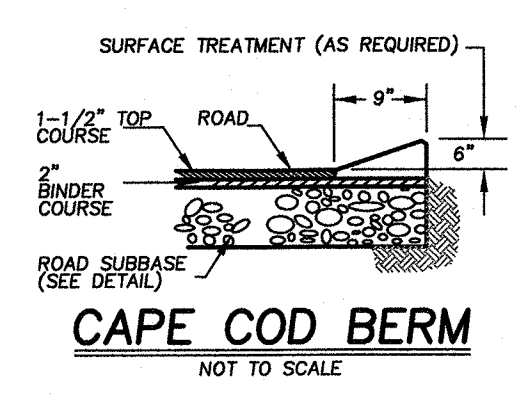
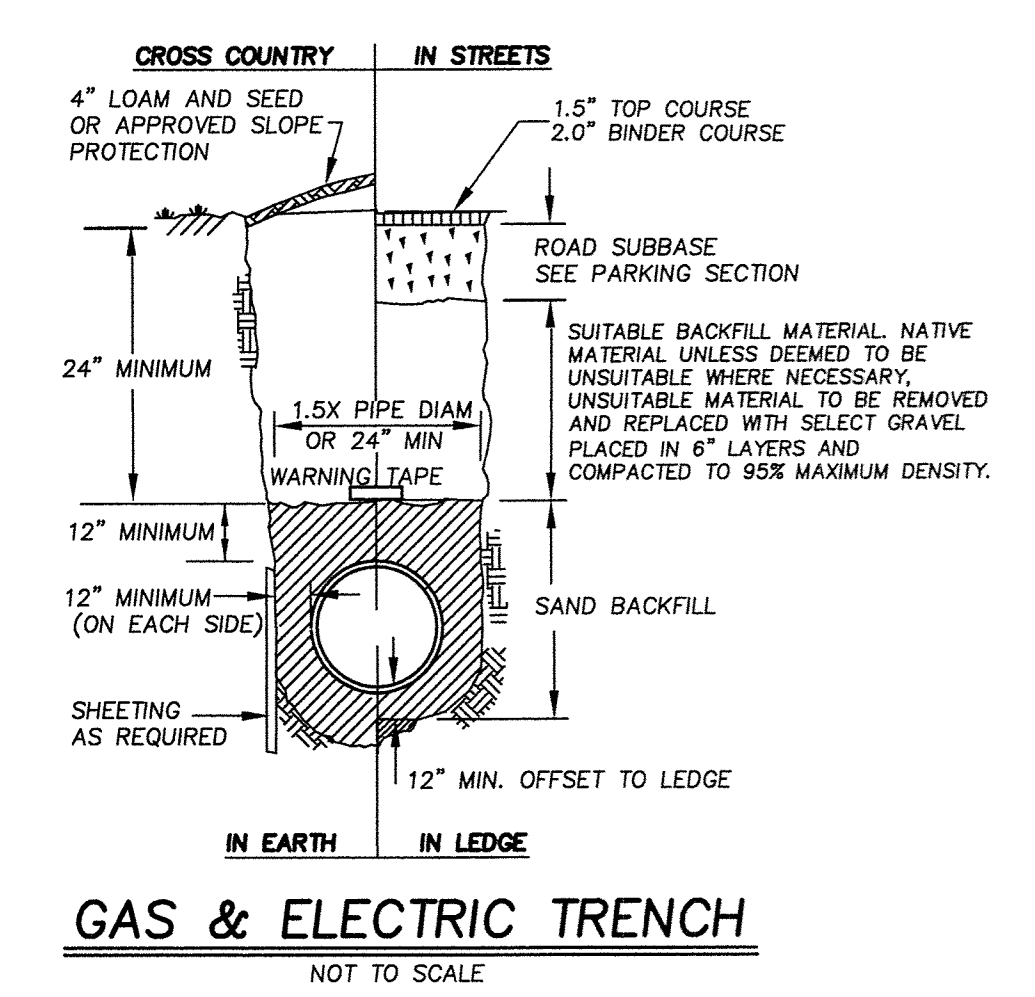


