# WAREHAM RETAIL MANAGEMENT PERMITENSIAL IN AN A GEMENT CONSULTING C SITE DEVELOPMENT PLANS

1 SETH F. TOBEY ROAD WAREHAM, MASSACHUSETTS

ISSUED FOR ZBA "VARIANCE SITE PLAN MODIFICATION": JANUARY 21, 2021 **ISSUED FOR SITE PLAN MODIFICATION: JANUARY 21, 2021** 

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### **INDEX OF DRAWINGS**

	ISSUE HISTORY:	ISSUED FOR ZBA ISSUED FOR SITE PLAN MODIFICATIC JANUARY 21, 2021				
GENE	RAL					
T100	TITLE SHEET	•				
C100	EXISTING CONDITIONS (BY OTHERS)	•				
C200	LEGENDS & NOTES SHEET	•				
C300	SITE PREPARATION & EROSION CONTROL PLAN	•				
C400	LAYOUT & MATERIALS PLAN	•				
C500	GRADING, DRAINAGE & UTILITY PLAN	•				
C600	UTILITIES PLAN	•				
C700	DETAIL SHEET	•				
C701	DETAIL SHEET	•				
C702	DETAIL SHEET	•				
C703	DETAIL SHEET	•				
C704	DETAIL SHEET	•				
L1.1	PLANTING PLAN SOUTH (BY OTHERS)	•				
L1.2	PLANTING PLAN NORTH (BY OTHERS)	•				
L2.1	LIGHTING PLAN (BY OTHERS)	•				

ZBA/SPR

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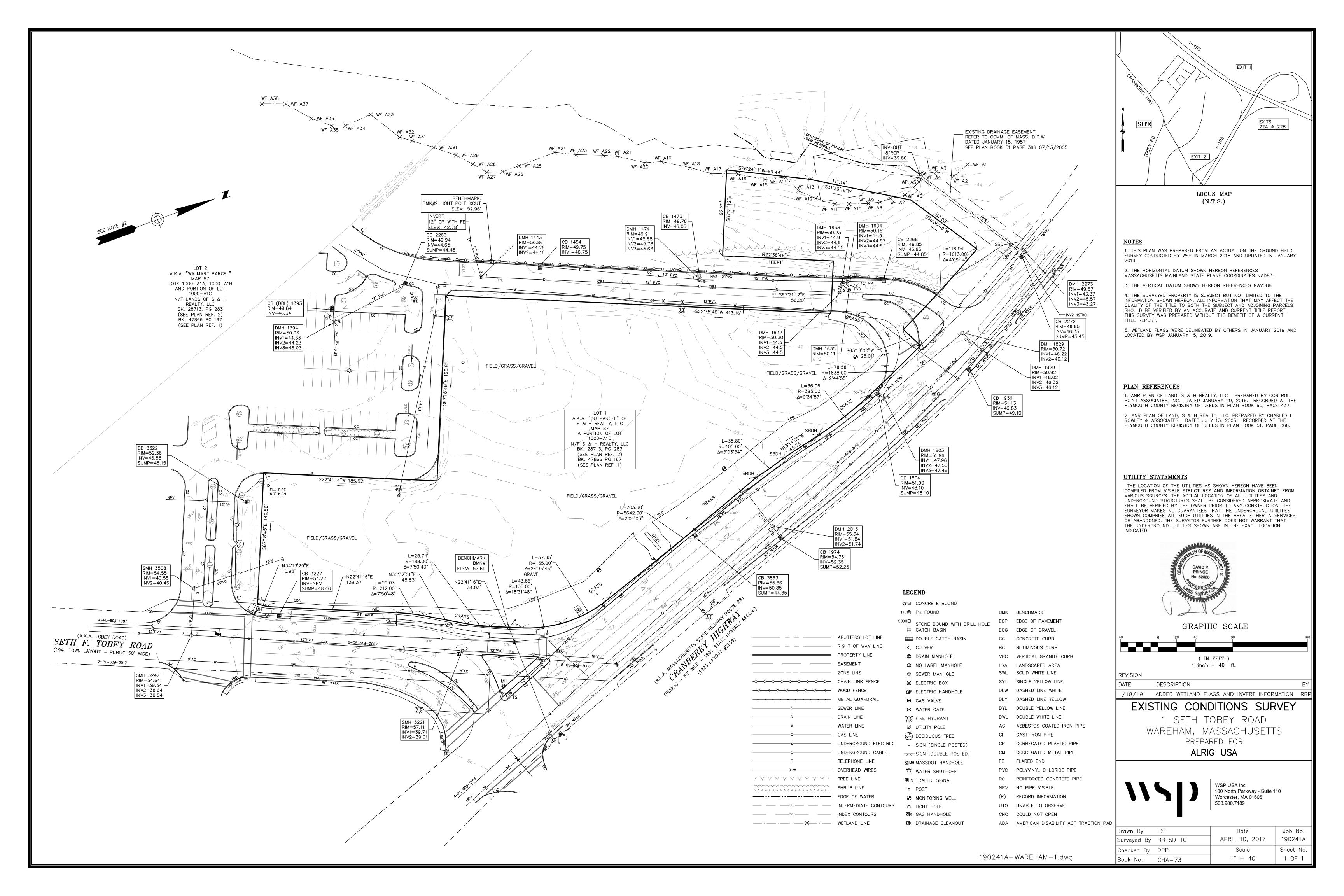
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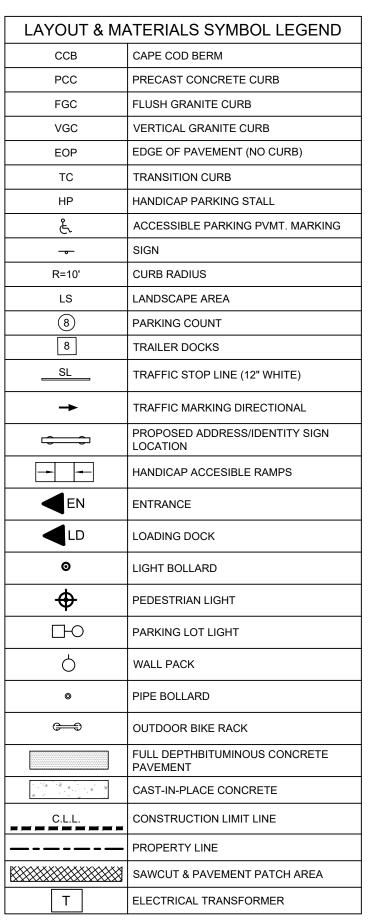
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TITLE SHEET

T100







SIGNAG	E LEC	GEND		
R1-1 STOP		ALL SIGNS SHALL CONFORM TO CURRENT MUTCD TRAFFIC SIGNAGE STANDARDS.		
R5-1 DO NOT ENTER				

GRADING, DRAINAGE	& UTILITY SYMBOL LEGEND
54	ELEVATION CONTOUR
53x50	SPOT ELEVATION
TC 52.50 BC 52.00	TOP AND BOTTOM OF CURB
TW 55.50 BW 52.00	TOP AND BOTTOM OF WALL
	CATCH BASIN
<b>(10)</b>	DRAIN MANHOLE
<b>©</b>	CONTECH CDS WATER QUALITY UNIT
<b>#</b>	OVERFLOW STRUCTURE
	STORM DRAIN
	FLARED END SECTION
HP	HIGH POINT
	RIP RAP
RD	ROOF DRAIN
—— w ——— w ———	WATER SERVICE
——ss———ss——	SEWER LINE
	GAS LINE
——— онж ——— онж ———	OVER HEAD WIRES
ETC ETC	PROPOSED CABLE TV / ELECTRICAL / TELCOM DUCT BANK
(9)	SANITARY MANHOLE
-	FLOW ARROW
Т	ELECTRIC TRANSFORMER
<b>©</b>	UTILITY VAULT
	HYDRANT
<del>#8</del> 1	PROPOSED FIRE HYDRANT / GATE VALVE / RISER
WG ⋈	WATER GATE
w⊗o	WATER SHUT-OFF
Т	STUB & CAP & MARK
CLDI	CEMENT LINE DUCTILE IRON PIPE
SDR	STANDARD DIMENSION RATIO
BFP	BACK-FLOW PREVENTER
SCH	PIPE SCHEDULE
PEX	POLYETHYLENE CROSS LINKED PIPE
HDPE	HIGH-DENSITY POLYETHYLENE
BRCB	BARRACUDA WATER QUALITY UNIT WITH CATCH BASIN FRAME & GRATE

