

CLARK PROPERTIES LLC

74 MAIN STREET

DURHAM NEW HAMPSHIRE

JULY 2022

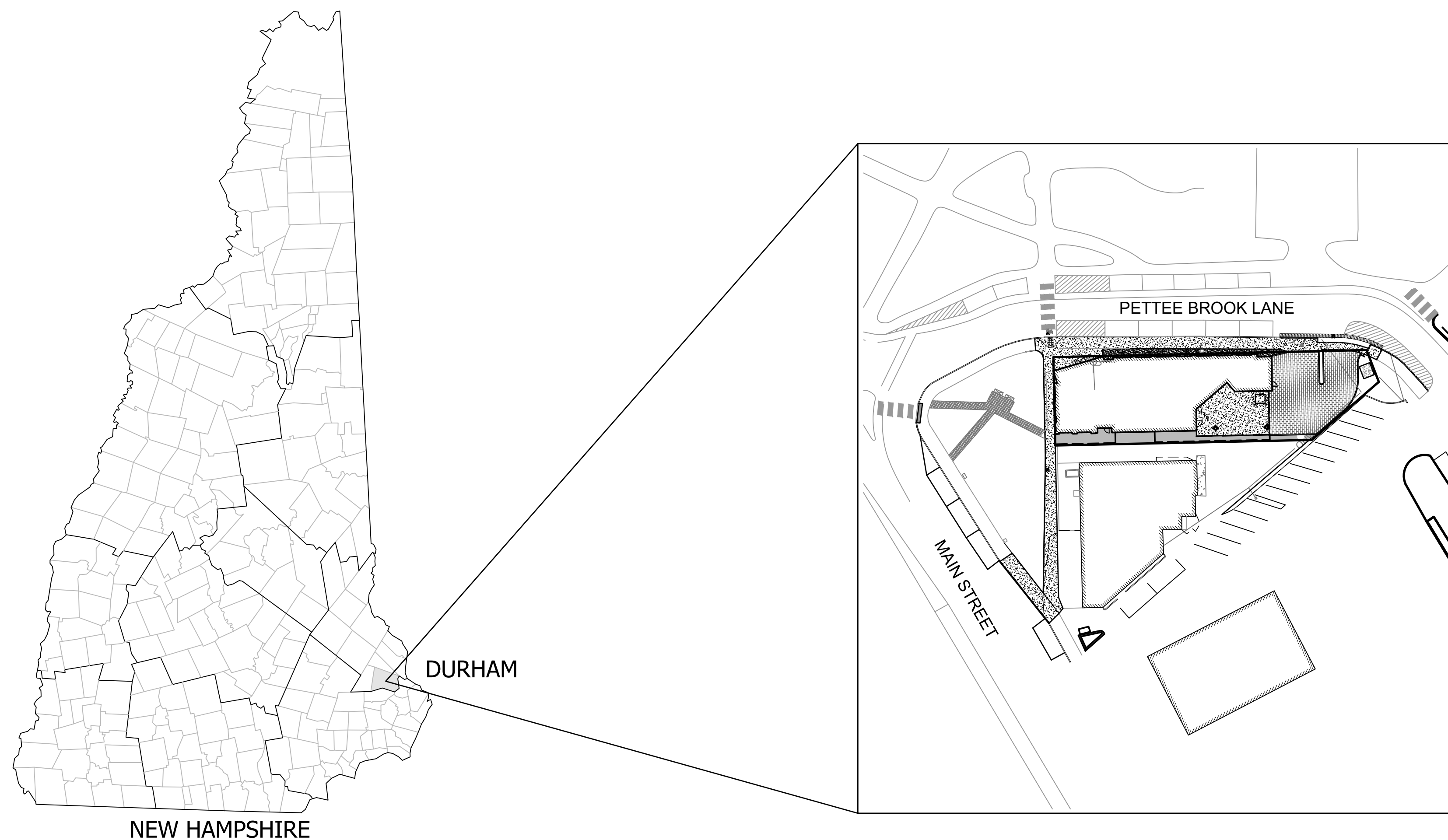
OWNER:

CLARK PROPERTIES LLC
28 CEDAR POINT ROAD
DURHAM, NH 03824

ENGINEER

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5 RAILROAD STREET
NEWMARKET, NH 03857
(603)659-4979



LOCATION PLAN

NOT TO SCALE



1. REFERENCE: TAX MAP 2, LOT 14-1

2. TOTAL PARCEL AREA: 18,879 SQ. FT. OR 0.433 AC.

3. OWNER OF RECORD: TOWN & CAMPUS, INC.
105 PERKINS ROAD
MADBURY, NH 03823
S.C.R.D. BOOK 838, PAGE 056

MIN. LOT AREA	N/A
MIN. FRONTAGE	50 ft.
MIN. FRONT SETBACK	SEE DEVELOPMENT STANDARDS FOR CB ZONE
MIN. SIDE/REAR SETBACK	SEE DEVELOPMENT STANDARDS FOR CB ZONE

ZONING INFORMATION LISTED HEREON IS BASED ON THE TOWN OF DURHAM ZONING ORDINANCE DATED 4/16/18 AS AVAILABLE ON THE TOWN WEBSITE ON 5/25/18. ADDITIONAL REGULATIONS APPLY, AND REFERENCE IS HEREBY MADE TO THE EFFECTIVE ZONING ORDINANCE. THE LAND OWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS.

5. FIELD SURVEY PERFORMED BY J.P.E. & P.J.M. DURING MAY 2018 USING A TRIMBLE S7 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.

6. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.

7. VERTICAL DATUM IS BASED ON NAVD88 PER DISK "UNH 13".

8. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE.

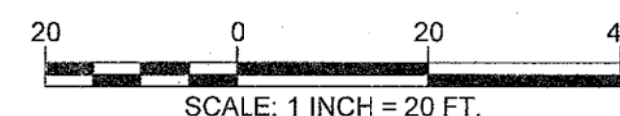
9. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.

THE INTENT OF THIS PLAN IS ALSO TO SUBDIVIDE THE EXISTING TAX MAP 2, LOT 14-1 INTO TWO PARCELS OF APPROXIMATELY EQUAL SQUARE FOOTAGE. THE NEW LOT NUMBERS SHALL BE 14-1 AND 14-1-1. THE NEW STREET ADDRESSES SHALL BE 72 MAIN STREET AND 74 MAIN STREET AS SHOWN ON THE PLAN.

10. ALL ELECTRIC, GAS, TEL. WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.

11. THE BUILDINGS ON THE PARCEL ARE SERVICED BY MUNICIPAL WATER AND SEWER. THE SEWER IS BELIEVED TO BE SERVICED FROM PETTE BROOK LANE AS INDICATED HEREON. THE WATER IS BELIEVED TO BE SERVICED FROM MAIN STREET. THE EXACT LOCATIONS OF THE SERVICES WAS NOT OBSERVED DURING THE SURVEY. FURTHERMORE THE TOWN ENGINEERING DEPARTMENT DID NOT HAVE THIS INFORMATION AVAILABLE.

12. FOR MORE INFORMATION ABOUT THIS SUBDIVISION, OR TO SEE THE COMPLETE PLAN SET, CONTACT THE TOWN OF DURHAM PLANNING DEPARTMENT, 8 NEWMARKET ROAD, DURHAM, NH. (603) 868-8064.



**SUBDIVISION PLAN
FOR
TOWN & CAMPUS, INC.
OF
TAX MAP 2, LOT 14-1
72 MAIN STREET
DURHAM, NEW HAMPSHIRE**

1	09/06/18	REVISIONS PER TOWN CONDITIONS			J.F.
NO.	DATE	DESCRIPTION			BY

DRAWN BY:	E.J.S.	DATE:	JULY 11, 2018
CHECKED BY:	J.F.K.	DRAWING NO.:	5549A
JOB NO.:	5549	SHEET	1 OF 1



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102 Kent Place, Newmarket, NH 03857 (603) 659-6560
2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060
10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005
<http://www.doucetsurvey.com>

TAX MAP 2. LOT 14-1 IS EITHER SUBJECT TO, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:

- A) RIGHTS GRANTED TO NET&T FROM TOWN & CAMPUS, INC. TO ABANDON UNDERGROUND CABLES ON THE PREMISES. SAID RIGHTS DO NOT ALLOW GRANTEE TO PLACE ADDITIONAL CABLE ON THE PREMISES. EASEMENT RECORDED IN S.C.R.D. BOOK 1061, PAGE 652.
- B) NO RECORDED EASEMENT WAS FOUND FOR THE EXISTING POLES AND ANCHORS ON THE PREMISES.
- C) EXISTING PARKING SPACES ARE SHOWN ON THIS PLAN BOTH AT THE FRONT OF THE NEW NORTHERLY LOT AND IN THE TOWN'S PROPERTY NEAR MAIN STREET. IT IS UNDERSTOOD THAT NO EASEMENT TO PROVIDE ACCESS TO THESE SPACES IS BEING ESTABLISHED AS PART OF THIS SUBDIVISION.
- D) EASEMENTS ARE TO BE RECORDED HERewith TO DEFINE ITEMS INCLUDING BUT NOT LIMITED TO PARKING, ACCESS, UTILITIES AND MAINTENANCE.

1. "BOUNDARY LINE ADJUSTMENT MAIN ST. & PETTEE BROOK RD. DURHAM, STRAFFORD COUNTY, NEW HAMPSHIRE, BETWEEN TOWN & CAMPUS, INC. & TOWN OF DURHAM" DATED APRIL 16, 1987 BY THOMAS F. MORAN INC. S.C.R.D. PLAN 28A-118.
2. "BOUNDARY LINE ADJUSTMENT PLAN GAMMA THETA CORP., MAIN STREET DURHAM, N.H." DATED 12-15-03 WITH A REVISION DATE OF 1-9-04 BY CAMMETT ENGINEERING. S.C.R.D. PLAN 74--56.

TAX MAP 2 LOT 13-4UNH
UNIVERSITY OF NEW HAMPSHIRE
THOMPSON HALL
DURHAM, NH 03824

TAX MAP 2 LOT 13-3UNH
UNIVERSITY OF NEW HAMPSHIRE
THOMPSON HALL
DURHAM, NH 03824

PROPOSED LOT 14-1-1
9,440 Sq. Ft.
0.22 Acres

PROPOSED
LOT 14-1
9,439 Sq. Ft.

EXISTING
AX MAP 2 LOT 14-1

TAX MAP 2 LOT 14-5
CHITTENDEN CORP
ROBIN TORREY, FACILITIES CORP
2 BURLINGTON SQUARE
BURLINGTON, VT 05401
S.C.R.D. BOOK 1641 PAGE 790

TAX MAP 13 LOT 7-3UNH
UNIVERSITY OF NEW HAMPSHIRE
THOMPSON HALL
DURHAM, NH 03824

LEGEND

	EXISTING LOT LINE
	PROPOSED LOT LINE
	CHAIN LINK FENCE
	OVERHEAD WIRE
	SEWER LINE
	DRAIN LINE
	CONCRETE
	BRICK
	UTILITY POLE
	UTILITY POLE & GUY WIRE
	SIGN
	LIGHT POLE W/ARM
	BOLLARD
	WATER GATE VALVE
	HAND HOLE
	CATCH BASIN
	IRRIGATION CONTROL VALVE
	BOUND FOUND
	IRON ROD/PIPE FOUND
	IRON PIPE FOUND
	STEEL STAKE FOUND
	DRILL HOLE SET (9/6/18)
	RAILROAD SPIKE SET (9/6/18)
	EDGE OF PAVEMENT
	VERTICAL GRANITE CURB
	SLOPED BITUMINOUS BERM
	VERTICAL BITUMINOUS BERM
	SINGLE WHITE LINE
	AUTO SPRINKLER
	ELECTRIC METER
	MAILBOX
	ACCESSIBLE PARKING SPACE

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

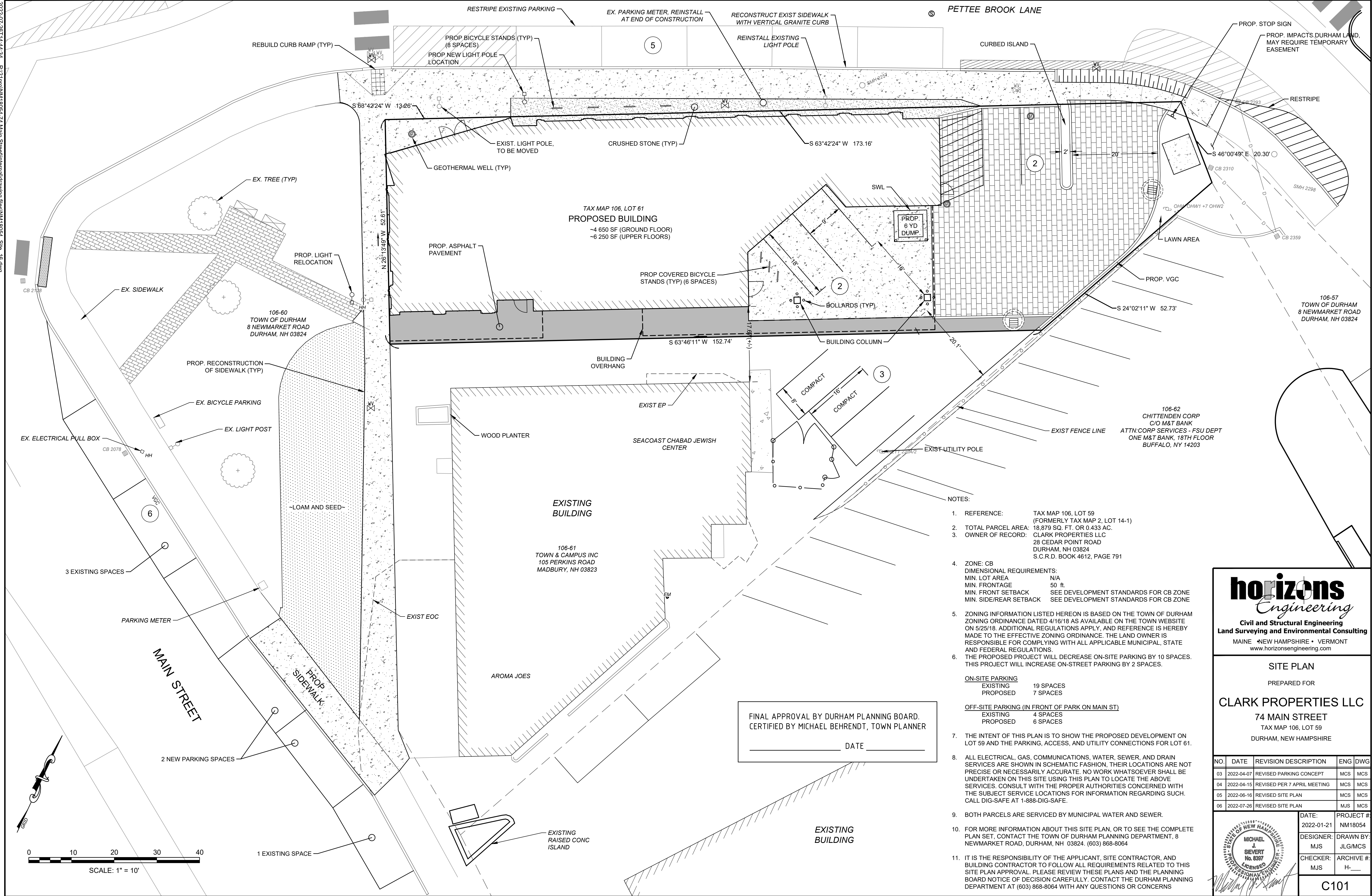
U.S. #937

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

FINAL APPROVAL BY DURHAM PLANNING BOARD.
CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER

DATE OCTOBER 11, 2018

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SITE PLAN

PREPARED FOR

CLARK PROPERTIES LLC

74 MAIN STREET

TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
03	2022-04-07	REVISED PARKING CONCEPT	MCS	MCS
04	2022-04-15	REVISED PER 7 APRIL MEETING	MCS	MCS
05	2022-06-16	REVISED SITE PLAN	MCS	MCS
06	2022-07-26	REVISED SITE PLAN	MJS	MCS

