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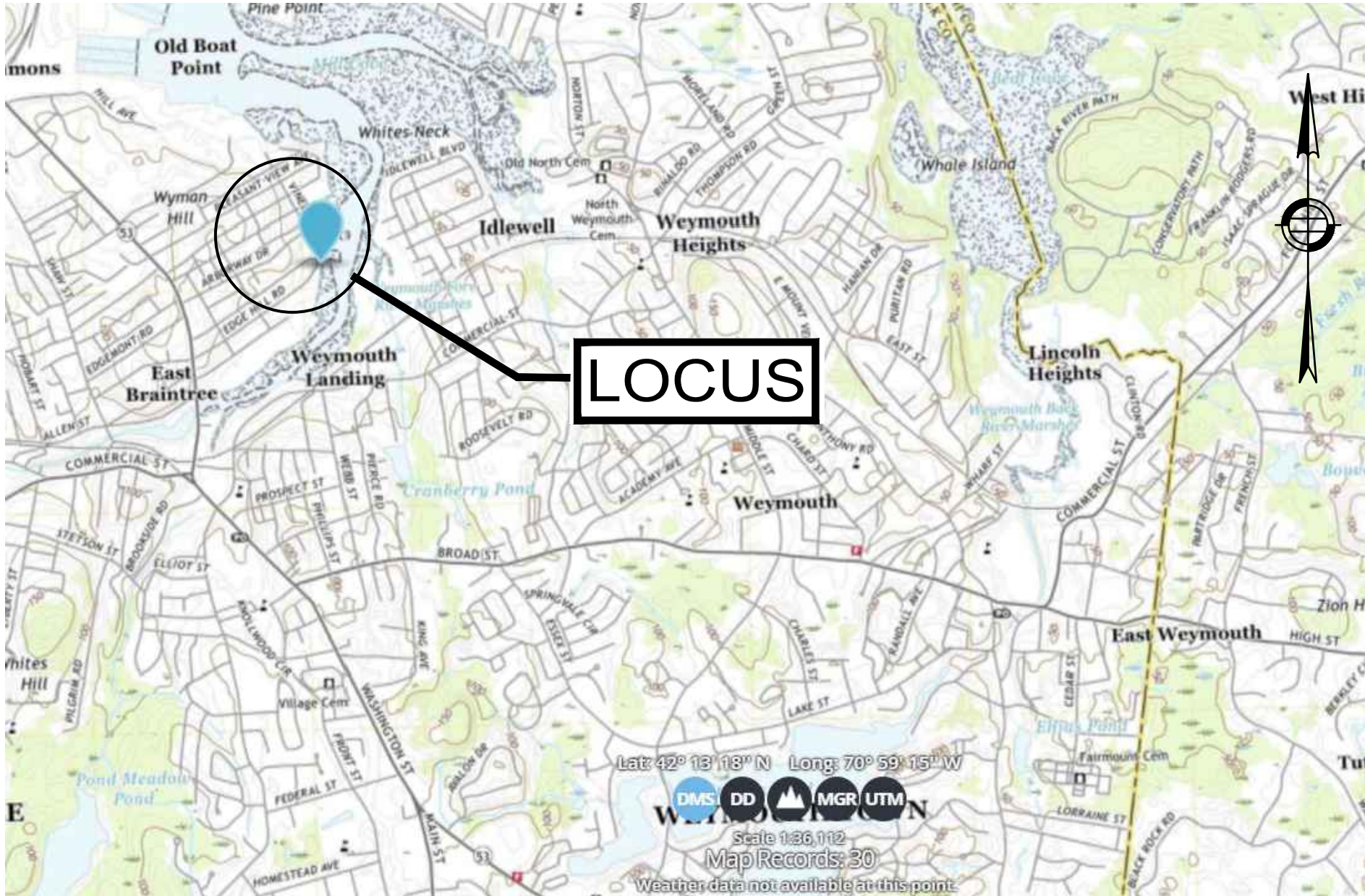
SMITH BEACH PARKING LOT GREEN INFRASTRUCTURE RETROFIT BRAINTREE, MASSACHUSETTS

FINAL PLAN SET
JUNE 24, 2022

SITE DATA

1. OWNER
TOWN OF BRAINTREE DEPT. OF PUBLIC WORKS
85 QUINCY AVENUE
BRAINTREE, MA 02184
CONTACT: CHRISTOPHER TRUDEL, ENGINEERING MANAGER
PHONE: 781-794-8017
2. ENGINEER
NITSCH ENGINEERING
2 CENTER PLAZA, SUITE 430
BOSTON, MA 02108
CONTACT: JENNIFER JOHNSON, PE
PHONE: 617-338-0063
3. ADDRESS
SMITH BEACH PARKING LOT
VINEDALE RD & BEECHWOOD RD
BRAINTREE, MA 02184

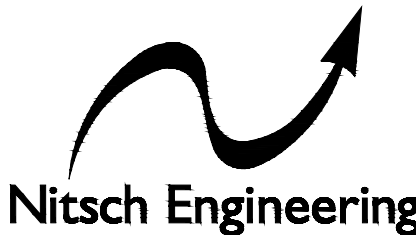
DRAWING INDEX	
SHEET NUMBER	SHEET TITLE
--	COVER SHEET
C-000	CIVIL NOTES, LEGEND, & ABBREVIATIONS
C-100	SITE PREPARATION & DEMOLITION PLAN
C-200	SITE LAYOUT & MATERIALS PLAN
C-201	SITE LAYOUT & CURBING PLAN
C-300	SITE UTILITY PLAN
C-400	GRADING PLAN
C-500	CIVIL DETAILS SHEET I
C-501	CIVIL DETAILS SHEET II
C-502	CIVIL DETAILS SHEET III
C-503	CIVIL DETAILS SHEET IV
C-504	CIVIL DETAILS SHEET V
C-600	PLANTING PLAN



VICINITY MAP
Not to Scale

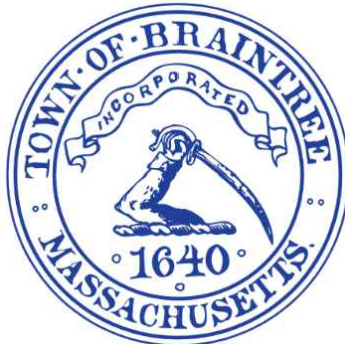


LOCUS MAP
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BRAINTREE DPW
85 Quincy Avenue
Braintree, Massachusetts 02184

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DEMOLITION NOTES:

1. SITE PREPARATION AND DEMOLITION SHALL INCLUDE THOSE AREAS WITHIN THE LIMIT OF WORK LINE AS SHOWN ON THE CONTRACT DOCUMENTS.
2. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
3. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING DEMOLITION.
4. THE CONTRACTOR SHALL COORDINATE SITE DEMOLITION EFFORTS WITH ALL TRADES THAT MAY BE AFFECTED BY THE WORK.
5. ALL ITEMS REQUIRING REMOVAL SHALL BE REMOVED TO FULL DEPTH TO INCLUDE BASE MATERIAL AND FOOTINGS OR FOUNDATIONS AS REQUIRED TO FACILITATE CONSTRUCTION, AND LEGALLY DISPOSED OF OFFSITE BY CONTRACTOR.
6. UTILITY PIPES DESIGNATED TO BE ABANDONED IN PLACE SHALL BE PLUGGED AT THEIR ENDS WITH WATERTIGHT BRICK MASONRY OR CEMENT MORTAR WITH A MINIMUM THICKNESS OF 8 INCHES.
7. UTILITY PIPES DESIGNATED TO BE REMOVED SHALL CONSIST OF THE COMPLETE REMOVAL AND DISPOSAL OF THE ENTIRE LENGTH OF PIPE AND BACKFILL AND 95% COMPACTION OF THE VOID WITH ORDINARY BORROW. WHEN THE VOID IS WITHIN THE FOOTPRINT OF THE NEW BUILDING, GRAVEL BORROW SHALL BE USED TO BACKFILL THE VOID.
8. UTILITY STRUCTURES DESIGNATED TO BE ABANDONED IN PLACE SHALL HAVE THEIR CAST IRON CASTINGS REMOVED AND DISPOSED, INLET AND OUTLET PIPES PLUGGED, THE BOTTOM OF THE STRUCTURES SHALL BE BROKEN, THE VOID OF THE STRUCTURES SHALL BE BACKFILLED AND COMPACTED TO 95% WITH ORDINARY BORROW OR FLOWABLE FILL, AND THE TOP OF THE STRUCTURE SHALL BE REMOVED SO THAT IT IS AT LEAST 36 INCHES BELOW FINISH GRADE.
9. UTILITY STRUCTURES DESIGNATED TO BE REMOVED SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF CAST IRON CASTINGS, PLUGGING OF INLET AND OUTLET PIPES, REMOVAL OF THE STRUCTURE, AND BACKFILL AND 95% COMPACTION OF THE VOID WITH ORDINARY BORROW. WHEN HE VOID IS WITHIN THE FOOTPRINT OF THE NEW BUILDING, GRAVEL BORROW SHALL BE USED TO BACKFILL THE VOID.
10. ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFFSITE.
11. AT ALL LOCATIONS WHERE EXISTING CURBING, CONCRETE PAVEMENT OR BITUMINOUS CONCRETE ROADWAY ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE.
12. EXTEND DESIGNATED LIMIT OF WORK AS NECESSARY TO ACCOMPLISH ROUGH GRADING, EROSION CONTROL, TREE PROTECTION, AND SITE WORK AS REQUIRED BY THESE DRAWINGS AND SPECIFICATIONS.
13. THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL RUBBISH AND DEBRIS FOUND THEREON. STORAGE OF SUCH MATERIALS ON THE PROJECT SITE WILL NOT BE PERMITTED. THE CONTRACTOR SHALL LEAVE THE SITE IN SAFE, CLEAN, AND LEVEL CONDITION UPON COMPLETION OF THE SITE DEMOLITION WORK.
14. REMOVE AND STOCKPILE ALL EXISTING SITE LIGHTS, BENCHES, TRASH RECEPTACLES, TRAFFIC SIGNS, GRANITE CURB, AND OTHER SITE IMPROVEMENTS WITHIN LIMIT OF WORK LINE UNLESS OTHERWISE NOTED.
15. ALL EXISTING TREES AND SHRUBS TO REMAIN SHALL BE PROTECTED AND MAINTAINED THROUGHOUT THE TIME OF CONSTRUCTION, AS SPECIFIED AND DIRECTED BY THE LANDSCAPE ARCHITECT.
16. BEFORE ANY TREES OR SHRUBS ARE REMOVED, THE CONTRACTOR SHALL ARRANGE A CONFERENCE ON THE SITE WITH THE OWNER OR OWNER'S REPRESENTATIVE TO IDENTIFY TREES AND SHRUBS THAT ARE TO BE REMOVED, AS WELL AS THOSE WHICH ARE TO BE PROTECTED. DO NOT COMMENCE CLEARING OPERATIONS WITHOUT A CLEAR UNDERSTANDING OF EXISTING CONDITIONS TO BE PRESERVED.
17. THE CONTRACTOR SHALL REMOVE FROM THE AREA OF CONSTRUCTION PAVEMENT, CONCRETE, CURBING, POLES AND FOUNDATIONS, ISLANDS, TREE BERMS AND OTHER FEATURES WITHIN THE LIMITS OF CONSTRUCTION AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION WHETHER SPECIFIED ON THE DRAWINGS OR NOT.

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS" PREPARED BY DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF RESOURCE PROTECTION, AND THE CURRENT NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES.
2. MEANS OF EROSION AND SEDIMENT PROTECTION AS NOTED ON THE DRAWINGS INDICATE MINIMUM RECOMMENDED PROVISIONS. THE CONTRACTOR IS RESPONSIBLE FOR FINAL SELECTION AND PLACEMENT OF EROSION AND SEDIMENTATION CONTROLS BASED ON ACTUAL SITE CONDITIONS AND CONSTRUCTION CONDITIONS. ADDITIONAL MEANS OF PROTECTION SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED FOR CONTINUED OR UNFORESEEN EROSION PROBLEMS, OR AS DIRECTED BY CONTROLLING MUNICIPAL AUTHORITIES, AT NO ADDITIONAL EXPENSE TO THE OWNER.
3. AN EROSION CONTROL BARRIER SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED DEVELOPMENT AS INDICATED IN THE PLAN PRIOR TO COMMENCEMENT OF DEMOLITION OR CONSTRUCTION OPERATIONS.
4. SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF AND DURING ALL PHASES OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO AND IMMEDIATELY AFTER ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.
5. AFTER ANY SIGNIFICANT RAINFALL (GREATER THAN 0.25 INCHES OF RAINFALL WITHIN 24 HOURS), SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOR INTEGRITY. ANY DAMAGE SHALL BE CORRECTED IMMEDIATELY.
6. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES SHALL BE PROVIDED TO ENSURE THAT THE INTENDED PURPOSE IS ACCOMPLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT LEAVING THE LIMIT OF WORK. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SEDIMENT FROM ENTERING ANY STORM DRAINAGE SYSTEM AND FROM BEING CONVEYED TO ANY WETLAND RESOURCE AREA, PUBLIC WAYS, ABUTTING PROPERTY, OR OUTSIDE OF THE PROJECT LIMITS.
8. THE CONTRACTOR SHALL PROTECT ALL DRAINAGE SWALES AND GROUND SURFACES WITHIN THE LIMIT OF WORK FROM EROSION CONDITIONS. STRAW BALE, CRUSHED STONE OR EQUIVALENT CHECK DAMS ARE TO BE PROVIDED AT A MAXIMUM OF TWO HUNDRED (200) FOOT SPACING, OR LESS AS SITE-SPECIFIC CONDITIONS WARRANT, WITHIN ALL DRAINAGE SWALES AND DITCHES AND AT UPSTREAM SIDES OF ALL DRAINAGE INLETS.
9. ALL STOCK PILES SHALL BE PROTECTED AND LOCATED A MINIMUM OF 100' FROM EXISTING WETLAND RESOURCE AREAS & WITHIN THE LIMIT OF WORK.
10. ANY SEDIMENT TRACKED ONTO PAVED AREAS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY.
11. ALL SEDIMENT RETAINED BY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE LEGALLY DISPOSED OF OFFSITE.
12. TEMPORARY DIVERSION DITCHES, PERMANENT DITCHES, CHANNELS, EMBANKMENTS, AND ANY DENUDED SURFACE THAT WILL BE EXPOSED FOR A PERIOD OF 14 CALENDAR DAYS OR MORE SHALL BE CONSIDERED CRITICAL VEGETATION AREAS. THESE AREAS SHALL BE STABILIZED/PROTECTED WITH APPROPRIATE EROSION CONTROL MATTING OR OTHER EROSION CONTROL METHODS.
13. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS AS DIRECTED BY THE PERMITTING AUTHORITY OR OWNER.
14. THE CONTRACTOR SHALL USE TEMPORARY SEEDING, MULCHING, OR OTHER APPROVED STABILIZATION MEASURES TO PROTECT EXPOSED AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE. STOCKPILES THAT WILL BE EXPOSED FOR LONGER THAN 14 DAYS SHALL BE STABILIZED.
15. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL EROSION AND SEDIMENT CONTROLS AT THE COMPLETION OF SITE CONSTRUCTION, BUT ONLY WHEN DIRECTED BY THE TOWN OF BRAINTREE CONSERVATION AGENT. STABILIZE OR SEED BARE AREAS LEFT AFTER EROSION CONTROL REMOVAL.

