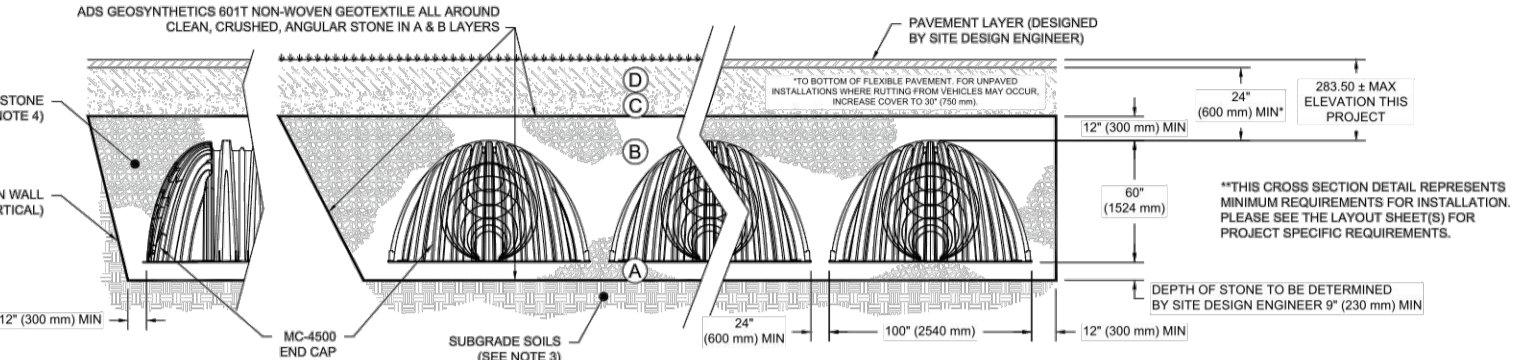


ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS			
MATERIAL LOCATION	DESCRIPTION	ASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF THE 'D' LAYER. PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATAL SOLS OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBBASE REQUIREMENTS.	N/A
C	INITIAL FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBASEMENT STONE (B) LAYERS TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, >95% FINES OR PROCESSED AGGREGATE. OR ASHTO M41 <sup>1</sup> A-1, A-2, A-3	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBASEMENT STONE FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A) LAYERS TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR ASHTO M43 <sup>1</sup> 3, 3S <sup>1</sup> , 4, 4E, 5, 5L, 5F, 6, 6F, 6L, 7, 7L, 8, 8L, 9, 10	COMPACTION REQUIRED. SEE SPECIAL REQUIREMENTS ON LAYOUT PAGE.
A	FOUNDATION STONE FILL BELOW CHAMBERS FROM THE SURFACE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR ASHTO M43 <sup>1</sup> 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>1</sup>

- PLEASE NOTE:
- THE LISTED ASHTO 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 (ASHTO M43) STONE".
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'C' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 12" (300 mm) MAX LIFTS USING TWO FULL COVERSAGES WITH A VIBRATORY COMPACTOR.
  - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAVING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
  - ONCE LAYER 'C' IS PLACED, ANY SOL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOLS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