DATE: 2022-01-21

DESIGNER: MJS

CHECKER: MJS

PROJECT # NM18054

DRAWN BY: JLG/MCS

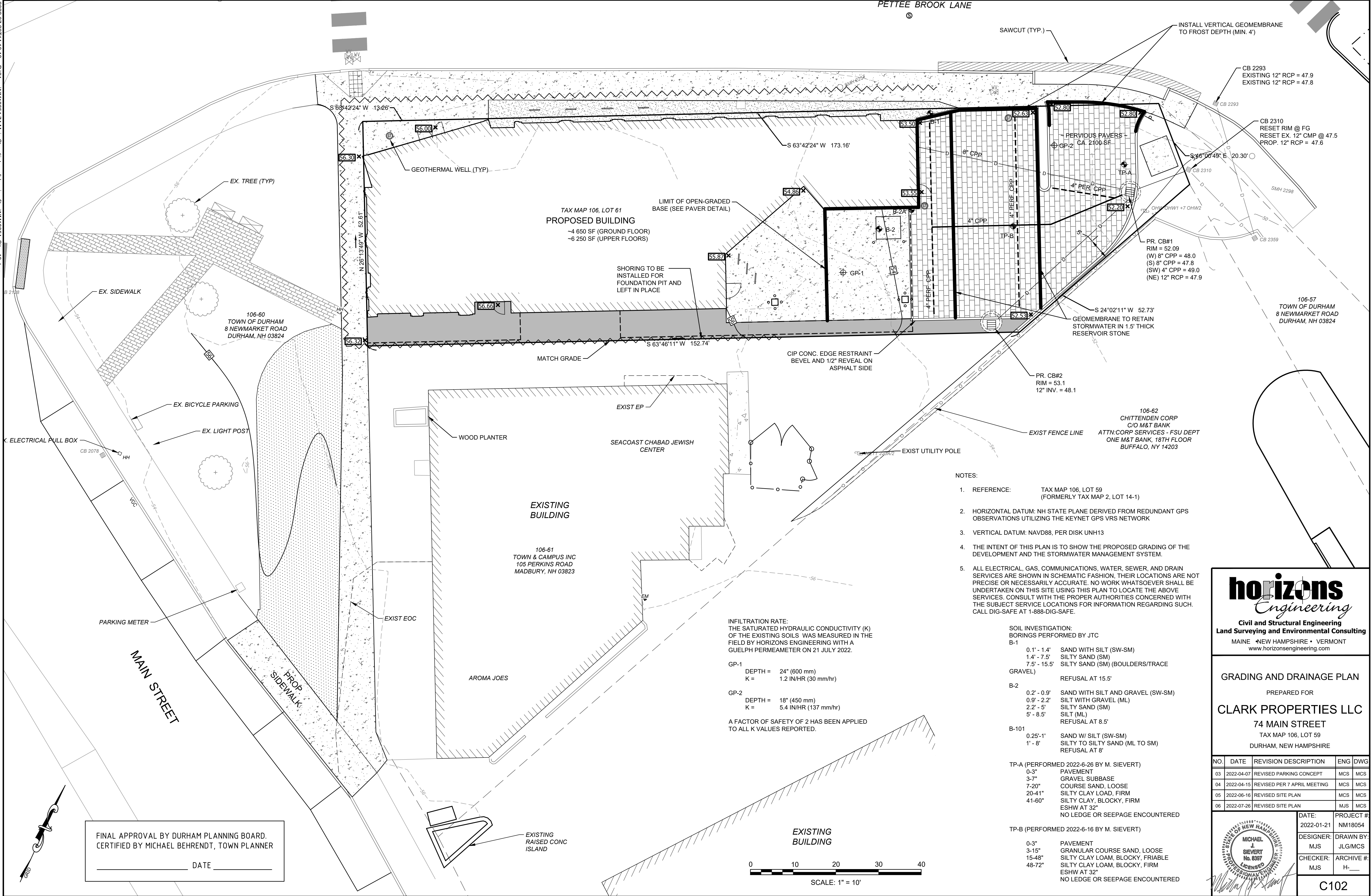
ARCHIVE # H-____

C101

STATE OF NEW HAMPSHIRE
MICHAEL J. SIEVERT
No. 6397
LICENSED PROFESSIONAL ENGINEER

Michael J. Sievert

2022-07-26 14:16:18 P:\2\proj\NM18054-74 Main Street\main.dwg Drawing files\NM18054_Site_16.dwg



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GRADING AND DRAINAGE PLAN

PREPARED FOR

CLARK PROPERTIES LLC

74 MAIN STREET

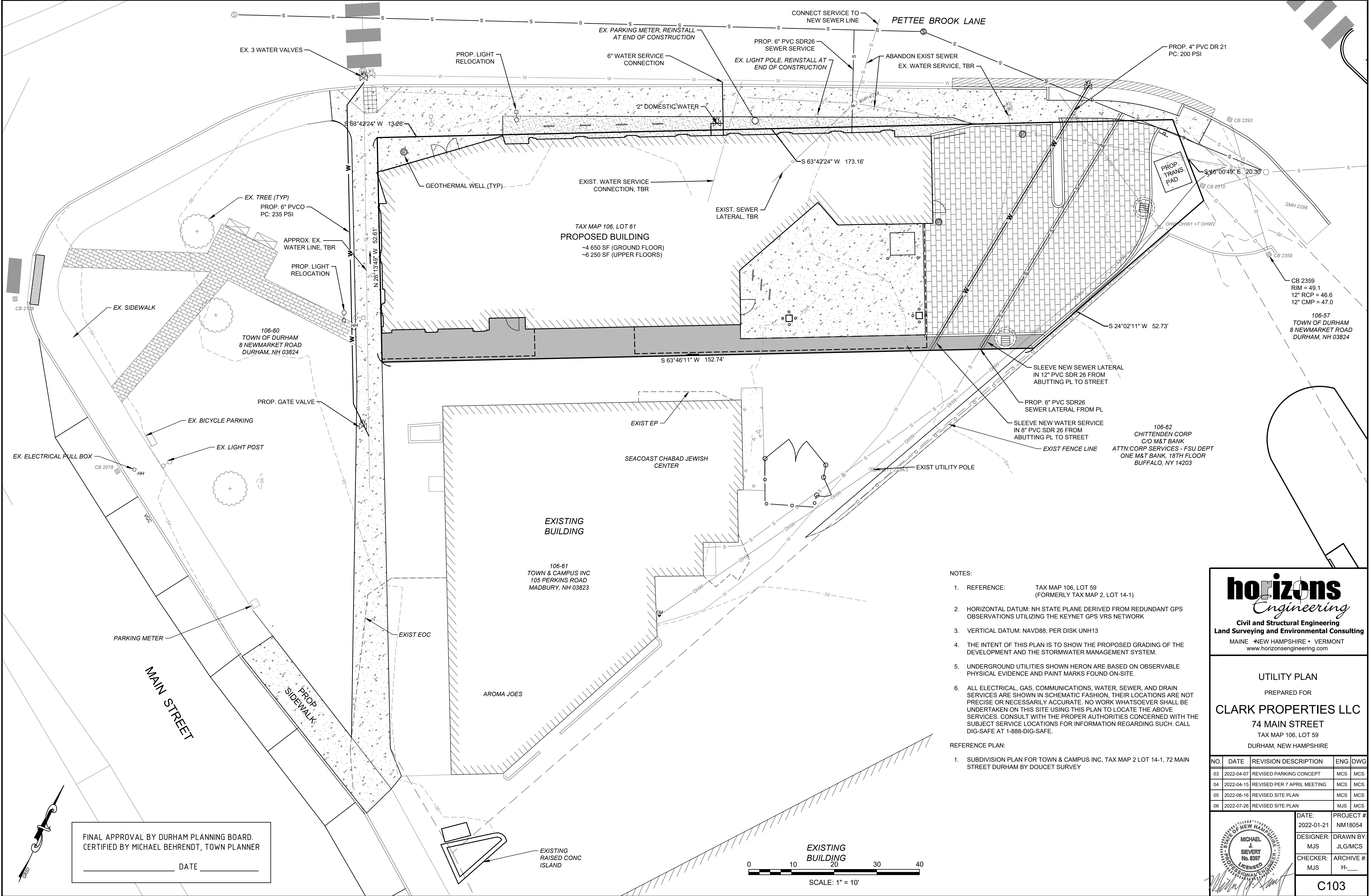
TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
03	2022-04-07	REVISED PARKING CONCEPT	MCS	MCS
04	2022-04-15	REVISED PER 7 APRIL MEETING	MCS	MCS
05	2022-06-16	REVISED SITE PLAN	MCS	MCS
06	2022-07-26	REVISED SITE PLAN	MJS	MCS

	DATE:	2022-01-21	PROJECT #	NM18054
	DESIGNER:	MJS	DRAWN BY:	JLG/MCS
	CHECKER:	MJS	ARCHIVE #	H-
	C102			

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- NOTES:
- REFERENCE: TAX MAP 106, LOT 59 (FORMERLY TAX MAP 2, LOT 14-1)
 - HORIZONTAL DATUM: NH STATE PLANE DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK
 - VERTICAL DATUM: NAVD88, PER DISK UNH13
 - THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED GRADING OF THE DEVELOPMENT AND THE STORMWATER MANAGEMENT SYSTEM.
 - UNDERGROUND UTILITIES SHOWN HERON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE.
 - ALL ELECTRICAL, GAS, COMMUNICATIONS, WATER, SEWER, AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.
- REFERENCE PLAN:
- SUBDIVISION PLAN FOR TOWN & CAMPUS INC, TAX MAP 2 LOT 14-1, 72 MAIN STREET DURHAM BY DOUCET SURVEY

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UTILITY PLAN

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74 MAIN STREET

TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

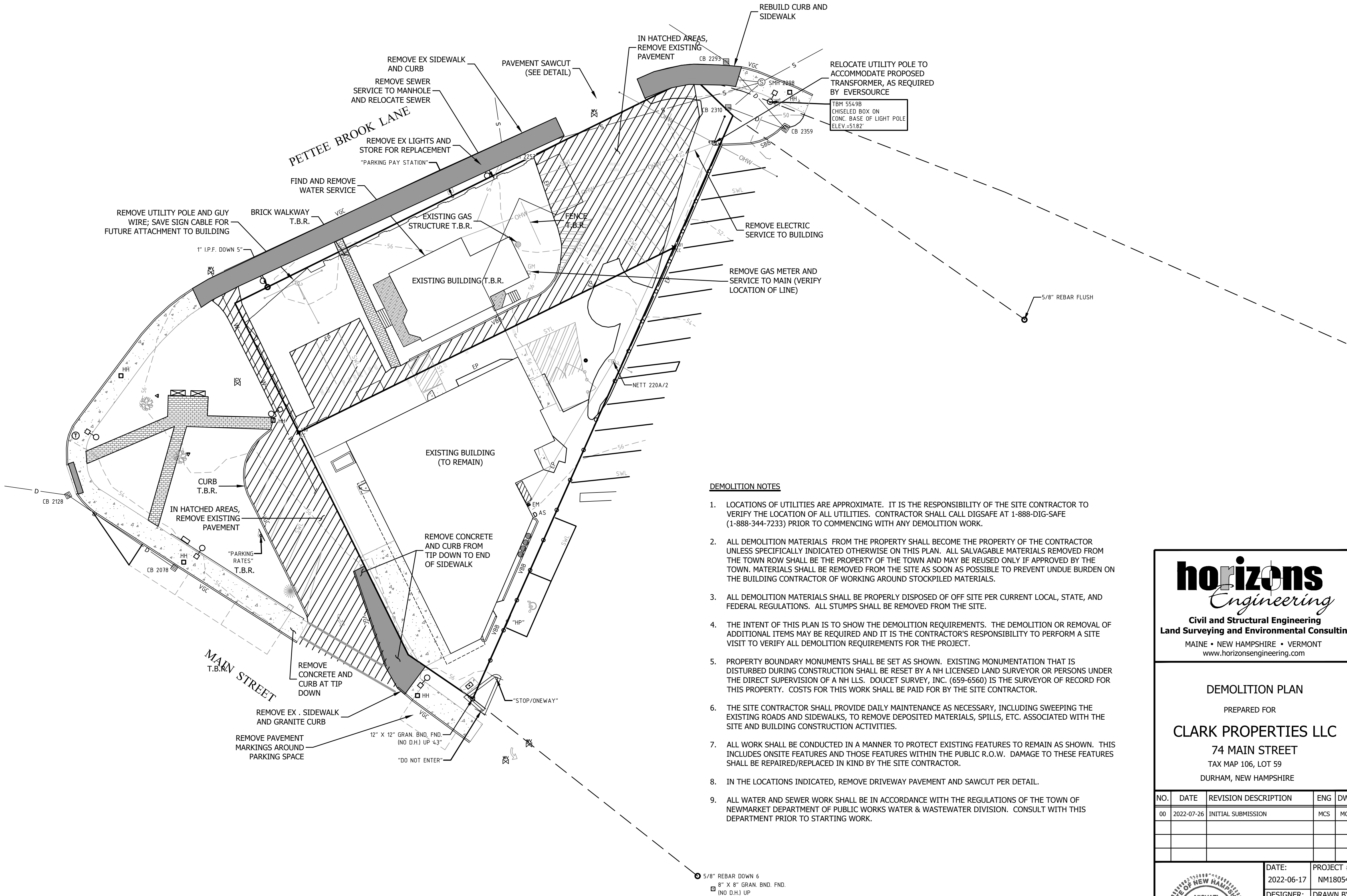
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STATE OF NEW HAMPSHIRE
MICHAEL J. SIEVERT
No. 6397
LICENSED PROFESSIONAL ENGINEER

DATE: 2022-01-21
DESIGNER: MJS
CHECKER: MJS

PROJECT # NM18054
DRAWN BY: JLG/MCS
ARCHIVE # H-____

C103



- DEMOLITION NOTES**
- LOCATIONS OF UTILITIES ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE SITE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES. CONTRACTOR SHALL CALL DIGSAFE AT 1-888-DIG-SAFE (1-888-344-7233) PRIOR TO COMMENCING WITH ANY DEMOLITION WORK.
 - ALL DEMOLITION MATERIALS FROM THE PROPERTY SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS SPECIFICALLY INDICATED OTHERWISE ON THIS PLAN. ALL SALVAGABLE MATERIALS REMOVED FROM THE TOWN ROW SHALL BE THE PROPERTY OF THE TOWN AND MAY BE REUSED ONLY IF APPROVED BY THE TOWN. MATERIALS SHALL BE REMOVED FROM THE SITE AS SOON AS POSSIBLE TO PREVENT UNDUE BURDEN ON THE BUILDING CONTRACTOR OF WORKING AROUND STOCKPILED MATERIALS.
 - ALL DEMOLITION MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE PER CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS. ALL STUMPS SHALL BE REMOVED FROM THE SITE.
 - THE INTENT OF THIS PLAN IS TO SHOW THE DEMOLITION REQUIREMENTS. THE DEMOLITION OR REMOVAL OF ADDITIONAL ITEMS MAY BE REQUIRED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM A SITE VISIT TO VERIFY ALL DEMOLITION REQUIREMENTS FOR THE PROJECT.
 - PROPERTY BOUNDARY MONUMENTS SHALL BE SET AS SHOWN. EXISTING MONUMENTATION THAT IS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A NH LICENSED LAND SURVEYOR OR PERSONS UNDER THE DIRECT SUPERVISION OF A NH LLS. DOUCET SURVEY, INC. (659-6560) IS THE SURVEYOR OF RECORD FOR THIS PROPERTY. COSTS FOR THIS WORK SHALL BE PAID FOR BY THE SITE CONTRACTOR.
 - THE SITE CONTRACTOR SHALL PROVIDE DAILY MAINTENANCE AS NECESSARY, INCLUDING SWEEPING THE EXISTING ROADS AND SIDEWALKS, TO REMOVE DEPOSITED MATERIALS, SPILLS, ETC. ASSOCIATED WITH THE SITE AND BUILDING CONSTRUCTION ACTIVITIES.
 - ALL WORK SHALL BE CONDUCTED IN A MANNER TO PROTECT EXISTING FEATURES TO REMAIN AS SHOWN. THIS INCLUDES ONSITE FEATURES AND THOSE FEATURES WITHIN THE PUBLIC R.O.W. DAMAGE TO THESE FEATURES SHALL BE REPAIRED/REPLACED IN KIND BY THE SITE CONTRACTOR.
 - IN THE LOCATIONS INDICATED, REMOVE DRIVEWAY PAVEMENT AND SAWCUT PER DETAIL.
 - ALL WATER AND SEWER WORK SHALL BE IN ACCORDANCE WITH THE REGULATIONS OF THE TOWN OF NEWMARKET DEPARTMENT OF PUBLIC WORKS WATER & WASTEWATER DIVISION. CONSULT WITH THIS DEPARTMENT PRIOR TO STARTING WORK.