EARTH MOVING AND GRADING NOTES:

1. ALL TOPSOIL ENCOUNTERED WITHIN THE WORK AREA SHALL BE STRIPPED TO ITS FULL DEPTH AND STOCKPILED FOR REUSE. EXCESS TOPSOIL SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE DIRECTED BY THE OWNER. TOPSOIL PILES SHALL REMAIN SEGREGATED FROM EXCAVATED SUBSURFACE SOIL MATERIALS.
2. GRADES WITHIN HANDICAP PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 1.5% IN ANY DIRECTION.
3. CROSS SLOPES OF ALL PEDESTRIAN WALKS SHALL NOT EXCEED 1.5%.
4. RUNNING SLOPE OF ALL PEDESTRIAN WALKS SHALL NOT EXCEED 4.5% UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL EXERCISE CAUTION IN ALL EXCAVATION ACTIVITY DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES.
6. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF 1% UNLESS OTHERWISE NOTED.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM FACE OF BUILDINGS AT ALL LOCATIONS.
8. PITCH EVENLY BETWEEN CONTOUR LINES AND BETWEEN SPOT GRADES. SPOT GRADE ELEVATIONS TAKE PRECEDENCE OVER CONTOUR LINES.
9. ALL PROPOSED TOP OF CURB ELEVATIONS ARE SIX INCHES (6") ABOVE BOTTOM OF CURB ELEVATIONS UNLESS OTHERWISE NOTED. ALL PROPOSED TOP OF CAPE COD BERM ELEVATIONS ARE FOUR INCHES (4") ABOVE BOTTOM OF CURB ELEVATION UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL BLEND NEW GRADING SMOOTHLY INTO EXISTING GRADING AT LIMITS OF GRADING.
11. WHERE NEW PAVING MEETS EXISTING PAVING, MEET LINE AND GRADE OF EXISTING PAVING WITH SMOOTH TRANSITION BETWEEN EXISTING AND NEW SURFACES.
12. THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK.
13. PITCH TOPS OF ALL WALLS AT ONE-EIGHTH INCH (1/8") PER FOOT FROM BACK OF WALL TO FACE OF WALL.
14. SURPLUS MATERIALS SHALL BE REMOVED FROM THE SITE UNLESS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE. REFER TO EARTHWORK SPECIFICATIONS.
15. ANY AREAS OUTSIDE OF THE LIMIT OF WORK THAT ARE DISTURBED SHALL BE RESTORED BY THE CONTRACTOR TO THE PRE-CONSTRUCTION CONDITION/GRADE AT NO COST TO THE OWNER.
16. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO OWNER.

GENERAL NOTES:

1. TOPOGRAPHIC DATA, PROPERTY LINE INFORMATION, AND EXISTING SITE FEATURES WERE OBTAINED FROM A PLAN ENTITLED "SMITH BEACH GPS", PREPARED BY BRAINTREE DPW., DATED 11/19/2021.
2. FLOODPLAIN INFORMATION WAS OBTAINED FROM THE FLOOD INSURANCE RATE MAP (FIRM) NO. 2502100227F. THE SITE IS IN ZONE AE (1% CHANCE OF FLOOD HAZARD) AND A SMALL PORTION IS WITHIN ZONE X (0.2% ANNUAL CHANCE OF FLOODING).
3. THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82, SECTION 40, AS AMENDED, WHICH STATES THAT NO ONE MAY EXCAVATE IN THE COMMONWEALTH OF MASSACHUSETTS EXCEPT IN AN EMERGENCY WITHOUT 72 HOURS NOTICE, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, TO NATURAL GAS PIPELINE COMPANIES, AND MUNICIPAL UTILITY DEPARTMENTS THAT SUPPLY GAS, ELECTRICITY, TELEPHONE, OR CABLE TELEVISION SERVICE IN OR TO THE CITY OR TOWN WHERE THE EXCAVATION IS TO BE MADE. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-888-DIG-SAFE.
4. THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82A, ALSO REFERRED TO AS JACKIE'S LAW, AS DETAILED IN SECTION 520 CMR 14.00 OF THE CODE OF MASSACHUSETTS REGULATIONS.
5. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES, REGULATIONS AND SAFETY CODES IN THE CONSTRUCTION OF ALL IMPROVEMENTS.
6. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE AND ALL UTILITIES MAY NOT BE SHOWN. PRESENCE AND LOCATIONS OF ALL UTILITIES WITHIN THE LIMIT OF WORK MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CONTACTING THE CONTROLLING AUTHORITIES AND/OR UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND NITSCH ENGINEERING. ANY DAMAGE RESULTING FROM THE FAILURE OF THE CONTRACTOR TO MAKE THESE DETERMINATIONS AND CONTACTS SHALL BE BORNE BY THE CONTRACTOR.
7. THE CONTRACTOR SHALL, THROUGHOUT CONSTRUCTION, TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL WALKS, GRADING, SIDEWALKS AND SITE DETAILS OUTSIDE OF THE LIMIT OF WORK AS DEFINED ON THE DRAWINGS AND SHALL REPAIR AND REPLACE OR OTHERWISE MAKE GOOD AS DIRECTED BY THE ENGINEER OR OWNER'S DESIGNATED REPRESENTATIVE ANY SUCH OR OTHER DAMAGE SO CAUSED.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND ALL CONSTRUCTION MEANS AND METHODS.
9. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE AND CONSTRUCTION DOCUMENTS TO DEVELOP A THOROUGH UNDERSTANDING OF THE PROJECT, INCLUDING ANY SPECIAL CONDITIONS AND CONSTRAINTS.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PROJECT SITE AND TO VERIFY ALL CONDITIONS IN THE FIELD AND REPORT DISCREPANCIES BETWEEN PLANS AND ACTUAL CONDITIONS TO THE OWNER OR OWNER'S REPRESENTATION IMMEDIATELY.
11. THE CONTRACTOR SHALL CONDUCT ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS.
12. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE ESTABLISHMENT AND USE OF ALL VERTICAL AND HORIZONTAL CONSTRUCTION CONTROLS.
13. ELEVATIONS REFER TO NAVD88.
14. THE CONTRACTOR SHALL COMPLY WITH THE ORDER OF CONDITIONS DATED MAY 03, 2022 AND ISSUED BY THE BRAINTREE CONSERVATION COMMISSION (DEP FILE #8-707).
15. FOR RESOURCE AREA DELINEATION INFORMATION, REFER TO "WETLAND RESOURCE AREA ANALYSIS REPORT, SMITH BEACH STORMWATER IMPROVEMENTS PROJECT" PREPARED BY LEC, DATED FEBRUARY 14, 2022.

UTILITY NOTES:

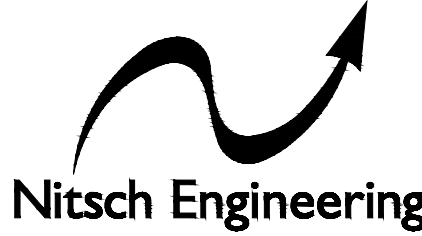
1. ALL UTILITY CONNECTIONS ARE SUBJECT TO THE APPROVAL OF, AND GRANTING OF PERMITS BY, THE LOCAL MUNICIPALITY. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL PERMITS AND APPROVALS RELATED TO UTILITY WORK PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING ALL PERMISSIONS FOR, AND FOR CONDUCTING ALL PREPARATIONS RELATED TO, WORK AFFECTING ANY UTILITIES WITHIN THE JURISDICTION OF ANY NON-MUNICIPAL UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO ELECTRIC, TELEPHONE, AND/OR GAS. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE AGENCIES, DEPARTMENTS, AND UTILITY COMPANIES, IN WRITING, AT LEAST 7 DAYS (OR PER UTILITY COMPANY REQUIREMENT) AND NOT MORE THAN 30 DAYS PRIOR TO ANY CONSTRUCTION.
3. THE CONTRACTOR SHALL MAINTAIN UTILITIES SERVICING BUILDINGS AND FACILITIES WITHIN OR OUTSIDE THE PROJECT LIMIT UNLESS THE INTERRUPTION OF SERVICE IS COORDINATED WITH THE OWNER.
4. ALL WATER, SEWER, AND DRAIN WORK SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS AND STANDARD SPECIFICATIONS OF THE LOCAL MUNICIPALITY.
5. GAS, TELECOMMUNICATIONS AND ELECTRIC SERVICES ARE TO BE DESIGNED BY EACH UTILITY COMPANY IN COORDINATION WITH THE MECHANICAL, ELECTRIC, AND PLUMBING CONSULTANTS.
6. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES OF NEW UTILITIES WITH GAS, TELECOMMUNICATION AND ELECTRICAL SERVICES.
7. MAINTAIN 10 FEET HORIZONTAL SEPARATION AND 18 INCHES VERTICAL SEPARATION (WATER OVER SEWER) BETWEEN SEWER AND WATER LINES. WHEREVER THERE IS LESS THAN 10 FEET OF HORIZONTAL SEPARATION AND 18 INCHES OF VERTICAL SEPARATION BETWEEN A PROPOSED OR EXISTING SEWER LINE TO REMAIN AND A PROPOSED OR EXISTING WATER LINE TO REMAIN BOTH WATER MAIN AND SEWER MAIN SHALL BE CONSTRUCTED OF MECHANICAL JOINT CEMENT LINED DUCTILE IRON PIPE FOR A DISTANCE OF 10- FEET ON EITHER SIDE OF THE CROSSING. ONE (1) FULL LENGTH OF WATER PIPE SHALL BE CENTERED OVER THE SEWER AT THE CROSSING.
8. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES EXCEPT THOSE NOTED TO BE ABANDONED AND/OR REMOVED & DISPOSED.
9. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR TRENCHING, BACKFILLING, AND SURFACE RESTORATION FOR GAS UTILITY SYSTEMS.
10. ALL ONSITE UTILITIES SHALL BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
11. ALL EXISTING AND PROPOSED MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, CASTINGS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL GRADING AND PAVING CONSTRUCTION.
12. ALL GRATES IN WALKWAYS SHALL BE ADA COMPLIANT.

PROPOSED LEGEND

	LIMIT OF WORK
	EXISTING UTILITY TO BE ABANDONED, REMOVED AND DISPOSED IF IN CONFLICT WITH NEW SITE IMPROVEMENTS, OR AS INDICATED ON DRAWINGS
	EROSION CONTROL BARRIER
	CONSTRUCTION FENCE
	DOMESTIC WATER PIPE
	FIRE PROTECTION PIPE
	SANITARY SEWER PIPE
	STORM DRAIN PIPE
	GAS PIPE
	ELECTRIC DUCTBANK
	TELECOM DUCTBANK
	CHILLED WATER PIPE
	STEAM PIPE
	CONDENSATE RETURN PIPE
	HOT WATER PIPE/RETURN
	HEATING HOT WATER
	REUSE WATER PIPE
	GREY WATER PIPE
	FUTURE UTILITY, SHOWN FOR INFORMATION ONLY
	INLET PROTECTION
	ELEVATION CONTOURS
	MATCH LINE
	CENTERLINE
	CLEANOUT
	AREA DRAIN
	ACCESS BASIN
	DRAIN MANHOLE
	WATER QUALITY STRUCTURE
	CATCH BASIN
	DOUBLE CATCH BASIN
	WATER QUALITY INLET
	SEWER MANHOLE
	STEAM MANHOLE
	TELECOM MANHOLE
	ELECTRIC MANHOLE
	CHILLED WATER VALVE
	WATER VALVE
	FIRE HYDRANT
	REMOVE & DISPOSE OF EXISTING PAVEMENT
	STANDARD PERMEABLE PAVEMENT SECTION
	DEEP PERMEABLE PAVEMENT SECTION
	MILL & OVERLAY PAVEMENT

