

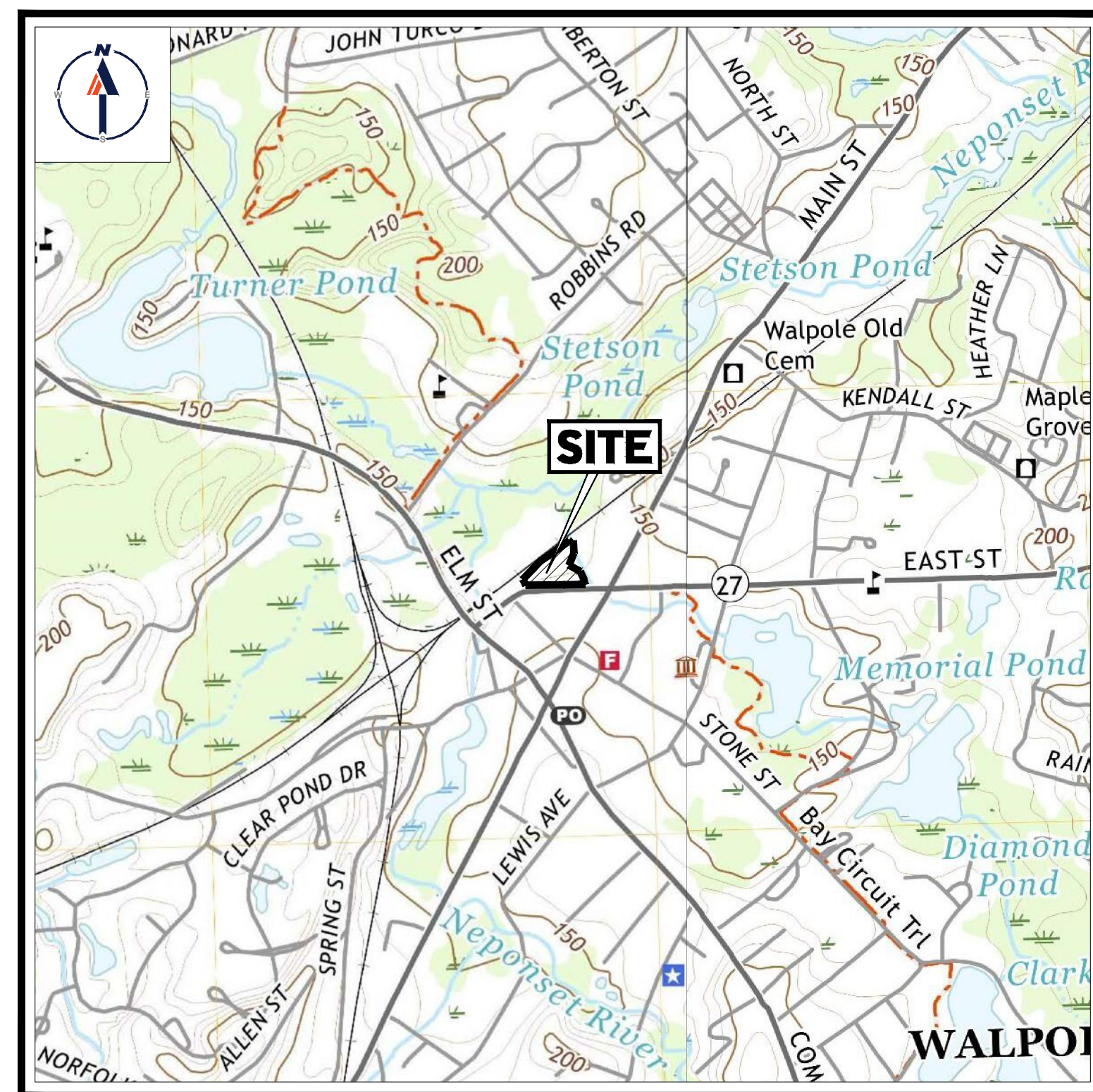
PRELIMINARY CIVIL ENGINEERING PLAN SET

FOR



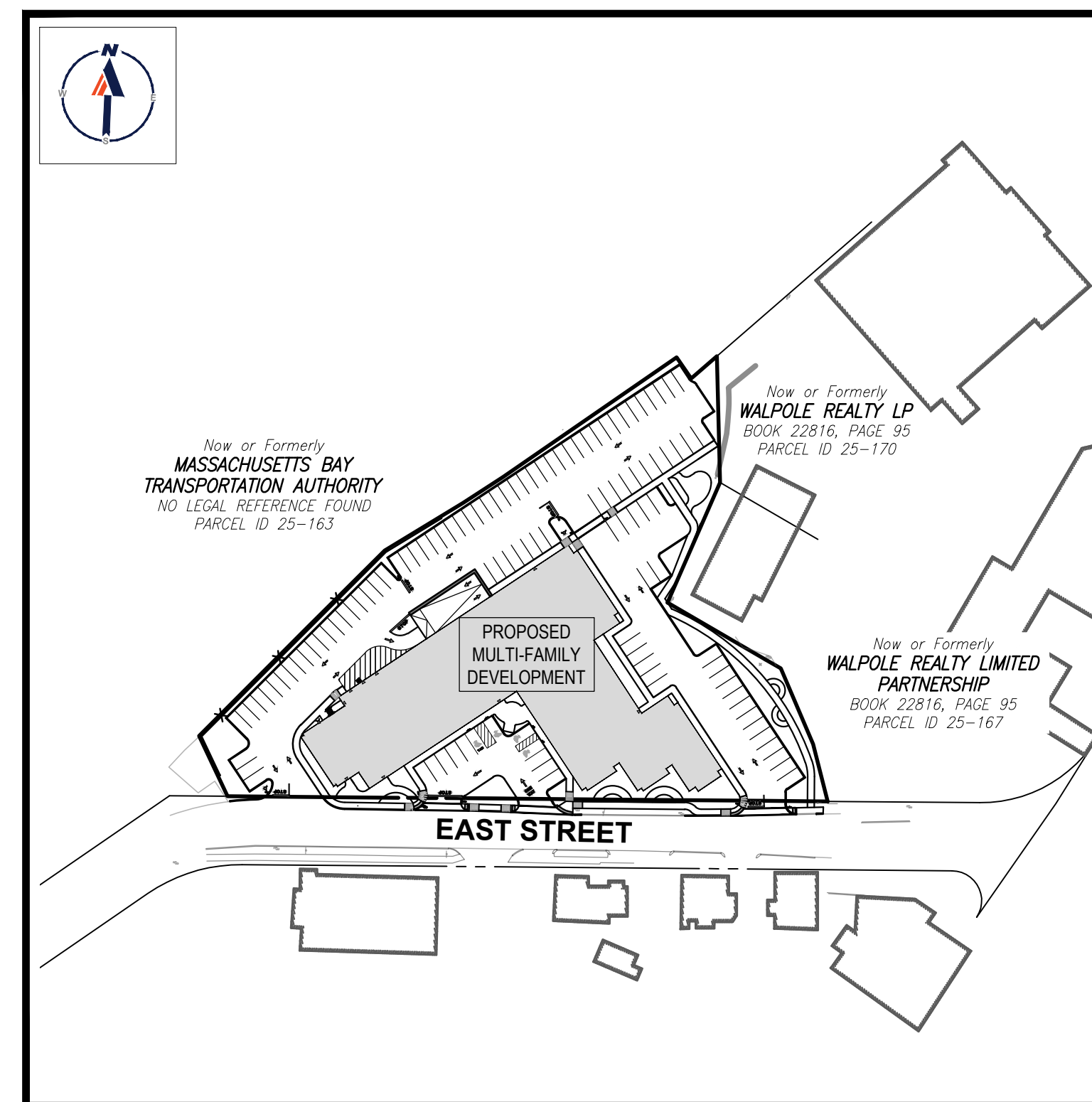
PROPOSED MULTI-FAMILY DEVELOPMENT

LOCATION OF SITE:
 981, 989, & 1015 EAST STREET, TOWN OF WALPOLE,
 NORFOLK COUNTY, MASSACHUSETTS



USGS MAP

SCALE: 1" = 1,000'
 SOURCE: MEDFIELD AND NORWOOD MASSACHUSETTS USGS QUADRANGLE



SITE MAP

SCALE: 1" = 100'

DRAWING SHEET INDEX

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-101
GENERAL NOTES SHEET	C-102
DEMOLITION PLAN	C-201
SITE LAYOUT PLAN	C-301
GRADING & DRAINAGE PLAN	C-401
UTILITY PLAN	C-501
EROSION AND SEDIMENT CONTROL PLAN	C-601
EROSION AND SEDIMENT CONTROL NOTES & DETAILS	C-602
LANDSCAPE PLAN	C-701
LANDSCAPE NOTES & DETAILS	C-702
LIGHTING PLAN	C-703
DETAIL SHEET	C-901
DETAIL SHEET	C-902
DETAIL SHEET	C-903
DETAIL SHEET	C-904
EXISTING CONDITIONS PLAN (BY OTHERS)	1 SHEET

PREPARED BY



REVISIONS				
REV	DATE	COMMENT	CHECKED BY	DRAWN BY
1	08/30/2023	ZBA	CMC	EDJ/JAK
2	09/29/2023	PER PEER REVIEW COMMENTS	CMC	EDJ/JAK



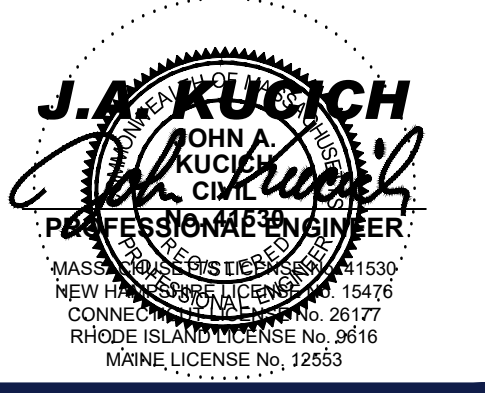
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PROJECT No.: W211283
 DRAWN BY: CM/LC
 CHECKED BY: EDJ/JAK
 DATE: 09/29/2023
 CAD ID: W211283-SPPD-2C.DWG

PROJECT:
PRELIMINARY CIVIL ENGINEERING PLAN SET
 FOR
KIG SILVERSTRAND WALPOLE, LLC
 PROPOSED MULTI-FAMILY DEVELOPMENT
 MAP 25, BLOCK 164, 165 & 166
 981, 989 & 1015 EAST STREET
 TOWN OF WALPOLE
 NORFOLK COUNTY,
 MASSACHUSETTS

BOHLER
 352 TURNPIKE ROAD
 SOUTHBOROUGH, MA 01772
 Phone: (508) 480-9900
www.BohlerEngineering.com



SHEET TITLE:
COVER SHEET
 SHEET NUMBER:
C-101
 REVISION 2 - 09/29/2023

GENERAL NOTES (REV. 1/2023)
1. THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING M.A., LLC (HEREIN "BOHLER") PRIOR TO THE DATE ON WHICH THE PROFESSIONAL OF RECORD AND BOHLER PREPARED THESE PLANS. THE CONTRACTOR MUST VERIFY FULLY ALL INFORMATION CONTAINED HEREON ON THE DATE OF THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST BE AWARE THAT THESE PLANS OR THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.

GENERAL DEMOLITION NOTES (REV. 1/2023)
1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES. IN THEIR ENTIRETY, THESE CONDITIONS MUST BE FAMILIAR TO ALL PERSONNEL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.

GENERAL GRADING NOTES (REV. 1/2023)
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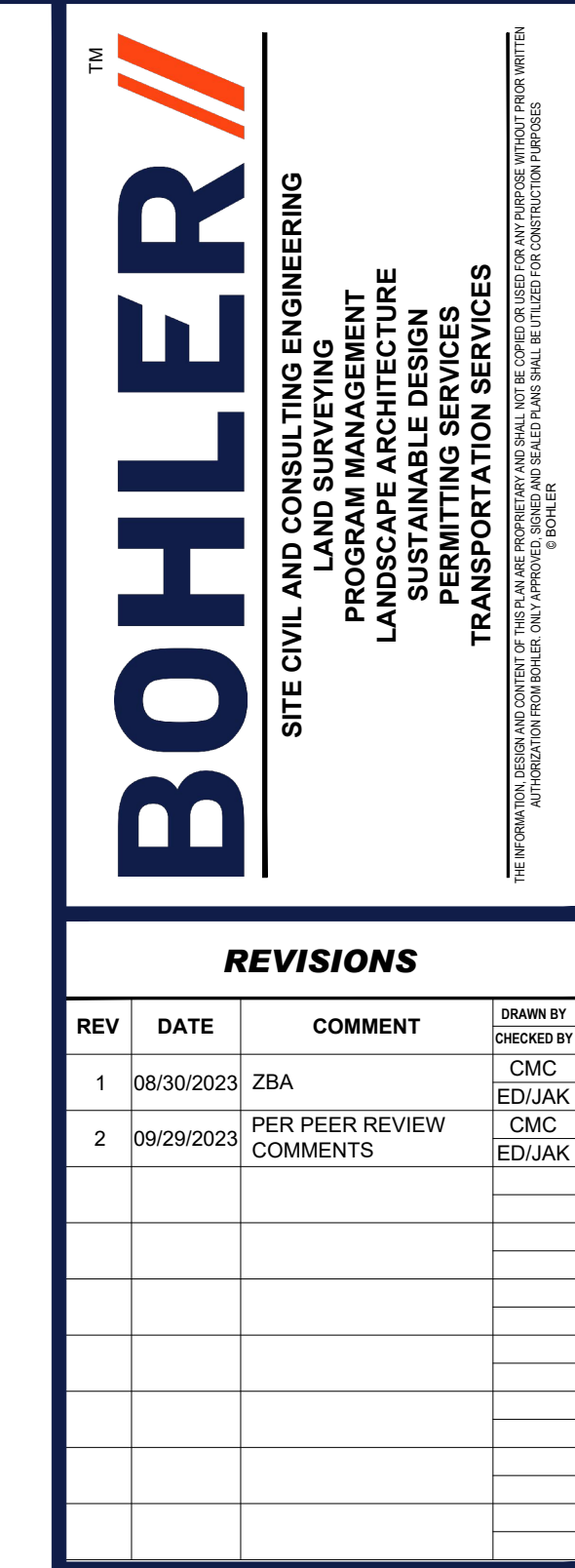
ADA INSTRUCTIONS TO CONTRACTOR (REV. 1/2023)
1. ALL ACCESSIBLE (A.K.A. ADA) COMPONENTS AND ACCESSIBLE ROUTES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF: (A) THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 ET SEQ. AND 42 U.S.C. § 4151 ET SEQ.) AND (B) ANY APPLICABLE LOCAL, STATE OR FEDERAL REGULATIONS AND STANDARDS FOR ACCESSIBLE DESIGN. THIS STANDARD APPLIES TO ALL ACCESSIBLE ROUTES AND TO ALL ACCESSIBLE BUILDINGS AND INTER-BUILDING ACCESS. POINTS OF ACCESSIBLE BUILDING ENTRANCE MUST COMPLY WITH THE ACCESSIBLE GUIDELINES AND REQUIREMENTS WHICH INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

GENERAL NOTES (REV. 1/2023)
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REVISIONS table with columns: REV, DATE, COMMENT. Revisions include changes to zoning, drainage, and utility notes.

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PROPOSED PRELIMINARY CIVIL ENGINEERING PLAN SET FOR KIG SILVERSTRAND WALPOLE, LLC. MULTI-FAMILY DEVELOPMENT.

Bohler Engineering logo and contact information: 352 TURNPIKE ROAD SOUTHBORO, MA 01772. Phone: (508) 480-9900. www.BohlerEngineering.com

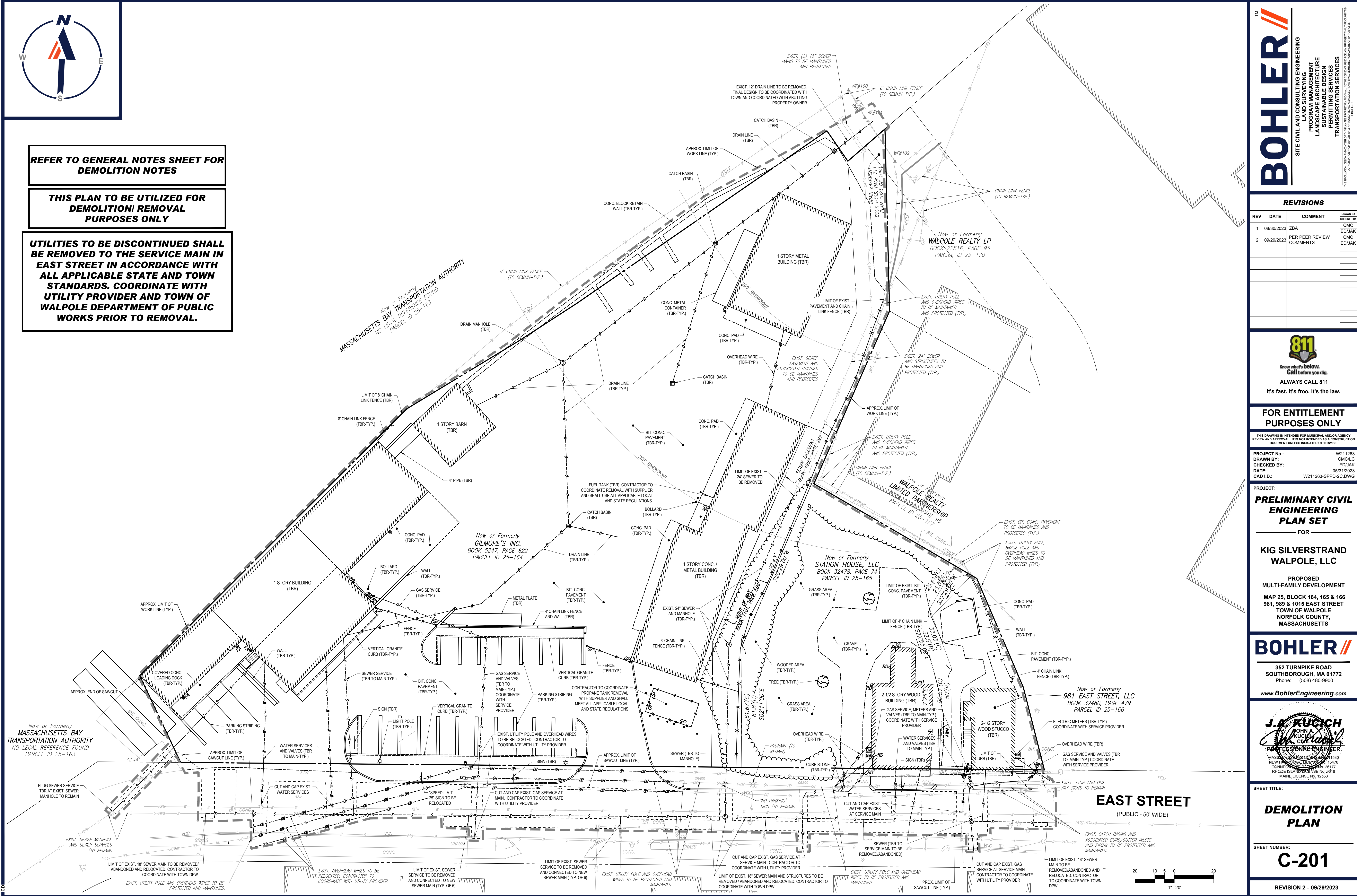
REFER TO SITE LAYOUT PLAN FOR ZONING ANALYSIS TABLE AND LAND USE / ZONING INFORMATION & NOTES. REFER TO EROSION AND SEDIMENT CONTROL NOTES & DETAILS SHEET FOR TYPICAL EROSION NOTES AND DETAILS SHEET. REFER TO LANDSCAPE NOTES & DETAILS SHEET FOR TYPICAL LANDSCAPE NOTES AND DETAILS.



REFER TO GENERAL NOTES SHEET FOR DEMOLITION NOTES

THIS PLAN TO BE UTILIZED FOR DEMOLITION/ REMOVAL PURPOSES ONLY

UTILITIES TO BE DISCONTINUED SHALL BE REMOVED TO THE SERVICE MAIN IN EAST STREET IN ACCORDANCE WITH ALL APPLICABLE STATE AND TOWN STANDARDS. COORDINATE WITH UTILITY PROVIDER AND TOWN OF WALPOLE DEPARTMENT OF PUBLIC WORKS PRIOR TO REMOVAL.



BOHLER
 SITE CIVIL AND CONSULTING ENGINEERING
 PROGRAM MANAGEMENT
 LANDSCAPE ARCHITECTURE
 SUSTAINABLE DESIGN
 TRANSPORTATION SERVICES

REVISIONS

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PROJECT No.: W211263
 DRAWN BY: CMCLC
 DATE: 05/12/2023
 CAD ID: W211263-SPPD-2C.DWG

PROJECT:
PRELIMINARY CIVIL ENGINEERING PLAN SET
 FOR

KIG SILVERSTRAND WALPOLE, LLC

PROPOSED
 MULTI-FAMILY DEVELOPMENT
 MAP 25, BLOCK 164, 165 & 166
 981, 989 & 1015 EAST STREET
 TOWN OF WALPOLE
 NORFOLK COUNTY,
 MASSACHUSETTS

BOHLER
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 JOHN A. KUCICH
 PROFESSIONAL ENGINEER
 MAINE LICENSE NO. 15130
 NEW HAMPSHIRE LICENSE NO. 15476
 CONNECTION NO. 26177
 PHONE NO. 603-861-9616
 MAINE LICENSE NO. 12553

SHEET TITLE:
DEMOLITION PLAN

SHEET NUMBER:
C-201

REVISION 2 - 09/29/2023

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SITE INFORMATION

- APPLICANT:
KIG SILVERSTRAND WALPOLE, LLC
257 HILLSIDE AVENUE
NEEDHAM, MA 02494
- OWNERS:
GILMORE'S INC.
1015 EAST STREET
WALPOLE, MA 02081

STATION HOUSE, LLC
989 EAST STREET
WALPOLE, MA 02081

981 EAST STREET, LLC
981 EAST STREET
WALPOLE, MA 02081
- PARCELS:
25-164, 25-165 & 25-166
981, 989 & 1015 EAST STREET
TOWN OF WALPOLE
NORFOLK COUNTY, MASSACHUSETTS

ZONING ANALYSIS TABLE

ZONING DISTRICT	REQUIRED PERMIT	REQUIRED	EXISTING	PROPOSED
CENTRAL BUSINESS DISTRICT	N/A			
OVERLAY DISTRICT	408 COMPREHENSIVE PERMIT FROM ZBA			
MIN. LOT AREA	5,000 SF	83,070 SF ±		NO CHANGE
MIN. LOT WIDTH	N/S			NO CHANGE
MAX. BLDG COVERAGE	90%	20.7%		29.7%
MIN. FRONT SETBACK	0' MIN. / 25' MAX.	0'		5.6' ± MIN. 78.7' ± MAX.
MIN. SIDE SETBACK	0'	0.6' ±		36.7' ±
MIN. REAR SETBACK	10'	0.4' ±		52.0' ±
MAX. BUILDING HEIGHT	52'	< 52%		69'-11" (W) (3)
MAX. IMPER. COVERAGE	100%	81.9%		90.6%
PARKING SPACES (1)	284	21		171 (2)
ACCESS. PARKING SPACES	7	0		6 (4)
DRIVEWAY AISLE CRITERIA	26' WIDE (90° PARKING ANGLE)			TWO WAY: 24' WIDE (W) ONE WAY: 20' WIDE (W)
PARKING STALL CRITERIA	9' WIDE, 18.5' LONG (90° PARKING ANGLE)			STANDARD: 9'W x 18L (W) COMPACT: 8'W x 18L (W) ACCESSIBLE: 8'W x 18L (W)
PARKING SPACE CRITERIA	USE/CATEGORY: PARKING CODE 1 REQUIRED PARKING: TWO (2) PARKING SPACES FOR EACH UNIT ON PREMISES CALCULATION: 142 UNITS X 2 SPACES/UNIT = 284 SPACES REQUIRED			
MA ACCESSIBLE PARKING CRITERIA	1-25 SPACES = 1 MIN. ACCESSIBLE SPACE 26-50 SPACES = 2 MIN. ACCESSIBLE SPACES 51-75 SPACES = 3 MIN. ACCESSIBLE SPACES 76-100 SPACES = 4 MIN. ACCESSIBLE SPACES 101-150 SPACES = 5 MIN. ACCESSIBLE SPACES 151-200 SPACES = 6 MIN. ACCESSIBLE SPACES 201-300 SPACES = 7 MIN. ACCESSIBLE SPACES 301-400 SPACES = 8 MIN. ACCESSIBLE SPACES	401-500 SPACES = 9 MIN. ACCESSIBLE SPACES 501-1,000 SPACES = MIN. 2% OF TOTAL 1001+ SPACES = MIN. 20 + 1 FOR EACH 100 SPACES OVER 1,000		
STANDARD:	8 FT x 18 FT STALL (MIN.)			
VAN:	8 FT x 18 FT STALL (MIN.)			

- (1) PARKING CODE 1 APPLIED TO USE AS DWELLING FOR OCCUPANCY OF (3) OR MORE FAMILIES.
- (2) INCLUDES 112 SURFACE PARKING SPACES AND 59 GARAGE PARKING SPACES.
- (3) AVERAGE GRADE AROUND BUILDING DETERMINED TO BE 140.2. BUILDING HEIGHT IS 68.17' MEASURED FROM FIRST FLOOR (ELEV. 142.00) TO TOP OF BUILDING (ELEV. 210.16).
- (4) 6 ACCESSIBLE SPACES PROVIDED TO MEET MA CRITERIA FOR 171 TOTAL PROPOSED PARKING SPACES. INCLUDES 4 ACCESSIBLE SURFACE PARKING SPACES AND 2 ACCESSIBLE GARAGE PARKING SPACES.