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DEMOLITION PLAN
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74 MAIN STREET
TAX MAP 106, LOT 59
DURHAM, NEW HAMPSHIRE

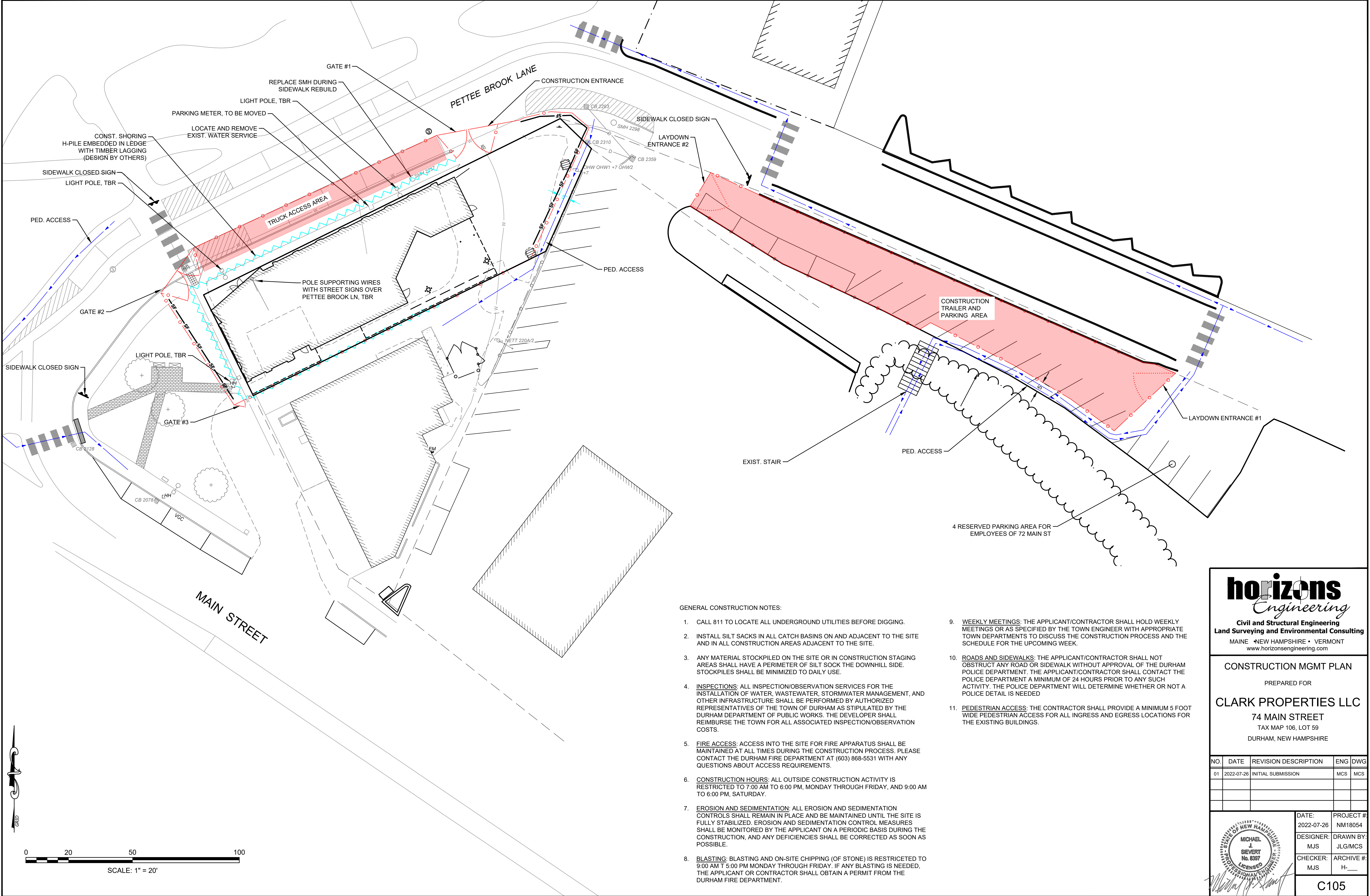
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00	2022-07-26	INITIAL SUBMISSION	MCS	MCS

STATE OF NEW HAMPSHIRE
MICHAEL J. SIEVERT
No. 6397
LICENSED PROFESSIONAL ENGINEER

DATE: 2022-06-17
DESIGNER: MCS/MJS
CHECKER: MJS

PROJECT #: NM18054
DRAWN BY: JLG/MCS
ARCHIVE #: H-
C104

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GENERAL CONSTRUCTION NOTES:

1. CALL 811 TO LOCATE ALL UNDERGROUND UTILITIES BEFORE DIGGING.
2. INSTALL SILT SACKS IN ALL CATCH BASINS ON AND ADJACENT TO THE SITE AND IN ALL CONSTRUCTION AREAS ADJACENT TO THE SITE.
3. ANY MATERIAL STOCKPILED ON THE SITE OR IN CONSTRUCTION STAGING AREAS SHALL HAVE A PERIMETER OF SILT SOCK THE DOWNHILL SIDE. STOCKPILES SHALL BE MINIMIZED TO DAILY USE.
4. INSPECTIONS: ALL INSPECTION/OBSERVATION SERVICES FOR THE INSTALLATION OF WATER, WASTEWATER, STORMWATER MANAGEMENT, AND OTHER INFRASTRUCTURE SHALL BE PERFORMED BY AUTHORIZED REPRESENTATIVES OF THE TOWN OF DURHAM AS STIPULATED BY THE DURHAM DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER SHALL REIMBURSE THE TOWN FOR ALL ASSOCIATED INSPECTION/OBSERVATION COSTS.
5. FIRE ACCESS: ACCESS INTO THE SITE FOR FIRE APPARATUS SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS. PLEASE CONTACT THE DURHAM FIRE DEPARTMENT AT (603) 888-5531 WITH ANY QUESTIONS ABOUT ACCESS REQUIREMENTS.
6. CONSTRUCTION HOURS: ALL OUTSIDE CONSTRUCTION ACTIVITY IS RESTRICTED TO 7:00 AM TO 6:00 PM, MONDAY THROUGH FRIDAY, AND 9:00 AM TO 6:00 PM, SATURDAY.
7. EROSION AND SEDIMENTATION: ALL EROSION AND SEDIMENTATION CONTROLS SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MONITORED BY THE APPLICANT ON A PERIODIC BASIS DURING THE CONSTRUCTION, AND ANY DEFICIENCIES SHALL BE CORRECTED AS SOON AS POSSIBLE.
8. BLASTING: BLASTING AND ON-SITE CHIPPING (OF STONE) IS RESTRICTED TO 9:00 AM TO 5:00 PM MONDAY THROUGH FRIDAY. IF ANY BLASTING IS NEEDED, THE APPLICANT OR CONTRACTOR SHALL OBTAIN A PERMIT FROM THE DURHAM FIRE DEPARTMENT.
9. WEEKLY MEETINGS: THE APPLICANT/CONTRACTOR SHALL HOLD WEEKLY MEETINGS OR AS SPECIFIED BY THE TOWN ENGINEER WITH APPROPRIATE TOWN DEPARTMENTS TO DISCUSS THE CONSTRUCTION PROCESS AND THE SCHEDULE FOR THE UPCOMING WEEK.
10. ROADS AND SIDEWALKS: THE APPLICANT/CONTRACTOR SHALL NOT OBSTRUCT ANY ROAD OR SIDEWALK WITHOUT APPROVAL OF THE DURHAM POLICE DEPARTMENT. THE APPLICANT/CONTRACTOR SHALL CONTACT THE POLICE DEPARTMENT A MINIMUM OF 24 HOURS PRIOR TO ANY SUCH ACTIVITY. THE POLICE DEPARTMENT WILL DETERMINE WHETHER OR NOT A POLICE DETAIL IS NEEDED.
11. PEDESTRIAN ACCESS: THE CONTRACTOR SHALL PROVIDE A MINIMUM 5 FOOT WIDE PEDESTRIAN ACCESS FOR ALL INGRESS AND EGRESS LOCATIONS FOR THE EXISTING BUILDINGS.

