

SHORE DRIVE SIDEWALK IMPROVEMENTS

85 SHORE DRIVE
WORCESTER, MASSACHUSETTS
(Worcester County)



OWNER/APPLICANT

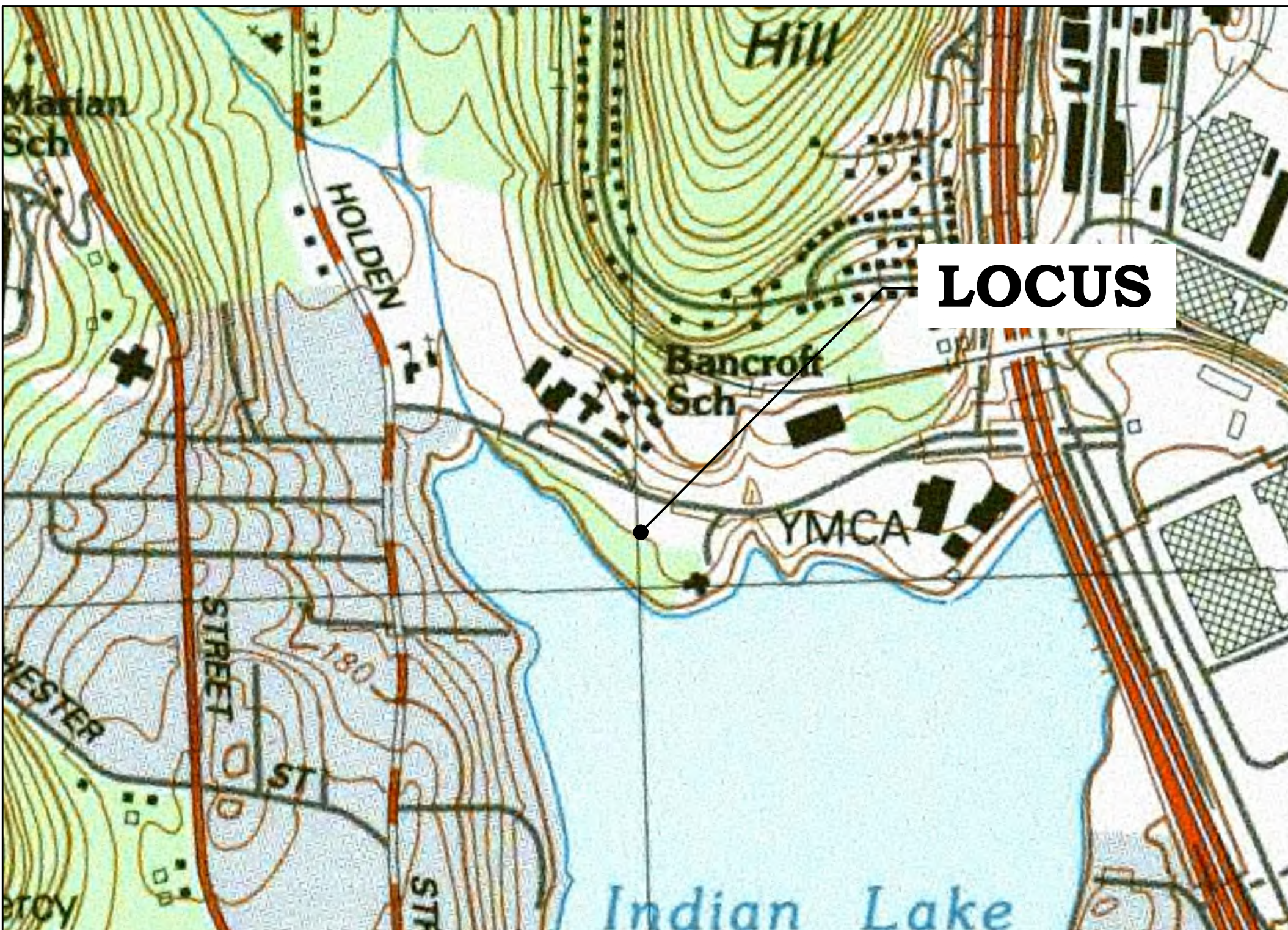
Worcester Department of Public Works and Parks (WDPWP)
50 Officer Manny Familia Way
Worcester, Massachusetts 01605

CIVIL ENGINEER/SURVEYOR/ LANDSCAPE ARCHITECT AND WETLAND SCIENTIST

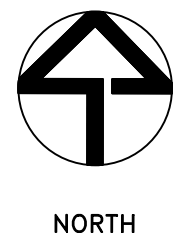
Beals and Thomas, Inc.
144 Turnpike Road
Southborough, Massachusetts 01772

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Locus Map
Scale: 1" = 500'



Issued For Permitting - May 18, 2022
Revised For Permitting - May 19, 2022
Issued For Construction - July XX, 2022

Eric D. Batista
City Manager

Jay J. Fink, P.E.
Commissioner
Department of Public Works & Parks





























































Robert C. Antonelli, Jr.
Assistant Commissioner
Department of Public Works & Parks

IN PROGRESS 8/24/2023
Job No.: 2407.07
Plan No.: 240707P044D
Sheet 1 of 17

GENERAL NOTES

1. THE CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND OBTAIN NECESSARY CONSTRUCTION PERMITS. THE CONTRACTOR SHALL PAY FEES AND POST BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AND ARCHITECT AS REQUIRED.
2. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND CONSTRUCTION MEANS AND METHODS.
3. LIMIT OF WORK SHALL BE EROSION CONTROL BARRIERS, LIMIT OF GRADING, SITE PROPERTY LINES, AND/OR AS INDICATED ON DRAWINGS.
4. PORTIONS OF THE ROADWAY, SIDEWALK, AND ROADSIDE AREA DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION PRIOR TO DISTURBANCE. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.
5. CONTRACTOR SHALL VERIFY UTILITY STUB LOCATIONS AND ELEVATIONS IN THE FIELD PRIOR TO COMMENCING WORK.
6. ANY ALTERATION TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE CONTRACTOR ON RECORD DRAWINGS.
7. EXISTING TREES AND SHRUBS OUTSIDE THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON PRIOR APPROVAL OF THE OWNER.
8. CONTRACTORS AND SUBCONTRACTORS SHALL OBTAIN A TRENCH PERMIT PRIOR TO ANY TRENCHING ON SITE IN ACCORDANCE WITH 520 CMR 14.00.
9. FOR DRAWING LEGIBILITY, ALL EXISTING TOPOGRAPHIC FEATURES, EXISTING UTILITIES, PROPERTY BOUNDARIES, EASEMENTS, ETC. MAY NOT BE SHOWN ON ALL DRAWINGS. REFER TO ALL REFERENCED DRAWINGS AND OTHER DRAWINGS IN THIS SET FOR ADDITIONAL INFORMATION.

LEGEND

| | | | |
|---|--|--|--|
|  | SEWER LINE/MANHOLE |  | FOOTPATH |
|  | DRAIN LINE/MANHOLE |  | BITUMINOUS CONCRETE |
|  | CATCH BASIN |  | CHAIN LINK FENCE |
|  | CULVERT/INVERT |  | COLUMN CONCRETE |
|  | GAS LINE/GATE |  | HANDICAP RAMP |
|  | WATER LINE/GATE/MANHOLE |  | DOUBLE YELLOW LINE |
|  | HYDRANT |  | SOLID WHITE LINE |
|  | ELECTRIC LINE/MANHOLE |  | ELECTRIC METER |
|  | OVERHEAD WIRE |  | EDGE OF PAVEMENT |
|  | ELECTRIC, TELEPHONE, CABLE |  | FULL OF SILT |
|  | UTILITY POLE |  | LANDSCAPE TIMBER |
|  | GUY WIRE |  | NO VISIBLE PIPES |
|  | LIGHT POLE |  | POLYVINYL CHLORIDE |
|  | SIGN |  | RETAINING WALL |
|  | FLAG POLE |  | STONE & MORTAR |
|  | GATE POST |  | TOP OF SILT |
|  | FENCE |  | TOP OF WATER |
|  | WOOD GUARDRAIL |  | WROUGHT IRON FENCE |
|  | GRANITE CURB |  | STONE BOUND |
|  | BITUMINOUS CONCRETE BERM |  | CONCRETE BOUND |
|  | TREE |  | ESCUTCHEON PIN, LEAD PLUG |
|  | TREE LINE |  | FOUND |
|  | BUILDING |  | 15' LOCAL BUFFER ZONE |
|  | BOUNDARY OF BORDERING VEGETATED WETLAND |  | 30' LOCAL BUFFER ZONE |
|  | BANK/BANK FLAG |  | 50' LOCAL BUFFER ZONE |
|  | MINOR CONTOUR |  | 100' LOCAL AND STATE BUFFER ZONE |
|  | MAJOR CONTOUR |  | 100 YEAR FLOOD ELEVATION |
|  | SPOT ELEVATION |  | LOCAL 100' BORDERING LAND SUBJECT TO FLOODING BUFFER ZONE |
|  | EDGE OF WATER |  | MEAN ANNUAL HIGH WATER ELEVATION |
|  | LOCAL AND STATE 100' BOUNDARY OF BORDERING VEGETATED WETLAND BUFFER ZONE |  | LOCAL AND STATE 100' BOUNDARY OF BORDERING VEGETATED WETLAND BUFFER ZONE |

EROSION CONTROL AND SEDIMENTATION NOTES

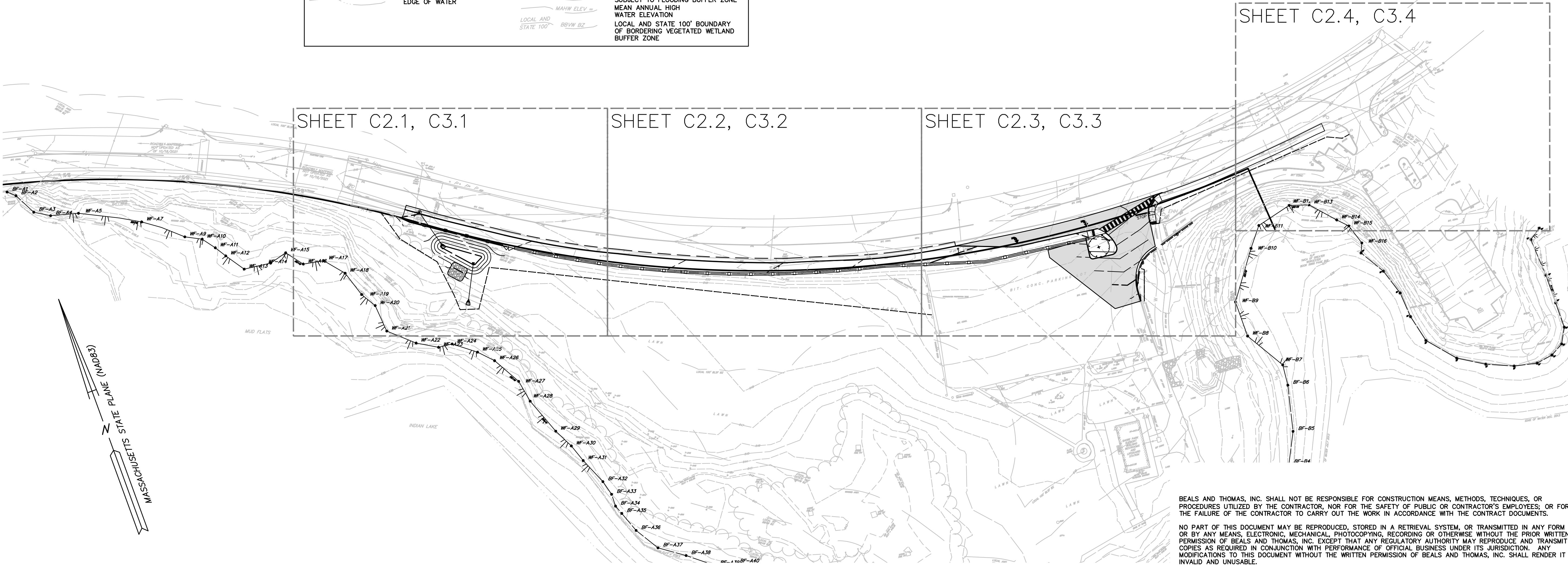
1. A SEDIMENT CONTROL BARRIER SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED WORK AS INDICATED ON THE PLANS PRIOR TO THE COMMENCEMENT OF DEMOLITION OR CONSTRUCTION.
2. CONTRACTOR SHALL CLEAN AND MAINTAIN ALL SEDIMENT AND EROSION CONTROL MEASURES FOR THE DURATION OF CONSTRUCTION TO ENSURE THEIR CONTINUED FUNCTIONALITY.
3. ADDITIONAL EROSION CONTROL MEASURES AND/OR SEDIMENT CONTROL BARRIERS SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
4. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A DAILY BASIS DURING CONSTRUCTION TO ENSURE THAT CHANNELS, DITCHES, AND PIPES REMAIN CLEAR OF DEBRIS AND THAT THE EROSION AND SEDIMENTATION CONTROL MEASURES ARE INTACT.
5. ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC WAYS. ANY SEDIMENT TRACKED ONTO PUBLIC WAYS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY.
6. ALL STOCKPILE AREAS SHALL BE LOCATED WITHIN LIMIT OF WORK LINE AND STABILIZED TO PREVENT EROSION.
7. ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFF SITE.
8. CONTRACTOR SHALL PROVIDE CRIBBING AS NECESSARY TO PROTECT EXISTING UTILITY LINES DURING CONSTRUCTION.
9. SITE ELEMENTS TO REMAIN SHALL BE PROTECTED FOR THE DURATION OF CONSTRUCTION.
10. ALL TOPSOIL ENCOUNTERED WITHIN THE LIMIT OF WORK SHALL BE STRIPPED TO ITS FULL DEPTH AND STOCKPILED FOR REUSE. EXCESS TOPSOIL SHALL BE DISPOSED OF ON SITE AS DIRECTED BY OWNER. TOPSOIL STOCKPILES SHALL REMAIN SEGREGATED FROM OTHER EXCAVATED SOIL MATERIALS.
12. TEMPORARY DIVERSION DITCHES, PERMANENT DITCHES, CHANNELS, EMBANKMENTS, AND ANY DENIED SURFACE WHICH WILL BE EXPOSED FOR A PERIOD OF ONE MONTH OR MORE SHALL BE CONSIDERED CRITICAL VEGETATION AREAS. THESE AREAS SHALL BE MULCHED WITH STRAW. MULCH SHALL BE SPREAD UNIFORMLY IN A CONTINUOUS BLANKET OF SUFFICIENT THICKNESS TO COMPLETELY HIDE THE SOIL FROM VIEW.
13. CONTRACTOR SHALL PROVIDE DUST CONTROL BY SPRINKLING OR OTHER APPROVED METHODS NECESSARY AND/OR AS DIRECTED BY THE OWNER OR THEIR REPRESENTATIVE.
14. FILTER BAGS SHALL BE INSTALLED IN ALL EXISTING CATCH BASINS PRIOR TO COMMENCEMENT OF CONSTRUCTION. FILTER BAGS SHALL ALSO BE INSTALLED IN ALL NEWLY INSTALLED CATCH BASIN PRIOR TO PERMANENT PAVEMENT INSTALLATION TO CONTROL SILTATION.
15. CONTRACTOR SHALL PREVENT ANY SOIL AND MATERIALS FROM ENTERING WETLANDS, STREAMS, AND OTHER RESOURCE AREAS.