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MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
NO LEGAL REFERENCE FOUND
PARCEL ID 25-163

Now or Formerly
WALPOLE REALTY LP
BOOK 22816, PAGE 95
PARCEL ID 25-170



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SITE CIVIL AND CONSULTING ENGINEERING
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CHECKED BY: ED/JAK
DATE: 05/12/2023
CAD ID: W211263-SPPD-2C.DWG

PRELIMINARY CIVIL ENGINEERING PLAN SET

FOR
KIG SILVERSTRAND WALPOLE, LLC

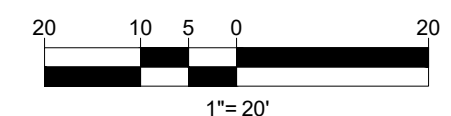
PROPOSED
MULTI-FAMILY DEVELOPMENT
MAP 25, BLOCK 164, 165 & 166
981, 989 & 1015 EAST STREET
TOWN OF WALPOLE
NORFOLK COUNTY,
MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
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JOHN A. KUCICH
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MAINE LICENSE NO. 121530
NEW HAMPSHIRE LICENSE NO. 15476
CONNECTICUT LICENSE NO. 26177
PHONE: 508-882-9616
MAINE LICENSE NO. 12553

MAINTENANCE OF A CLEAR SIGHT LINE IS THE RESPONSIBILITY OF THE PROPERTY OWNER

THIS PLAN TO BE UTILIZED FOR SITE LAYOUT PURPOSES ONLY. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL NOTES

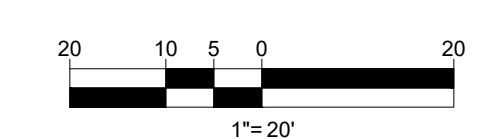


SHEET TITLE:
SITE LAYOUT PLAN
SHEET NUMBER:
C-301
REVISION 2 - 09/29/2023

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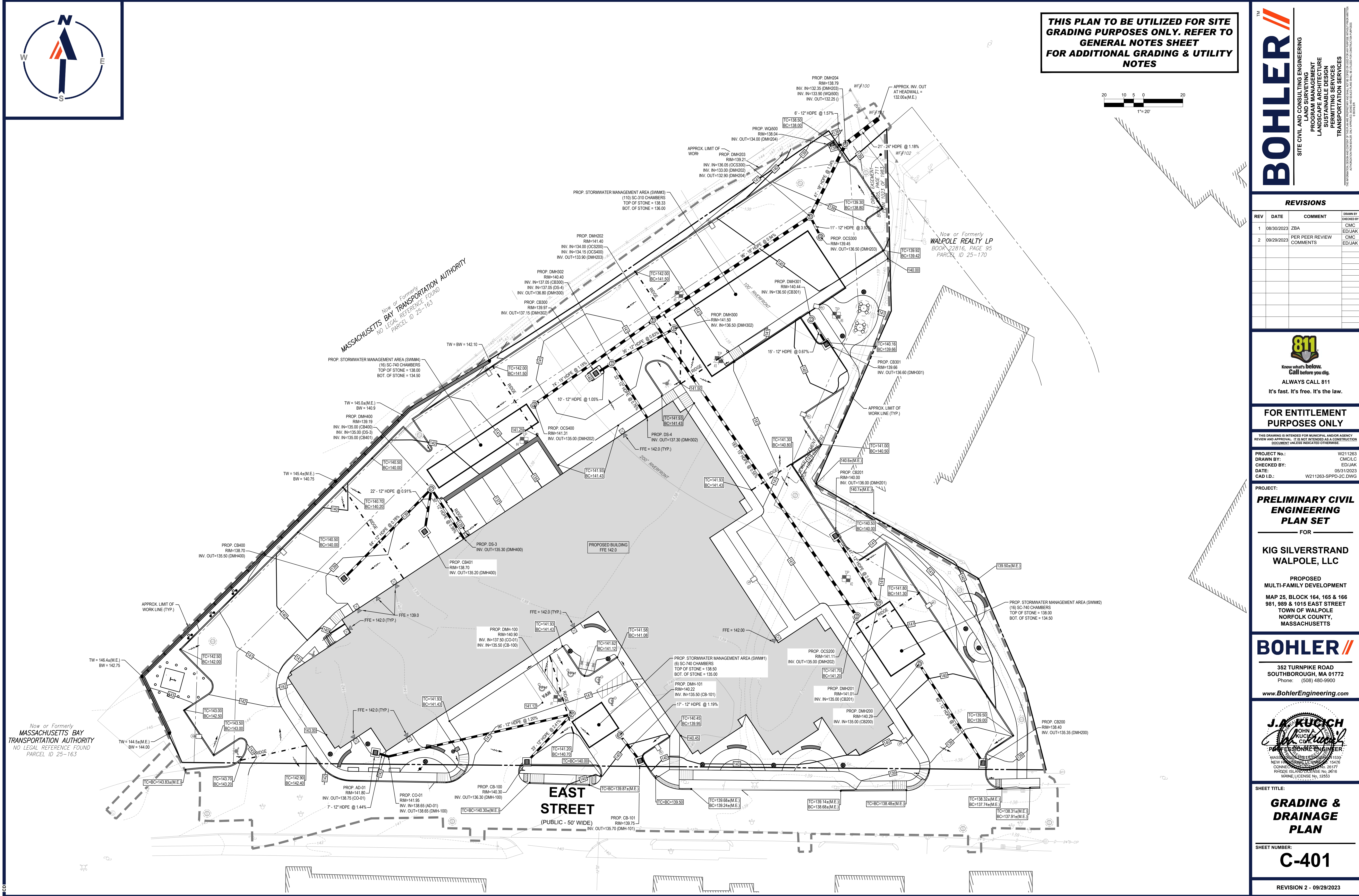
KIG SILVERSTRAND WALPOLE, LLC

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SHEET TITLE:
GRADING & DRAINAGE PLAN
 SHEET NUMBER:
C-401
 REVISION 2 - 09/29/2023

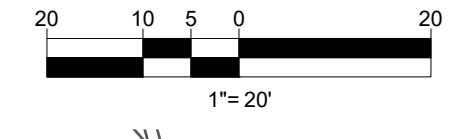


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 TRANSPORTATION AUTHORITY
 NO LEGAL REFERENCE FOUND
 PARCEL ID 25-163



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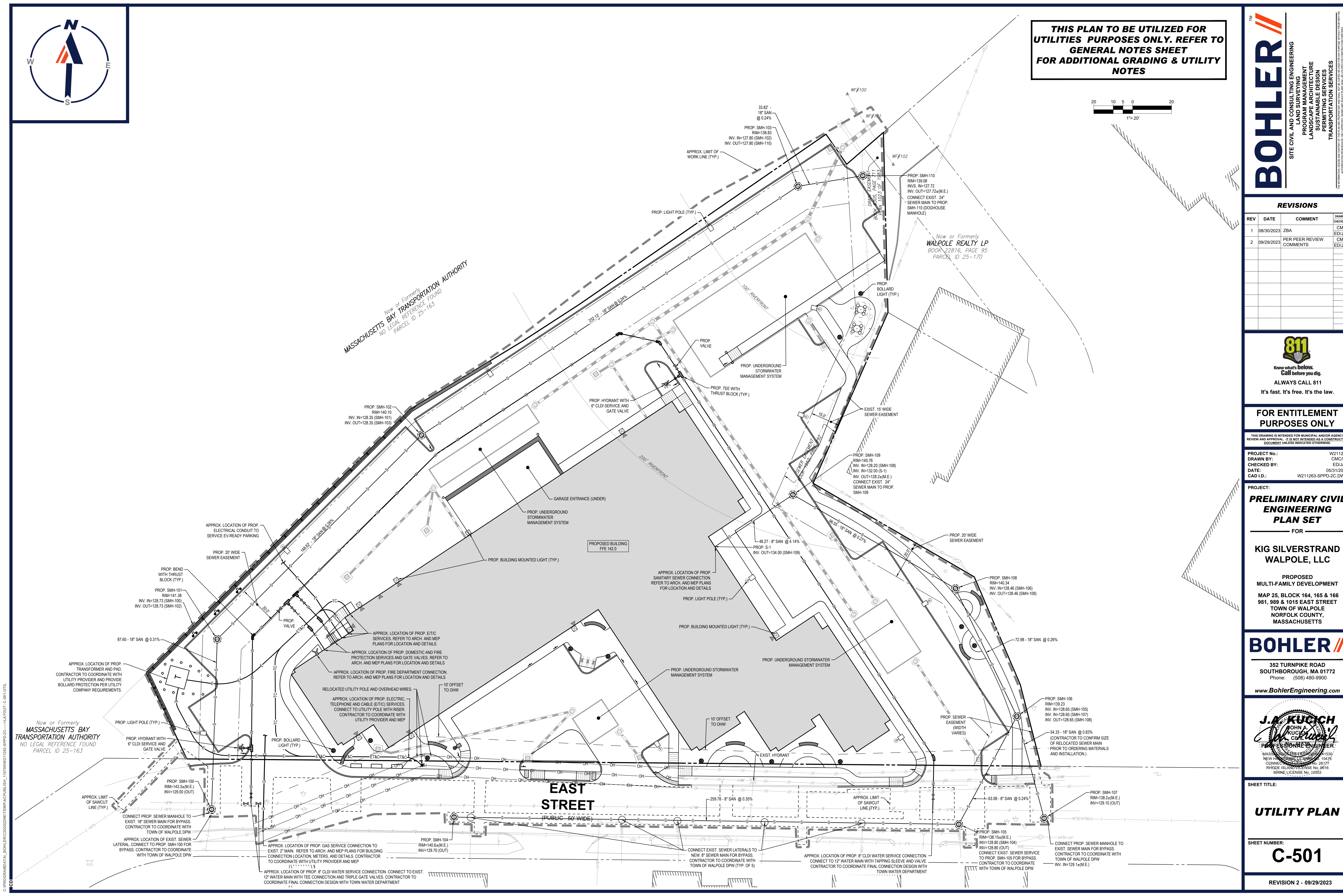
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 MAINE LICENSE NO. 12553

SHEET TITLE:
UTILITY PLAN
 SHEET NUMBER:
C-501
 REVISION 2 - 09/29/2023

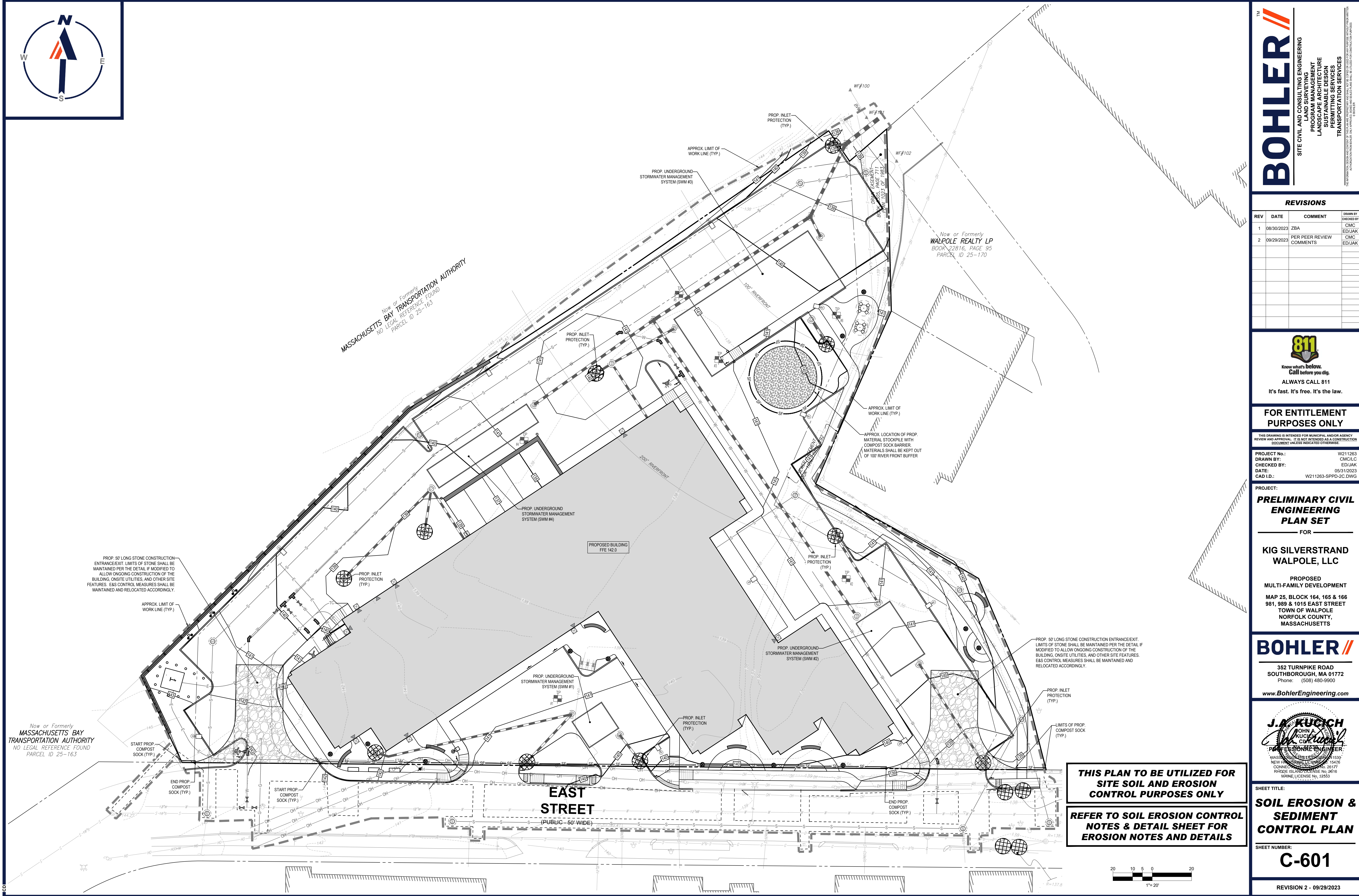


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WALPOLE REALTY LP
BOOK 22816, PAGE 95
PARCEL ID 25-170



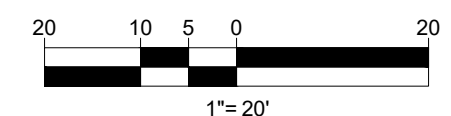
PROP. 50' LONG STONE CONSTRUCTION ENTRANCE/EXIT. LIMITS OF STONE SHALL BE MAINTAINED PER THE DETAIL IF MODIFIED TO ALLOW ONGOING CONSTRUCTION OF THE BUILDING, ON-SITE UTILITIES, AND OTHER SITE FEATURES. EAS CONTROL MEASURES SHALL BE MAINTAINED AND RELOCATED ACCORDINGLY.

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PARCEL ID 25-163

**THIS PLAN TO BE UTILIZED FOR
SITE SOIL AND EROSION
CONTROL PURPOSES ONLY**

**REFER TO SOIL EROSION CONTROL
NOTES & DETAIL SHEET FOR
EROSION NOTES AND DETAILS**



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SHEET TITLE:
**SOIL EROSION &
SEDIMENT
CONTROL PLAN**

SHEET NUMBER:
C-601

REVISION 2 - 09/29/2023

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EROSION AND SEDIMENT CONTROL NOTES

- 1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE MOST CURRENT STATE SEDIMENT AND EROSION CONTROL MANUAL.
2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME AREAS SHALL BE PERMANENTLY STABILIZED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
3. SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
4. INSTALL SILTATION BARRIER AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF.
5. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAIN OR SNOW MELT.
6. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2:1) UNLESS OTHERWISE INDICATED ON THE PLANS.
7. IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCH (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
8. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST TO PROTECT FROM SPRING RUNOFF PROBLEMS.
9. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL STANDARDS.
10. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE.
11. SIX INCHES, OR DEPTH SPECIFIED ON THE LANDSCAPE PLAN, OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
12. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST.
13. FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEEDED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE.
14. HYDRO-APPLICATION OF WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING.
15. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS 70% STABILIZED.
16. WETLANDS WILL BE PROTECTED WITH BARRIERS CONSISTING OF STRAW BALES, COMPOST TUBES, SILT FENCE OR A COMBINATION THEREOF.
17. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL HAVE AN EXPOSURE WINDOW OF NOT MORE THAN 7 DAYS.
18. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL FOLLOW APPROPRIATE EROSION CONTROL MEASURES PRIOR TO EACH STORM IF NOT BEING ACTIVELY WORKED.

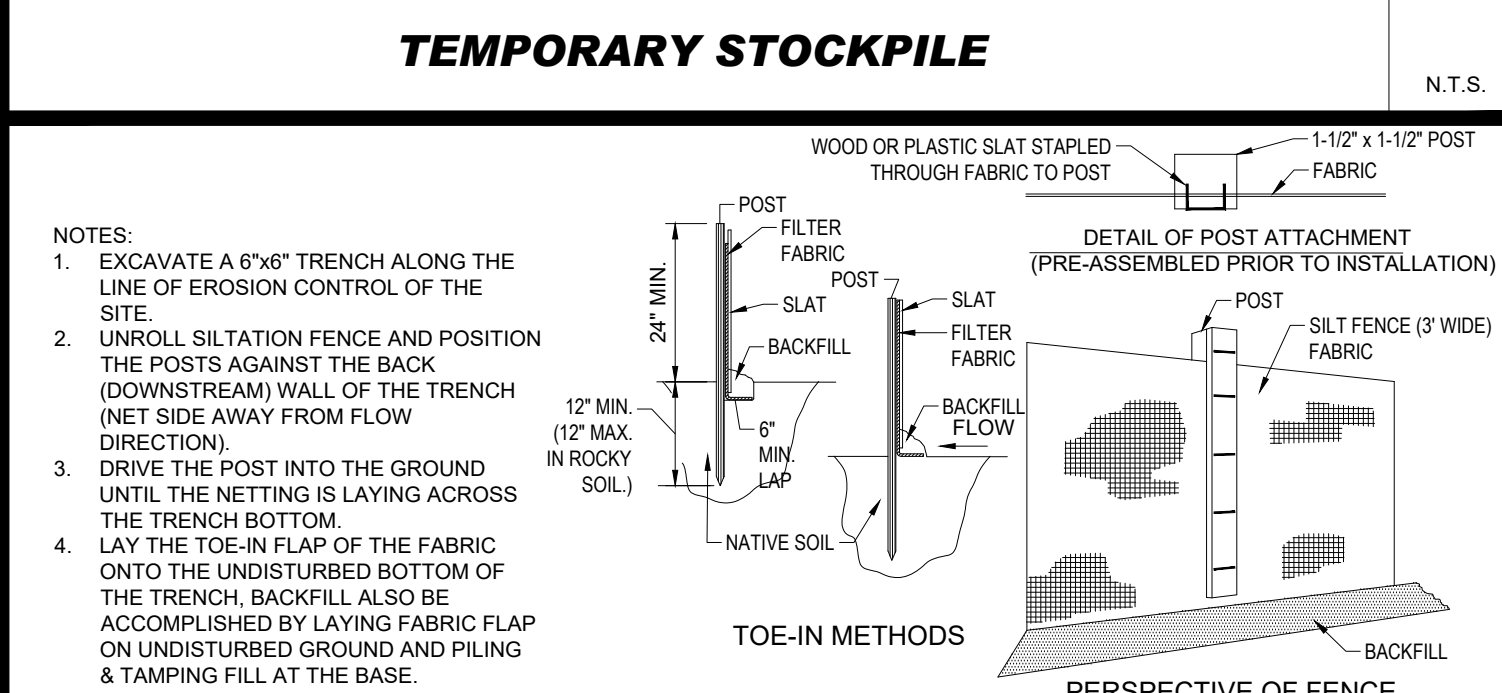
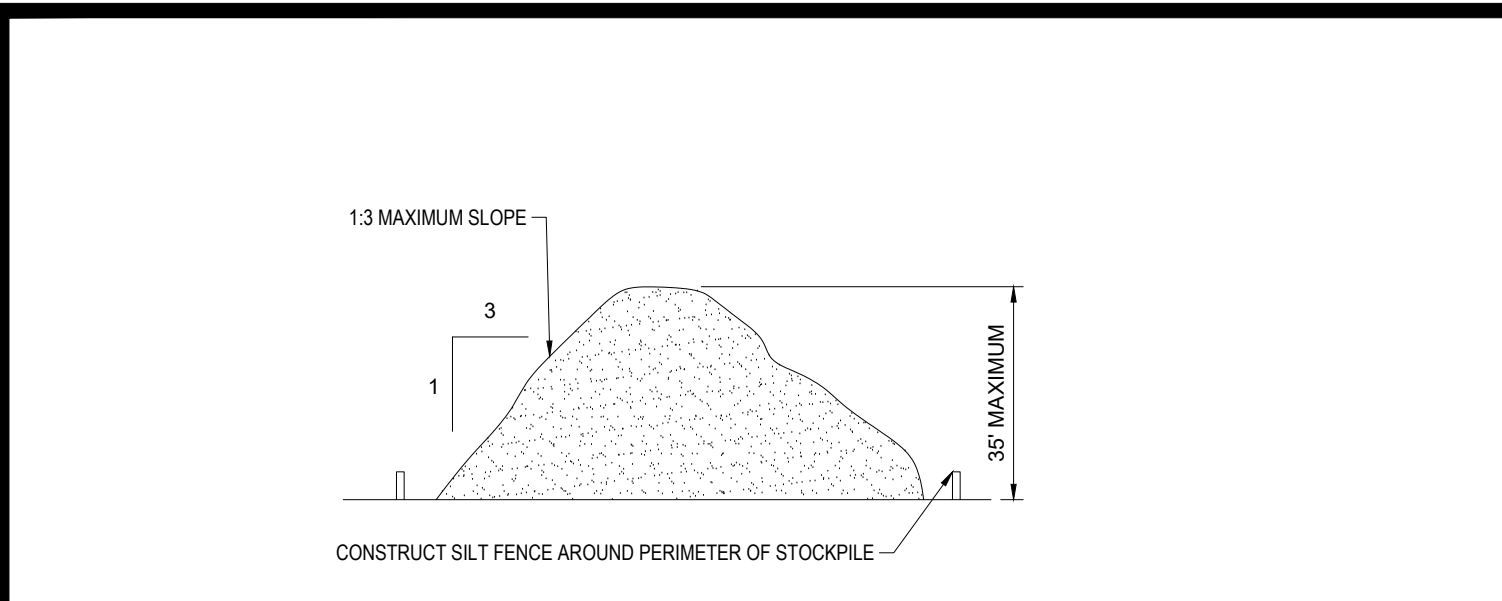
Table with 3 columns: LOCATION PROTECTED AREA, MULCH, MULCH RATE (1000 SF). Rows include WINDY AREA (SHREDDED OR CHOPPED CORNSTALKS), MODERATE TO HIGH VELOCITY AREAS (JUTE MESH OR EXCELSIOR MAT), and GREATER THAN 3:1 (REFER TO GEOTECHNICAL REPORT).

* A HYDRO-APPLICATION OF WOOD OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE NON-TOXIC BINDER SHALL BE USED TO ADDITIONAL WIND CONTROL.
* MULCH ANCHORING: ANCHOR MULCH WITH PEG AND TWINE (1 SO. YD/BLK), MULCH NETTING (AS PER MANUFACTURER), WOOD CELLULOSE FIBER (750 LBS/ACRE), CHEMICAL TACK (AS PER MANUFACTURER'S SPECIFICATIONS), USE OF A SERRATED STRAIGHT DISK, WETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

- 15. PROPOSED LOCATIONS OF SURFACE STORMWATER MANAGEMENT BASINS CAN BE UTILIZED AS A TEMPORARY SEDIMENT TRAP DURING CONSTRUCTION.
15.1. TEMPORARY SEDIMENT TRAPS SHALL BE SIZED PER THE CURRENT EDITION OF THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS.
16. STOCKPILING OF MATERIALS (DIRT, WOOD, CONSTRUCTION MATERIALS, ETC.) MUST REMAIN COVERED AT ALL TIMES TO MINIMIZE ANY DUST PROBLEMS.
17. EXISTING CATCH BASIN STRUCTURES SHALL BE PROTECTED UNTIL SUCH TIME AS THEY ARE REMOVED.
18. THE CONTRACTOR MUST PERFORM DEWATERING (IF REQUIRED), IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
19. THE CONTRACTOR MUST LOCATE CONSTRUCTION WASTE MATERIAL STORAGE AREAS TO MINIMIZE EXPOSURE TO STORMWATER.
20. EROSION CONTROL NOTES DURING WINTER CONSTRUCTION
21. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
22. WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT THE AMOUNT OF AREA OPEN AT ONE TIME IS MINIMIZED.
23. CONTINUATION OF EARTHWORK OPERATION ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED.
24. AN AREA SHALL BE CONSIDERED TO HAVE BEEN TEMPORARILY STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET.
25. FOR AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR A PERIOD EXCEEDING 14 DAYS BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED.
26. MULCHING REQUIREMENTS:
26.1. BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING OR WOOD CELLULOSE FIBER.
26.2. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPE EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.
26.3. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%.
27. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE STORMWATER PREVENTION PLAN.
28. DURING THE WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

- 1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS.
2. EROSION CONTROL MEASURES MUST CONFORM TO THE STATE, LOCAL, AND FEDERAL GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL.
3. THE DISTURBED LAND AREA OF THIS SITE IS APPROXIMATELY XXX.XX ACRES.
4. THE FOLLOWING EROSION CONTROL MEASURES ARE PROPOSED FOR THIS SITE:
A. STABILIZED CONSTRUCTION ENTRANCE/EXIT - A TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT IS TO BE INSTALLED AT THE DESIGNATED LOCATION SHOWN ON THE PLAN.
B. SEDIMENT FENCE - INSTALL SILT FENCE(S) AND/OR SILT SOCK AROUND ALL OF THE DOWNSLOPE PERIMETERS OF THE SITE.
C. INSTALL FILTER FABRIC DROP INLET PROTECTION AROUND EACH DRAINAGE INLET AS DRAINAGE STRUCTURES ARE INSTALLED.
5. INSTALLATION OF EROSION CONTROL DEVICES MUST BE IN ACCORDANCE WITH ALL OF THE MANUFACTURER'S RECOMMENDATIONS.
6. THE CONTRACTOR MUST INSPECT EROSION CONTROL MEASURES WEEKLY.
7. THE CONTRACTOR MUST APPLY TEMPORARY SEED AND MULCH TO ALL DISTURBED AREAS.
8. THE CONTRACTOR MUST NOT INSTALL ADDITIONAL EROSION CONTROL MEASURES IF THE PROFESSIONAL OF RECORD SO REQUIRES.
9. THE CONTRACTOR MUST BE RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION CONTROL MEASURES.
10. THE CONTRACTOR MUST MAINTAIN ALL EROSION CONTROL MEASURES UNTIL THE COMPLETION OF CONSTRUCTION.
11. THE CONTRACTOR MUST REMOVE EROSION CONTROL MEASURES, SILT AND DEBRIS AFTER ESTABLISHING PERMANENT VEGETATION COVER.
12. THIS PLAN REPRESENTS THE MINIMUM LEVEL OF IMPLEMENTATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES.
13. THE CONTRACTOR MUST PROTECT ALL EXISTING TREES AND SHRUBS.
14. THE CONTRACTOR MUST REFER TO GRADING PLANS FOR ADDITIONAL INFORMATION.
15. THE CONTRACTOR MUST CLEAN EXISTING AND PROPOSED DRAINAGE STRUCTURES AND INTERCONNECTING PIPES.
16. SOIL EROSION CONTROL MEASURES MUST BE ADJUSTED OR RELOCATED BY THE CONTRACTOR AS IDENTIFIED DURING SITE OBSERVATION.
17. THE CONTRACTOR MUST IDENTIFY, ON THE PLAN, THE LOCATION OF WASTE CONTAINERS, FUEL STORAGE TANKS, CONCRETE WASHOUT AREAS.

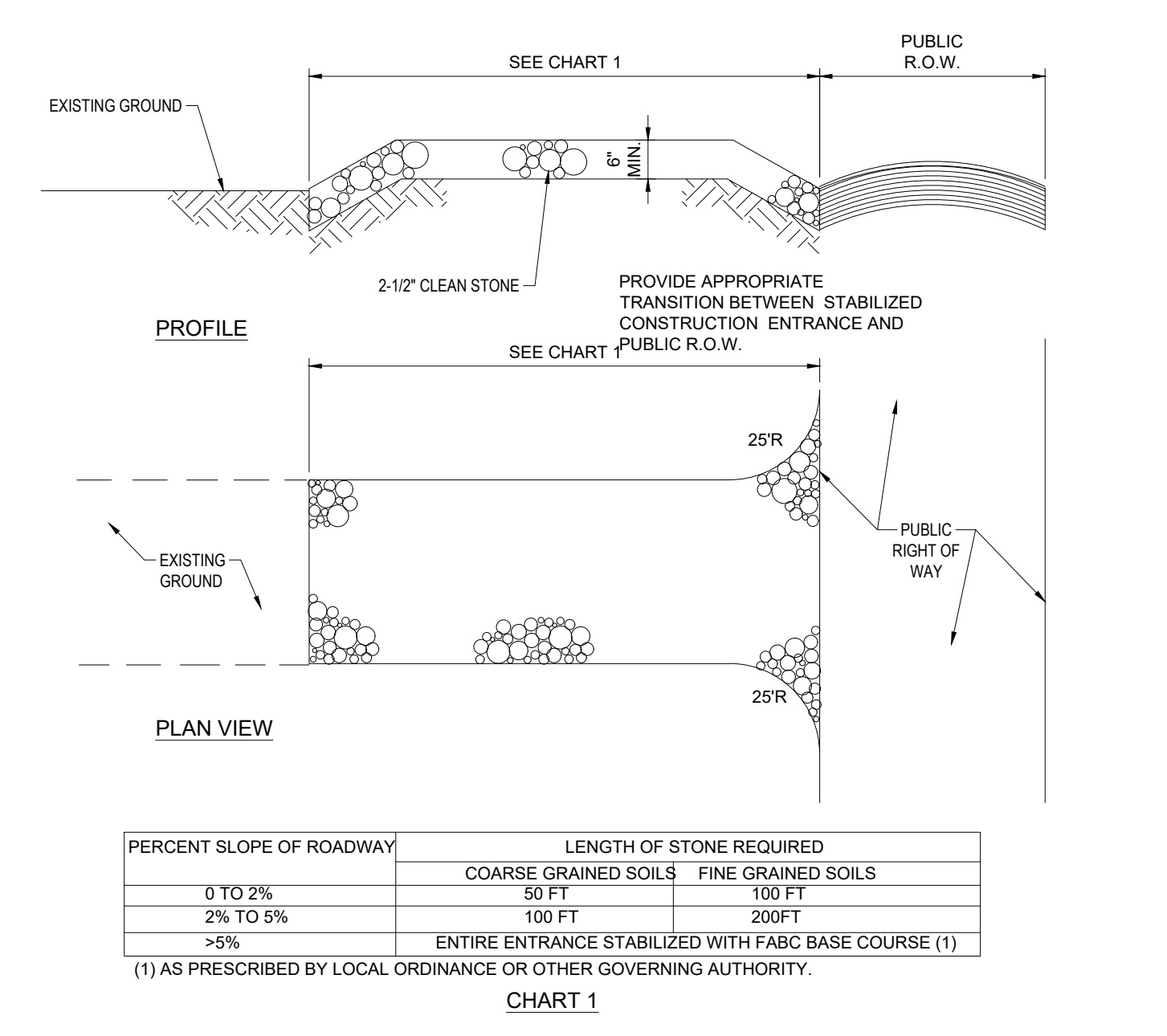


TYP. SILTATION FENCE N.T.S.

NOT USED N.T.S.

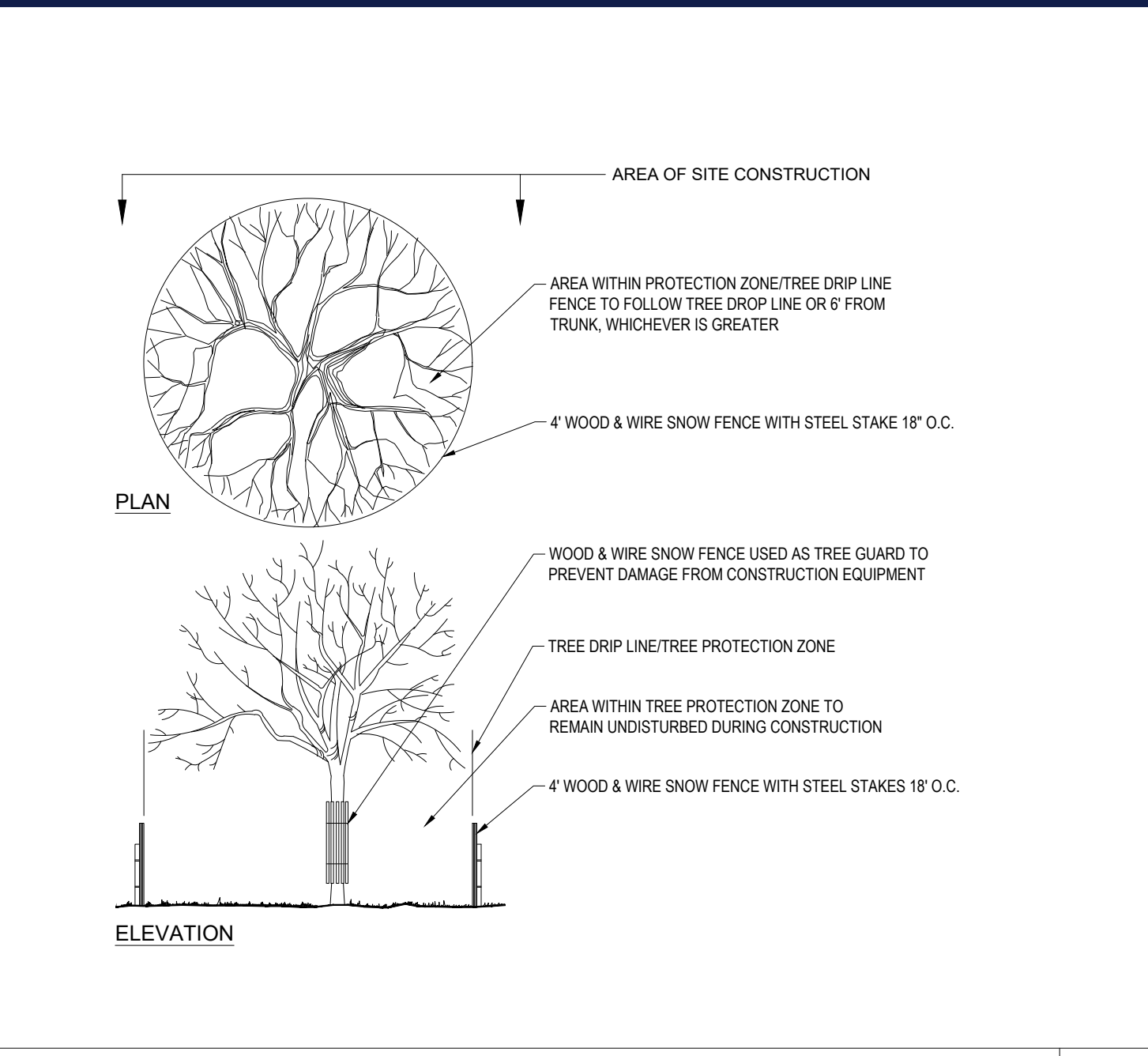
- THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:
-INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE/EXIT (AS SHOWN)
-INSTALLATION OF EROSION CONTROL BARRIER (STRAW BALES AND SILT FENCE) (AS SHOWN)
-INSTALLATION OF INLET PROTECTION IN STREET (AS SHOWN)
-DEMOLITION OF EXISTING SITE STRUCTURES (SEE DEMOLITION PLAN)
-DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE DEMOLITION PLAN)
-CLEARING AND GRUBBING
-INSTALLATION OF TEMPORARY SWALES AND SEDIMENT BASINS
-EARTHWORK AND EXCAVATION/FILLING AS NECESSARY
-CONSTRUCTION OF UTILITIES
-STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING
-INSTALLATION OF INLET PROTECTION OF ON-SITE UTILITIES (AS SHOWN)
-CONSTRUCTION OF BUILDINGS
-CONSTRUCTION OF ALL CURBING AND LANDSCAPE ISLANDS AS INDICATED ON THE PLANS
-SPREAD TOPSOIL ON SLOPED AREAS AND SEED AND MULCH
-FINAL GRADING OF ALL SLOPED AREAS
-PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH SEED MIXTURE TO BE INSTALLED AS REQUIRED.
-REMOVAL OF THE TEMPORARY SEDIMENT BASINS
-PAVE PARKING LOT
-LANDSCAPING PER LANDSCAPING PLAN
-REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER

RECOMMENDED CONSTRUCTION SEQUENCE N.T.S.

