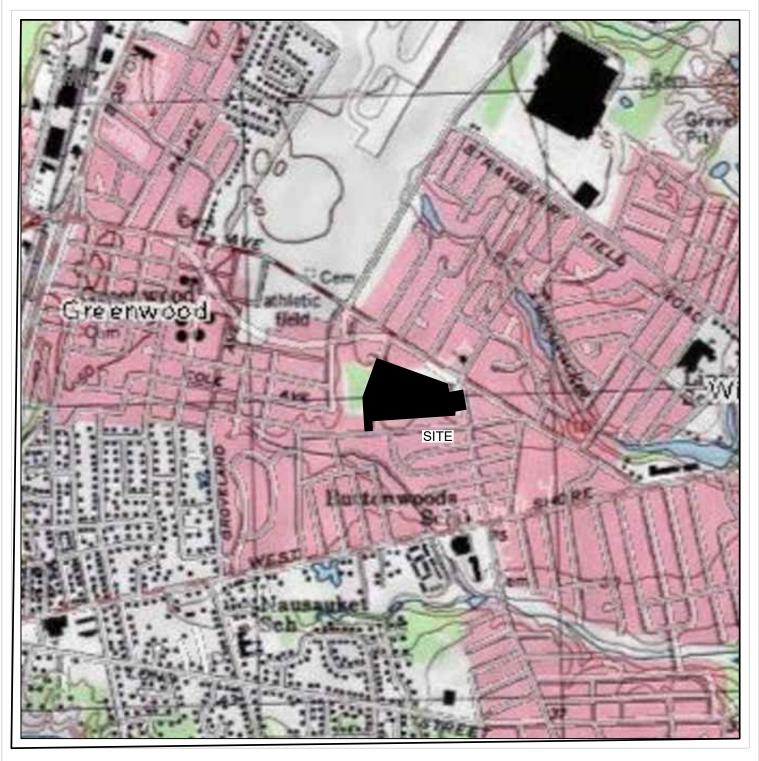
REFERENCES: 1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE PRO IMAGE DATE: JUNE 2022

PREPARED FOR:
40 WICKES WAY, LLC

JULY 2023



NO.	DATE	REVISION
1	9/5/23	RIDEM COMMENTS
2	10/24/23	RIDEM COMMENTS
3	11/10/23	RIDEM COMMENTS
4	12/27/23	SEWER TIE-IN
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VICINITY MAP

NOT TO SCALE

TABLE OF CONTENTS:

<u>SHEET</u>	DESCRIPTIONS	<u>REVISED</u>
1	COVER SHEET	12/27/23
2	EXISTING CONDITIONS / SITE PREPARATION PLAN	10/24/23
3	SUBDIVISION PLAN	12/27/23
4	SITE LAYOUT & UTILITY PLAN	12/27/23
5	SITE GRADING & DRAINAGE PLAN	9/5/23
6	PLAN & PROFILE PLAN - ROAD A	
7	PLAN & PROFILE PLAN - ROAD B	12/27/23
8	NOTES & DETAILS	11/10/23
9	DETAILS - 1	12/27/23
10	DETAILS - 2	10/24/23

PREPARED BY:



250 Centerville Road, 790 Aquidneck Avenue, Building E-12 Rear Entrance
Warwick, Rhode Island 02886 Middletown, Rhode Island 02

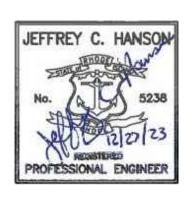
Rear Entrance Middletown, Rhode Island 02842 p. (401) 921-3344 f. (401) 921-3303 www.MillstoneEng.com

OWNER:

40 WICKES WAY, LLC 144 METRO CENTER BLVD., UNIT F WARWICK, RI 02886

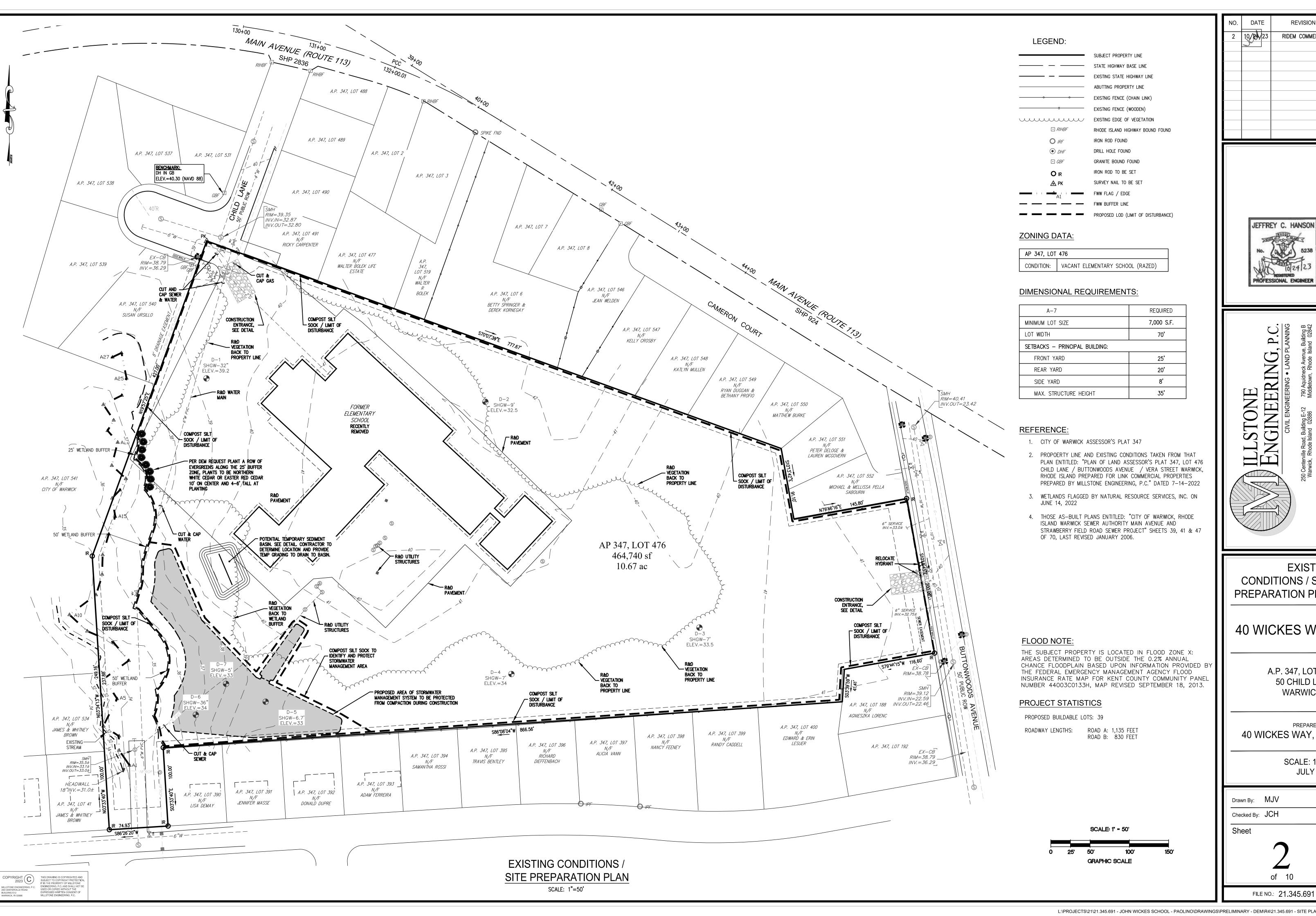
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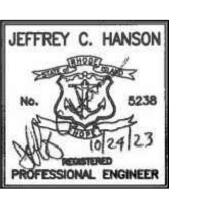
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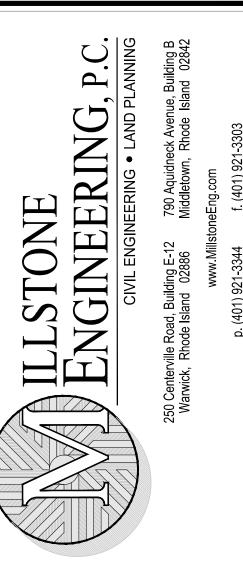


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Checked By: JCH
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of 10
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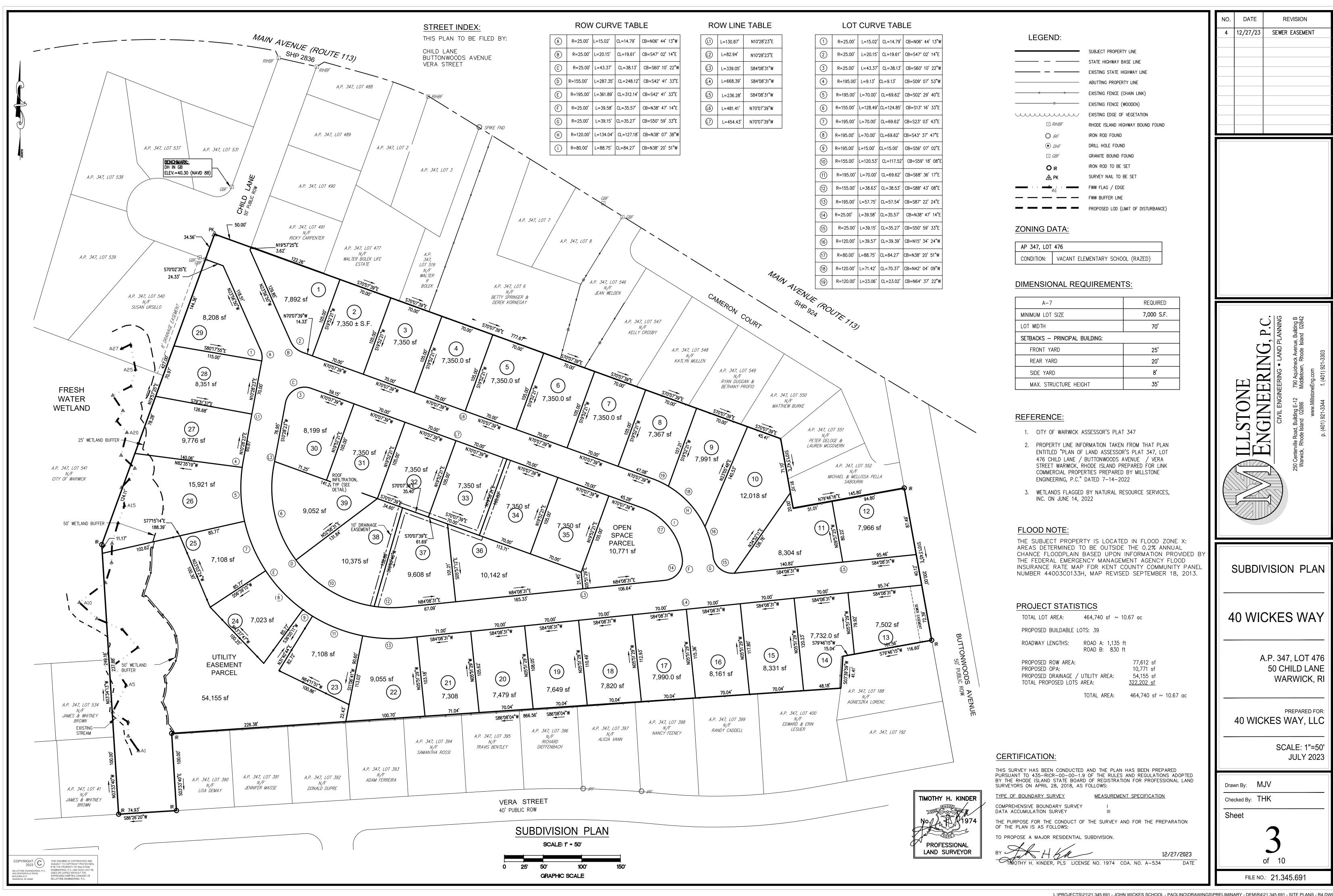
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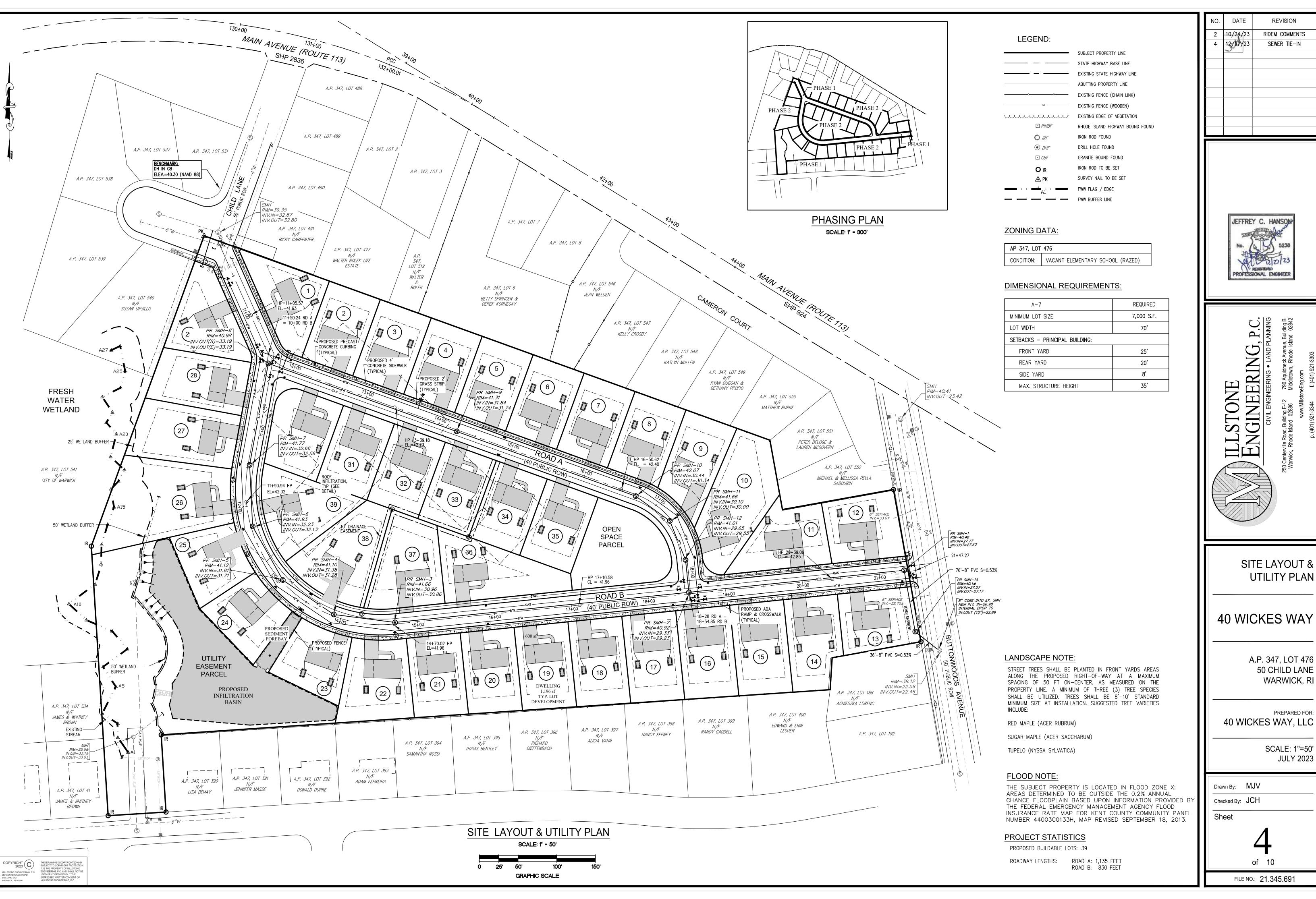
40 WICKES WAY

