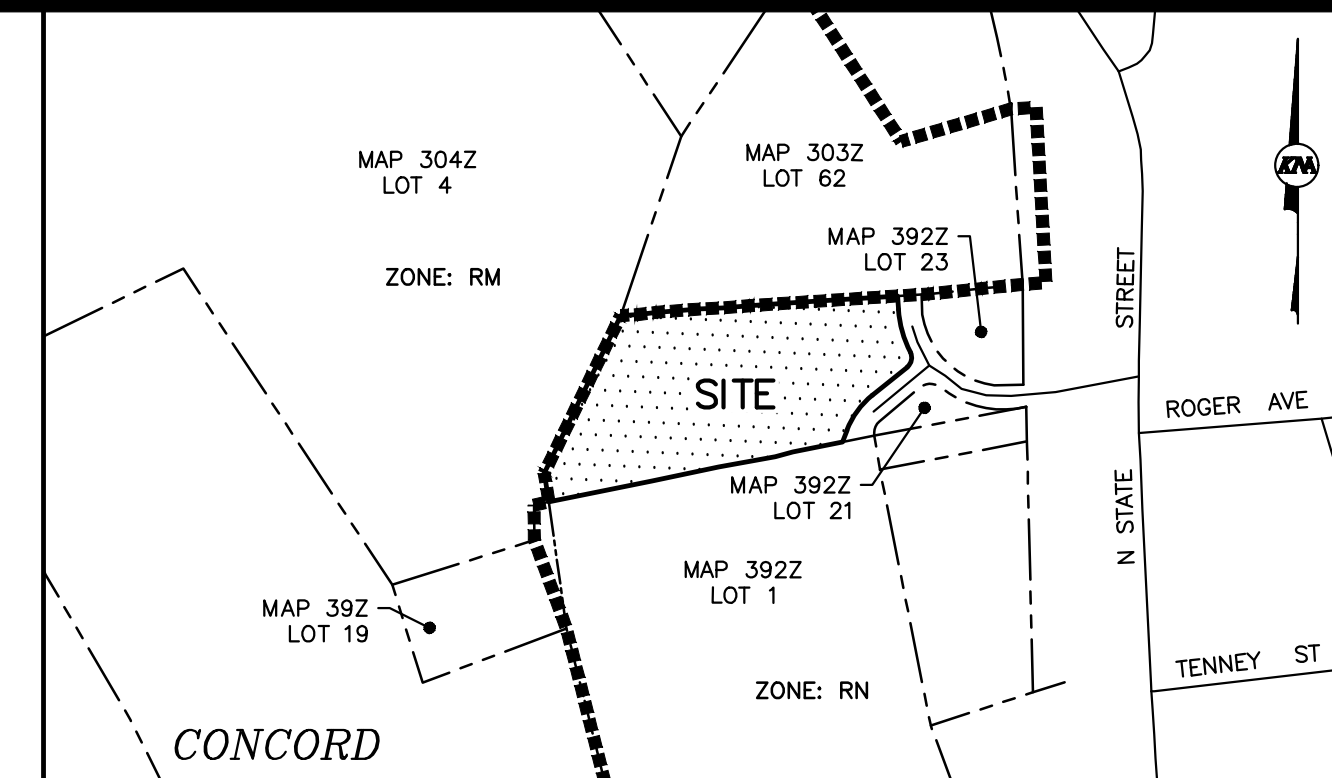


VICINITY PLAN
1" = 4,000'

RESIDENTIAL SITE PLAN PARMENTER PLACE PHASE II MAP 392Z; LOT 22 15 PARMENTER ROAD CONCORD, NEW HAMPSHIRE

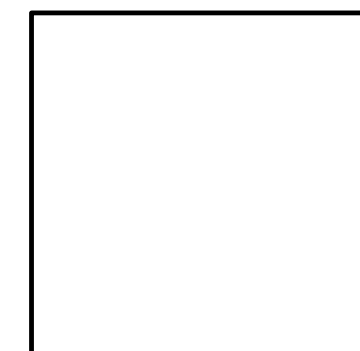
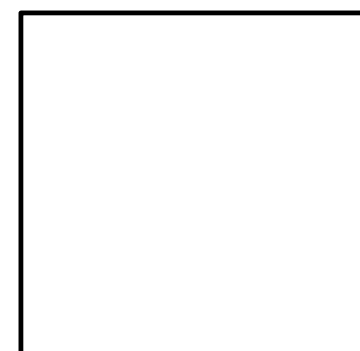


LOCATION PLAN
SCALE: 1" = 400'

OWNER:
PARMENTER PLACE
23 GREEN STREET STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090
M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:
CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

PREPARED BY:
KEACH-NORDSTROM ASSOCIATES, INC.
10 COMMERCE PARK NORTH, SUITE 3B
BEDFORD, NEW HAMPSHIRE 03110
(603) 627-2881



KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

APRIL 15, 2025
LAST REVISED: JUNE 2, 2025
PROJECT NO. 06-0505-1

SHEET TITLE

SHEET No.

OVERVIEW PLAN	1
EXISTING CONDITIONS PLAN	2
REMOVALS/DEMOLITION PLAN	3
RESIDENTIAL SITE PLAN	4
GRADING & DRAINAGE PLAN	5
UTILITY PLAN	6
EROSION CONTROL PLAN	7
LANDSCAPE PLAN	8
LIGHTING PLAN	9
DRAINAGE PROFILES	10
SEWER PROFILES	11
CONSTRUCTION DETAILS	12 - 19
TEST PIT LOGS	20

ARCHITECTURAL PLANS

KMA

TRUE PLAN REF.

REFERENCE PLANS

- "SUBDIVISION PLAT OF THE LAND OF EMMANUEL T. JR. & JUDITH I. BROCHU". SCALE: 1"=50'. DATED: DECEMBER 17, 2007. PREPARED BY: RICHARD D. BARTLETT & ASSOCIATES, LLC. M.C.R.D. PLAN #19397
- "RESIDENTIAL SITE PLAN PARMENTER PLACE, CONCORD, NEW HAMPSHIRE". SCALE: 1"=20'. DATED: MAY 2007. REVISED: FEBRUARY 10, 2010. PREPARED BY: KEACH-NORDSTROM ASSOCIATES, INC.

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

MAP 303Z LOT 62

ARANSIAN REALTY LLC
657 N STATE STREET
CONCORD, N.H. 03301-3236
FISHERVILLE ROAD
CONCORD, N.H. 03301-3236
BK. 2381 PG. 1286

MAP 304Z LOT 4

DEOSS DISTER L REVOCABLE TRUST
DEOSS DISTER L JR TRUSTEE
PO BOX 658
CONCORD, N.H. 03302-0658
HUTCHINS STREET
CONCORD, N.H. 03302-0658
BK. 3562 PG. 930

MAP 392Z LOT 22

211,389 S.F.
4.853 Ac.