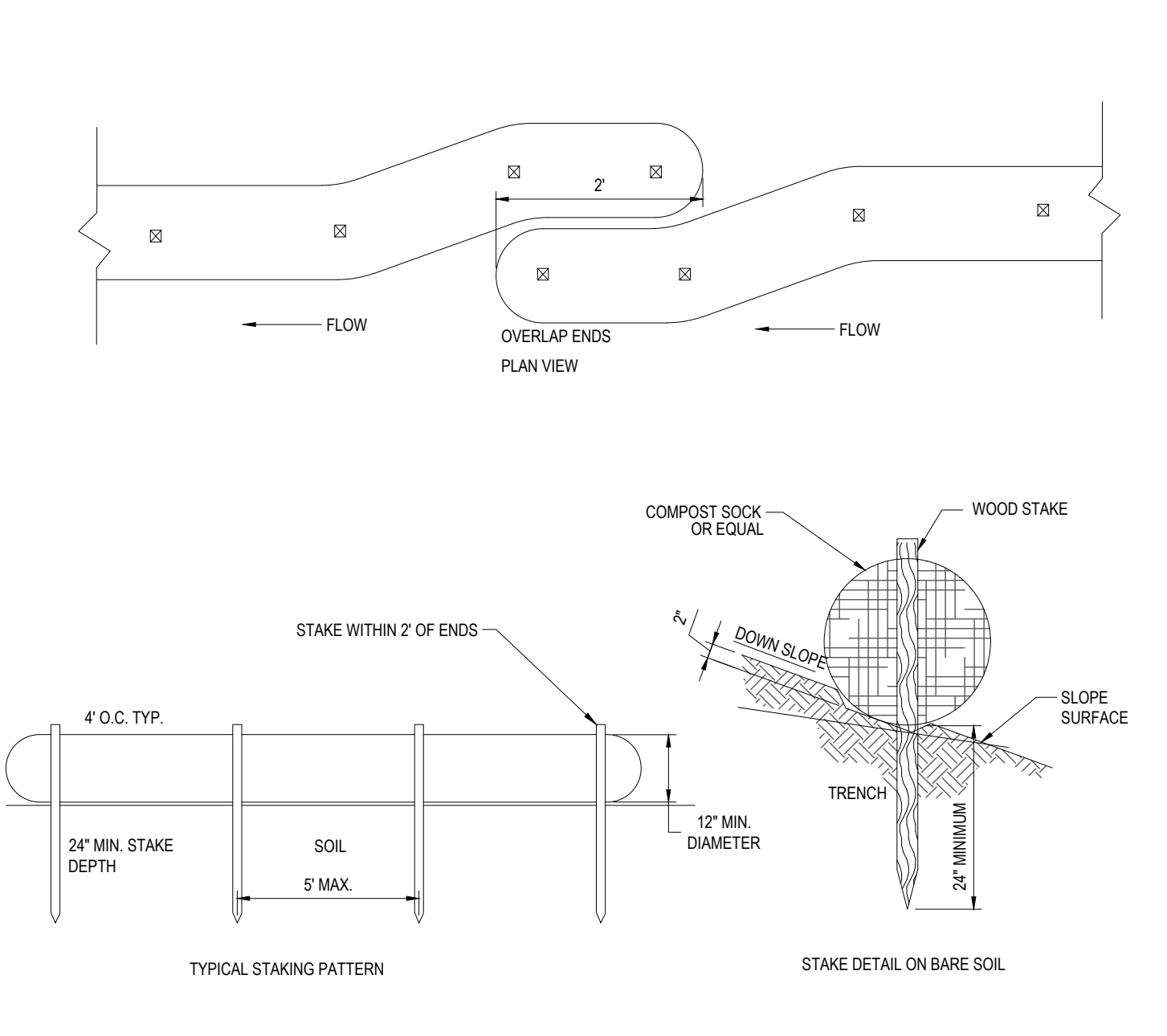


STABILIZED CONSTRUCTION ENTRANCE N.T.S.

NOT USED N.T.S.



TREE PROTECTION DURING SITE CONSTRUCTION N.T.S.



BIODEGRADABLE COMPOST SOCK N.T.S.

FILTER SACKS (GRADED INLETS) N.T.S.

BOHLER logo and contact information: SITE CIVIL AND CONSULTING ENGINEERING, PROGRAM MANAGEMENT, LANDSCAPE ARCHITECTURE, SUSTAINABLE DESIGN, PERMITTING SERVICES, TRANSPORTATION SERVICES.

Table with 4 columns: REV, DATE, COMMENT, CHECKED BY. Shows revision history for ZBA and peer review comments.

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PROJECT No.: W211263
DRAWN BY: CMCLC
CHECKED BY: EDJAK
DATE: 05/29/2023
CAD: W211263-SPPD-20.DWG

PRELIMINARY CIVIL ENGINEERING PLAN SET

KIG SILVERSTRAND WALPOLE, LLC

PROPOSED MULTI-FAMILY DEVELOPMENT
MAP 25, BLOCK 164, 165 & 166
981, 989 & 1015 EAST STREET
TOWN OF WALPOLE
NORFOLK COUNTY, MASSACHUSETTS

BOHLER logo and address: 352 TURNPIKE ROAD, SOUTHBOROUGH, MA 01772. Phone: (508) 480-9900. Website: www.BohlerEngineering.com

Professional Engineer seal for John A. Kucich, State of Massachusetts, License No. 26177.

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

SHEET NUMBER: C-602

REVISION 2 - 09/29/2023

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PLANT SCHEDULE					
CANOPY TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
AO	4	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL.	B&B
GD	4	GLEDITSIA TRIACANTHOS 'INERMIS DRAVES'	STREET KEEPER HONEY LOCUST	2.5" CAL.	B&B
QP	3	QUERCUS PALUSTRIS	PIN OAK	3" CAL.	B&B
QPP	1	QUERCUS PALUSTRIS 'PRINGREEN'	GREEN PILLAR PIN OAK	2" CAL.	B&B
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
TOE	18	THUJA OCCIDENTALIS 'SMARAGO'	EMERALD GREEN ARBORVITAE	5-6'	CONT. B&B
ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
CF	1	CORNUS FLORIDA	EASTERN DOGWOOD	2.5" CAL.	B&B
CST	3	CORNUS KOUSA 'SNOW TOWER'	SNOW TOWER KOUSA DOGWOOD	2.5" CAL.	B&B
PL	3	PYRUS CALLERYANA 'CHANTICLEER'	CHANTICLEER CALLERY PEAR	2.5" CAL.	B&B
PXO	2	PRUNUS X 'OKAME'	OKAME FLOWERING CHERRY	8-10'	B&B
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
AMH	12	ARONIA MELANOCARPA 'L'CONNAM166'	LOW SCAPE HEDGERO BLACK CHOKEBERRY	18-24"	CONTAINER
CSC	37	CLETHRA ALNIFOLIA 'SIXTEEN CANDLES'	SIXTEEN CANDLES SUMMERSWEET	24-30"	CONTAINER
HME	11	HYDRANGEA MACROPHYLLA 'ENDLESS SUMMER'	ENDLESS SUMMER HYDRANGEA	24-30"	CONTAINER
IG	9	ILEX GLABRA	INKBERRY HOLLY	30-36"	CONTAINER
IGC	42	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	24-30"	CONTAINER
KE2	23	KALMIA LATIFOLIA 'ELF'	ELF DWARF MOUNTAIN LAUREL	18-24" HT.	CONTAINER
PXOL	9	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN CHERRY LAUREL	24-30"	CONTAINER
GRASSES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
PAH	50	PENNISETUM ALOPECUROIDES 'HAEMEL'	HAEMEL FOUNTAIN GRASS	1 GAL.	CONTAINER
PVS	92	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	1 GAL.	CONTAINER
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
HB2	9	HOSTA X 'BLUEBERRY MUFFIN'	BLUEBERRY MUFFIN HOSTA	1 GAL.	CONTAINER
PERENNIALS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
LMB	39	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	1 GAL.	CONTAINER
NW	95	NETPETA X 'WALKER'S LOW'	WALKER'S LOW CATMINT	1 GAL.	CONTAINER
RF	100	RUDEBECKIA FULGIDA	CONEFLOWER	1 GAL.	CONTAINER
SSAJ	111	SEDUM SPECTABILE 'AUTUMN JOY'	AUTUMN JOY STONECROP	1 GAL.	CONTAINER

Now or Formerly
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
NO LEGAL REFERENCE FOUND
PARCEL ID 25-163

TOWN OF WALPOLE, MA LANDSCAPE REQUIREMENTS		
SECTION	REQUIREMENTS	CALCULATIONS/PROPOSED
7.	LOCATION OF SPACES C. GROUND LEVEL PARKING FACING STREETS OR OPEN SPACES SHALL BE SCREENED FROM THE SIDEWALK AND THE OPEN SPACE. SCREENING MAY INCLUDE BUILDINGS AND/OR LANDSCAPING.	PROVIDED
8.	PARKING LOT DESIGN B. LANDSCAPING REQUIREMENTS (1) AMOUNT. DEVELOPMENTS WITH PROPOSED PARKING AREAS OF SIX (6) SPACES OR MORE SHALL PROVIDE A MINIMUM OF TEN PERCENT (10%) OF LANDSCAPED OPEN SPACE WITHIN THE AREA DESIGNATED FOR PARKING INCLUSIVE OF ANY LANDSCAPED BORDERS SURROUNDING THE PARKING LOT. (2) PARKING LOT ENTRANCES. PARKING LOT ENTRANCES SHALL BE LANDSCAPED WITH A COMBINATION OF TREES, SHRUBS, WALLS AND OTHER LANDSCAPE FEATURES. NO TREES, SHRUBS, FENCES, WALLS OR OTHER LANDSCAPE FEATURE SHALL BE PLANTED IN A MANNER TO OBSTRUCT SIGHT LINES OF MOTORISTS. (3) PARKING AISLES. THE ENDS OF PARKING AISLES THAT ARE MORE THAN FIFTEEN (15) SPACES IN LENGTH SHALL INCORPORATE LANDSCAPE ISLANDS AT EITHER END OF THE ROW, WHERE THE LENGTH OF A PARKING AISLE EXCEEDS TWENTY-FIVE (25) SPACES. ADDITIONAL LANDSCAPED ISLANDS SHALL BE INSTALLED AT REGULAR INTERVALS. THIS INTERVAL SHALL NOT BE MORE THAN EVERY THIRTEEN (13) SPACES. THE WIDTH OF LANDSCAPED ISLANDS PERPENDICULAR TO ADJACENT SPACES SHALL BE NO LESS THAN EIGHT (8) FEET AT THEIR WIDEST POINT. (4) PLANT SELECTION. NO TREE, SHRUB OR PLANT SHALL BE PROPOSED FOR USE WITHIN A PARKING AREA THAT HAS BEEN IDENTIFIED AS AN INVASIVE SPECIES BY THE MASSACHUSETTS PLANT ADVISORY GROUP IN THE LATEST VERSION OF THE EVALUATION OF NON-NATIVE PLANT SPECIES FOR INVASIVENESS IN MASSACHUSETTS (WITH ANNOTATED LIST). HAS BEEN IDENTIFIED AS INVASIVE OR BANNED ON THE MASSACHUSETTS PROHIBITED PLANT LIST AS PERIODICALLY UPDATED BY THE MASSACHUSETTS DEPARTMENT OF AGRICULTURAL RESOURCES, OR IN ANY OTHER REPUTABLE SCIENTIFIC PUBLICATION THAT MAY BE ACCEPTABLE TO THE BOARD. ALL SIZE AND LOCATION DESIGN ELEMENTS SHALL COMPLY WITH THE FOLLOWING SPECIFICATIONS: (A) SHADE OR CANOPY TREES SHALL HAVE AT LEAST ONE AND A HALF (1.5) INCH CALIPER WITH A MATURE HEIGHT OF NOT LESS THAN TWELVE (12) FEET ABOVE GRADE. (B) SMALL OR MINOR SHADE TREES SHALL HAVE A CALIPER OF AT LEAST ONE AND A HALF (1.5) INCHES WITH A MATURE HEIGHT OF NOT LESS THAN NINE (9) FEET ABOVE GRADE. (C) ORNAMENTAL OR FLOWERING FRUIT TREES SHALL HAVE A CALIPER OF AT LEAST ONE AND A HALF (1.5) INCHES WITH A MATURE HEIGHT OF NOT LESS THAN SEVEN (7) FEET ABOVE GRADE. (D) EVERGREEN TREES USED FOR SCREENING SHALL BE NOT LESS THAN SIX (6) FEET IN HEIGHT ABOVE GRADE AT MATURITY. FENCING MAY BE USED IN CONJUNCTION WITH VEGETATED SCREENING BUT CHAIN LINK, VINYL, OR OTHER FENCE MATERIAL THAT IS INCONGRUENT WITH TRADITIONAL NEW ENGLAND ARCHITECTURE SHALL NOT BE ALLOWED IN THE CENTRAL BUSINESS DISTRICT. (E) SHRUBS SHALL BE NOT LESS THAN ONE AND ONE-HALF (1.5) FEET IN HEIGHT ABOVE GRADE, AND (F) GRASS TURF MAY BE USED BUT SHALL NOT BE INSTALLED IN STRIPS LESS THAN SIX (6) FEET IN WIDTH.	REQUIRED: 35,060 SF x 10% = 3,506 SF LANDSCAPE AREA PROVIDED
SECTION 8:	PARKING REGULATIONS	PROVIDED

SEED MIX KEY	
	PROPOSED HYDROSEED

OWNER MAINTENANCE RESPONSIBILITIES

UPON OWNERS (OR OWNER CONTRACTOR'S) COMPLETION OF LANDSCAPING WORK, THE OWNER IS FULLY RESPONSIBLE FOR ALL FUTURE MAINTENANCE, CARE, WATERING, AND TRIMMING OF ALL INSTALLED VEGETATION, PLANTS, TREE, BUSHES, SHRUBS, GRASSES, ORNAMENTAL PLANTS AND FLOWERS, FLOWERS, GROUND COVERS, AND LANDSCAPING, INCLUDING ALL LANDSCAPE ISLANDS AND AREAS ADJACENT OR PART OF THE LANDSCAPED AREAS. THIS RESPONSIBILITY INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

- TREES ADJACENT TO WALKWAYS AND AREAS OF PEDESTRIAN TRAFFIC MUST BE MAINTAINED TO ASSURE THAT ANY BRANCHES MUST BE TRIMMED TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PEDESTRIAN SURFACES) OR PRUNED BACK TO AVOID ANY INTERFERENCE WITH THE TYPICAL PATH OF TRAVEL.
- TREES WITHIN VEHICULAR SIGHT LINES, AS ILLUSTRATED ON THE LANDSCAPE PLAN, ARE TO BE TRIMMED TO A CLEARANCE HEIGHT OF 7 FT. FROM ALL PAVED, TRAVELED SURFACES, OR AS OTHERWISE INDICATED ON THE PLANS.
- VEGETATIVE GROUND COVER, SHRUBS AND ORNAMENTAL PLANTS AND GRASSES MUST BE TRIMMED SO THAT NO PORTION OF THE PLANT EXCEEDS 30 INCHES ABOVE GRADE, (OF ALL PAVED, TRAVELED SURFACES) ALONG AND WITHIN THE SIGHT LINES OF PARKING LOTS AND INGRESS/EGRESS WAYS.
- FALLEN PLANT FLOWERS, FRUIT, SEEDS AND DEBRIS DROPPINGS ARE TO BE REMOVED IMMEDIATELY FROM VEHICULAR AND PEDESTRIAN TRAFFIC AREAS TO PREVENT TRIPPING, SLIPPING OR ANY OTHER HAZARDS.

THESE REQUIREMENTS DO NOT AFFECT THE PLANT LIFE GUARANTEE THE LANDSCAPE CONTRACTOR IS REQUIRED TO PROVIDE.

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS				
REV	DATE	COMMENT	BY	CHECKED BY
1	08/30/2023	ZBA	CMC	EDJ/CMC
2	09/29/2023	PER PEER REVIEW COMMENTS	CMC	EDJ/CMC

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PROJECT: **PRELIMINARY CIVIL ENGINEERING PLAN SET** FOR **KIG SILVERSTRAND WALPOLE, LLC**

PROPOSED MULTI-FAMILY DEVELOPMENT
MAP 25, BLOCK 164, 165 & 166
981, 989 & 1015 EAST STREET
TOWN OF WALPOLE
NORFOLK COUNTY, MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com



SHEET TITLE: **LANDSCAPE PLAN**

SHEET NUMBER: **C-701**

REVISION 2 - 09/29/2023

I:\BOHLER\NET\SHARES\MA\PROJECTS\21\2123\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\W21123-2-20-CAD-LAYOUT-C-701.LAND

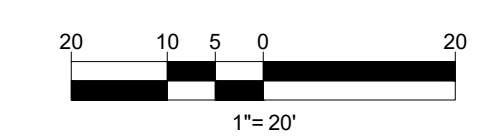
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MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
NO LEGAL REFERENCE FOUND
PARCEL ID 25-163

PROP. 4" DEPTH OF 1-1.5" CRUSHED STONE OVER WEED BARRIER FABRIC (TYP.)

PROP. 3" LAYER OF DOUBLE-SHREDDED HARDWOOD BARK MULCH OVER WATER PERMEABLE WEED BARRIER FABRIC IN ALL PLANT BEDS (TYP.)

THIS PLAN TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY

REFER LANDSCAPE NOTES & DETAILS SHEET FOR LANDSCAPE NOTES AND DETAILS





Mirada Bollard (MRB)
Low Level Lighting

Category: Lighting
Product: Bollard

QUICK LINKS

FEATURES & SPECIFICATIONS

Construction:

- Cast in place concrete bollard with stainless steel lighting fixture.
- High performance polycarbonate lens.
- High performance aluminum housing.
- High performance LED light source.

Installation:

- Mount on concrete bollard.
- Mount on concrete bollard.
- Mount on concrete bollard.

Warranty:

- 5 Year Limited Warranty.

Mirada Medium (MRM)
Outdoor LED Area Light

Category: Lighting
Product: Area Light

QUICK LINKS

FEATURES & SPECIFICATIONS

Construction:

- High performance polycarbonate lens.
- High performance aluminum housing.
- High performance LED light source.

Installation:

- Mount on concrete bollard.
- Mount on concrete bollard.
- Mount on concrete bollard.

Warranty:

- 5 Year Limited Warranty.

Mirada Small Wall Sconce Silicone (XWS SIL)
Outdoor LED Wall Light

Category: Lighting
Product: Wall Light

QUICK LINKS

FEATURES & SPECIFICATIONS

Construction:

- High performance polycarbonate lens.
- High performance aluminum housing.
- High performance LED light source.

Installation:

- Mount on concrete bollard.
- Mount on concrete bollard.
- Mount on concrete bollard.

Warranty:

- 5 Year Limited Warranty.

LIGHTING NOTES

- THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER(S). ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
- THE LIGHT LOSS FACTORS USED IN THESE LIGHTING CALCULATIONS ARE 0.90 FOR ALL LED LUMINAIRES, 0.80 FOR ALL HIGH PRESSURE SODIUM LUMINAIRES OR 0.72 FOR ALL METAL HALIDE LUMINAIRES UNLESS OTHERWISE SPECIFIED. THESE FACTORS ARE INDICATIVE OF TYPICAL LIGHTING INDUSTRY MODELING STANDARDS.
- THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ALL ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT ELEVATION ZERO (GROUND LEVEL) UNLESS OTHERWISE NOTED. THE VALUES DEPICTED ON THIS PLAN ARE IN FOOT-CANDELS.
- THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT NOT BE LIMITED TO, FREQUENT VISUAL INSPECTIONS, CLEANING OF LENSES, AND RELAMPING (IF NECESSARY) AT LEAST ONCE EVERY SIX (6) MONTHS. FAILURE TO FOLLOW THE ABOVE STEPS COULD CAUSE THE LUMINAIRES, LAMPS AND LENSES TO FAIL PROPERLY TO FUNCTION.
- WHERE APPLICABLE, THE EXISTING CONDITION LIGHT LEVELS ILLUSTRATED ARE REPRESENTATIVE OF AN APPROXIMATION UTILIZING LABORATORY DATA FOR SIMILAR FIXTURES, UNLESS ACTUAL FIELD MEASUREMENTS ARE TAKEN WITH A LIGHT METER AND ARE, CONSEQUENTLY, APPROXIMATIONS ONLY. DUE TO FACTORS SUCH AS FIXTURE MAINTENANCE, EQUIPMENT TOLERANCES, WEATHER CONDITIONS, ETC, ACTUAL LIGHT LEVELS MAY DIFFER. EXISTING LIGHT LEVELS DEPICTED ON THIS PLAN SHOULD BE CONSIDERED APPROXIMATE.
- THIS LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRE ONLY. POWER SYSTEM, CONDUITS, WIRING, VOLTAGES AND OTHER ELECTRICAL COMPONENTS ARE THE RESPONSIBILITY OF THE ARCHITECT, MEP AND/OR LIGHTING CONTRACTOR, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. LIGHT POLE BASES ARE THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR INSTALLED LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES AND ALL OTHER APPLICABLE RULES, REGULATIONS, LAWS AND STATUTES.
- CONTRACTOR MUST BRING TO DESIGNER'S ATTENTION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURES.
- IT IS THE LIGHTING CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE PROJECT ARCHITECT OR OWNER REGARDING THE POWER SOURCE(S) FROM WITHIN THE BUILDING, AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT.
- THE LIGHTING CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE SITE PLAN, INCLUDING BUT NOT LIMITED TO, GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL GOVERNMENTAL RULES, LAWS, ORDINANCES, REGULATIONS AND THE LIKE.
- THE CONTRACTOR MUST VERIFY THAT INSTALLATION OF LIGHTING FIXTURES COMPLIES WITH THE REQUIREMENTS FOR SEPARATION FROM OVERHEAD ELECTRICAL WIRES PER STATE REGULATIONS.
- UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS, TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT ALL TIMES.

BOHLER

SITE CIVIL AND CONSULTING ENGINEERING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DRAWN BY
1	08/30/2023	ZBA	CMC
2	09/29/2023	PER PEER REVIEW COMMENTS	CMC

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FOR ENTITLEMENT PURPOSES ONLY

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.: W211263
DRAWN BY: CMCLC
DATE: 05/22/2023
CAD LID: W211263-LIGHT-2C.DWG

PRELIMINARY CIVIL ENGINEERING PLAN SET

FOR
KIG SILVERSTRAND WALPOLE, LLC

PROPOSED MULTI-FAMILY DEVELOPMENT
MAP 25, BLOCK 164, 165 & 166
981, 989 & 1015 EAST STREET
TOWN OF WALPOLE
NORFOLK COUNTY,
MASSACHUSETTS

BOHLER

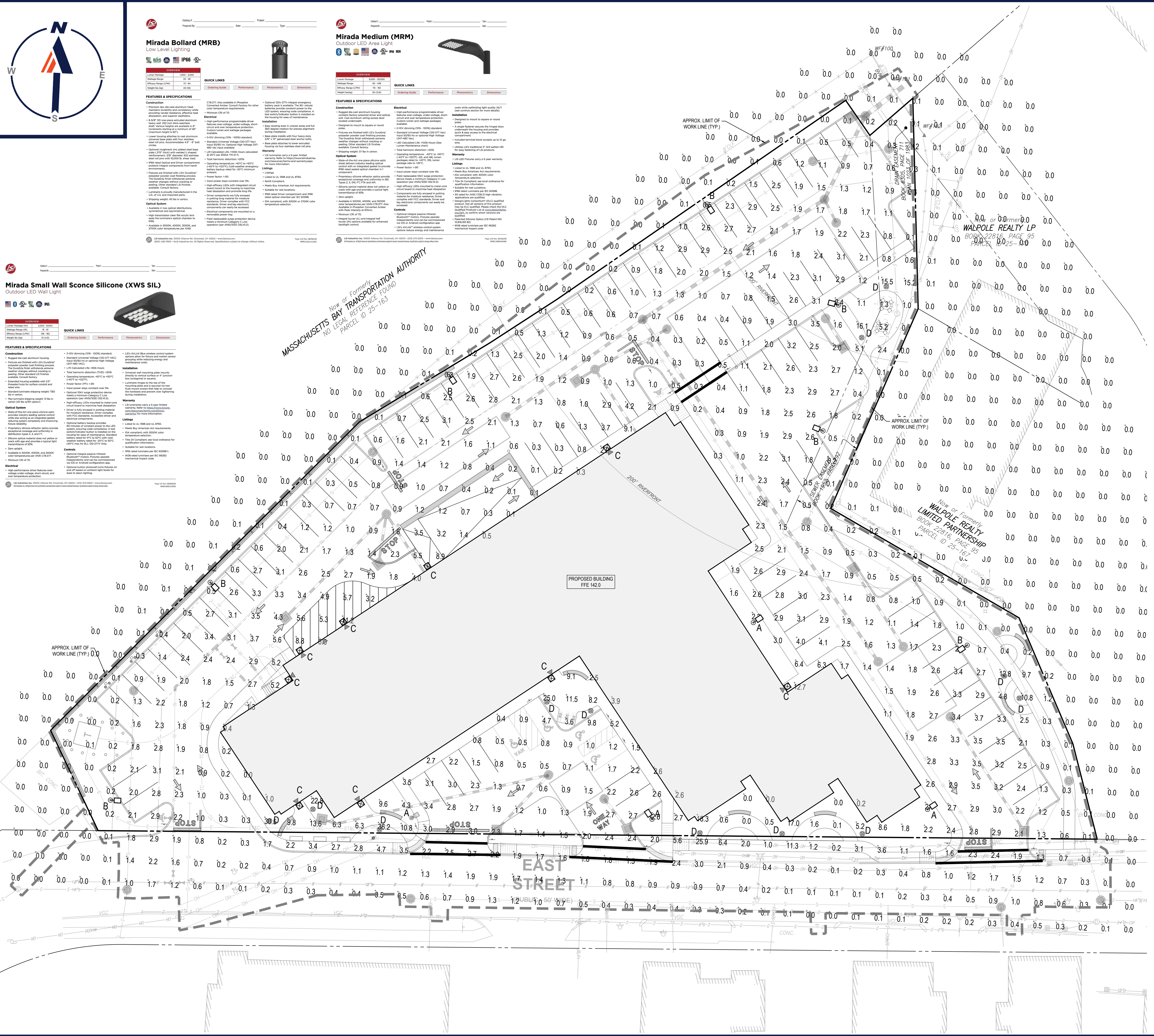
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com



SHEET TITLE:
LIGHTING PLAN

SHEET NUMBER:
C-703

REVISION 2 - 09/29/2023

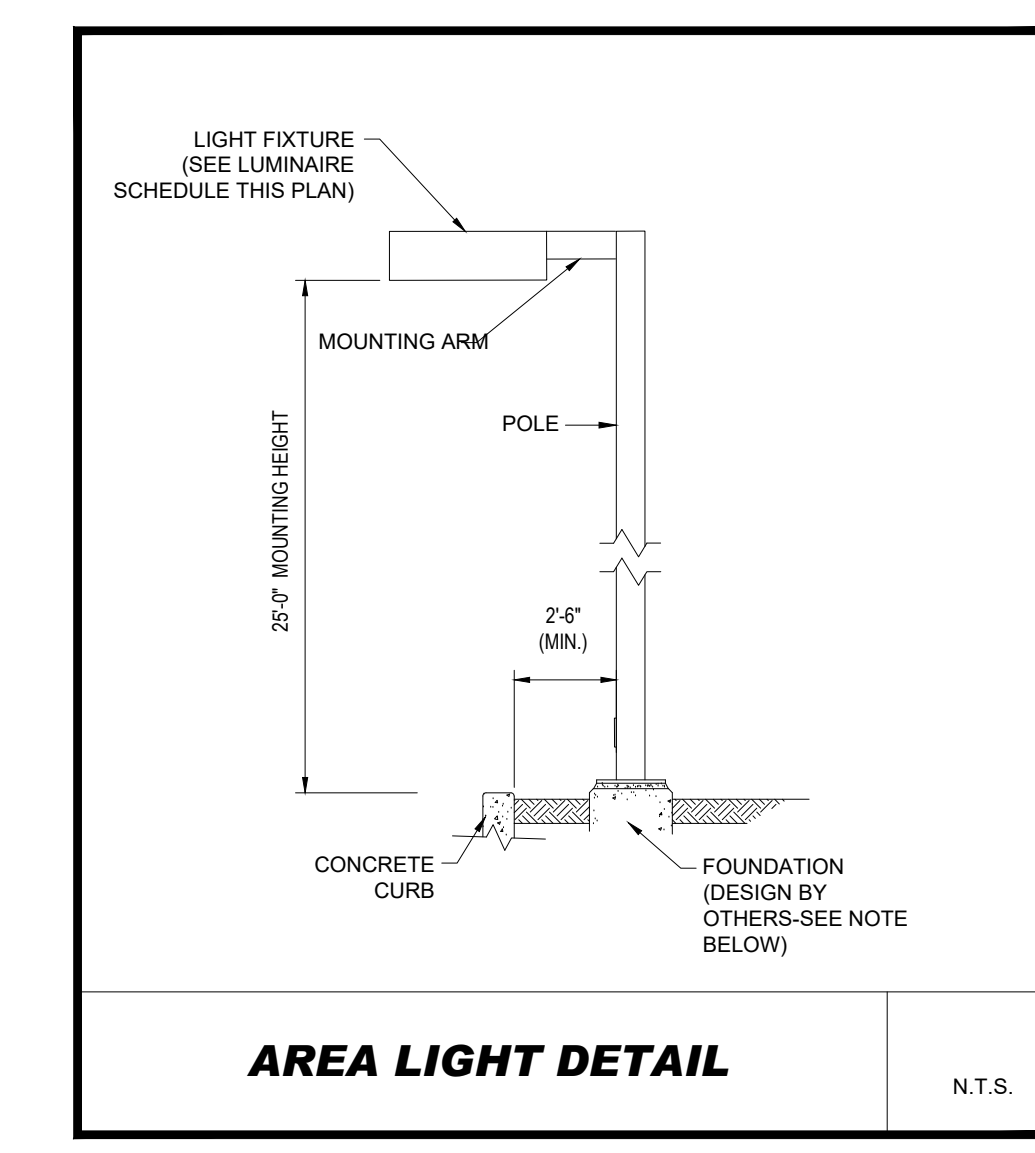


NUMERIC SUMMARY

LABEL	CALCTYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
ALL POINTS	ILLUMINANCE	FC	1.22	36.2	0.0	N.A.	N.A.
LEFT PARKING LOT	ILLUMINANCE	FC	1.60	11.2	0.0	N.A.	N.A.
RIGHT PARKING LOT	ILLUMINANCE	FC	2.15	16.1	0.0	N.A.	N.A.
FRONT OF BUILDING	ILLUMINANCE	FC	4.05	36.2	0.0	N.A.	N.A.