A.P. 347, LOT 476 50 CHILD LANE WARWICK, RI

PREPARED FOR: 40 WICKES WAY, LLC

> SCALE: 1"=50' JULY 2023





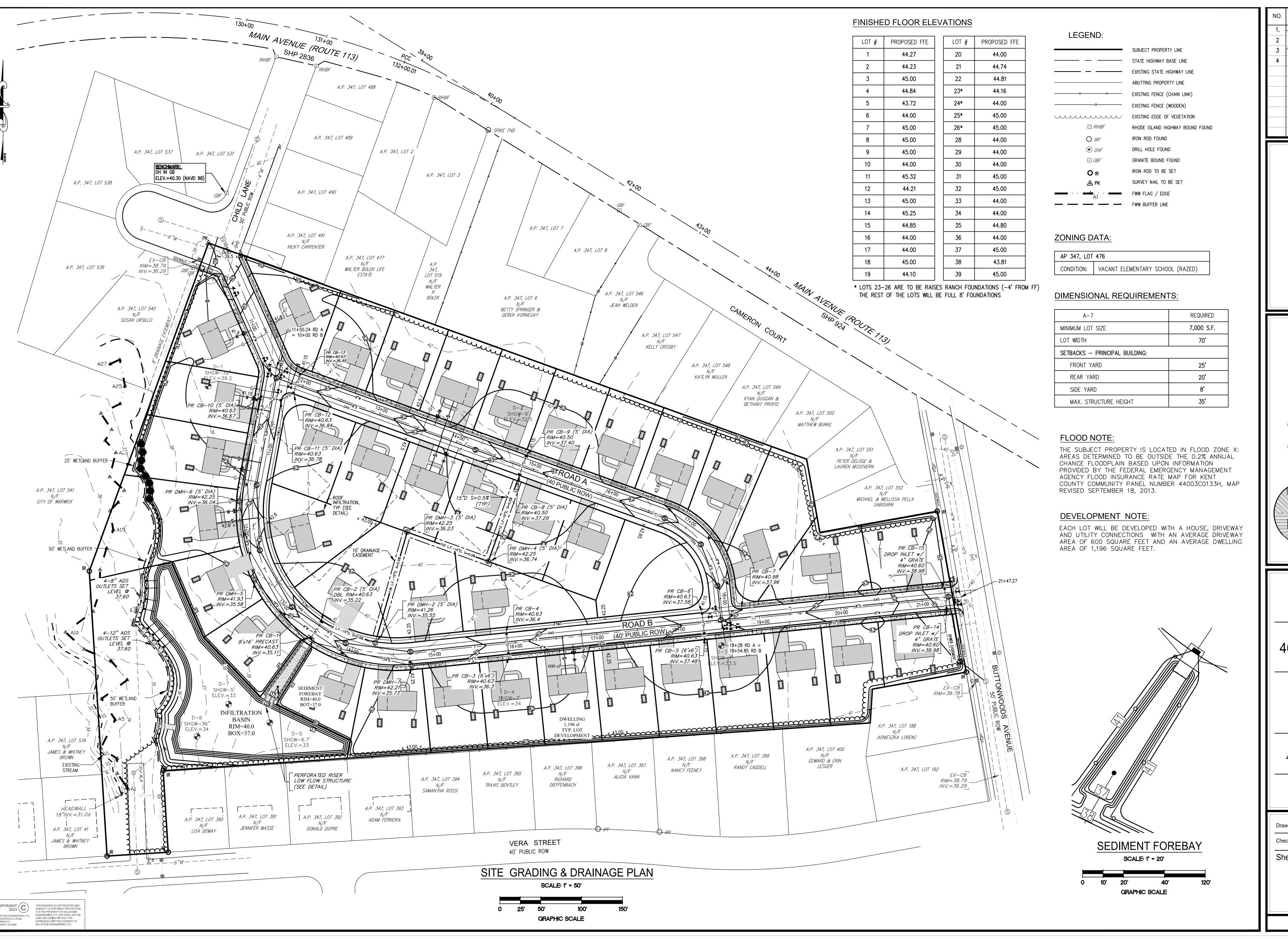
RIDEM COMMENTS SEWER TIE-IN



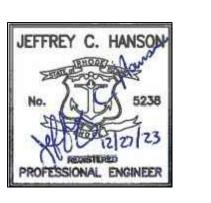
A.P. 347, LOT 476 50 CHILD LANE WARWICK, RI

40 WICKES WAY, LLC

SCALE: 1"=50' JULY 2023



1. Q/5/2023 RIDEM REVIEW COMMENTS
2 RIDEM COMMENTS
3 TI/TU/23 RIDEM COMMENTS
4 12/17/23 SEWER EASEMENT



SITE GRADING &

DRAINAGE PLAN

40 WICKES WAY

A.P. 347, LOT 476 50 CHILD LANE WARWICK, RI

PREPARED FOR: 40 WICKES WAY, LLC

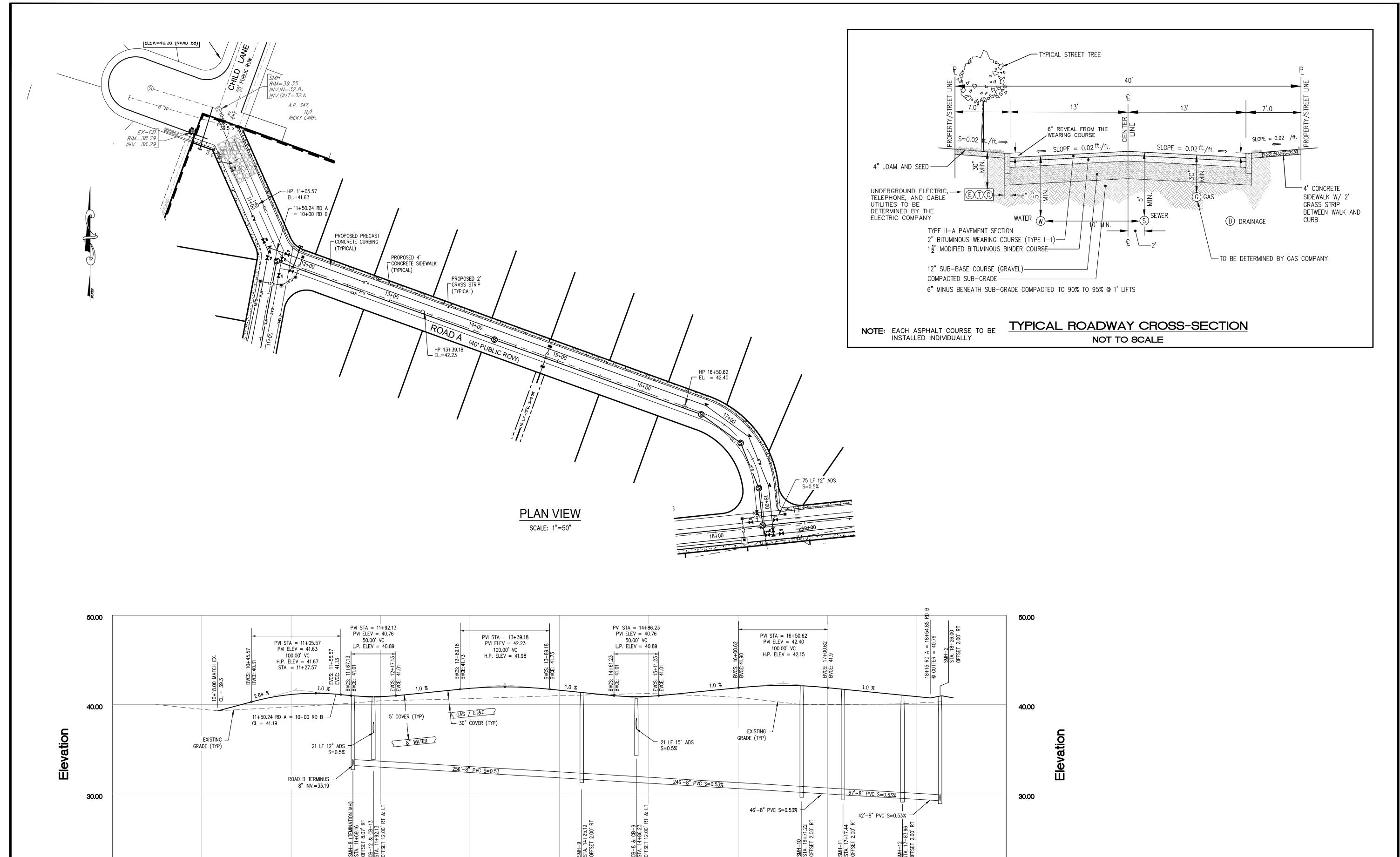
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Checked By: BJC