MAP 39Z LOT 19

DEOSS DISTER L REVOCABLE TRUST
DEOSS DISTER L JR TRUSTEE
PO BOX 658
CONCORD, N.H. 03302-0658
HUTCHINS STREET
CONCORD, N.H. 03302-0658
BK. 3562 PG. 930

MAP 392Z LOT 1

DEOSS DISTER L REVOCABLE TRUST
DEOSS DISTER L JR TRUSTEE
PO BOX 658
CONCORD, N.H. 03302-0658
30-32 HUTCHINS STREET
CONCORD, N.H. 03302-0658
BK. 3562 PG. 930

MAP 392Z LOT 23

PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301-4021
PARMENTER ROAD
CONCORD, N.H. 03301-4021
BK. 3172 PG. 1102

MAP 392Z LOT 21

PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301-4021
PARMENTER ROAD
CONCORD, N.H. 03301-4021
BK. 3172 PG. 1102

SHEETS 3 - 9

NOTES:

- THE PURPOSE OF THIS PLAN IS TO DEPICT THE SITE LAYOUT OF A RESIDENTIAL DEVELOPMENT CONSISTING OF 8 RESIDENTIAL UNITS ACCOMMODATING FOUR 2-BEDROOM UNITS AND FOUR 3-BEDROOM UNITS, PROVIDING A TOTAL OF 20-BEDROOMS, WHICH WILL BE SERVICED BY MUNICIPAL SEWER AND WATER.

- REFERENCE THIS PARCEL AS CONCORD ASSESSOR'S MAP 392Z, LOT 22.

- TOTAL AREA OF PARCEL IS 211,389 S.F. OR 4.853 ACRES;
BUILDABLE AREA = 4,853 AC - 1.114± AC (AREA OF 15% SLOPES, EASEMENTS, FLOOD ZONE & WETLANDS) = 3,739 AC.

- PARCEL IS LOCATED WITHIN THE RN-NEIGHBORHOOD RESIDENTIAL ZONING DISTRICT:

REQUIRED:

MIN. LOT FRONTAGE = 80'
MIN. BUILDING SETBACKS = 15' FRONT, 10' SIDE & 25' REAR
MAX. LOT COVERAGE = 50%
MAX. BUILDING HEIGHT = 35'
MAX. DENSITY = 10 UNITS / ACRE BUILDABLE AREA OR 10 x 3.739 = 37.4 UNITS
MIN. BUILDING SEPARATION = 40'
MIN. PERIMETER BUFFER = 50' (TWO STORY)
MIN. PERIMETER BUFFER = 30' (ONE STORY)

PROVIDED:

LOT FRONTAGE = 332.12'
BUILDING SETBACKS = 33.8' FRONT, 52.9' SIDE & 86.2' REAR
LOT COVERAGE = 75,509 S.F. (35.5%±) (BUILDING, PARKING & MISCELLANEOUS AREAS)
BUILDING = 21,664 S.F. (10.3%) PARKING = 43,683 S.F. (20.7%)

BUILDING HEIGHT = 18'
DENSITY = 33 TOTAL UNITS WITH 37 UNITS ALLOWED
BUILDING SEPARATION = 40.0' MINIMUM
PERIMETER BUFFER = 50' (TWO STORY)

- EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE CITY OF CONCORD, NEW HAMPSHIRE, MERRIMACK COUNTY, COMMUNITY MAP NUMBER 33013C0527E PANEL NUMBER 527 OF 705. EFFECTIVE DATE: APRIL 19, 2010 INDICATES THAT NO PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN FLOOD HAZARD ZONE.

- PARKING CALCULATIONS:

EXISTING:

57 EXISTING SPACES (INCLUDES 4 HC SPACES)

REQUIRED:

2 SPACES PER DWELLING UNIT (BASED ON ART. 28-7-2)
8 DWELLING UNITS X 2 SPACES/UNIT = 16 SPACES REQUIRED

PROVIDED:

16 SPACES (INCLUDES 2 HC SPACES)
6 EXISTING SPACES REDESIGNED PER NEW DRIVEWAY
57 EXISTING + 16 PROPOSED = 73 TOTAL SPACES

- THE FOLLOWING AREAS NOTED BELOW ARE FOR EXISTING AND PROPOSED LAND USES:

	EXISTING	PROPOSED
IMPERVIOUS	47,404 S.F. OR 1.088 AC	75,389 S.F. OR 1.730 AC
GRASSSED	64,580 S.F. OR 1.483 AC	85,322 S.F. OR 1.959 AC
WOODLANDS	99,408 S.F. OR 2.282 AC	50,678 S.F. OR 1.163 AC
USABLE LAND	163,995 S.F. OR 3.765 AC	136,000 S.F. OR 3.122 AC

- THE FOLLOWING STATE AND FEDERAL PERMITS ARE REQUIRED FOR THIS PROJECT:
- | PERMITS REQUIRED | STATUS | PERMIT NUMBER |
|-------------------------------|---------|---------------|
| NHDES SEWER CONNECTION PERMIT | PENDING | N/A |

- ALL BUILDINGS SHALL BE SPRINKLER PROTECTED.

- ALL WORK PERFORMED ON BEHALF OF THIS PROJECT, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF CONCORD'S CONSTRUCTION STANDARDS AND DETAILS, LATEST EDITION.

- NO CONSTRUCTION ACTIVITIES CAN TAKE PLACE ON THE SITE PRIOR TO THE PRE CONSTRUCTION CONFERENCE AND INSPECTION FEE DEPOSITS ARE PROVIDED.

TWO WEEKS PRIOR TO THE PRE CONSTRUCTION MEETING, THE CONTRACTOR SHALL SUBMIT EVIDENCE THAT A NOTICE OF INTENT (NOI) HAS BEEN SUBMITTED TO THE EPA, AND THAT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) WHICH ADHERES TO THE REGULATIONS OUTLINED IN THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES), GENERAL PERMIT FOR DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES HAS BEEN PREPARED FOR THE PROJECT.