ABBREVIATIONS

AB	ACCESS BASIN
AD	AREA DRAIN
BC	BOTTOM OF CURB ELEVATION
BW	BOTTOM OF WALL ELEVATION
CB	CATCH BASIN
CCB	CAPE COD BERM
CI	CAST IRON
CJ	CONTROL JOINT
CL	CENTER LINE
CO	CLEANOUT
COP	CENTER OF PIPE
CP	CARRIER PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
DCB	DOUBLE CATCH BASIN
DI	DUCTILE IRON PIPE CEMENT LINE
DMH	DRAIN MANHOLE
EHH	ELECTRIC HANDHOLE
EJ	EXPANSION JOINT
EMH	ELECTRIC MANHOLE
EOP	EDGE OF PAVEMENT
FD	FOUNDATION DRAIN
FFE	FINISHED FLOOR ELEVATION
HP	HIGH POINT
HYD	FIRE HYDRANT
INV	INVERT ELEVATION
LF	LINEAR FEET
LOW	LIMIT OF WORK
LP	LOW POINT
LW	LAB WASTE
M&P	MAINTAIN AND PROTECT
MHWL	MEAN HIGH WATER LINE
NFHL	NATIONAL FLOOD HAZARD LAYER
NIC	NOT IN CONTRACT
OC	ON CENTER
OCS	OUTLET CONTROL STRUCTURE
PD	PERIMETER DRAIN
PERF	PERFORATED
PVC	POLYVINYL CHLORIDE PIPE
R&D	REMOVE AND DISPOSE
R&S	REMOVE AND STOCKPILE
RD	ROOF DRAIN
RFA	RIVER FRONT AREA
RIM	RIM ELEVATION
SMH	SEWER MANHOLE
SS	SEWER SERVICE
TC	TOP OF CURB ELEVATION
TW	TOP OF WALL ELEVATION
THH	TELECOM HANDHOLE
TMH	TELECOM MANHOLE
TOP	TOP OF PIPE
TOD	TOP OF DUCT BANK
TYP	TYPICAL
UD	UNDERDRAIN
USD	UNDERSLAB DRAIN
V.I.F.	VERIFY IN FIELD
VGC	VERTICAL GRANITE CURB
WQI	WATER QUALITY INLET
WQS	WATER QUALITY STRUCTURE
WV	WATER VALVE



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CIVIL NOTES, LEGEND, & ABBREVIATIONS

SMITH BEACH PARKING LOT GREEN INFRASTRUCTURE RETROFIT

BRAINTREE, MA

PREPARED FOR:

BRAINTREE DPW

85 QUINCY AVENUE, BRAINTREE, MA 02184

FINAL PLAN SET

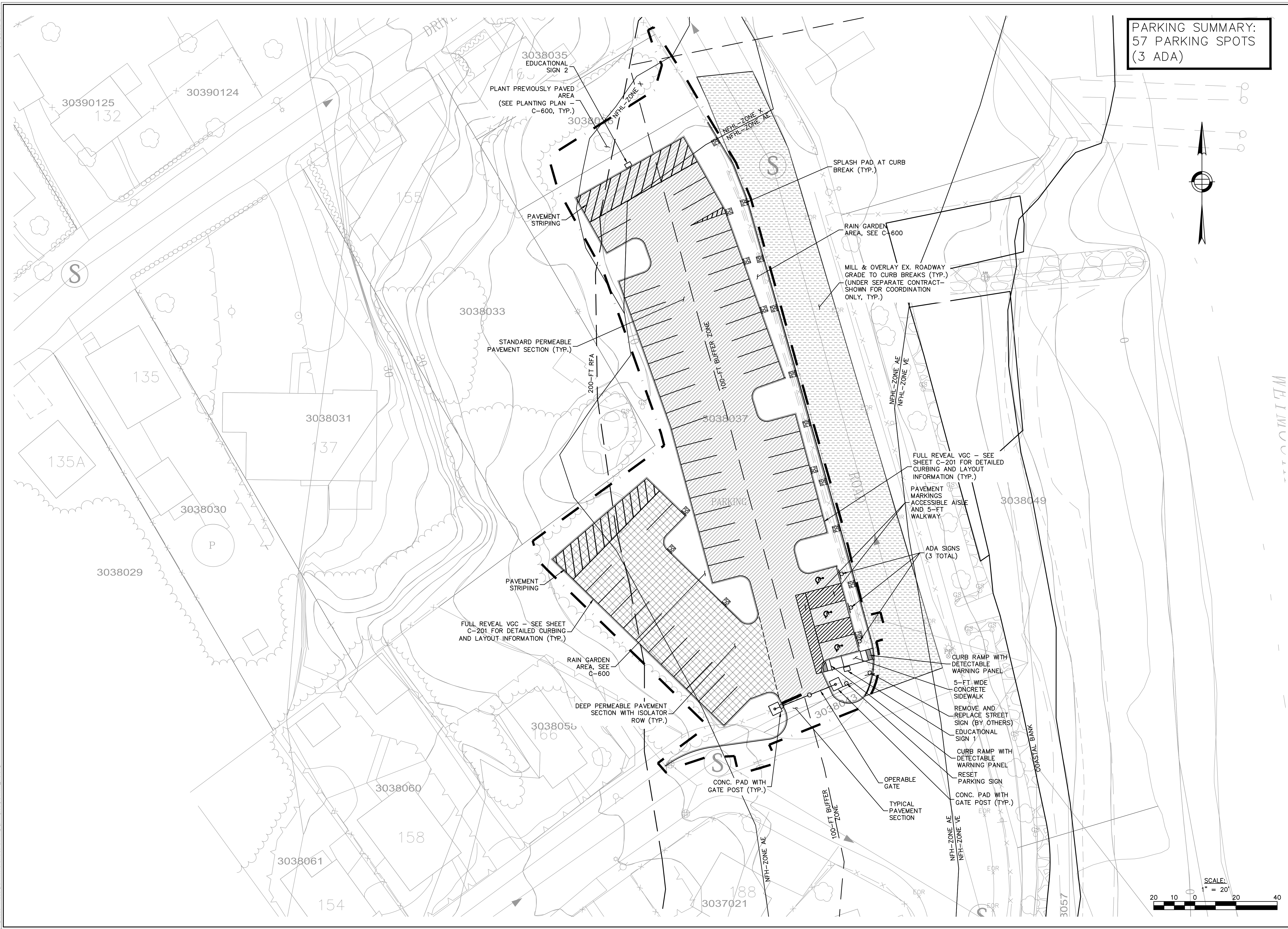
REV.	COMMENTS	DATE
REVISIONS		
NITSCH PROJECT # 13447.1		
FILE: 13447.1_NOTES.DWG		
SCALE: NTS		
DATE: 6/24/2022		
PROJECT MANAGER: JIJ		
SURVEYOR: DPW		
DRAFTED BY: JLW		
CHECKED BY: JLW		

SHEET:

C-000

OF

REV.



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- Transportation Engineering
- Structural Engineering
- Green Infrastructure
- Planning
- GIS

SITE LAYOUT & MATERIALS PLAN

BRAINTREE, MA

PREPARED FOR:

BRAINTREE DPW
CY AVENUE, BRAINTREE, MA

85 QUINCY AVENUE, BRAIN IREE, MA 02184

FINAL PLAN SET

REV.	COMMENTS	DATE
	REVISIONS	

NITSCH PROJECT #	13447.1
FILE:	13447.1_CLO.DWG
SCALE:	1"=20'
DATE:	6/24/2022
PROJECT MANAGER:	JLJ
SURVEYOR:	DPW
DRAFTED BY:	JLW
CHECKED BY:	JLW

SHEET:

C-200


DF

EV.

CURVE TABLE			
CURVE #	LENGTH	RADIUS	DELTA
C1	24.57	50.00	28°09'13"
C2	18.99	10.00	108°48'50"
C3	7.29	5.00	83°34'41"
C4	7.86	5.00	90°02'09"
C5	12.95	5.00	148°26'50"
C6	7.85	5.00	90°00'00"
C7	7.85	5.00	90°00'00"
C8	8.71	5.00	99°50'07"
C9	7.65	5.00	87°42'46"
C10	7.65	5.00	87°42'46"
C11	7.85	5.00	90°00'00"
C12	7.85	5.00	90°00'00"
C13	8.58	5.00	98°20'19"
C14	21.10	10.00	120°55'07"
C15	25.94	40.00	37°09'23"

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	0.50	N41°37'58"W
L2	28.07	S82°02'37"W
L3	6.35	S26°46'13"E
L4	8.46	N69°39'06"E
L5	18.00	N44°20'13"E
L6	115.99	S45°55'14"W
L7	60.26	S49°24°05"W
L8	26.02	N45°55'14"W
L9	12.95	N44°20'13"E
L10	50.15	N45°54°20"W
L11	13.93	S14°49'21"E
L12	12.69	N75°10'39"E
L13	78.38	S15°02'53"E
L14	75.00	S19°37'21"E
L15	13.00	S70°22'39"W
L16	7.42	S19°37'21"E
L17	13.17	N60°32'32"E
L18	30.54	S29°27'15"E
L19	60.00	S60°32'45"W
L20	40.59	N29°27'28"W

LINE TABLE		
LINE #	LENGTH	DIRECTION
L21	86.55	N19°37'21"W
L22	13.20	N70°22'39"E
L23	7.38	N17°20'07"W
L24	12.96	S74°57'07"W
L25	59.50	N15°02'53"W
L26	12.77	N74°57'07"E
L27	7.00	N15°02'53"W
L28	12.77	S74°57'07"W
L29	42.50	N15°02'53"W
L30	14.99	N74°57'07"E
L31	11.99	N24°51'49"W
L32	53.13	S15°29'55"E
L33	83.58	S15°44'28"E
L34	54.64	S15°58'36"E
L35	30.29	S15°51'59"E
L36	17.76	S21°31'12"E
L37	23.97	S30°57'51"E



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SITE LAYOUT & CURBING PLAN

SITE LAYOUT & CONSIDERING TEAM

SMITH BEACH PARKING LOT GREEN INFRASTRUCTURE RETROFIT

BRAINTREE, MA

PREPARED FOR:

BRAINTREE DPW

85 QUINCY AVENUE, BRAINTREE, MA 02184

FINAL PLAN SET

REV.	COMMENTS	DATE
	REVISIONS	

NITSCH PROJECT #	13447.1
FILE:	13447.1_CLO.DWG
SCALE:	1"=20'
DATE:	6/24/2022
PROJECT MANAGER:	JLJ
SURVEYOR:	DPW
DRAFTED BY:	JLW
CHECKED BY:	JLW

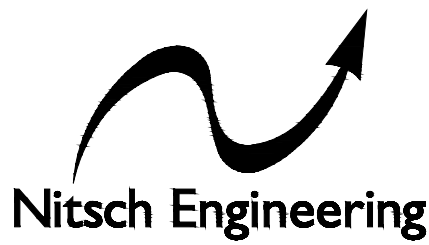
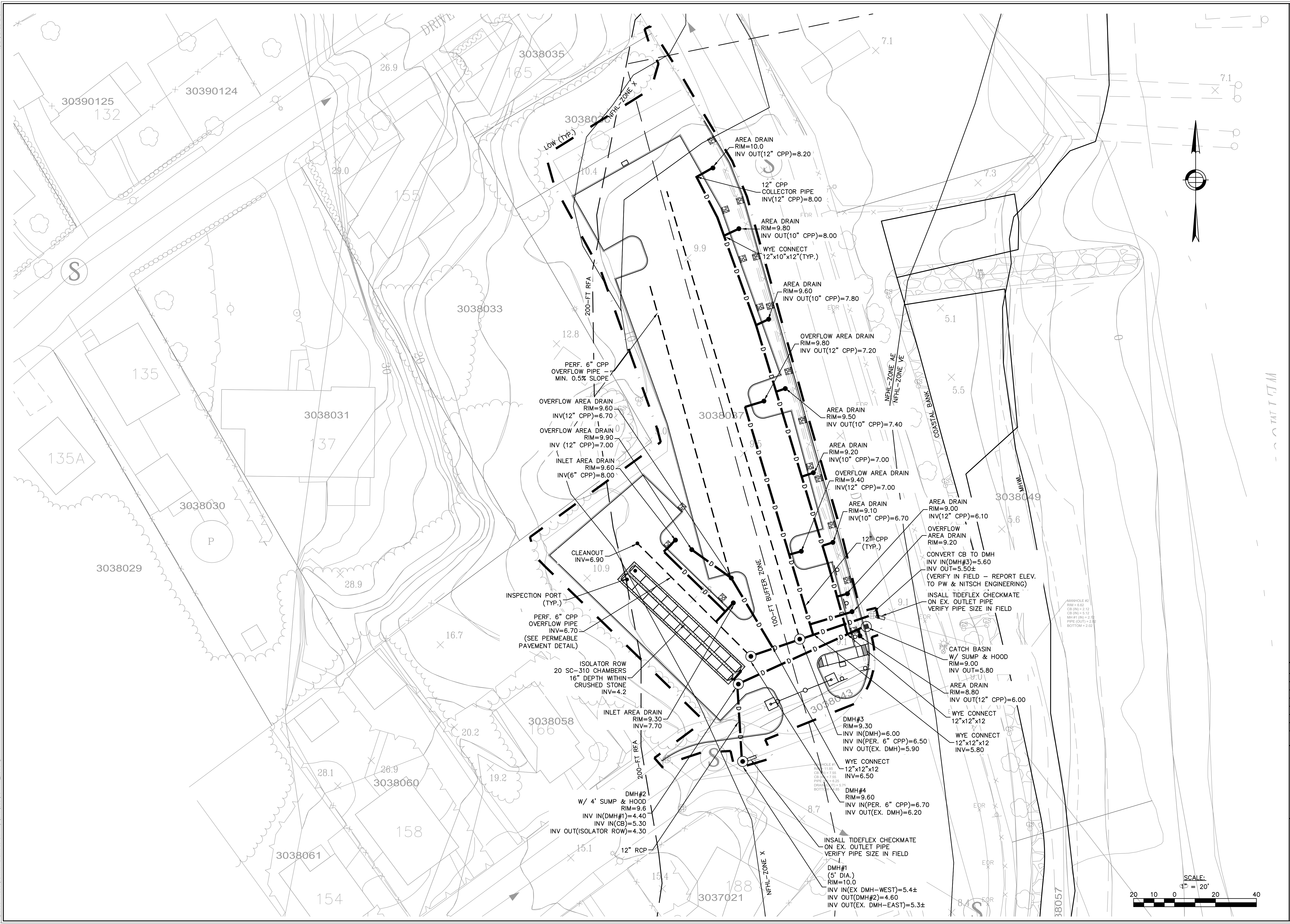
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SITE UTILITY PLAN
SMITH BEACH PARKING LOT GREEN INFRASTRUCTURE RETROFIT
BRAintree, MA