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5 of 10



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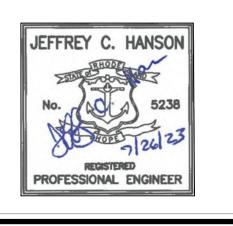
PROFILE VIEW

SCALE: HORZ. 1"=50' VERT. 1"=5' 15+00.00

16+00.00

20.00

NO. DATE REVISION



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Z50 Centerville Road, Building E-12 790 Aquidneck Avenue, Building B
Warwick, Rhode Island 02886 Middletown, Rhode Island 02842

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PLAN & PROFILE ROAD A

40 WICKES WAY

A.P. 347, LOT 476 50 CHILD LANE WARWICK, RI

PREPARED FOR: 40 WICKES WAY, LLC

SCALE: AS NOTED JULY 2023

Drawn By: MJV

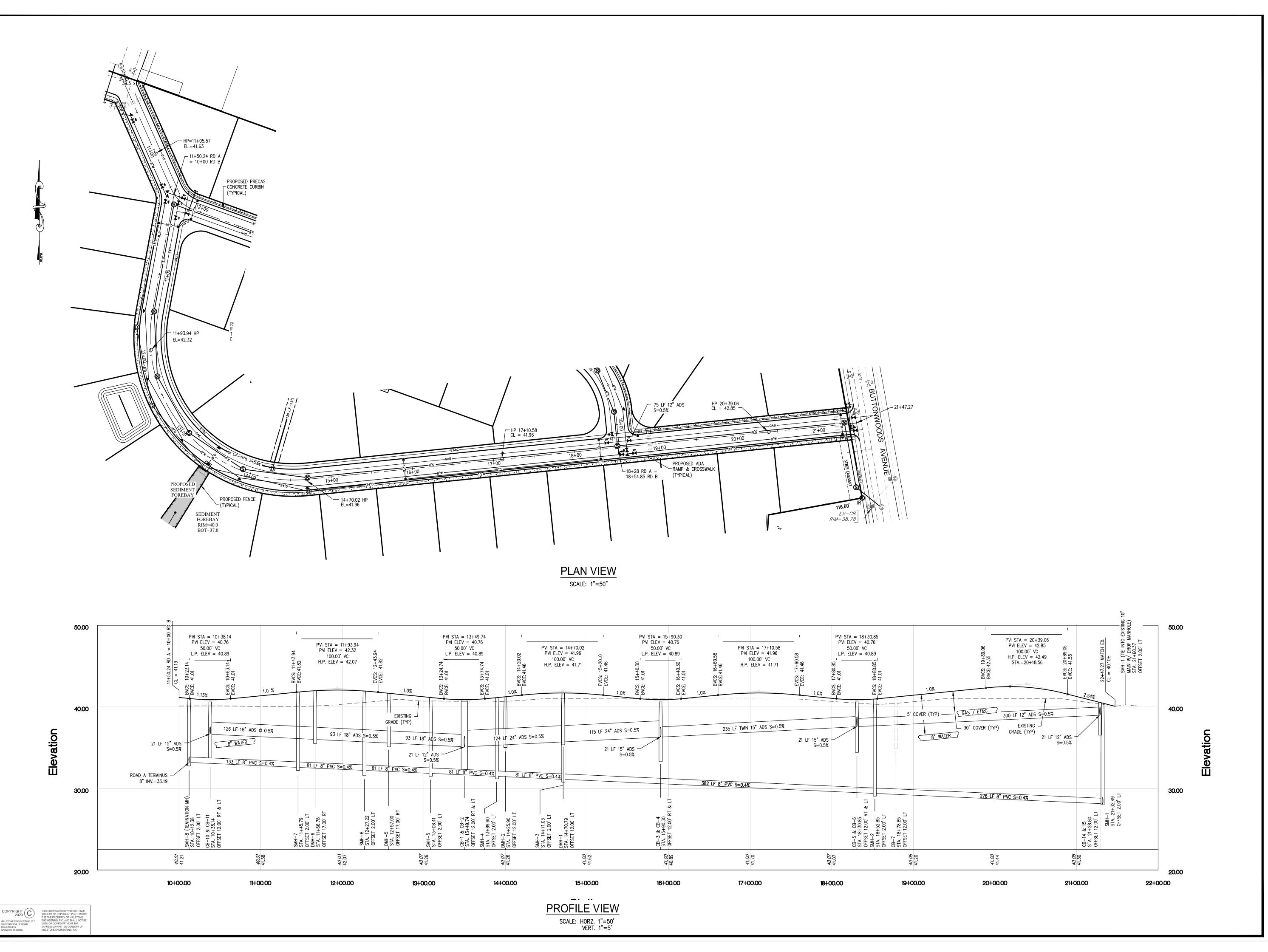
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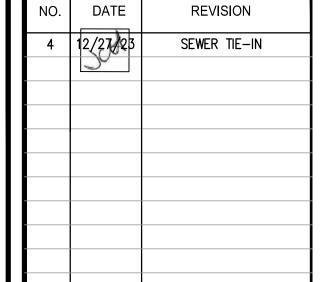
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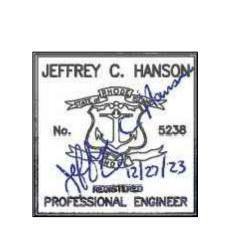
SCALE: 1" = 50'

GRAPHIC SCALE

6 of 10







ENGINEERING • LAND PLANNING OF CIVIL ENGINEERING • LAND PLANNING Narwick, Rhode Island 02886 Middletown, Rhode Island 02880 Middletown, Rhode 12880 Mid

PLAN & PROFILE ROAD B

40 WICKES WAY

A.P. 347, LOT 476 50 CHILD LANE WARWICK, RI

PREPARED FOR: 40 WICKES WAY, LLC

SCALE: AS NOTED JULY 2023

Drawn By: MJV

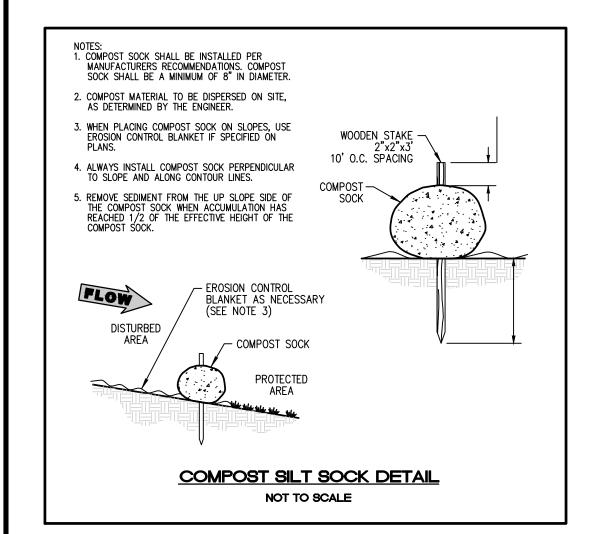
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7 of 10

GENERAL NOTES:

- THE STATE OF RHODE ISLAND DEPARTMENT OF TRANSPORTATION CONSTRUCTION STANDARD DETAILS, ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. THE STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION, IN ADDITION, THE CITY OF WARWICK STANDARD SPECIFICATIONS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO.
- 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 PRIOR NOTIFICATION IS GIVEN TO THE TOWN. AT LEAST A 48—HOUR NOTICE SHALL BE GIVEN TO THE TOWN PRIOR TO ANY SUCH START OF CONSTRUCTION. A FINAL INSPECTION OF ALL SITE IMPROVEMENTS, UTILITIES AND GRADING WILL BE MADE TO DETERMINE WHETHER THE WORK IS SATISFACTORY AND IN SUBSTANTIAL AGREEMENT WITH THE APPROVED FINAL CONSTRUCTION DRAWING AND THE TOWN SPECIFICATIONS.
- 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. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 72—HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG—SAFE (1—888—344—7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG—SAFE, IF IT IS DIFFERENT FROM THE CALLER.
- 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 CITY OF WARWICK PRIOR TO COMMENCING ANY WORK.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
- 6. STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS, WETLAND, OR ADJACENT TO DRAINAGE STRUCTURES.
- 7. ALL MATERIAL FOR FILL SHALL BE CLEAN AND FREE OF MATTER WHICH COULD POLLUTE ANY DOWN STREAM WATERCOURSE.
- 8. FILL MATERIAL SHALL BE COMPACTED IN ONE FOOT (MAXIMUM) LIFTS TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-1557 (MODIFIED PROCTOR TEST).
- 9. CONTRACTOR SHALL PROVIDE OWNER WITH A COMPLETE SET OF AS—BUILT DRAWINGS OF ALL INFRASTRUCTURE. AS—BUILT DRAWINGS SHALL BE CERTIFIED BY A LICENSED PROFESSIONAL LAND SURVEYOR.
- 10. 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 FOR WHICH NO PARTICULAR DETAIL OR SPECIFICATION WAS PROVIDED MUST BE REVIEWED BY AND ACCEPTABLE TO THE
- 11. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES 2009 INCLUDING ALL REVISIONS.



EROSION CONTROL and SOIL STABILIZATION PROGRAM:

- 1. DENUDED SLOPES SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME.
- 2. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION YEAR.
- 3. TEMPORARY TREATMENTS SHALL CONSIST OF A 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 ENGINEER.
- 4. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 2000 LBS/ACRE.
- 5. ALL HAYBALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
- 6. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION
- 7. THE SEED MIX SHALL BE INOCULATED WITHIN TWENTY FOUR (24) HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
- 8. THE DESIGN MIX FOR TEMPORARY EROSION CONTROL AND SOIL STABILIZATION SHALL BE COMPRISED OF THE FOLLOWING:

TYPE % BY WEIGHT
CREEPING RED FESCUE 70
ASTORIA BENTGRASS 5
BIRDSFOOT TREEFOIL 15
PERENNIAL RYEGRASS 10

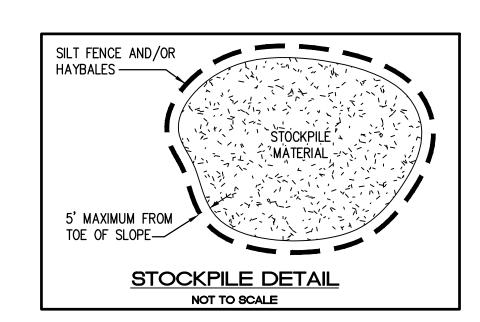
APPLICATION RATE 100 LBS/ACRE

LIMING AND FERTILIZING AS REQUIRED TO COMPLIMENT OR UPGRADE EXISTING

- 9. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE (1) YEAR, AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
- 10. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 15TH.
- 11. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
- 12. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS OR FLOOD PLAINS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%) AND STOCKPILES SHALL ALSO BE SEEDED AND/OR STABILIZED AND COMPLETELY ENCIRCLED WITH A CONTINUOUS LINE OF STAKED HAYBALES AND/OR SILTFENCE. (SEE DETAIL)
- 13. ON BOTH STEEP AND LONG SLOPES, CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.

SEDIMENTATION CONTROL PROGRAM:

- . EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY SEDIMENTS FROM ENTERING THE DRAINAGE SYSTEM OR ADJOINING PROPERTIES.
- 2. BANKS OR SLOPES OVER 5% SHALL BE SEEDED AS SOON AS POSSIBLE AND SHALL BE PROTECTED WITH A HAY, STRAW OR FIBER MULCH.
- DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
- SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
- 5. 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 FLOW.
- 6. ADDITIONAL HAYBALES, SILT FENCE OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.