LUMINAIRE SCHEDULE

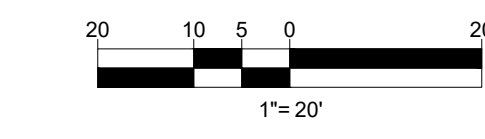
SYMBOL	QTY	MOUNTING HEIGHTS	ARRANGEMENT	LUMENS	LLF	DESCRIPTION
⊗ A	4	25'-0" AFG	SINGLE	13135	0.90	MRL-LED-12L-SIL-2-30-70CRI
⊗ B	7	25'-0" AFG	SINGLE W/ SHIELD	13135	0.90	MRL-LED-12L-SIL-2-30-70CRI-LL
⊗ C	9	12'-0" AFG	WALL MOUNTED	3063	0.90	XWS-LED-06L-FTW-40-80CRI
● D	12	3'-6" AFG	BOLLARD	5454	0.90	MRS-LED-30L-ACR-40

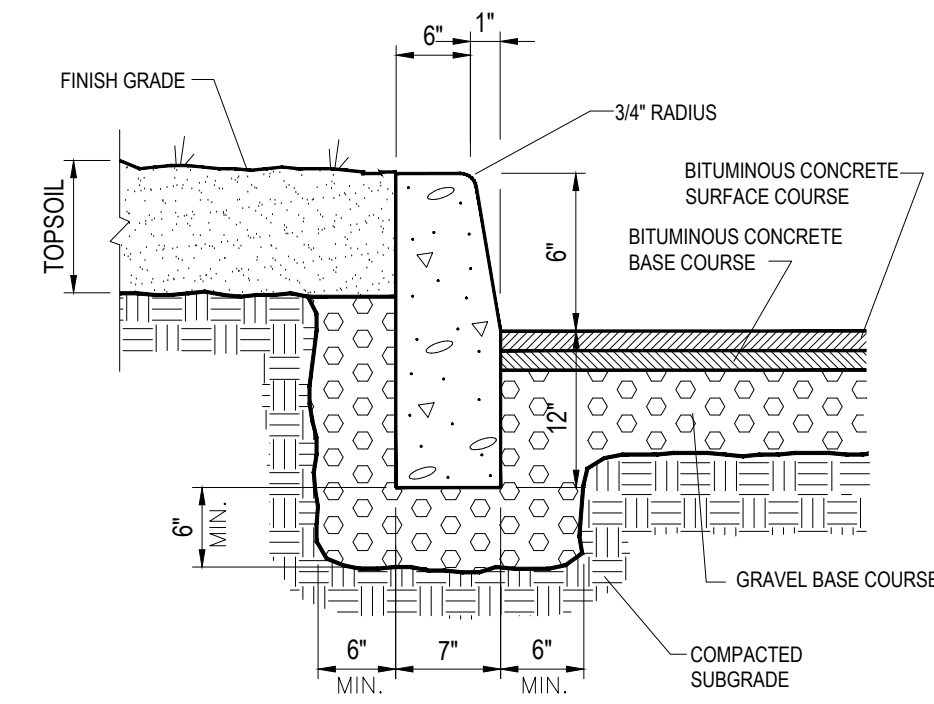


NOTE: THIS DETAIL IS FOR BID AND BUDGETARY PURPOSES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A FOUNDATION DESIGN PREPARED BY A QUALIFIED STRUCTURAL ENGINEER CONSIDERING LIGHTING MANUFACTURER REQUIREMENTS, LOCAL WIND LOADS AND SITE SPECIFIC SOIL PARAMETERS.

- SOME SITE CONDITIONS AND/OR LOCATIONS MAY REQUIRE VIBRATION DAMPENING MEASURES AS DETERMINED BY A STRUCTURAL ENGINEER.
- THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF THE INTENT TO MOUNT ANYTHING TO THE POLE, ASIDE FROM THE LIGHT FIXTURES, INCLUDING BUT NOT LIMITED TO CAMERAS, BANNERS, FLAGS, SIGNAGE, ETC. AS IT WILL IMPACT THE POLE AND FOUNDATION DESIGN.

THIS PLAN TO BE UTILIZED FOR LIGHTING PURPOSES ONLY

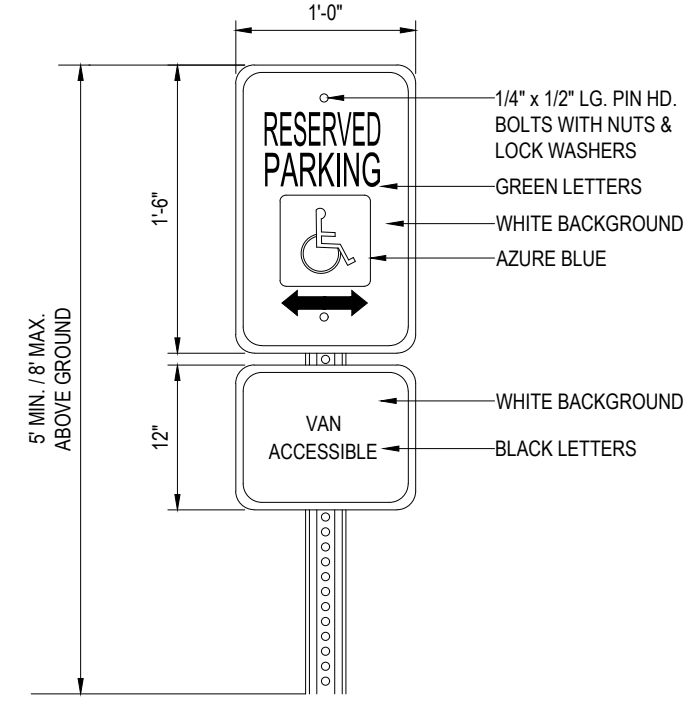




NOTES:
CURB SHALL CONSIST OF 4,000 PSI AIR ENTRAINED CONCRETE. EXPOSED EDGES TO HAVE RUBBED FINISH AND SURFACE SHALL BE TREATED WITH A CONCRETE PENETRANT/SEALER.
THE ENDS OF CURB SECTIONS SHALL BE CHAMFERED 1/4 INCH.
THE CORNERS OF CURB SECTIONS SHALL MATCH THE ADJACENT CURB IN SIZE, COLOR AND FINISH.
CURBS, CURB CORNERS OR EDGING SHALL BE FITTED TOGETHER AS CLOSELY AS POSSIBLE.
EXPANSION JOINTS SHALL BE INSTALLED AT A MAXIMUM OF TWENTY FEET (20') ON CENTER USING PREFORMED EXPANSION JOINT FILLER HAVING A THICKNESS OF 1/2 INCH.

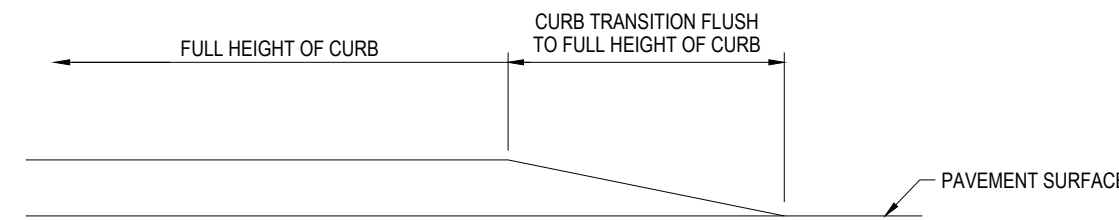
PRECAST CONCRETE CURB DETAIL

N.T.S.



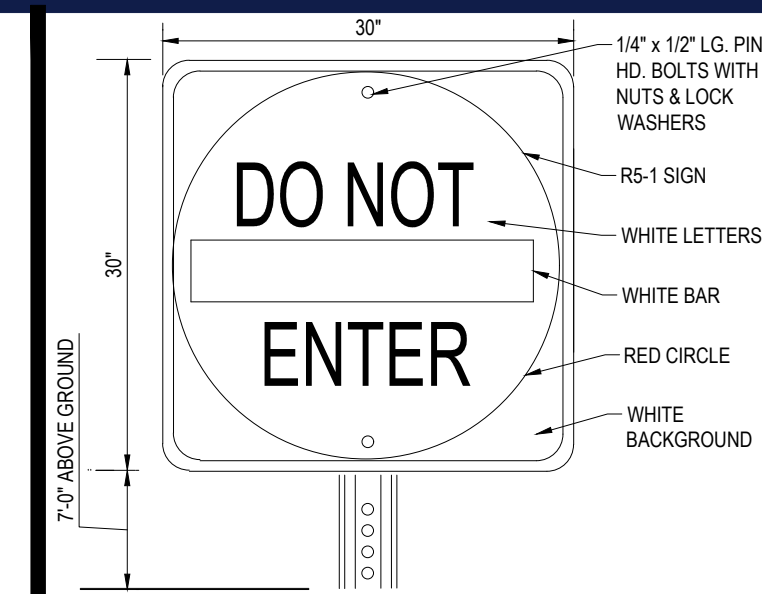
ACCESSIBLE PARKING SIGN DETAIL

N.T.S.



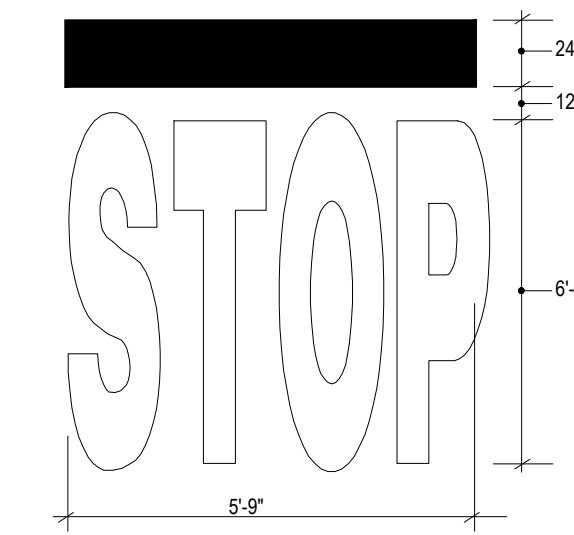
TRANSITION CURB DETAIL

N.T.S.



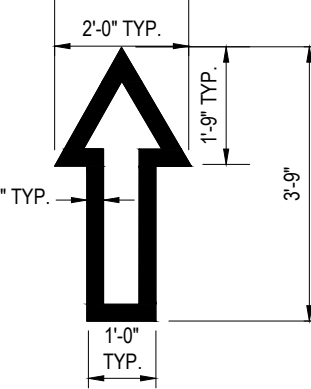
'DO NOT ENTER' SIGN DETAIL

N.T.S.



'STOP' BAR DETAIL

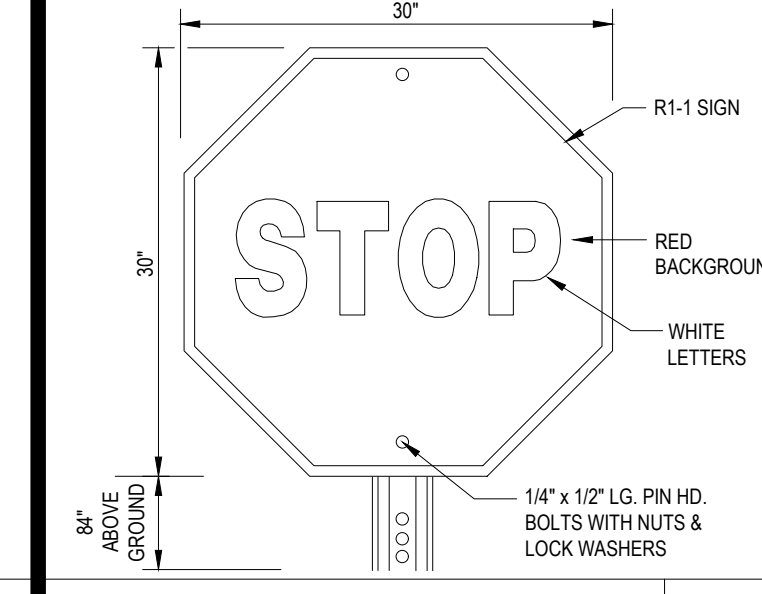
N.T.S.



NOTE: ALL TRAFFIC FLOW ARROWS TO BE REFLECTIVE WHITE PAINT PER SPECS.

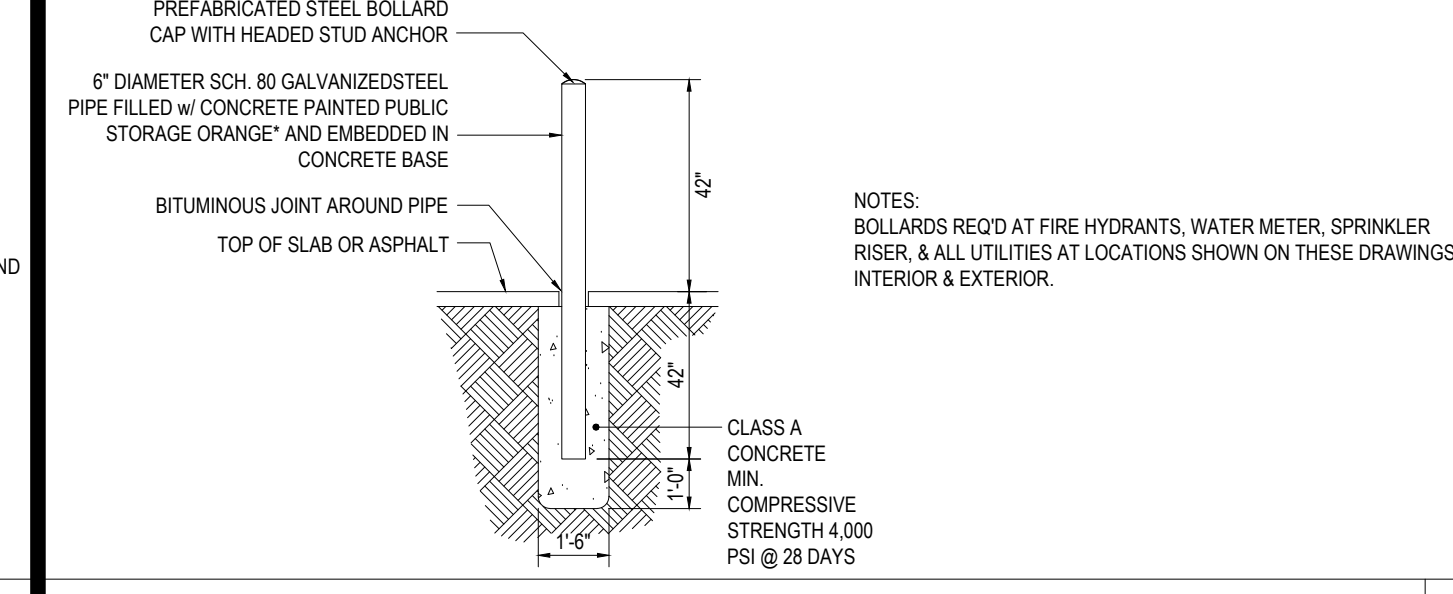
TRAFFIC FLOW ARROW

N.T.S.



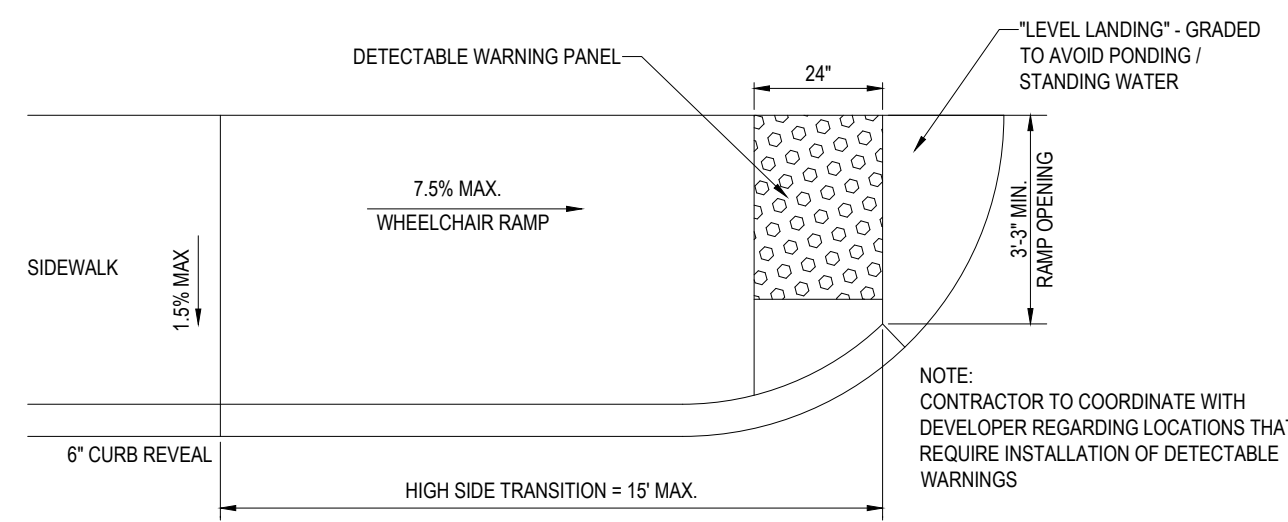
'STOP' SIGN

N.T.S.



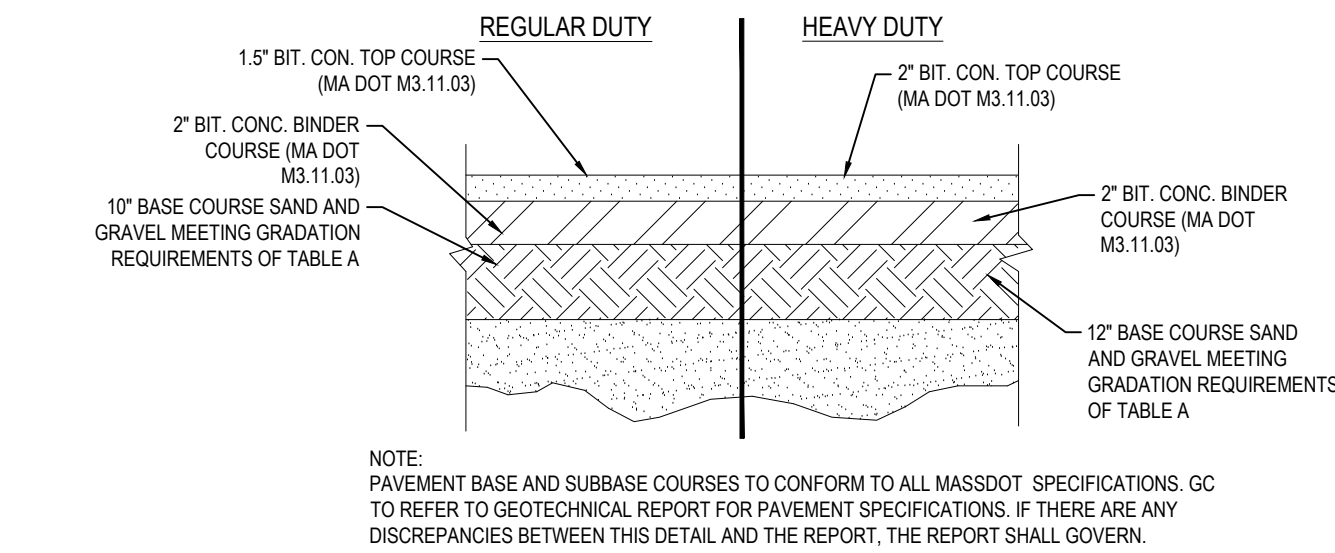
BOLLARD DETAIL

N.T.S.



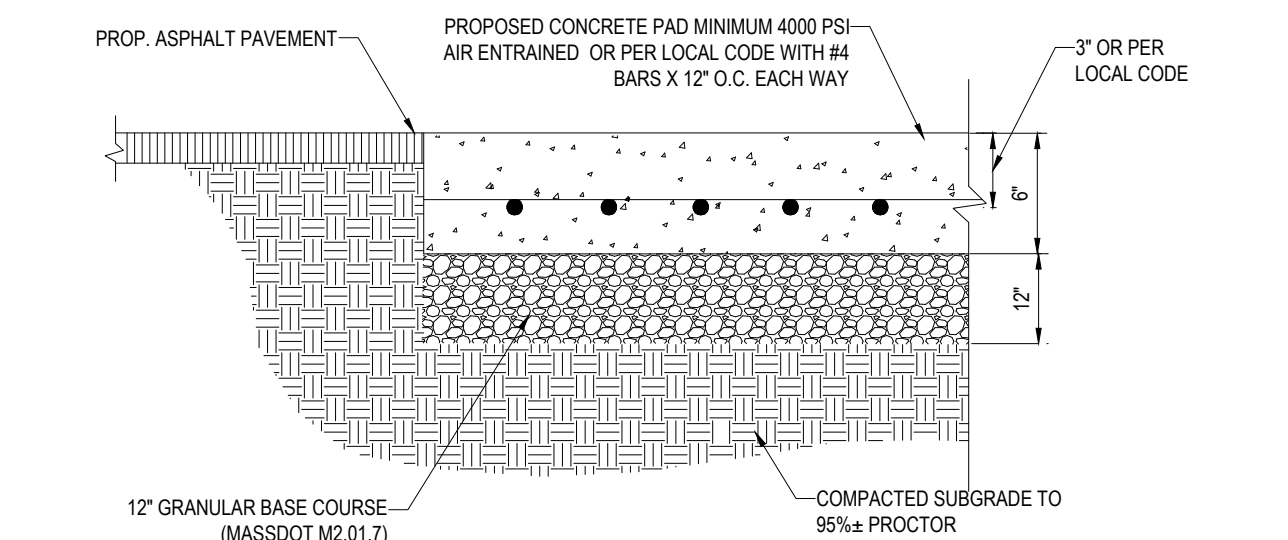
TYPICAL WHEELCHAIR RAMP

N.T.S.



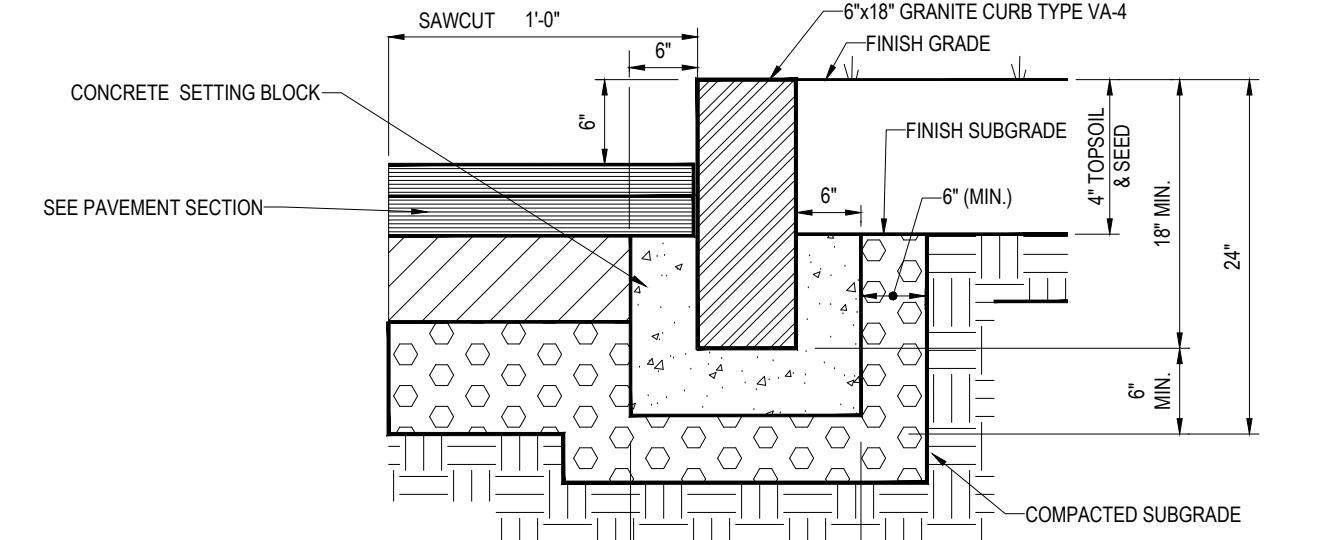
TYPICAL PAVEMENT SECTION

N.T.S.



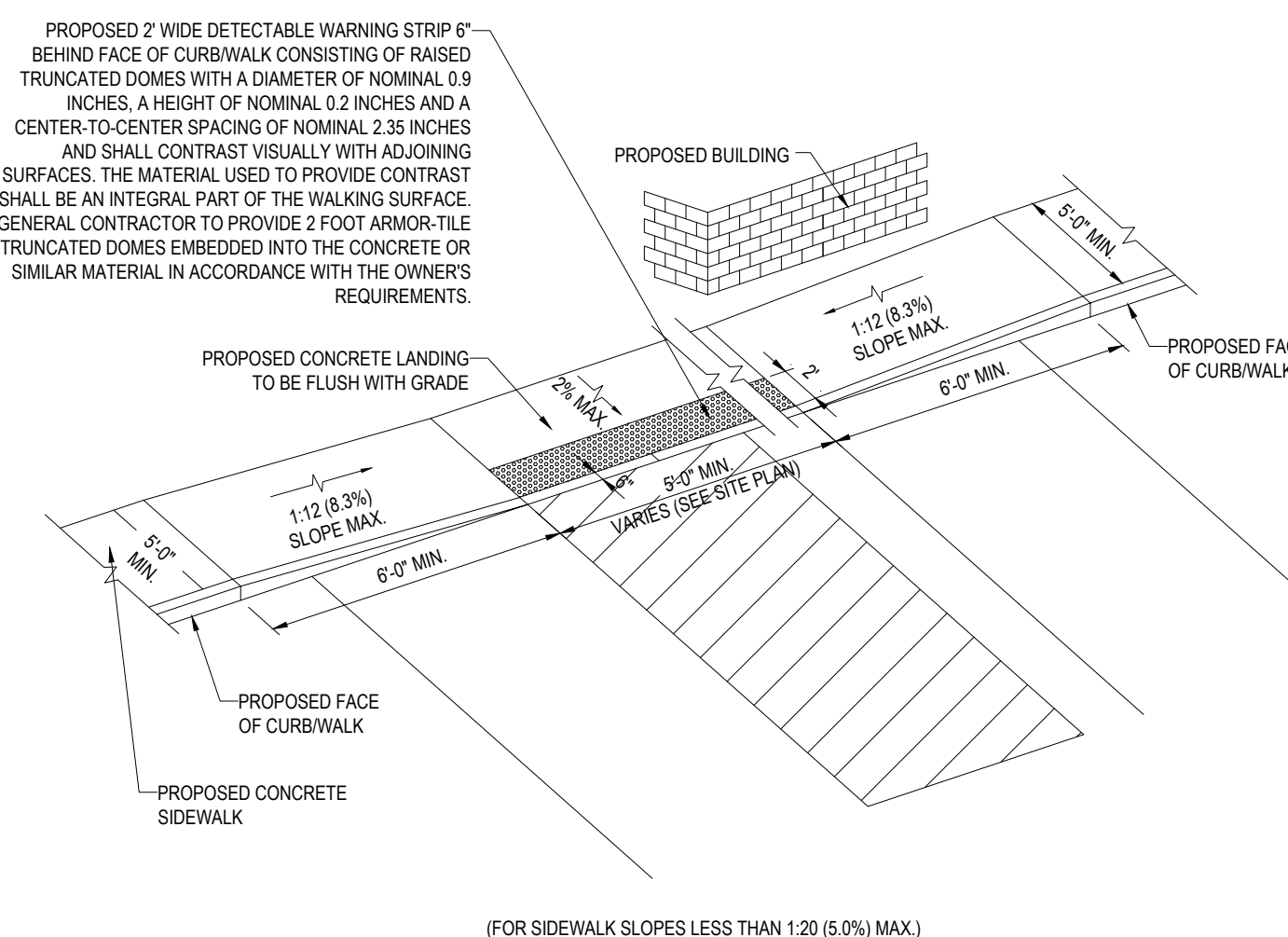
CONCRETE PAD DETAIL

N.T.S.