PREPARED FOR:
BRAintree DPW
85 QUINCY AVENUE, BRAintree, MA 02184

FINAL PLAN SET

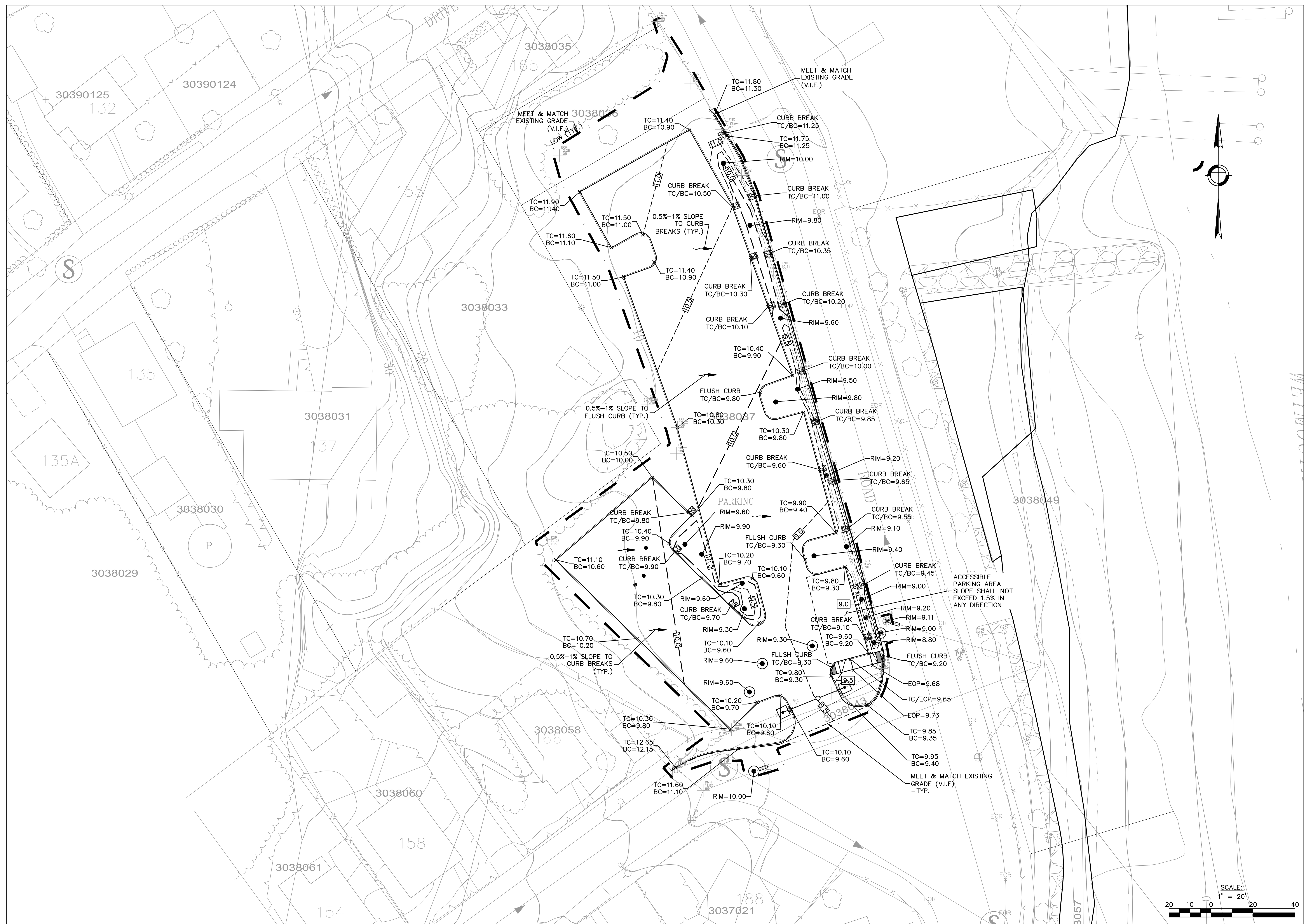
REV.	COMMENTS	DATE

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FILE: 13447.1.CUT.DWG
SCALE: 1"=20'
DATE: 6/24/2022
PROJECT MANAGER: JLJ
SURVEYOR: DPW
DRAFTED BY: JLW
CHECKED BY: JLW

SHEET:

C-300

OF REV.



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- Structural Engineering
- Green Infrastructure
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GRADING PLAN

SMITH BEACH PARKING LOT GREEN INFRASTRUCTURE RETROFIT

BRAINTREE, MA

BRAINTREE DPW
CY AVENUE, BRAINTREE, MA

85 QUINCY AVENUE, BRAIN IREE, MA 02184

FINAL PLAN SET

REV.	COMMENTS	DATE
	REVISIONS	

NITSCH PROJECT #	13447.1
FILE:	13447.1.CGR.DWG
SCALE:	1"=20'
DATE:	6/24/2022
PROJECT MANAGER:	JLJ
SURVEYOR:	DPW
DRAFTED BY:	JLW
CHECKED BY:	JLW

SHEET:

C-400

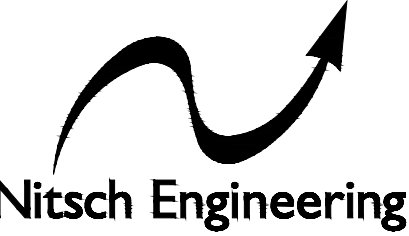
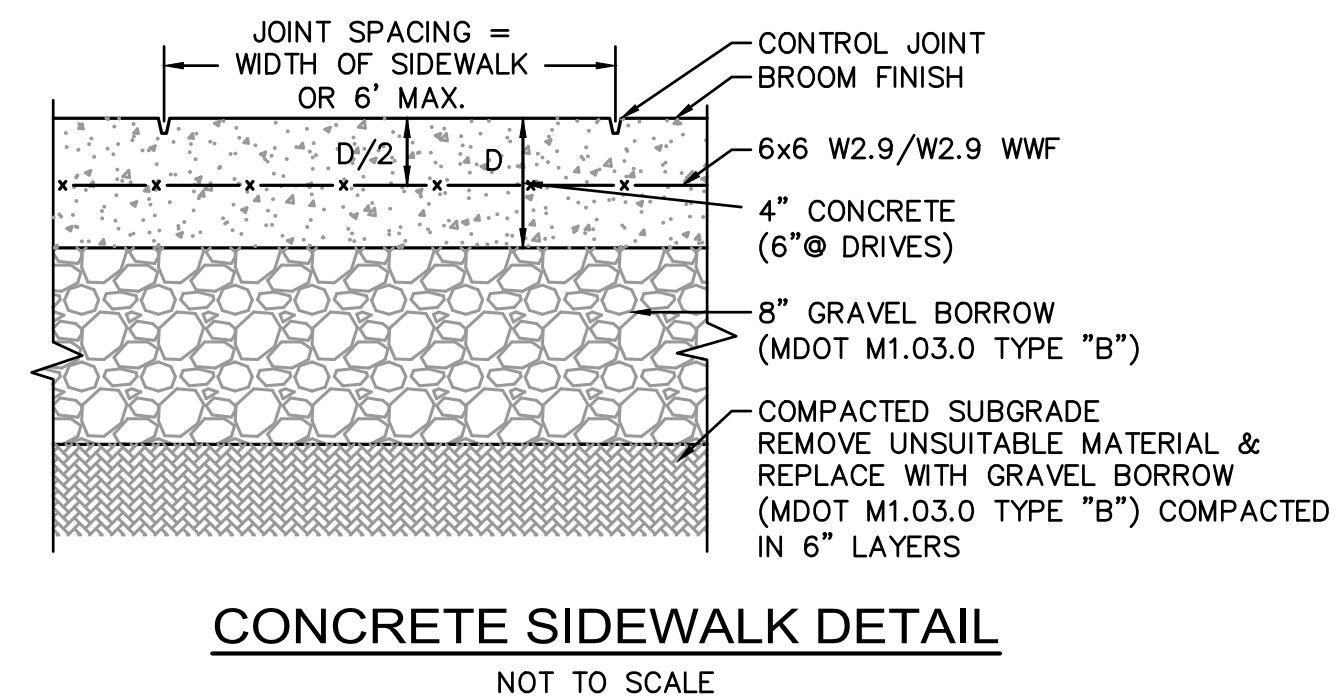
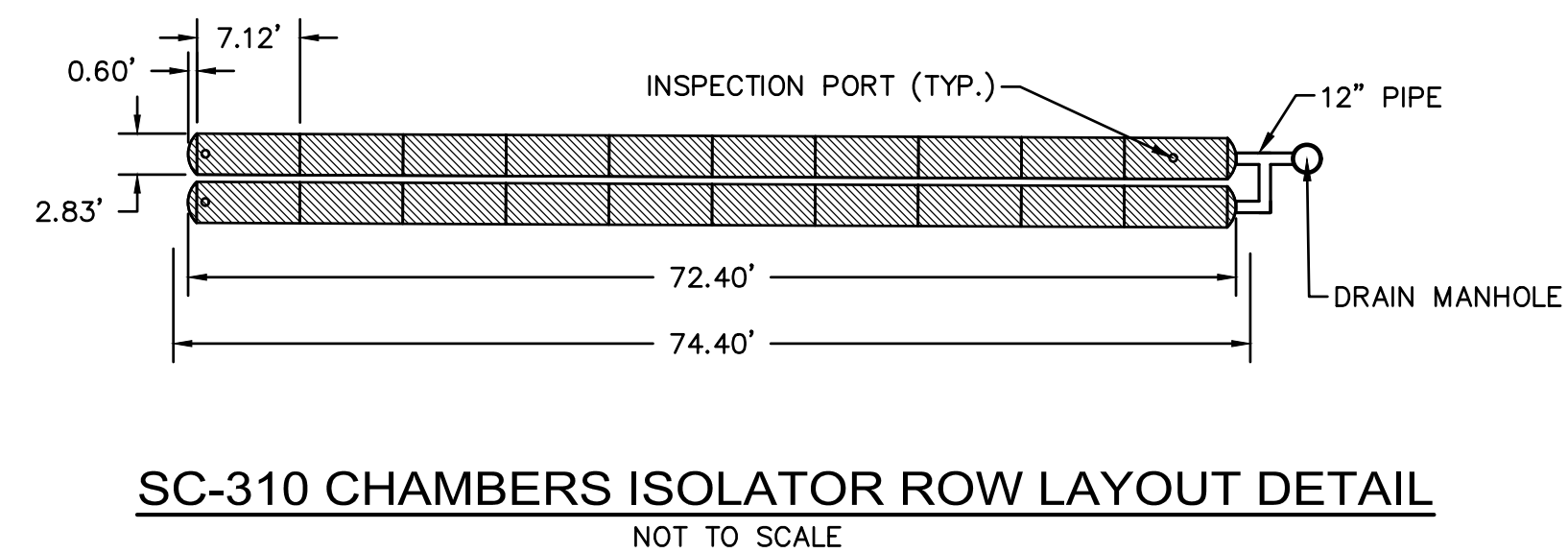
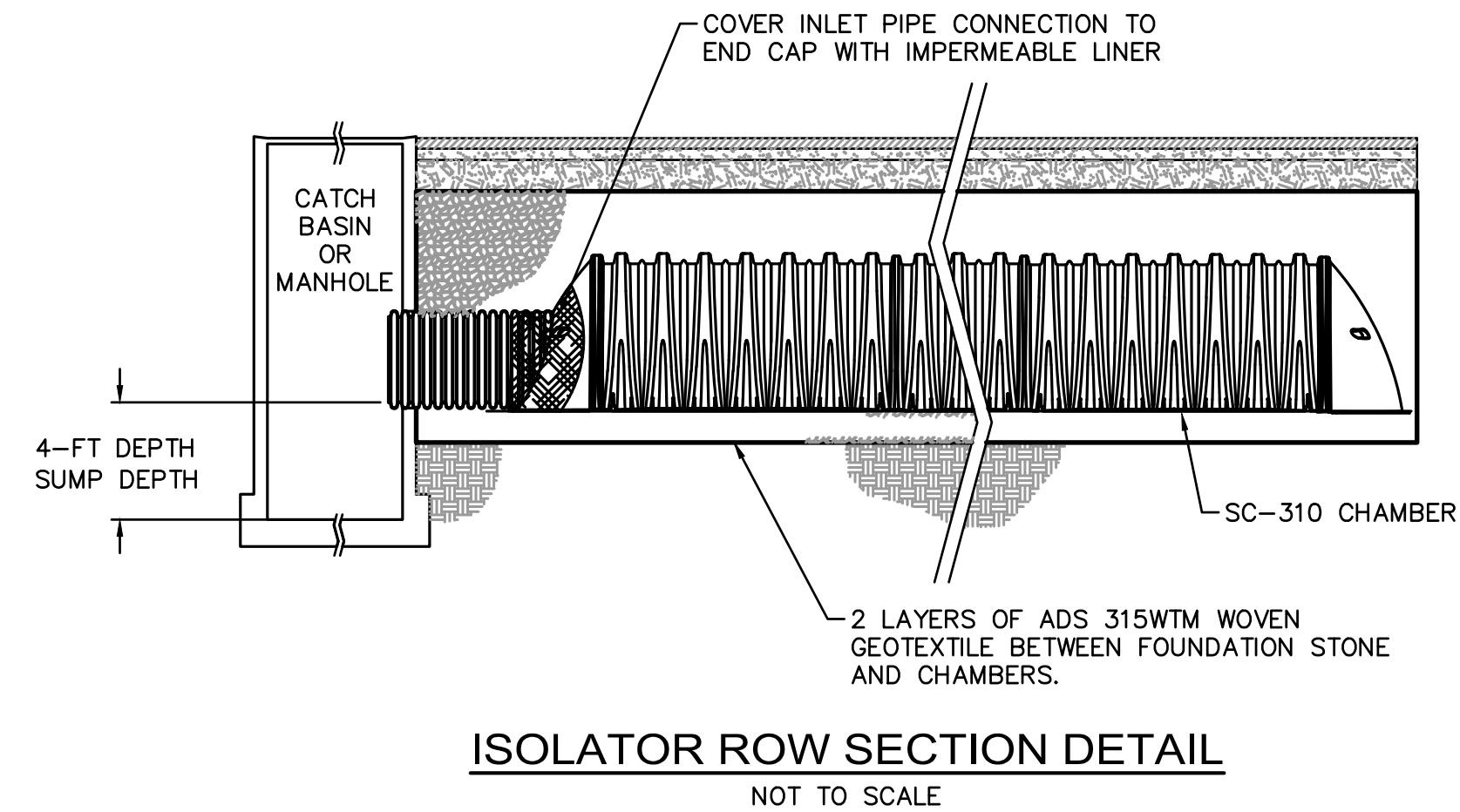
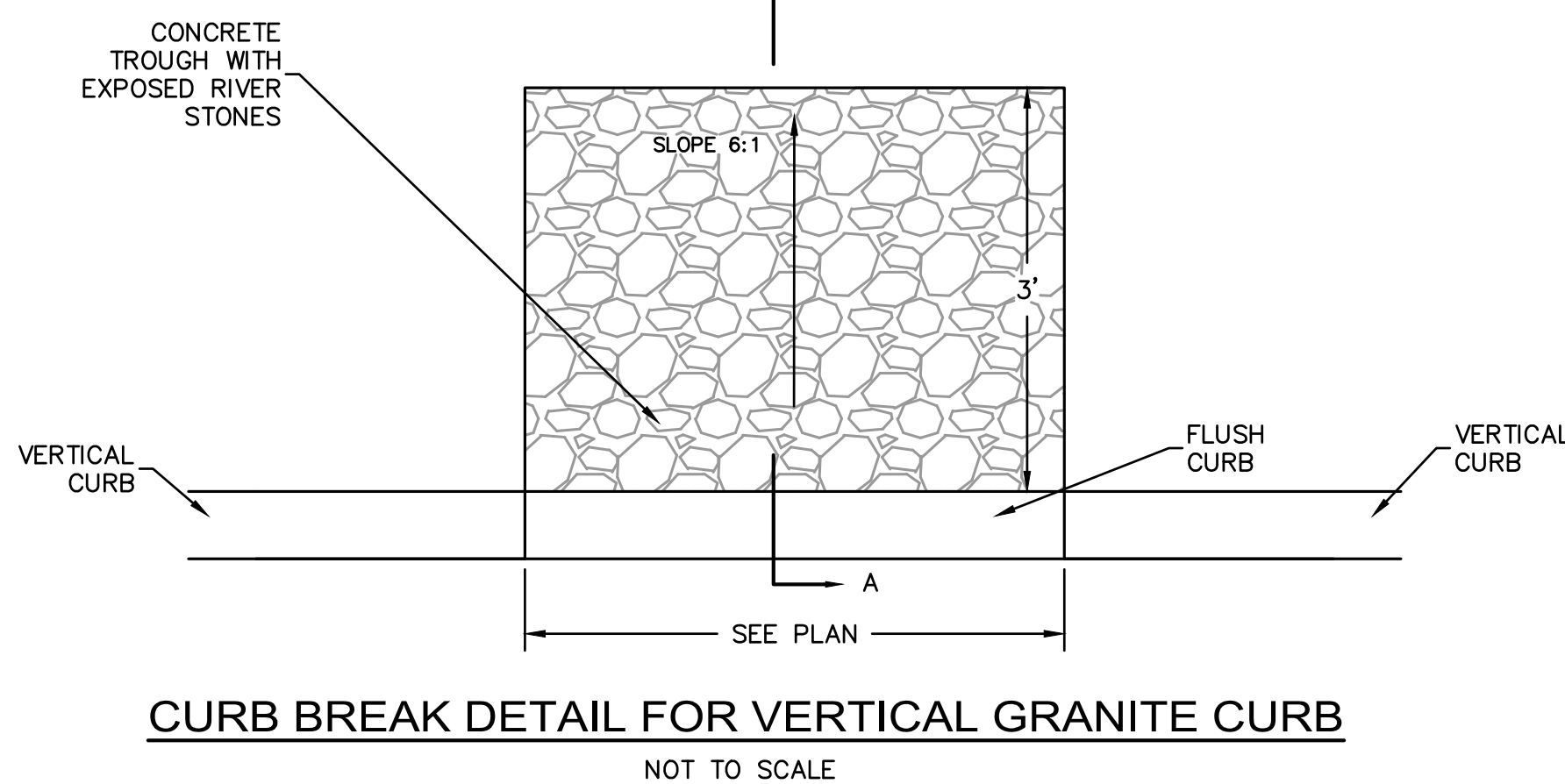
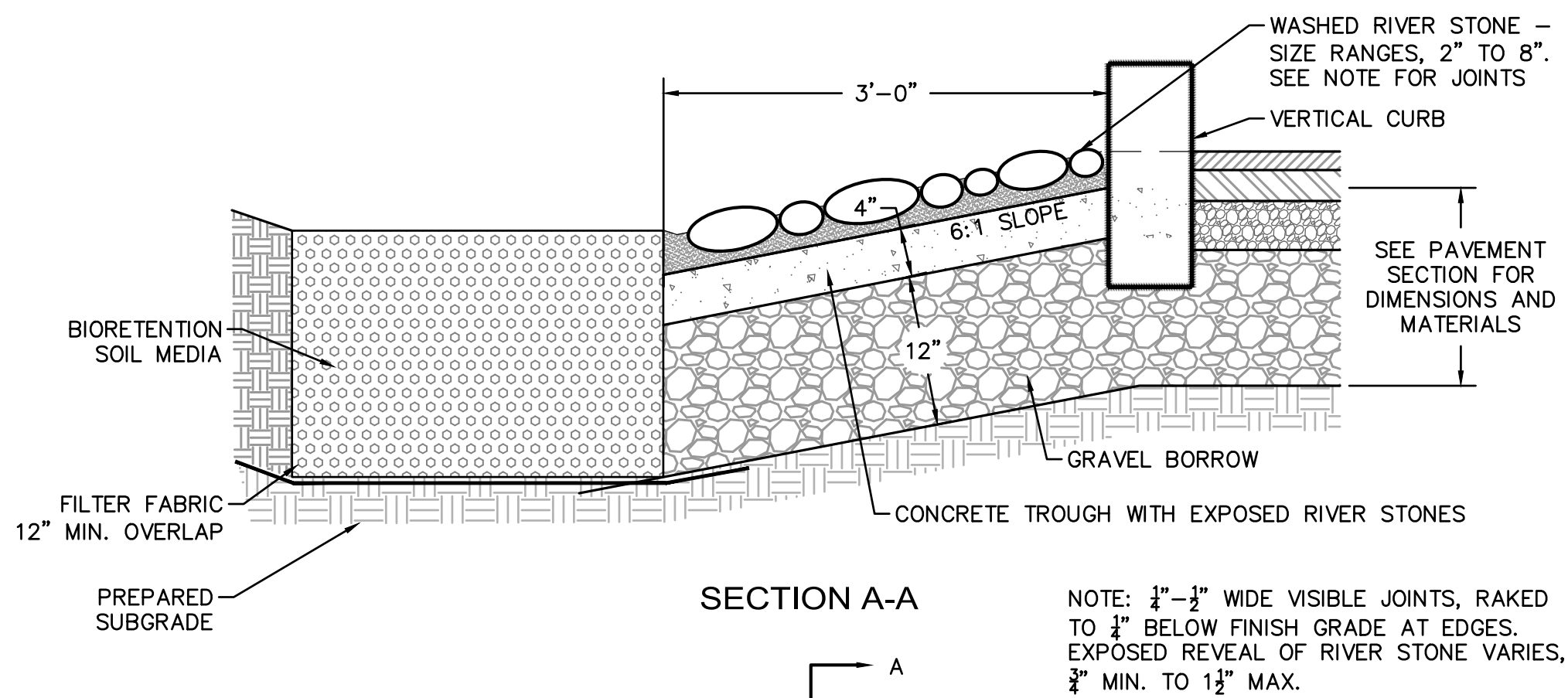
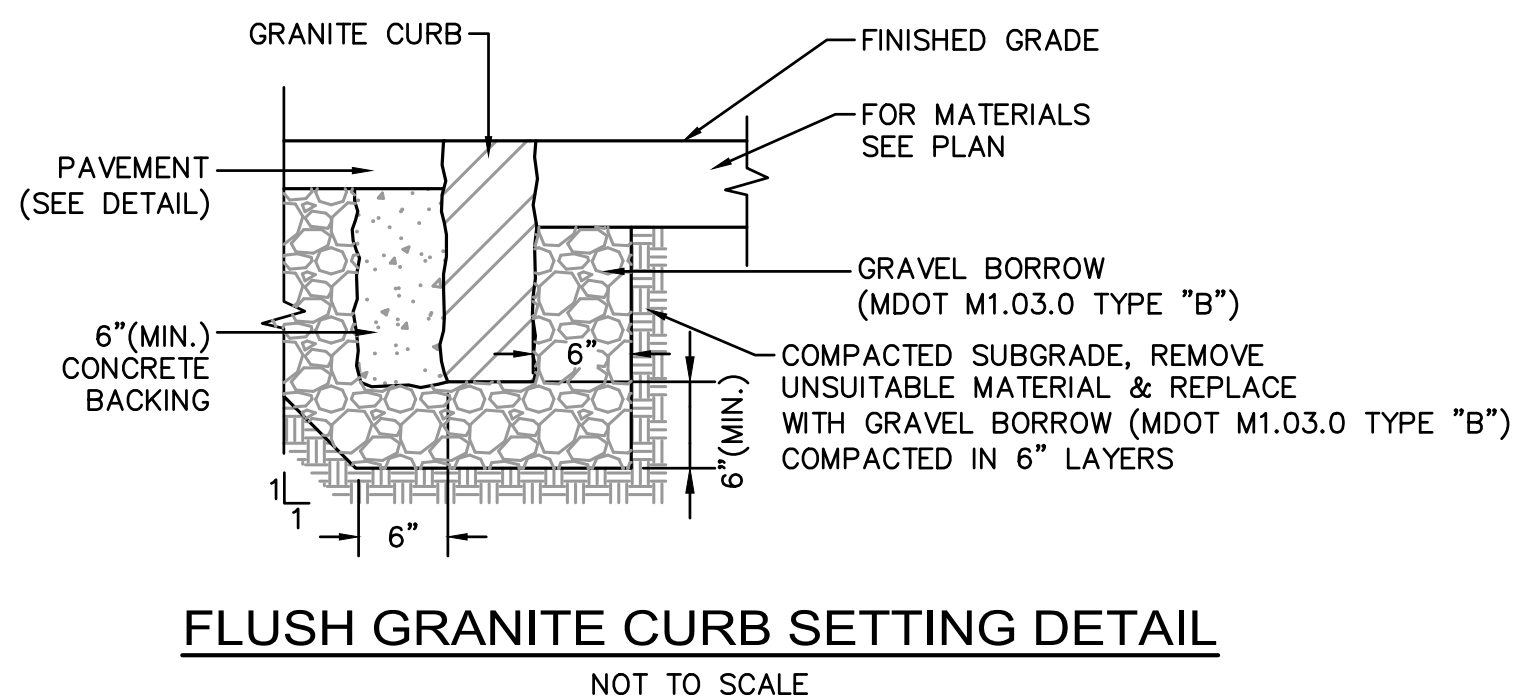