BMP CONSTRUCTION SEQUENCES:

GENERAL:

GREAT CARE SHALL BE GIVEN TO THE AREAS WHERE STRUCTURES WHICH REQUIRE INFILTRATION AS A MECHANISM FOR STORMWATER TREATMENT AND/OR DISPOSAL ARE PROPOSED PRIOR TO THEIR CONSTRUCTION. NO INFILTRATION STRUCTURE SHALL BE CONSTRUCTED NOR ACCEPT RUN OFF UNTIL ALL UP-GRADIENT AREAS OF THE WATERSHED HAVE BEEN BUILT AND FULLY STABILIZED SO AS TO HAVE NO POTENTIAL FOR SEDIMENT OR SILT DEPOSITION. ALSO, ONCE THE ENTIRE SITE IS STABLEIZED ALL SESC MEASURES SHALL BE REMOVED.

THE DESIGN SEED MIX FOR THE INFILTRATION STORMWATER BASIN SHALL BE PLANTED IN A MINIMUM OF A 6" DEPTH OF LOAMY SAND FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS:

TYPE % BY WEIGHT
CREEPING RED FESCUE 70
kENTUCKY BLUEGRASS 15
TALL FESCUE 15

APPLICATION RATE 100 LBS/ACRE
LIMING AND FERTILIZING AS REQUIRED TO COMPLIMENT OR UPGRADE EXISTING CONDITIONS.

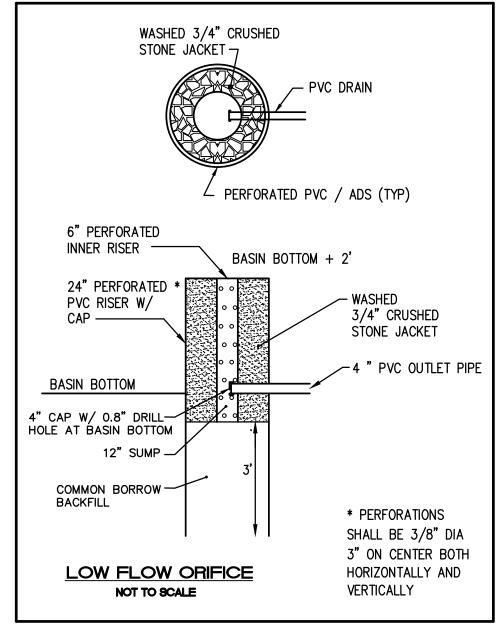
EXCAVATIONS SHALL BE TAKEN DOWN TO THE UNDERLYING SANDS FOUND ON-SITE IN THE AREAS OF THE STORMWATER FACILITIES (SEDIMENT FOREBAY AND INFILTRATION BASIN) AND SAND FILL SHALL BE USED TO MEET DESIGN GRADES FOR BOTTOM OF BMPS.

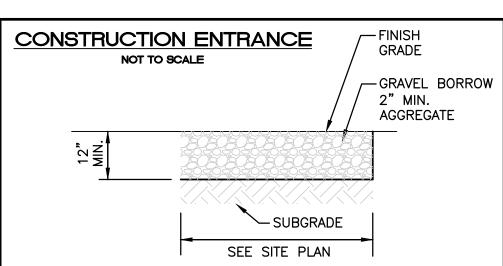
A1: SEDIMENT FOREBAY:

- 1. EXCAVATE & FILL TO THE LINES AND GRADES OF THE DESIGN.
- 2. INSTALL RIPRAP LINING AS DIRECTED BY THE PLANS.

A2: INFILTRATION BASIN:

- 1. EXCAVATE & FILL TO THE LINES AND GRADES OF THE DESIGN.
- THE FILLED BERM SHALL BE HAVE A 3' WIDE COMPACTED SILT CORE
 INSTALL OUTLET PIPES, RIPRAP SPLASH PADS & EMERGENCY OVERFLOW SPILLWAY
- 4. LOAM AND SEED THE SLOPES ACCORDINGLY WITH PERMANENT SEED MIXTURE
- 5. THE BOTTOM OF THE BASIN SHALL MAINTAIN A SANDY SURFACE TO ENSURE MAXIMUM INFILTRATION RATES
- 6. INSTALL THE SAFTEY FENCE WITH GATES FOR MAINTENANCE ACCESS





STORMWATER MANAGEMENT SYSTEM LONG TERM O/M

LONG—TERM MAINTENANCE OF THE DRAINAGE SYSTEM SHALL BE COMPLETED BY THE APPLICANT/OPERATOR UNDER A LEGALLY BINDING AND ENFORCEABLE MAINTENANCE AGREEMENT. THE TOWN OF WARWICK IS NOT RESPONSIBLE FOR MAINTENANCE OF THE BMPS.

OWNER/APPLICANT: 40 WICKES WAY, LLC 144 METRO CENTER BLVD, UNIT F WARWICK, RI 02886

THE CONTRACTOR / OPERATOR SHALL MAINTAIN ALL DRAINAGE COMPONENTS DURING AND DIRECTLY AFTER CONSTRUCTION. ALL OPERATIONAL MAINTENANCE REQUIREMENTS WILL BE RECORDED ON THE TITLE.

OPERATOR / CONTRACTOR

TBD

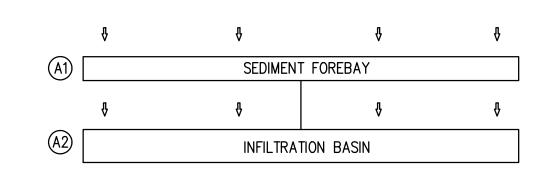
THE ENTIRE STORMWATER SYSTEM SHALL BE INSPECTED THROUGHOUT THE CONSTRUCTION PROCESS AND REPORTED ON THE ATTACHED CONSTRUCTION INSPECTION REPORTING FORMS.

THE ENTIRE STORMWATER MANAGEMENT SYSTEM SHALL BE INSPECTED ON A BI-ANNUAL BASIS FOR GENERAL PROBLEMS AND TO ENSURE PROPER FUNCTION AS WELL AS AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1-YR, 24-HR TYPE III PRECIPITATION EVENT (2.7"). THESE INSPECTIONS SHALL BE REPORTED ON THE ATTACHED O&M INSPECTION REPORTING FORMS.

ALL INSPECTIONS REPORTS SHALL BE KEPT ON FILE WITH THE STORMWATER MANAGEMENT OPERATION AND MAINTENANCE PLAN.

GENERAL FOR ALL BMP'S:

- 1. A LEGALLY BINDING AND ENFORCEABLE MAINTENANCE AGREEMENT SHALL BE EXECUTED BY THE FACILITY OWNER TO ENSURE THE FOLLOWING:
 - SEDIMENT SHALL BE CLEANED OUT OF THE SEDIMENT FOREBAY WHEN IT ACCUMULATES TO A
 DEPTH OF MORE THAN ONE-HALF THE DESIGN DEPTH. THE SEDIMENT CHAMBER OUTLET
 DEVICES SHALL BE CLEANED/REPAIRED WHEN DRAWDOWN TIMES EXCEED 36 HOURS. TRASH
 AND DEBRIS SHALL BE REMOVED AS NECESSARY.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, MAINTENANCE AND REPAIR TO ALL DRAINAGE STRUCTURES AND RELATED APPURTENANCES ON THE SITE DURING CONSTRUCTION AND FOR A MAXIMUM OF ONE (1) YEAR FOLLOWING COMPLETION OF CONSTRUCTION, AT WHICH TIME THE DRAINAGE STRUCTURES AND APPURTENANCES ARE ACCEPTED BY THE ENGINEER AND THE OWNER.
- 3. FOLLOWING ACCEPTANCE, THE LONG-TERM MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE OWNER UNTIL IT IS DEEDED TO ANOTHER RESPONSIBLE ENTITY.
- 4. ALL COSTS INCURRED FOR MAINTENANCE, CLEANING, AND INSPECTION ARE THE RESPONSIBILITY OF THE APPLICANT AND/OR RESPONSIBLE PARTY. IN CERTAIN CASES, THE APPROPRIATE DEM PROGRAM MAY REQUIRE DOCUMENTATION OF MAINTENANCE.
- 5. INSPECTION OF THE BMPS AND ALL INLET AND OUTLET STRUCTURES SHALL BE PERFORMED AFTER STORMS EQUAL TO OR GREATER THAN THE 1-YEAR, 24-HOUR TYPE III STORM (2.7" EVENT) AND AT LEAST ONCE ANNUALLY, PREFERABLY DURING A STORM EVENT TO INSPECT FOR PROPER FUNCTIONING OF THE FACILITY. DURING THE FIRST 6 MONTHS OF OPERATION, BMPS SHALL BE INSPECTED AT LEAST DURING THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0-INCHES OF RAINFALL.
- 6. ANY INADVERTENT OR DELIBERATE DISCHARGE OF WASTE OIL OR ANY OTHER POLLUTANT TO THE STORMWATER DISPOSAL SYSTEM REQUIRES IMMEDIATE NOTIFICATION OF THE DEM OIL POLLUTION CONTROL PROGRAM AT 222–2284, PER OIL POLLUTION CONTROL REGULATIONS. DURING NON-WORKING HOURS, NOTIFICATION OF SPILLS CAN BE MADE TO THE DEM DIVISION OF ENFORCEMENT AT 222–3070, THE 24-HOUR EMERGENCY RESPONSE PHONE NUMBER.
- 7. ALL TRASH, LITTER AND OTHER DEBRIS SHALL BE REMOVED FROM ANY STORMWATER FACILITY INCLUDING INLET AND OUTLET STRUCTURES. THIS MUST BE ACCOMPLISHED AT LEAST TWICE PER YEAR, PREFERABLY IN THE SPRING AND FALL.
- 8. REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES, RIP—RAP CHANNELS, FENCES, OR OTHER ELEMENTS OF THE FACILITY SHALL BE COMPLETED WITHIN 30 DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY IS IMMINENT, THEN REPAIR/REPLACEMENT MUST BE COMPLETED IMMEDIATELY.



SYSTEM DIAGRAM

- WATER QUALITY TREATMENT & PEAK FLOW ATTENUATION SYSTEM
- A1: SEDIMENT FOREBAY (PRE-TREATMENT)
- A2: INFILTRATION BASIN (WATER QUALITY TREATMENT & FLOOD CONTROL)

STORMWATER MANAGEMENT SYSTEM LONG TERM O/M (CONT.)

<u>A1 - SEDIMENT FOREBAY O&M:</u>

- 1. THE SLOPES shallbe INSPECTED FOR EROSION AND GULLYING.
- 2. STONE shallbe REINFORCED IF EROSION IS PRESENT AT OUTFALLS OR IF IT HAS BEEN COMPROMISED.
- ORIFICE STRUCTURES AND SPILLWAY STRUCTURES FOR DEFECTS. IF ANY ARE FOUND, THEY MUST BE REPAIRED IMMEDIATELY.
- 4. INSPECT FOR SEDIMENT ACCUMULATION AND IT shallbe REMOVED IF IT REACHES 15" OR 25% OF THE STORAGE

3. INSPECT ALL STRUCTURAL COMPONENTS, SUCH AS TRASH RACKS, ACCESS GATES, VALVES, PIPES, WEIRS, WALLS,

- 5. MOW SURROUNDING GRASSES TO MAINTAIN A 4-6" STRONG STAND OF TURF AND shallTHE GRASSES REACH 10", MOWING shallBE DONE IMMEDIATELY. ALL CLIPPINGS SHALL BE COLLECTED AND DISPOSED OF PROPERLY.
- 6. NO WOODY GROWTH shallEVER BE ALLOWED TO REMAIN IN AND AROUND THE FOREBAYS.
- 7. AREAS OF EROSION OR DISTURBANCE SHALL BE RE-ESTABLISHED IMMEDIATELY.
- 8. INLETS AND OUTLETS SHALL BE CLEARED OF DEBRIS AS NEEDED

<u>A2 - INFILTRATION BASIN O&M:</u>

- 1. THE FACILITY Shallbe INSPECTED ANNUALLY TO ENSURE IT IS DRAINING. IF STANDING WATER IS OBSERVED FOR MORE THAN 48 HOURS AFTER A RAIN EVENT THE TOP 6" Shallbe ROTOTILLED AND ANY COMPACTED SEDIMENT REMOVED.
- 2. THE FACILITY shallbe INSPECTED ANNUALLY FOR EROSION, GULLYING, OR DAMAGE.
- 3. RIPRAP SPLASH PADS shallBE REINFORCED IF EROSION IS PRESENT AT OUTFALLS OR IF IT HAS BEEN COMPROMISED.
- DISPOSED OF IMMEDIATELY.