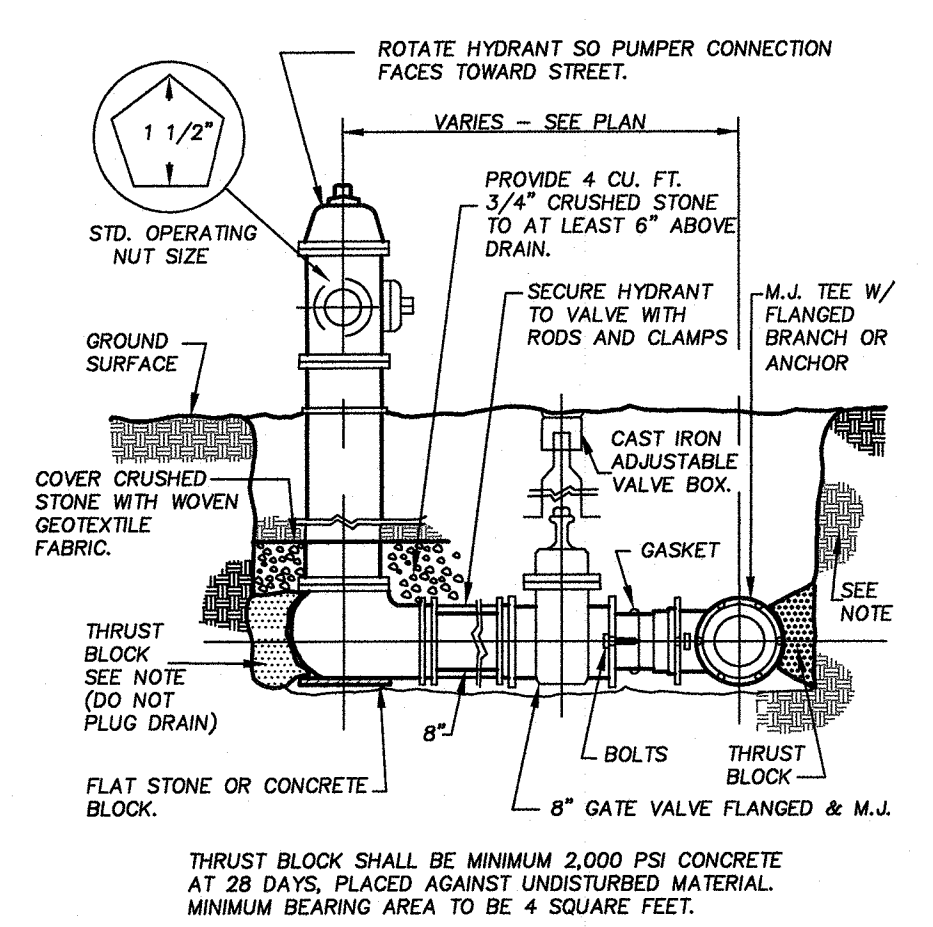
DRIVEWAY CROSS SECTION
(NOT TO SCALE)