LAYOUT AND MATERIALS NOTES

1. ALL LINES AND DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
2. CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER AND OWNER'S REPRESENTATIVE FOR RESOLUTION.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN SITE PLAN DIMENSIONS AND BUILDING PLANS BEFORE PROCEEDING WITH ANY PORTION OF SITE WORK WHICH MAY BE AFFECTED SO THAT PROPER ADJUSTMENTS TO THE SITE LAYOUT CAN BE MADE IF NECESSARY.
4. ACCESSIBLE RAMPS SHALL BE CONSTRUCTED PER MASSACHUSETTS STATE CODE AND THE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES (WHICHEVER IS MORE STRINGENT).
5. EACH HANDICAP PARKING SPACE SHALL BE IDENTIFIED BY A SIGN SIX (6) FEET IN HEIGHT LOCATED AT THE FACE OF THE CURB. THE SIGN SHALL CONTAIN THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AS DESCRIBED IN THE AMERICANS WITH DISABILITIES ACT, PUBLIC LAW 101-336, (SEE DETAIL).
6. CONTRACTOR SHALL PROTECT EXISTING PROPERTY MONUMENTS AND ABUTTING PROPERTIES DURING CONSTRUCTION

GRADING, DRAINAGE AND UTILITY NOTES

1. UNDERGROUND UTILITIES WERE COMPILED FROM AVAILABLE RECORD PLANS OF UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE AND ASSUMED. BEFORE COMMENCING SITE WORK CONTACT "DIG SAFE" AT 1-888-344-7233 TO LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE PERFORMED UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED.
2. SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH COULD BE AFFECTED.
4. WORK PERFORMED AND MATERIALS FURNISHED SHALL CONFORM WITH THE LINES, GRADES AND OTHER SPECIFIC REQUIREMENTS AND SPECIFICATIONS OF THE CITY OF WORCESTER DPW.
5. AT LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS. PITCH EVENLY BETWEEN SPOT GRADES. GRADE ALL AREAS TO DRAIN.
6. CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
7. GRADES SHALL PITCH EVENLY BETWEEN SPOT ELEVATIONS. PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF 1/8" PER FOOT UNLESS SPECIFIED OTHERWISE. ANY DISCREPANCIES NOT ALLOWING THIS MINIMUM PITCH SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONTINUING WORK.
8. THE CONTRACTOR SHALL SCHEDULE WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDING OR PONDING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF THE FINISH GRADE AND/OR SURFACE PAVING. CONTRACTOR SHALL PROVIDE TEMPORARY POSITIVE DRAINAGE AS REQUIRED.
9. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE RESPECTIVE UTILITY COMPANIES FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, AND ANY OTHER PRIVATE UTILITIES, AS REQUIRED.
10. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE OWNER AND ENGINEER FOR RESOLUTION.
11. UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE PAVEMENT FINISH GRADE UNLESS OTHERWISE NOTED. RIM ELEVATIONS OF DRAINAGE STRUCTURES AND SANITARY SEWER MANHOLES ARE APPROXIMATE.
12. CONTRACTOR SHALL INSTALL UTILITIES (INCLUDING CONCRETE PADS) PER UTILITY COMPANY AND DPW STANDARDS.
13. CONTRACTOR SHALL PROTECT UNDERGROUND UTILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THE UTILITIES RESULTING FROM CONSTRUCTION LOADS SHALL BE RESTORED TO ORIGINAL CONDITION.
14. EXCAVATION WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE PERFORMED BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
15. UNLESS OTHERWISE INDICATED, EXISTING UTILITIES TO BE ABANDONED SHALL BE CAPPED AND ABANDONED IN PLACE UNLESS THEY CONFLICT WITH PROPOSED IMPROVEMENTS. CAP REMAINING PORTIONS WHERE PARTIALLY REMOVED.
16. ABANDON EXISTING UTILITY SERVICES IN ACCORDANCE WITH UTILITY COMPANY AND CITY REQUIREMENTS.
17. CONTRACTOR SHALL REMOVE ALL EROSION AND SEDIMENT CONTROL BARRIERS AFTER RE-VEGETATION AND STABILIZATION OF DISTURBED AREAS, FOLLOWING APPROVAL OF THE CONSERVATION COMMISSION AND WETLAND SPECIALIST.
18. WETLANDS SHALL REMAIN UNDISTURBED; NO ENCROACHMENT PERMITTED.



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PREPARED FOR:

WORCESTER
DEPARTMENT OF
PUBLIC WORKS
AND PARKS

50 OFFICER MANNY FAMILIA WAY
WORCESTER, MASSACHUSETTS

IN PROGRESS
8/24/2023

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PROJECT:
**SHORE DRIVE
SIDEWALK
IMPROVEMENTS**
85 SHORE DRIVE
WORCESTER, MASSACHUSETTS

SCALE: 1" = 40' DATE: MAY 18, 2022

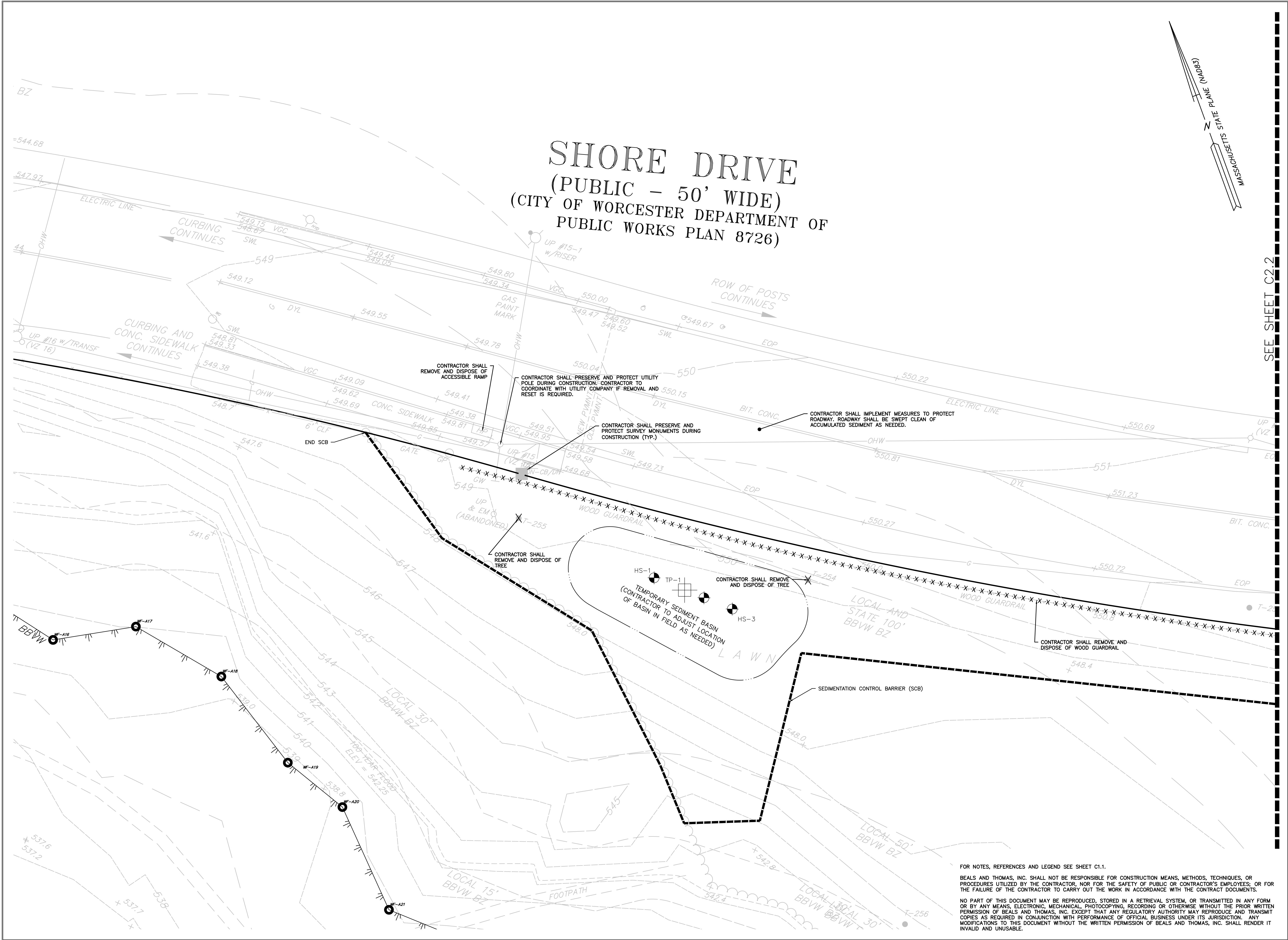
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INDEX SHEET

B+T JOB NO.2407.07

B+T PLAN NO.
240707P0440-002

C1.1



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50 OFFICER MANNY FAMILIA WAY
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PROJECT:

**SHORE DRIVE
SIDEWALK
IMPROVEMENTS**

85 SHORE DRIVE
WORCESTER, MASSACHUSETTS

SCALE: 1" = 10' DATE: MAY 18, 2022

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**SITE PREPARATION
PLAN**

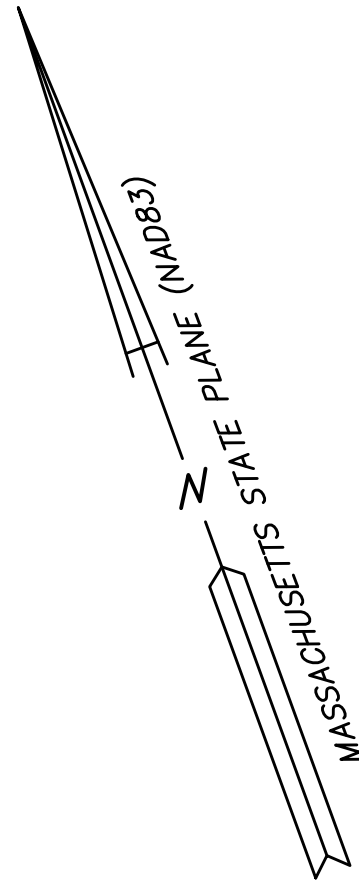
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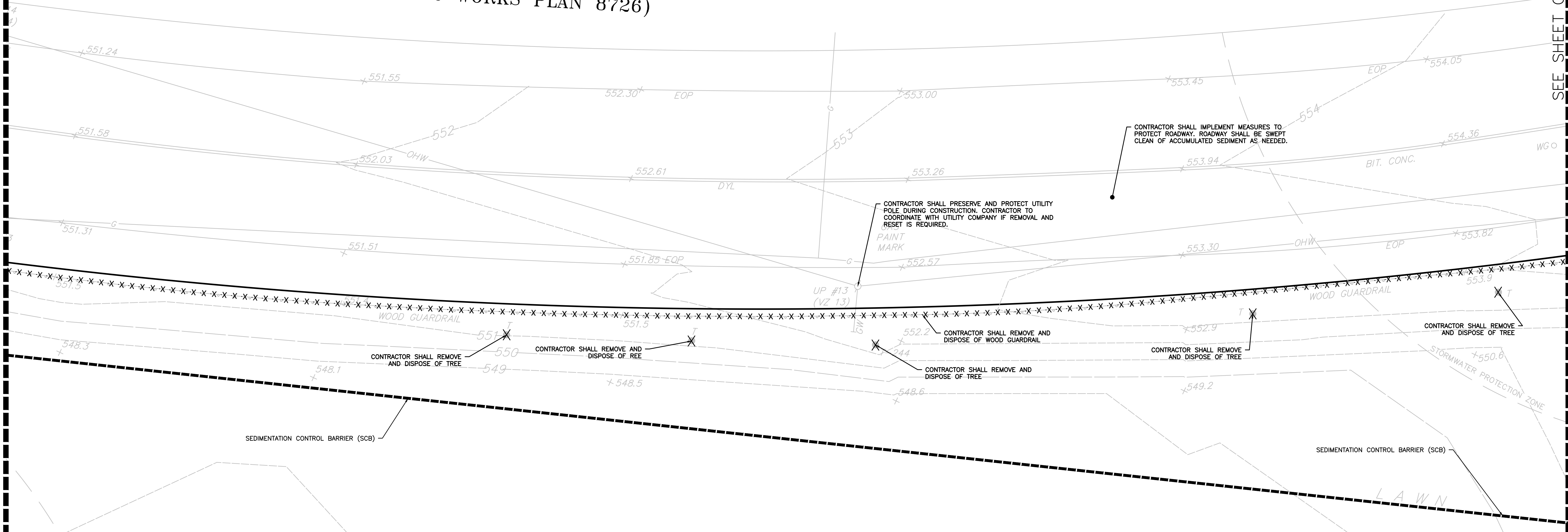
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SEE SHEET C2.1



SHORE DRIVE
(PUBLIC - 50' WIDE)
(CITY OF WORCESTER DEPARTMENT OF
PUBLIC WORKS PLAN 8726)



SEE SHEET C2.3

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AND PARKS

50 OFFICER MANNY FAMILIA WAY
WORCESTER, MASSACHUSETTS

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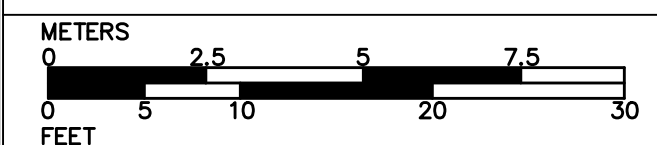
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PROJECT:

SHORE DRIVE
SIDEWALK
IMPROVEMENTS

85 SHORE DRIVE
WORCESTER, MASSACHUSETTS

SCALE: 1" = 10' DATE: MAY 18, 2022



SITE PREPARATION
PLAN

B+T JOB NO.2407.07

B+T PLAN NO.
240707P044D-004

C2.2

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SHORE DRIVE
(PUBLIC - 50' WIDE)
(CITY OF WORCESTER DEPARTMENT OF
PUBLIC WORKS PLAN 8726)

SEE SHEET C2.2

SEE SHEET C2.4

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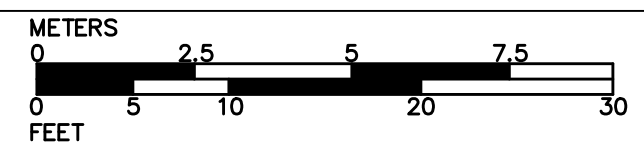
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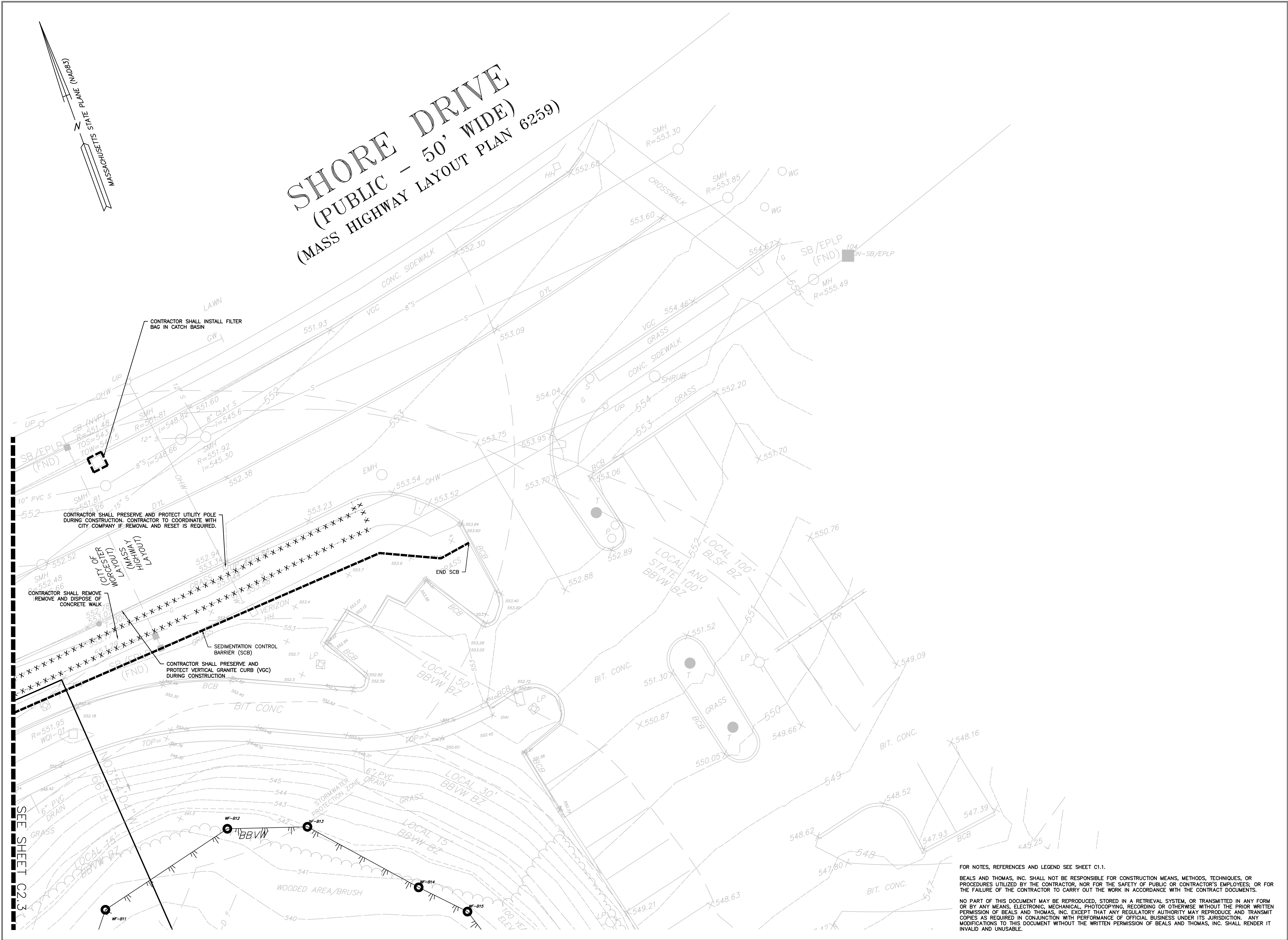
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C2.3

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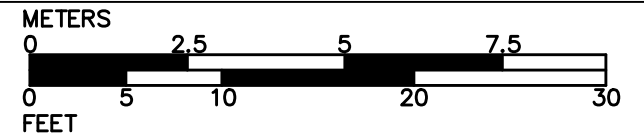


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PROJECT:
**SHORE DRIVE
SIDEWALK
IMPROVEMENTS**
85 SHORE DRIVE
WORCESTER, MASSACHUSETTS

SCALE: 1" = 10' DATE: MAY 18, 2022



**SITE PREPARATION
PLAN**

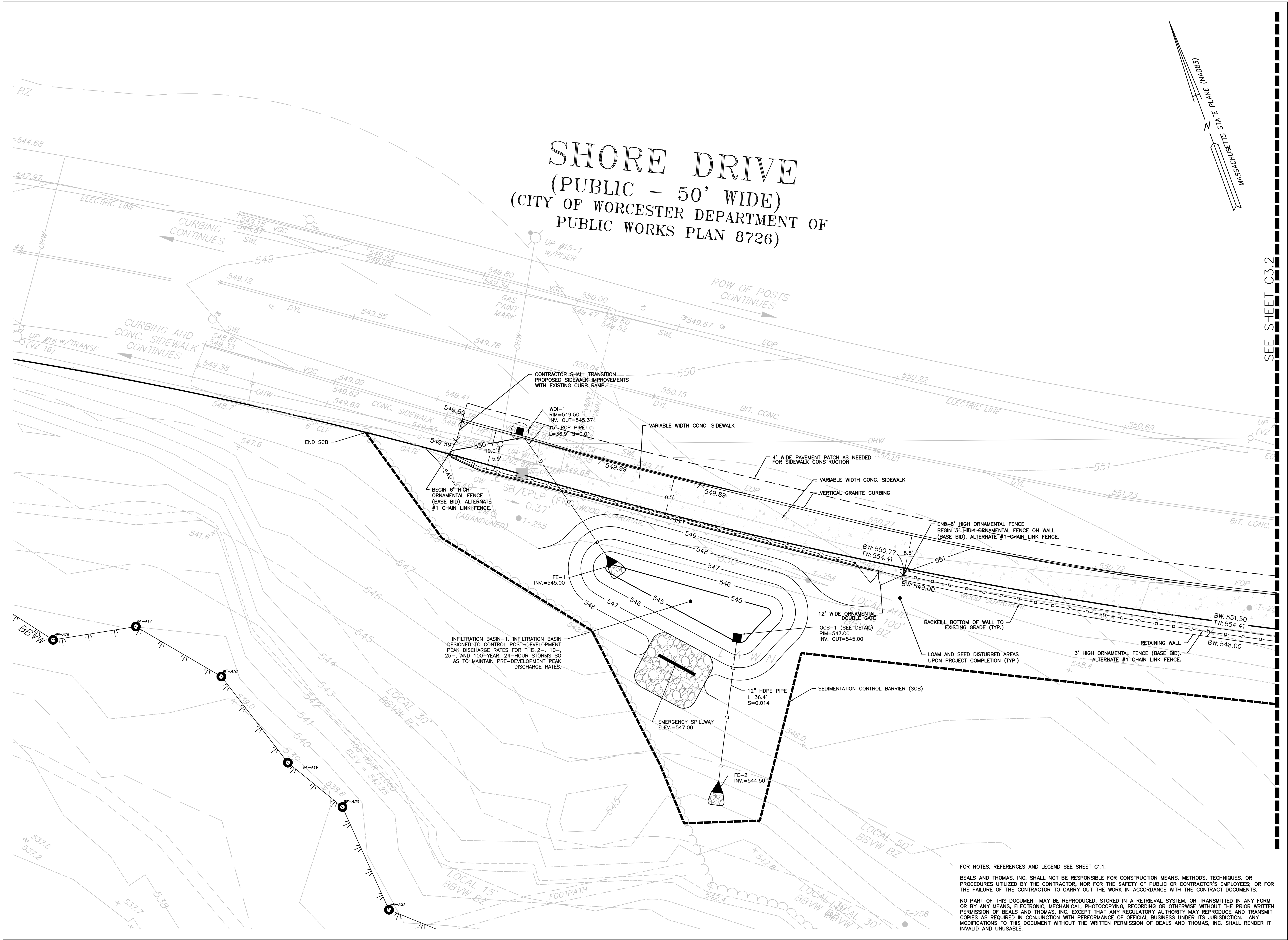
B+T JOB NO.2407.07
B+T PLAN NO.
240707P0440-006

C2.4

FOR NOTES, REFERENCES AND LEGEND SEE SHEET C1.1.

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PREPARED FOR:

**WORCESTER
DEPARTMENT OF
PUBLIC WORKS
AND PARKS**

50 OFFICER MANNY FAMILIA WAY
WORCESTER, MASSACHUSETTS

IN PROGRESS

8/24/2023

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PROJECT:

**SHORE DRIVE
SIDEWALK
IMPROVEMENTS**

85 SHORE DRIVE
WORCESTER, MASSACHUSETTS

SCALE: 1" = 10' DATE: MAY 18, 2022

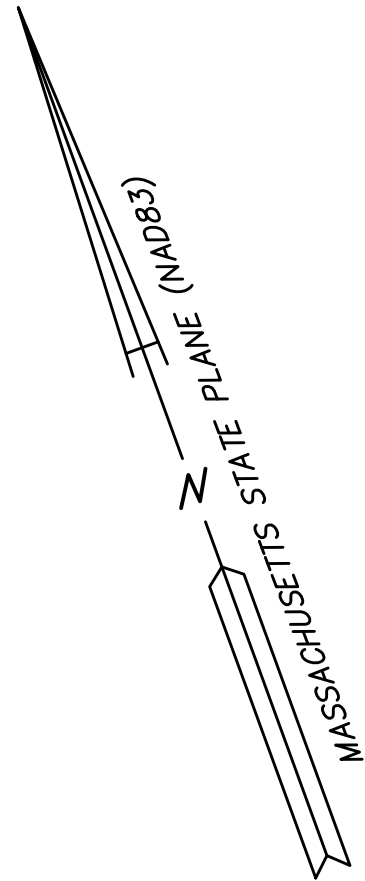
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0 2.5 5 7.5 30
FEET
0 5 10 20 30

SITE PLAN

B+T JOB NO.2407.07

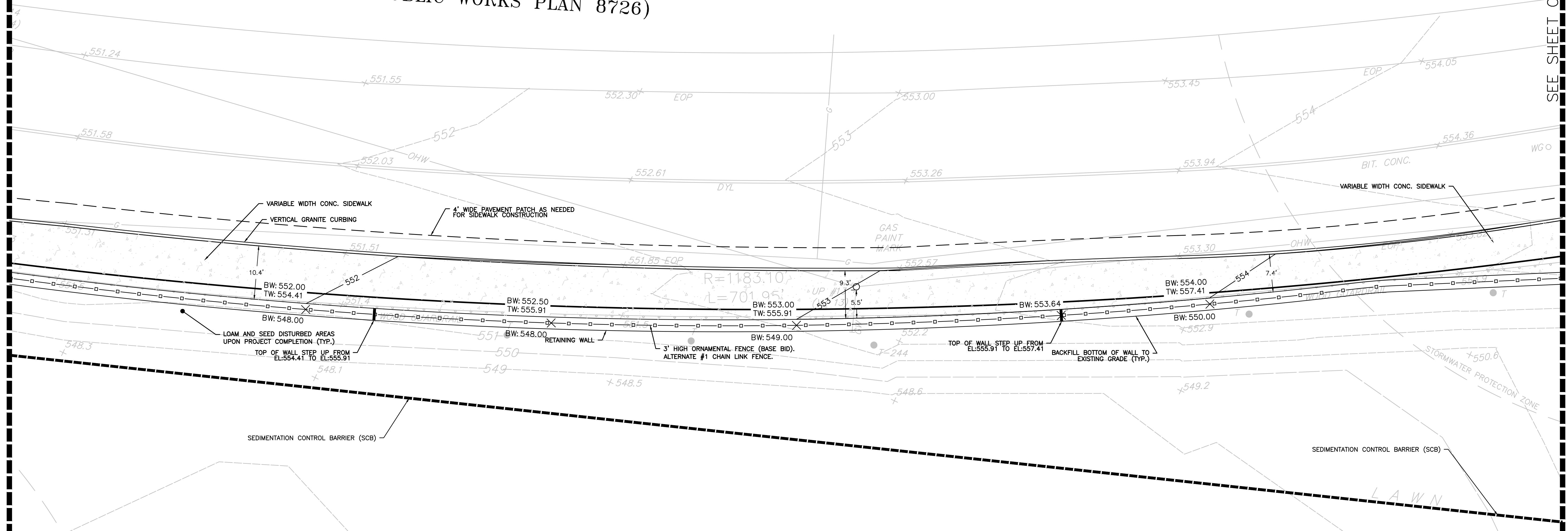
B+T PLAN NO.
240707P044D-007

C3.1



SEE SHEET C3.1

SHORE DRIVE
(PUBLIC - 50' WIDE)
(CITY OF WORCESTER DEPARTMENT OF
PUBLIC WORKS PLAN 8726)



FOR NOTES, REFERENCES AND LEGEND SEE SHEET C1.1.