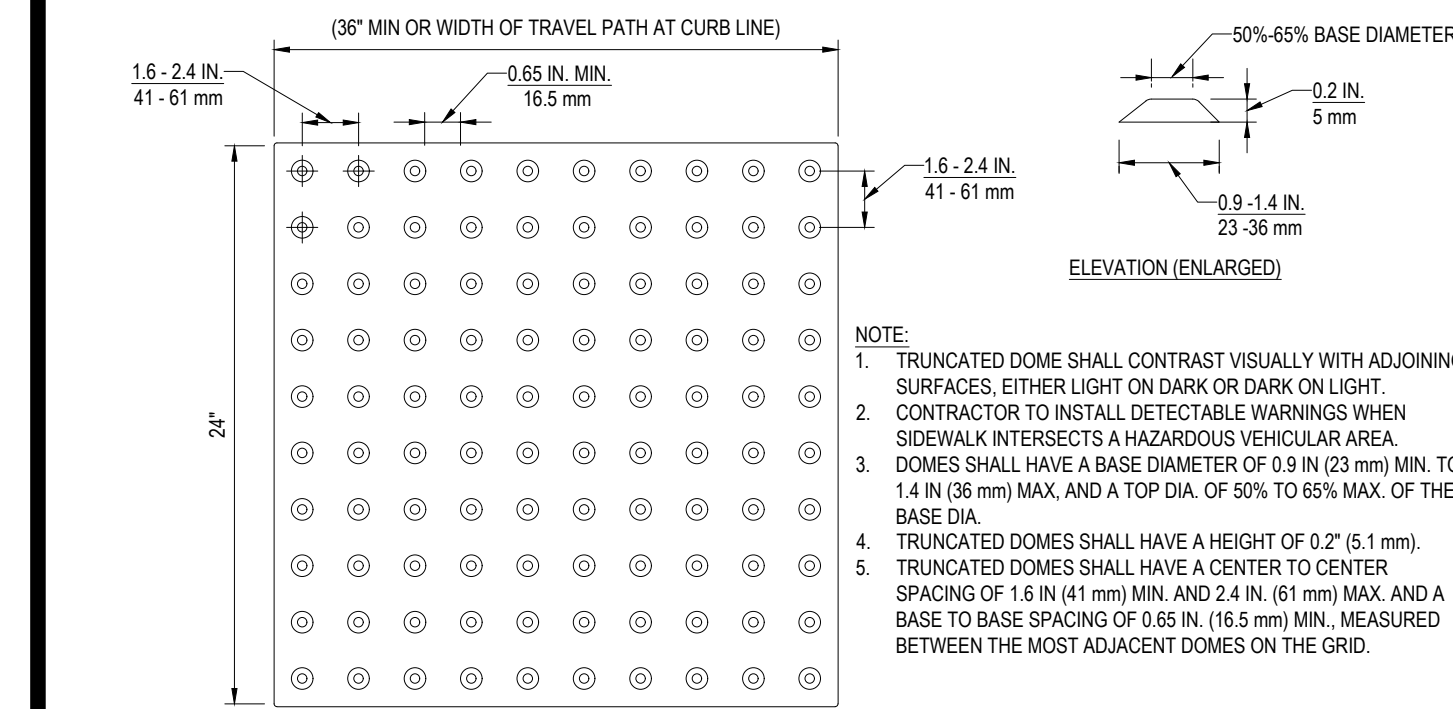
VERTICAL GRANITE CURB DETAIL

N.T.S.



SLOPED WALK DETAIL

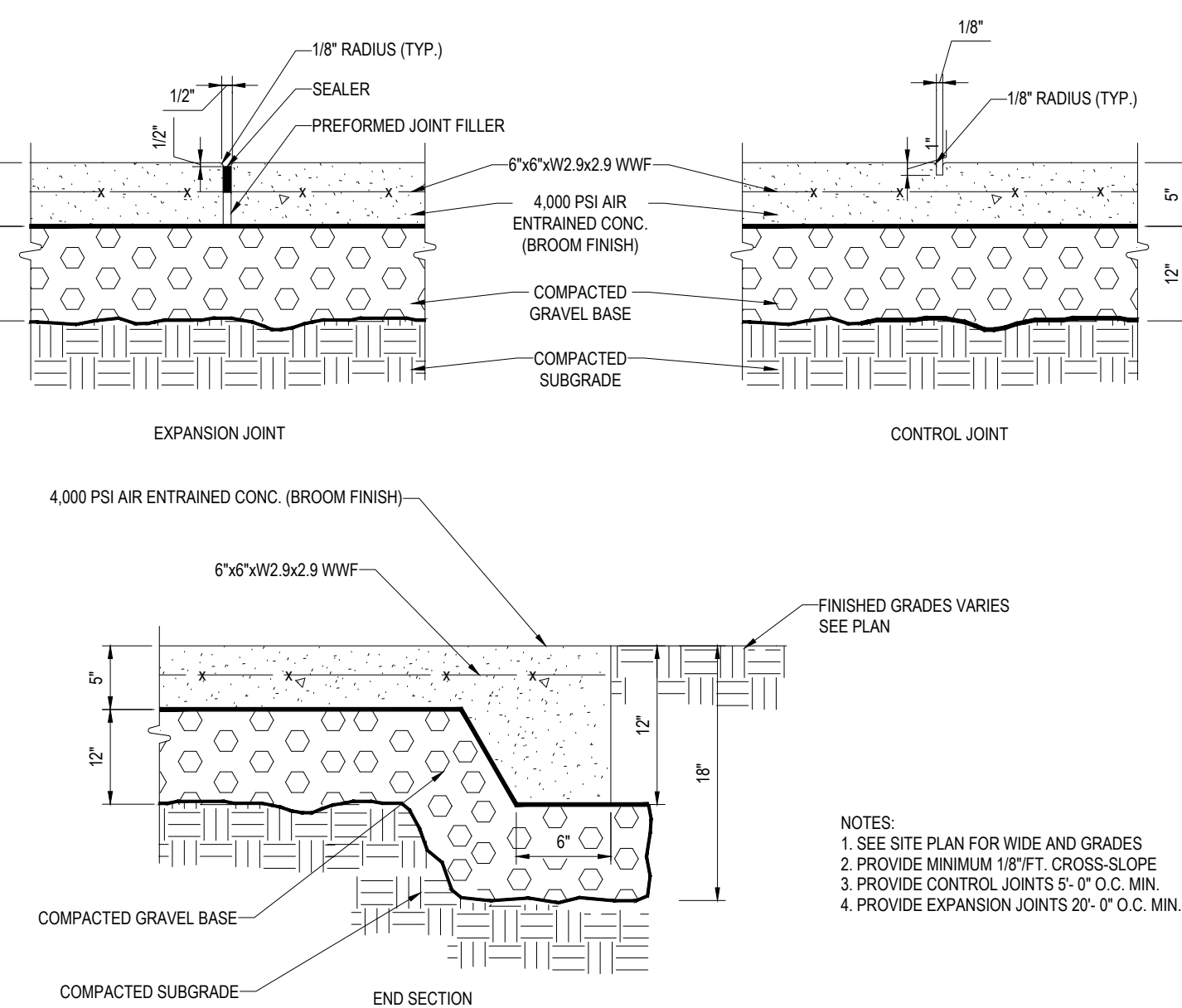
N.T.S.



NOTE TO DESIGNER:
IF A WALK CROSSES OR ADJOINS A VEHICULAR WAY WHERE THE WALKING SURFACE AND PAVEMENT ARE NOT SEPARATED BY CURBS, RAILING OR OTHER ELEMENTS, THE BOUNDARY BETWEEN THE AREA SHALL BE DEFINED BY A CONTINUOUS DETECTABLE WARNING WHICH IS MIN. 36" WIDE (ADA ACCESSIBLE GUIDELINES PRINTED 11-4-06) AND MIN. 24" DEPTH.

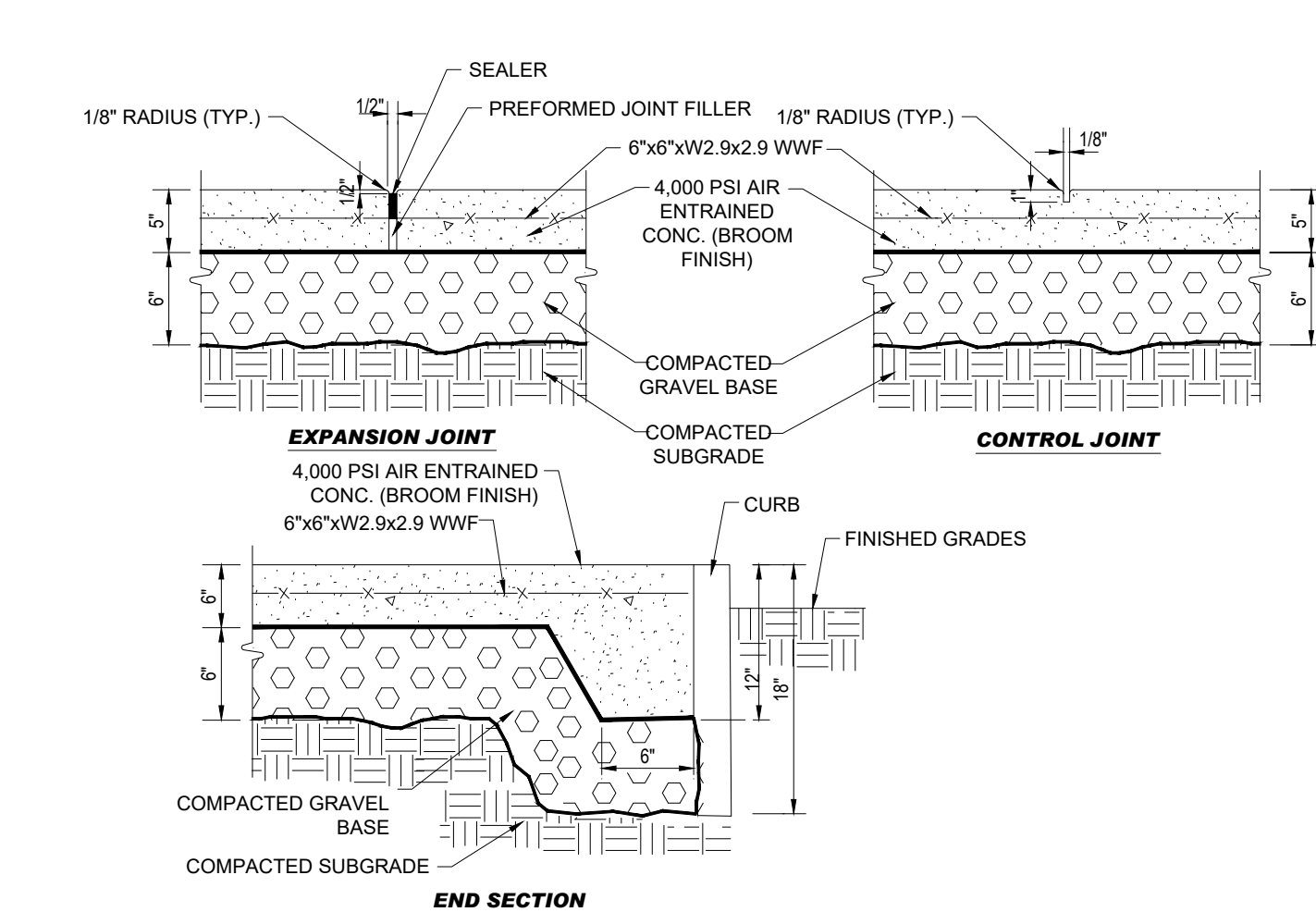
TRUNCATED DOME PATTERN

N.T.S.



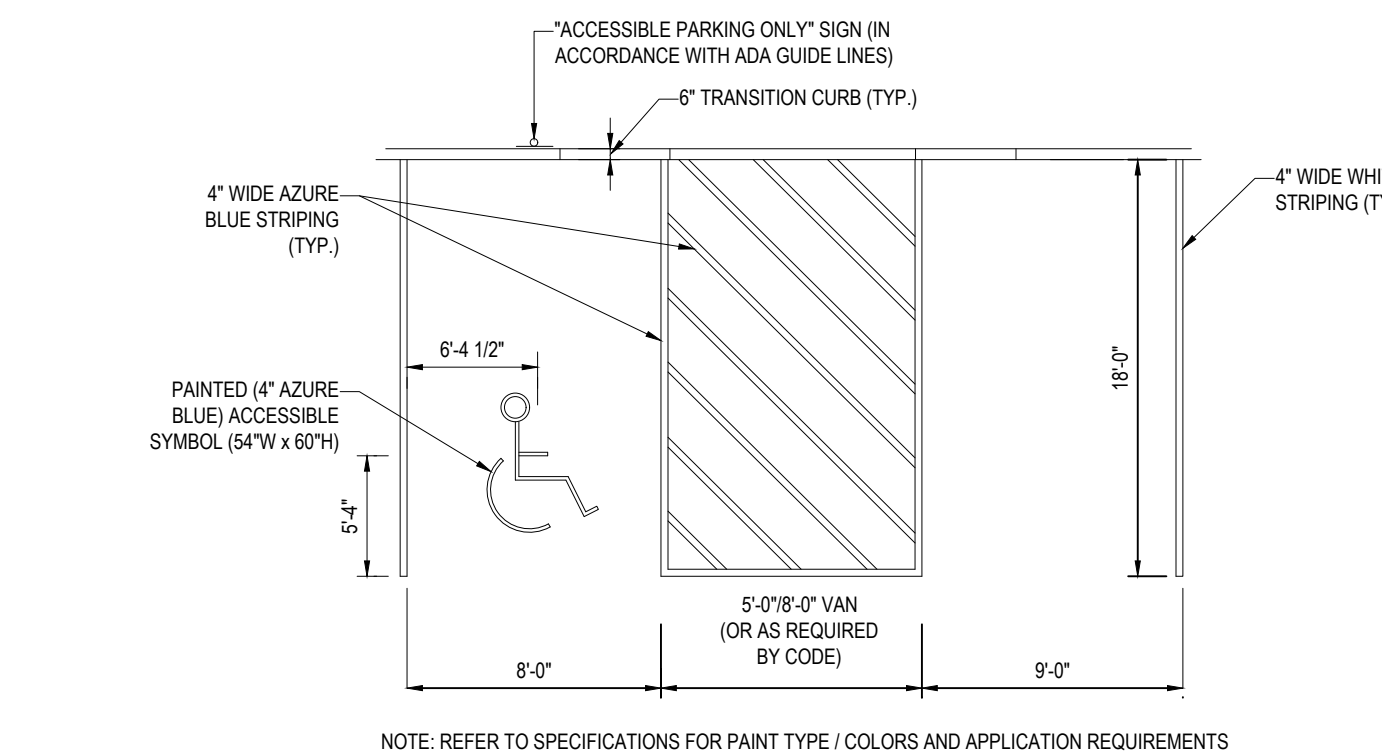
MONOLITHIC CONC. SIDEWALK DETAILS

N.T.S.



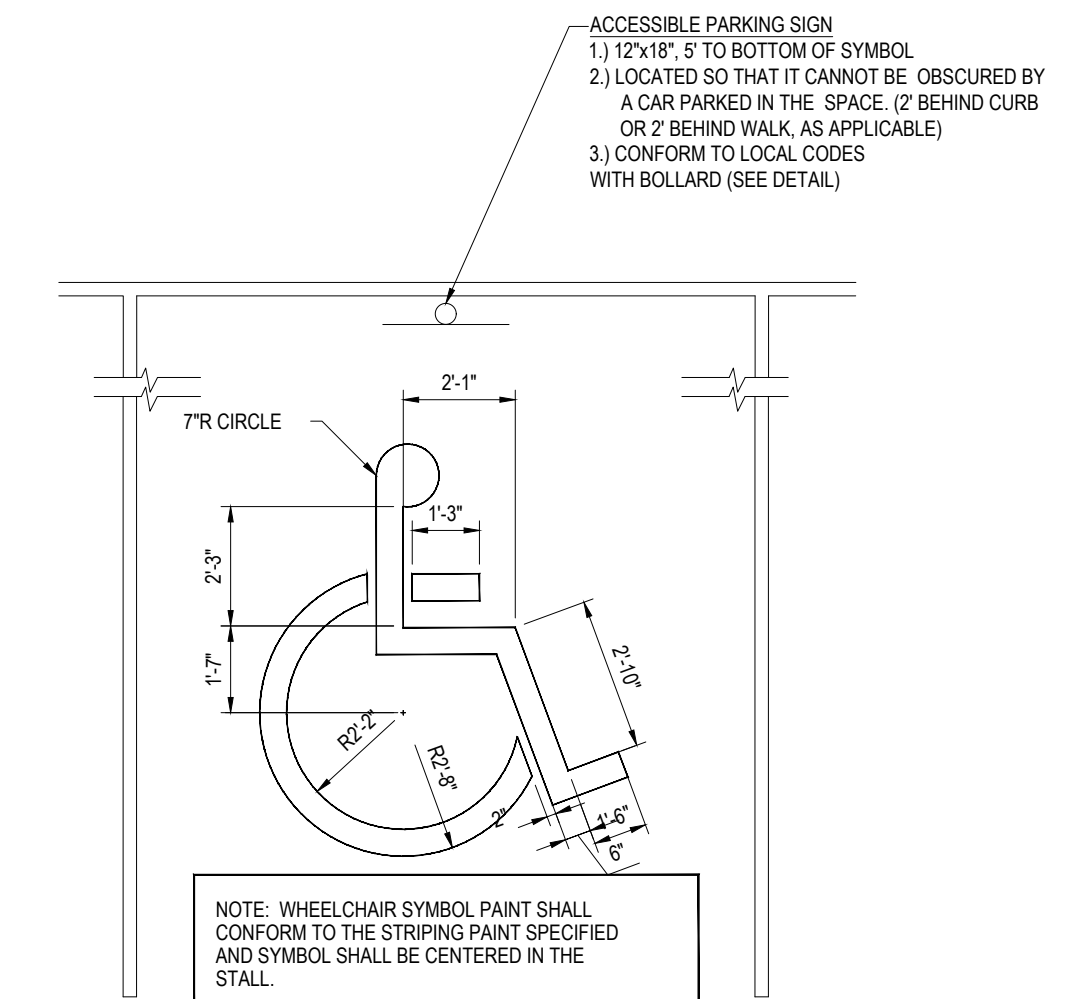
CONCRETE SIDEWALK

N.T.S.



ACCESSIBLE STALL MARKINGS & PARKING LOT STRIPING DETAIL

N.T.S.



ACCESSIBLE PARKING STALL PAINTING DETAIL

N.T.S.

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PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	CHECKED BY	DRAWN BY
1	08/30/2023	ZBA	CMC	EDJ/JAK
2	09/29/2023	PER PEER REVIEW COMMENTS	CMC	EDJ/JAK

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PROJECT No.: W211263
DRAWN BY: CMC/LC
DATE: 08/12/23
CAD ID: W211263-SPDD-2C.DWG

PROJECT:
PRELIMINARY CIVIL ENGINEERING PLAN SET
FOR
KIG SILVERSTRAND WALPOLE, LLC

PROPOSED MULTI-FAMILY DEVELOPMENT
MAP 25, BLOCK 164, 165 & 166
981, 989 & 1015 EAST STREET
TOWN OF WALPOLE
NORFOLK COUNTY, MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

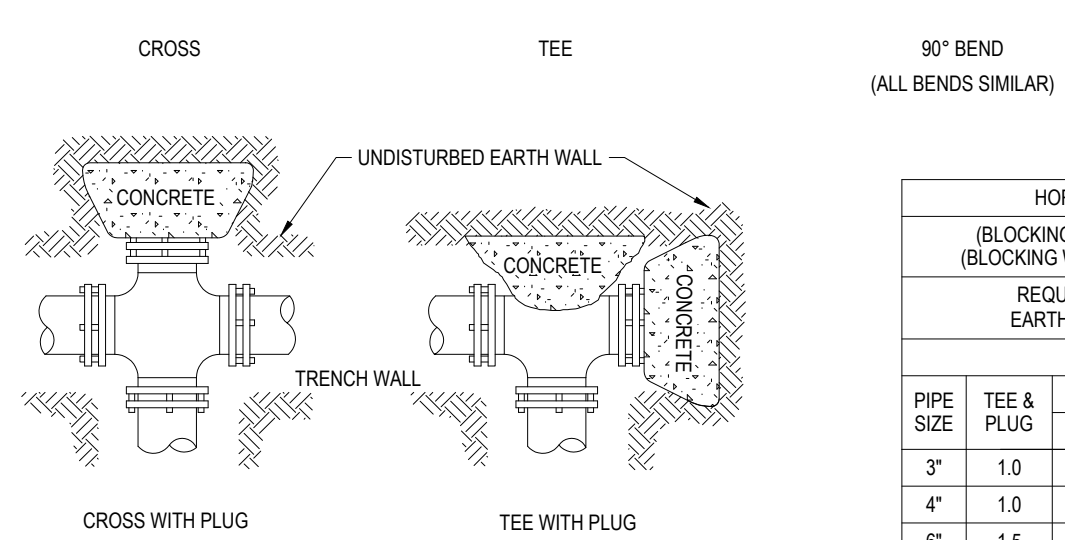
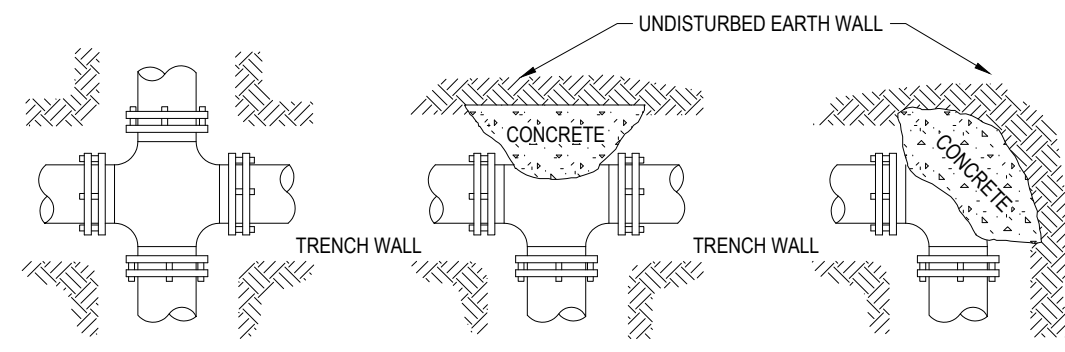
J. A. KUCICH
JOHN A. KUCICH
PROFESSIONAL ENGINEER
MAINE LICENSE NO. 12553
NEW HAMPSHIRE LICENSE NO. 15476
CONNECTICUT LICENSE NO. 26177
PHONE: MA LICENSE NO. 9616
MAINE LICENSE NO. 12553

SHEET TITLE:
DETAIL SHEET

SHEET NUMBER:
C-901

REVISION 2 - 09/29/2023

C:\PROGRAMDATA\BOHLER\320223\NETEMPAC\PI\PUB\SH_110780\W211263-SPDD-2C---JAY\OUT-CR-01-DTEL

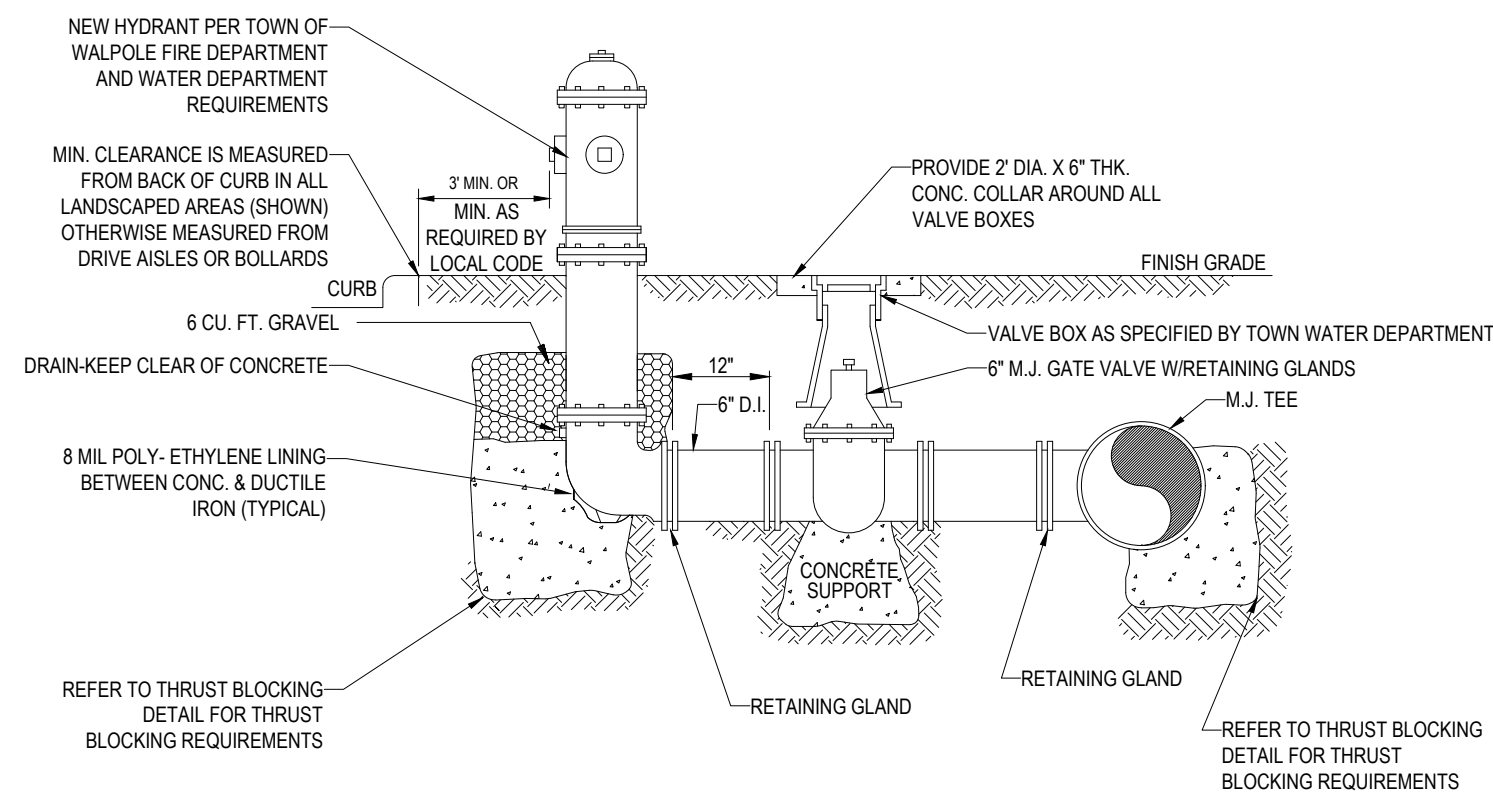


HORIZONTAL THRUST BLOCKING (BLOCKING HEIGHT GREATER THAN PIPE O.D.) (BLOCKING WIDTH BETWEEN 1 & 2 TIMES HEIGHT) REQUIRED SQ. FT. OF UNDISTURBED EARTH WALL FOR REACTION BACKING											
PIPE SIZE	TEE & PLUG	BENDS				PIPE SIZE	TEE & PLUG	BENDS			
		90°	45°	22 1/2°	11 1/4°			90°	45°	22 1/2°	11 1/4°
3"	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4"	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6"	1.5	2.0	1.0	1.0	1.0	1.0	1.5	2.0	1.0	1.0	1.0
8"	2.5	3.5	1.8	1.0	1.0	1.0	3.5	4.5	2.8	1.5	1.0
10"	4.0	5.5	2.8	1.5	1.0	1.0	5.5	7.0	4.0	2.0	1.5
12"	6.0	8.0	4.0	2.0	1.5	1.5	8.0	10.0	6.0	3.0	2.0

- NOTE:
- DO NOT COVER BELLS OR FLANGES WITH CONCRETE
 - WRAP ALL FITTINGS WITH VISQUEEN
 - BACK ALL TEES ACCORDING TO SIZE OF BRANCH
 - BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE
 - ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL SHALL BE BACKED
 - REACTION BACKING TABLE IS BASED ON 100 P.S.I. AND SOIL BEARING PRESSURE OF 2000 LB./SQ.FT.
 - ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS DIRECTED BY ENGINEERS
 - ALL CONCRETE SHALL BE 2500 P.S.I.
 - 18" AND LARGER REQUIRES SPECIFIC ANTI-THRUST DESIGN

HORIZONTAL THRUST BLOCKING DETAIL

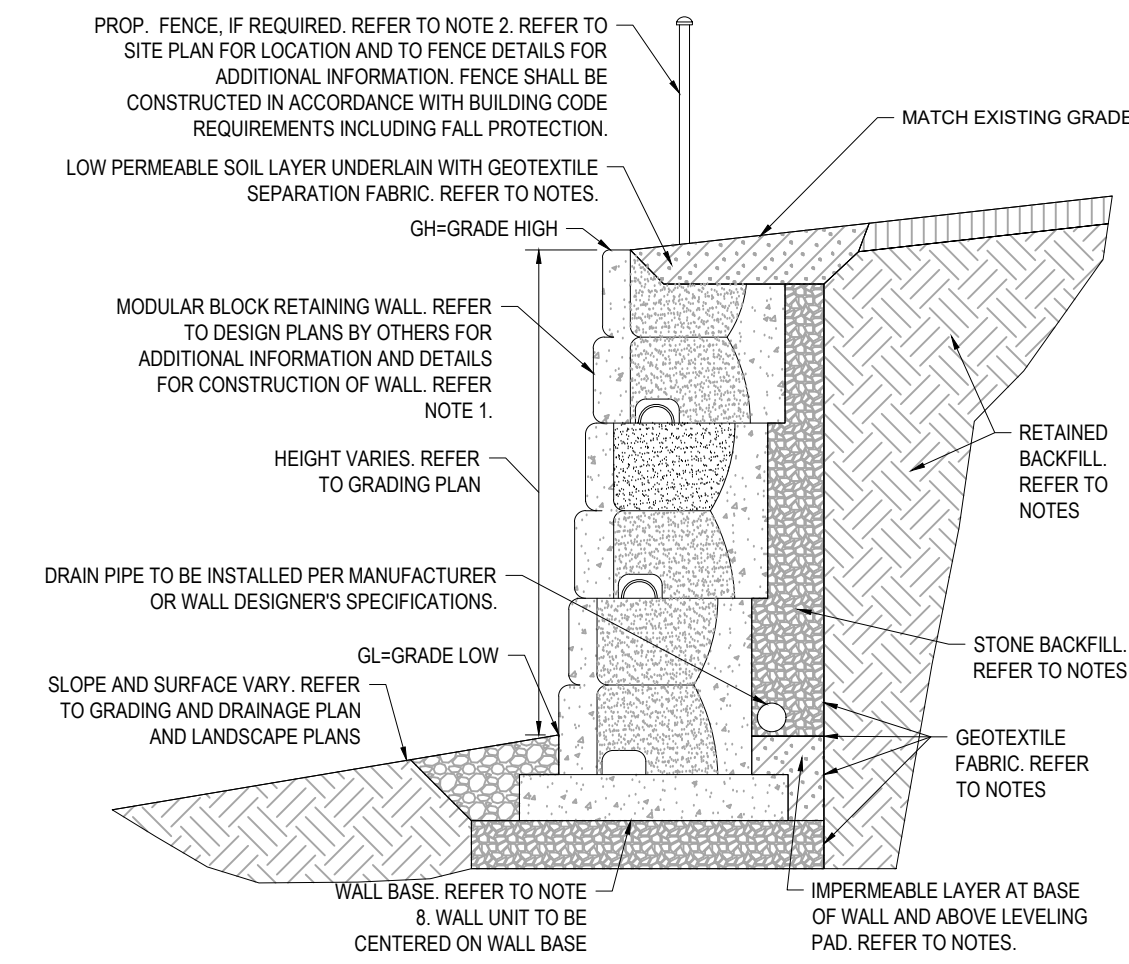
N.T.S.