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CONSTRUCTION MGMT PLAN

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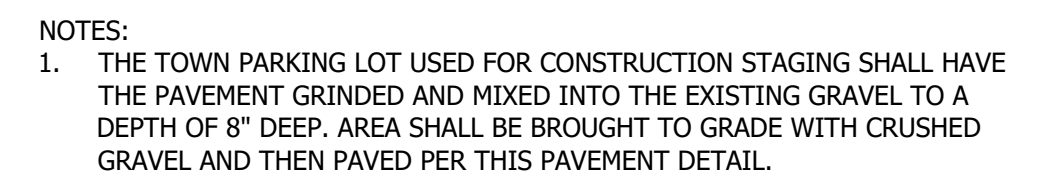
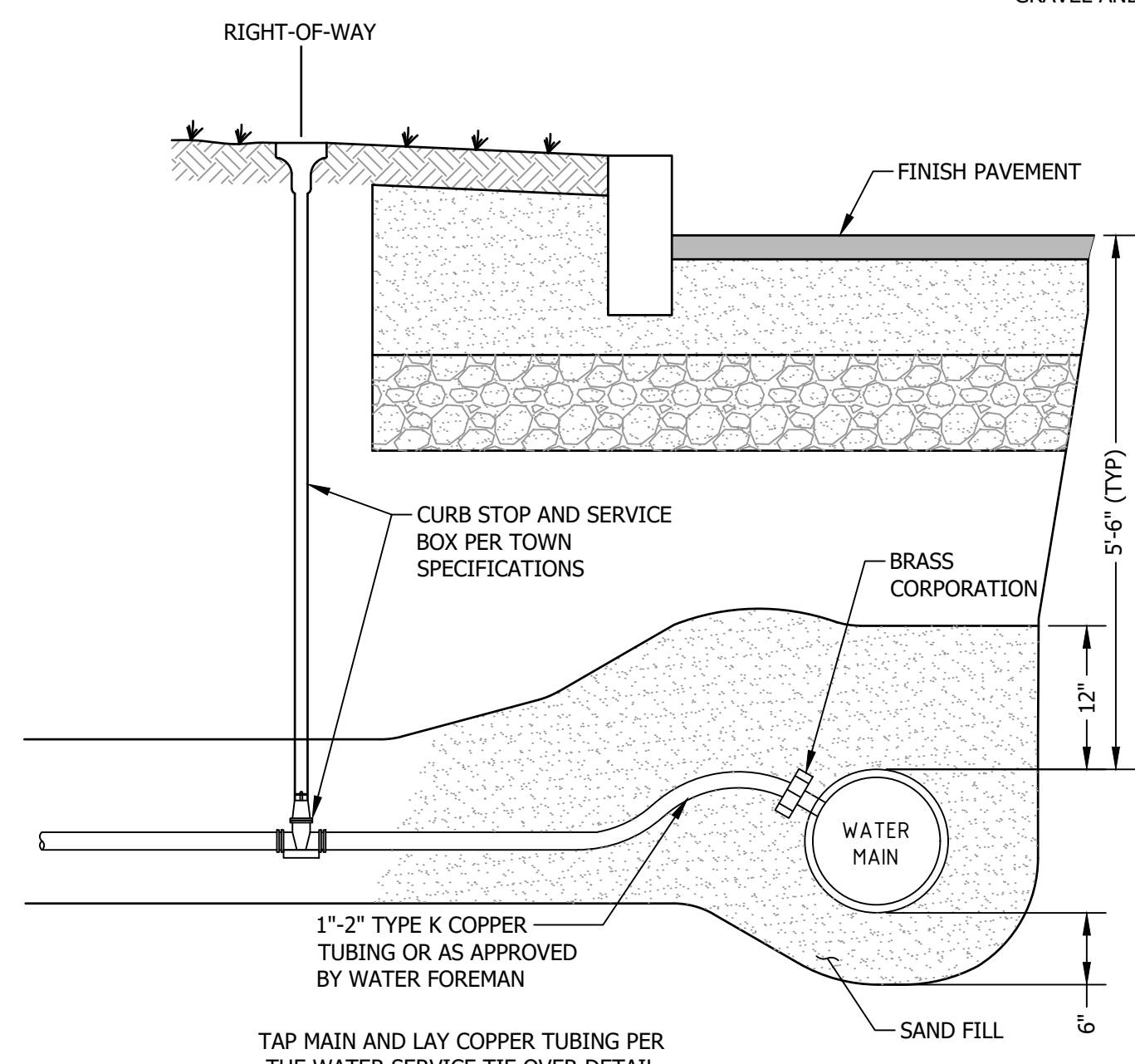
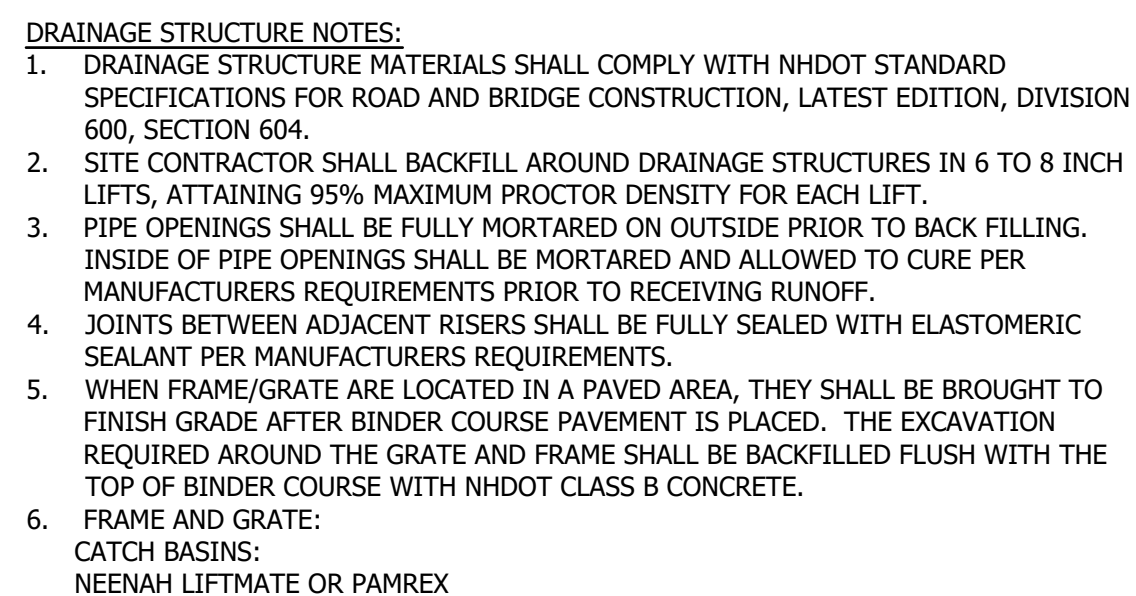
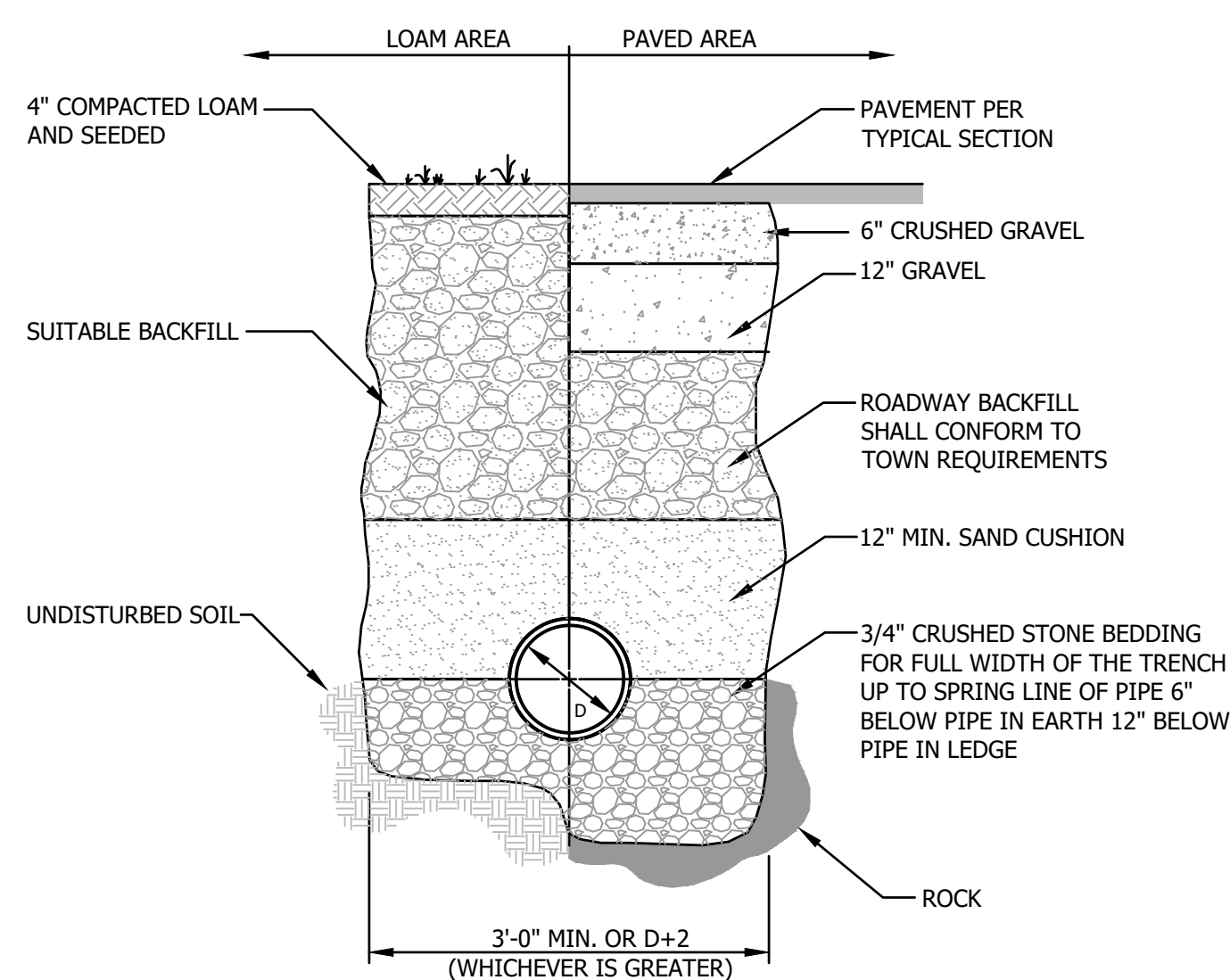
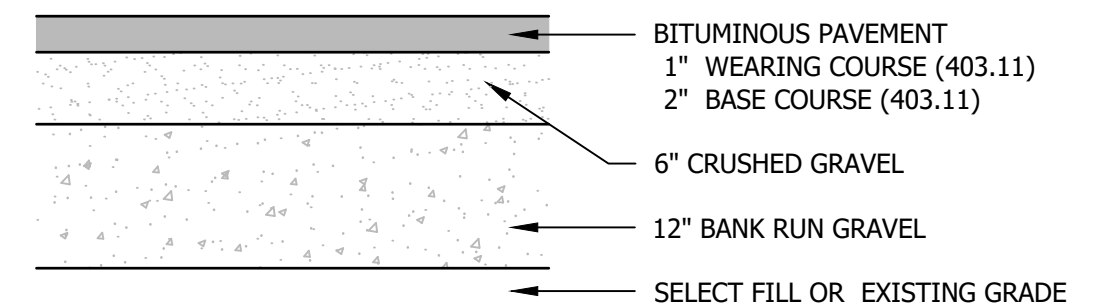
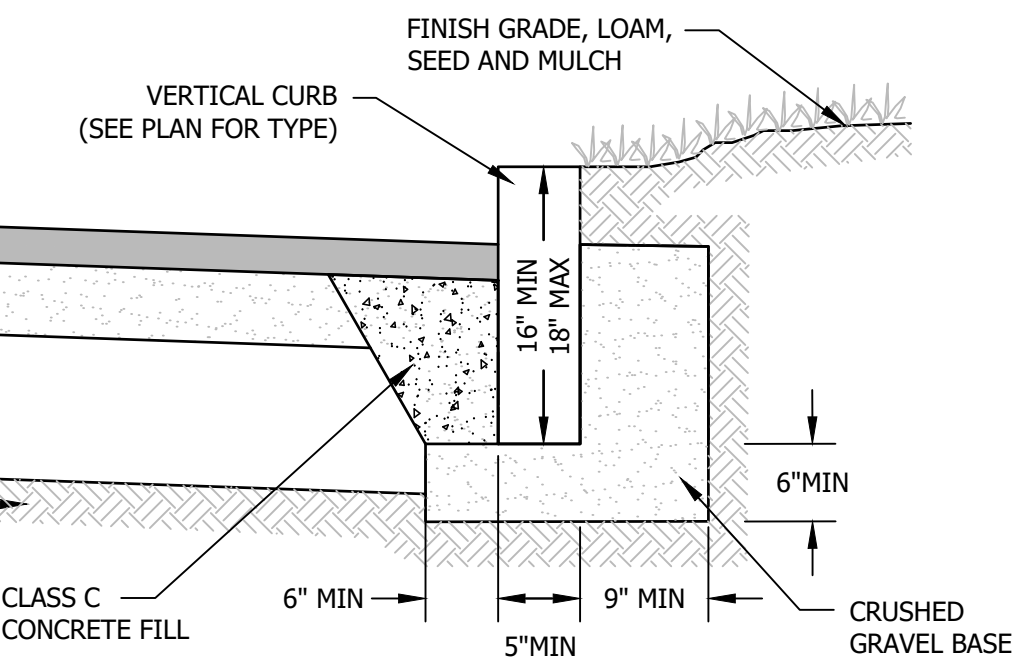
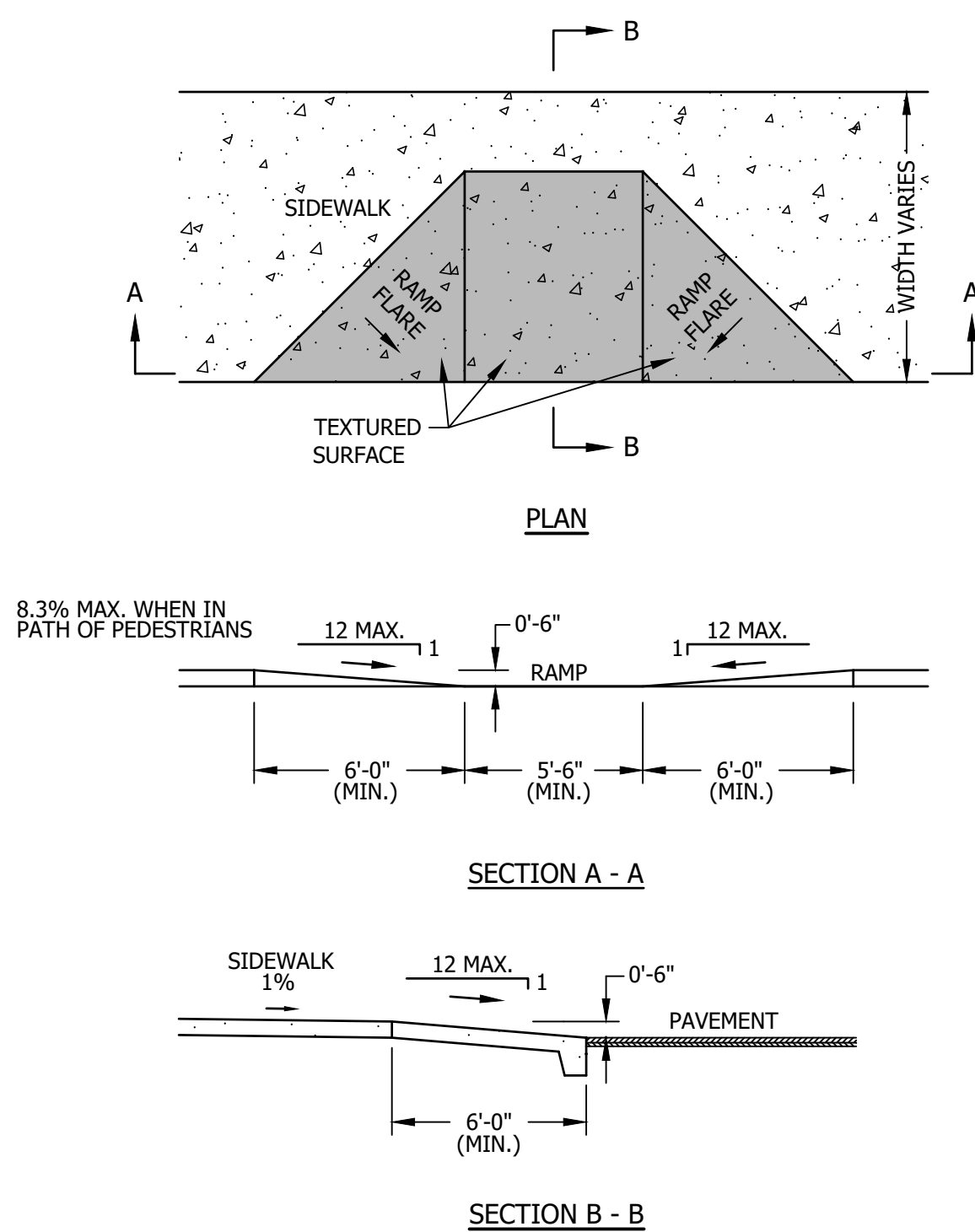
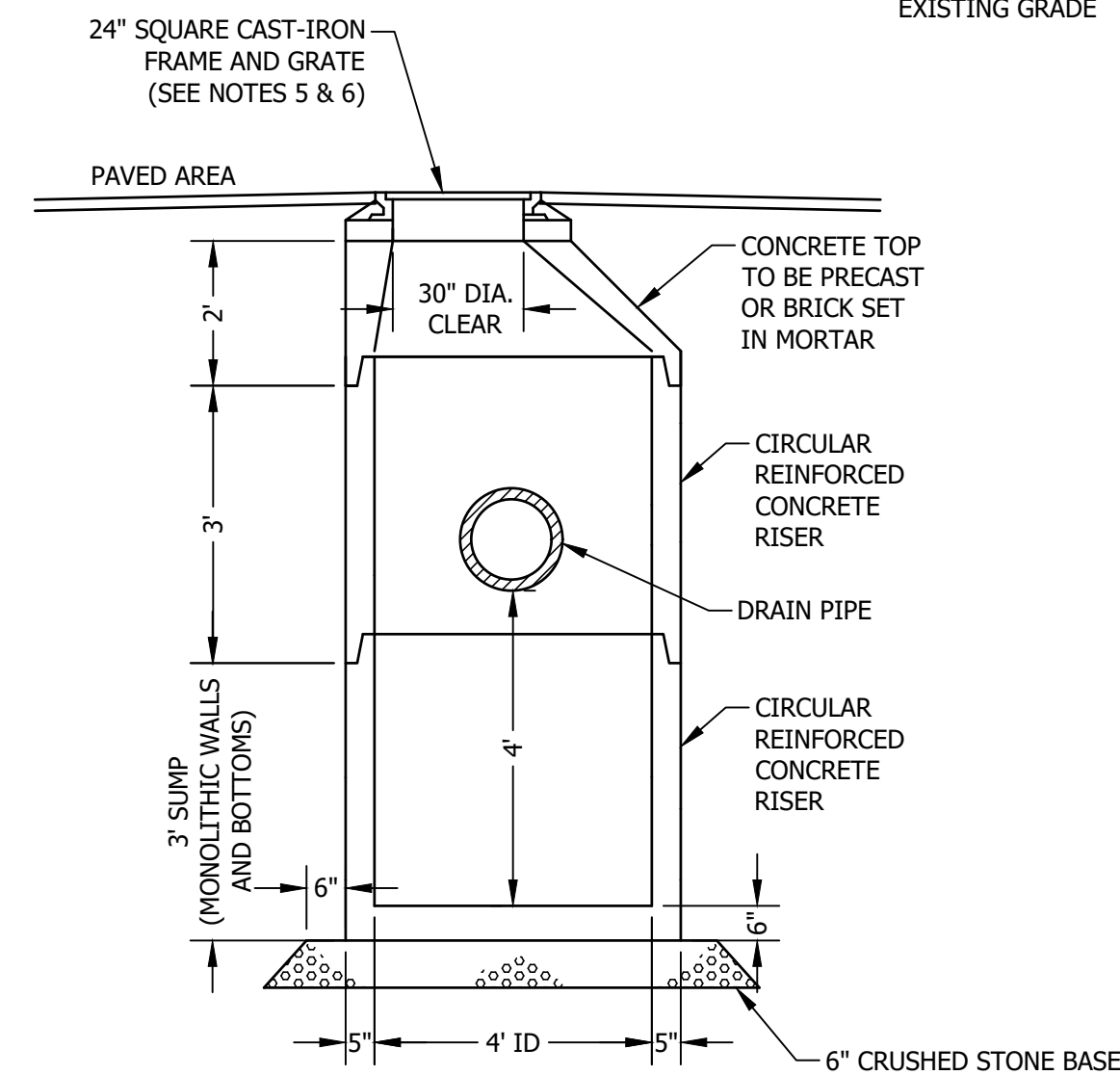
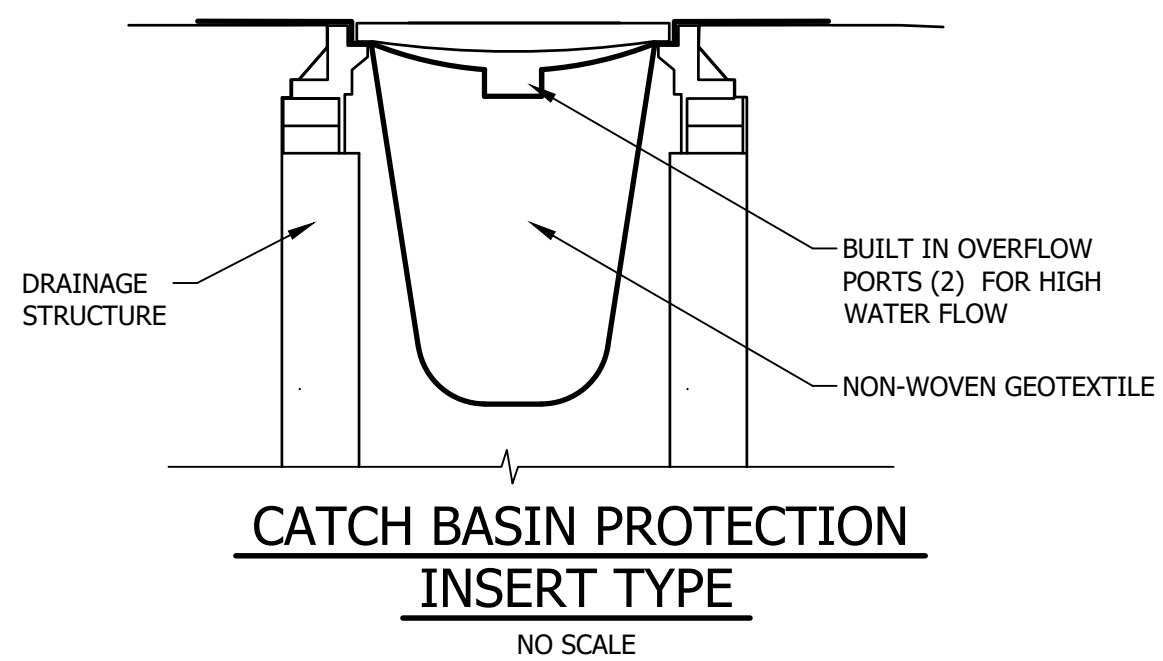
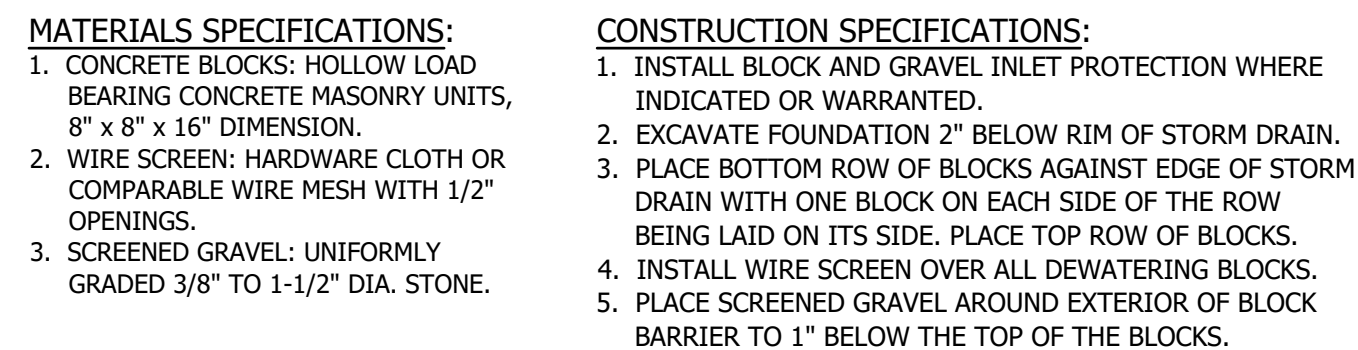
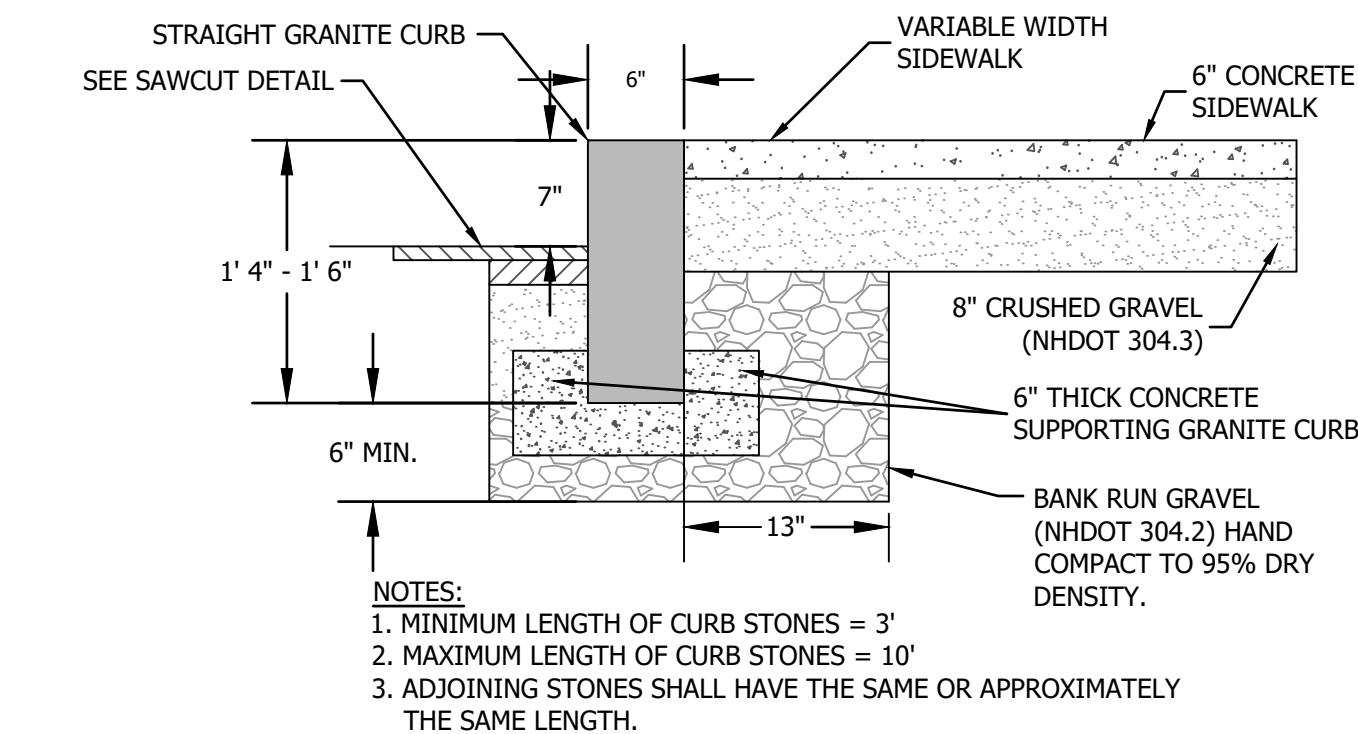
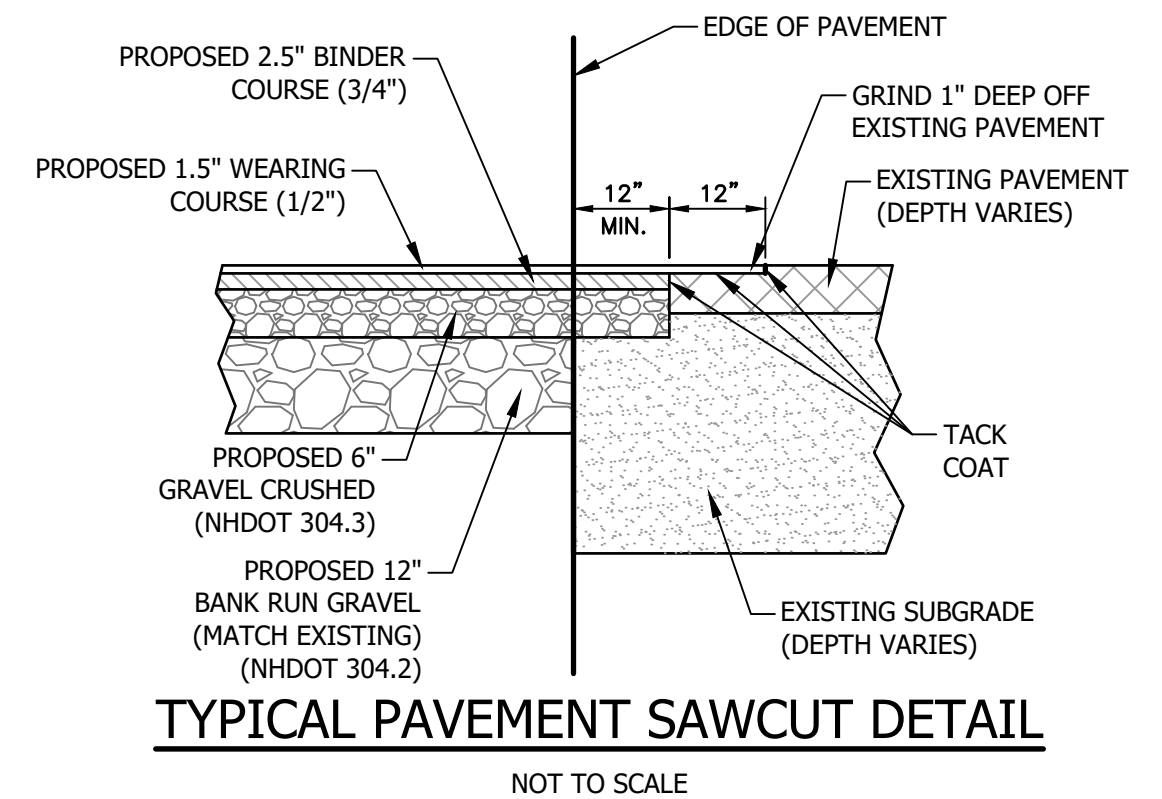
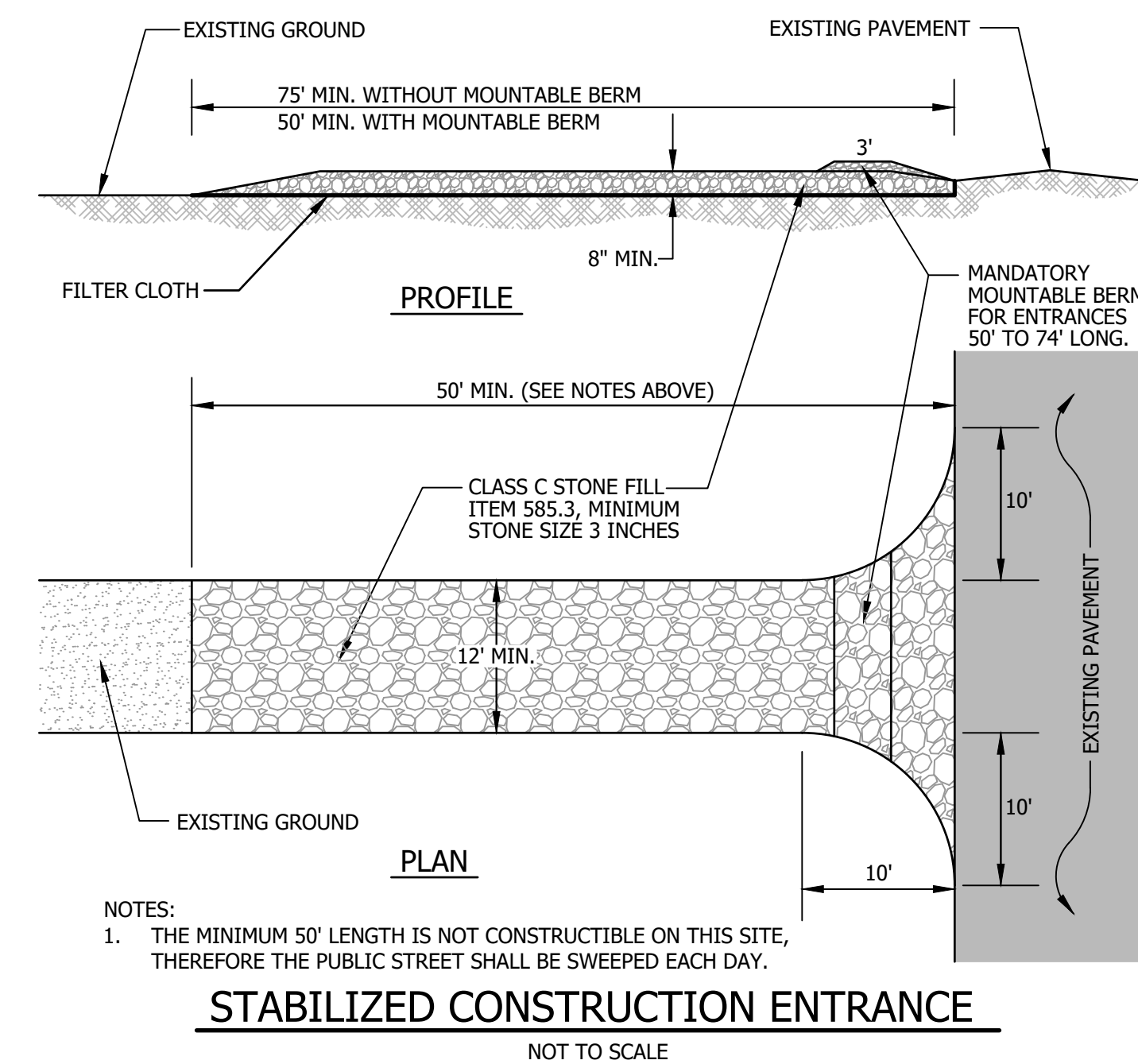
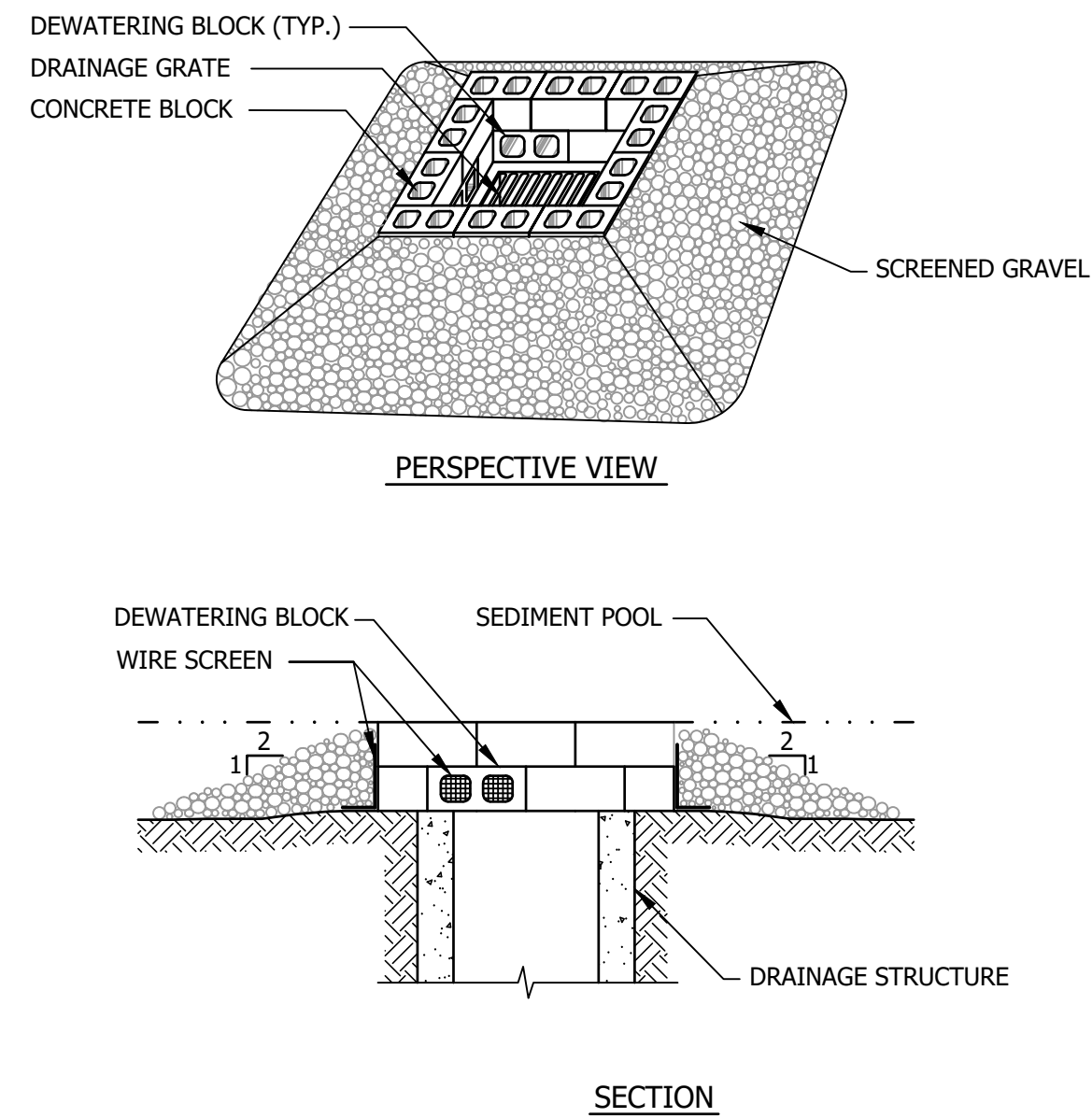
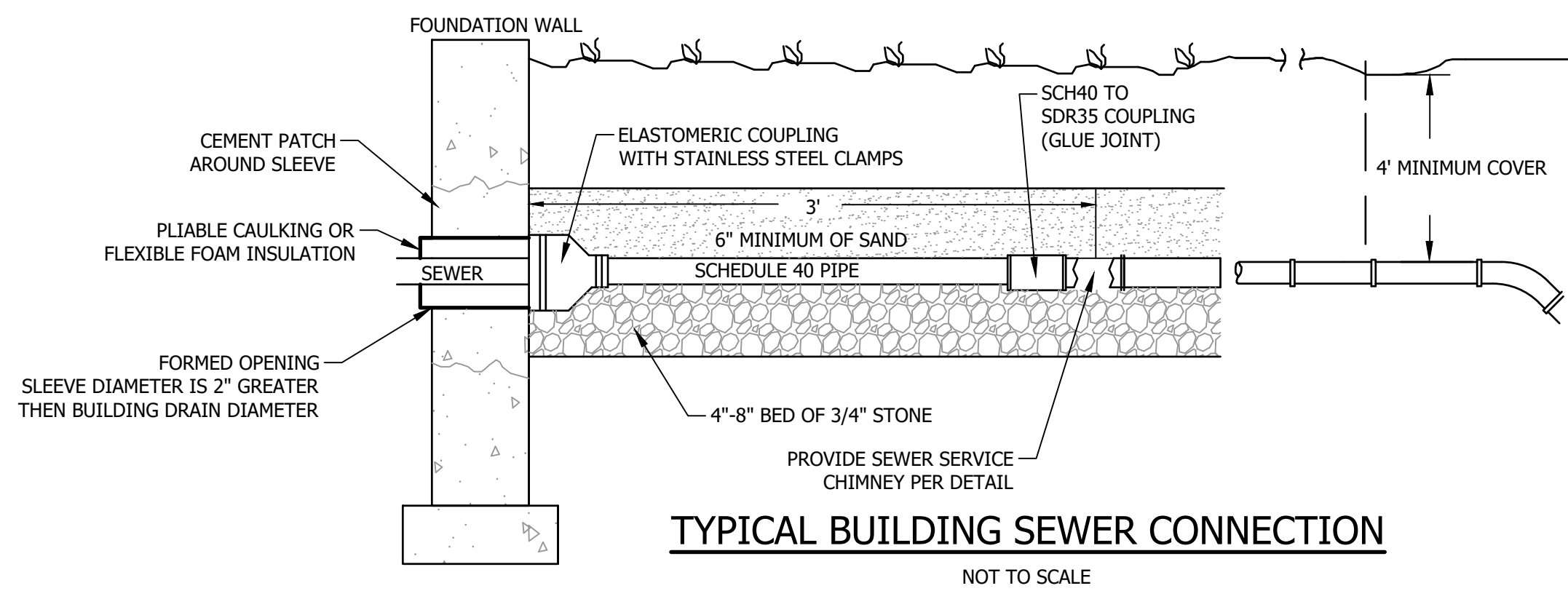
74 MAIN STREET