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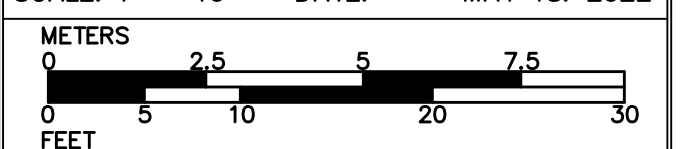
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PROJECT:

SHORE DRIVE SIDEWALK IMPROVEMENTS

85 SHORE DRIVE
WORCESTER, MASSACHUSETTS

SCALE: 1" = 10' DATE: MAY 18. 2022



SITE PLAN

B+T JOB NO.2407.07

B+T PLAN NO.
240707P044D-008

C3.2

SHORE DRIVE
(PUBLIC - 50' WIDE)
(CITY OF WORCESTER DEPARTMENT OF
PUBLIC WORKS PLAN 8726)

PREPARED FOR:

**WORCESTER
DEPARTMENT OF
PUBLIC WORKS
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50 OFFICER MANNY FAMILIA WAY
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PROJECT:

**SHORE DRIVE
SIDEWALK
IMPROVEMENTS**

85 SHORE DRIVE
WORCESTER, MASSACHUSETTS

SCALE: 1" = 10' DATE: MAY 18, 2022

METERS
0 2.5 5 7.5 30
FEET
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SITE PLAN