- NOTE:
- ALL HYDRANTS TO BE SET PLUMB W/ NOZZLE FACING STREET UNLESS OTHERWISE SPECIFIED BY FIRE DEPARTMENT
 - ALL CONCRETE TO BE 2500 PSI P.C. CONCRETE
 - FIRE HYDRANT ASSEMBLY INCLUDES GATE VALVE AND APPURTENANCES

**TYPICAL HYDRANT & VALVE
INSTALLATION**

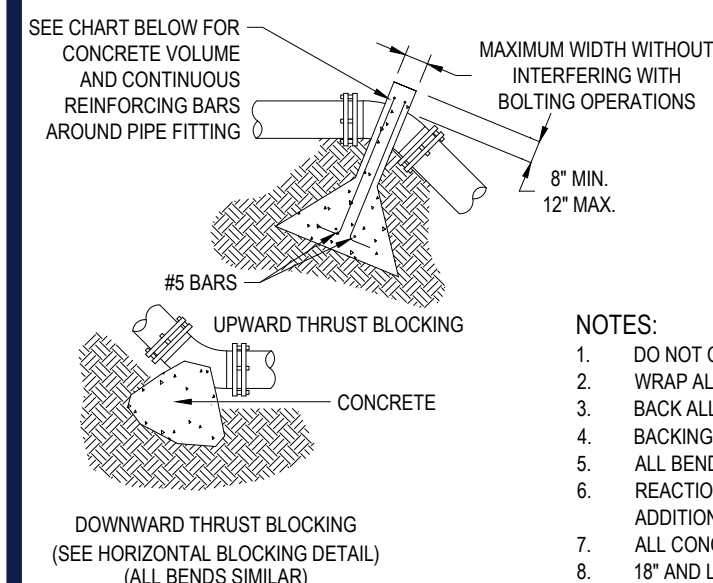
N.T.S.



NOTE: DETAIL IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR SHALL OBTAIN STAMPED ENGINEERED WALL DESIGN BY WALL MANUFACTURER.

**NON-REINFORCED (GRAVITY)
SEGMENTAL BLOCK RETAINING WALL**

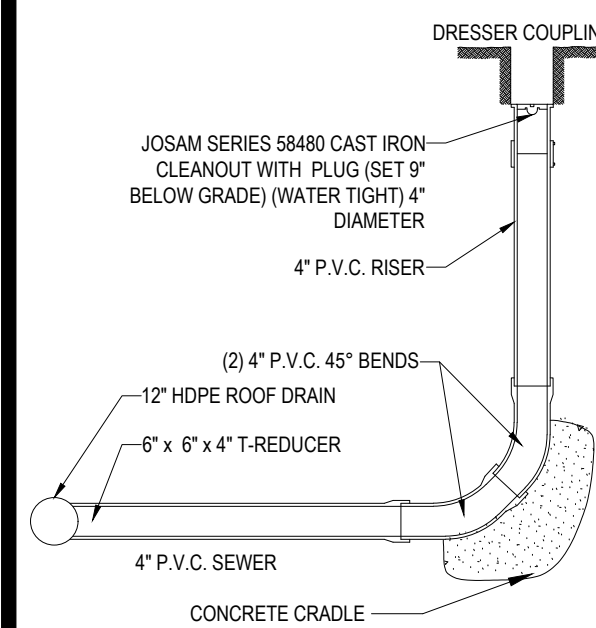
N.T.S.



- NOTE:
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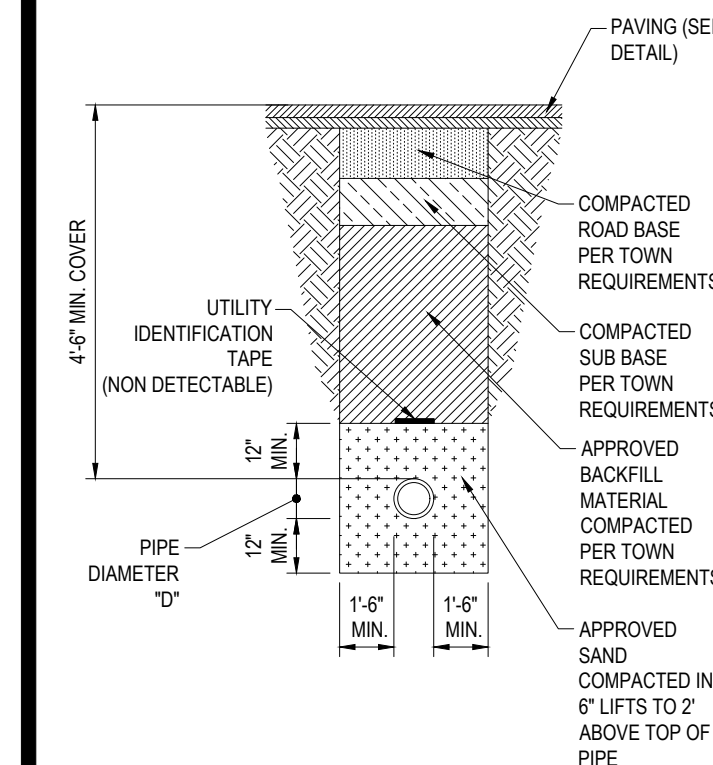
VERTICAL THRUST BLOCKING DETAIL

N.T.S.



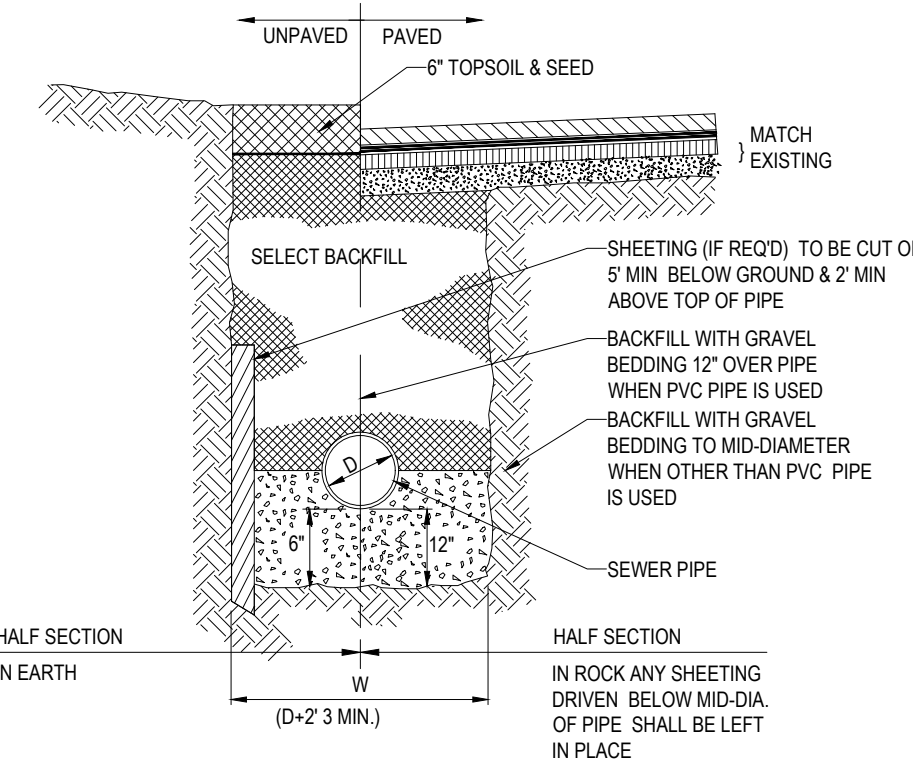
CLEANOUT DETAIL

N.T.S.



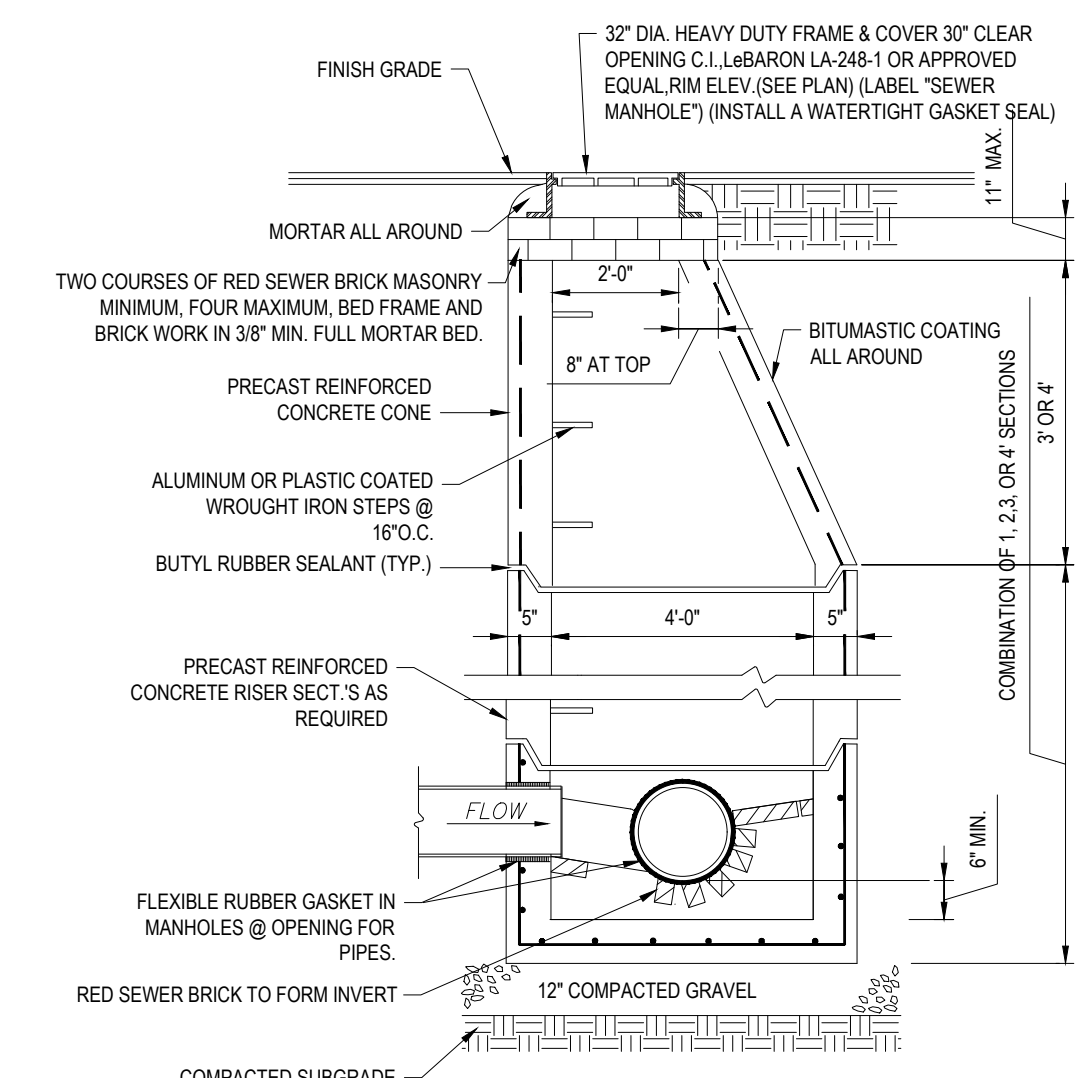
TYPICAL WATER TRENCH

N.T.S.



TYPICAL UTILITY TRENCH

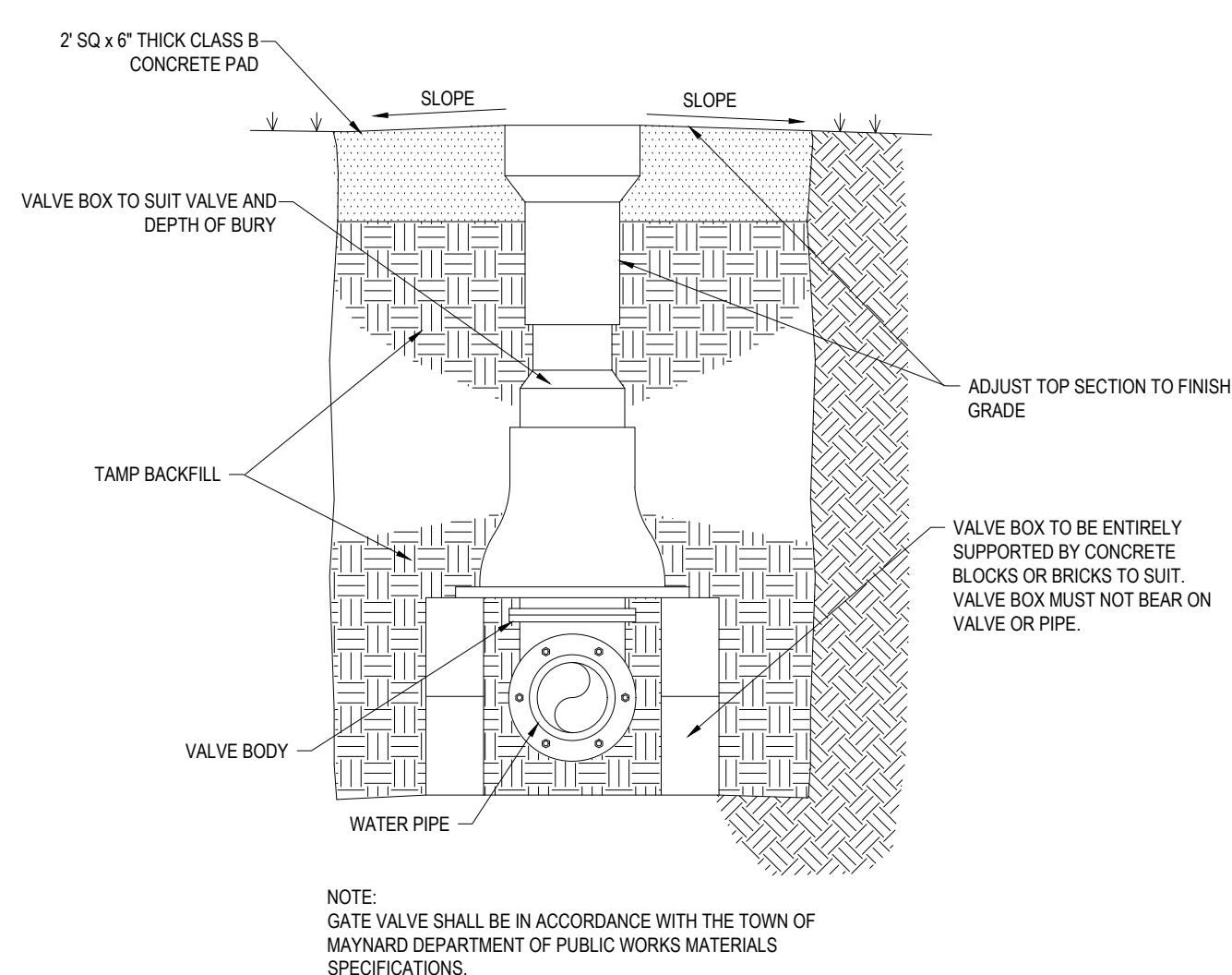
N.T.S.



NOTE: ALL STRUCTURES SHALL BE SUITABLE FOR H-20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.

TYP. PRECAST CONCRETE SANITARY MANHOLE

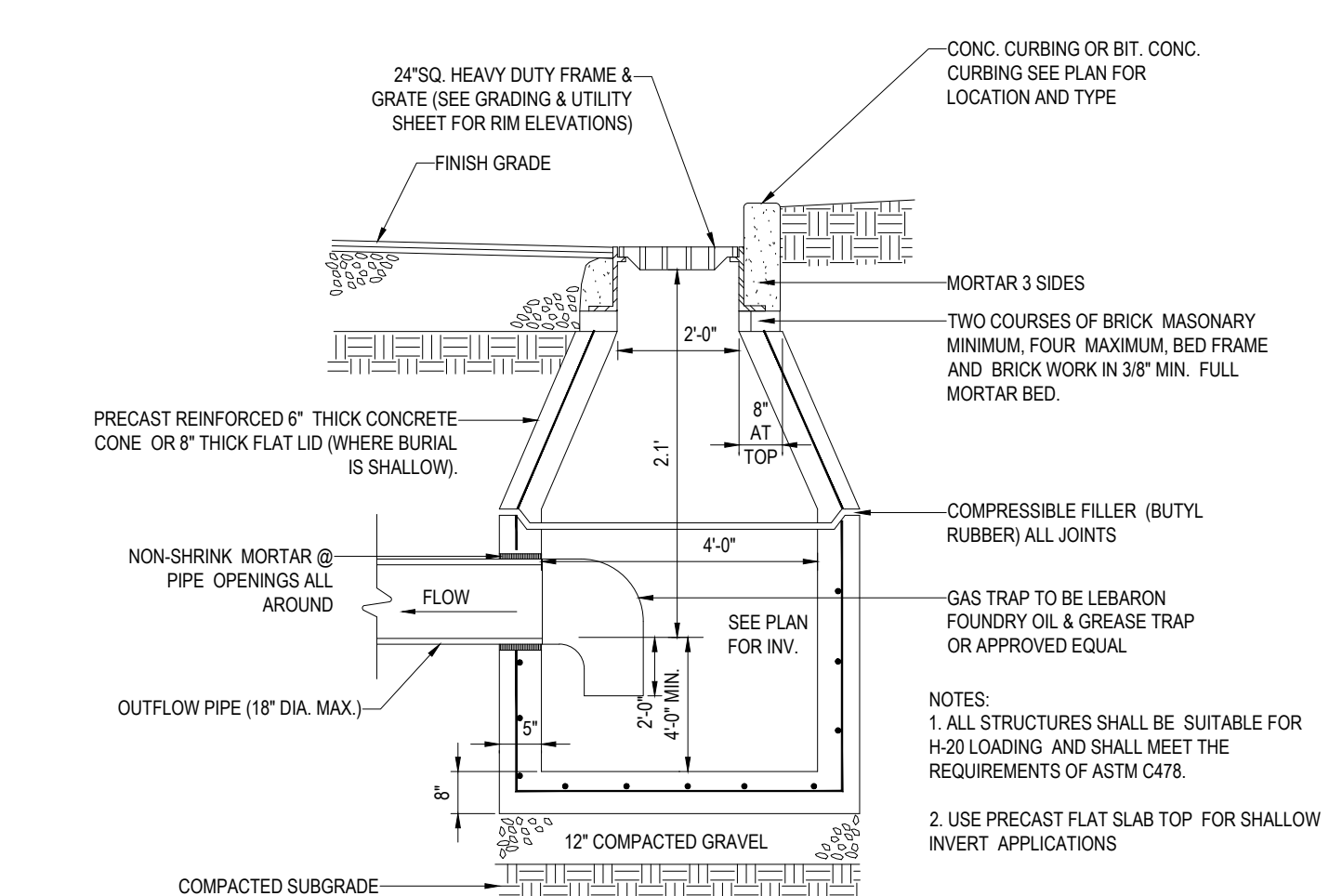
N.T.S.



NOTE: GATE VALVE SHALL BE IN ACCORDANCE WITH THE TOWN OF MAYNARD DEPARTMENT OF PUBLIC WORKS MATERIALS SPECIFICATIONS.

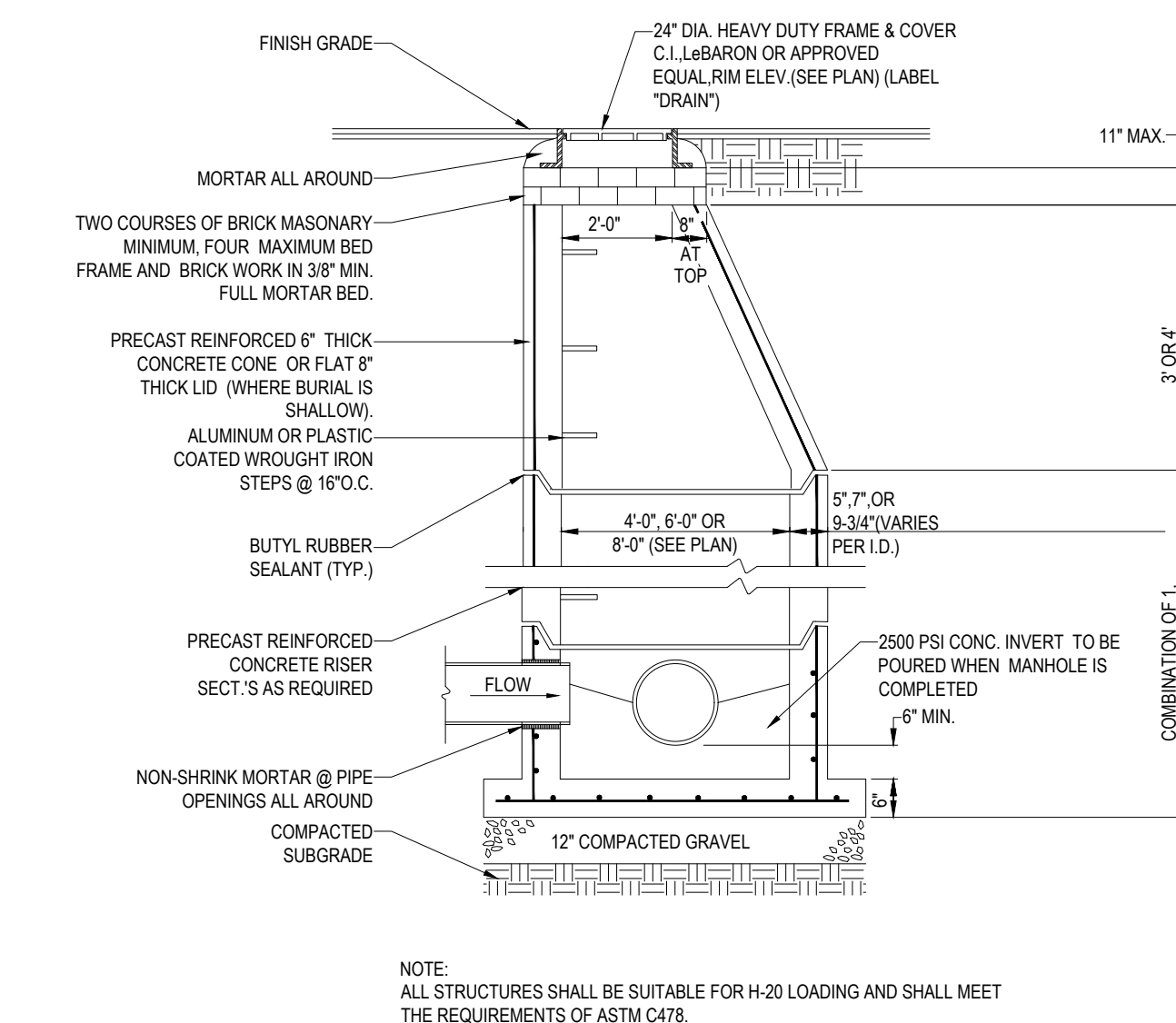
GATE VALVE

N.T.S.



**PRECAST CONCRETE DEEP SUMP
CATCH BASIN DETAIL**

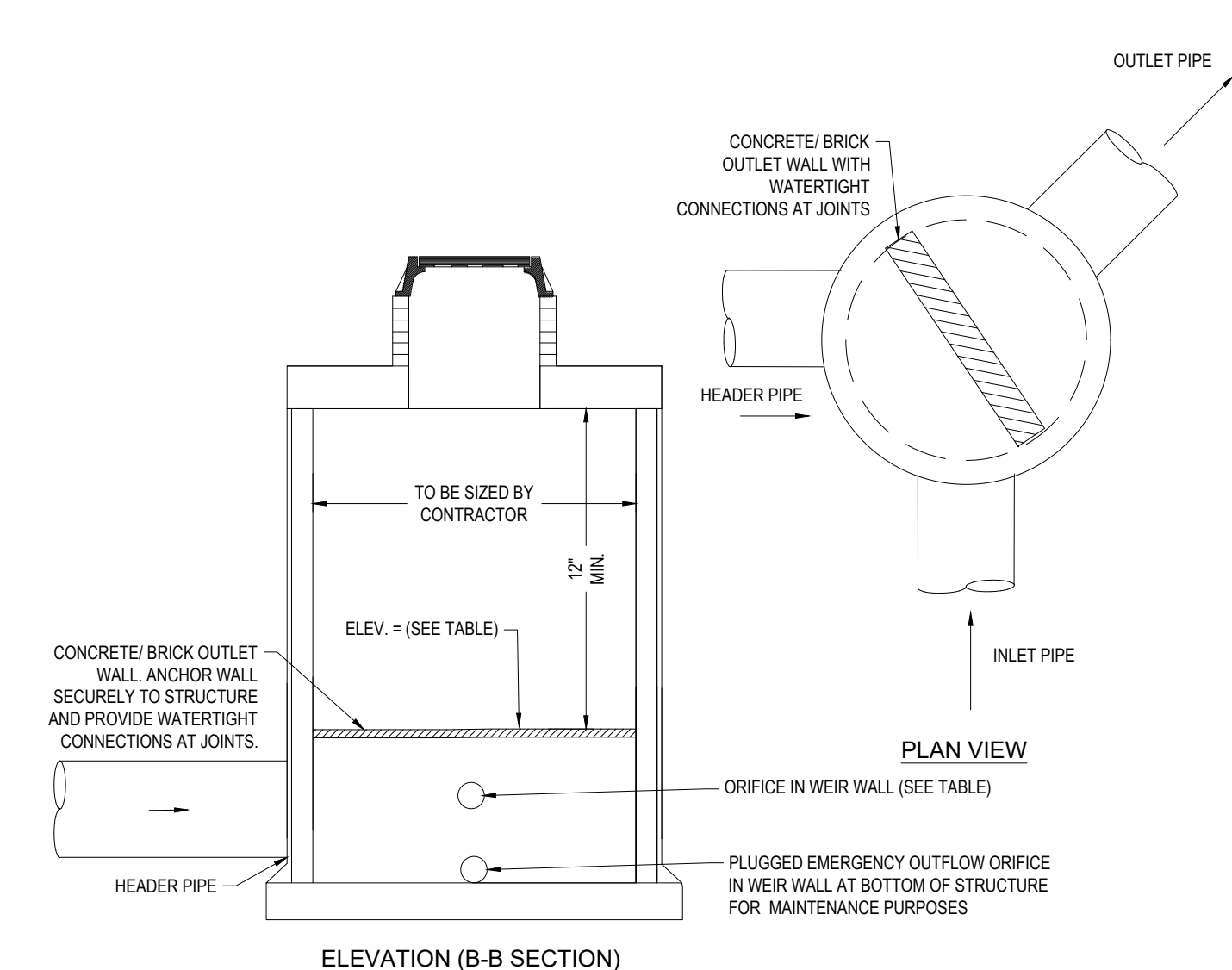
N.T.S.



NOTE: ALL STRUCTURES SHALL BE SUITABLE FOR H-20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.

TYP. PRECAST CONCRETE STORM DRAIN

N.T.S.



**SUBSURFACE SYSTEM OUTLET CONTROL
STRUCTURE DETAIL**

N.T.S.