SITE DRED	& EROSION CONTROL SYMBOL LEGEND				
	STRAW WATTLE EROSION CONTROL BARRIER				
igotimes	SILTSACK CATCH BASIN INSERT				
	REMOVE & DISPOSE OBJECT				
	REMOVE & SALVAGE OBJECT AS NOTED				
	REMOVE PAVEMENT, GRAVEL BASE LAYER & CURB. GRANITE CURB TO BE STOCKPILED AS DIRECTED FOR REUSE				
++++++++++++++++++++++++++++++++++++++	REMOVE PAVEMENT, MAINTAIN GRAVEL BASE LAYER. GRADE GRAVEL BASE LAYER AND SUPPLEMENT AS NEEDED				
	STRIP LOAM AND SOIL AND STOCKPILE ON SITE (SEE NOTE #15)				
	PAVEMENT SAWCUT LIMIT				
M&P	MAINTAIN AND PROTECT				
R&D	REMOVE AND DISPOSE				
C.L.L	CONSTRUCTION LIMIT LINE				
05050	STONE FILLED FILTER SOCK EROSION CONTROL BARRIER				
// // // //	REMOVE AND DISPOSE EXISTING UNDERGROUND UTILITIES				
×	REMOVE AND DISPOSE OBJECT				

#### GENERAL NOTES

- THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER ANY SIGNIFICANT VARIATIONS IN EXISTING SITE
  CONDITIONS FROM THOSE SHOWN ON THESE PLANS. ANY PROPOSED REVISIONS TO THE WORK, IF REQUIRED BY THESE
  SITE CONDITIONS. SHALL NOT BE UNDERTAKEN UNTIL REVIEWED AND APPROVED BY THE OWNER AND THE ENGINEER.
- IN ORDER TO PROTECT THE PUBLIC SAFETY DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING AT ALL TIMES ALL NECESSARY SAFETY DEVICES AND PERSONNEL, WARNING LIGHTS, BARRICADES, AND POLICE OFFICERS.
- 3. THE CONTRACTOR SHALL REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE.
- 4. AT THE END OF CONSTRUCTION THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE. A THOROUGH INSPECTION OF THE WORK PERIMETER IS TO BE MADE AND ALL DISCARDED MATERIALS, BLOWN OR WATER CARRIED DEBRIS, SHALL BE COLLECTED AND REMOVED FROM THE SITE.
- 5. THE CONTRACTOR SHALL REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE. ALL DEMOLITION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE SITE TO A LEGAL DUMP SITE. ALL TRUCKS LEAVING THE SITE SHALL BE COVERED.
- 6. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS AND DOOR LOCATIONS.
- 7. AREAS NOT DISTURBED BY CONSTRUCTION SHALL BE LEFT NATURAL. CARE SHALL BE TAKEN TO PRESERVE EXISTING TREES, GROUND COVER AND OTHER NATURAL FEATURES WHENEVER POSSIBLE.
- 8. ALL AREAS UNPAVED AND NOT LEFT IN A NATURAL CONDITION SHALL BE PLANTED WITH GRASS AND LANDSCAPING MATERIALS AS SHOWN ON THE LANDSCAPING PLAN.
- 9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTITUTE ANY AND ALL SAFETY MEASURES NECESSARY TO PROTECT THE PUBLIC SAFETY DURING CONSTRUCTION. THESE SHALL INCLUDE SIGNS, BARRICADES, FENCES, POLICE OFFICERS, ETC. AS IS NECESSARY, OR AS DIRECTED BY THE PUBLIC AUTHORITIES AND THE OWNER.
- 10. THE EXISTING SITE CONDITIONS SHOWN ON THESE PLANS WERE DETERMINED BY A FIELD SURVEY AND COMPILATION OF PLANS OF RECORD. ANY VARIATIONS FROM THE CONDITIONS SHOWN ON THESE PLANS SHOULD BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE PROPOSED WORK.
- 11. UNLESS OTHERWISE SPECIFIED ON THE PLANS AND SPECIFICATIONS ALL SITE CONSTRUCTION MATERIALS AND METHODOLOGIES ARE TO CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 1988 EDITION.

#### SITE PREPARATION & EROSION CONTROL NOTES

THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.

- 1. DISTURBANCE OF SOIL SURFACES IS REGULATED BY STATE LAW. ALL WORK SHALL COMPLY WITH THE CRITERIA OUTLINED TO PREVENT OR MINIMIZE SOIL EROSION.
- THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 8-1-1 AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION OR CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES BETWEEN THESE PLANS AND OBSERVED EXISTING CONDITIONS PRIOR TO PROCEEDING WITH WORK.
- 3. CONTRACTOR SHALL COMPLY WITH ALL TOWN OF WAREHAM, STATE OF MASSACHUSETTS AND FEDERAL REGULATIONS IN CONSTRUCTING THE EROSION AND SEDIMENTATION CONTROLS INDICATED ON THESE PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION OF TEMPORARY DRAINAGE SWALES, TEMPORARY SEDIMENT BASINS AND OTHER METHODS TO MANAGE STORMWATER RUNOFF ON AND FROM THE SITE THROUGHOUT CONSTRUCTION.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ROADS, CONTROLLING DUST, AND TAKING ALL NECESSARY MEASURES TO ENSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, CLEANING, AND REPAIR OF EROSION AND SEDIMENT CONTROL DEVICES AT THE END OF EACH WORK DAY AND AFTER ALL RAINFALL EVENTS OF 1/2 INCH OR GREATER.
- 6. ANY EXISTING OR PROPOSED STORMWATER DRAINAGE STRUCTURES WHICH MAY BE SUBJECT TO SEDIMENTATION PROCESSES SHALL BE PROTECTED WITH STAKED FILTER SOCKS, STAKED HAYBALES OR CRUSHED STONE FILTERS
- 7. ALL TEMPORARY SOIL STOCKPILE AREAS AND TRENCH EXCAVATION SPOILS SHALL BE PROTECTED WITH A FILTER SOCK BARRIER AND SHALL BE COVERED WITH A SPREAD HAY MULCH AND WOVEN NETTING (OR EXCELSIOR EROSION CONTROL MATTING) WHEN LEFT EXPOSED FOR MORE THAN 24 HOURS. ANY SUCH STOCKPILE AREAS SHALL BE PLACED IN AN UPLAND LOCATION AT LEAST 100 FEET FROM ALL WETLAND RESOURCE AREAS AND WATERBODIES AND COMPLETELY REMOVED PRIOR TO PROJECT CLOSE-OUT.
- 8. INLET PROTECTION SILTSACKS SHALL BE INSTALLED AT ALL PROPOSED CATCH BASIN INLETS. SILTSACKS SHALL BE INSTALLED IN EXISTING CATCH BASINS AS SHOWN ON THIS PLAN.
- 9. EROSION CONTROL MAT: MIRAFI "MIRAMAT TM8" GEOSYNTHETIC EROSION CONTROL MAT OR APPROVED EQUAL. CONTRACTOR SHALL ADHERE TO MANUFACTURER SPECIFICATIONS FOR PLACEMENT AND INSTALLATION.
- 10. FILTER FABRIC: "MIRAFI 140 N," PHILLIPS "SUPAC S-P" OR APPROVED EQUAL. CONTRACTOR SHALL ADHERE TO MANUFACTURER SPECIFICATIONS FOR PLACEMENT AND INSTALLATION.
- 11. CONTRACTOR SHALL KEEP ON SITE, AT ALL TIMES, ADDITIONAL FILTER SOCKS AND FILTER MEDIA FOR EMERGENCY INSTALLATION OR FOR INSTALLATION AT THE DIRECTION OF THE OWNER'S REPRESENTATIVE, THE ENGINEER, OR TOWN OF WAREHAM REPRESENTATIVE.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY AND ALL REQUIRED INSPECTIONS ASSOCIATED