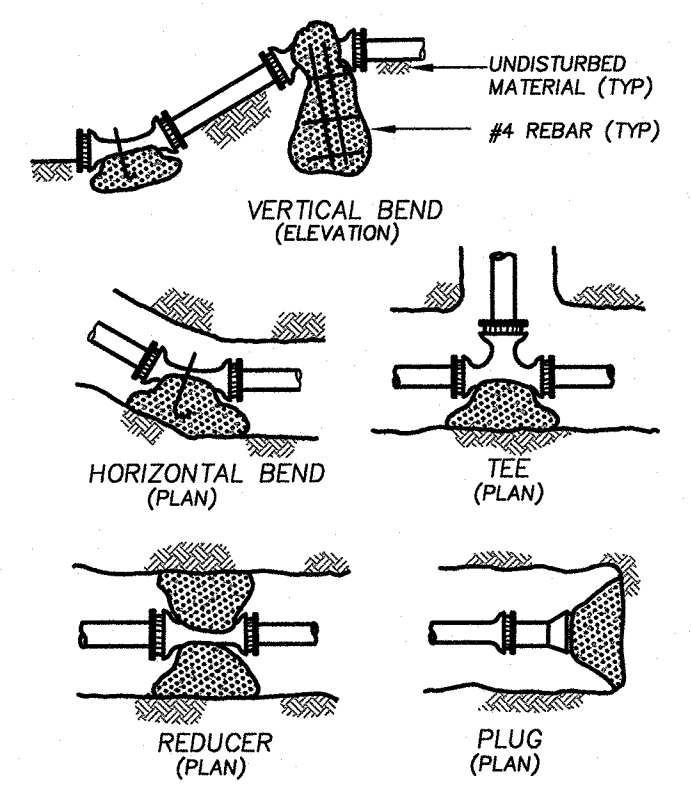
CAPE COD BERM
NOT TO SCALE



GAS & ELECTRIC TRENCH
NOT TO SCALE



TYPICAL HYDRANT AND VALVE
NOT TO SCALE



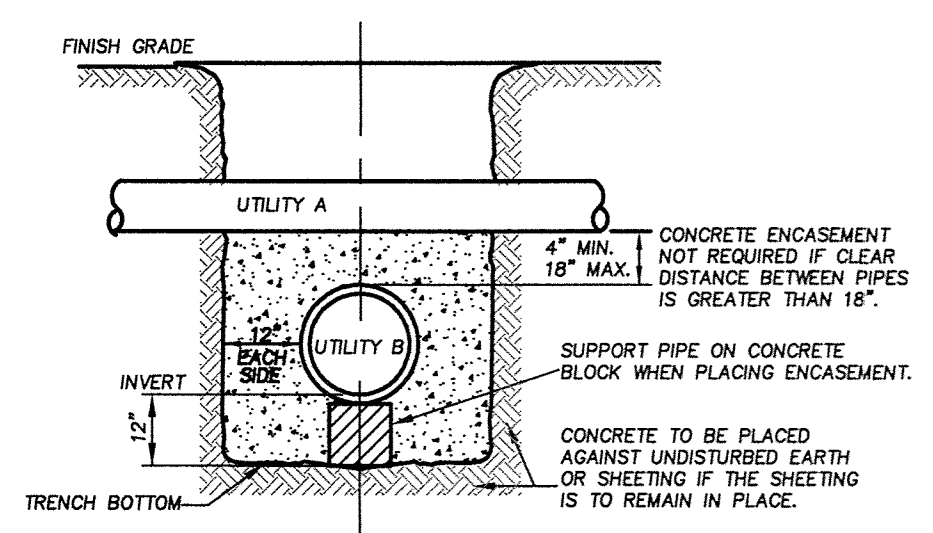
AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS IN SQUARE FEET BASED ON 250 P.S.I. & 1.5 TONS/S.F. ALLOWABLE SOIL BEARING CAPACITY.

PIPE SIZE (IN.)	1/4 BEND	1/8 BEND	1/16 BEND	PLUG & TEES
4, 6, 8	6.0	2.9	2.3	4.5
10	9.8	5.2	2.3	6.7
12	13.3	6.7	3.7	9.6
16	24.0	11.8	3.7	17.0

BEARING AREA - SQ. FT.

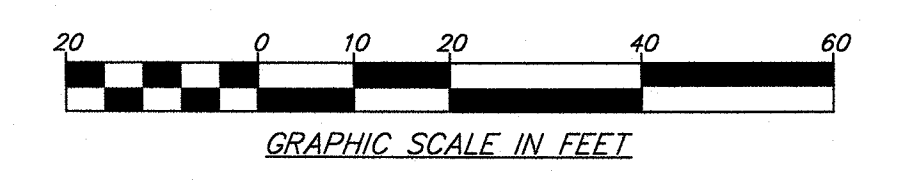
NORMAL FITTING DIAMETER	FITTING			
	90° BEND	45° BEND	BETWEEN BRANCH OF TEE	DEAD END
6"	4	2	2	4
8"	7	4	3	5

1. ALL BENDS, TEES, WYES, HYDRANTS AND DEAD ENDS SHALL BE BRACED WITH CONCRETE THRUST BLOCKS.
2. BEARING AREA (H X L) IS AREA OF CONE IN CONTACT WITH WALL OF TRENCH.
3. HEIGHT (H) & LENGTH (L) AS REQUIRED TO OBTAIN BEARING AREA IN TABLE.
4. BOULDERS ARE NOT TO BE USED AS THRUST BLOCKS.



1. UTILITIES A & B CAN BE EITHER NEW OR EXISTING.
2. WHEN ONE UTILITY IS A SANITARY SEWER, IT IS PREFERABLE TO BE POSITIONED AS SHOWN FOR UTILITY B.
3. UTILITY B JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE CENTERLINE OF UTILITY A.
4. ENCASMENT EXTENDS 10"-0" ON EACH SIDE OF THE CENTERLINE OF UTILITY A.
5. PIPE MUST BE BRACED VERTICALLY AND HORIZONTALLY TO PREVENT FLOATATION DURING PLACEMENT OF CONCRETE.