REACH STREET LANDS (SYSTEM #2a & 2b) SPECIFIC CROSS SECTION

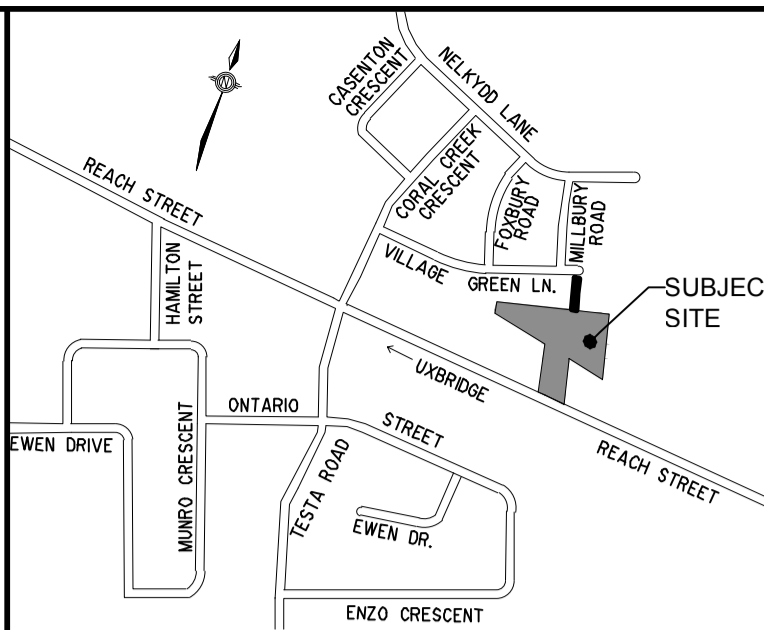
- NOTES:
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
  - MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2797 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"
  - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE ALLOWABLE BEARING CAPACITY OF THE SUBGRADE SOLS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
  - PERIMETER STONE MUST EXTEND HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND BLOPPED 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 INSURE 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, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.2 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LB/IN<sup>2</sup>.
    - AND TO RESET CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 77 °F / 25 °C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

REACH STREET LANDS  
 UXBIDGE, ON  
 DATE: 05/02/2024  
 DRAWN: BKE  
 CHECKED: JPK  
 PROJECT: E. 10308  
 SHEET 7 OF 10

MC-4500 TECHNICAL SPECIFICATION

NORMAL CHAMBER SPECIFICATIONS		NORMAL END CAP SPECIFICATIONS	
SIZE (W X H X INSTALLED LENGTH)	CHAMBER STORAGE	SIZE (W X H X INSTALLED LENGTH)	END CAP STORAGE
100.0" X 60.0" X 48.0"	100.0 CUBIC FEET (2.831 m <sup>3</sup> )	30.0" X 61.0" X 52.0"	39.8 CUBIC FEET (1.13 m <sup>3</sup> )
60.0" X 60.0" X 48.0"	100.0 CUBIC FEET (2.831 m <sup>3</sup> )	110.0 CUBIC FEET (3.09 m <sup>3</sup> )	110.0 CUBIC FEET (3.09 m <sup>3</sup> )
60.0" X 60.0" X 48.0"	100.0 CUBIC FEET (2.831 m <sup>3</sup> )	100.0 CUBIC FEET (2.831 m <sup>3</sup> )	100.0 CUBIC FEET (2.831 m <sup>3</sup> )

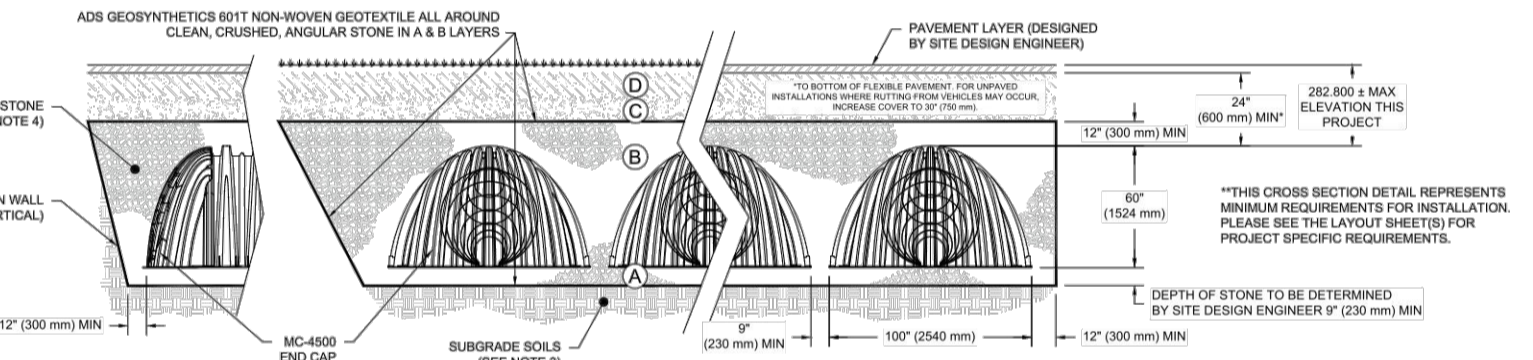
REACH STREET LANDS  
 UXBIDGE, ON  
 DATE: 05/02/2024  
 DRAWN: BKE  
 CHECKED: JPK  
 PROJECT: E. 10308  
 SHEET 10 OF 10