- WITH THE WORK WITH THE TOWN OF WAREHAM PUBLIC WORKS, WATER, SEWER, AND FIRE DEPARTMENTS OR ANY OTHER MUNICIPAL AUTHORITY AS REQUIRED BY LOCAL REGULATIONS.

  13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL AUTOMOBILE AND PEDESTRIAN SAFETY
- MEASURES ON SITE DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO PARKING PHASING, JERSEY BARRIERS, TEMPORARY WAYFINDING SIGNAGE, CONSTRUCTION FENCE SCREENING, AND TRAFFIC DETAILS.

  14. THE CONTRACTOR SHALL COORDINATE HALLING OF DEMOLISHED MATERIALS OF SITE HALLING OF EXCAVATION.
- 14. THE CONTRACTOR SHALL COORDINATE HAULING OF DEMOLISHED MATERIALS OFF SITE. HAULING OF EXCAVATION SPOILS OFF SITE SHALL BE CONDUCTED IN ACCORDANCE WITH MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, CURRENT EDITION.

15. ALL DRAINAGE AND UTILITY INFRASTRUCTURE IS TO BE MAINTAINED AND PROTECTED UNLESS OTHERWISE INDICATED

- HEREON. REFER TO SITE GRADING AND DRAINAGE PLAN AND SITE UTILITY PLAN REGARDING ADJUSTMENT OF RIM ELEVATIONS AND CONSTRUCTION OF NEW INVERTS IN EXISTING DRAINAGE STRUCTURES.
- 16. FENCE PERIMETER FOR TEMPORARY MATERIAL AND STOCKPILE STORAGE AREA SHALL BE SET DIRECTLY ON EXISTING PAVEMENT USING WEIGHTED BASES.
- 17. CONTRACTOR SHALL AVOID PLACING CONSTRUCTION MATERIALS, DEMOLITION SPOILS, AND EXCAVATED MATERIALS DIRECTLY ON TOP OF EXISTING CATCH BASINS.
- 18. EXISTING LOAM SHALL BE STRIPPED AND STOCKPILED ON SITE FOR REUSE. LOAM SHALL BE SCREENED AND APPROVED

#### SITE LAYOUT AND MATERIALS NOTES

- CROSSWALKS SHALL BE STRIPED WITH 12" WIDE LINES OF WHITE PAINT SPACED 2' ON CENTER. STOP LINES SHALL BE STRIPED WITH 12" WIDE LINES OF WHITE PAINT. ALL OTHER STRIPING SHALL BE 4" WIDE LINES OF PAINT IN COLORS INDICATED HEREON.
- ALL NEW CURBS SHALL BE VERTICAL CONCRETE CURB (VCC) WITH 6" REVEAL UNLESS OTHERWISE INDICATED HEREON. INSTALL 6' LONG TRANSITION CURB STONES AT ALL TRANSITIONS FROM VERTICAL TO FLUSH CURB.
- 3. EXISTING CURBS TO REMAIN AS SHOWN HEREON ARE ASSUMED TO BE IN SATISFACTORY CONDITION BUT ARE TO BE PARGED OR REPLACED IN KIND IN LOCATIONS OF DAMAGE.
- 4. INSTALL EXPANSION AND CONTROL JOINTS IN SIDEWALKS AT INTERVALS OF 5 FEET AND 25 FEET, RESPECTIVELY. PROVIDE BROOM FINISH IN TRANSVERSE DIRECTION ON ALL WALKS.
- 5. SIDEWALK WIDTHS INDICATED ARE MEASURED FROM FACE OF CURB TO BACK OF SIDEWALK.
- 6. SIDEWALKS SHALL BE CONSTRUCTED WITH MAXIMUM RUNNING AND CROSS SLOPES OF 5 PERCENT AND 2 PERCENT RESPECTIVELY
- 7. HANDICAP RAMPS SHALL BE CONSTRUCTED WITH MAXIMUM RUNNING AND CROSS SLOPES OF 8.3 PERCENT AND 2 PERCENT, RESPECTIVELY.