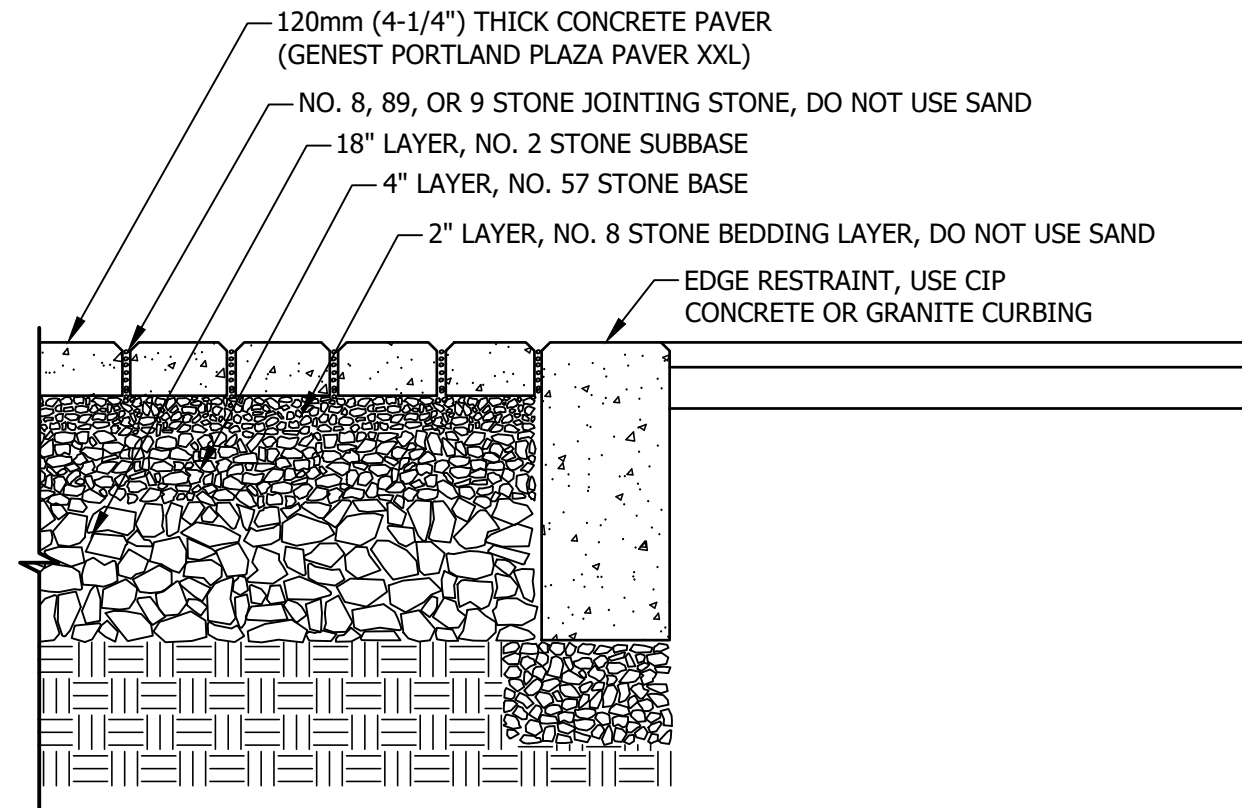
TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
01	2022-07-26	INITIAL SUBMISSION	MCS	MCS