KEYMAP N.T.S.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS			
MATERIAL LOCATION	DESCRIPTION	ASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF THE 'D' LAYER. PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATAL SOLS OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBBASE REQUIREMENTS.	N/A
C	INITIAL FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBASEMENT STONE (B) LAYERS TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, >95% FINES OR PROCESSED AGGREGATE. OR ASHTO M41 <sup>1</sup> A-1, A-2, A-3	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBASEMENT STONE FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A) LAYERS TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR ASHTO M43 <sup>1</sup> 3, 3S <sup>1</sup> , 4, 4E, 5, 5L, 5F, 6, 6F, 6L, 7, 7L, 8, 8L, 9, 10	COMPACTION REQUIRED. SEE SPECIAL REQUIREMENTS ON LAYOUT PAGE.
A	FOUNDATION STONE FILL BELOW CHAMBERS FROM THE SURFACE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR ASHTO M43 <sup>1</sup> 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>1</sup>

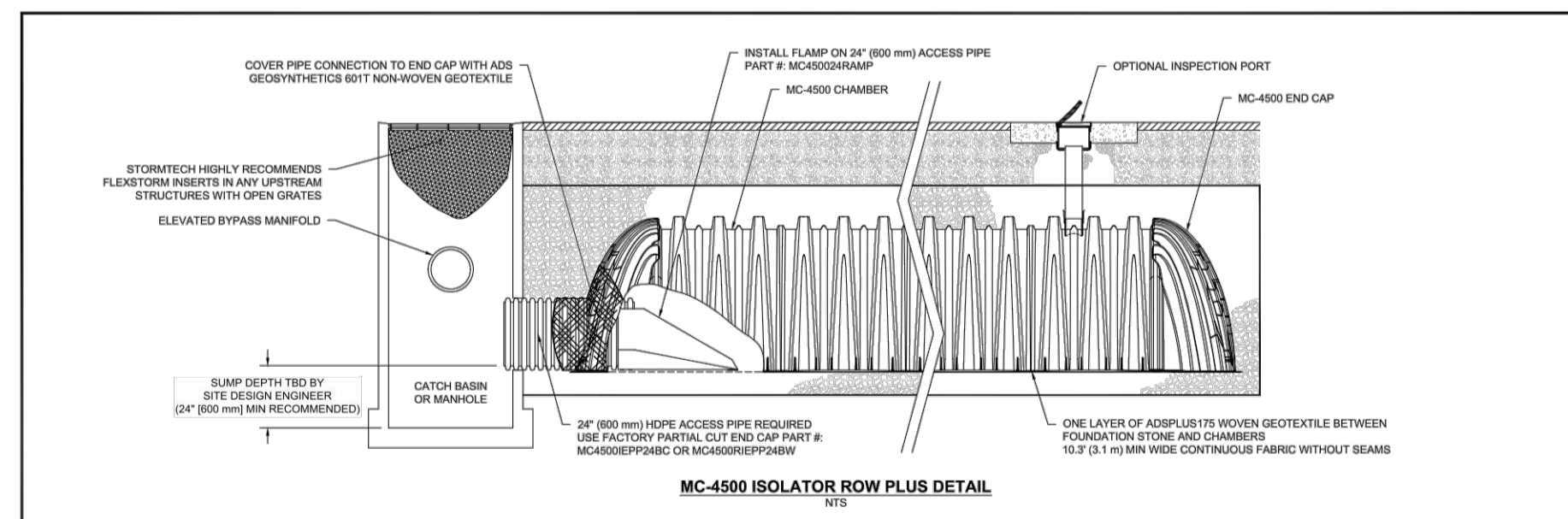
- PLEASE NOTE:
- THE LISTED ASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (ASHTO M43) STONE".
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'C' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 12" (300 mm) MAX LIFTS USING TWO FULL COVERSAGES WITH A VIBRATORY COMPACTOR.
  - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAVING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
  - ONCE LAYER 'C' IS PLACED, ANY SOL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOLS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