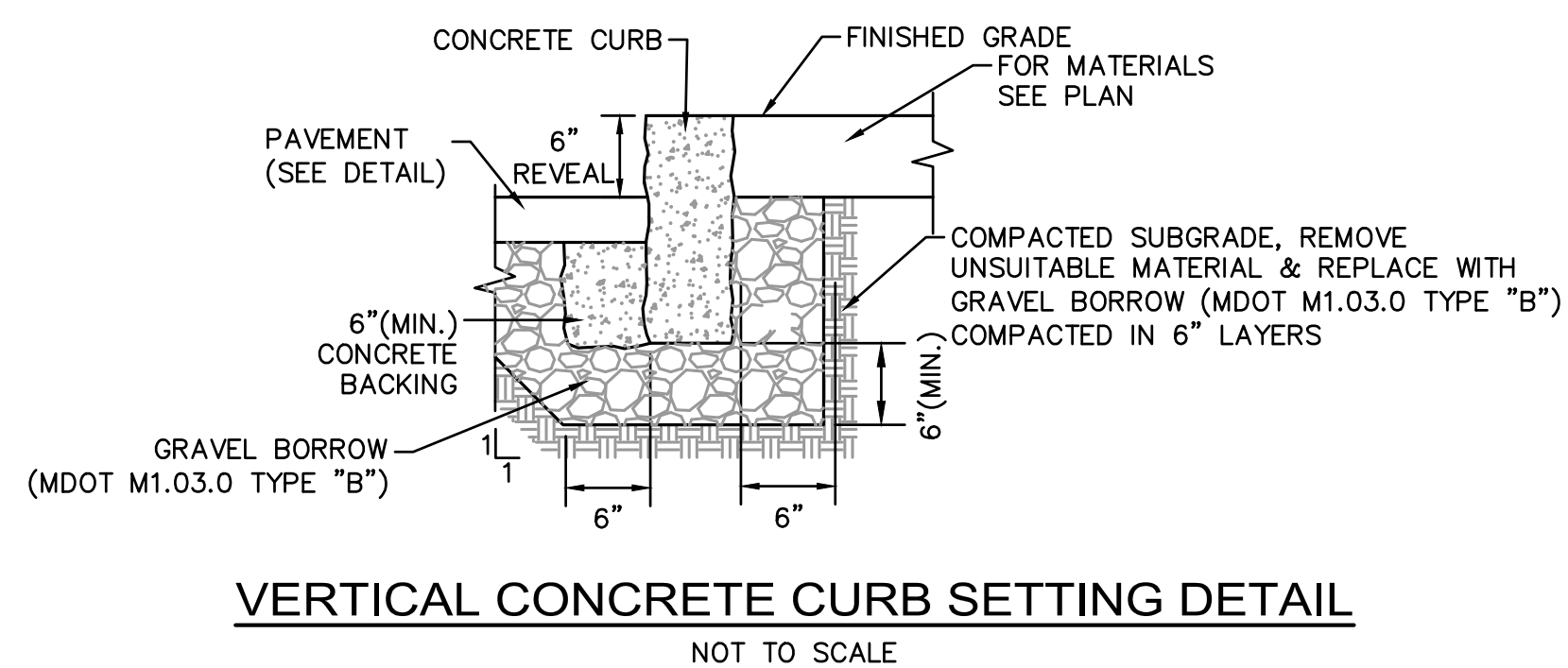
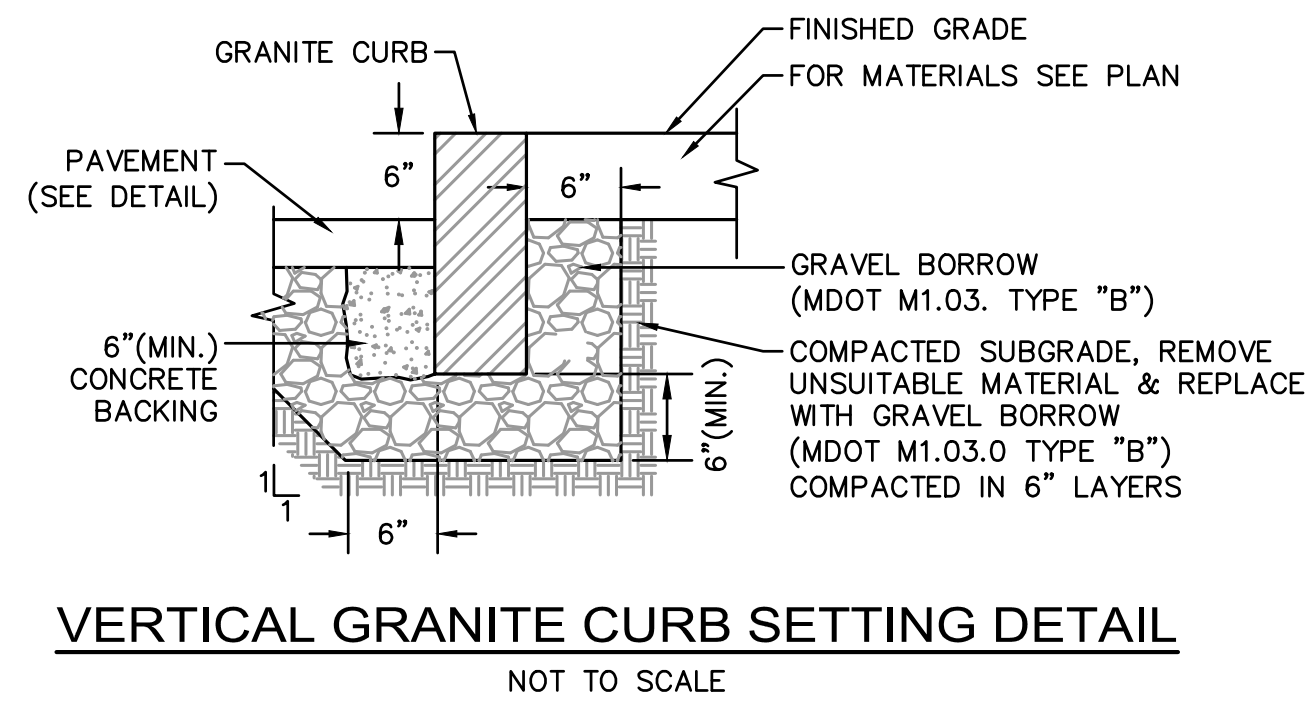
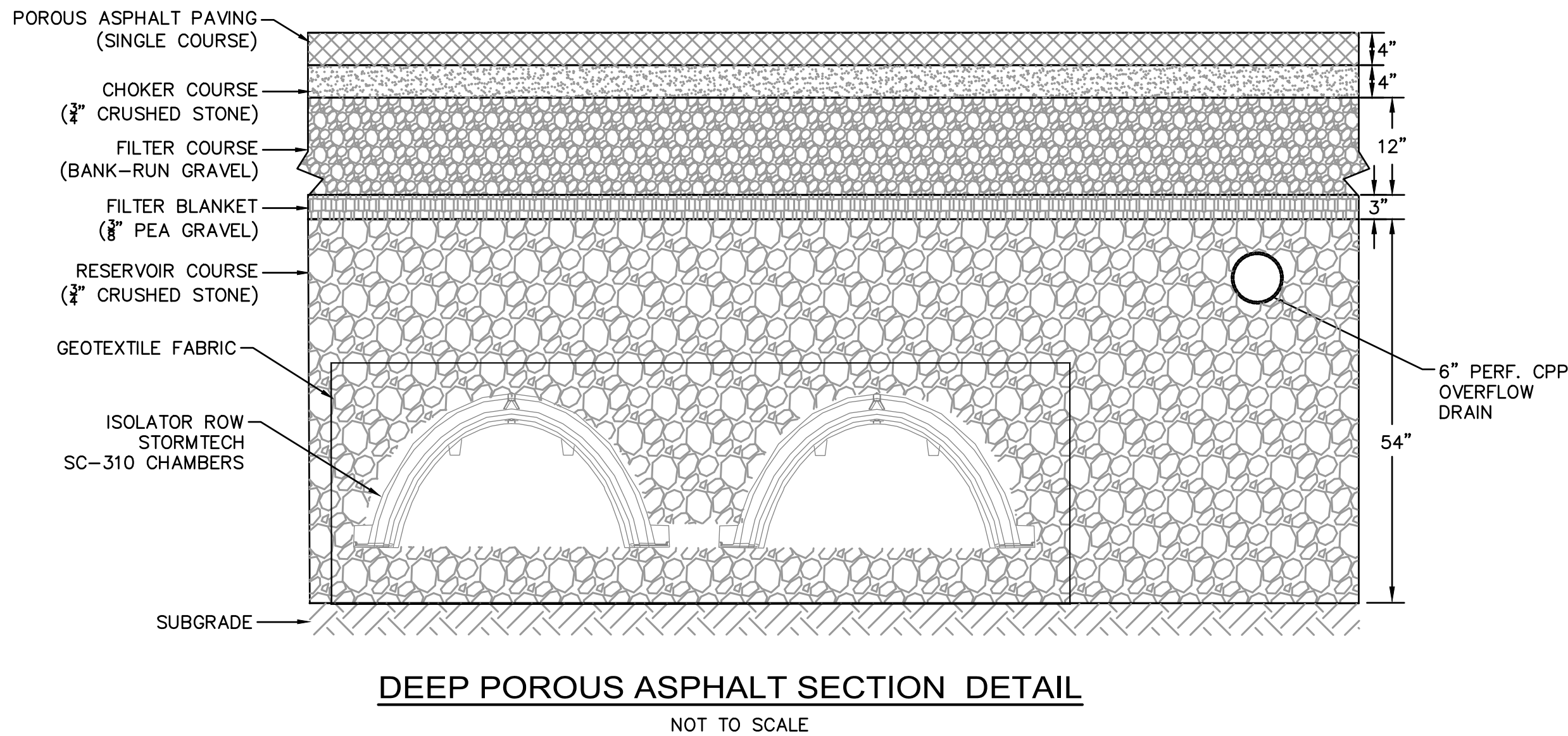
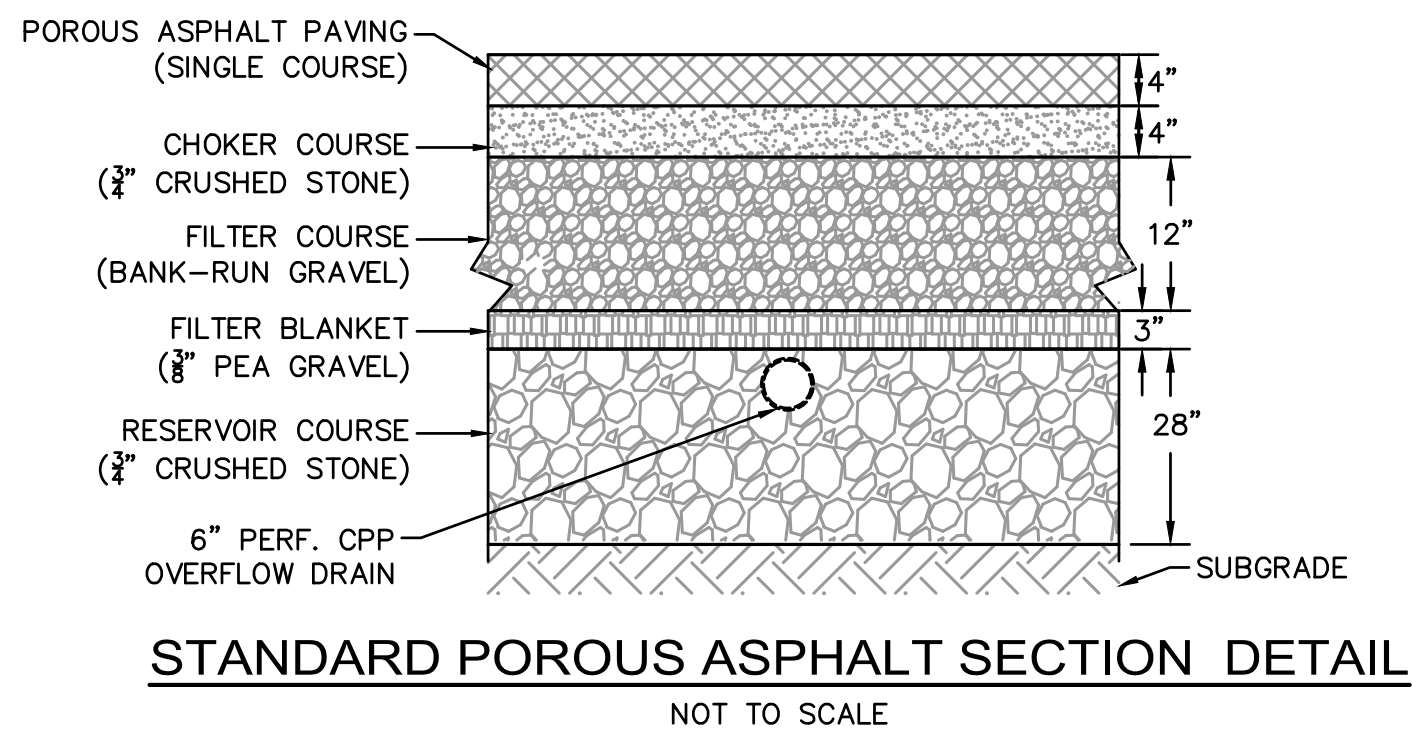
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CIVIL DETAILS SHEET II
SMITH BEACH PARKING LOT GREEN INFRASTRUCTURE RETROFIT
BRAintree, MA