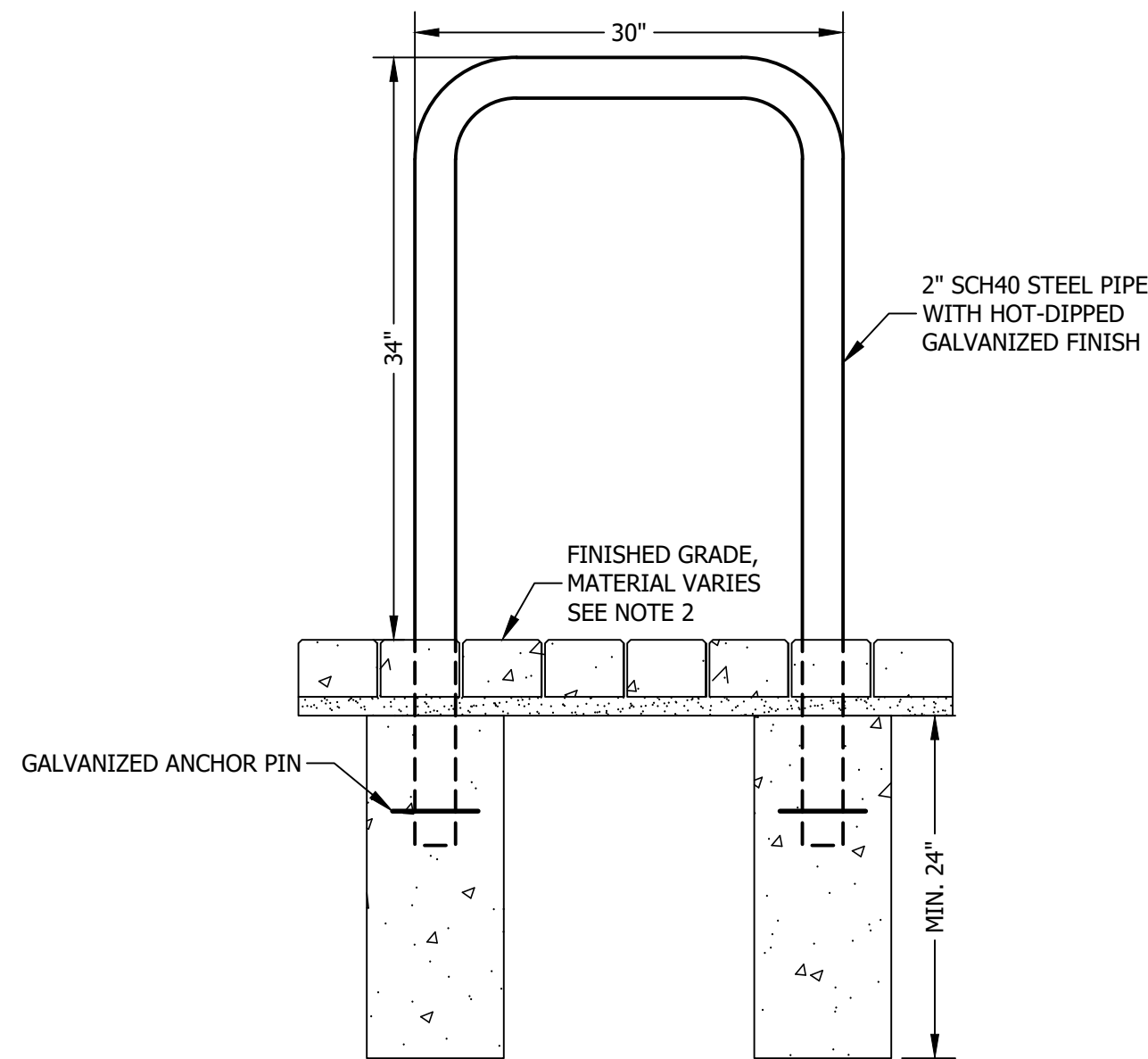
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TYPICAL PERMEABLE PAVER CROSS-SECTION

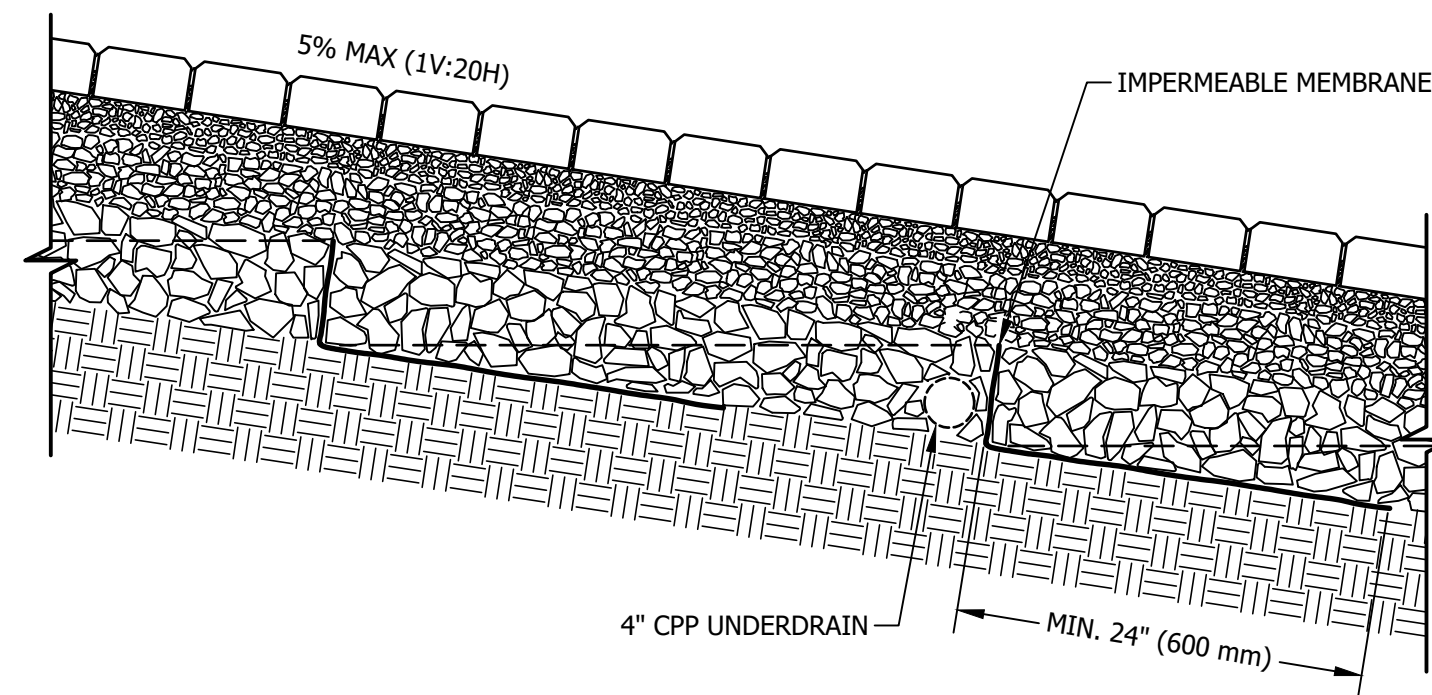
NOT TO SCALE



- NOTES:
1. ALL BICYCLE STANDS MUST BE MADRAX UX238-IG-G OR UX238-SF-G, OR APPROVED EQUAL.
 2. ALL BICYCLE STANDS MUST BE IN-GROUND MOUNTED UNLESS THEY WILL BE MOUNTED TO AN EXISTING CONCRETE SLAB THAT MEETS MADRAX REQUIREMENTS FOR SURFACE MOUNTING.

SHEFFIELD BICYCLE STAND DETAIL

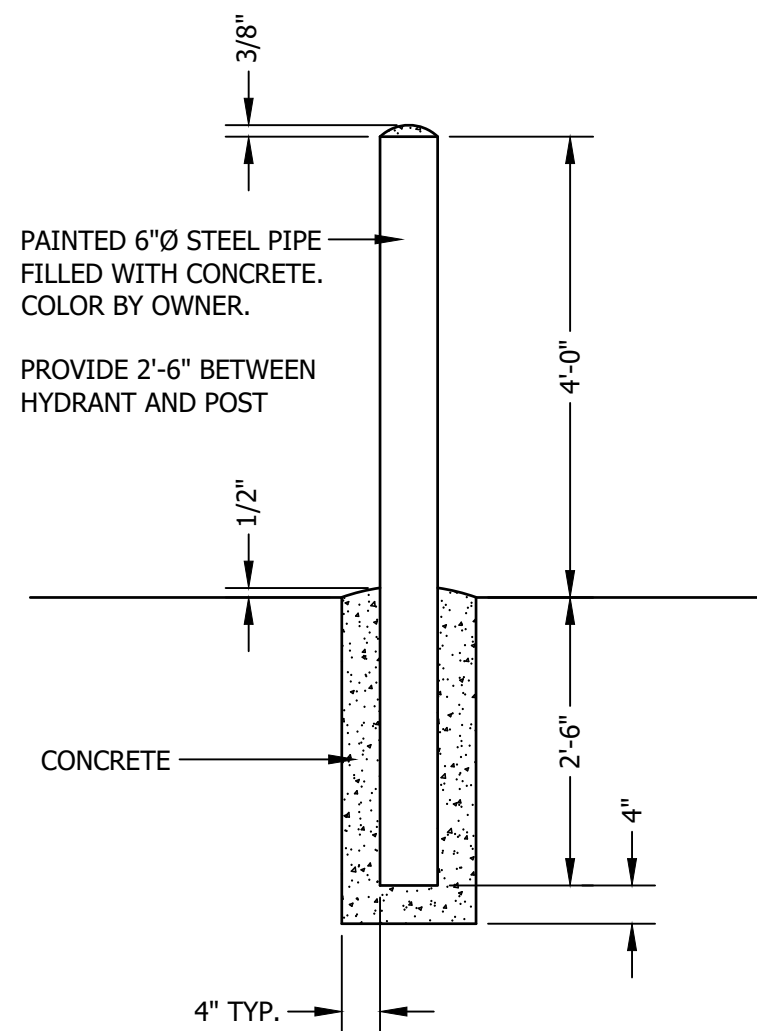
NOT TO SCALE



- NOTES:
1. LOCATIONS, HEIGHT, AND WIDTHS OF CHECK DAMS TO BE SPECIFIED IN THE DESIGN PLANS.
 2. DEPTH OF CHECK DAM VARIES WITH HYDROLOGIC DESIGN.
 3. UNDERDRAIN TO PASS THROUGH IMPERMEABLE MEMBRANE ATTACHED AS A WATERTIGHT COLLAR.
 4. IMPERMEABLE LINER TOP AND BOTTOM COVER WITH NON-WOVEN GEOTEXTILE (MIRAFI 160N) FOR PROTECTION AGAINST DAMAGE DURING AGGREGATE COMPACTION.