- THE FOLLOWING WAIVERS ARE REQUESTED FROM THE CITY OF CONCORD SITE PLAN REGULATIONS AND CONSTRUCTION STANDARDS AND DETAILS:

- CHAPTER 3 SECTION 15.03(7, 8, 10, & 16): EXISTING CONDITIONS PLAN - TO WAIVE THE REQUIREMENTS FOR EXISTING BUILDINGS AND STRUCTURES DIMENSIONS, EXISTING PARKING, LOADING AND ACCESS LANE DIMENSIONS, EXISTING SIGNAGE, AND THE EXISTING UTILITY SIZE AND MATERIALS
- CHAPTER 3 SECTION 16.02(15): LANDSCAPE PLAN - TO WAIVE THE REQUIREMENT FOR A LICENSED NH LANDSCAPE ARCHITECT TO PREPARE, SIGN AND STAMP THE LANDSCAPE PLAN
- CHAPTER 4 SECTION 22.02: STORMWATER MANAGEMENT CONSTRUCTION STANDARDS - TO UTILIZE A PIPE SIZE OF 12" WHEREAS A MINIMUM PIPE SIZE OF 15" IS REQUIRED PER SECTION 6.03F.1 OF THE CITY OF CONCORD CONSTRUCTION STANDARDS AND DETAILS.
- CHAPTER 4 SECTION 22.02: STORMWATER MANAGEMENT CONSTRUCTION STANDARDS - TO MAINTAIN PIPE COVER OF LESS THAN THE REQUIRED 4- FEET PER SECTION 6.03F.2 OF THE CITY OF CONCORD CONSTRUCTION STANDARDS AND DETAILS.

- THIS PROJECT WILL REQUIRE A WATER AND SANITARY SEWER CONNECTION PERMIT WHICH IS ISSUED FROM THE ENGINEERING SERVICES DIVISIONS.

- THIS DEVELOPMENT HAS AN ADDRESS OF 15 PARMENTER ROAD, CONCORD, NEW HAMPSHIRE 03301 FOR ENHANCED 911 PURPOSES; FOLLOWING ADDRESSES SHALL APPLY TO THE APPLICABLE UNITS:

-UNIT 26 - 15 PARMENTER ROAD, UNIT 26, CONCORD, NH 03301
-UNIT 27 - 15 PARMENTER ROAD, UNIT 27, CONCORD, NH 03301
-UNIT 28 - 15 PARMENTER ROAD, UNIT 28, CONCORD, NH 03301
-UNIT 29 - 15 PARMENTER ROAD, UNIT 29, CONCORD, NH 03301
-UNIT 30 - 15 PARMENTER ROAD, UNIT 30, CONCORD, NH 03301
-UNIT 31 - 15 PARMENTER ROAD, UNIT 31, CONCORD, NH 03301
-UNIT 32 - 15 PARMENTER ROAD, UNIT 32, CONCORD, NH 03301
-UNIT 33 - 15 PARMENTER ROAD, UNIT 33, CONCORD, NH 03301

- NO CERTIFICATE OF OCCUPANCY FOR ANY BUILDING OR USE SHALL BE ISSUED UNTIL ALL PUBLIC IMPROVEMENTS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE CITY ENGINEER AND ACCEPTED BY THE CITY COUNCIL.

- PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY DIGITAL AS-BUILT DRAWINGS SHALL BE PROVIDED CONFORMING TO THE CITY ENGINEERING DIVISION'S AS-BUILT CHECKLIST.

- PRIOR TO THE START OF CONSTRUCTION THE APPLICANT IS RESPONSIBLE TO ESTABLISH A FINANCIAL GUARANTEE FOR SITE STABILIZATION PURSUANT TO SITE PLAN REGULATIONS SECTION 27.11.

- THE FOLLOWING PERMITS ARE REQUIRED FROM THE ENGINEERING SERVICES DIVISION PRIOR TO THE START OF CONSTRUCTION FOR SITE IMPROVEMENTS:

- EXCAVATION PERMIT
- DRIVEWAY PERMIT
- UTILITY CONNECTION PERMIT
- OTHER PERMITS DEEMED NECESSARY BY THE CITY ENGINEER

- PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING, THE APPLICANT SHALL APPLY FOR THE REQUIRED ENGINEERING PERMITS LISTED ABOVE AND PROVIDE AN ESTIMATE OF THE ANTICIPATED NUMBER OF INSPECTIONS FOR REVIEW BY ENGINEERING. THE APPLICANT SHALL PROVIDE A PROJECT SCHEDULE WHEN APPLYING FOR THE REQUIRED PERMITS. THE PERMIT FEES SHALL BE PAID PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING.

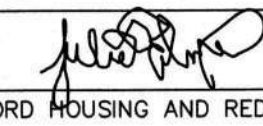
- PER SECTION 36.24, THE APPLICANT IS RESPONSIBLE FOR PAYING ALL CONSTRUCTION INSPECTION FEES TO ENSURE WORK IS CONSISTENT WITH CITY STANDARDS, THE APPROVED PLANS, AND CONDITIONS OF APPROVAL.

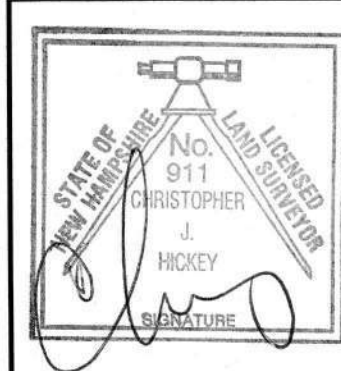
- CONTRACTOR TO ESTABLISH A PERFORMANCE SURETY FOR WORK WITHIN THE RIGHT-OF-WAY AND PROPOSED PUBLIC IMPROVEMENTS OR COMMON PRIVATE IMPROVEMENTS PER CITY REGULATIONS. AN ENGINEER'S COST ESTIMATE, PREPARED BY THE APPLICANT AND BASED ON THE CURRENT NHDOT WEIGHTED AVERAGE UNIT PRICES, SHALL BE SUBMITTED A MINIMUM OF TWO WEEKS PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING.

- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE ENGINEERING DIVISION TO DISCUSS CONSTRUCTION REQUIREMENTS, SITE INSPECTIONS, ASSOCIATED FEES, SCHEDULES, ETC.

- THE PROPOSED RETAINING WALLS SHALL BE DESIGNED (STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NH) AND SHALL BE SUBMITTED TO THE ENGINEERING DIVISION FOR THE PROPOSED RETAINING WALLS THAT ARE GREATER THAN 4 FEET HIGH. IN ADDITION, WALLS GREATER THAN 4 FEET HIGH REQUIRE A BUILDING PERMIT FROM CODE ADMINISTRATION.

OWNER OF LOT 22

SIGNATURE: 
CONCORD HOUSING AND REDEVELOPMENT AUTHORITY
DATE: 4/15/25



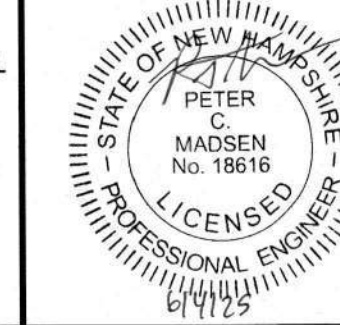
CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE BY THIS OFFICE DURING MARCH OF 2025.