REACH STREET LANDS (SYSTEM #3) SPECIFIC CROSS SECTION

- NOTES:
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
  - MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2797 "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 SOLS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
  - PERIMETER STONE MUST EXTEND HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND BLOPPED 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 INSURE 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, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.2 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LB/IN<sup>2</sup>.
    - AND TO RESET CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 77 °F / 25 °C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

REACH STREET LANDS  
 UXBIDGE, ON  
 DATE: 05/02/2024  
 DRAWN: BKE  
 CHECKED: JPK  
 PROJECT: E. 10308  
 SHEET 8 OF 10



MC-4500 ISOLATOR ROW PLUS DETAIL

- INSPECTION & MAINTENANCE
- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- REMOVE COVER LID ON UPSTREAM MANHOLE
  - REMOVE AND CLEAN FLEETWAY IN TIE-IN IF INSTALLED
  - REMOVE ALL DEBRIS AND OTHER MATERIALS FROM THE ISOLATOR ROW
  - LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - IF SEDIMENT IS AT OR ABOVE 2" (50 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 1.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
  - IF SEDIMENT IS AT OR ABOVE 2" (50 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 1.
  - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERED MANHOLE
  - IF SEDIMENT IS AT OR ABOVE 2" (50 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 1.
- STEP 3) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
  - IF SEDIMENT IS AT OR ABOVE 2" (50 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 1.
  - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERED MANHOLE
  - IF SEDIMENT IS AT OR ABOVE 2" (50 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 1.
- 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 VACUUMING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

REACH STREET LANDS  
 UXBIDGE, ON  
 DATE: 05/02/2024  
 DRAWN: BKE  
 CHECKED: JPK  
 PROJECT: E. 10308  
 SHEET 9 OF 10

REVIEWED BY  
 TOWNSHIP OF UXBIDGE  
 DATE

TOWNSHIP ENGINEER FOR THE TOWNSHIP OF UXBIDGE

APPROVED BY  
 REGION OF DURHAM  
 DATE

BENCHMARK:  
 ELEVATIONS ARE GEODETIC AND REFERRED TO THE MTO MONUMENT NO. 778488, ELEVATION = 267.903 M.

NOTE: ALL DIMENSIONS AND ELEVATIONS IN METRES UNLESS NOTED OTHERWISE. ALL PIPE SIZES IN MILLIMETRES.

No.	REVISIONS TO DRAWING	BY	DATE	APPR.
ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED				

CLIENT  
**VENITIAN GROUP**

MUNICIPALITY  
 TOWNSHIP OF UXBIDGE  
 REGION OF DURHAM

PROJECT TITLE  
 REACH STREET LANDS

SHEET TITLE  
 ADS STORMTECH CHAMBER DETAILS

DESIGNED KLD  
 DRAWN RAV  
 CHECKED WJL

SCALE SCALE 1:500  
 DATE OCTOBER 2021

PROJECT NUMBER 17:386  
 DWG. NUMBER ADS2

**SKA SABOURIN KIMBLE & ASSOCIATES LTD.**  
 CONSULTING ENGINEERS

DESIGNED KLD  
 DRAWN RAV  
 CHECKED WJL

SCALE SCALE 1:500  
 DATE OCTOBER 2021

PROJECT NUMBER 17:386  
 DWG. NUMBER ADS2

T-Number

NOTE: THESE DETAILS ARE SHOWN AS PROVIDED BY ADS CANADA AND HAVE NOT BEEN DESIGNED BY SABOURIN KIMBLE & ASSOCIATES LTD.