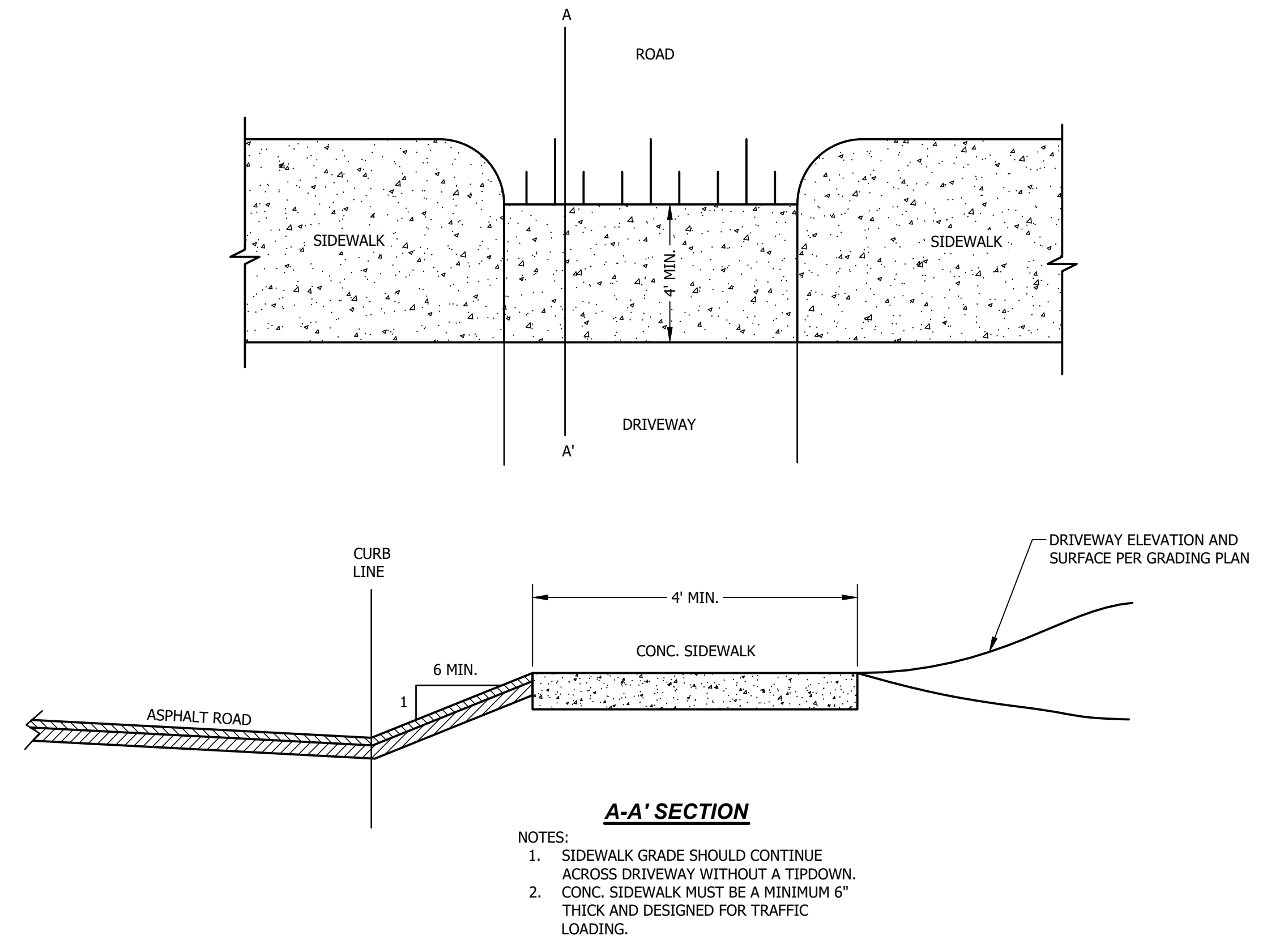
TYPICAL IMPERMEABLE MEMBRANE CHECK DAM

NOT TO SCALE



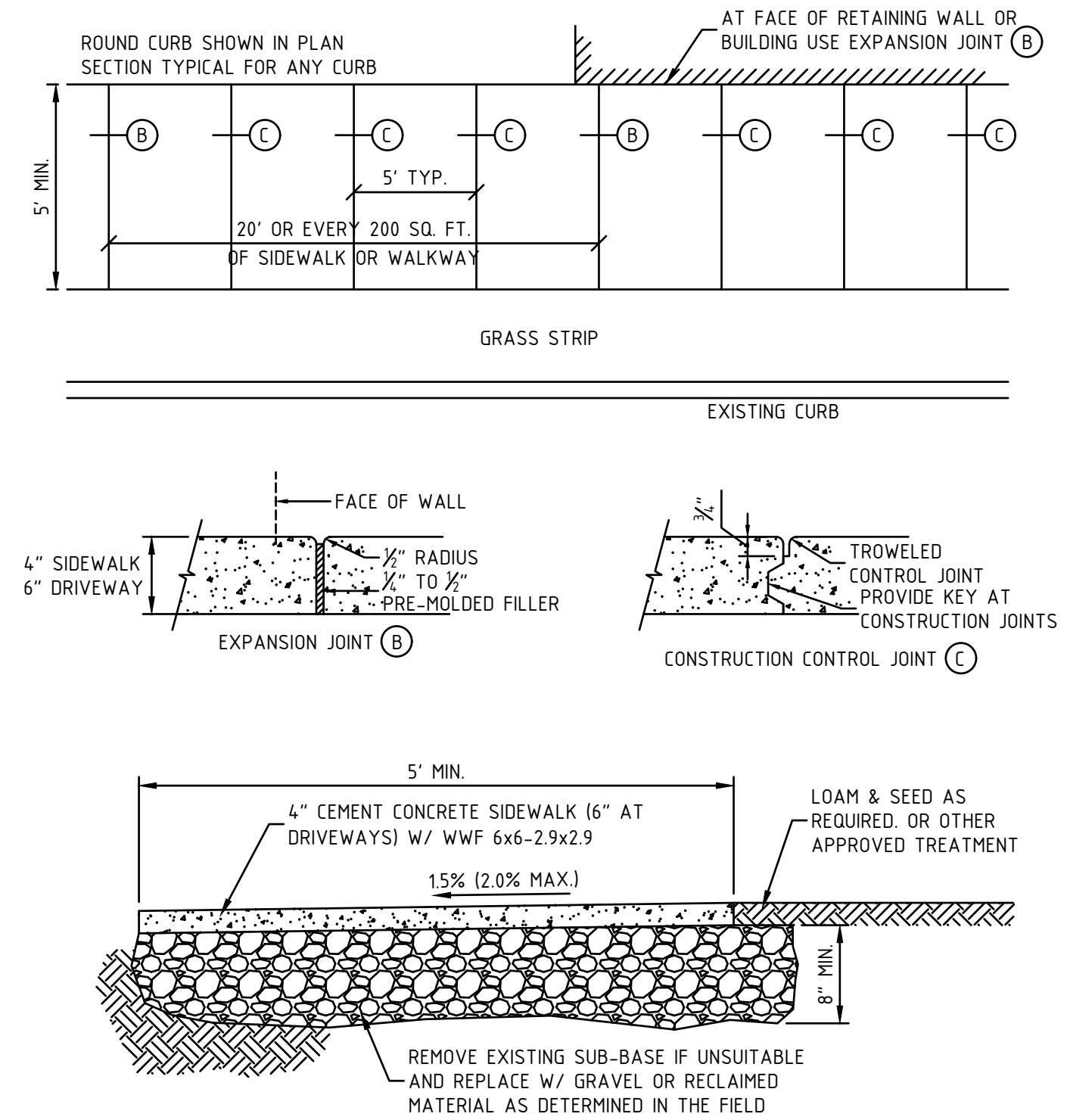
CONCRETE FILLED BOLLARD DETAIL

NOT TO SCALE



TRAFFIC CALMING DRIVEWAY TIPDOWN

NOT TO SCALE



TYPICAL CONCRETE SIDEWALK DETAIL

NOT TO SCALE

FOR REVIEW
NOT FOR CONSTRUCTION

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POMFRET VT • KENNEBUNK ME • CONWAY NH

CLARK PROPERTIES, LLC

74 MAIN STREET
DURHAM, NH

CONSTRUCTION DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG
1	2021-07-19	REVISED DRAINAGE DESIGN	MCS

STATE OF NEW HAMPSHIRE
MICHAEL J. SIEVERT
No. 6397
LICENSED PROFESSIONAL ENGINEER

DATE:
2021-07-19
PROJECT #:
NM18054
ENGINE'D BY:
MJS
DRAWN BY:
MCS
CHECK'D BY:
MJS
ARCHIVE #:
H-____

C502

SEWER NOTES

1. GENERAL

CONSTRUCTION OF ALL COMPONENTS OF THE SANITARY SEWER SYSTEM SHALL CONFORM TO THE MOST CURRENT VERSION OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES ENV-WQ 700 AND TECHNICAL SPECIFICATIONS ENTITLED "_____".

2. TYPES OF SEWERS

- A. THERE SHALL BE NO CONNECTION BETWEEN SANITARY SEWERS AND STORM SEWERS.
B. RUNOFF FROM ROOFS, STREETS, AND OTHER AREAS AND GROUNDWATER FROM FOUNDATION DRAINS, SUMP PUMPS, OR OTHER SUBSURFACE DRAINS SHALL BE EXCLUDED FROM SANITARY SEWERS.

3. SEWER SIZE AND COVER

- A. MINIMUM PIPE SIZE FOR GRAVITY SEWER MAINS SHALL BE 8 INCHES.
B. MINIMUM PIPE SIZE FOR GRAVITY SEWER SERVICES SHALL BE 4 INCHES.
C. MINIMUM PIPE SIZE FOR FORCE MAIN SEWER SERVICES SHALL BE 2 INCHES.
D. SANITARY SEWERS SHALL HAVE 6 FEET MINIMUM COVER IN ALL ROADWAY LOCATIONS AND 4 FEET MINIMUM COVER IN ALL CROSS-COUNTRY LOCATIONS.

4. PIPE AND FITTING MATERIALS:

A. DUCTILE IRON PIPE

DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION:

- (1) AWWA C151 FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND LINED MOLDS, FOR WATER OR OTHER LIQUIDS;
(2) AWWA C150 FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A 536 IRON CASTINGS; AND
(3) JOINTS SHALL BE MECHANICAL TYPE, PUSH-ON TYPE, OR BALL-AND-SOCKET TYPE;

B. PVC (POLY VINYL CHLORIDE) PIPE

PVC PIPE AND FITTINGS SHALL BE APPROVED FOR SEWAGE SERVICE AND CONFORM TO THE FOLLOWING:

- (1) PVC PIPE USED FOR GRAVITY SEWERS SHALL BE TYPE SDR 35 CONFORMING TO ASTM D3034;
(2) PVC PIPE USED FOR FORCE MAINS SHALL BE TYPE SDR 26 CONFORMING TO ASTM D2241 OR ASTM D1785;
(3) JOINTS SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE HAVING OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212.

5. BEDDING

PIPE BEDDING SHALL BE SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67. BEDDING SHALL EXTEND FROM THE SPRING LINE OF THE PIPE TO A MINIMUM DEPTH OF 6" BELOW THE BOTTOM OF THE PIPE OUTSIDE SURFACE.

100% PASSING	1 INCH SCREEN
90-100% PASSING	¾ INCH SCREEN
20-55% PASSING	½ INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE

6. MANHOLES

- A. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C478.
B. MANHOLES SHALL BE DESIGNED FOR H-20 LOADING.
C. HORIZONTAL JOINTS BETWEEN BARREL SECTIONS SHALL BE OF AN OVERLAPPING TYPE WHICH SHALL DEPEND UPON A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT FOR WATER TIGHTNESS.
D. PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
(1) ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
(2) CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
(3) ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
(4) NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.

- E. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.

7. PROTECTION OF WATER SUPPLIES

- A. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.
B. NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTIVE RADII ESTABLISHED IN ENV-WS 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.
C. SEWERS SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
D. A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (B) OR (C) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS, PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ENV-WQ 704.06.
E. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:
(1) VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER; AND
(2) SEWER PIPE JOINTS SHALL BE LOCATED AT LEASE 6 FEET HORIZONTALLY FROM THE WATER MAIN.

STANDARD TRENCH NOTES - SEWER

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE SHALL BE REPLACED WITH BEDDING MATERIAL. SEE ALSO NOTE 4.

2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90-100% PASSING	¾ INCH SCREEN
20-55% PASSING	½ INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE

3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A ½ INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.

4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED FROM THE TRENCH DURING THE COURSE OF CONSTRUCTION, AFTER EXCLUDING DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL NOT APPROVED BY THE ENGINEER.

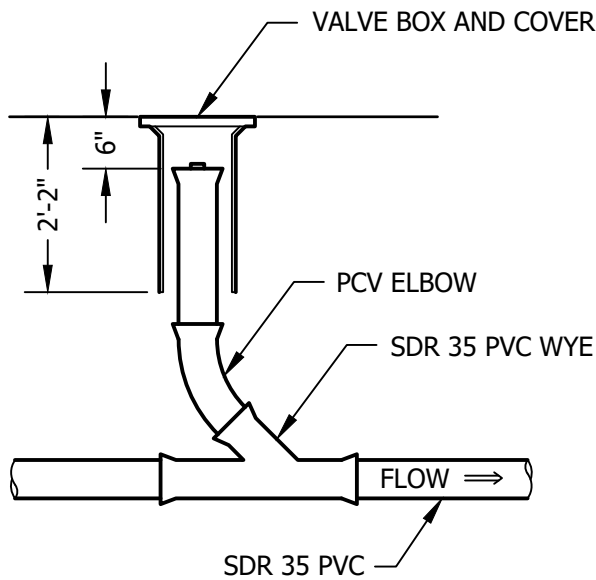
TRENCH BACKFILL IN CROSS-COUNTRY LOCATIONS SHALL BE SUITABLE MATERIAL AS DESCRIBED ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK, OR PEAT MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE STABLE AND ACCESS TO THE PIPE FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED. BACKFILL SHALL BE MOUNDED TO A HEIGHT OF SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE

5. BASE COURSE FOR TRENCH REPAIR SHALL MEET THE REQUIREMENTS OF SECTION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.

6. SHEETING: ALL TRENCH SUPPORTS SHALL CONFORM TO OSHA STANDARDS. CONTRACTOR IS RESPONSIBLE FOR OSHA COMPLIANCE AND WORKER SAFETY THROUGHOUT CONSTRUCTION.

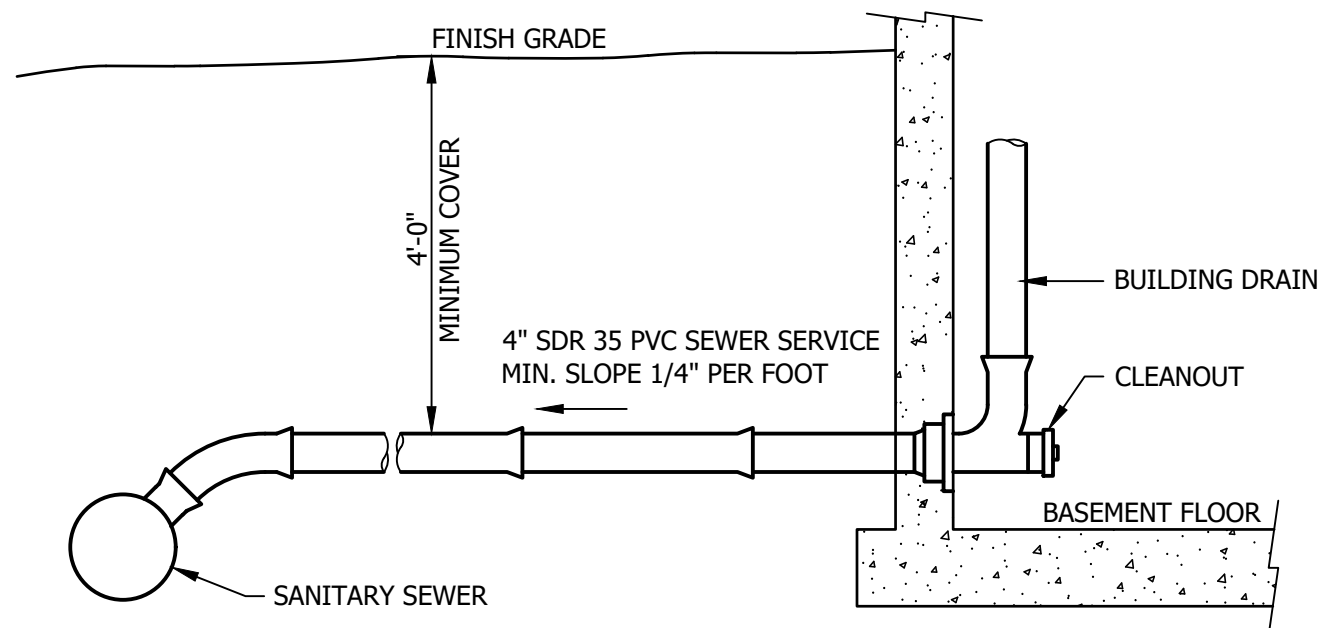
7. TRENCH DIMENSIONS: W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.

8. PIPE INSULATION AT STORM DRAIN CROSSING: INSTALL 2" THICK RIGID FOAM INSULATION OVER SEWER AT STORM DRAIN CROSSINGS, EXTEND INSULATION 4 FEET EITHER SIDE OF STORM DRAIN ALONG SEWER.



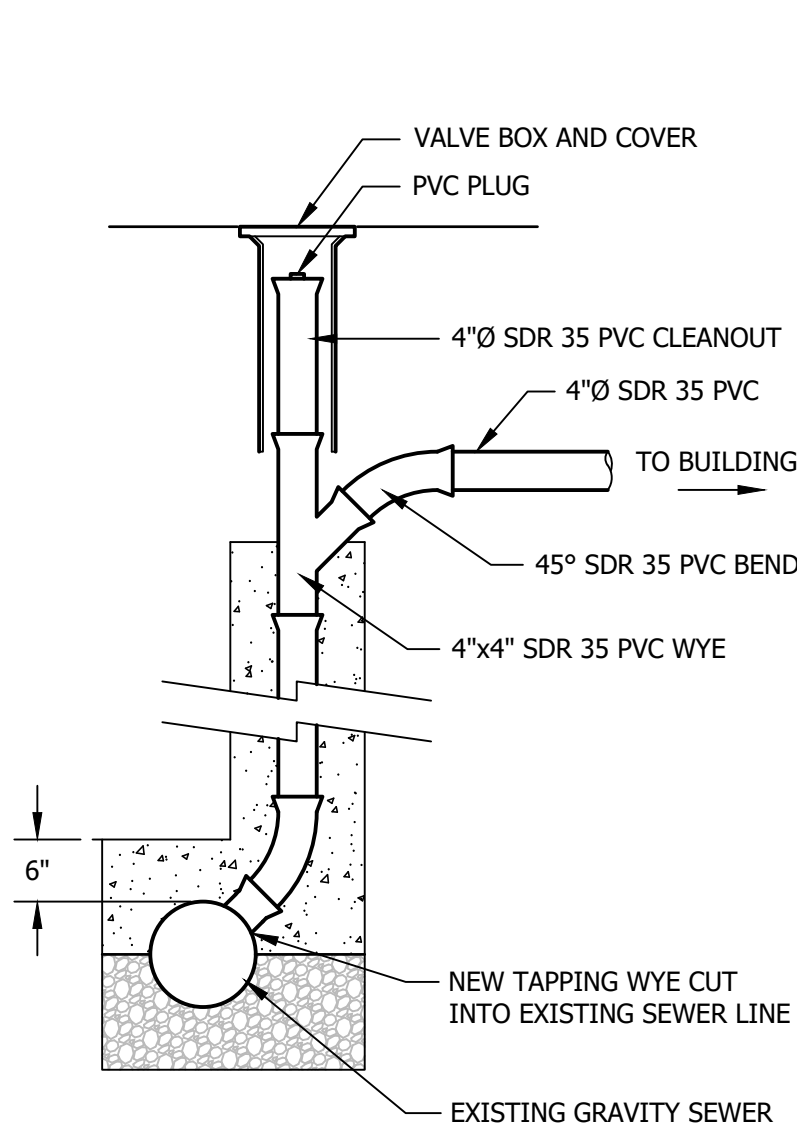
SEWER CLEANOUT DETAIL

NOT TO SCALE



SEWER SERVICE DETAIL

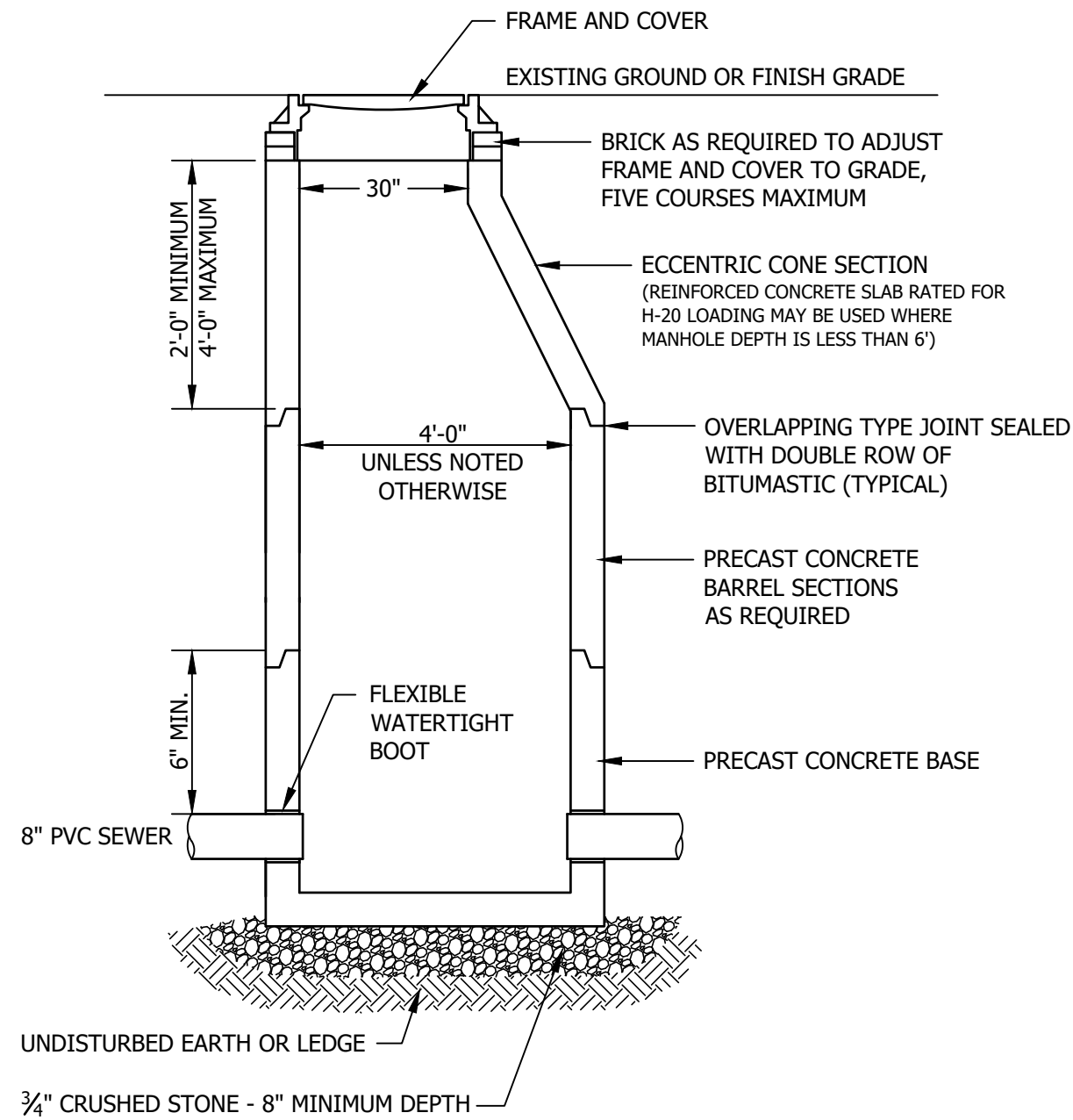
NOT TO SCALE



IF VERTICAL DROP INTO SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED AT THE CONNECTION.