LICENSED LAND SURVEYOR

DATE

6/4/25



OVERVIEW PLAN

PARMENTER PLACE PHASE II

MAP 392Z; LOT 22

15 PARMENTER ROAD

CONCORD, NEW HAMPSHIRE

MERRIMACK COUNTY

OWNER OF RECORD:

PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090
M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:

CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

KMA

KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

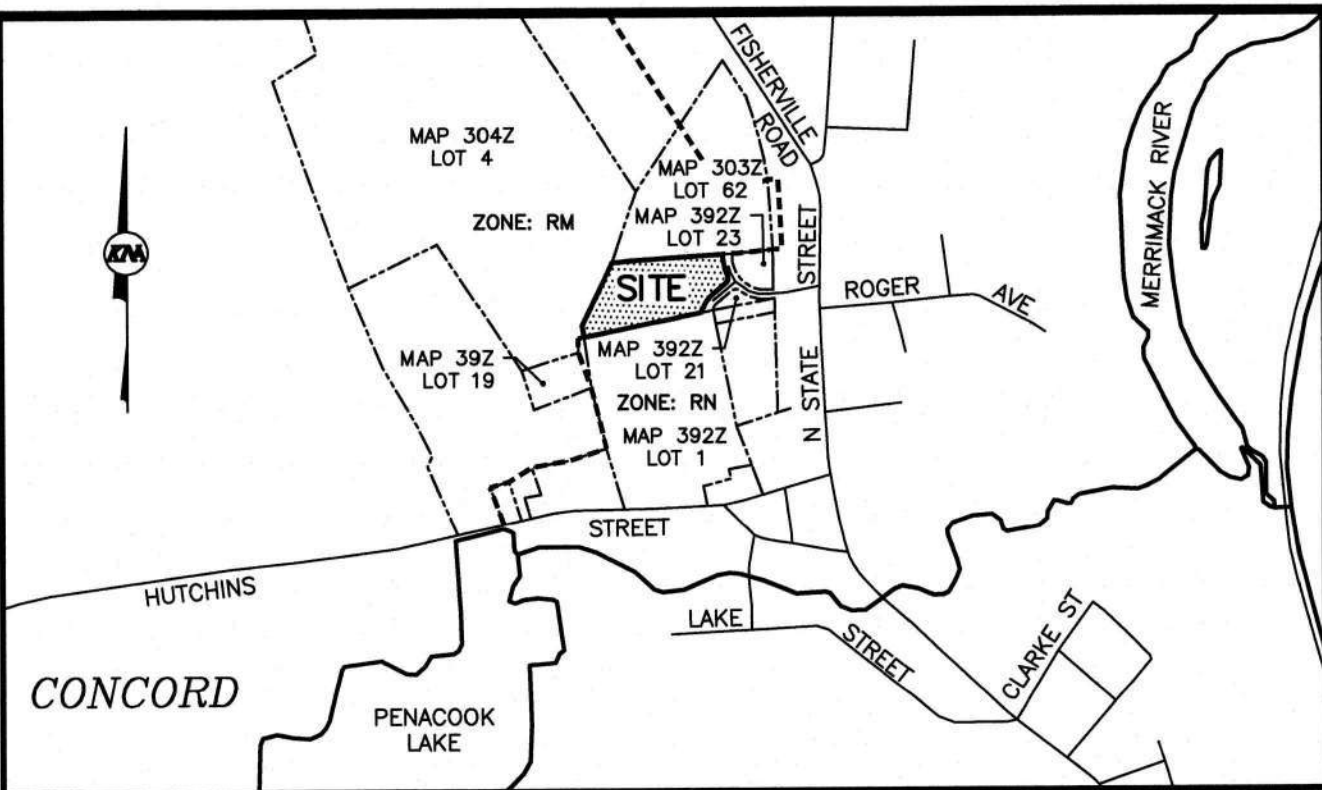
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH

DATE: APRIL 15, 2025

PROJECT NO: 06-0505-1

SCALE: 1" = 50'

SHEET 1 OF 20



VICINITY PLAN

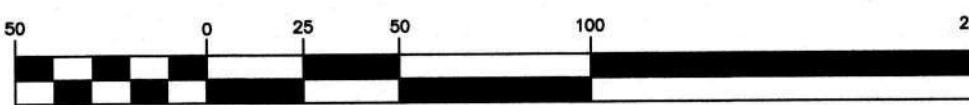
SCALE: 1" = 1000'

LEGEND

● DH-F	DRILL HOLE FOUND
---	ABUTTER LINE
---	PROPERTY LINE
---	TREELINE
---	EDGE OF PAVEMENT
---	VERTICAL GRANITE CURB
---	SETBACK
---	LANDSCAPE BUFFER
---	STONEWALL
---	PROPOSED TREELINE
---	PROPOSED EDGE OF PAVEMENT
---	PROPOSED VERTICAL GRANITE CURB
---	PROPOSED RETAINING WALL
---	ZONE LINE



GRAPHIC SCALE



(IN FEET)

1 inch = 50 ft.

NOTES:

- THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS PRESENT ON MAP 392Z LOT 22 IN THE CITY OF CONCORD, NEW HAMPSHIRE.
- EXISTING AREA OF PARCEL: 211,389 S.F. OR 4.853 ACRES.
BUILDABLE AREA = 4,853 AC - 1.114± AC (AREA OF 15% SLOPES, EASEMENTS, FLOOD ZONE & WETLANDS) = 3,739 AC
- THE SUBJECT PARCEL IS LOCATED ENTIRELY WITHIN THE NEIGHBORHOOD RESIDENTIAL (RN) ZONING DISTRICT.
- DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS:
 - FRONT 15'
 - SIDE 10'
 - REAR 25'
- THIS LOT IS SERVICED BY MUNICIPAL SEWER AND WATER.
- PARKING CALCULATIONS: 57 EXISTING SPACES (INCLUDES 4 HC SPACES)
- VERTICAL DATUM (NGVD 29) AND NORTH ORIENTATION ARE BASE UPON PLAN REF. #1
- THE FOLLOWING AREAS NOTED BELOW ARE FOR EXISTING LAND USES:

EXISTING	4985 S.F.
IMPERVIOUS	47,404 S.F. OR 1.088 AC
GRASSED	64,580 S.F. OR 1.483 AC
WOODLANDS	99,405 S.F. OR 2.282 AC
USABLE LAND	163,985 S.F. OR 3.765 AC

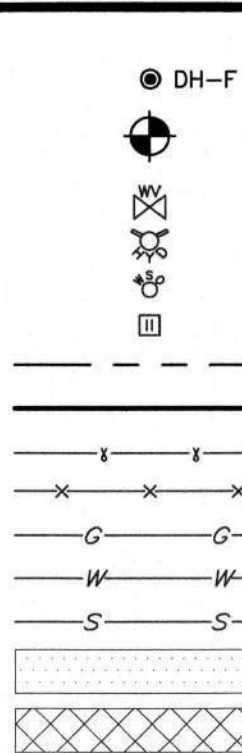
NOTES CONTINUED:

- EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE CITY OF CONCORD, NEW HAMPSHIRE, MERRIMACK COUNTY, COMMUNITY MAP NUMBER 3301300527E, PANEL NUMBER 527 OF 705, EFFECTIVE DATE: APRIL 19, 2010 INDICATES THAT NO PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN FLOOD HAZARD ZONE.
- THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES SHOWN, PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR OR OWNER SHALL CONTACT DIG-SAFE AT 811.
- EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE MERRIMACK COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST, WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.