 5. NO VEGETATIVE GROWTH OF ANY KIND SHALL BE ALLOWED TO STAND WITHIN THE SANDY BOTTOM, NO WOODY GROWTH
- 5. NO VEGETATIVE GROWTH OF ANY KIND SHALL BE ALLOWED TO STAND WITHIN THE SANDY BOTTOM, NO WOODY GROWT SHALL BE ALLOWED TO REMAIN WITHIN THE GRASSED AREAS IN OR AROUND THE BASIN.

4. MOW GRASSED SLOPES TO MAINTAIN A 4-6" STRONG STAND OF TURF. ALL CLIPPINGS SHALL BE COLLECTED AND

- 6. AREAS OF EROSION OR DISTURBANCE SHALL BE REESTABLISHED IMMEDIATELY.
- 7. INLETS AND OUTLETS SHALL BE CLEARED OF DEBRIS AND TRASH AS NEEDED (MINIMALLY, ONCE A YEAR).

DRAINAGE SYSTEM O&M:

- 1. ALL STORM DRAIN PIPES SHALL BE ANNUALLY CHECKED FOR SEDIMENT AND DEBRIS AND CLEANED / JETTED AS NECESSARY.
- 2. ALL COSTS INCURRED FOR MAINTENANCE, CLEANING, AND INSPECTION ARE THE RESPONSIBILITY OF THE PROPERTY OWNER UPON ACCEPTANCE.
- 3. PAVEMENT SWEEPING SHALL BE PERFORMED ANNUALLY, PREFERABLY IN THE SPRING, AFTER ROADWAY SANDING IS COMPLETED FOR THE SEASON.

POLLUTION PREVENTION PLAN:

GENERAL:

LONG-TERM MANAGEMENT OF THE POLLUTION PREVENTION PLAN SHALL BE THE RESPONSIBILITY OF THE OWNER / OPERATOR UNTIL THE RESPONSIBILITY IS TURNED OVER TO ANOTHER RESPONSIBLE ENTITY.

OWNER: 40 WICKES WAY, LLC

144 METRO CENTER BLVD, UNIT F WARWICK, RI 02886

THE CONTRACTOR SHALL MANAGE THE POLLUTION PREVENTION PLAN DURING THE CONSTRUCTION PROCESS.

CONTRACTOR:

BD

SOLID WASTE CONTAINMENT:

1. WHERE PRACTICAL, TRASH RACKS SHALL BE INSTALLED AND MAINTAINED ON ALL INLET STRUCTURES WITHIN THE DRAINAGE SYSTEM.

SNOW DISPOSAL AND DEICING:

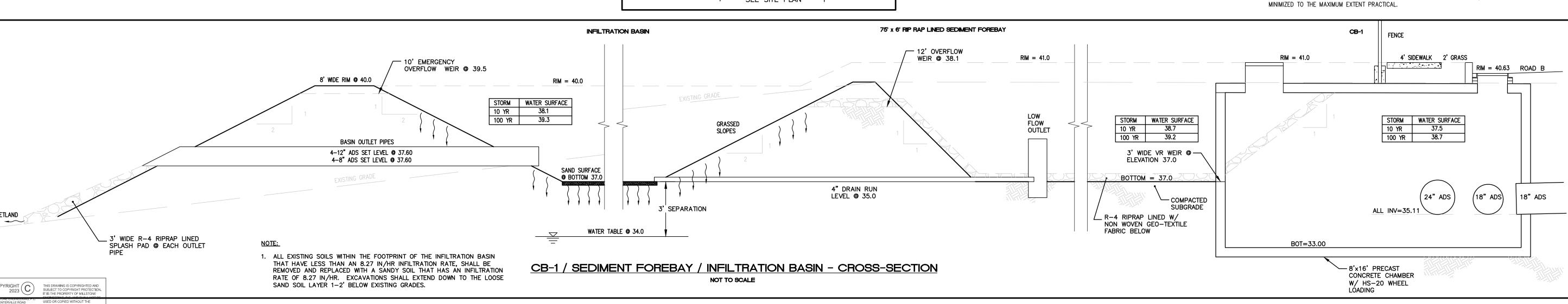
HAZARDOUS MATERIALS CONTAINMENT:

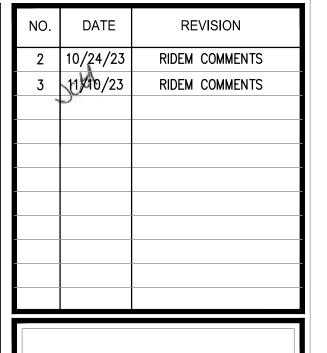
- 1. SAND AND DEICING MATERIALS SHALL BE STORED UNDER-COVER WHETHER ON OR OFFSITE TO PREVENT EXPOSURE TO STORMWATER.
- 2. SNOW REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH RIDEM'S SNOW REMOVAL/DISPOSAL POLICY.

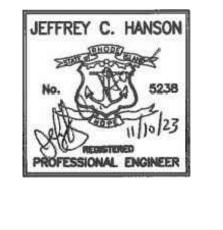
1. NO HAZARDOUS MATERIALS SHALL BE STORED OUTSIDE TO AVOID EXPOSURE TO STORMWATER.

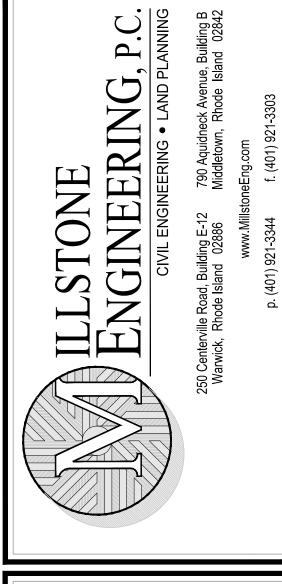
LANDSCAPE MANAGEMENT:

- 1. GRASS CLIPPINGS FROM LAWN CARE PROCEDURES PERFORMED IN AND AROUND THE STORMWATER FACILITY MUST
- 2. GENERAL LAWN HEIGHTS (EXCLUDING STORMWATER BASINS) ONSITE SHALL BE KEPT AT A 4-6" HEIGHT.
- 3. FERTILIZER AND WATERING DEMANDS SHOULD HAVE PROFESSIONAL OVERSIGHT, AND BOTH USES SHOULD BE









NOTES AND DETAILS

40 WICKES WAY

A.P. 347, LOT 476 50 CHILD LANE

WARWICK, RI

PREPARED FOR 40 WICKES WAY, LLC

NOT TO SCALE JULY 2023

Sheet

Sheet

of 10

Drawn By: MBV

CONSTRUCTION SEQUENCE / NARRATIVE

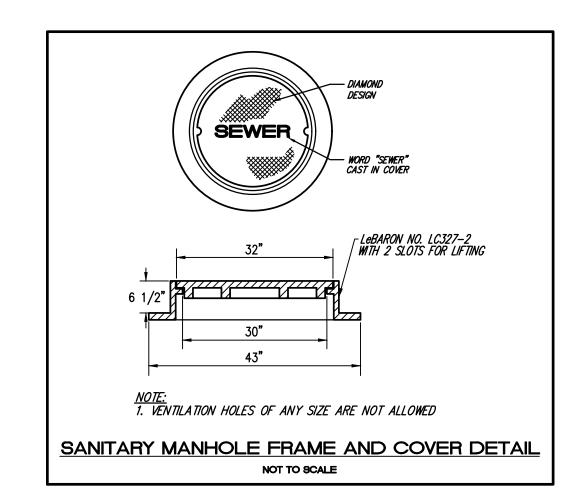
- OBTAIN APPLICABLE PERMITS.
- NOTIFY ALL APPROPRIATE STATE, REGIONAL AND TOWN DEPARTMENTS PRIOR TO THE START OF CONSTRUCTION.
- BEGIN CONSTRUCTION.
- 4. CONSTRUCT RI STD 9.9.0 CONSTRUCTION ACCESS (ES).
- 5. INSTALL SILT FENCE / SILT SOCK / STAKED STRAWBALE LINE.
- 6. CLEAN, GRUB, AND STOCKPILE TOPSOIL (IF REQUIRED).
- 7. EXCAVATE / PLACE COMPACTED FILL IN ACCORDANCE WITH THE GRADING PLAN. INSTALL PROPOSED STORM DRAINAGE SYSTEM, WORK DOWNSTREAM TO UPSTREAM. PLACE INLET PROTECTION WHERE REQUIRED.
- BEGIN ROADWAY CONSTRUCTION.
- 10. INSTALL UTILITIES IN ACCORDANCE WITH THE UTILITY PLAN.
- 11. INSTALL CURBING AND PAVEMENT.
- 12. FINE GRADE, SPREAD TOPSOIL, SEED AND STABILIZE EXPOSED EARTH.
- 13. CLEAN / FLUSH STORM DRAINAGE SYSTEM.
- 14. ONCE SEEDS GERMINATE AND EARTH IS STABILIZED, REMOVE SILT FENCE/ STRAW BALE LINE AND INLET PROTECTION.
- 15. END CONSTRUCTION.

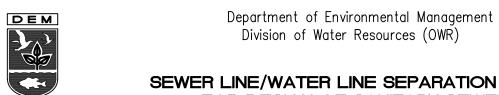
SEWER NOTES:

- 1. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN COMPLETE CONFORMANCE WITH THE STANDARD SANITARY SEWER REQUIREMENTS FOR THE CITY OF WARWICK.
- ALL GRAVITY SEWER PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATION D3034, SDR 35.
- 3. LOW PRESSURE PIPES AND FITTINGS SHALL BE CLASS 2200 PVC AND SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATIONS D3139 AND F477..
- 4. WATER OR LOW PRESSURE AIR TESTING SHALL BE CONDUCTED TO ASSURE LEAKAGE DOES NOT EXCEED 10 GALLONS/DAY/INCH DIAMETER/MILE OF PIPE. (GRAVITY).
- 5. ALL SYSTEM COMPONENTS AND CONSTRUCTION METHODS, SUCH AS VALVES, PIPES, PUMPS, GUIDE RAILS, VAULTS, HATCHES AND CONTROLS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. THIS SUBMISSION SHALL INCLUDE MANUFACTURER'S LITERATURE, SHOP DRAWINGS, PROPOSED CONSTRUCTION METHODS, ETC.
- 6. CONTRACTOR SHALL PROVIDE OWNER WITH AS-BUILT PLANS AND ELECTRONIC DATA OF SEWER SYSTEM IN ACCORDANCE WITH THE CITY OF WARWICK REQUIREMENTS.