#### GRADING/DRAINAGE/UTILITY NOTES

- AT THE END OF CONSTRUCTION, AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE CONTRACTOR SHALL CLEAN THE SUMPS OF ALL CATCH BASINS AND THE INVERTS OF ALL DRAIN MANHOLES.
- 2. THE LOCATION OF UNDERGROUND UTILITIES AS REPRESENTED ON THESE PLANS IS BASED UPON PLANS AND INFORMATION PROVIDED BY THE TOWN OF WAREHAM SUPPLEMENTED BY FIELD IDENTIFICATION WHEREVER POSSIBLE. NO WARRANTY IS MADE AS TO THE ACCURACY OF THESE LOCATIONS OR THAT ALL UNDERGROUND UTILITIES ARE SHOWN. THE CONTRACTOR SHALL CONTACT DIG SAFE AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION. DIG SAFE TELEPHONE NUMBER IS 1-888-DIG-SAVE. REFER TO EXISTING CONDITIONS SURVEY BY WSP USA. INC FOR MORE DETAILS.
- THE CONTRACTOR SHALL VERIFY THE LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO TAPPING INTO, CROSSING OR EXTENDING. IF THE NEW WORK POSES A CONFLICT WITH EXISTING UTILITIES, THE ENGINEER IS TO BE NOTIFIED PRIOR TO THE CONTRACTOR CONTINUING.
- 4. REINFORCED CONCRETE PIPE SHALL BE CLASS III. ALL PVC SANITARY SEWER SHALL BE SDR 35 WITH RUBBER RING JOINTS. ALL STORM DRAIN SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) PIPE UNLESS OTHERWISE NOTED. ALL WATER MAIN SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON PIPE. INSTALLATION OF ALL UTILITY STRUCTURES SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION.
- 5. NO LEDGE, BOULDERS, OR OTHER UNYIELDING MATERIALS SHALL BE LEFT WITHIN 6" OF THE WATER AND SEWER IN THE TRENCH, NOR ARE THEY TO BE USED FOR BACKFILL FOR THE FIRST 12" ABOVE THE PIPES.
- UNDERGROUND INFRASTRUCTURE SHALL BE SUBJECT TO THE APPROVAL OF THE WAREHAM DEPARTMENT OF PUBLIC WORKS.
- 7. HYDRANTS AND MINIMUM SIZING OF WATER PIPES SHALL BE SUBJECT TO THE APPROVAL OF THE WAREHAM FIRE DEPARTMENT
- 8. THE CONTRACTOR SHALL NOTIFY THE TOWN OF WAREHAM DEPARTMENT OF PUBLIC WORKS AT LEAST 48 HOURS IN ADVANCE OF ANY REQUIRED INSPECTIONS.
- 9. REFER TO PLUMBING PLANS FOR EXACT SIZE AND LOCATION OF SANITARY CONNECTIONS.
- 10. EXCAVATION SHALL BE TO THE LINES AND ELEVATIONS AS SHOWN ON THE PLANS.
- 11. FILL MATERIAL SHALL BE AS SPECIFIED BY THE ARCHITECT/ENGINEER AND SELECTED FROM ON-SITE EXCAVATION MATERIAL WHERE POSSIBLE.
- 12. MATERIAL FOR BACKFILL SHALL NOT INCLUDE UNSUITABLE MATERIAL SUCH AS PEAT, TRASH, STUMPS, DEBRIS OR HAZARDOUS WASTE.
- 13. ALL MATERIALS FOR INSTALLATION OF WATER, SEWER, DRAIN, GAS, DATA/TELECOM. AND ELECTRICITY SHALL BE IN ACCORDANCE WITH LOCAL STATE AND UTILITY COMPANY STANDARDS AND REGULATIONS AS THEY APPLY.
- 14. THE TOWN OF WAREHAM WATER AND FIRE DEPARTMENTS SHALL BE NOTIFIED PRIOR TO THE START OF ANY
- 15. THE TOWN OF WAREHAM SEWER DEPARTMENT SHALL BE NOTIFIED PRIOR TO THE START OF ANY WORK ON THE SANITARY SEWER SYSTEM. REFER TO PLUMBING AND ELECTRICAL PLANS FOR EXACT LOCATION AND SIZE OF
- 16. ALL STUMPS, PEAT, CONSTRUCTION DEBRIS AND OTHER DELETERIOUS MATERIALS ON THE SITE AT THE TIME OF CONSTRUCTION ARE TO BE REMOVED FROM THE SITE TO AN APPROVED LANDFILL. NO SUCH MATERIALS ARE TO BE BURIED OR OTHERWISE DISPOSED OF ON THE SITE.
- 17. THE PROPOSED WATER MAIN IS TO BE CL 52 CLDI. ALL FITTINGS, HYDRANTS, VALVES, ETC., USED ON THE SITE ARE TO BE IN ACCORDANCE WITH THE TOWN OF WAREHAM WATER DEPARTMENT SPECIFICATIONS.
- 18. THREE CUBIC FEET OF CRUSHED STONE IS TO BE PLACED AROUND THE DRAIN HOLE IN ALL HYDRANTS.
  HYDRANTS ARE TO CONFORM TO THE TOWN OF WAREHAM UTILITY STANDARD SPECIFICATIONS.
- 19. NO LEDGE, BOULDERS OR OTHER UNYIELDING MATERIALS ARE TO BE LEFT WITHIN 6" OF THE WATER MAIN IN THE TRENCH NOR ARE THEY TO BE USED FOR BACKFILL IN THE TRENCH.
- 20. UNLESS OTHERWISE NOTED ALL UTILITY TRENCHES ARE TO BE BACKFILLED WITH BANK RUN GRAVEL. NO STONES GREATER THAN 3" IN DIAMETER ARE TO BE USED WITHIN 12" OF THE PIPE. THE TRENCHES, WHEN UNDER PROPOSED PAVED AREAS, ARE TO BE MECHANICALLY COMPACTED IN 12" LIFTS.
- 21. ALL CATCH BASINS ARE TO HAVE AN OIL AND GAS HOOD INSTALLED IN THE OUTLET PIPE.
- 22. THE SITE CONTRACTOR IS TO INSTALL A GAS SERVICE IN THE APPROXIMATE LOCATION SHOWN ON THE PLANS. THE SIZE AND EXACT LOCATION OF THE SERVICE IS TO BE DETERMINED AND COORDINATED WITH THE PLUMBING PLANS AND
- 23. ALL EARTHEN PERIMETER SIDE SLOPES THAT ARE GRADED AND ARE NOT SCHEDULED FOR PERMANENT STABILIZATION WITHIN 30 DAYS OF OF COMPLETION ARE TO BE COVERED WITH HAY OR WOOD CHIP MULCH, BIODEGRADABLE EROSION CONTROL FABRIC, OR HYDROSEEDED WITH A TEMPORARY GRASS MIXTURE IF WEATHER CONDITIONS WILL BE CONDUCIVE TO GERMINATION OF THE SEED.