REFERENCE PLANS

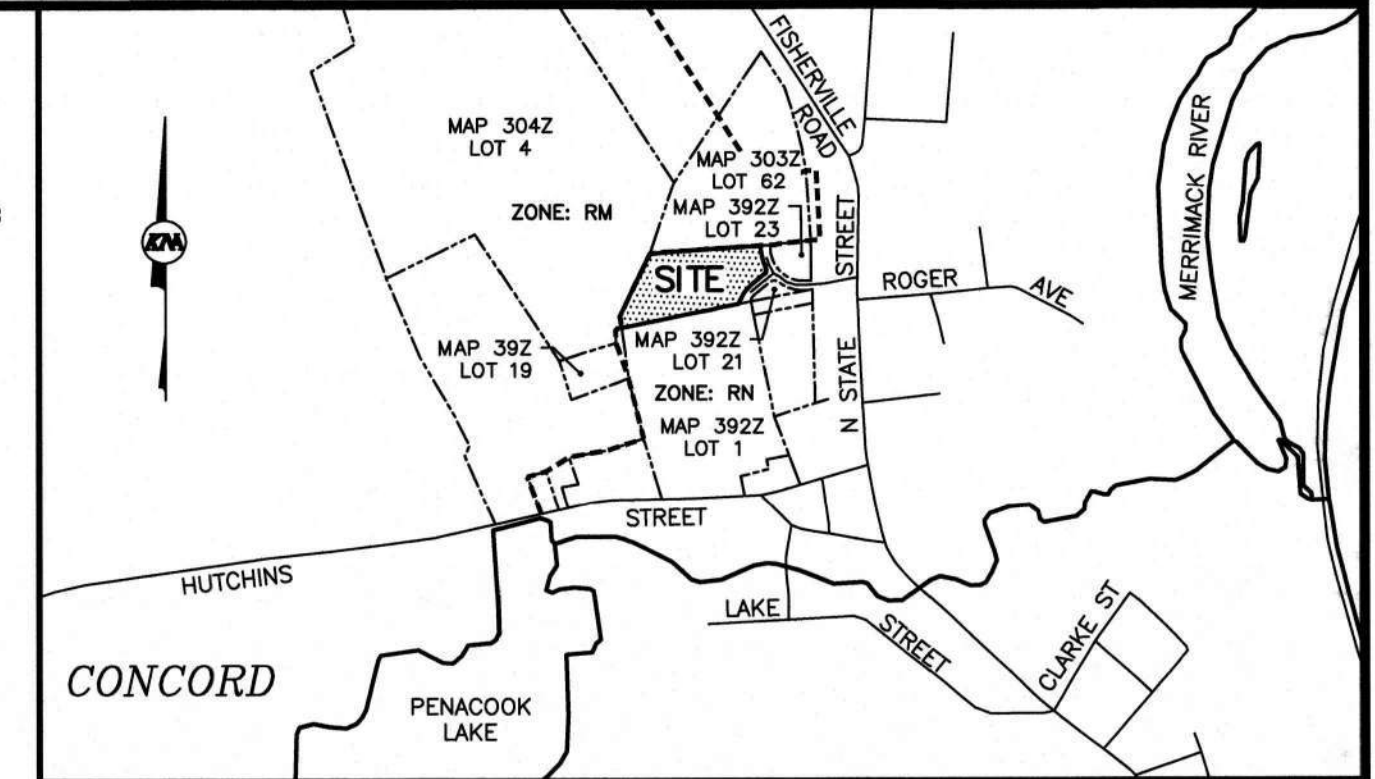
- "SUBDIVISION PLAT OF THE LAND OF EMMANUEL T. JR. & JUDITH L. BROCHU", SCALE: 1"=50', DATED: DECEMBER 17, 2007, PREPARED BY: RICHARD D. BARTLETT & ASSOCIATES, LLC, M.C.R.D. PLAN #19397
- "RESIDENTIAL SITE PLAN PARMENTER PLACE, CONCORD, NEW HAMPSHIRE", SCALE: 1"=20', DATED: MAY 2007, REVISED: FEBRUARY 10, 2010, PREPARED BY: KEACH-NORDSTROM ASSOCIATES, INC.

MAP 303Z LOT 62
ARANDSON REALTY LLC
557 N STATE STREET
CONCORD, N.H. 03301-3236
FISHERVILLE ROAD
CONCORD, N.H. 03301-3236
BK. 2381 PG. 1286