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	CHECKED BY
1	08/30/2023	ZBA	CMC ED/JAK
2	09/29/2023	PER PEER REVIEW COMMENTS	CMC ED/JAK

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PROJECT No.: W211263
DRAWN BY: CMC/LC
DATE: 05/12/2023
CAD ID: W211263-SPPD-2C.DWG

PROJECT:
**PRELIMINARY CIVIL
ENGINEERING
PLAN SET**
FOR
**KIG SILVERSTRAND
WALPOLE, LLC**

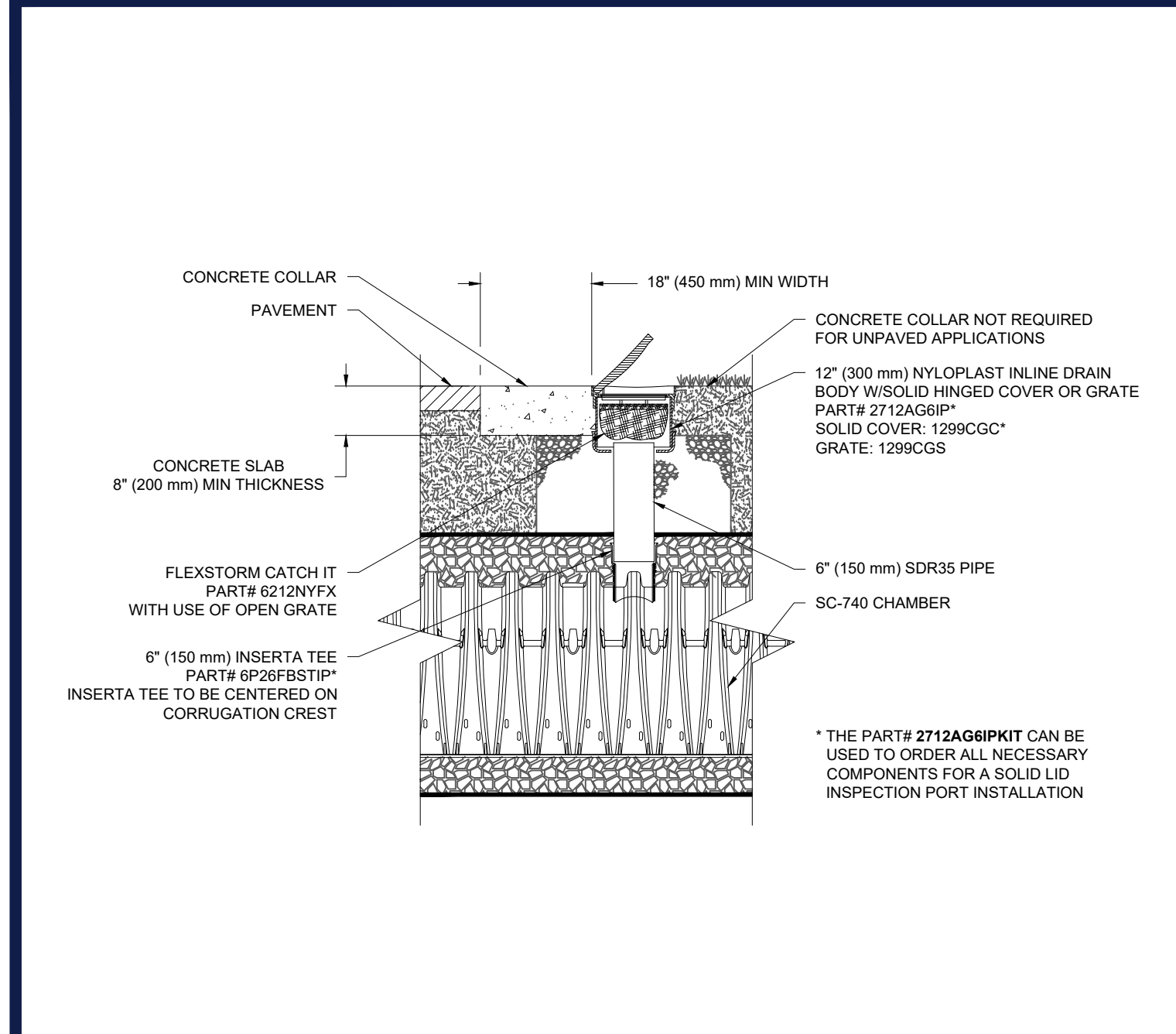
PROPOSED
MULTI-FAMILY DEVELOPMENT
MAP 25, BLOCK 164, 165 & 166
981, 989 & 1015 EAST STREET
TOWN OF WALPOLE
NORFOLK COUNTY,
MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

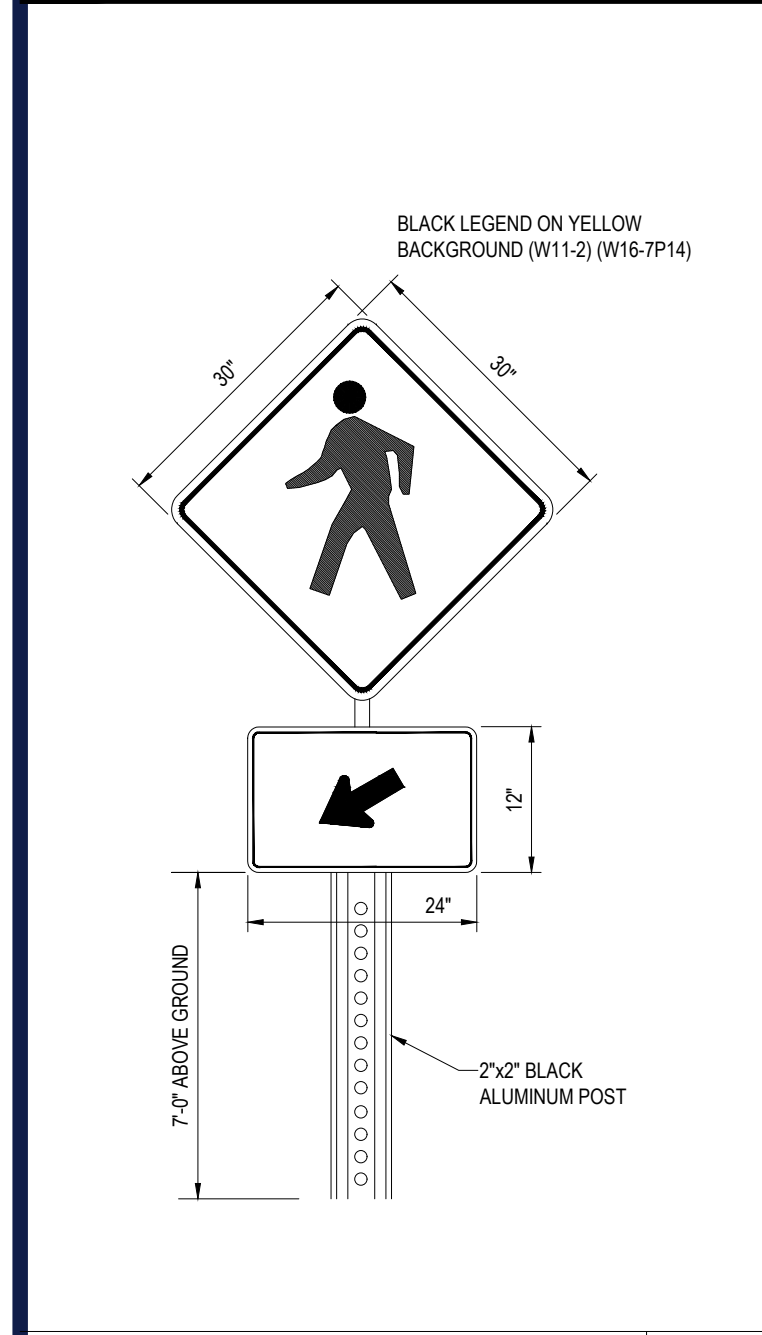
J. A. KUCICH
JOHN A. KUCICH
PROFESSIONAL ENGINEER
MAINE LICENSE NO. 12530
NEW HAMPSHIRE LICENSE NO. 15476
CONNECTICUT LICENSE NO. 26177
PHONE: (508) 480-9900
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MAINE LICENSE NO. 12533

SHEET TITLE:
**DETAIL
SHEET**
SHEET NUMBER:
C-902
REVISION 2 - 09/29/2023

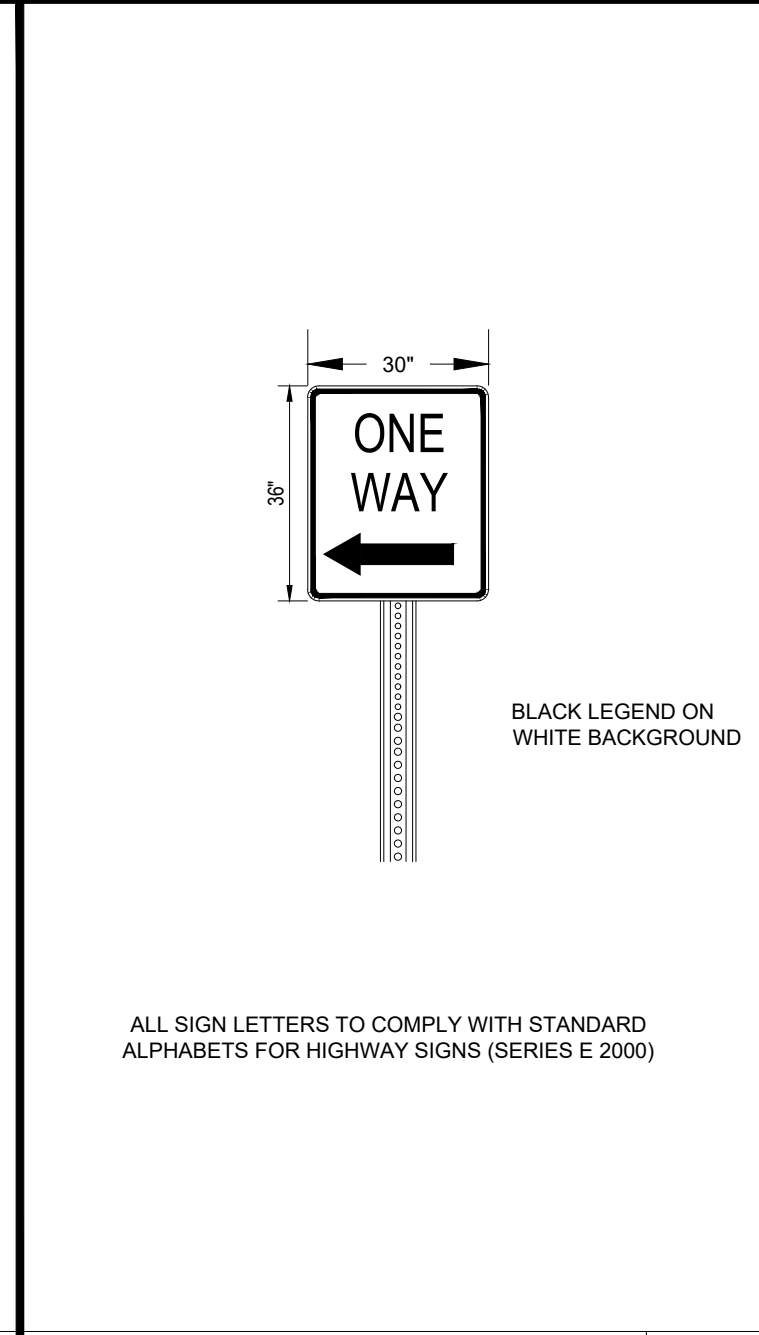
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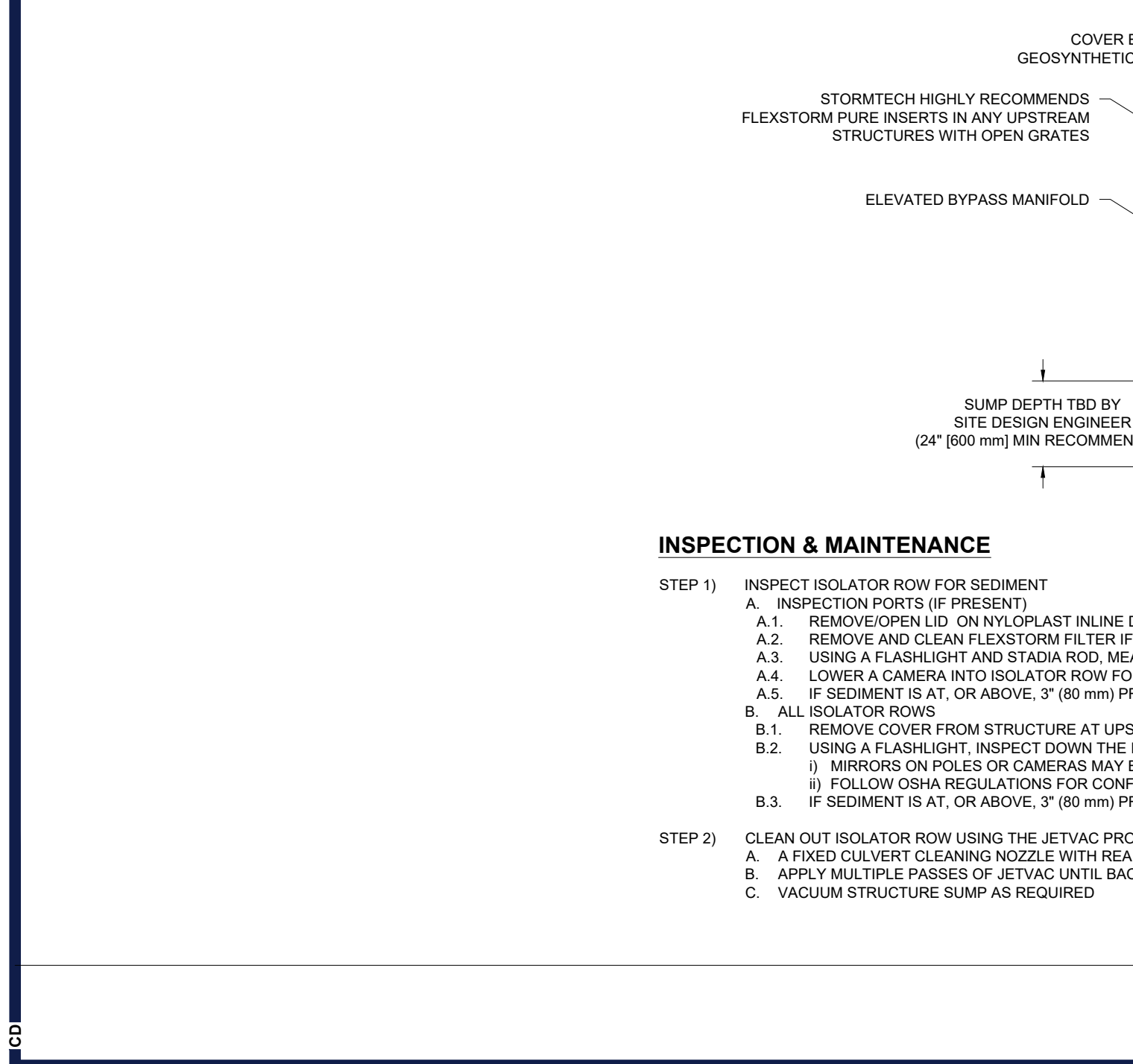
STORMTECH SC-740 6" INSPECTION PORT DETAIL N.T.S.



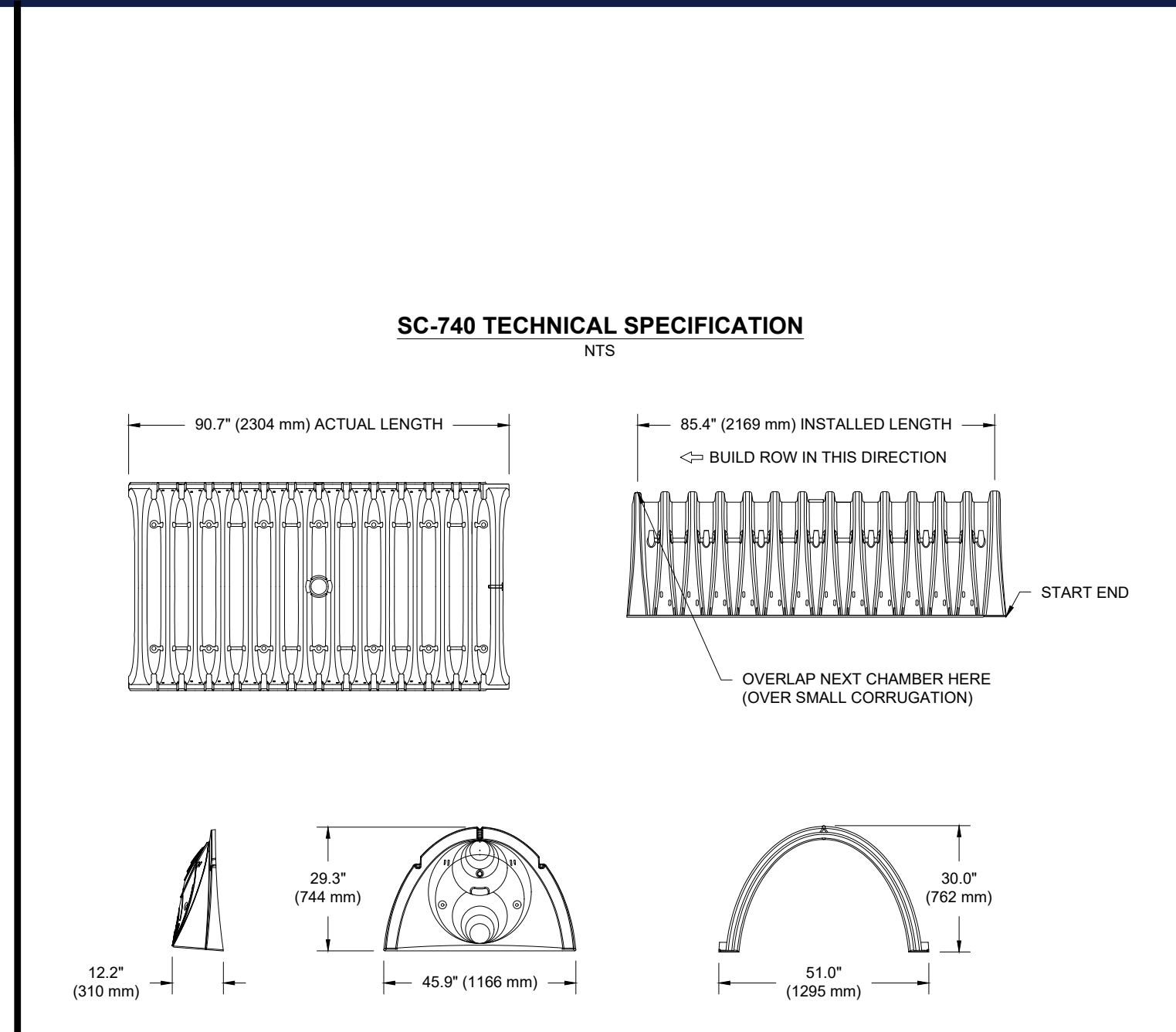
PEDESTRIAN CROSSING SIGN DETAIL N.T.S.



ONE WAY ONLY SIGN DETAIL N.T.S.



STORMTECH SC-740 ISOLATOR ROW DETAIL N.T.S.



SC-740 TECHNICAL SPECIFICATION N.T.S.

NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET (1.30 m ³)	
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET (2.12 m ³)	
WEIGHT	75.0 lbs. (33.6 kg)	

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

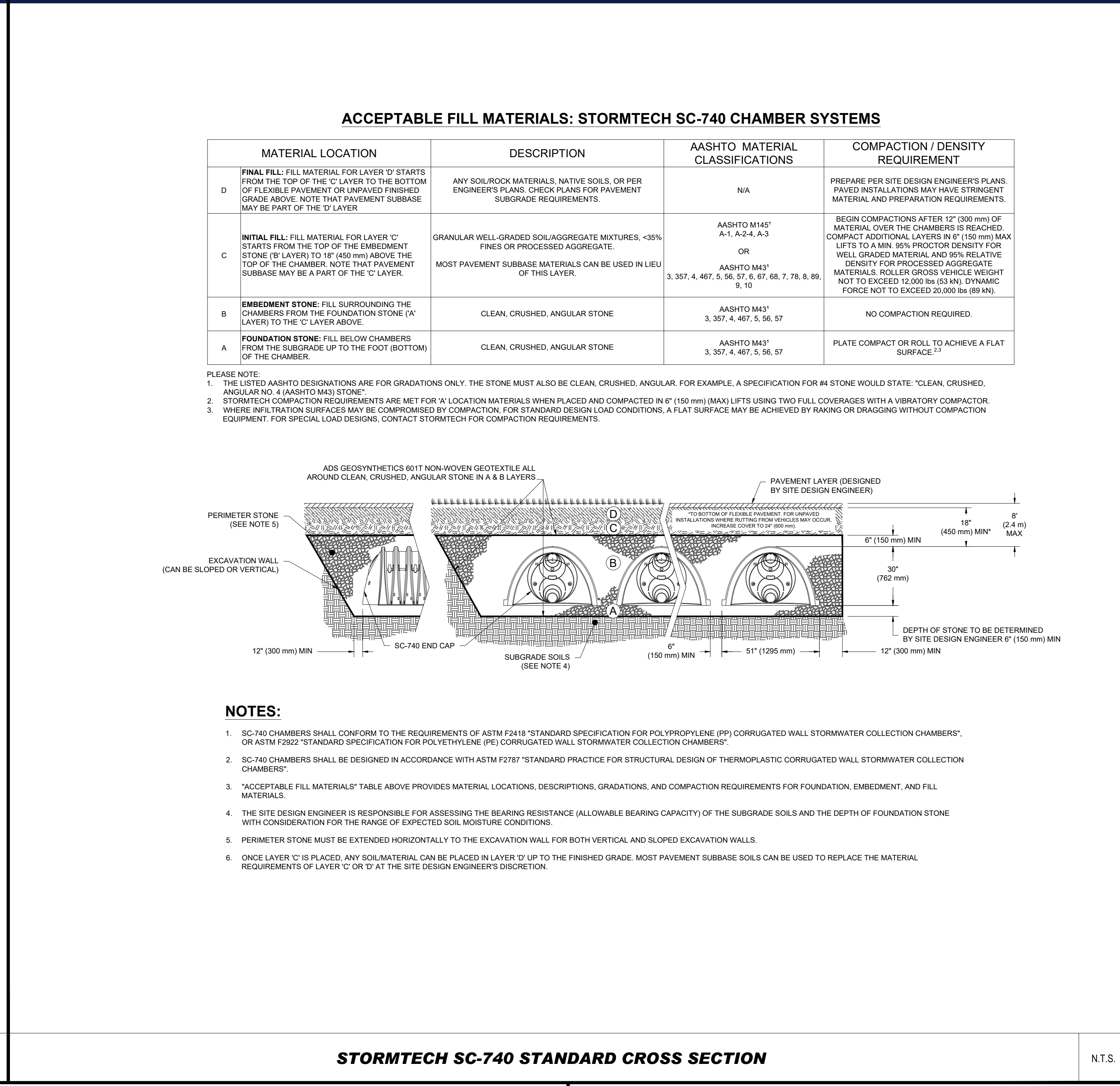
PART #	STUB	A	B	C
SC740EPE007 / SC740EPE007PC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE008 / SC740EPE008PC	---	---	---	0.5" (13 mm)
SC740EPE00T / SC740EPE00TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE00B / SC740EPE00BPC	---	---	---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC	---	---	---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC	---	---	---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC	---	---	---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC	---	---	---	1.6" (41 mm)
SC740EPE24B	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

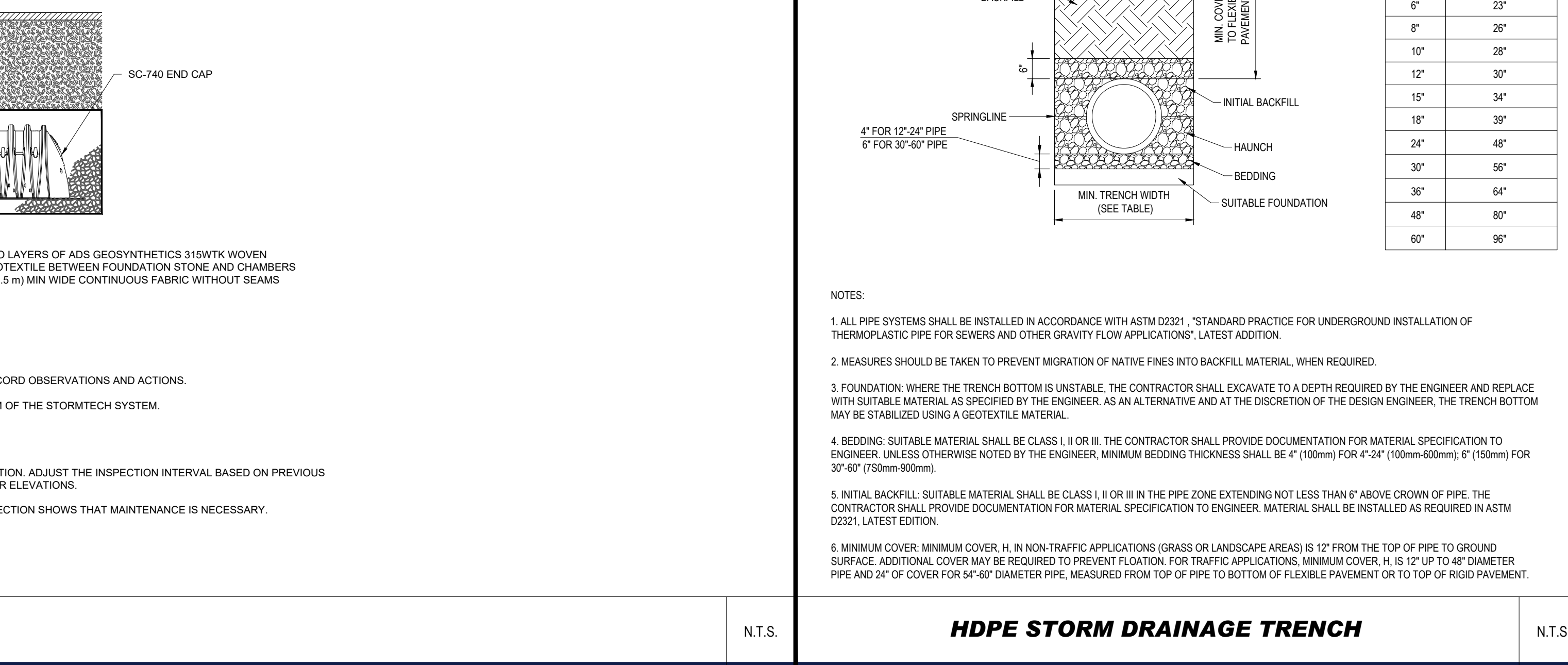
* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

STORMTECH SC-740 TECHNICAL SPECIFICATION N.T.S.



STORMTECH SC-740 STANDARD CROSS SECTION N.T.S.

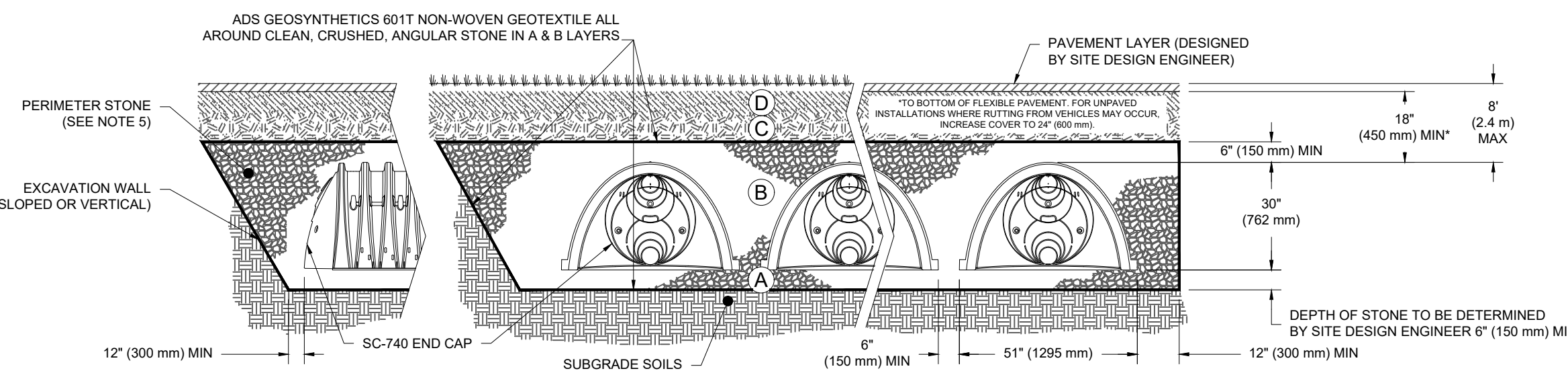


HDPE STORM DRAINAGE TRENCH N.T.S.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY 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 'C' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	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.	AASHTO M44 ¹ A-1, A-2.4, A-3 OR AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	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).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ² 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 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 COVERS 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.



NOTES:

- 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".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- 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.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- 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.



REVISIONS

REV	DATE	COMMENT	CHECKED BY
1	08/30/2023	ZBA	CMC ED/JAK
2	09/29/2023	PER PEER REVIEW COMMENTS	CMC ED/JAK



FOR ENTITLEMENT PURPOSES ONLY

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.: W211263
DRAWN BY: CM/CLC
CHECKED BY: ED/JAK
DATE: 05/11/2023
CAD LID.: W211263-SPDD-2C.DWG

PRELIMINARY CIVIL ENGINEERING PLAN SET

FOR
KIG SILVERSTRAND WALPOLE, LLC

PROPOSED MULTI-FAMILY DEVELOPMENT
MAP 25, BLOCK 164, 165 & 166
981, 989 & 1015 EAST STREET
TOWN OF WALPOLE
NORFOLK COUNTY,
MASSACHUSETTS



352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
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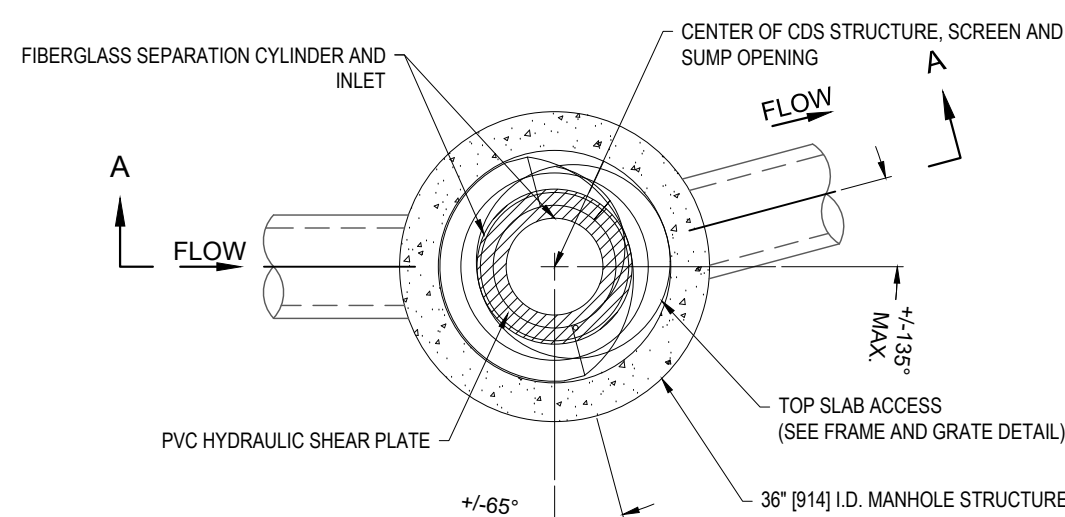


DETAIL SHEET

SHEET NUMBER:
C-903

REVISION 2 - 09/29/2023

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PLAN VIEW B-B
N.T.S.