PREPARED FOR:
BRAintree DPW
85 QUINCY AVENUE, BRAintree, MA 02184

FINAL PLAN SET

REV.	COMMENTS	DATE
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NITSCH PROJECT # 13447.1
FILE: 13447.1.CDT.DWG
SCALE: NTS
DATE: 6/24/2022
PROJECT MANAGER: JLJ
SURVEYOR: DPW
DRAFTED BY: JLW
CHECKED BY: JLW

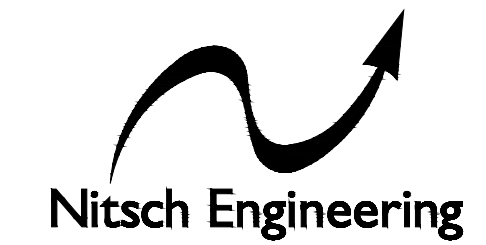
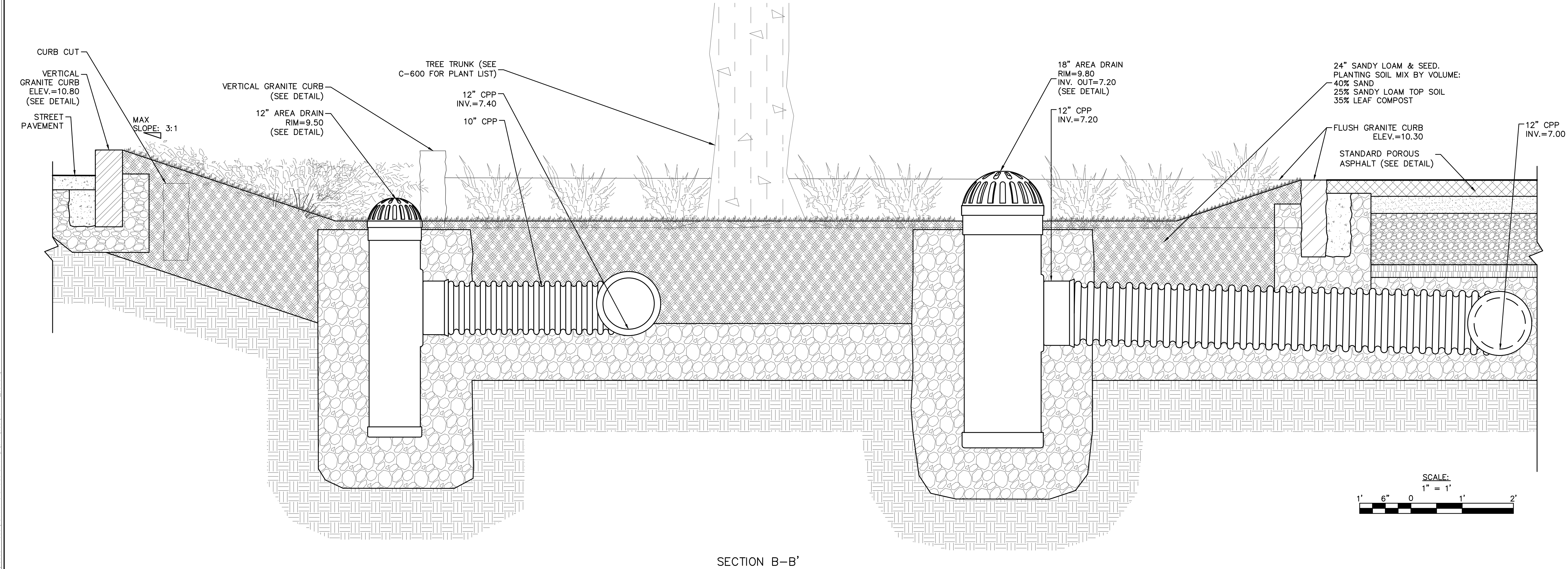
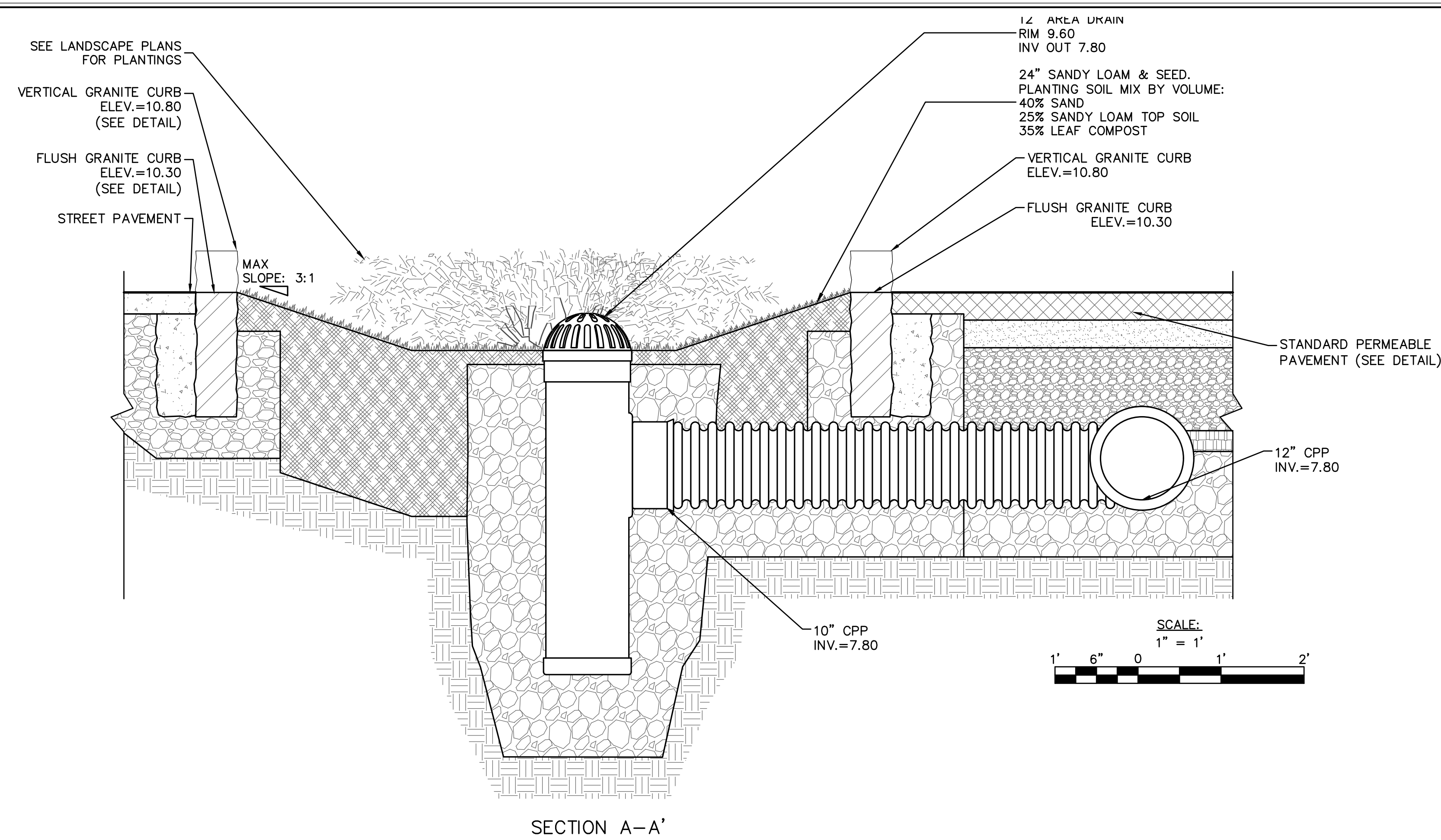
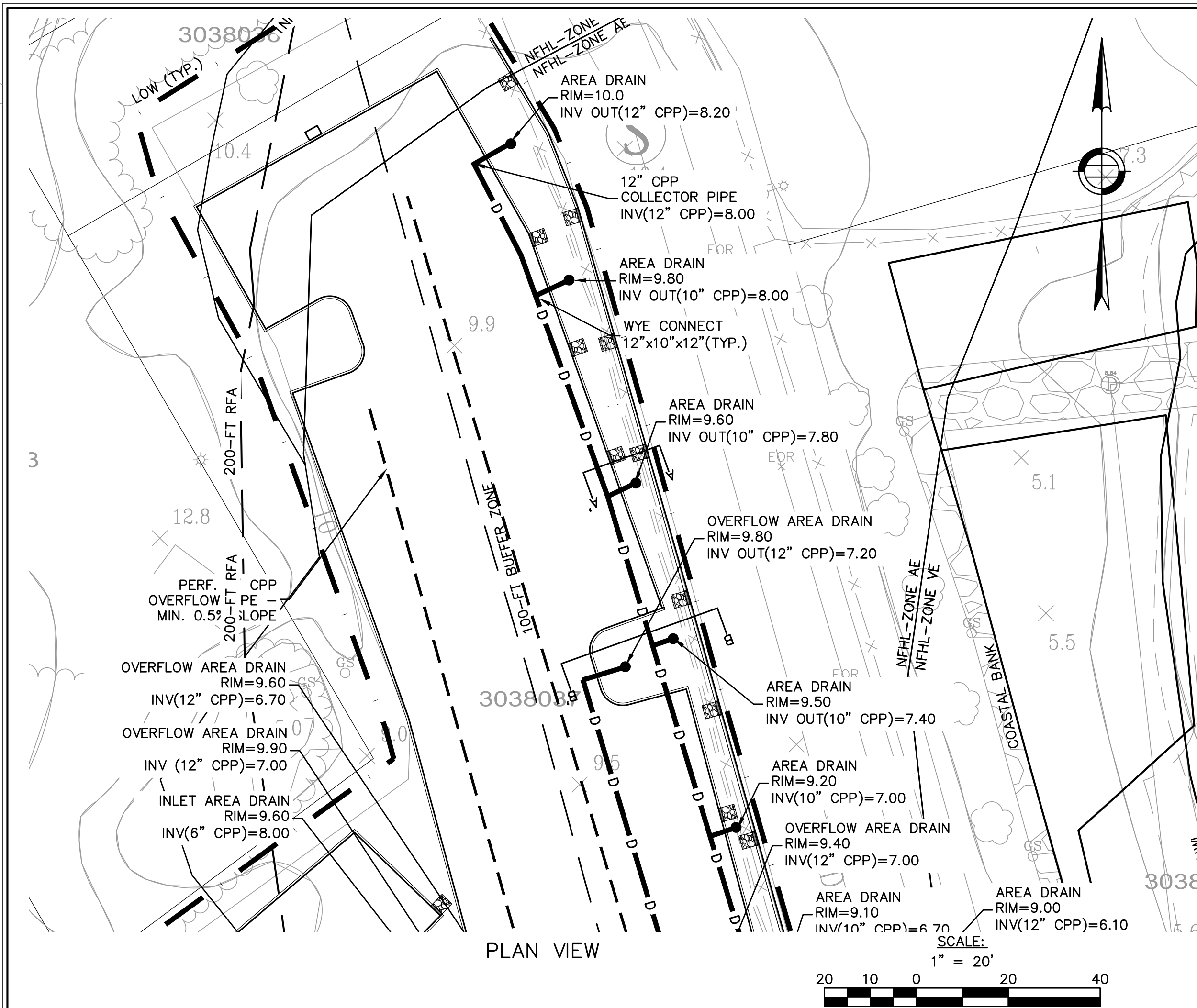
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CIVIL DETAILS SHEET III
SMITH BEACH PARKING LOT GREEN INFRASTRUCTURE RETROFIT
BRAintree, MA

PREPARED FOR:
BRAintree DPW
85 QUINCY AVENUE, BRAintree, MA 02184

FINAL PLAN SET

REV.	COMMENTS	DATE

NITSCH PROJECT # 13447.1
FILE: 13447.1.CUT.DWG
SCALE: 1" = 1'
DATE: 6/24/2022
PROJECT MANAGER: J.L.J.
SURVEYOR: DPW
DRAFTED BY: K.L.K.
CHECKED BY: J.L.W.

SHEET:
C-502
OF REV.



1. DETECTABLE WARNING PANELS SHALL BE PERMANENTLY APPLIED TO THE RAMP.
2. DETECTABLE WARNING PANELS SHALL CONTRAST VISUALLY WITH THE ADJACENT SURFACES PER THE FOLLOWING COLOR SCHEDULE:
 - PALE YELLOW ON CEMENT CONCRETE PEDESTRIAN RAMPS
3. DETECTABLE WARNING PANELS SHALL BE AS MANUFACTURED BY ADA SOLUTIONS, NORTH BILLERICA, MA OR AN APPROVED EQUAL.
4. DETECTABLE WARNING PANELS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.



CIVIL DETAILS SHEET IV

SMITH BEACH PARKING LOT GREEN INFRASTRUCTURE RETROFIT
BRAINTREE, MA

BRAINTREE, MA

BRAINTREE DPW

85 QUINCY AVENUE, BRAINTREE, MA 02184

FINAL PLAN SET

REV.	COMMENTS	DATE
REVISIONS		

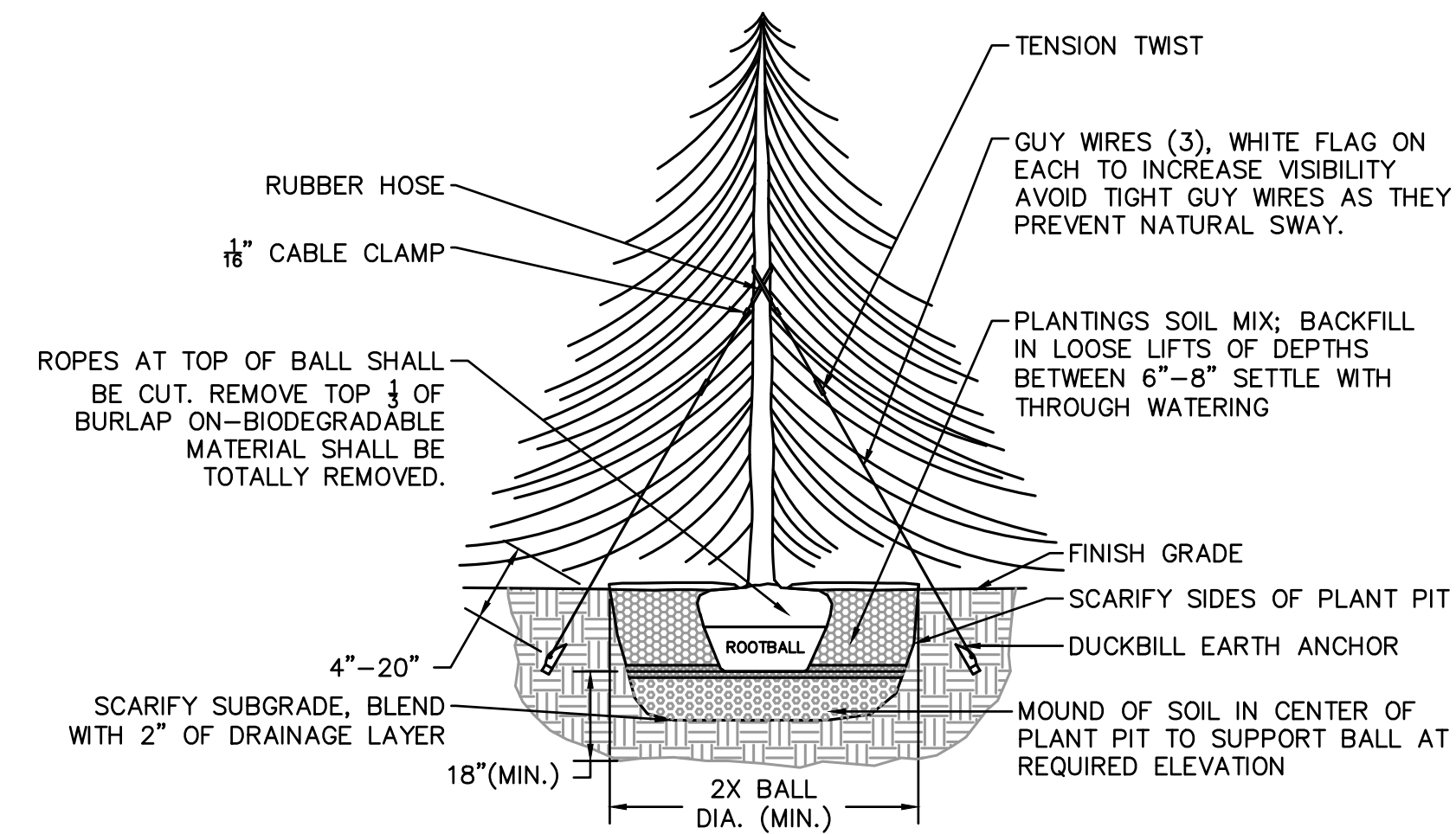
NITSCH PROJECT #	13447.1
FILE:	13447.1_CDT.DWG
SCALE:	NTS
DATE:	6/24/2022
PROJECT MANAGER:	JLJ
SURVEYOR:	DPW
DRAFTED BY:	JLW
CHECKED BY:	JLW