## LAND PLANNING PERMIT EXPEDITING CIVIL/SITE ENGINEERING CONSULTING

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/AREHAM RETAIL MANAGEMEN
TE DEVELOPMENT PROJECT
ETH F. TOBEY ROAD

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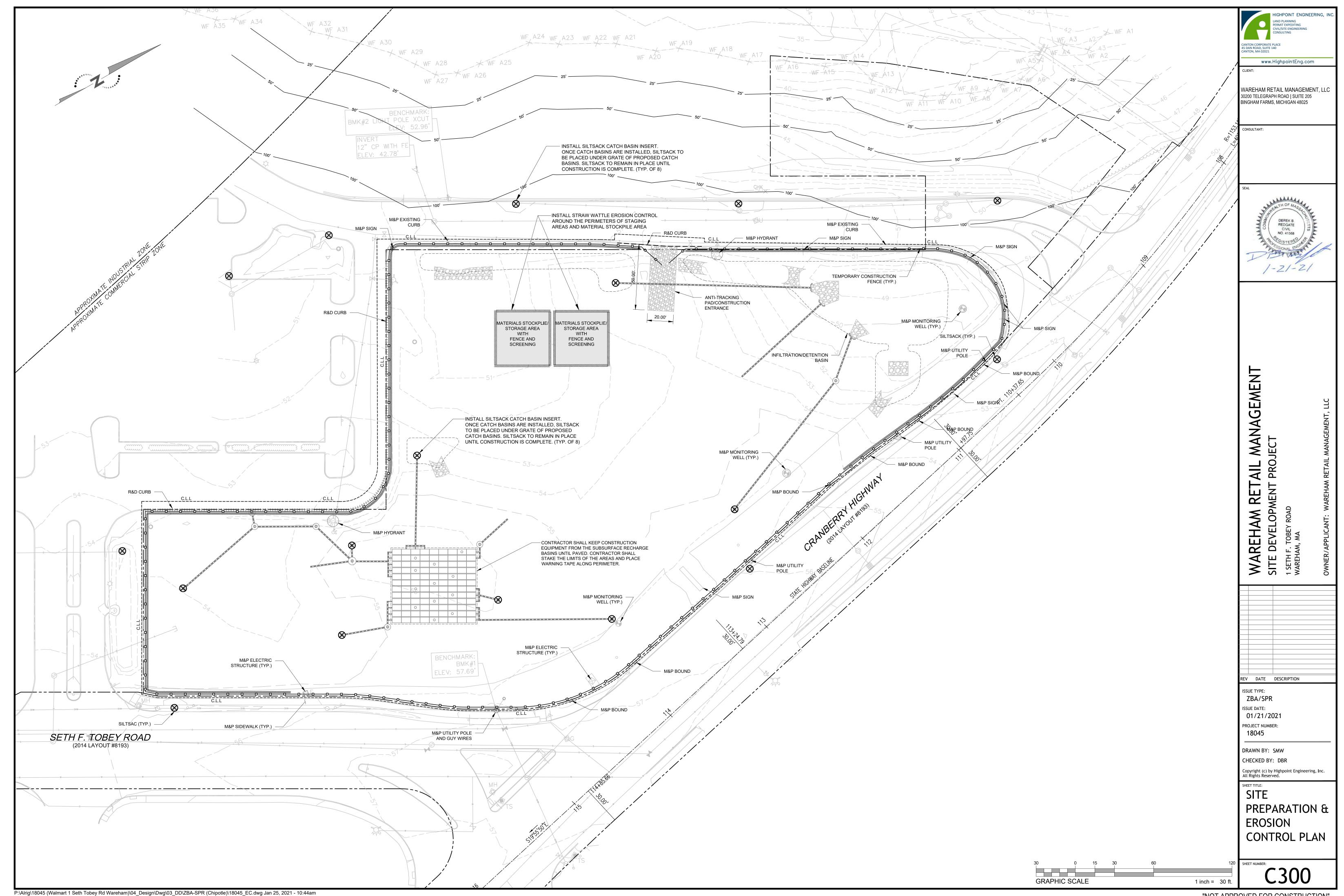
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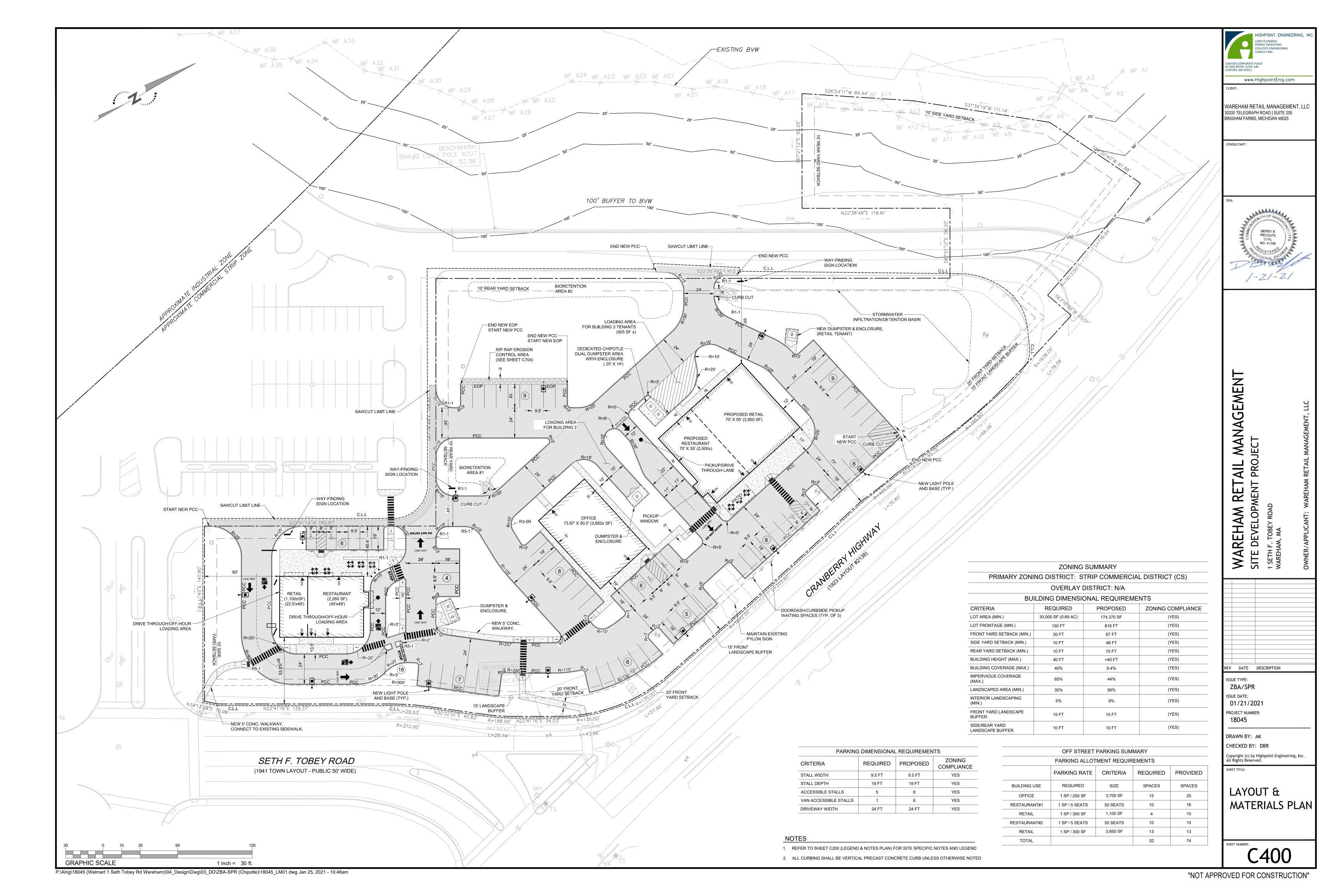
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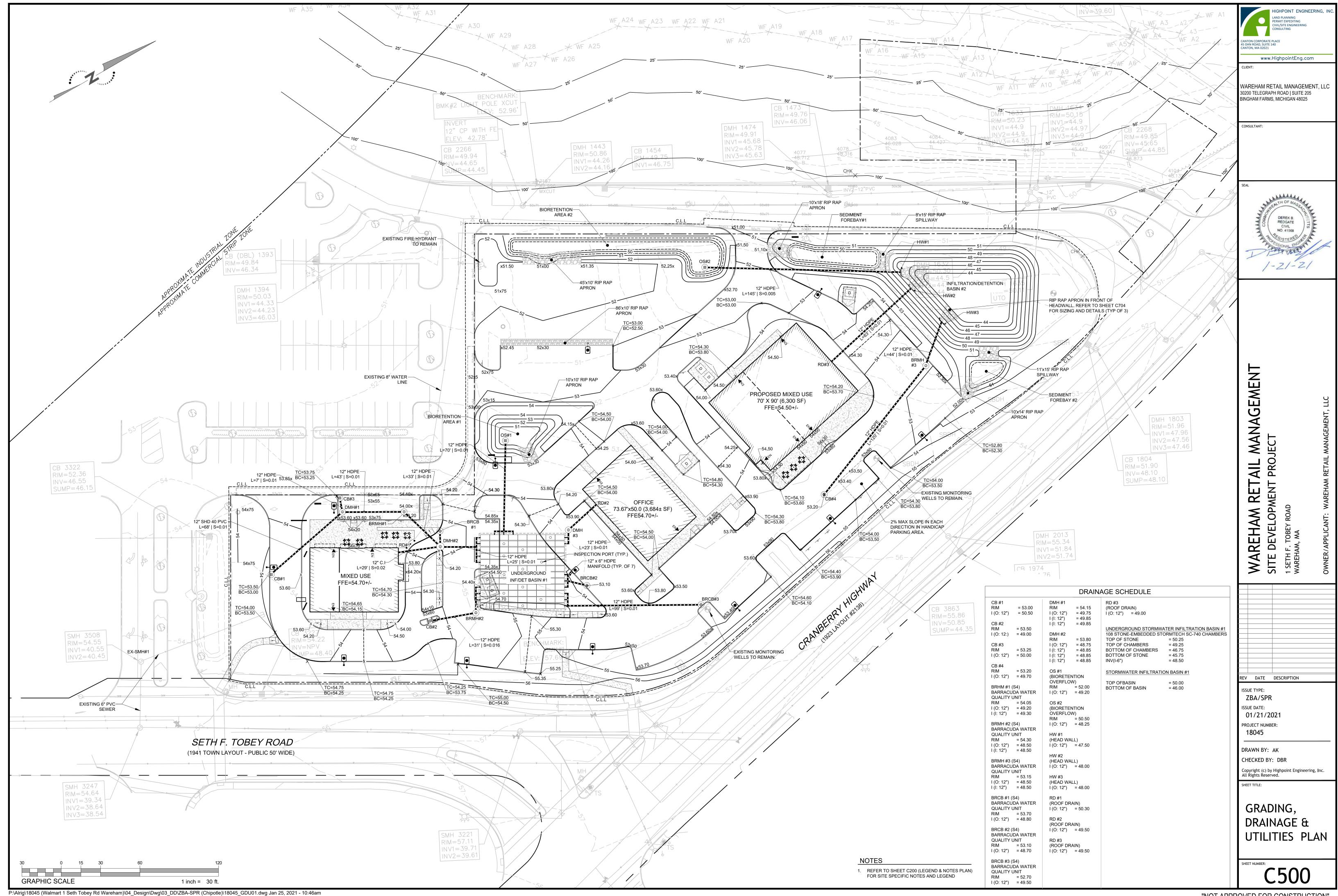
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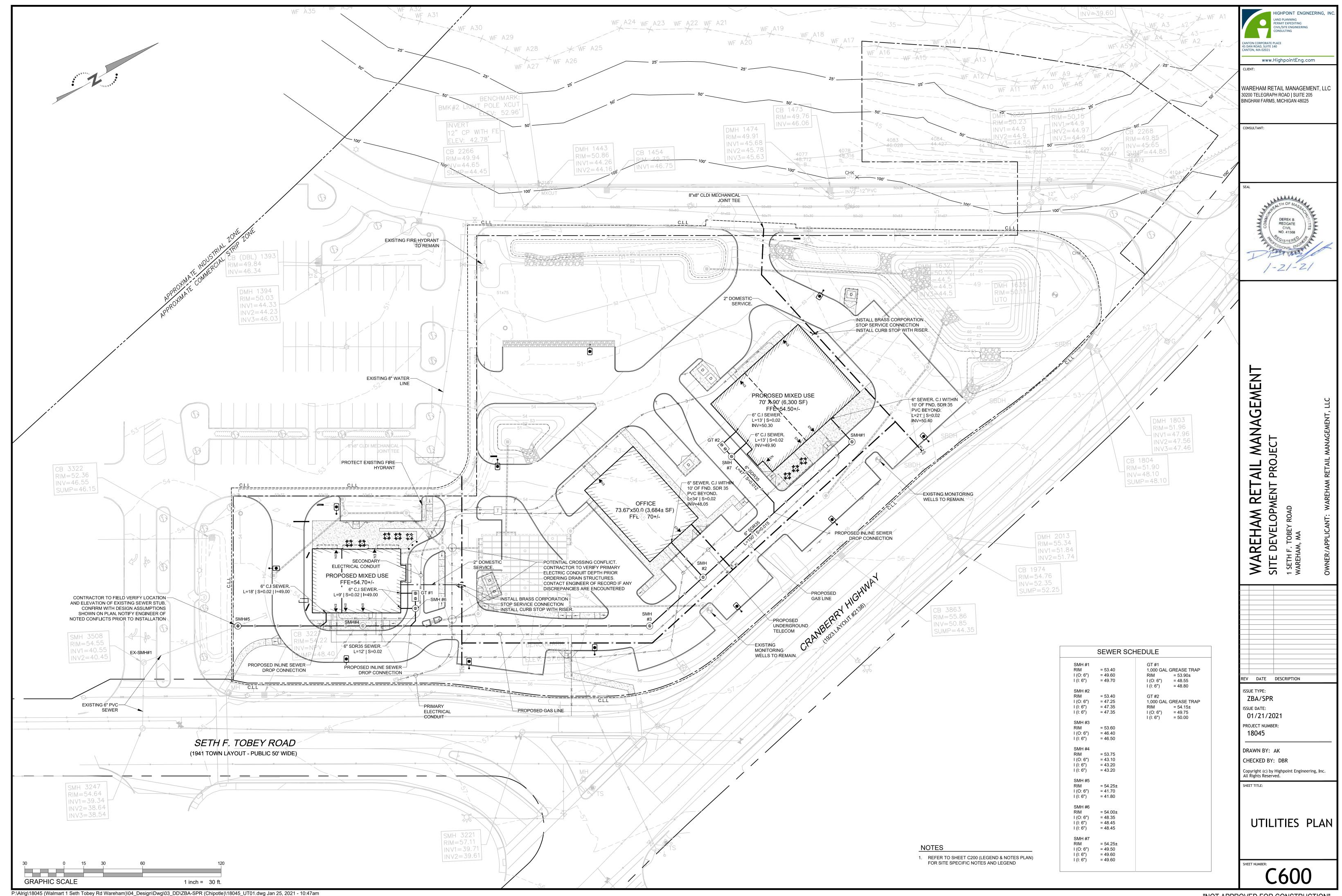
LEGEND & NOTES PLAN