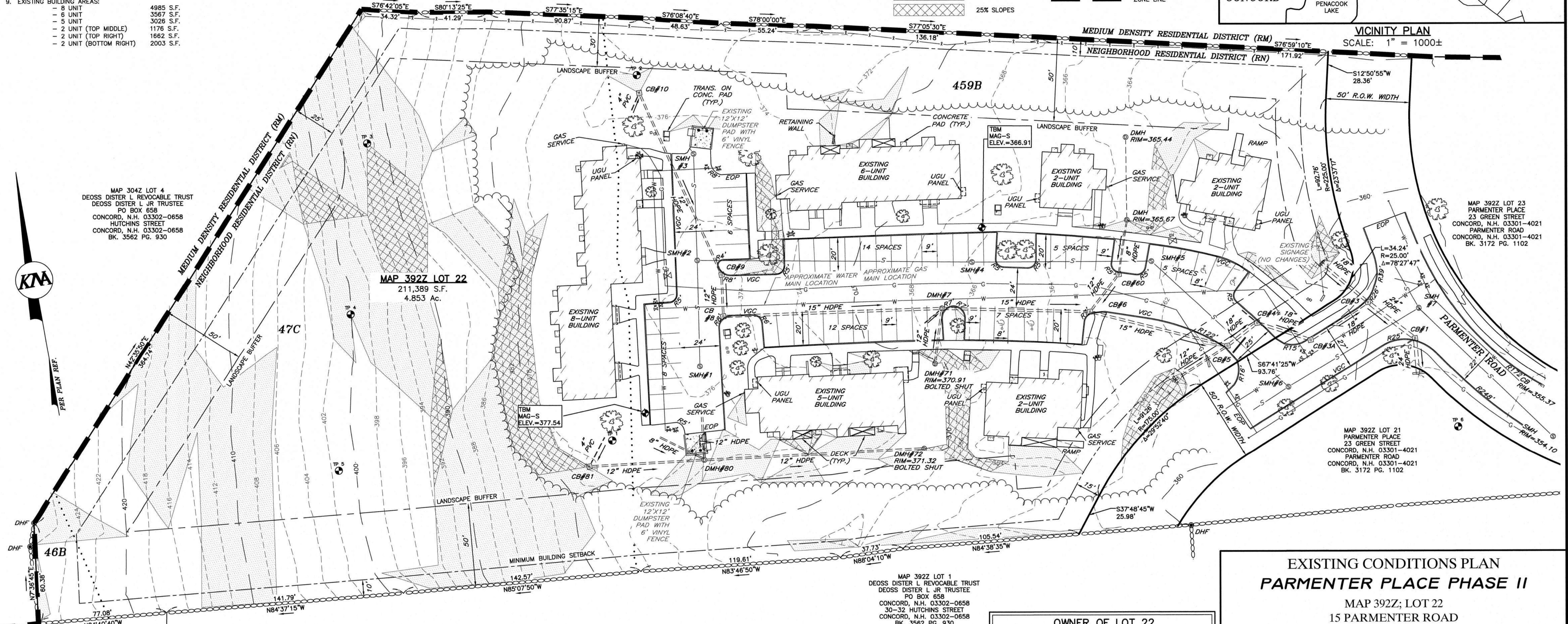


LEGEND

- DRILL HOLE FOUND
- BENCHMARK
- WATER VALVE
- HYDRANT
- WATER SHUT OFF
- CATCH BASIN
- ABUTTER LINE
- PROPERTY LINE
- CHAIN LINK FENCE
- BARBED WIRE FENCE
- GAS LINE
- WATER LINE
- SEWER LINE
- 15% SLOPES
- 25% SLOPES
- DRAINAGE LINE
- TREELINE
- EDGE OF PAVEMENT
- VERTICAL GRANITE CURB
- 10' CONTOUR
- 2' CONTOUR
- SOIL LINE
- SETBACK
- SIGN
- LIGHT
- GAS VALVE
- SEWER MANHOLE
- DRAINAGE MANHOLE
- STONEWALL
- ZONE LINE



VICINITY PLAN SCALE: 1" = 1000±



SCS SOILS LEGEND

- 46B** HENNIKER FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
- 47C** HENNIKER FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES, VERY STONY
- 459B** METACOMET FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES, VERY STONY

SOURCE: USDA-SCS WEB SOIL SURVEY
MERRIMACK COUNTY

SEWER INVERTS

- SMH#1**
RIM=375.54
INV.IN=352.37
INV.OUT=352.25
- SMH#2**
RIM=375.34
INV.IN=363.83 (N)
INV.IN=363.78 (S)
INV.OUT=363.74
- SMH#3**
RIM=377.02
INV.IN=365.69
INV.OUT=365.14
- SMH#4**
RIM=365.81
INV.IN=356.60
INV.OUT=354.69
- SMH#5**
RIM=362.30
INV.IN=354.09 (NW)
INV.IN=355.14 (SW)
INV.OUT=354.07
- SMH#6**
RIM=360.85
INV.IN=351.25 (NW)
INV.IN=351.29 (SW)
INV.OUT=351.19
- SMH#7**
RIM=359.79
INV.IN=350.17 (NW)
INV.IN=350.10 (SW)
INV.OUT=350.07

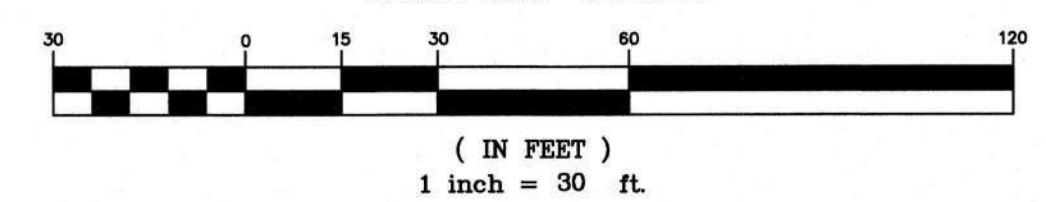
DRAINAGE INVERTS

- CB#2**
RIM=359.24
INV.IN=354.09 (NW)
INV.IN=355.14 (SW)
INV.OUT=354.07
- CB#3**
RIM=359.57
INV.IN=354.37 (NW)
INV.IN=354.67 (SW)
INV.OUT=354.32
- CB#3A**
RIM=360.25
INV.IN=354.79
INV.OUT=354.75
- CB#4**
RIM=360.33
INV.IN=354.87
INV.IN=356.28 (4"UD)
INV.OUT=354.84
- CB#5**
RIM=360.53
INV.IN=355.62 (NW)
INV.IN=358.12 (SW)
INV.OUT=355.12
- CB#6**
RIM=362.56
INV.IN=359.71
INV.OUT=358.27
- DMH#7**
RIM=366.80
INV.IN=361.40 (W)
INV.IN=363.30 (SW)
INV.IN=361.74 (S)
INV.OUT=361.38
- CB#8**
RIM=374.50
INV.IN=367.84
INV.OUT=367.76
- CB#9**
RIM=374.64
INV.IN=368.28
INV.OUT=368.28
- CB#10**
RIM=374.00
INV.IN=371.75
INV.OUT=369.80
- CB#81**
RIM=375.62
INV.IN=372.58
INV.OUT=372.48
- DMH#80**
RIM=376.33
INV.IN=371.46 (N)
INV.IN=371.57 (NW)
INV.IN=371.74 (W)
INV.IN=369.58
- CB#6**
RIM=362.93
INV.IN=357.97 (W)
INV.IN=358.17 (NE)
INV.OUT=357.94

OWNER OF LOT 22

SIGNATURE: _____
CONCORD HOUSING AND REDEVELOPMENT AUTHORITY
DATE: 4/15/25

GRAPHIC SCALE



CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE BY THIS OFFICE DURING MARCH OF 2025.