UTILITY CROSSING
NOT TO SCALE



SURV.: MSB	CALC.: MKW	DRAFT: NPO
NO: 253-47	DEED: 1505-38	CHECK: MKW/DBW

REVISIONS

ORIGINAL STAMP 9/10/2019
NO CHANGES THIS SHEET 9/11/19

Daniel B. White
9-11-19

SHEET TITLE:
CONSTRUCTION DETAILS

DESIGNED FOR:
LIBERTY LEDGE, LLC

ADDRESS:
SUDBURY, MA

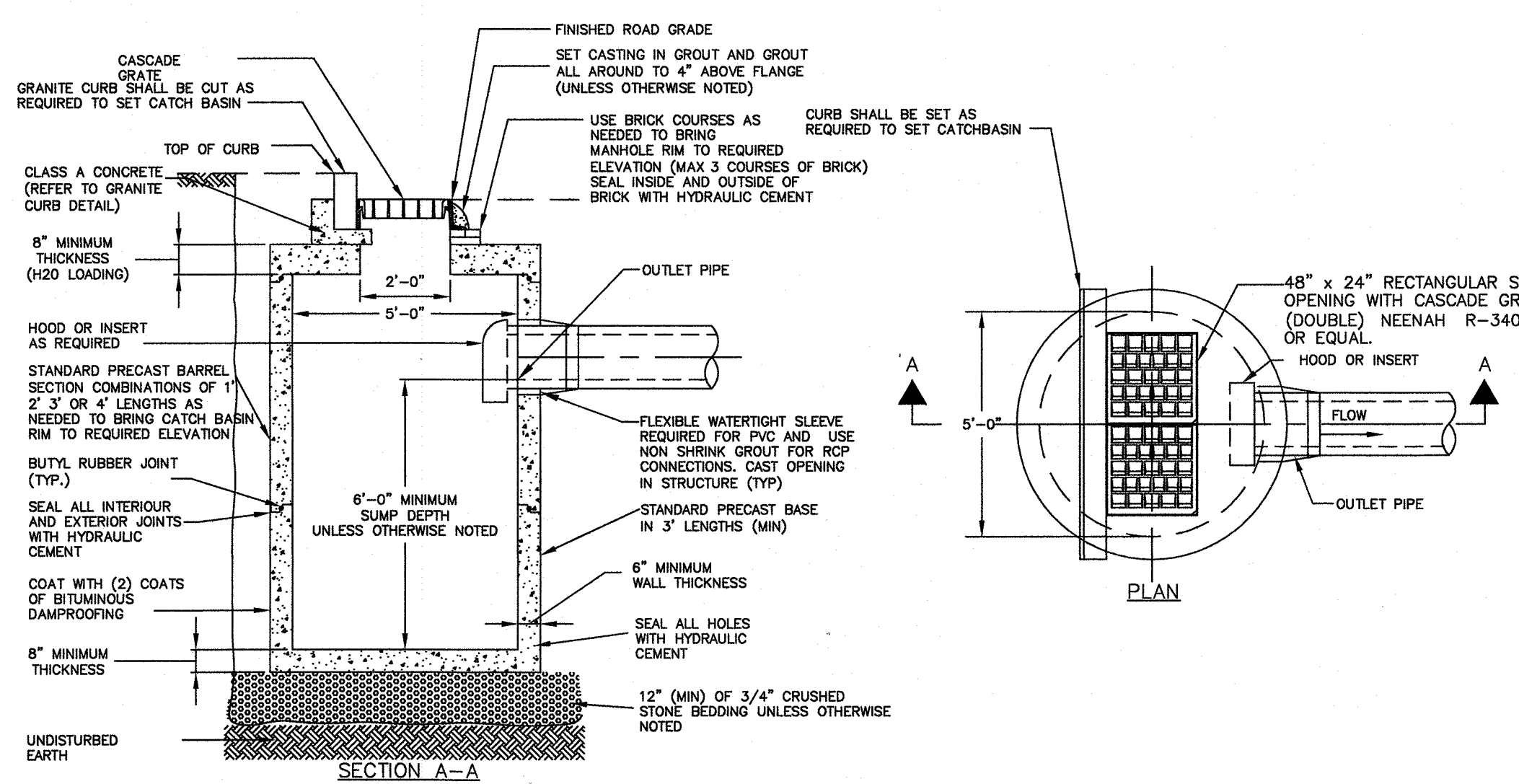
LOT NO.:	ASSESSOR MAP:	ASSESSOR PARCEL:
	COB	PORTION OF LOT 160

DAVID E. ROSS ASSOCIATES, INC.
CIVIL ENGINEERS - LAND SURVEYORS
ENVIRONMENTAL CONSULTANTS

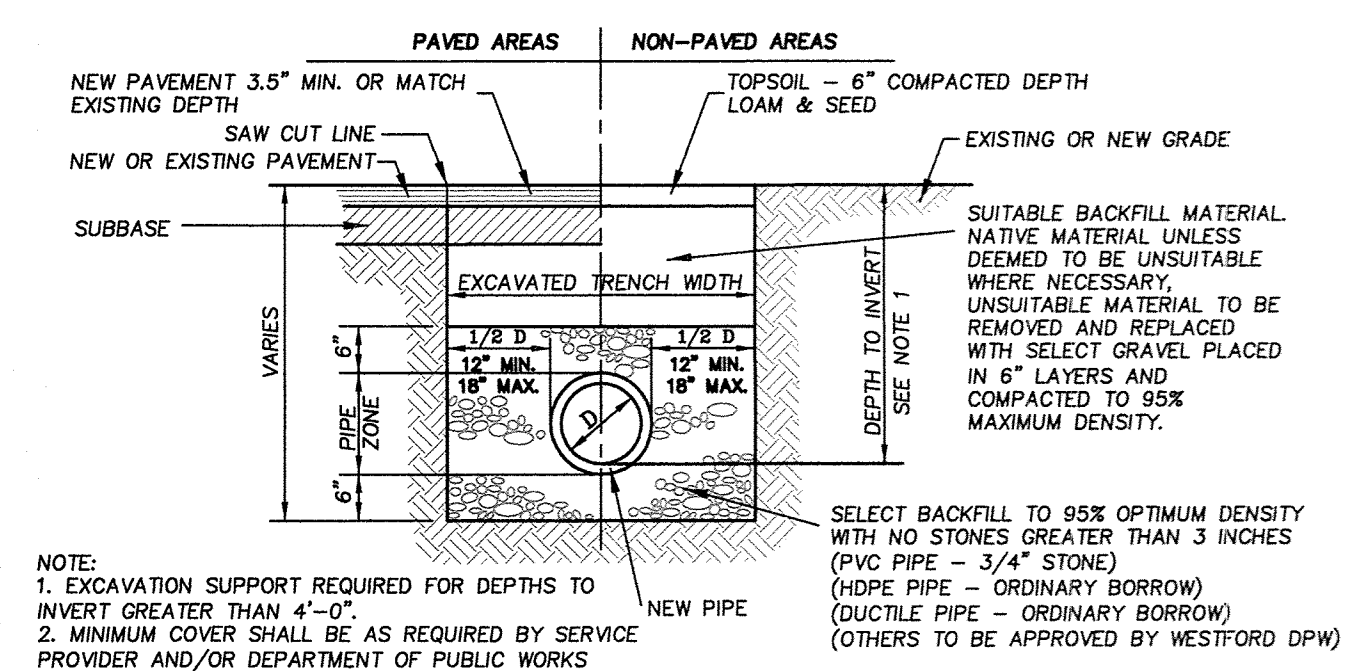
6 Lancaster County Road
P.O. Box 795
Harvard, MA 01451-0795

978-772-6232
FAX 978-772-6258
www.davidross.com

SCALE: 1"=20'	DATE: SEPTEMBER, 2019
REF.: L-13877A, 31252	PLAN NO.: L-13905
JOB NO.: 10550	SHEET NO.: 2 of 2



DOUBLE GRATE CATCHBASIN
NOT TO SCALE



- NOTE:
1. EXCAVATION SUPPORT REQUIRED FOR DEPTHS TO INVERT GREATER THAN 4'-0".
 2. MINIMUM COVER SHALL BE AS REQUIRED BY SERVICE PROVIDER AND/OR DEPARTMENT OF PUBLIC WORKS.
- SELECT BACKFILL TO 95% OPTIMUM DENSITY WITH NO STONES GREATER THAN 3 INCHES (PVC PIPE - 3/4" STONE) (HDPE PIPE - ORDINARY BORROW) (DUCTILE PIPE - ORDINARY BORROW) (OTHERS TO BE APPROVED BY WESTFORD DPW)

WATER MAINS & STORM DRAINS & SANITARY SEWER EXCAVATION & BACKFILL LIMITS
NOT TO SCALE