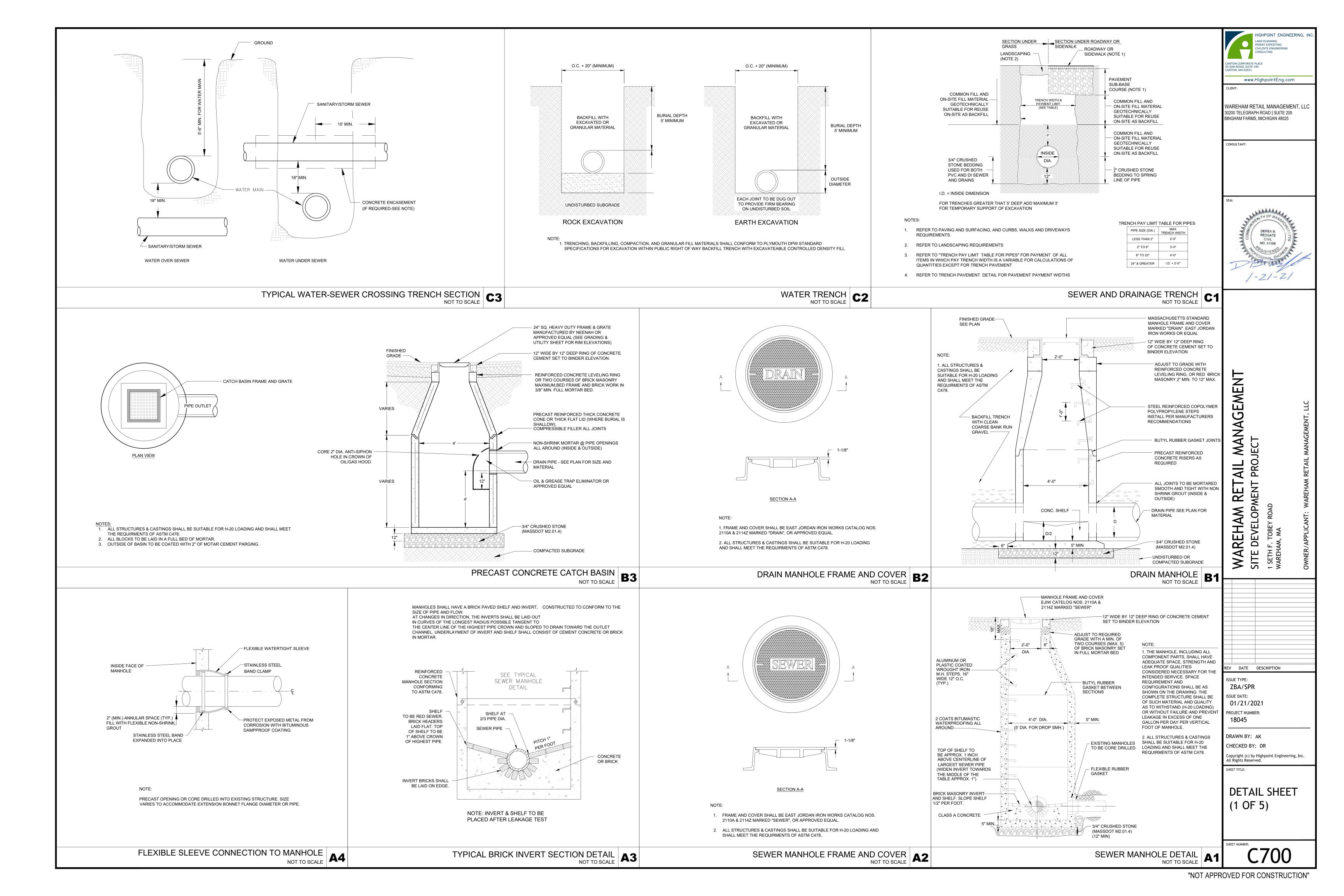
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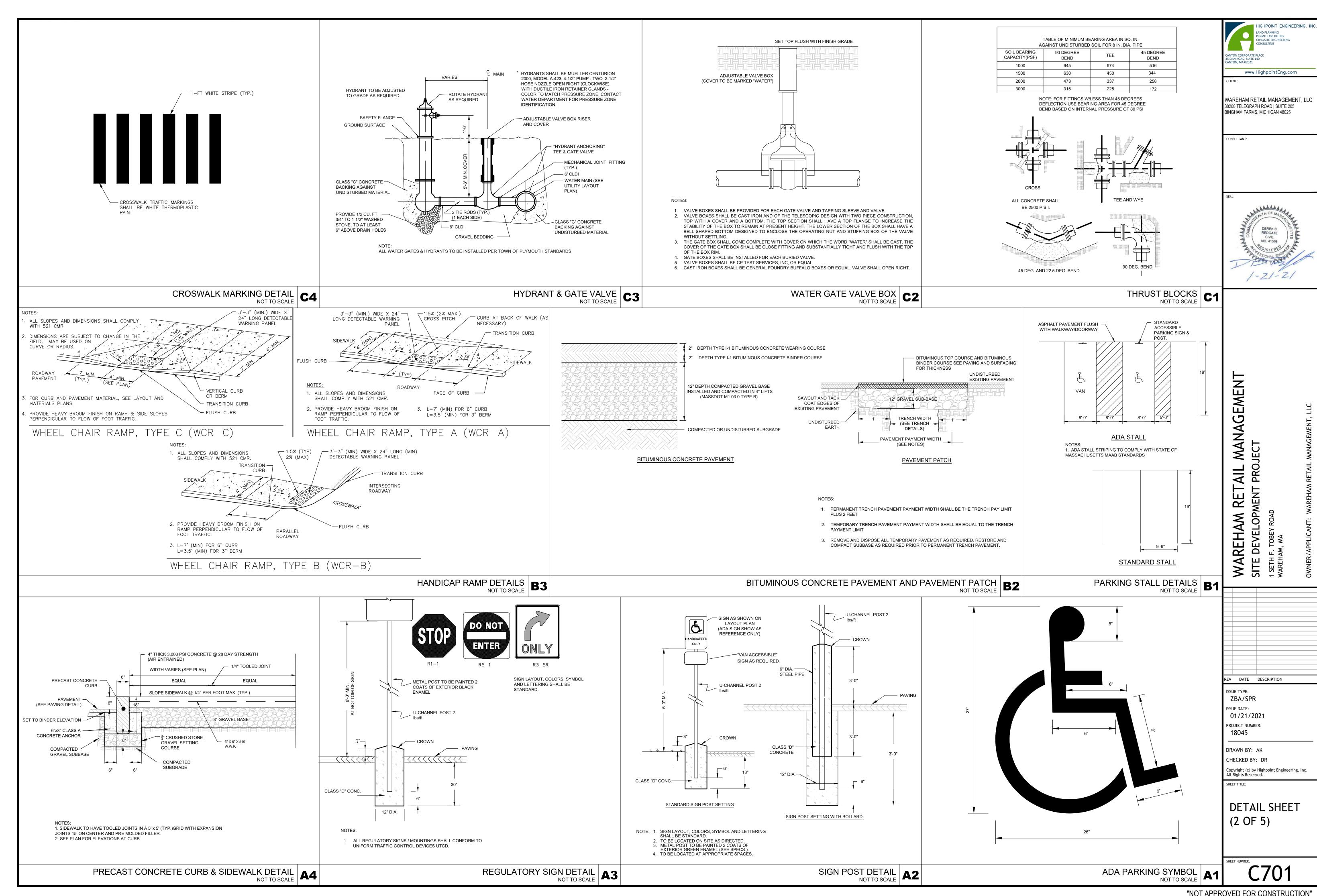