B+T JOB NO.2407.07

B+T PLAN NO.
240707P0440-009

C3.3

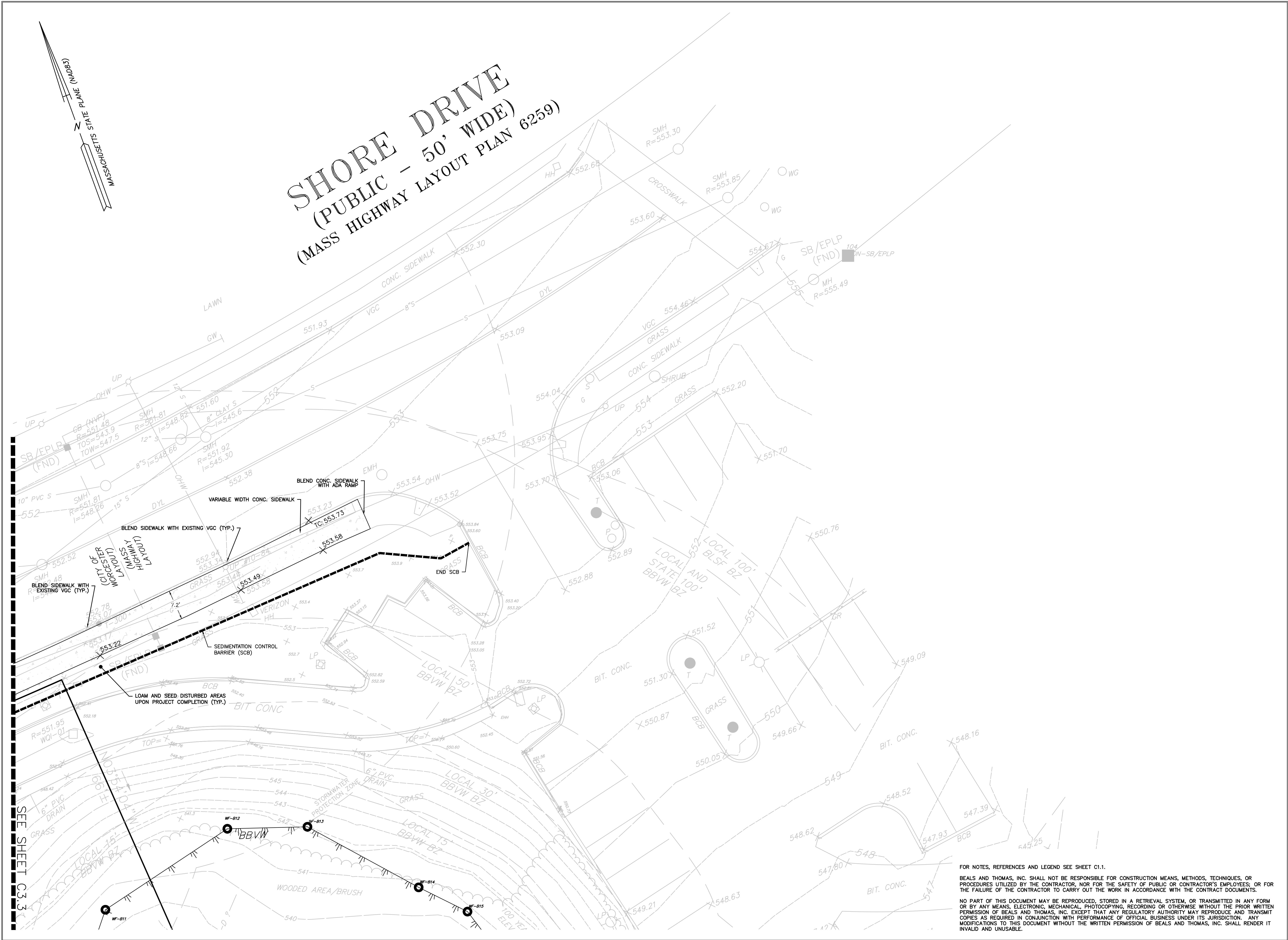
SEE SHEET C3.2

SEE SHEET C3.4

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WORCESTER, MASSACHUSETTS

SCALE: 1" = 10' DATE: MAY 18, 2022

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SITE PLAN

B+T JOB NO.2407.07

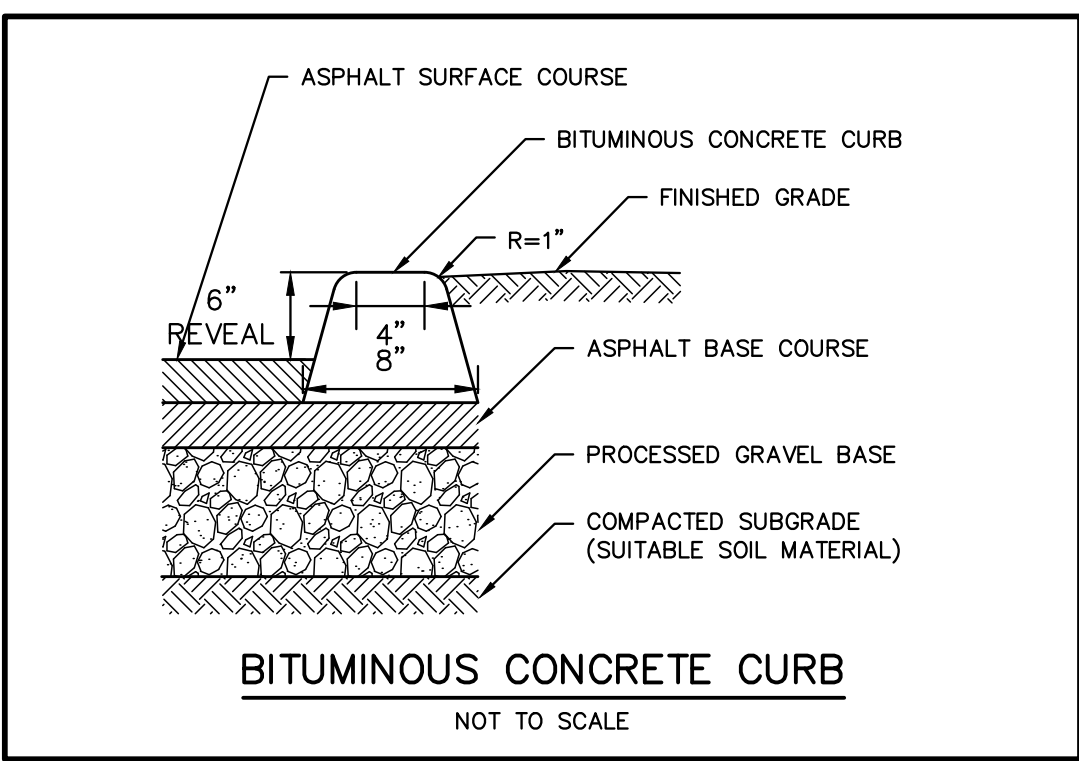
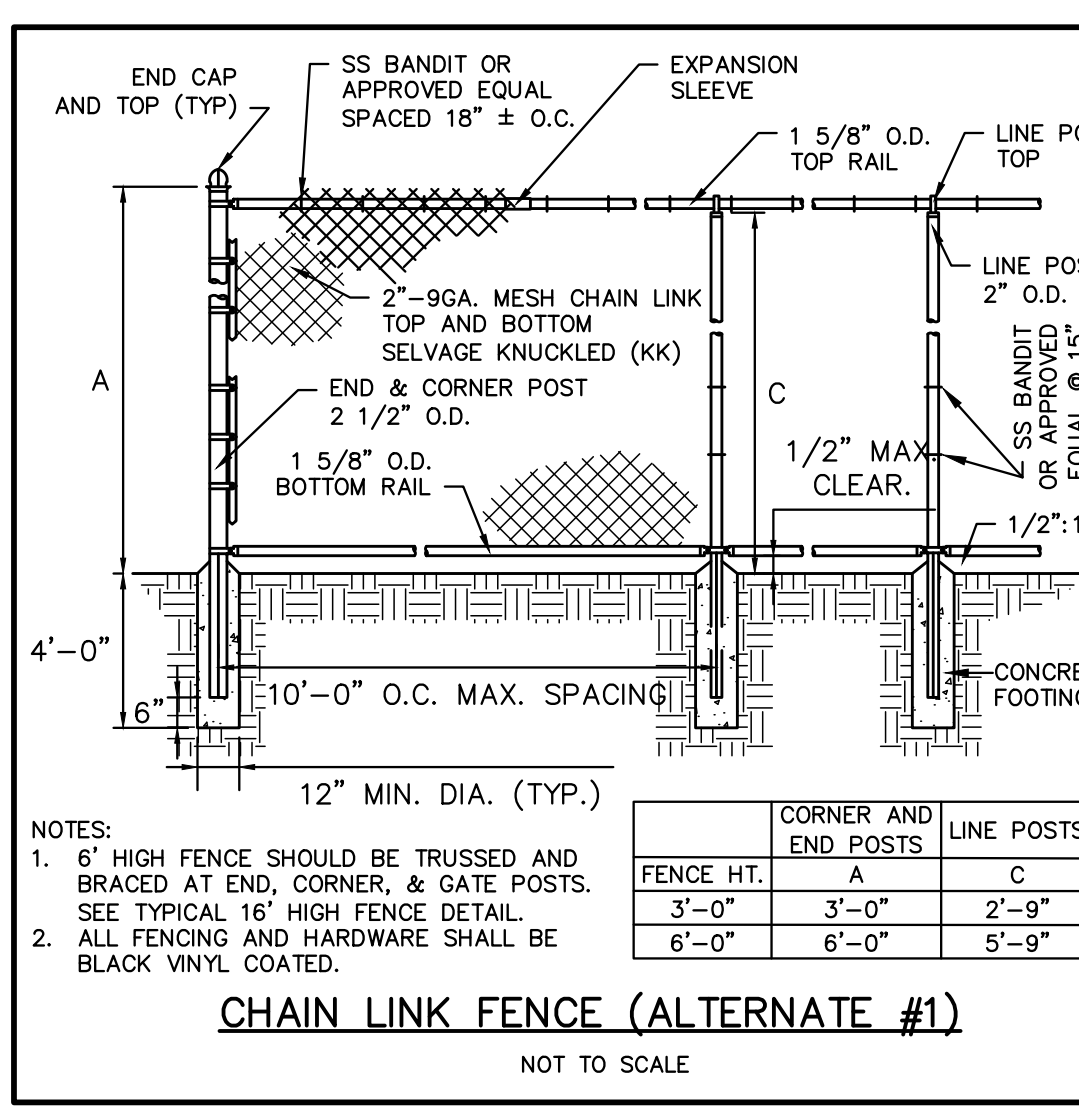
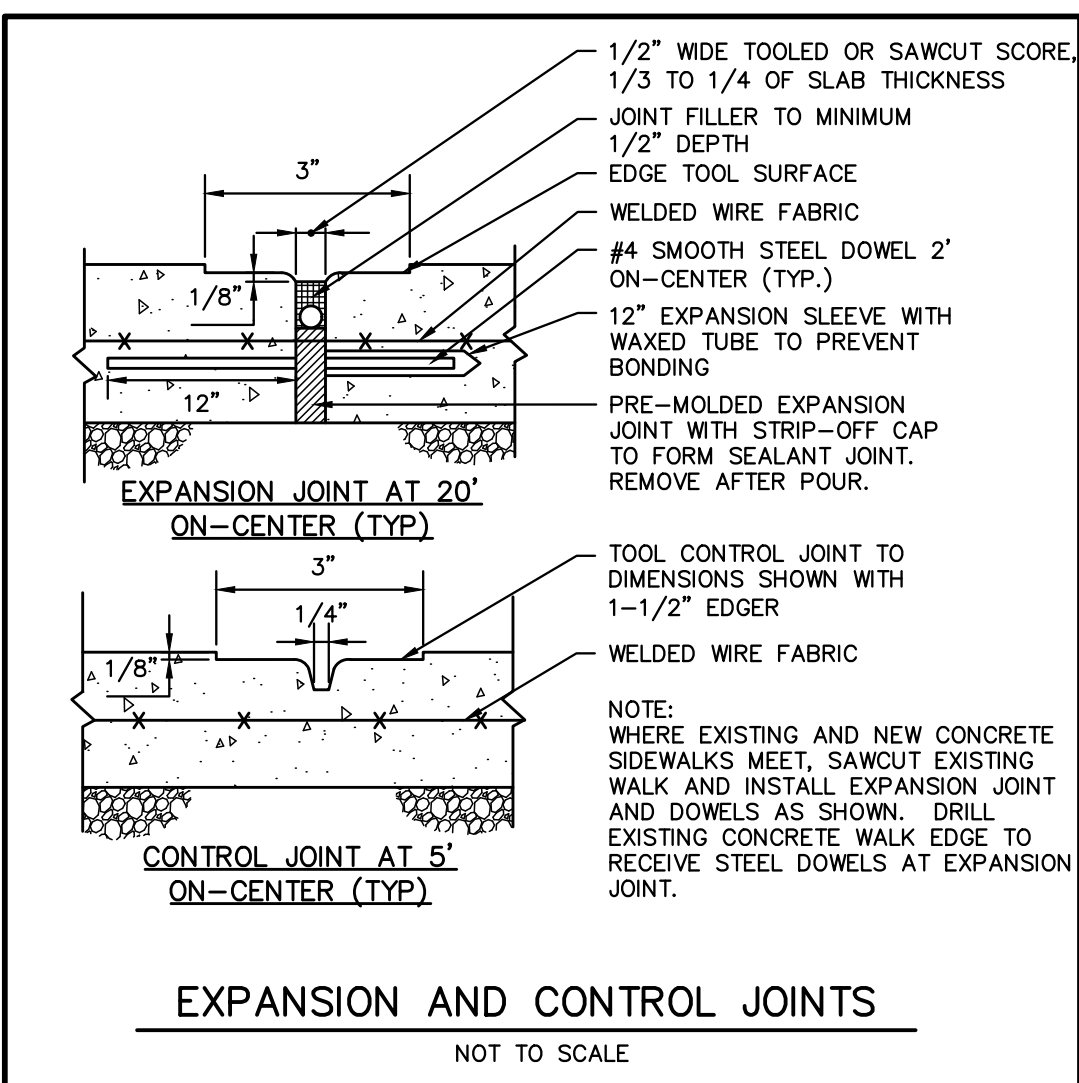
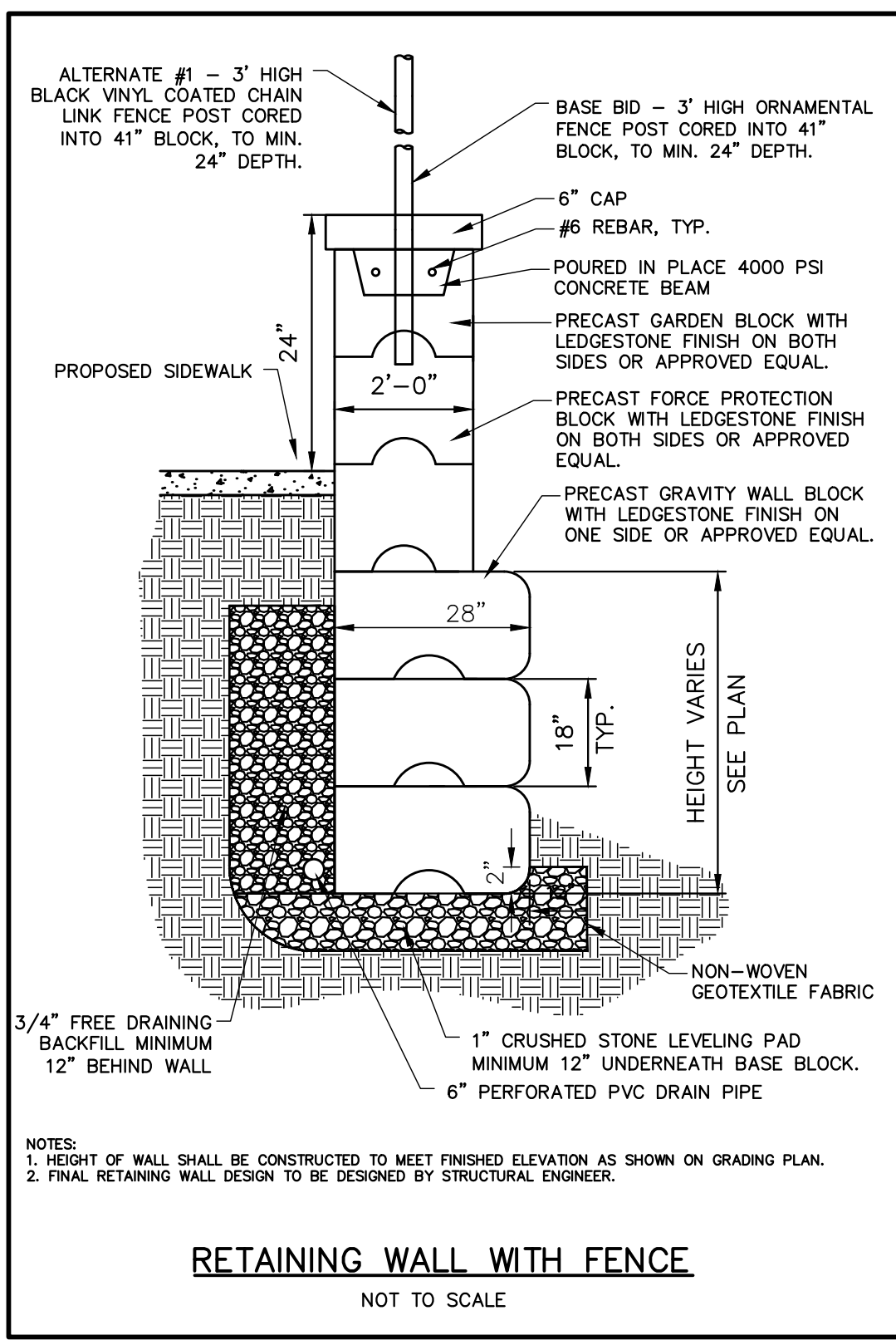
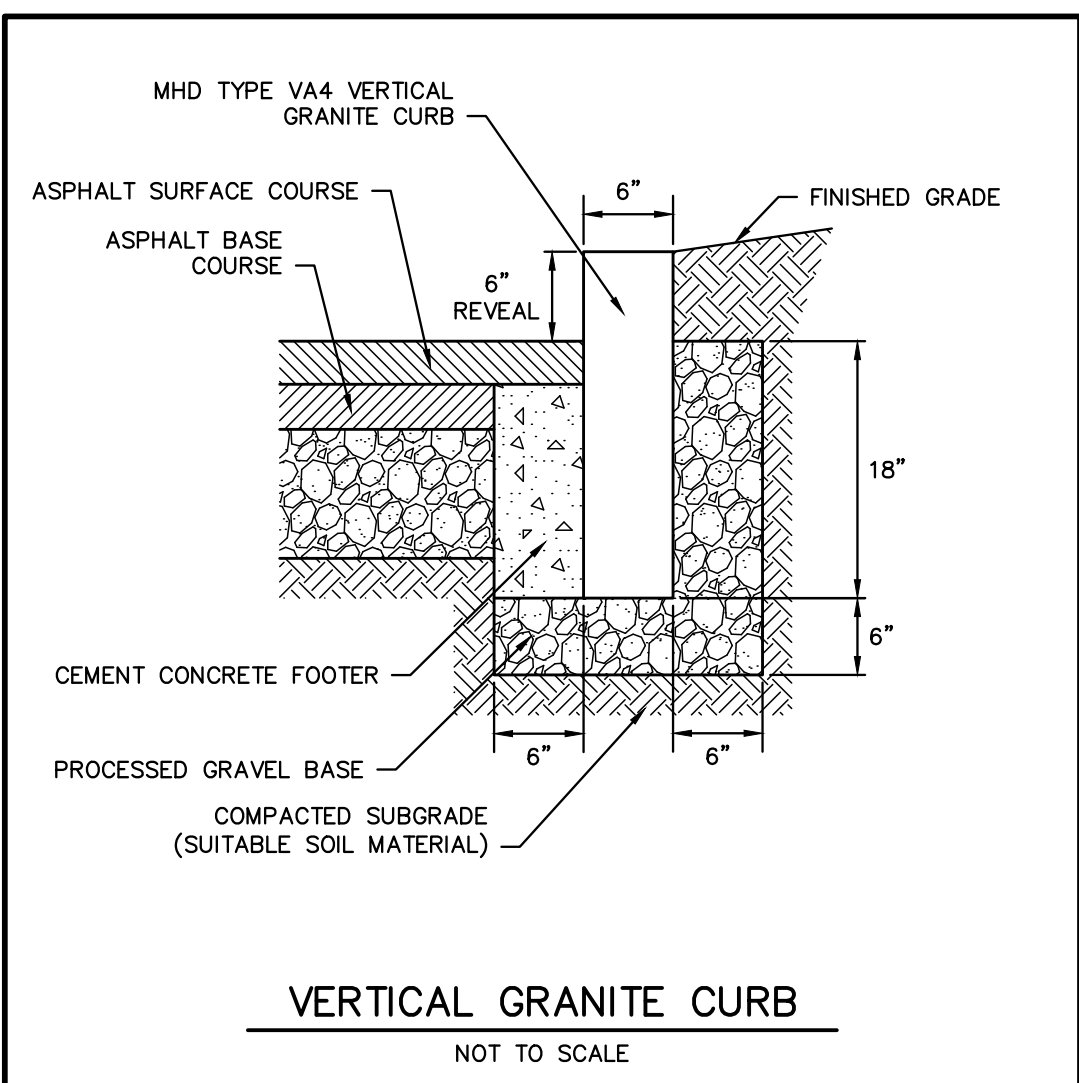
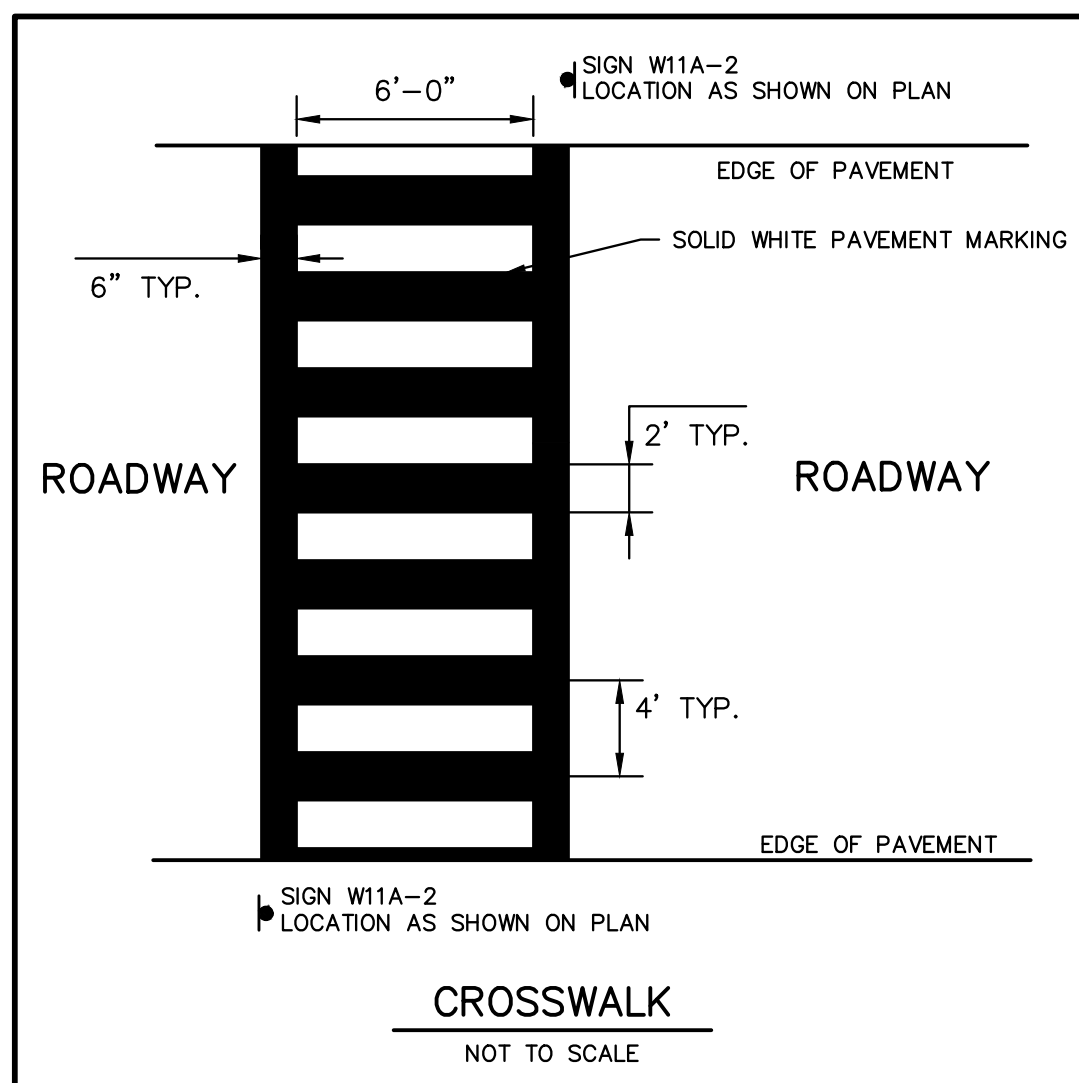
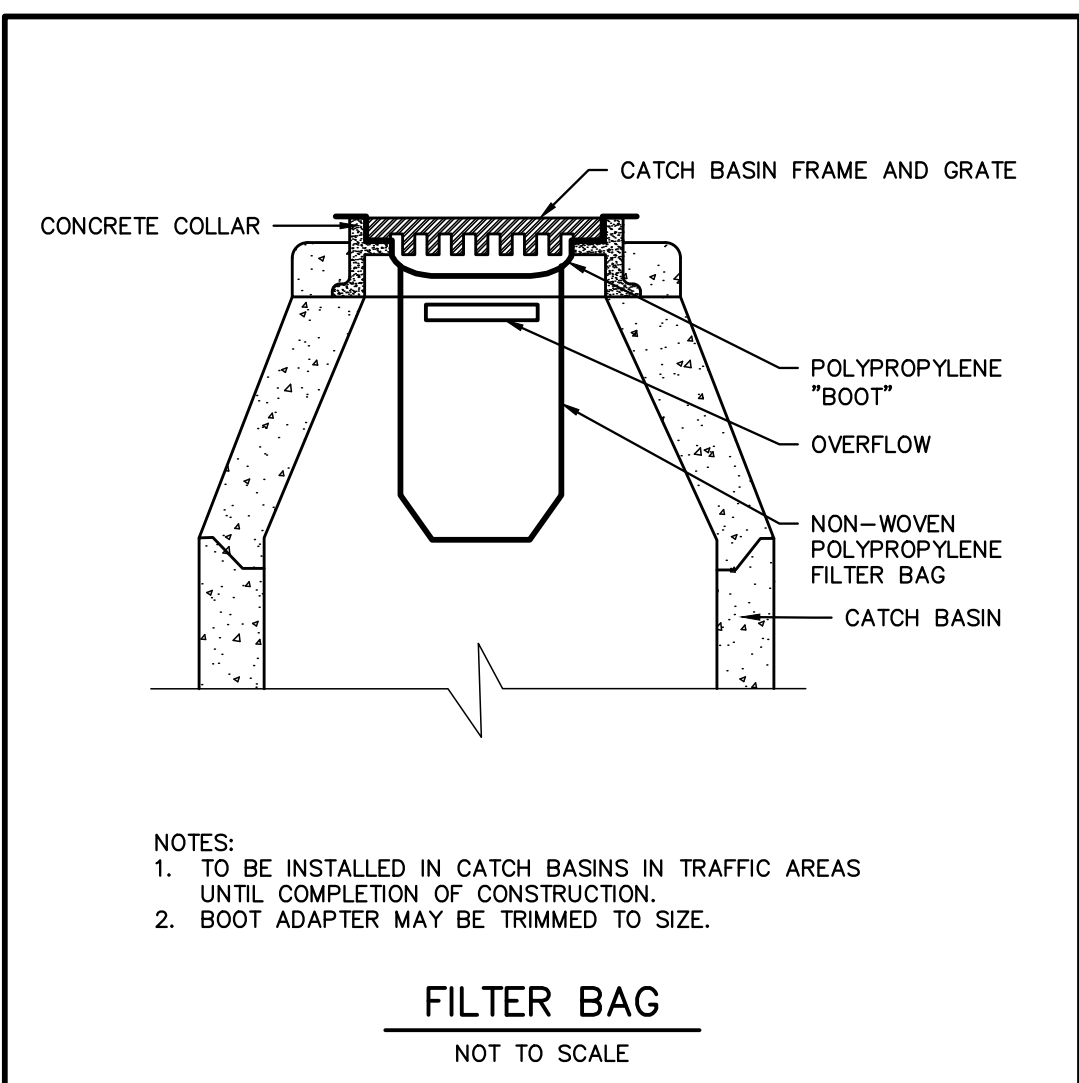
B+T PLAN NO.
240707P0440-010