WATER NOTES:

- 1. THE WARWICK WATER DIVISION REQUIREMENTS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO.
- 2. ALL DISTRIBUTION SYSTEM PIPING SHALL BE CLASS 52 DUCTILE IRON, DOUBLE CEMENT MORTAR LINES, PUSH ON STYLE JOINTS. PIPE SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C151/A21.51. JOINTS SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C111/A21.11.
- 3. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT CLASS 350 CEMENT MORTAR LINED COMPACT STYLE AMERICAN MANUFACTURED ONLY. FITTINGS SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C153/A21.53. MECHANICAL JOINTS SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C111/A21.11.
- 4. COATINGS USED FOR BOTH PIPES AND FITTINGS SHALL BE APPROVED FOR WATER SERVICE BY THE AMERICAN WATER WORKS ASSOCIATION AND THE ENVIRONMENTAL PROTECTION AGENCY. COATINGS SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C104/A21.4.
- 5. ANY INSTALLATION, JOINTS, CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, WARWICK WATER DIVISION RECOMMENDATIONS, AWWA STANDARDS AND GOVERNMENTAL REQUIREMENTS
- 6. CONSTRUCTION SHALL INCLUDE ALL PIPE, JOINTS, BENDS, TEES, FITTINGS, THRUST BLOCKS, GATE VALVES, GATE BOXES AND ALL MISCELLANEOUS ITEMS REQUIRED TO CONSTRUCT THE PROPOSED SYSTEM.
- 7. CONCRETE THRUST, ANCHOR OR BEARING BLOCKS SHALL BE INSTALLED IN LOCATIONS INDICATED AND AT ALL BENDS, FITTINGS, PLUGS, ETC. WHEN A THRUST BLOCK CANNOT BE PLACED AGAINST UNDISTURBED EARTH, A REACTION BLOCK SUBSTITUTE SHALL BE DESIGNED AND SUBMITTED TO THE ENGINEER FOR
- 8. LEAKAGE TESTS AND THE CHLORINATION OF THE WATER DISTRIBUTION SYSTEM SHALL BE PERFORMED BY THE CONTRACTOR IN CONFORMANCE TO AMERICAN WATER WORKS ASSOCIATION (AWWA) RECOMMENDATIONS AND GOVERNMENTAL AGENCIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FEES ASSOCIATED WITH SAID TESTING.
- 9. ALL GATE VALVES, FITTINGS, PIPE, JOINTS, ETC., SHALL BE DESIGNED FOR A CONSTANT WORKING PRESSURE OF NO LESS THAN 150 PSI.
- 10. WATER PIPE SHALL TYPICALLY BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM SEWER PIPE AND AT A DEPTH OF COVER EQUAL TO 5'-0" AND SHALL MAINTAIN A MINIMUM 1.5' SEPARATION VERTICALLY (UNLESS A CARRIER PIPE IS APPROVED BY THE ENGINEER).
- 11. ALL SYSTEM COMPONENTS AND CONSTRUCTION METHODS, SUCH AS GATE VALVES, PIPE, THRUST BLOCKS, FITTINGS, AIR RELEASE ASSEMBLIES, CASTINGS, ETC., SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. THIS SUBMISSION SHALL INCLUDE MANUFACTURER'S LITERATURE, SHOP DRAWINGS, PROPOSED CONSTRUCTION METHODS, ETC.
- 12. BEDDING FOR WATER UTILITY SHALL BE TYPE V AWWA BEDDING.
- 13. THE CONTRACTOR SHALL NOTIFY THE WARWICK WATER DIVISION TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK ASSOCIATED WITH THE WATER DISTRIBUTION SYSTEM.
- 14. A MASTER WATER METER SHALL BE INSTALLED IN A HEATED ENCLOSURE UPON CONNECTION TO THE LINCOLN WATER DEPARTMENT DISTRIBUTION SYSTEM.
- 15. WASTE CHLORINATION WATER USED TO DISINFECT THE POTABLE WATER SYSTEM SHALL BE DE-CHLORINATED PRIOR TO BEING DISCHARGED OVER LAND, AWAY FROM ANY STATE REGULATED FRESHWATER WETLANDS. POTENTIAL EROSION FROM SAID DISCHARGE SHALL BE CONTROLLED WITH A STRAWBALE CHECK.
- 16. WATER LINE SHALL BE SEALED AT THE END OF EVERY WORK DAY WITH A SUITABLE CAP OR PLUG CONFIGURATION TO PREVENT DIRT AND/OR GROUNDWATER FROM ENTERING THE MAIN.
- 17. CONTRACTOR SHALL PROVIDE OWNER WITH AS-BUILT PLANS AND ELECTRONIC DATA OF WATER





SEWER LINE/WATER LINE SEPARATION POLICY FOR DESIGN OF SANITARY SEWERS

DEM

A. Lateral placement of sewers and water lines

Sewers shall be laid at least 10 feet horizontally from any existing or proposed water line. The distance shall be measured edge—to—edge. There is no minimum vertical separation required provided the 10 foot horizontal separation is maintained. Structures, other than pipelines or conduits, through which sanitary wastewater flows such as, but not limited to, manholes, valve vaults, meter pits and pump station wet wells shall also be constructed at least 10 feet horizontally from any existing or proposed water line, measured edge-to-edge.

In cases where it is not possible to maintain a 10 foot horizontal separation, the OWR may allow deviation on a case—by—case basis, if supported by data from the design engineer. Such deviation may allow installation of the sewer pipelines and/or structures closer to a water line, provided that:

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

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

- 1. Encasement of the sewer pipeline 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. The design and construction of the sewer pipeline must meet the requirements applicable to water lines (any AWWA-approved material for potable water conveyance), and pressure tested in accordance with AWWA specifications, or
- 3. In instances of conflict with sanitary wastewater structures mentioned above, relocate the water line to achieve either a 10 foot horizontal or 18 inch vertical separation.

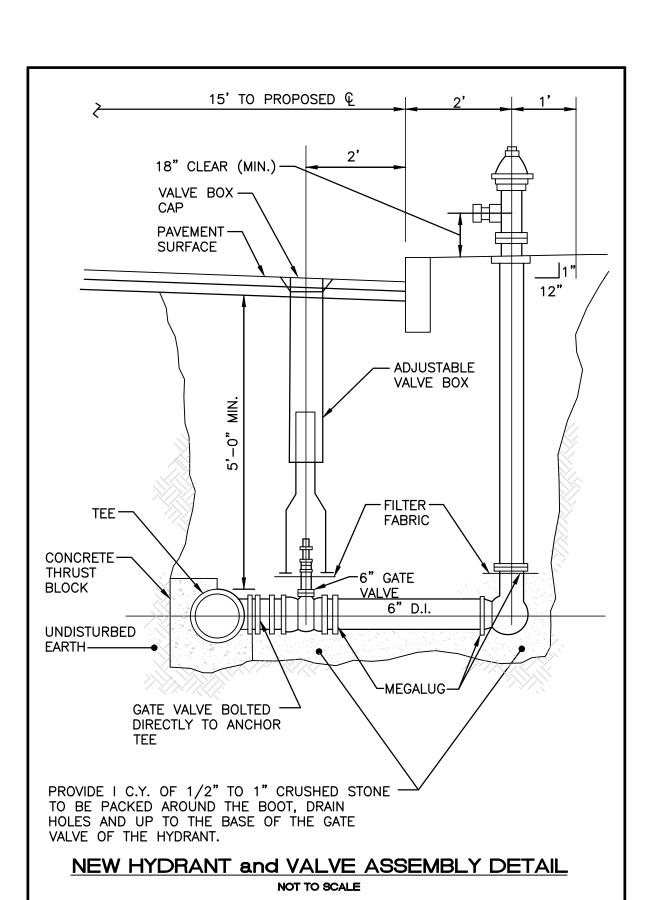
B. Sewers crossing water lines

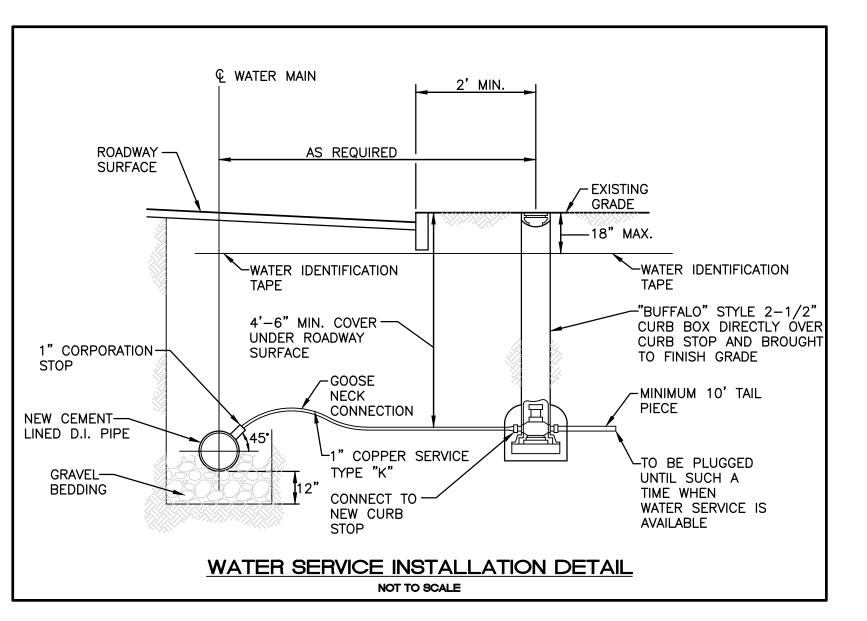
Sewers crossing over water lines should be avoided, but if conditions warrant this situation, then adequate structural support shall be provided for the sewer to maintain line and grade. Sewers crossing under water lines shall be laid to provide a minimum vertical separation of 18 inches between the invert of the water line and the crown of the sewer. Relocation of an existing water line may be necessary to achieve this vertical separation. Relocated water lines shall be constructed of an AWWA-approved material for potable water conveyance and designed for the required water service pressure for a distance of 10 feet on each side of the crossing, measured perpendicular to the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water line joints.

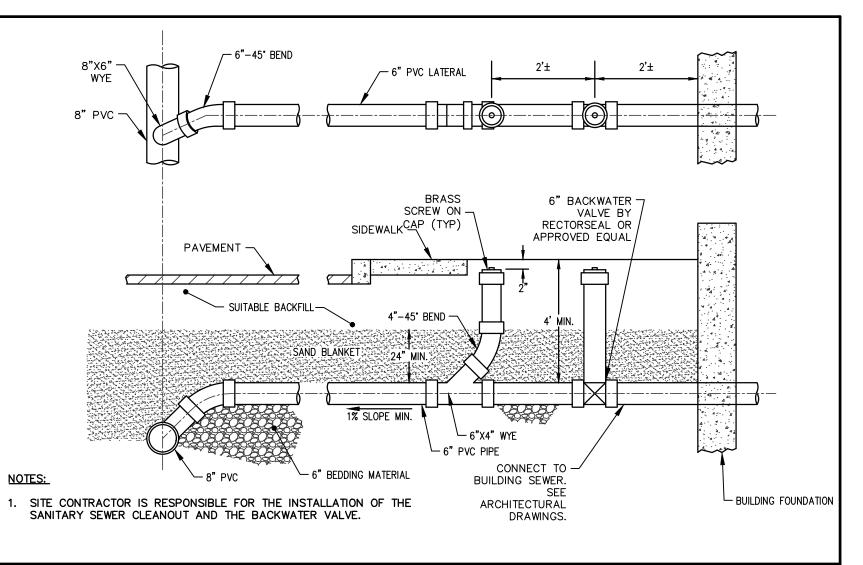
Where conditions prevent an 18 inch vertical separation from being maintained, the following methods shall be specified:

- 1. The design and construction of the sewer must meet the requirements applicable to water lines (any AWWA-approved material for potable water conveyance) for a distance of 10 feet on each side of the crossing, measured perpendicular to the water line and pressure tested in accordance with AWWA specifications, or
- 2. Either the water line 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 line. The carrier pipe shall be designed and constructed of materials which are satisfactory to the OWR, or
- 3. Any other methods, if supported by data from the design engineer, which ensure adequate watertightness and are satisfactory to

¹Water lines shall be defined as any conduits or pipelines that convey potable water. 10/96 (rev. 5/01)