CDS1515-3-C DESIGN NOTES	
CDS1515-3-C RATED TREATMENT CAPACITY IS 1.0 CFS, OR PER LOCAL REGULATIONS.	
THE STANDARD CDS1515-3-C CONFIGURATION IS SHOWN.	

SITE SPECIFIC DATA REQUIREMENTS

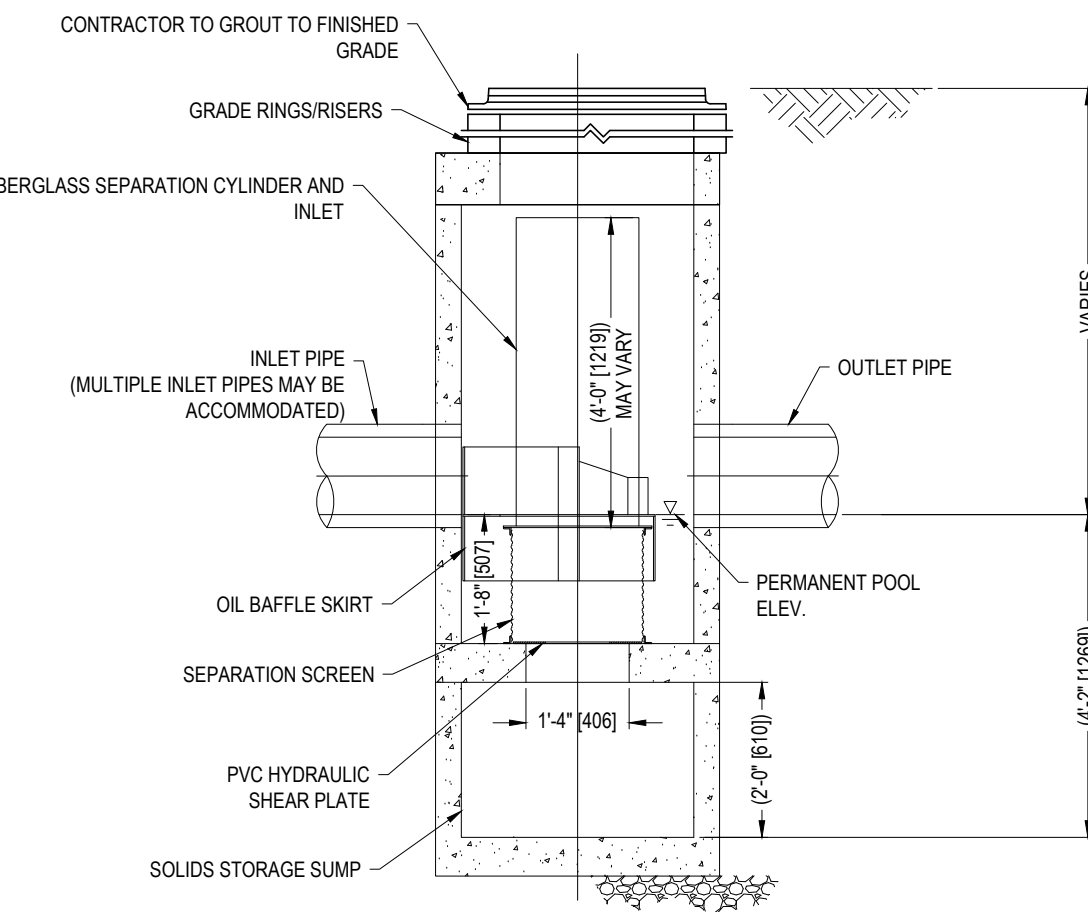
STRUCTURE ID	*
WATER QUALITY FLOW RATE (CFS OR L/s)	*
PEAK FLOW RATE (CFS OR L/s)	*
RETURN PERIOD OF PEAK FLOW (YRS)	*
SCREEN APERTURE (2400 OR 4700)	*
PIPE DATA	I.E. MATERIAL DIAMETER
INLET PIPE 1	*
INLET PIPE 2	*
OUTLET PIPE	*
RIM ELEVATION	*
ANTI-FLOTATION BALLAST	WIDTH HEIGHT
NOTES/SPECIAL REQUIREMENTS:	
* PER ENGINEER OF RECORD	

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
- CDS 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.
- STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0'-2' AND GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

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 CDS 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.



ELEVATION A-A
N.T.S.

CDS1515-3-C ONLINE CDS STANDARD DETAIL

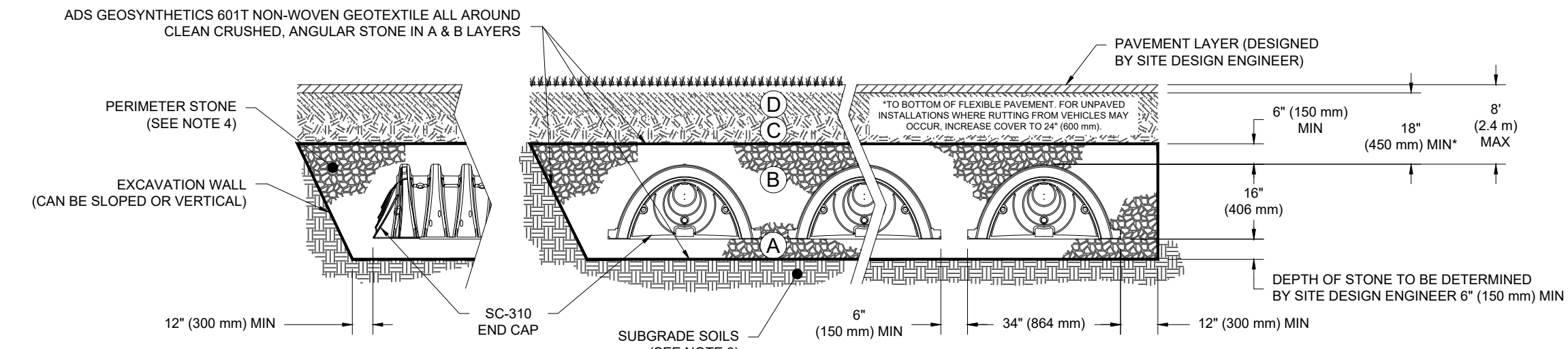
N.T.S.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY 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 SUBBASE REQUIREMENTS.	N/A	
C	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. OR MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145* A-1, A2-4, A-3 OR AASHTO M43* 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	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).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43* 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43* 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

- 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 NO. 4 (AASHTO M43) STONE".
- 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.
- 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.
- 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.



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE). *STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS*.
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 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.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT² IN AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

STORMTECH SC-310 STANDARD CROSS SECTION

N.T.S.

INSPECTION & MAINTENANCE

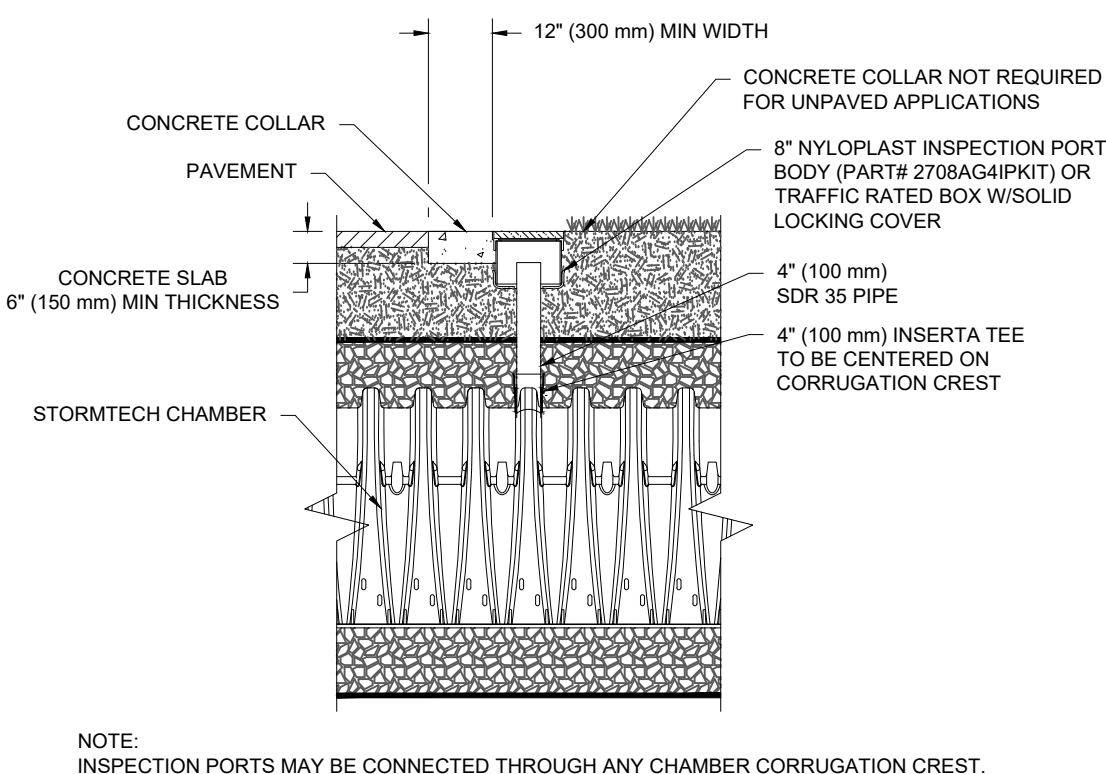
- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLON/PLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - ALL ISOLATOR PLUS ROWS
 - REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPRING OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED

- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

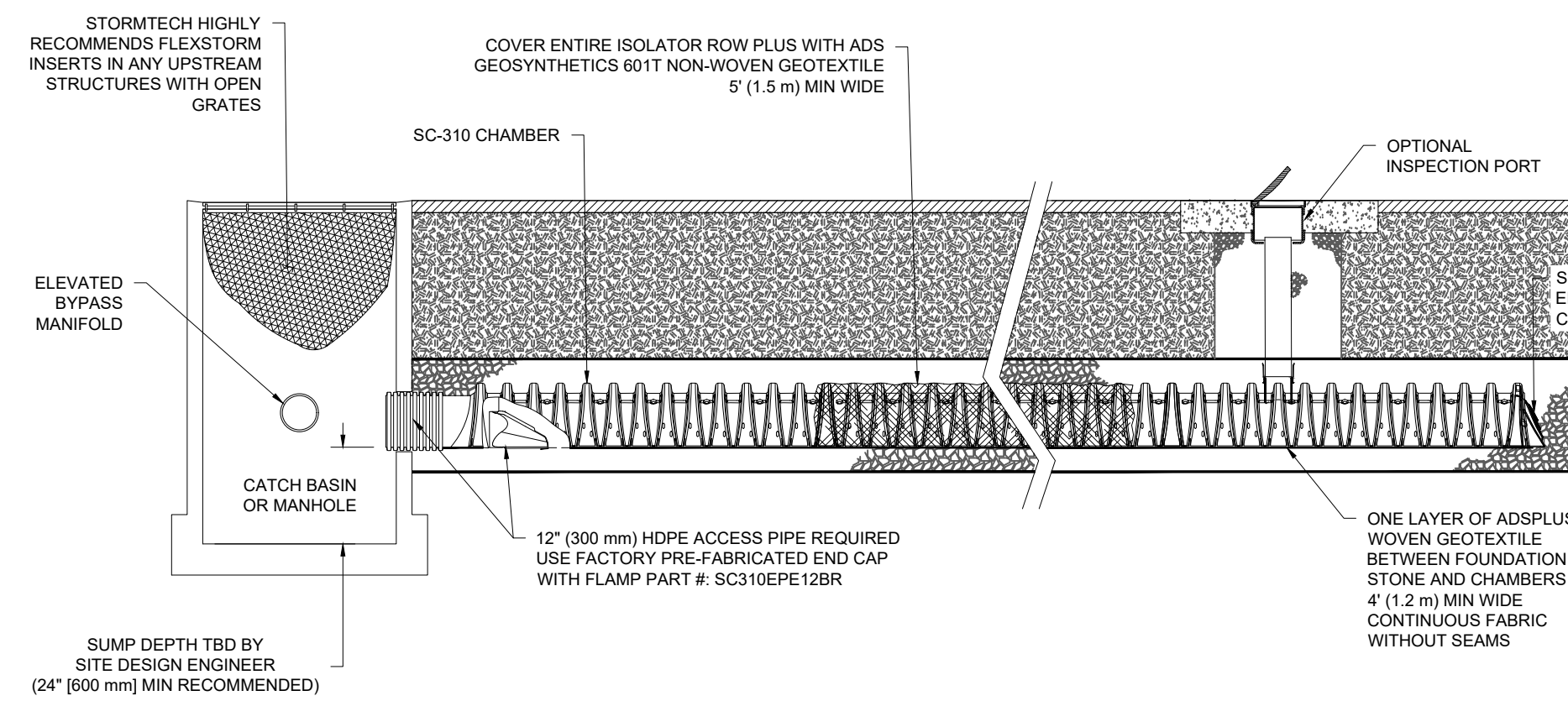
- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE: INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

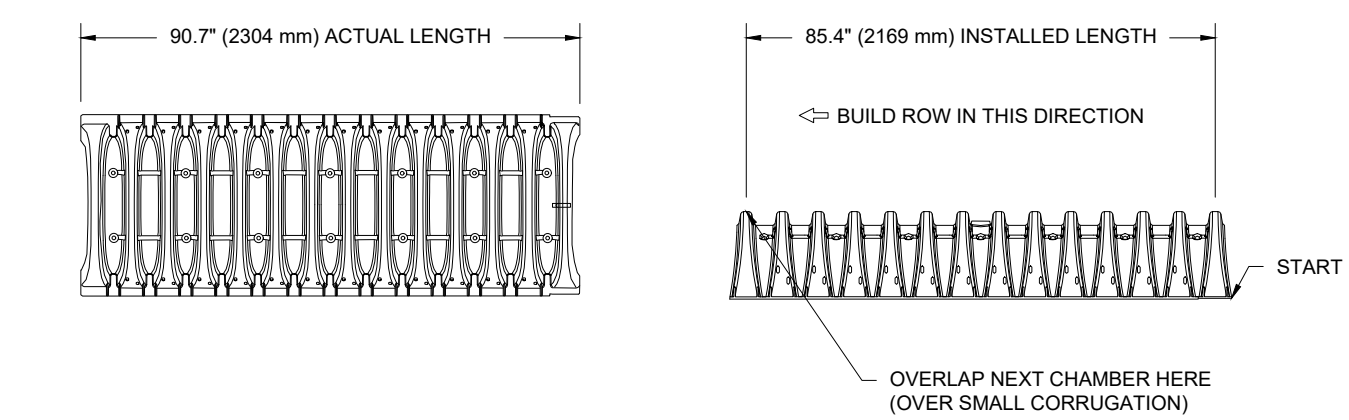
**STORMTECH SC-310
4" INSPECTION PORT DETAIL**

STORMTECH SC-310 ISOLATOR ROW DETAIL



N.T.S.

SC-310 TECHNICAL SPECIFICATION



NOMINAL CHAMBER SPECIFICATIONS	SIZE (W X H X INSTALLED LENGTH)	CHAMBER STORAGE	MINIMUM INSTALLED STORAGE*	WEIGHT
	34.0" X 16.0" X 85.4"	14.7 CUBIC FEET (0.42 m ³)	31.0 CUBIC FEET (0.88 m ³)	35.0 lbs. (16.8 kg)
		(864 mm X 406 mm X 2169 mm)		

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS

PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---
SC310EPE06B / SC310EPE06BPC	---	---	---	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	---
SC310EPE08B / SC310EPE08BPC	---	---	---	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	---
SC310EPE10B / SC310EPE10BPC	---	---	---	0.7" (18 mm)
SC310EPE12B	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)

ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2894.

* FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL.

STORMTECH SC-310 TECHNICAL SPECIFICATION

N.T.S.

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	CHECKED BY
1	08/30/2023	ZBA	CMC ED/JAK
2	09/29/2023	PER PEER REVIEW COMMENTS	CMC ED/JAK

811
Know what's below.
Call before you dig.
ALWAYS CALL 811
It's fast. It's free. It's the law.

FOR ENTITLEMENT PURPOSES ONLY

PROJECT No.: W211263
DRAWN BY: CMCL/C
DATE: 05/12/2023
CAD ID: W211263-SPDD-2C.DWG

PRELIMINARY CIVIL ENGINEERING PLAN SET
FOR
KIG SILVERSTRAND WALPOLE, LLC
PROPOSED MULTI-FAMILY DEVELOPMENT
MAP 25, BLOCK 164, 165 & 166
981, 989 & 1015 EAST STREET
TOWN OF WALPOLE
NORFOLK COUNTY, MASSACHUSETTS

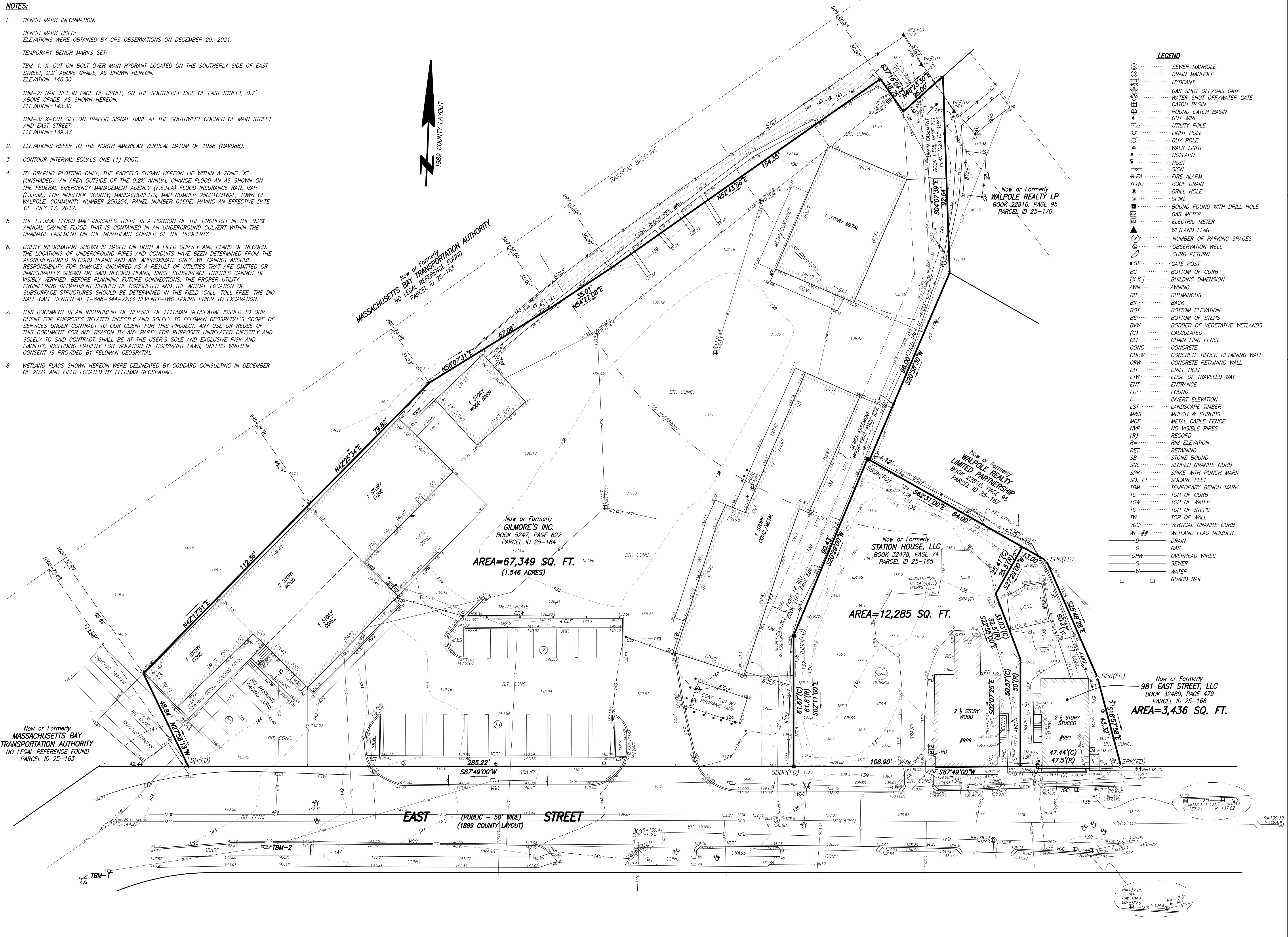
BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

J. A. KUCICH
Professional Engineer
MAINE LICENSE No. 15130
NEW HAMPSHIRE LICENSE No. 15476
CONNECTICUT LICENSE No. 26177
PHONE: (508) 480-9900
FAX: (508) 480-9900
MAINE LICENSE No. 12553

DETAIL SHEET
SHEET NUMBER:
C-904
REVISION 2 - 09/29/2023

NOTES:

- BENCH MARK INFORMATION:
BENCH MARK USED:
ELEVATIONS WERE OBTAINED BY GPS OBSERVATIONS ON DECEMBER 29, 2021.
TEMPORARY BENCH MARKS SET:
TBM-1: X-CUT ON BOLT OVER MAIN HYDRANT LOCATED ON THE SOUTHERLY SIDE OF EAST STREET, 2.2' ABOVE GRADE, AS SHOWN HEREON.
ELEVATION=146.30
TBM-2: NAIL SET IN FACE OF UPOLE, ON THE SOUTHERLY SIDE OF EAST STREET, 0.7' ABOVE GRADE, AS SHOWN HEREON.
ELEVATION=143.30
TBM-3: X-CUT SET ON TRAFFIC SIGNAL BASE AT THE SOUTHWEST CORNER OF MAIN STREET AND EAST STREET.
ELEVATION=139.37
- ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- CONTOUR INTERVAL EQUALS ONE (1) FOOT.
- BY GRAPHIC PLOTTING ONLY, THE PARCELS SHOWN HEREON LIE WITHIN A ZONE "X" (UNSHADED), AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR NORFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 250210169E, TOWN OF WALPOLE, COMMUNITY NUMBER 250254, PANEL NUMBER 0169E, HAVING AN EFFECTIVE DATE OF JULY 17, 2012.
- THE F.E.M.A. FLOOD MAP INDICATES THERE IS A PORTION OF THE PROPERTY IN THE 0.2% ANNUAL CHANCE FLOOD THAT IS CONTAINED IN AN UNDERGROUND CULVERT WITHIN THE DRAINAGE EASEMENT ON THE NORTHEAST CORNER OF THE PROPERTY.
- UTILITY INFORMATION SHOWN IS BASED ON BOTH A FIELD SURVEY AND PLANS OF RECORD. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM THE AFOREMENTIONED RECORD PLANS AND ARE APPROXIMATE ONLY. WE CANNOT ASSUME RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES THAT ARE OMITTED OR INACCURATELY SHOWN ON SAID RECORD PLANS, SINCE SUBSURFACE UTILITIES CANNOT BE VISIBLY VERIFIED. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHOULD BE DETERMINED IN THE FIELD. CALL TOLL FREE, THE DIG SAFE CALL CENTER AT 1-888-344-7233 SEVENTY-TWO HOURS PRIOR TO EXCAVATION.
- THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF FELDMAN GEOSPATIAL ISSUED TO OUR CLIENT FOR PURPOSES RELATED DIRECTLY AND SOLELY TO FELDMAN GEOSPATIAL'S SCOPE OF SERVICES UNDER CONTRACT TO OUR CLIENT FOR THIS PROJECT. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN CONSENT IS PROVIDED BY FELDMAN GEOSPATIAL.
- WETLAND FLAGS SHOWN HEREON WERE DELINEATED BY GODDARD CONSULTING IN DECEMBER OF 2021 AND FIELD LOCATED BY FELDMAN GEOSPATIAL.



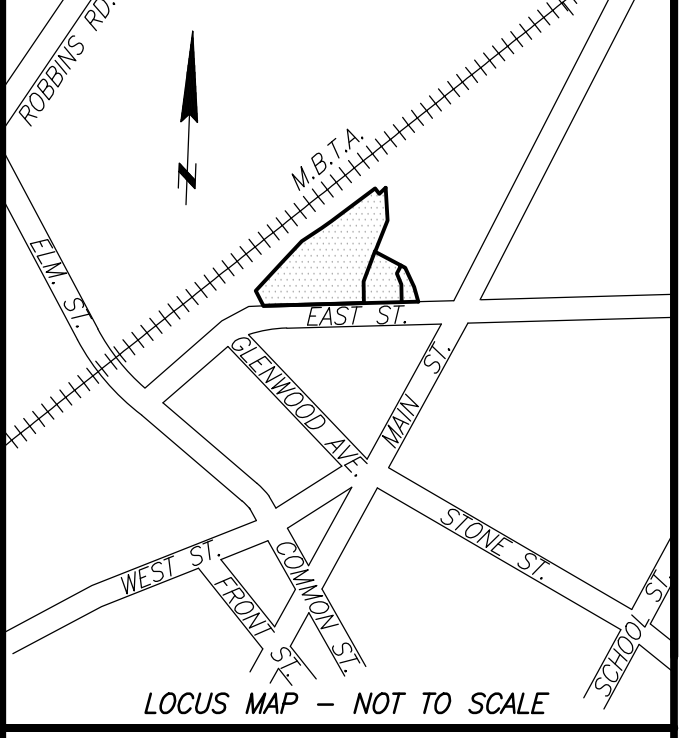
LEGEND

- ⊙ SEWER MANHOLE
- ⊕ DRAIN MANHOLE
- ⊙ HYDRANT
- ⊙ GAS SHUT OFF/GAS GATE
- ⊙ WATER SHUT OFF/WATER GATE
- ⊙ CATCH BASIN
- ⊙ ROUND CATCH BASIN
- ⊙ GUY WIRE
- ⊙ UTILITY POLE
- ⊙ LIGHT POLE
- ⊙ GUY POLE
- ⊙ WALK LIGHT
- ⊙ BOLLARD
- ⊙ POST
- ⊙ SIGN
- ⊙ FA FIRE ALARM
- ⊙ RD ROOF DRAIN
- ⊙ DRILL HOLE
- ⊙ SPIKE
- ⊙ BOUND FOUND WITH DRILL HOLE
- ⊙ GAS METER
- ⊙ ELECTRIC METER
- ⊙ WETLAND FLAG
- ⊙ NUMBER OF PARKING SPACES
- ⊙ OBSERVATION WELL
- ⊙ CURB RETURN
- ⊙ GATE POST
- ⊙ BC BOTTOM OF CURB
- [X.X'] BUILDING DIMENSION
- AWN AWNING
- BIT BITUMINOUS
- BR BACK
- BOE BOTTOM ELEVATION
- BS BOTTOM OF STEPS
- BWV BORDER OF VEGETATIVE WETLANDS
- (C) CALCULATED
- CLF CHAIN LINK FENCE
- CONC CONCRETE
- CBRW CONCRETE BLOCK RETAINING WALL
- CRW CONCRETE RETAINING WALL
- DH DRILL HOLE
- ETW EDGE OF TRAVELED WAY
- ENT ENTRANCE
- FD FOUND
- I= INVERT ELEVATION
- LST LANDSCAPE TIMBER
- M&S MULCH & SHRUBS
- MCF METAL CABLE FENCE
- NVP NO VISIBLE PIPES
- (R) RECORD
- R= RIM ELEVATION
- RET RETAINING
- SB STONE BOUND
- SGC SLOPED GRANITE CURB
- SPK SPIKE WITH PUNCH MARK
- SQ. FT. SQUARE FEET
- TBM TEMPORARY BENCH MARK
- TC TOP OF CURB
- TOW TOP OF WATER
- TS TOP OF STEPS
- TW TOP OF WALL
- VGC VERTICAL GRANITE CURB
- WF-## WETLAND FLAG NUMBER
- ⊙ DRAIN
- ⊙ GAS
- ⊙ OHW OVERHEAD WIRES
- ⊙ S SEWER
- ⊙ W WATER
- ⊙ GUARD RAIL

BOSTON HEADQUARTERS
152 HAMPDEN STREET
BOSTON, MA 02119

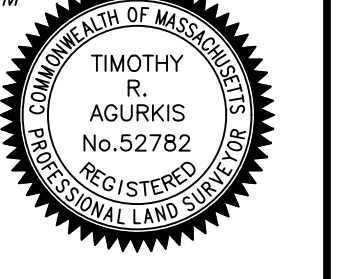
WORCESTER OFFICE
27 MECHANIC STREET
WORCESTER, MA 01608

(617)357-9740
www.feldmangeo.com



I CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY AND THE LATEST PLANS AND DEEDS OF RECORD.

[Signature]
TIMOTHY R. AGURKIS, PLS
(MA# 52782)
TAGURKIS@FELDMANGEO.COM



EXISTING CONDITIONS PLAN OF LAND
981-1015 EAST STREET
WALPOLE, MASS.

DATE: DECEMBER 28, 2022

REVISIONS:	
12/01/22	981-989 EAST STREET ADDED

FILENAME: 2201402-EC.dwg

RESEARCH: TRA	FIELD CHIEF: CLZ
PROJ MGR: TRA	APPROVED:
CALC: TRA	CADD: TRA/MJB
FIELD CHK:	CRD FILE: 2201402

SCALE: 1"=20'

SHEET NO. 1 OF 1