C3.4

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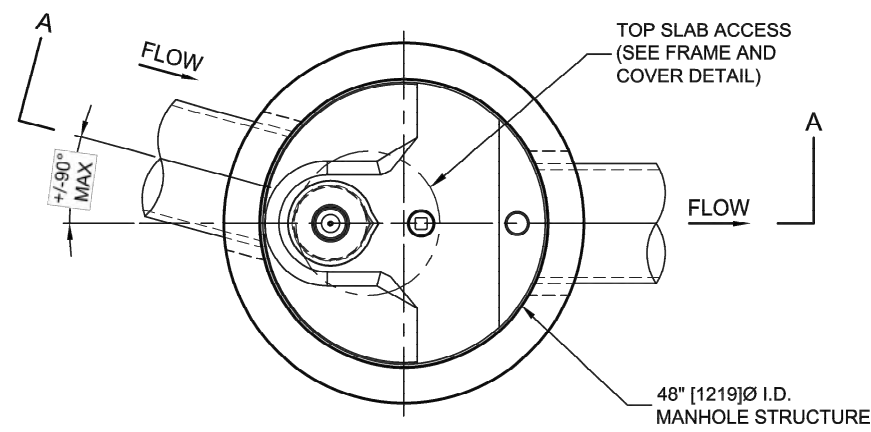
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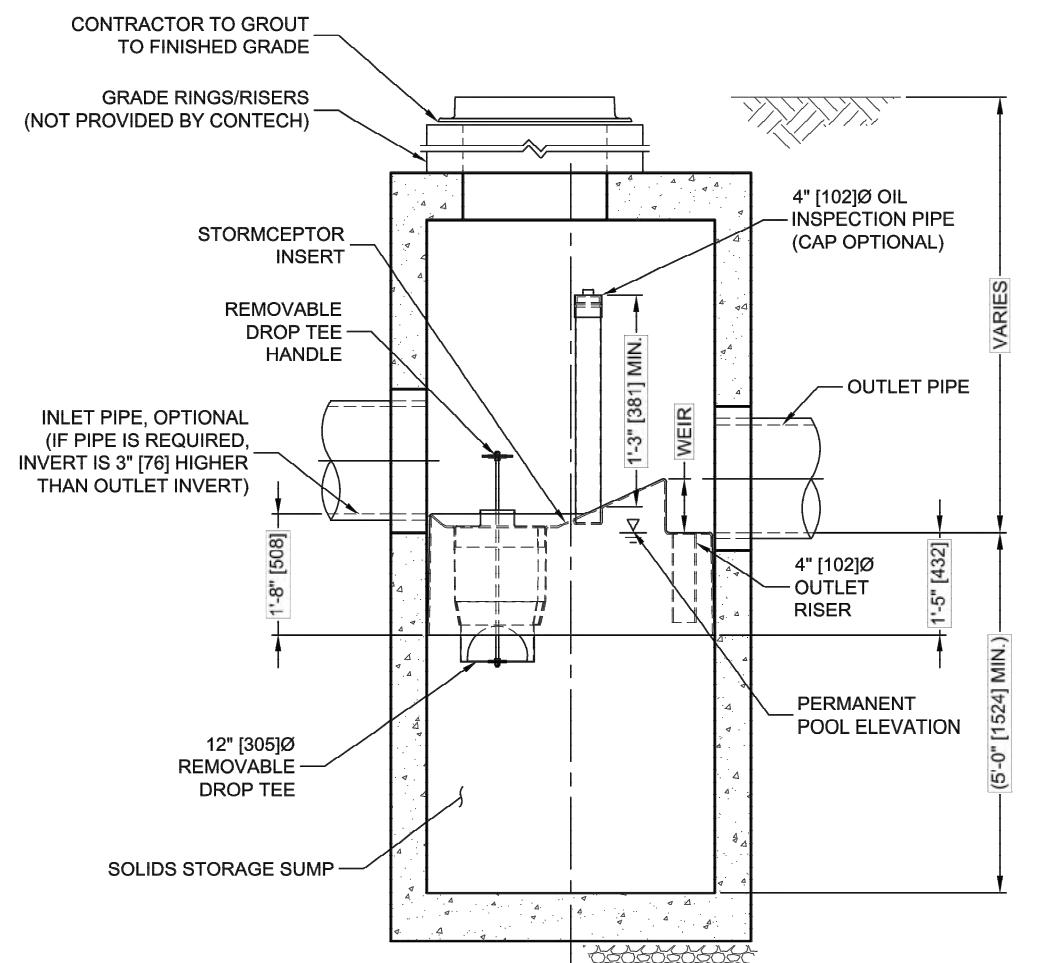
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| PROJECT: | | |
| SHORE DRIVE SIDEWALK IMPROVEMENTS | | |
| 85 SHORE DRIVE WORCESTER, MASSACHUSETTS | | |
| SCALE: AS NOTED | DATE: | MAY 18, 2022 |

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| SITE DETAILS | | C4.1 |
| B+T JOB NO.2407.07 | | |
| B+T PLAN NO. 240707P044D-011 | | |
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1:STORMWATERLUBRICATIONSUSUAL SIZE DESIGN TOOLS STANDARD DETAILSTORMCEPTORSTC450I.DWG
P2572023.07.17.17



PLAN VIEW
TOP SLAB NOT SHOWN



SECTION A-A

Stormceptor®
CONTRACT INFORMATION GO TO www.contechES.com

**WATER QUALITY INLET
(WQI-1)**
NOT TO SCALE

STORMCEPTOR DESIGN NOTES

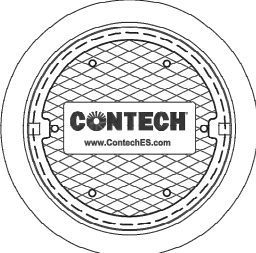
THE STANDARD STC450i CONFIGURATION WITH ROUND, SOLID FRAME AND COVER, AND INLET PIPE IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

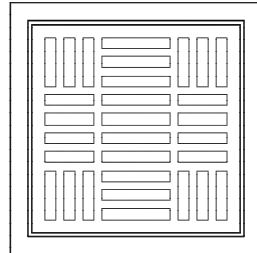
STORMCEPTOR STC450i RATED TREATMENT CAPACITY IS 0.40 CFS, OR PER LOCAL REGULATIONS

| | |
|---------------------------------------|--|
| CONFIGURATION DESCRIPTION | |
| GRATED INLET ONLY (NO INLET PIPE) | |
| GRATED INLET WITH INLET PIPE OR PIPES | |
| CURB INLET ONLY (NO INLET PIPE) | |
| CURB INLET WITH INLET PIPE OR PIPES | |

**SITE SPECIFIC
DATA REQUIREMENTS**

| | |
|-------------------------------------|--|
| STRUCTURE ID | |
| WATER QUALITY FLOW RATE (cfs [L/s]) | |
| PEAK FLOW RATE (cfs [L/s]) | |
| RETURN PERIOD OF PEAK FLOW (yrs) | |
| RIM ELEVATION | |
| PIPE DATA: | |
| INLET PIPE 1 | |
| INLET PIPE 2 | |
| OUTLET PIPE | |
| NOTES / SPECIAL REQUIREMENTS: | |

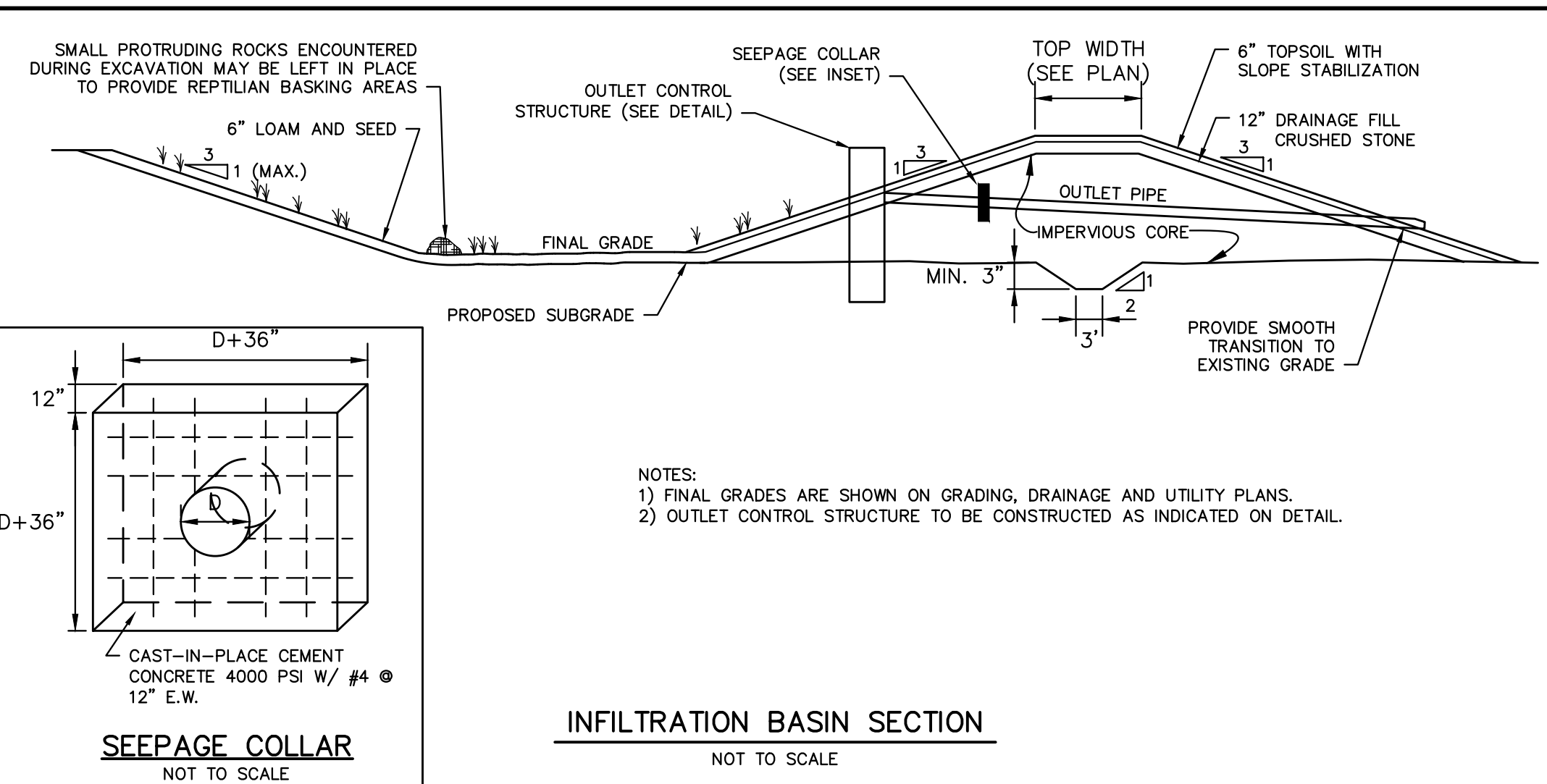
**FRAME AND COVER**
(MAY VARY)
NOT TO SCALE

**FRAME AND GRATE**
(MAY VARY)
NOT TO SCALE

- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
 - STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
 - STORMCEPTOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0'-2' (610), AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M506 AND BE CAST WITH THE CONTECH LOGO.
 - STORMCEPTOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
 - ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMCEPTOR MANHOLE STRUCTURE.
 - CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
 - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
 - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