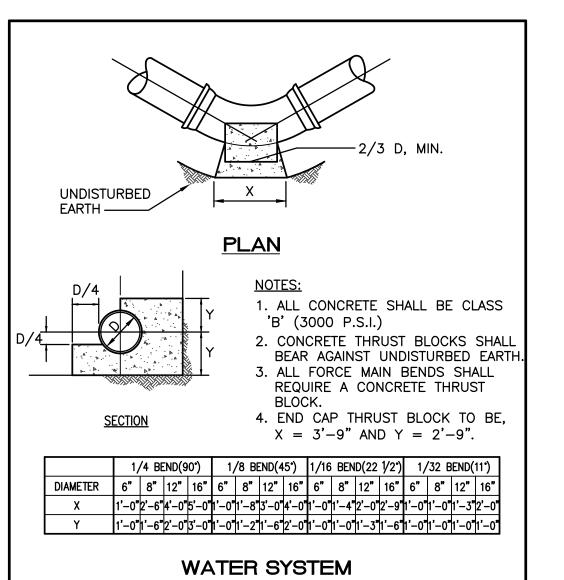






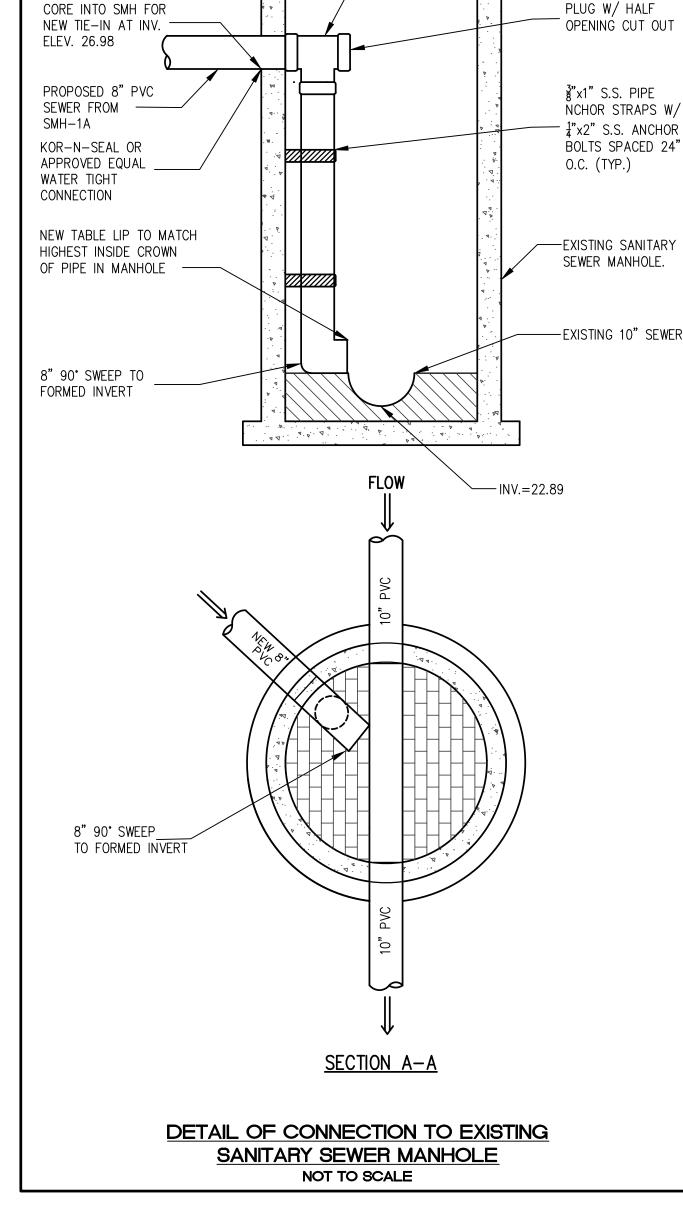
SEWER LATERAL CONNECTION DETAIL

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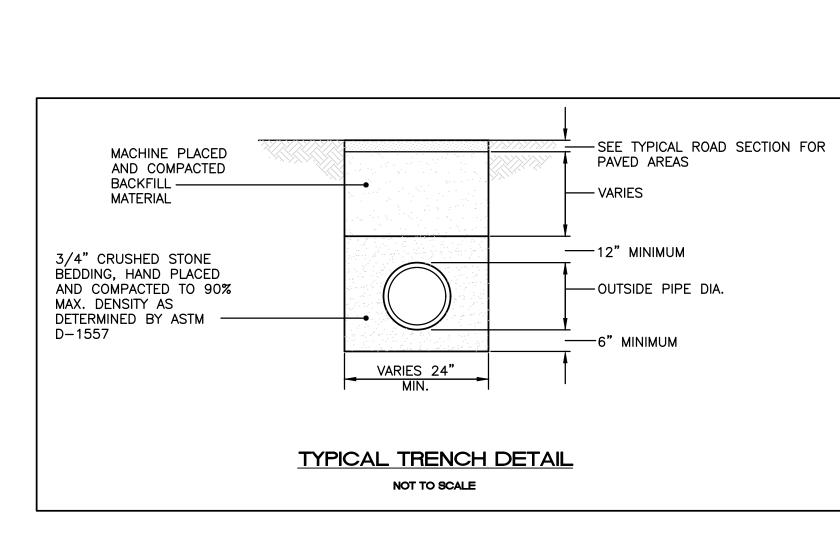


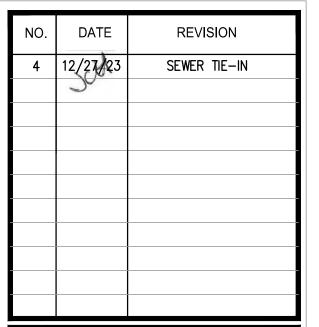
THRUST BLOCK DETAIL

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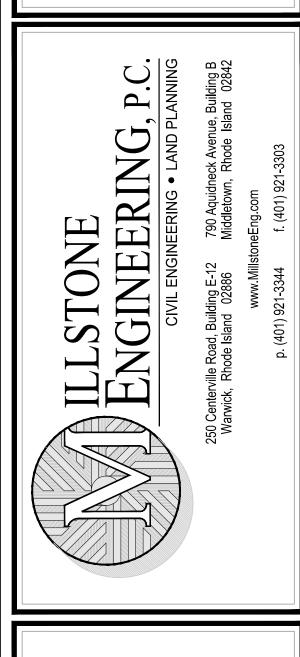


-8" TEE OR WYE









DETAILS - 1

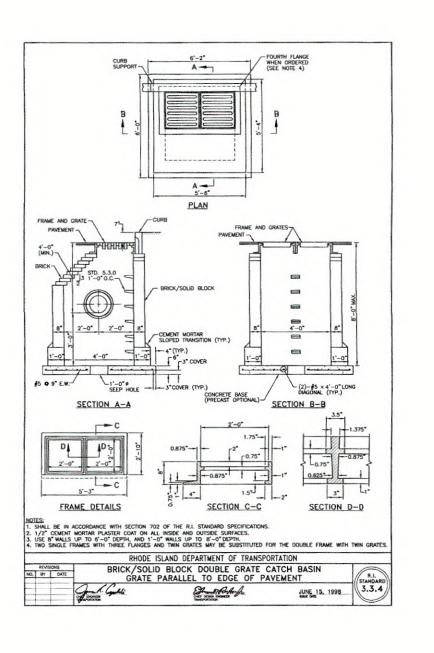
40 WICKES WAY

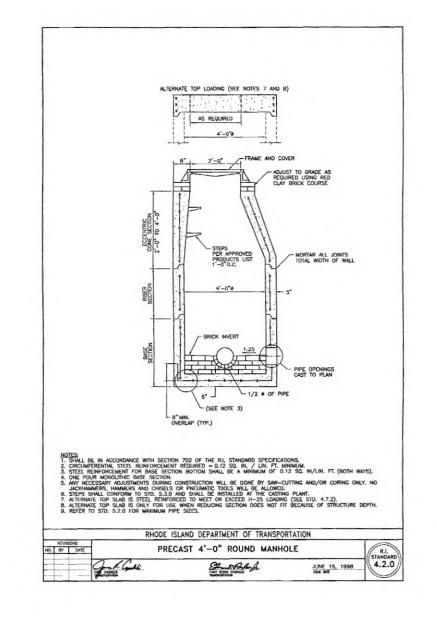
A.P. 347, LOT 476 50 CHILD LANE WARWICK, RI

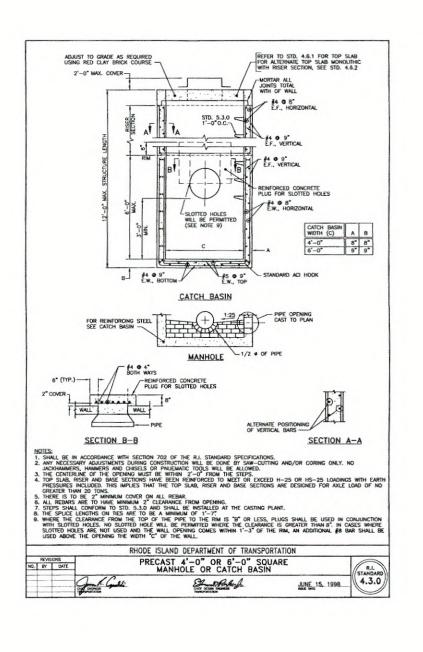
PREPARED FOR 40 WICKES WAY, LLC

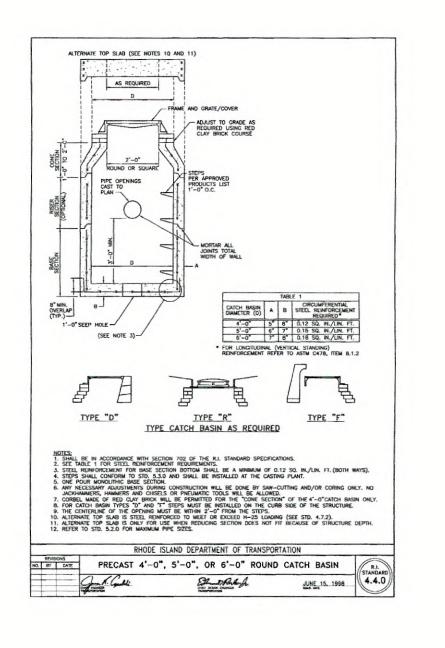
> NOT TO SCALE JULY 2023

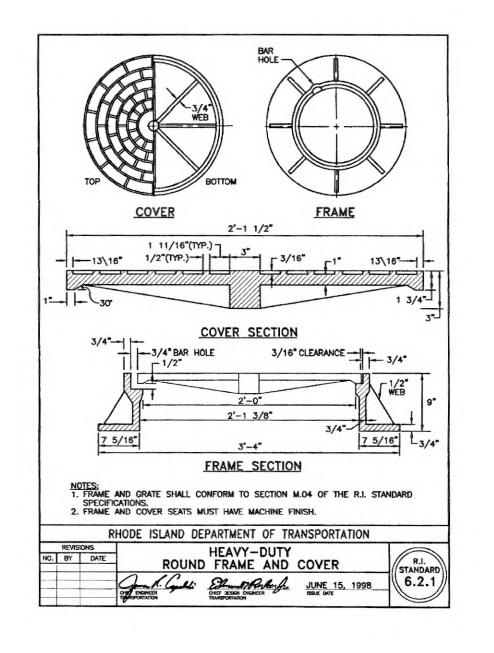
Drawn By: MBV Checked By: JCH Sheet of 10