LICENSED LAND SURVEYOR

6/4/25
DATE

EXISTING CONDITIONS PLAN PARMENTER PLACE PHASE II MAP 392Z; LOT 22 15 PARMENTER ROAD CONCORD, NEW HAMPSHIRE MERRIMACK COUNTY

OWNER OF RECORD:
PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090
M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:
CONCORD HOUSING AND REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH

DATE: APRIL 15, 2025

PROJECT NO: 06-0505-1

SCALE: 1" = 30'

SHEET 2 OF 20

MAP 392 LOT 19
DEOSS DISTER L REVOCABLE TRUST
DEOSS DISTER L JR TRUSTEE
PO BOX 658
CONCORD, N.H. 03302-0658
HUTCHINS STREET
CONCORD, N.H. 03302-0658
BK. 3562 PG. 930

MAP 392Z LOT 1
DEOSS DISTER L REVOCABLE TRUST
DEOSS DISTER L JR TRUSTEE
PO BOX 658
CONCORD, N.H. 03302-0658
30-32 HUTCHINS STREET
CONCORD, N.H. 03302-0658
BK. 3562 PG. 930

MAP 392Z LOT 23
PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301-4021
PARMENTER ROAD
CONCORD, N.H. 03301-4021
BK. 3172 PG. 1102

MAP 392Z LOT 21
PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301-4021
PARMENTER ROAD
CONCORD, N.H. 03301-4021
BK. 3172 PG. 1102

UTILITY NOTE

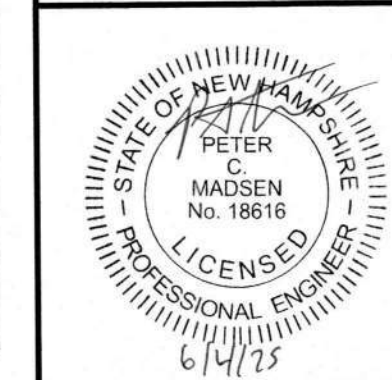
THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND/OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.



REMOVALS/DEMOLITION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW EXISTING FEATURES ON SITE TO BE REMOVED, ELIMINATED OR REPLACED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
3. CONTRACTOR TO REMOVE AND BRUSH ITEMS SHOWN.
4. ALL LIMBS, ROOTS, BRANCHES, BRUSH, WOODS AND OTHER PERISHABLE MATERIAL RESULTING FROM THE CLEARING AND GRUBBING OPERATIONS SHALL BE DISPOSED OF BY AN APPROVED METHOD.
5. ALL EXISTING PAVEMENT WITHIN THE CROSS HATCHED AREA IS TO BE REMOVED DURING THE DEMOLITION PHASE OF THE PROJECT. EXCESS MATERIAL FROM THESE AREAS SHALL BE APPROPRIATELY DISPOSED OF OFFSITE BY AN APPROVED METHOD.
6. DEBRIS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

DATE: APRIL 15, 2025	SCALE: 1" = 20'
PROJECT NO: 06-0505-1	SHEET 3 OF 20



LEGEND

● DH-F	DRILL HOLE FOUND
⊗	WATER VALVE
⊕	HYDRANT
⊖	WATER SHUT OFF
⊙	CATCH BASIN
⊛	SIGN
⊜	LIGHT
⊝	GAS VALVE
⊞	SEWER MANHOLE
⊠	DRAINAGE MANHOLE
⊡	PROPOSED WATER VALVE
⊣	PROPOSED HYDRANT
⊥	PROPOSED WATER SHUT OFF
⊦	PROPOSED SEWER MANHOLE
⊧	PROPOSED DRAINAGE MANHOLE
⊨	PROPOSED CATCH BASIN
---	ABUTTER LINE
---	PROPERTY LINE
---	TREELINE
---	EDGE OF PAVEMENT
---	VERTICAL GRANITE CURB
---	SETBACK
---	LANDSCAPE BUFFER
---	STONEWALL
---	PROPOSED CHAIN LINK FENCE
---	PROPOSED TREELINE
---	PROPOSED EDGE OF PAVEMENT
---	PROPOSED VERTICAL GRANITE CURB
---	PROPOSED RETAINING WALL
---	ZONE LINE
---	15% SLOPES
---	25% SLOPES

KMA

PER PLAN REF.

MEDIUM DENSITY RESIDENTIAL DISTRICT (RM)
NEIGHBORHOOD RESIDENTIAL DISTRICT (RN)

MAP 304Z LOT 4

MAP 392Z LOT 22
211,389 S.F.
4.853 Ac.

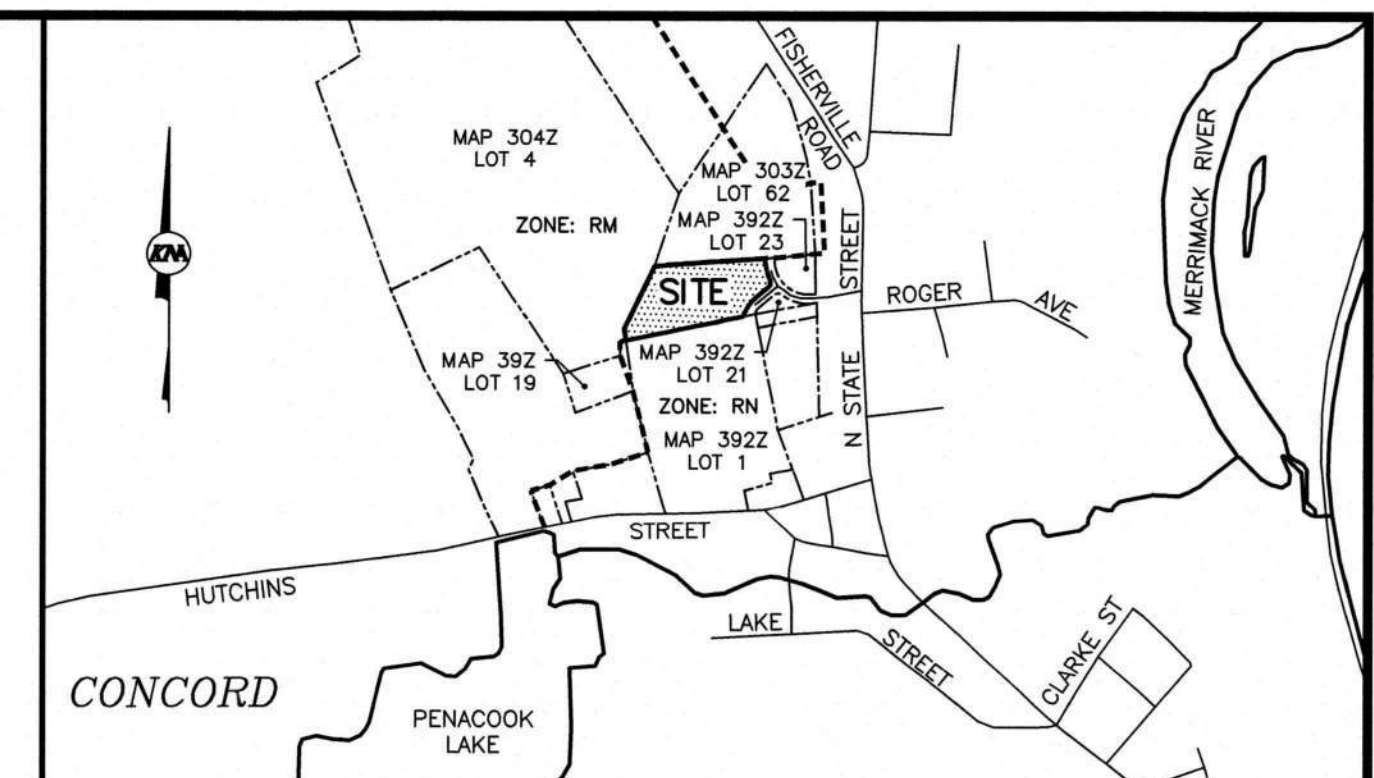
MAP 39Z LOT 19

MAP 392Z LOT 1

MAP 303Z LOT 62

PARMENTER ROAD

PARMENTER ROAD



LOCATION PLAN

SCALE: 1" = 1000'