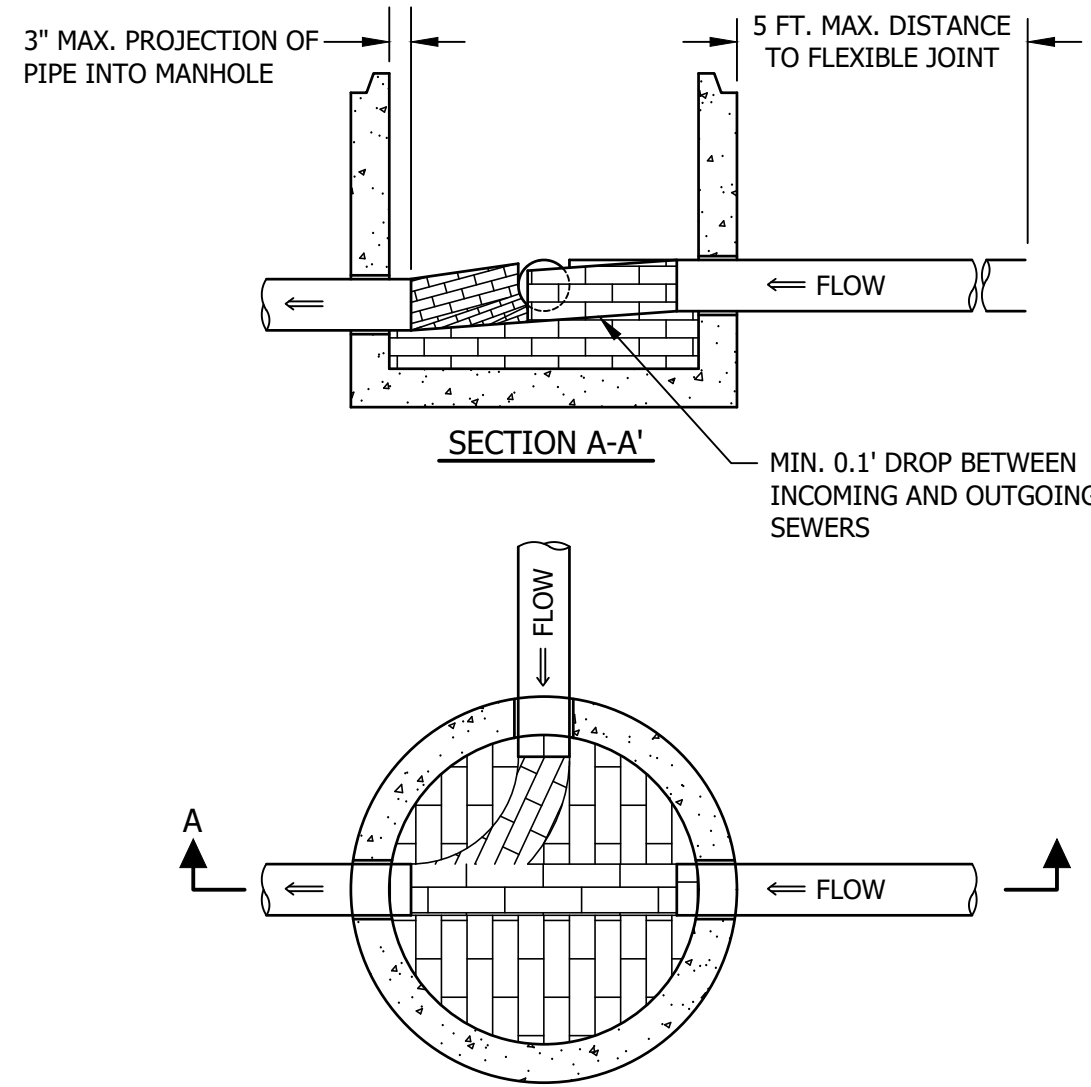
CHIMNEY AT NEW SEWER CONNECTION

NOT TO SCALE



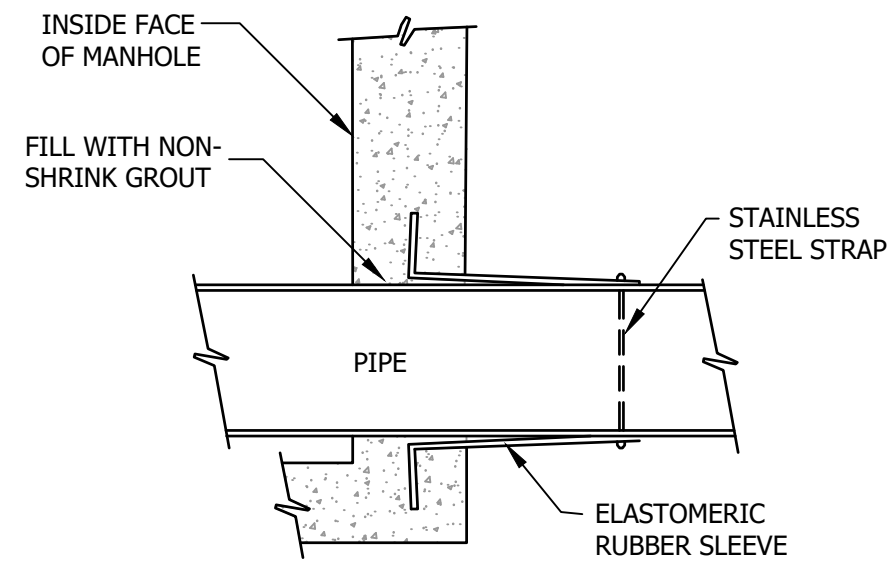
SANITARY SEWER MANHOLE DETAIL

NOT TO SCALE

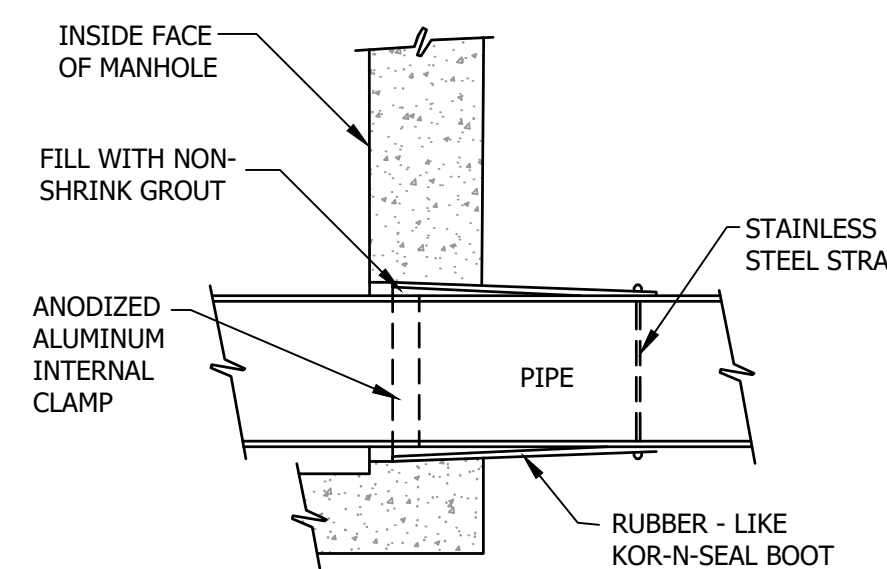


MANHOLE INVERT DETAILS

NOT TO SCALE



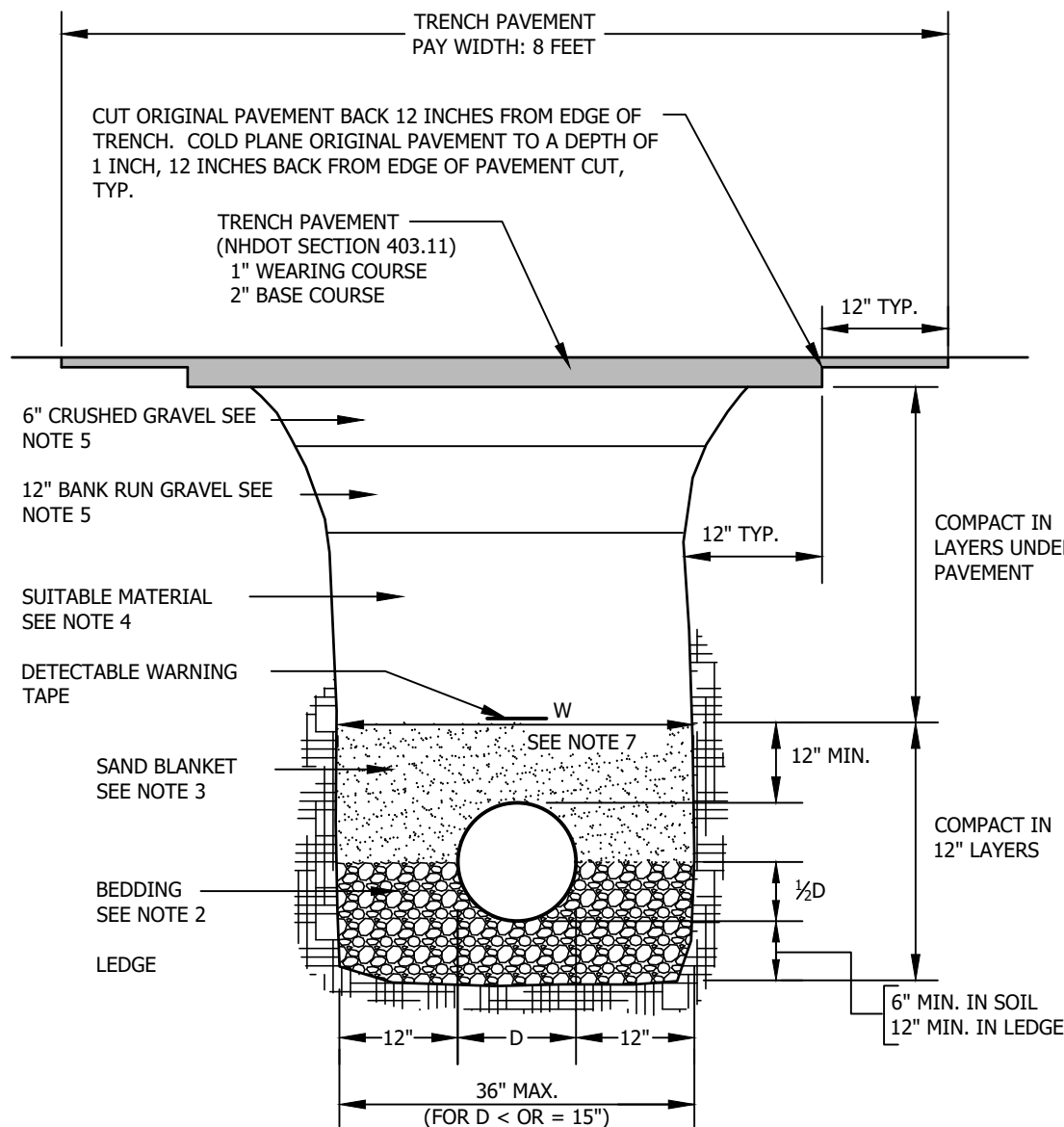
LOCK-JOINT FLEXIBLE MANHOLE SLEEVE



KOR-N-SEAL JOINT SLEEVE

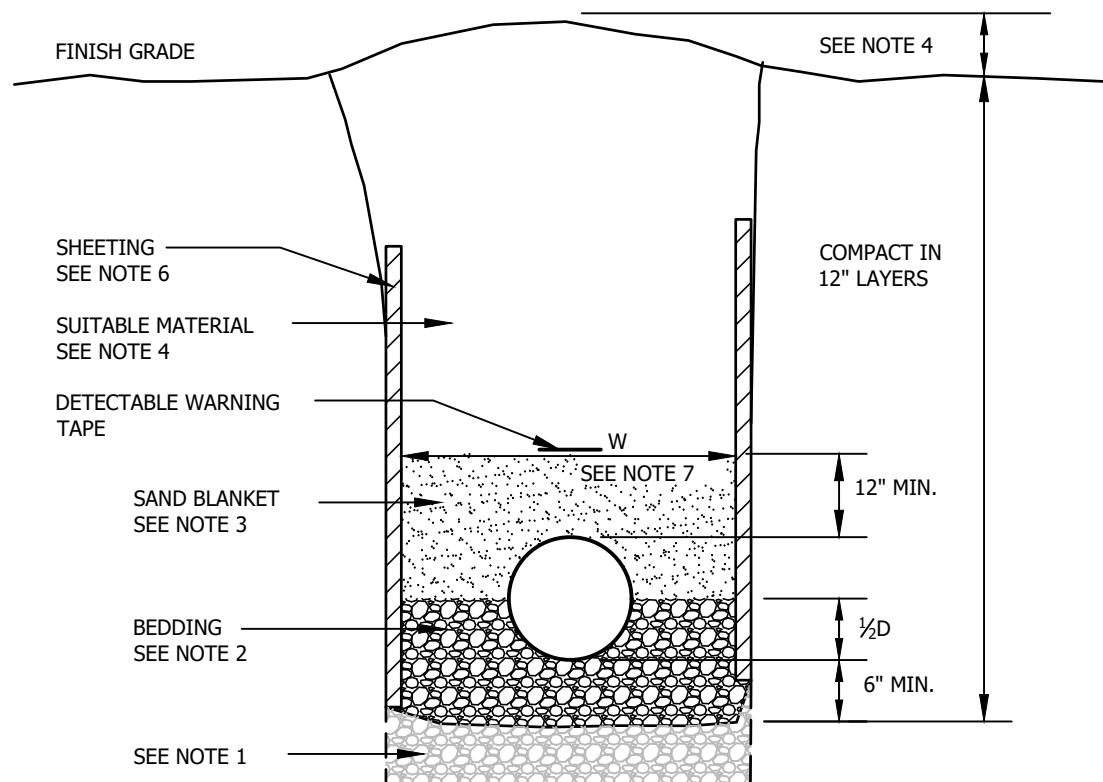
JOINTING DETAILS

NOT TO SCALE



NOTE: MINIMUM BEDDING DEPTH AND MAXIMUM PAYMENT LIMIT FOR LEDGE EXCAVATION = ½D (12" MINIMUM)

LEDGE/SUB PAVEMENT CONSTRUCTION



EARTH CONSTRUCTION WITH OR WITHOUT SHEETING

STANDARD TRENCH SECTIONS

NOT TO SCALE

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1	2021-07-19	REVISED DRAINAGE DESIGN	MCS

	DATE: 2021-07-19	PROJECT #: NM18054
	ENGINE'D BY: MJS	DRAWN BY: MCS
	CHECK'D BY: MJS	ARCHIVE #: H-___
	C503	