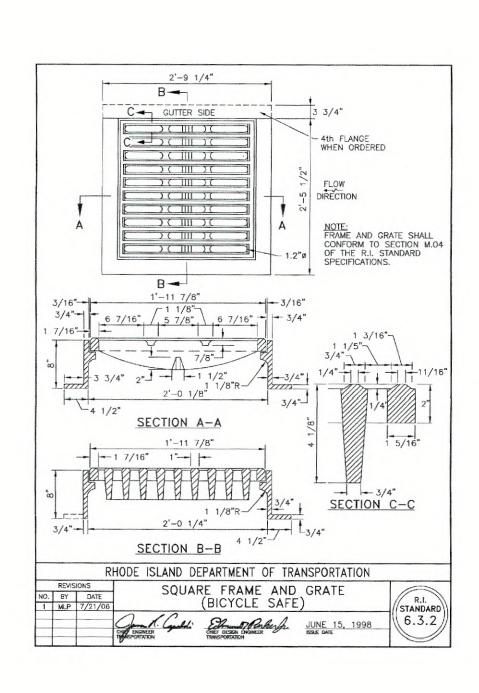


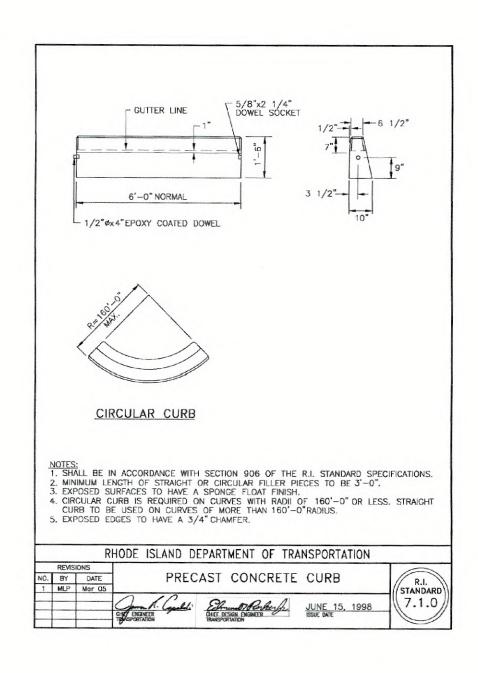


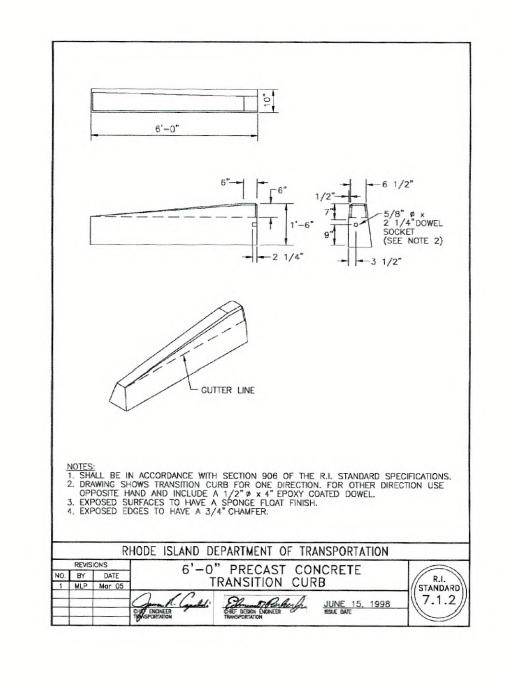


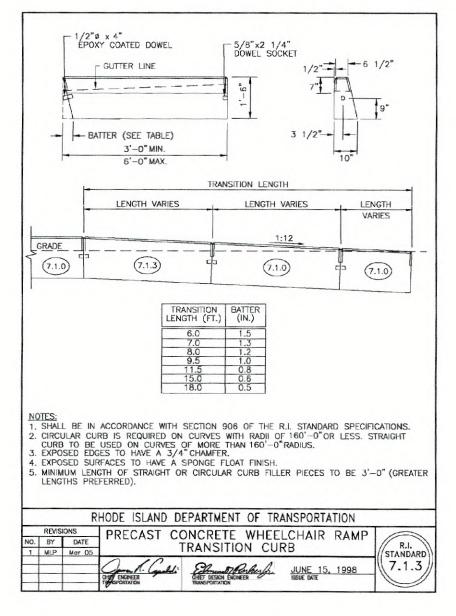


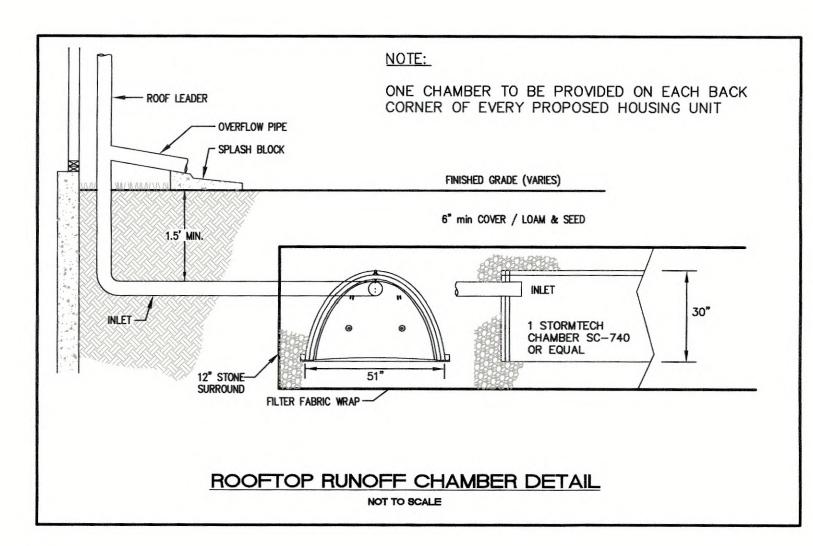


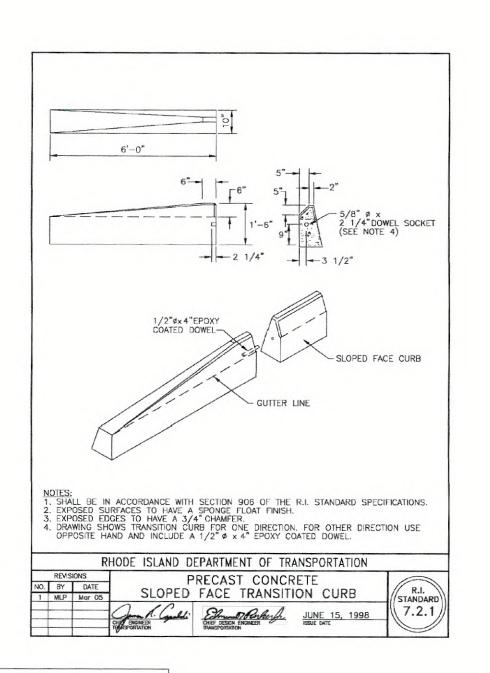


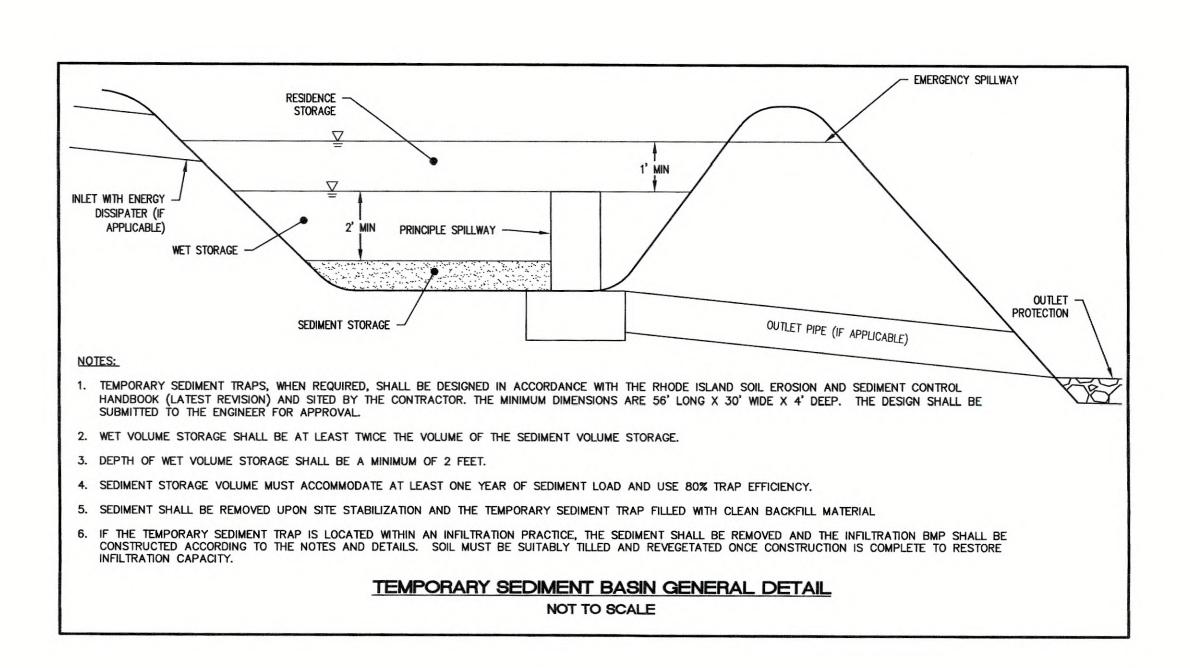


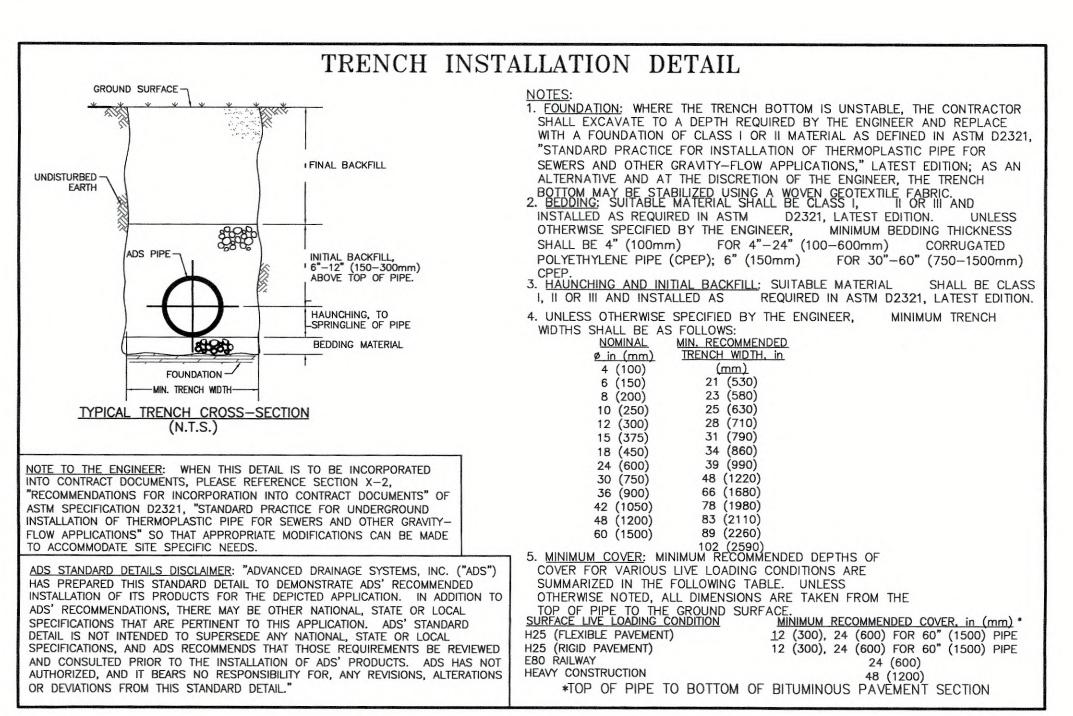


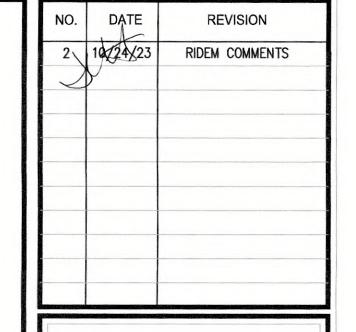


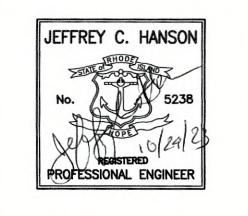












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DETAILS - 2

40 WICKES WAY

A.P. 347, LOT 476 50 CHILD LANE WARWICK, RI

PREPARED FOR: 40 WICKES WAY, LLC

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10
of 10