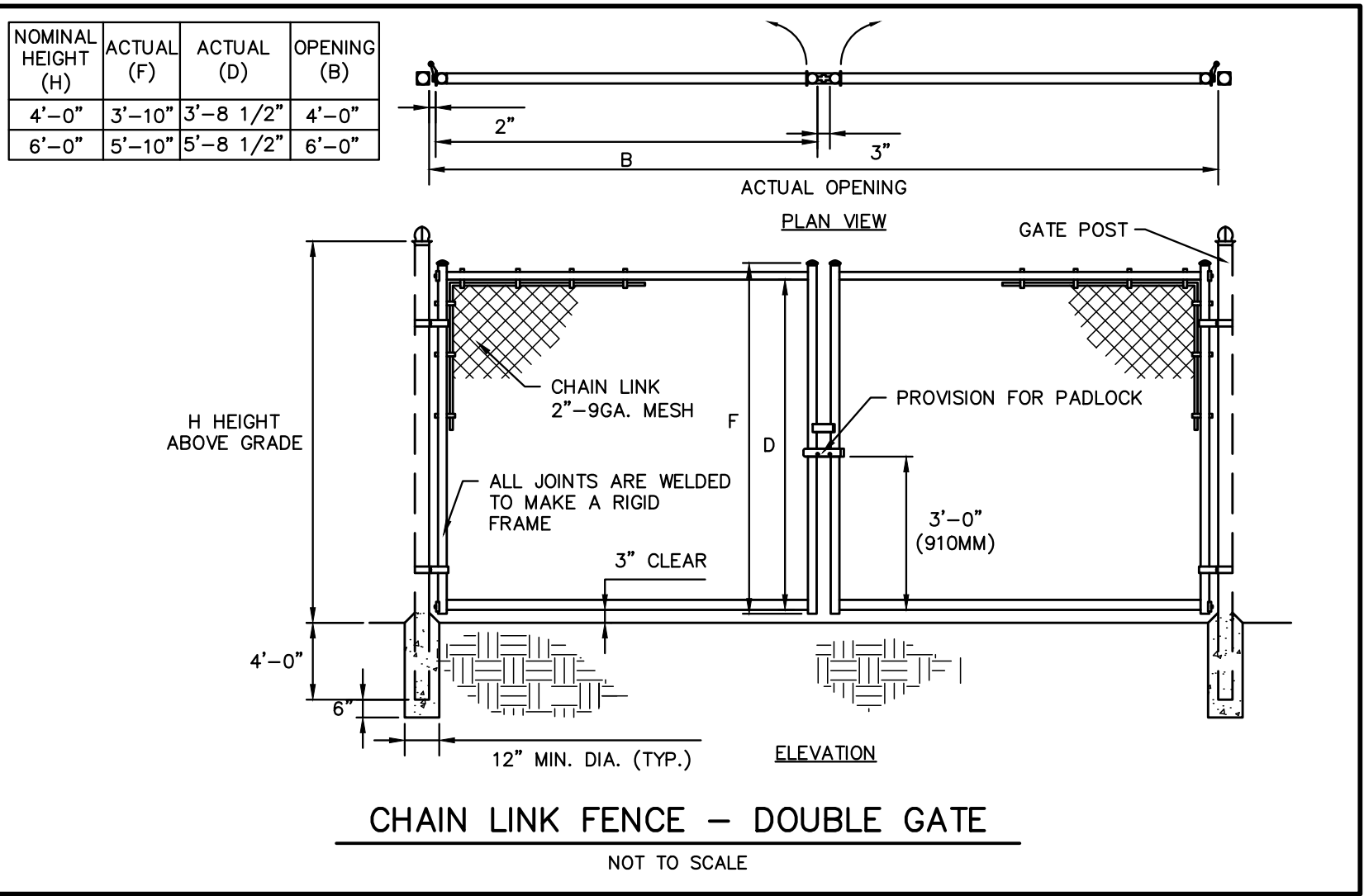
CONTECH
ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45389
800-338-1122 513-945-1000 513-945-1993 FAX

STC450i
STORMCEPTOR
STANDARD DETAIL (OR APPROVED EQUAL)

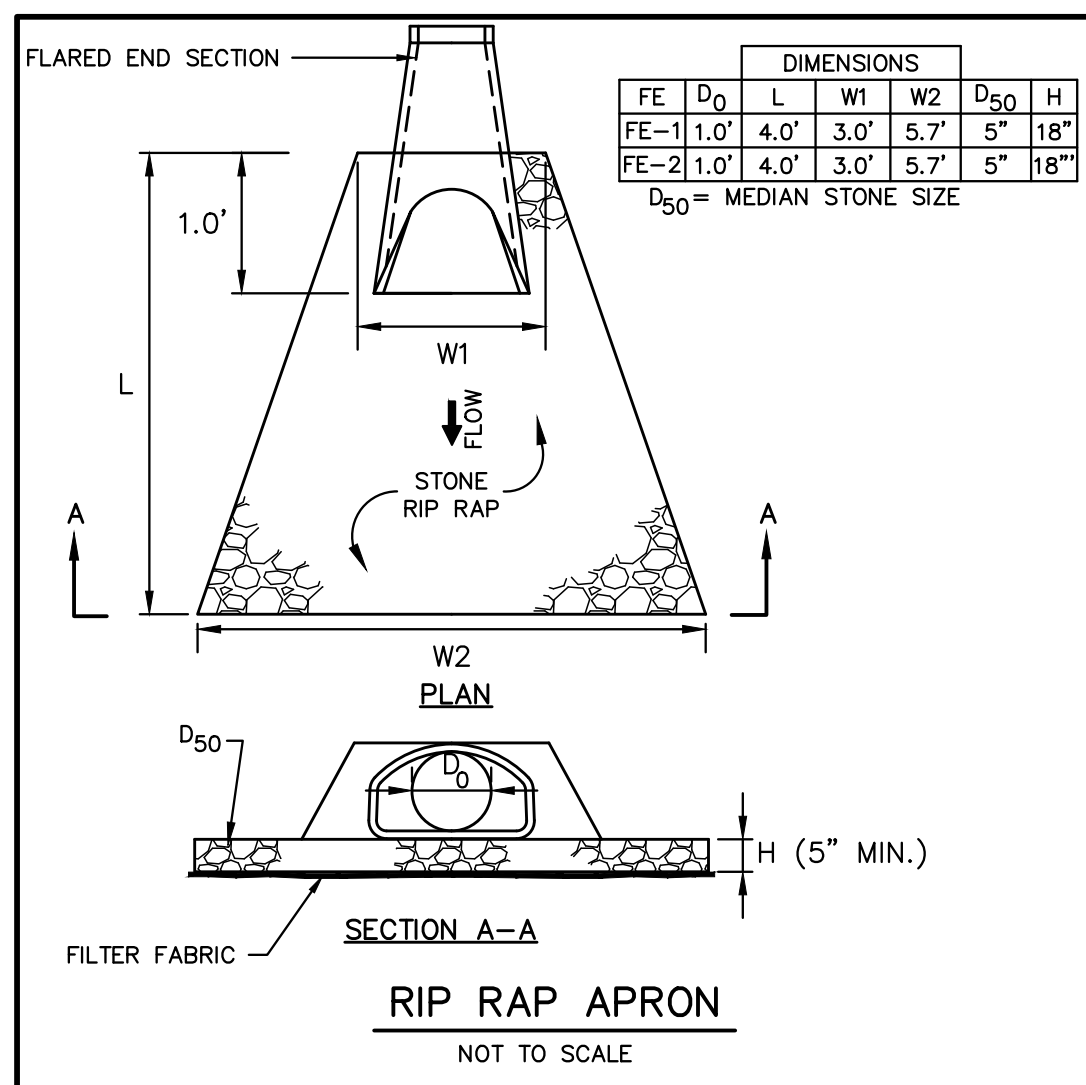


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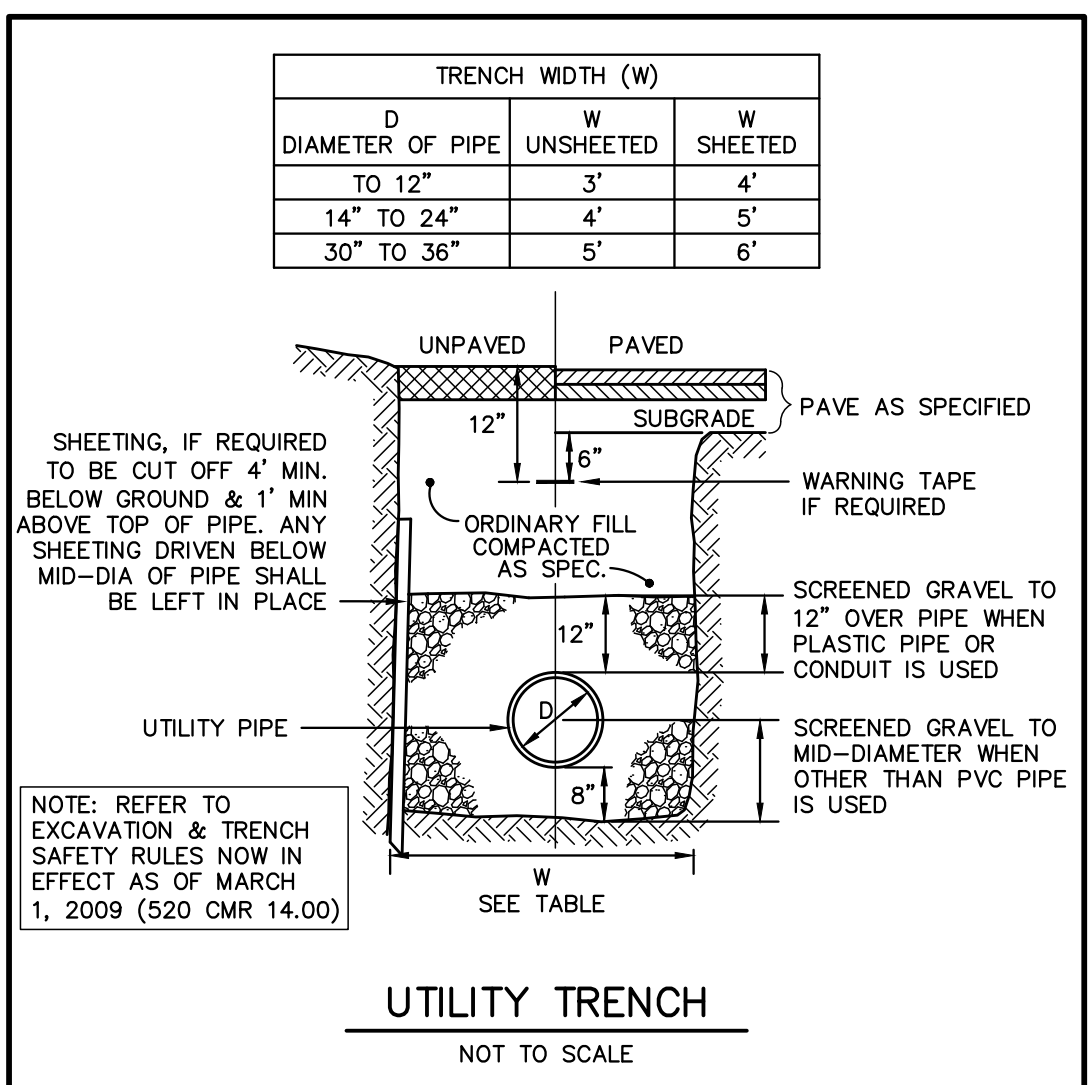
INFILTRATION BASIN SECTION
NOT TO SCALE