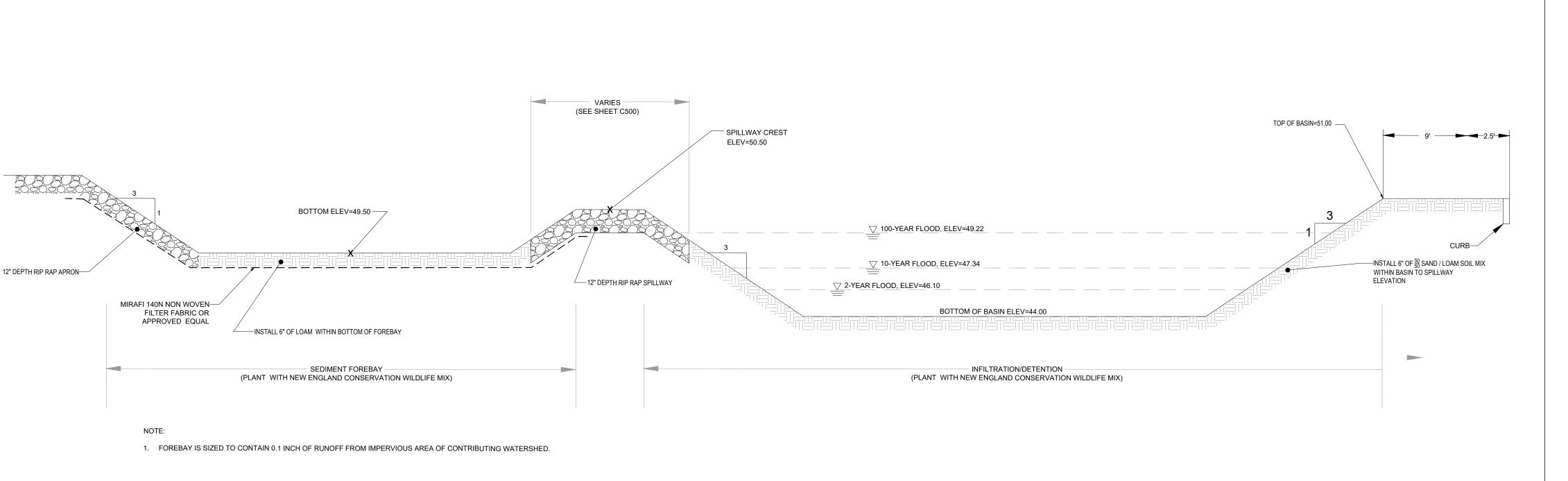


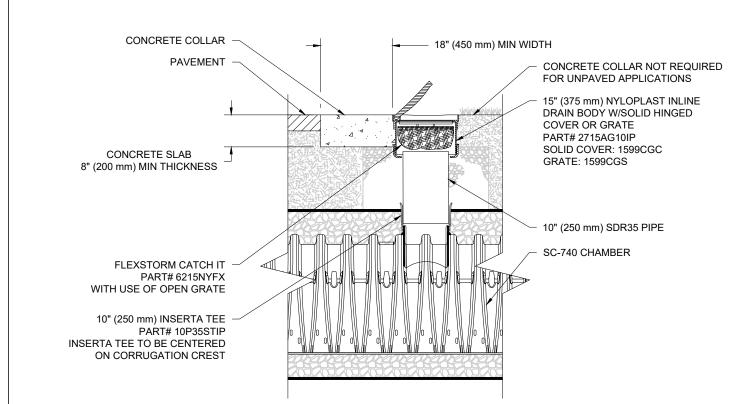












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DEREK B. REDGATE CIVIL NO. 41568