SHEET:

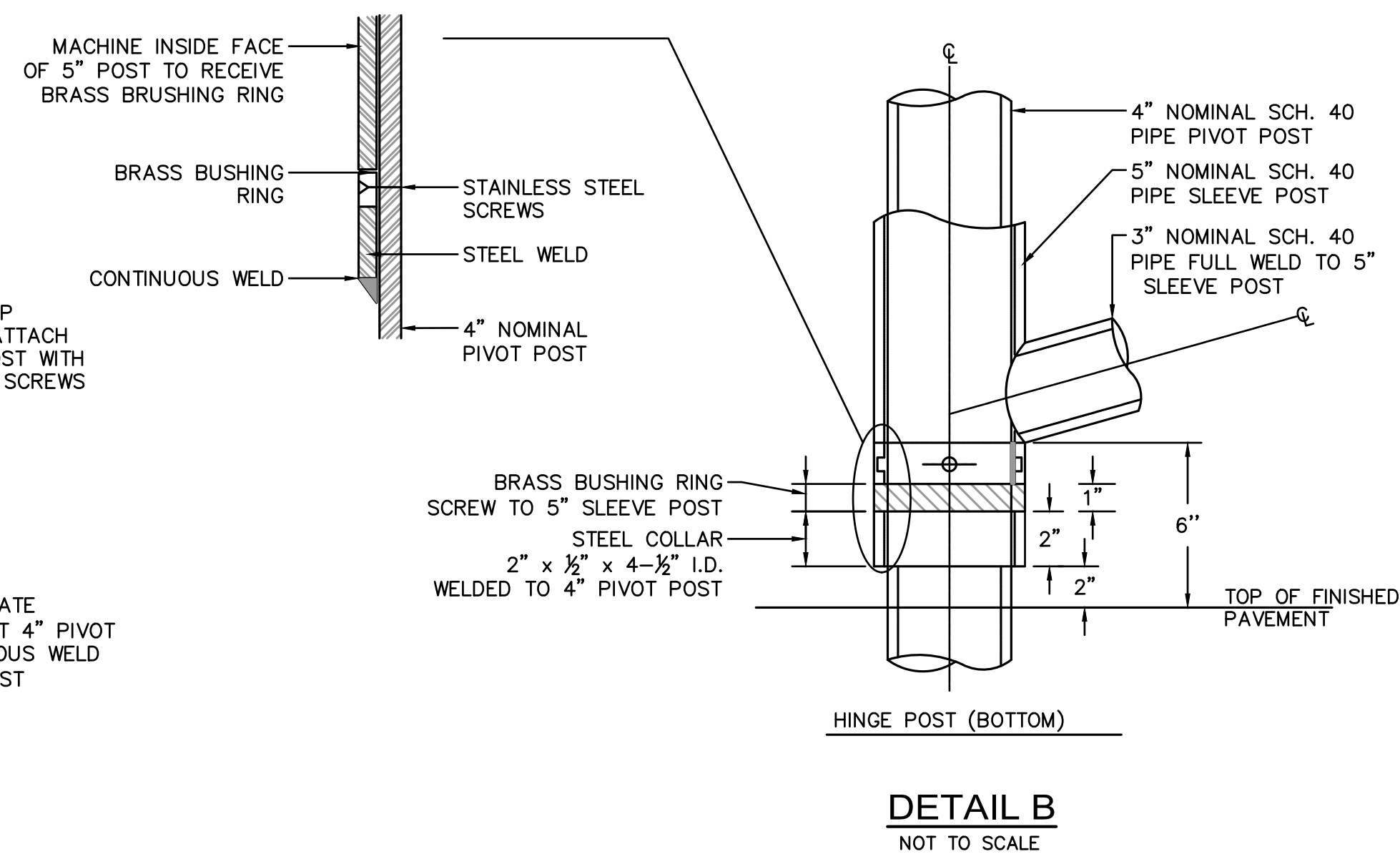
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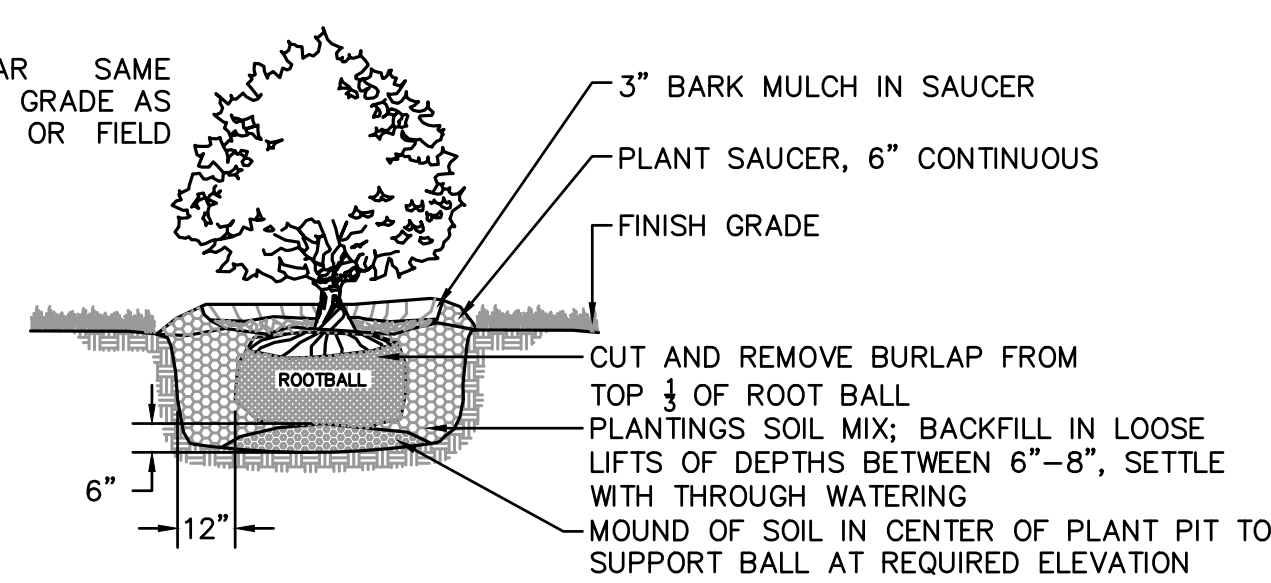
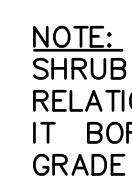
REV.



1. AS MANUFACTURED BY UNITED FENCE OR APPROVED EQUAL
2. FULL SEAM WELD AND GRIND SMOOTH PRIOR TO FINISH
3. ALL STEEL SHALL BE GALVANIZED INSIDE AND OUT
4. PROVIDE 1/2" DIA. WEEP HOLES AT WELD SEAMS
5. INSTALL BRASS BUSHING AFTER GALVANIZING
6. SUBMIT SHOP DRAWINGS
7. FINISH TWO COATS OF YELLOW PAINT

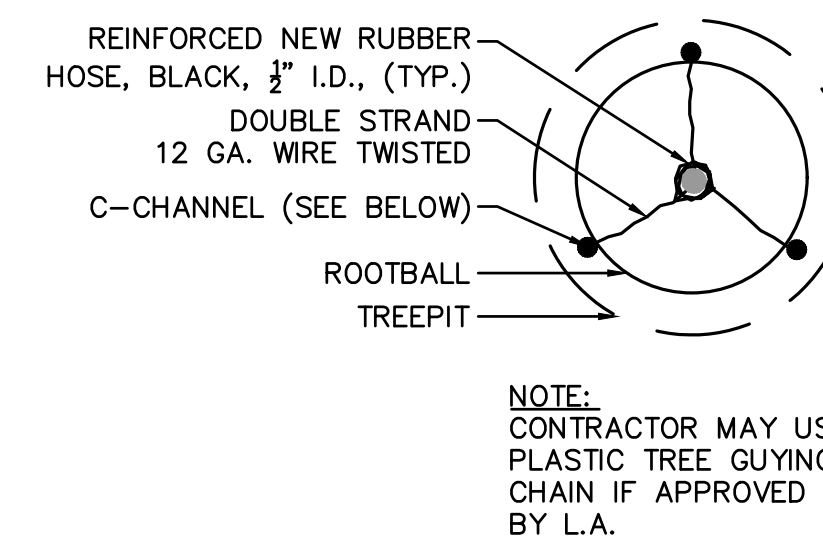


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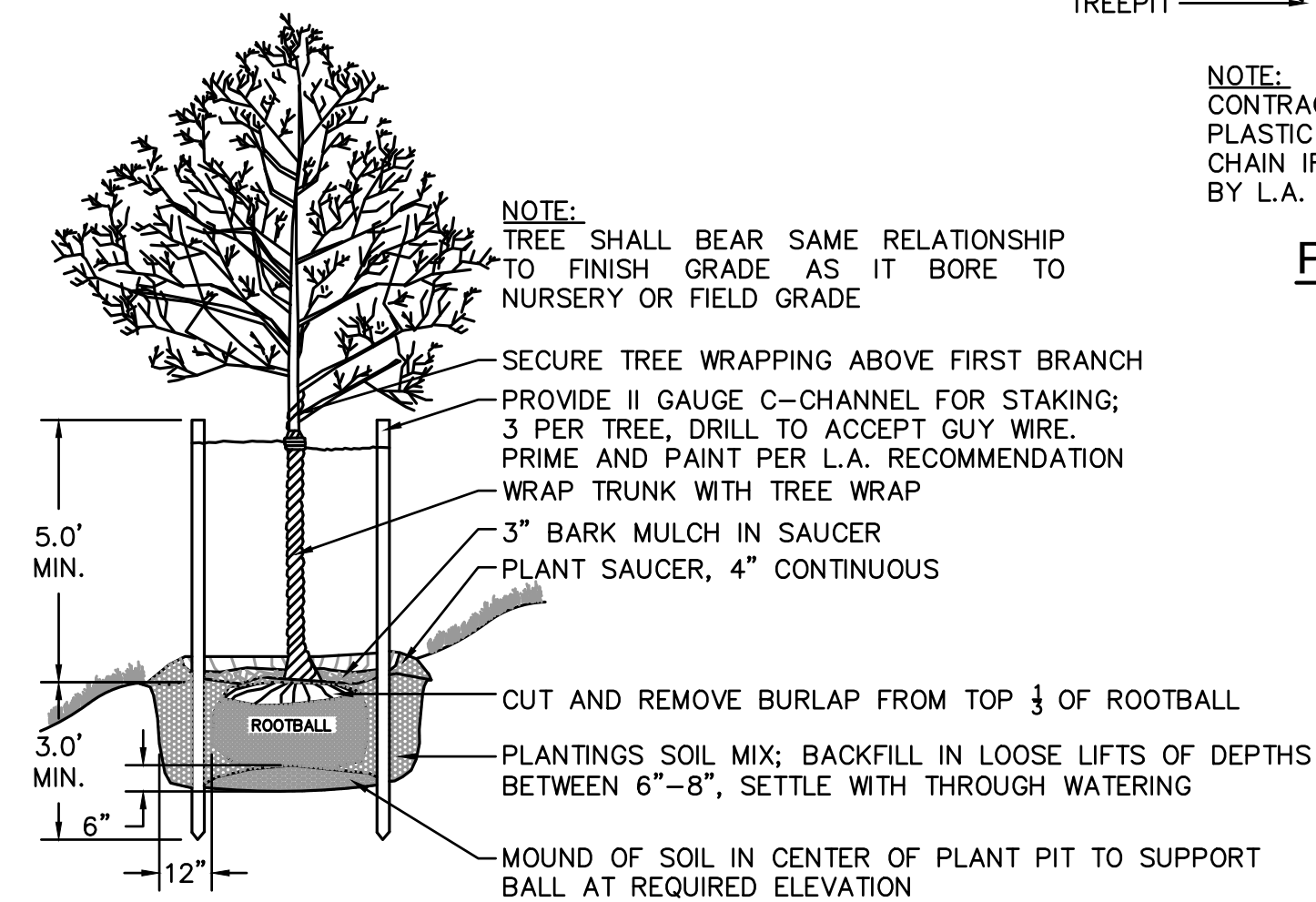


NOT TO SCALE

NOT TO SCALE



NOTE:
CONTRACTOR MAY USE
PLASTIC TREE GUYING
CHAIN IF APPROVED
BY L.A.



NOT TO SCALE

SMITH BEACH PARKING LOT GREEN INFRASTRUCTURE RETROFIT
BRAINTREE, MA

PREPARED FOR:

BRAINTREE DPW
CY AVENUE BRAINTREE MA

85 QUINCY AVENUE, BRAIN IREE, MA 02184

FINAL PLAN SET

REV.	COMMENTS	DATE
	REVISIONS	

NITSCH PROJECT #	13447.1
FILE:	13447.1_CDT.DWG
SCALE:	NTS
DATE:	6/24/2022
PROJECT MANAGER:	JLJ
SURVEYOR:	DPW
DRAFTED BY:	JLW
CHECKED BY:	JLW

SHEET:

C-504

OF

EY.