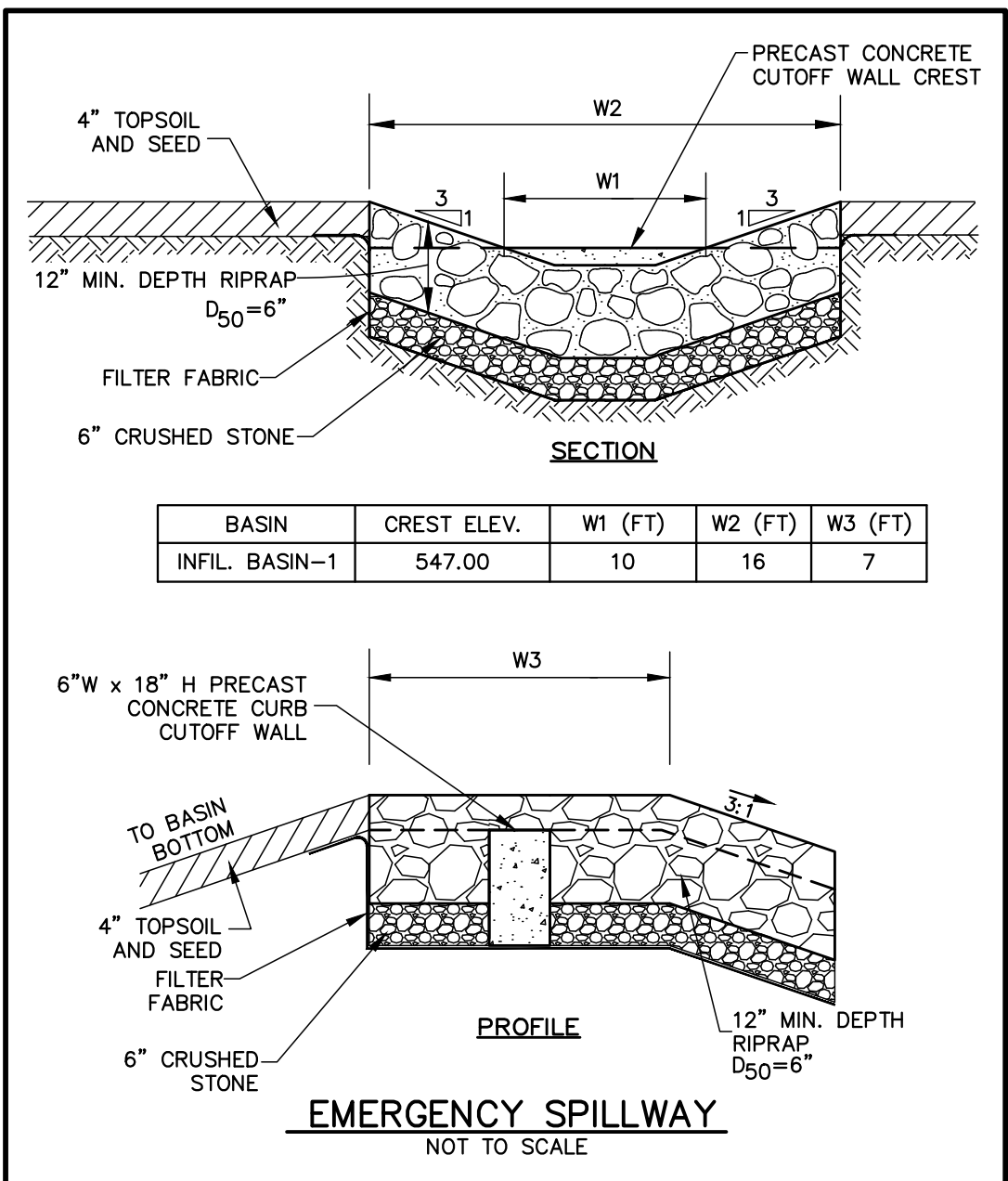
CHAIN LINK FENCE - DOUBLE GATE
NOT TO SCALE



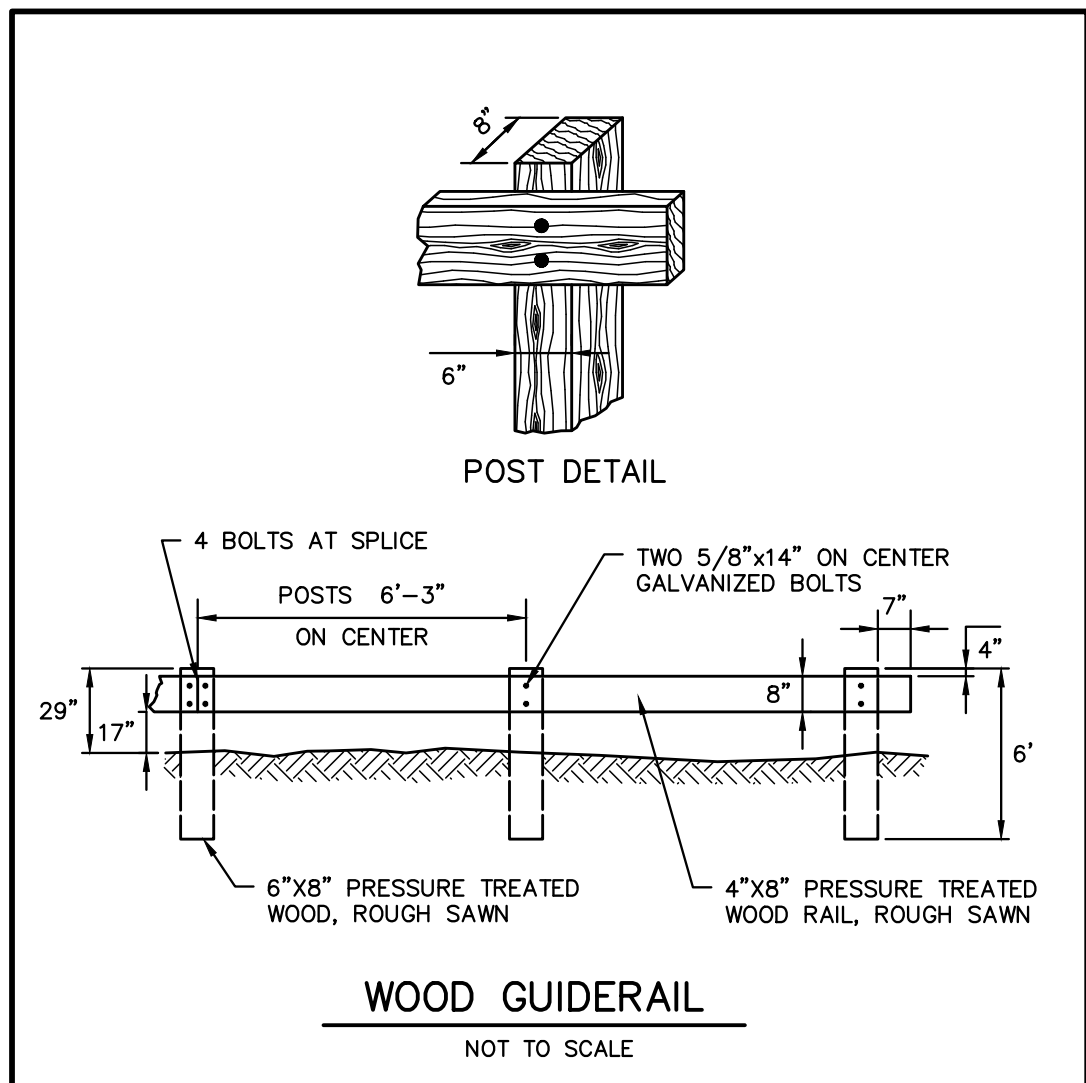
RIP RAP APRON
NOT TO SCALE



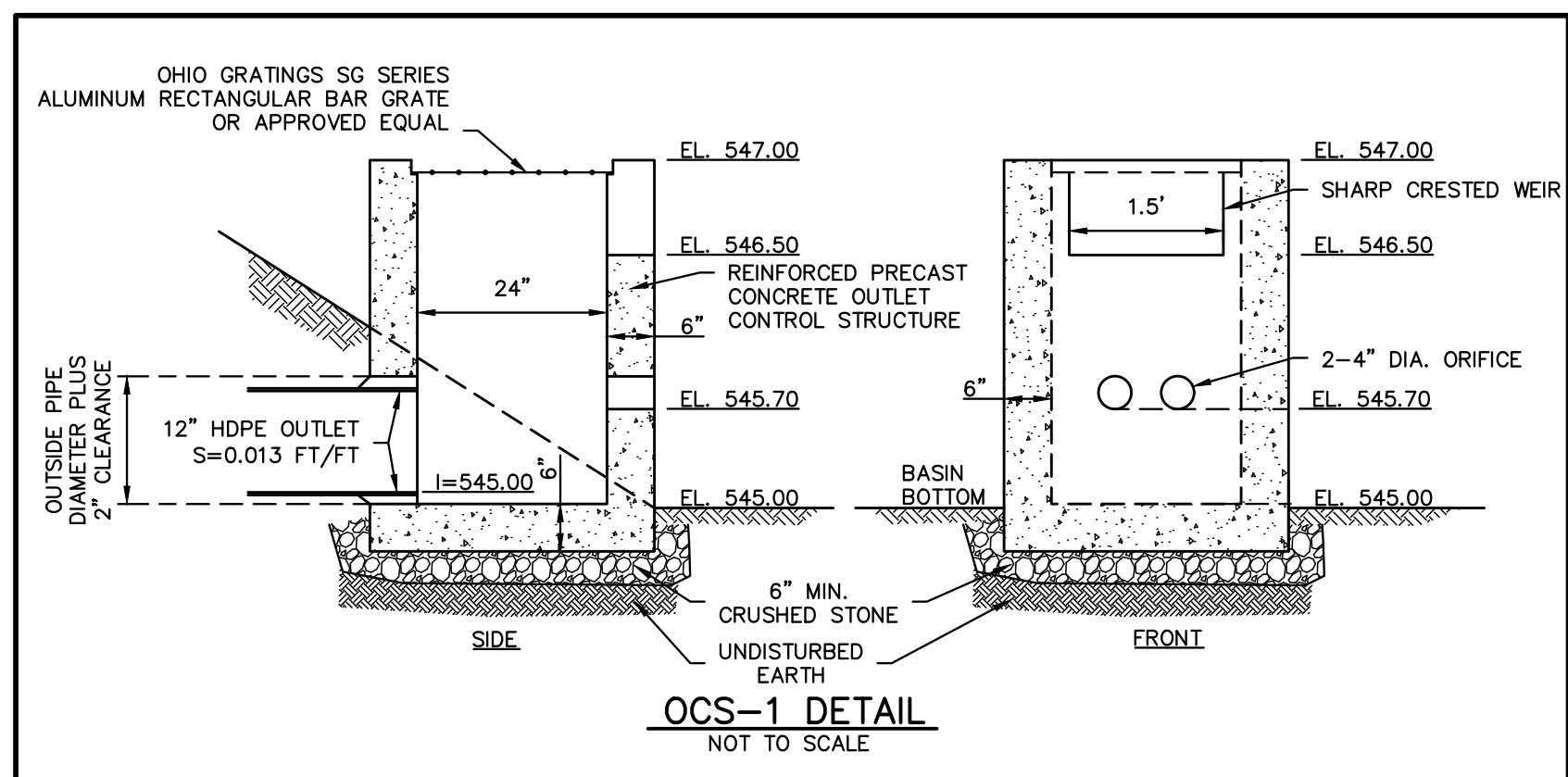
UTILITY TRENCH
NOT TO SCALE



EMERGENCY SPILLWAY
NOT TO SCALE



WOOD GUIDERAIL
NOT TO SCALE



OCS-1 DETAIL
NOT TO SCALE

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AND PARKS**
50 OFFICER MANNY FAMILIA WAY
WORCESTER, MASSACHUSETTS

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8/24/2023

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PROJECT:

**SHORE DRIVE
SIDEWALK
IMPROVEMENTS**
85 SHORE DRIVE
WORCESTER, MASSACHUSETTS

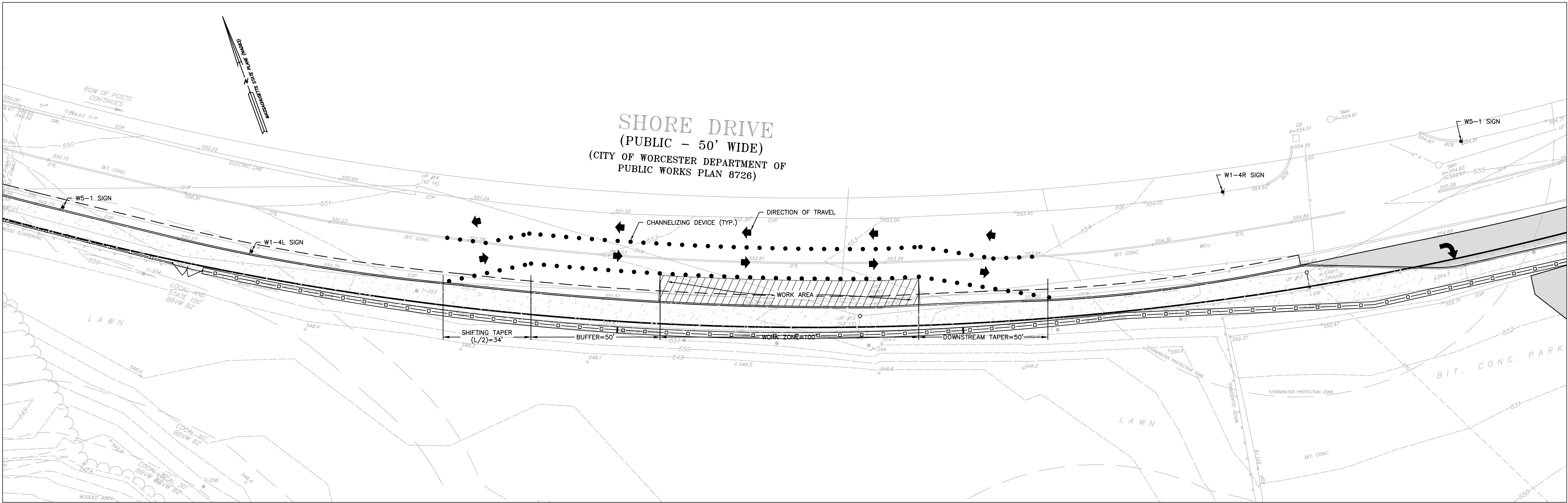
SCALE: AS NOTED DATE: MAY 18, 2022

SITE DETAILS

B+T JOB NO.2407.07

B+T PLAN NO.
240707P044D-012

C4.2



WORK ZONE ANALYSIS

WORK ZONE: 100' X 10'
BUFFER (OPTIONAL): 50'
SHIFTING TAPER (L/2): 34'
SHOULDER TAPER (L/3): 22'
DOWNSTREAM TAPER: 50' MIN.
A: 75'
B: 75'

TAPER LENGTH (L)
FOR SPEED LIMIT(S) OF 40 MPH OR LESS, TAPER LENGTH (L) = WS²/60
WHERE: L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET = 10 FEET
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH PERCENTILE SPEED
PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING
SPEED IN MPH = 20 MPH

TAPER LENGTH (L) = (10')(20 MPH)²/60 = 67 FEET

| TRAFFIC SIGN SUMMARY | | | | | |
|-----------------------|----------------|--------|--------------|-------------------------|-------|
| IDENTIFICATION NUMBER | SPECIFICATIONS | | DESCRIPTION | TEXT DIMENSION STANDARD | COLOR |
| | WIDTH | HEIGHT | | | |
| W5-1 | 36" | 36" | ROAD NARROWS | MASSDOT STANDARD | FO |
| W1-4L | 36" | 36" | | MASSDOT STANDARD | FO |
| W1-4R | 36" | 36" | | MASSDOT STANDARD | FO |

TRAFFIC MANAGEMENT NOTES

GENERAL:

- ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES - 2009 EDITION (M.U.T.C.D.), REVISIONS 1 AND 2 (DATED MAY, 2012); MASSDOT'S STANDARD SPECIFICATIONS; MASSDOT'S AMENDMENT TO THE 2009 M.U.T.C.D. INCLUDING STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TRAFFIC MANAGEMENT PLANS (DATED JANUARY, 2012), AND THE LATEST REVISIONS; AND THE FOLLOWING:
 - WARNING SIGNS SHALL HAVE A FLUORESCENT ORANGE (FO) BACKGROUND.
 - TRAFFIC SIGNAL CONTROLS AND STREET LIGHTING SHALL BE MAINTAINED IN AN OPERATING CONDITION AT ALL TIMES.
- FINAL LOCATION OF SIGNS, DRUMS, AND OTHER TRAFFIC CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- THE WORK SITE SHALL BE ADEQUATELY PROTECTED (DURING BOTH WORKING AND NON-WORKING HOURS) TO ENSURE SAFETY OF VEHICULAR AND PEDESTRIAN TRAFFIC.
- PEDESTRIAN ACTIVITY SHALL BE CONTROLLED BY THE POLICE OFFICER(S) ON DUTY.
- MAINTAIN INGRESS AND EGRESS TO ALL STREETS AND DRIVES.
- TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- TEMPORARY CONSTRUCTION SIGNING, BARRICADES AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE ROADWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED.
- MINIMUM LANE WIDTH IS TO BE 10 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.

FOR NOTES, REFERENCES AND LEGEND SEE SHEET C1.1.

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PREPARED FOR:

WORCESTER
DEPARTMENT OF
PUBLIC WORKS
AND PARKS

50 OFFICER MANNY FAMILIA WAY
WORCESTER, MASSACHUSETTS

IN PROGRESS
8/24/2023

ISSUED FOR
CONSTRUCTION

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PREPARED BY:



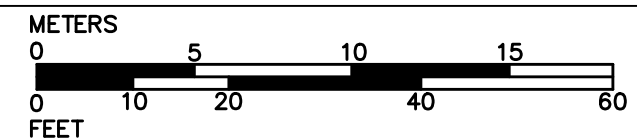
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PROJECT:

SHORE DRIVE
SIDEWALK
IMPROVEMENTS
85 SHORE DRIVE
WORCESTER, MASSACHUSETTS

SCALE: 1" = 20' DATE: MONTH DAY, 2022



TRAFFIC
MANAGEMENT PLAN

B+T JOB NO.2407.07

B+T PLAN NO.
240707P0400-013

C5.1