SEDIMENT FOREBAY/INFILTRATION BASIN CROSS SECTION NOT TO SCALE B2

SC-740 10" INSPECTION PORT DETAIL B1

### VARIABLE INLET LOCATIONS 48" MANHOLE CATCHBASIN FRAME & GRATE #" OUTLET PIPE MANHOLE FRAME & COVER #" INLET PIPE VARIABLE OUTLET LOCATIONS (TYP 4 PLACES) INTEGRATED INTERNAL WEIR

**SECTION VIEW A-A** 

###" FRAME & COVER -

INTEGRATED

FIN ARRAY

(TYP 4 PLACES)

INTERNAL WEIR

ASPHALT INSTALLATION

0.00 OUTLET

- 12" WIDE BY 12" DEEP RING OF CONCRETE CEMENT

0.00 INLET

-6.92 SUMP

TURF INSTALLATION

### **BAYSAVER BARRACUDA SPECIFICATIONS**

CONCRETE STRUCTURES: DESIGNED FOR H-20 TRAFFIC LOADING AND APPLICABLE SOIL LOADS OR AS OTHERWISE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER. THE MATERIALS AND STRUCTURAL DESIGN OF THE DEVICES SHALL BE PER ASTM C857 AND ASTM

48" HP MANHOLE STRUCTURES: MADE FROM AN IMPACT MODIFIED COPOLYMER POLYPROPYLENE MEETING THE MATERIAL REQUIREMENTS OF ASTM F2764. THE ECCENTRIC CONE REDUCER SHALL BE MANUFACTURED FROM POLYETHYLENE MATERIAL MEETING ASTM D3350

SEPARATOR INTERNALS SHALL BE SUBSTANTIALLY CONSTRUCTED OF STAINLESS STEEL, POLYETHYLENE, OR OTHER THERMOPLASTIC MATERIAL APPROVED BY THE MANUFACTURER.

CELL CLASS 213320C. GASKETS SHALL BE MADE OF MATERIAL MEETING THE REQUIREMENTS OF ASTM F477.

PERFORMANCE THE STORMWATER TREATMENT UNIT SHALL BE AN INLINE UNIT CAPABLE OF CONVEYING 100% OF THE DESIGN PEAK FLOW. IF PEAK FLOW RATES EXCEED MAXIMUM HYDRAULIC RATE, THE UNIT SHALL BE INSTALLED OFFLINE.

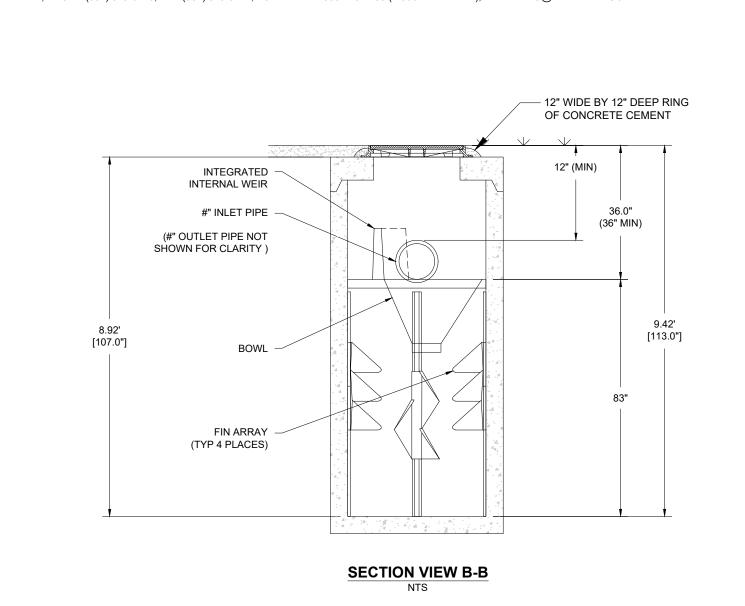
THE STORMWATER TREATMENT UNIT INTERNALS SHALL CONSIST OF(1)SEPARATOR CONE ASSEMBLY, AND (1)SUMP ASSEMBLY WHICH INCLUDES(4) LEGS WITH "TEETH".

THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 80% OF THE SUSPENDED SOLIDS ON AN ANNUAL AGGREGATE REMOVAL BASIS. SAID REMOVAL SHALL BE BASED ON FULL—SCALE THIRD PARTY TESTING USING OK—110 MEDIA GRADATION OR EQUIVALENT AND 300 mg/L INFLUENT CONCENTRATION. SAID FULL SCALE TESTING SHALL HAVE INCLUDED SEDIMENT CAPTURE BASED ON ACTUAL TOTAL MASS COLLECTED BY THE STORMWATER TREATMENT UNIT.

THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS USING A MEDIA MIX WITH  $d_{50}$ =75 MICRON AND 200 MG/L INFLUENT CONCENTRATION.

THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS PER CURRENT NJDEP/NJCAT HDS PROTOCOL

EACH STORMWATER TREATMENT SYSTEM SHALL BE A BARRACUDA SYSTEM AS MANUFACTURED BY BAYSAVER, LLC, 1030 DEER HOLLOW DR., MOUNT AIRY, MD 21771, PHONE (301) 829-6470, FAX (301) 829-3747, TOLL FREE 1-800-229-7283 (1-800-BAYSAVER), EMAIL INFO@BAYSAVER.COM

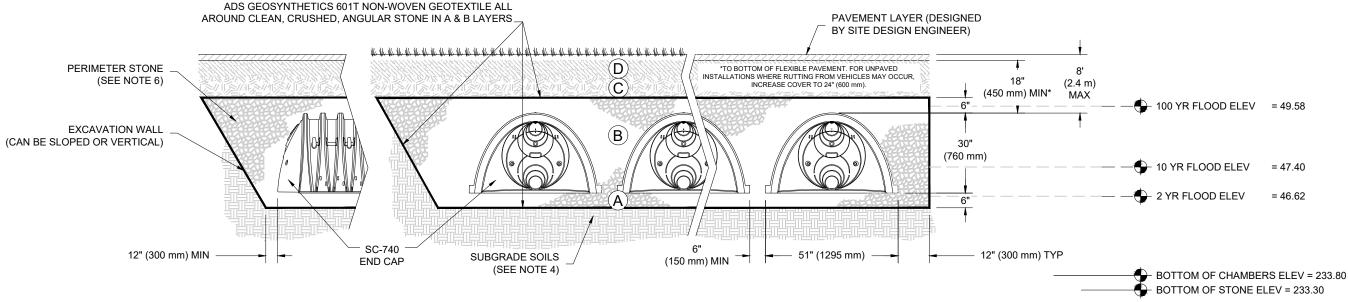


BARRACUDA BAYSAVER S4 WATER QUALITY UNIT NOT TO SCALE

#### ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL	COMPACTION / DENSITY	
	WATERIAL LOCATION	DESCRIPTION	CLASSIFICATIONS	REQUIREMENT	
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.	
С	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE.  MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	OR	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).	
В	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.	
Α	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. 2 3	

- PLEASE NOTE: 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE." ANGULAR NO. 4 (AASHTO M43) STONE".
- 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



- 1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL
- 4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- 5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- 6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

 $\simeq$ **'AREHAM DEVELOP** EV DATE DESCRIPTION ZBA/SPR ISSUE DATE: 01/21/2021 PROJECT NUMBER: 18045 DRAWN BY: AK CHECKED BY: DR Copyright (c) by Highpoint Engineering, Inc. All Rights Reserved.

STORMTECH SC-740 CHAMBER SYSTEMS CROSS SECTION NOT TO SCALE

**DETAILS SHEET** 

(3 OF 5)