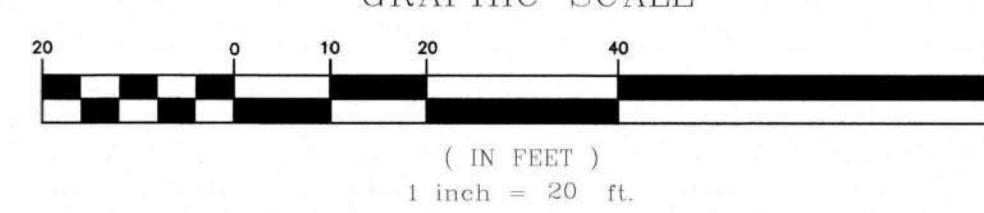
SEE SHEET 1 FOR
GENERAL NOTES

REFERENCE PLANS

- "SUBDIVISION PLAT OF THE LAND OF EMMANUEL T. JR. & JUDITH I. BROCHU". SCALE: 1"=50'. DATED: DECEMBER 17, 2007. PREPARED BY: RICHARD D. BARTLETT & ASSOCIATES, LLC. M.C.R.D. PLAN #19397
- "RESIDENTIAL SITE PLAN PARMENTER PLACE, CONCORD, NEW HAMPSHIRE". SCALE: 1"=20'. DATED: MAY 2007; REVISED: FEBRUARY 10, 2010. PREPARED BY: KEACH-NORDSTROM ASSOCIATES, INC.



GRAPHIC SCALE



RESIDENTIAL SITE PLAN PARMENTER PLACE PHASE II

MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

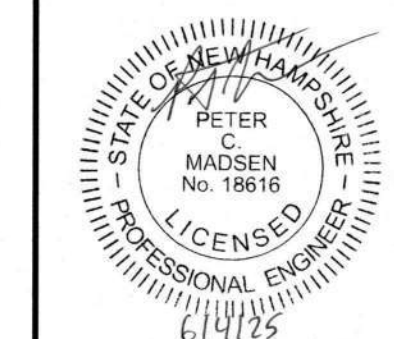
OWNER OF RECORD:
PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090

APPLICANT:
CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

KMA KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025		SCALE: 1" = 20'	
PROJECT NO: 06-0505-1		SHEET 4 OF 20	

LEGEND

- DH-F DRILL HOLE FOUND
- ⊗ WATER VALVE
- ⊗ HYDRANT
- ⊗ WATER SHUT OFF
- ⊗ CATCH BASIN
- ⊗ SIGN
- ⊗ LIGHT
- ⊗ GAS VALVE
- ⊗ SEWER MANHOLE
- ⊗ DRAINAGE MANHOLE
- ⊗ BENCHMARK
- ⊗ PROPOSED WATER VALVE
- ⊗ PROPOSED HYDRANT
- ⊗ PROPOSED WATER SHUT OFF
- ⊗ PROPOSED SEWER MANHOLE
- ⊗ PROPOSED DRAINAGE MANHOLE
- ⊗ PROPOSED CATCH BASIN
- BUTTER LINE
- PROPERTY LINE
- CHAIN LINK FENCE
- BARBED WIRE FENCE
- GAS LINE
- WATER LINE
- SEWER LINE
- DRAINAGE LINE
- TREELINE
- EOP EDGE OF PAVEMENT
- VGC VERTICAL GRANITE CURB
- SETBACK
- LANDSCAPE BUFFER
- STONEWALL
- 10' CONTOUR
- 2' CONTOUR
- SOIL LINE
- PROPOSED CHAIN LINK FENCE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED VERTICAL GRANITE CURB
- PROPOSED RETAINING WALL
- PROPOSED DRAINAGE LINE
- PROPOSED 2' CONTOUR



MAP 303Z LOT 62

CONSTRUCTION NOTES:

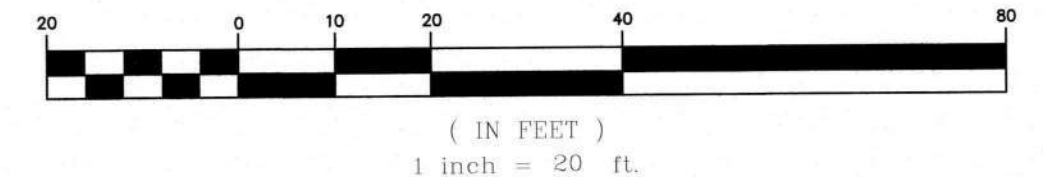
1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GRADING AND DRAINAGE SYSTEMS FOR THIS SITE.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF CONCORD, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
3. PARKING LOT CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS.
4. ALL DISTURBED AREAS SHALL BE LOAMED AND SEED.
5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. SEE DETAILS FOR DRAINAGE SPECIFICATIONS.
7. ALL CATCH BASINS SHALL BE EQUIPPED WITH SNOUT DEBRIS AND OIL WATER SEPARATORS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
9. SLOPES OF PARKING SPACES SHALL NOT EXCEED FIVE (5%) PERCENT IN ANY DIRECTION.

LOAM & SEED ALL
DISTURBED AREAS (TYP.)

SCS SOILS LEGEND

- 46B HENNIKER FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
 - 47C HENNIKER FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES, VERY STONY
 - 450B METACOMET FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES, VERY STONY
- SOURCE: USDA-SCS WEB SOIL SURVEY
MERRIMACK COUNTY

GRAPHIC SCALE



GRADING & DRAINAGE PLAN PARMENTER PLACE PHASE II

MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

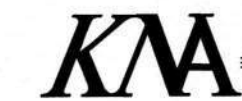
OWNER OF RECORD:

PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090

APPLICANT:

CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)



KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

No.	DATE	DESCRIPTION	BY
-----	------	-------------	----

1	6/2/2025	REVISED PER CITY COMMENTS	MCH
---	----------	---------------------------	-----

DATE: APRIL 15, 2025

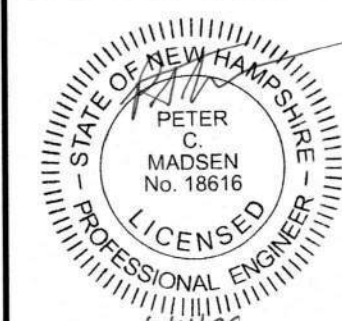
SCALE: 1" = 40'

PROJECT NO: 06-0505-1

SHEET 5 OF 20

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

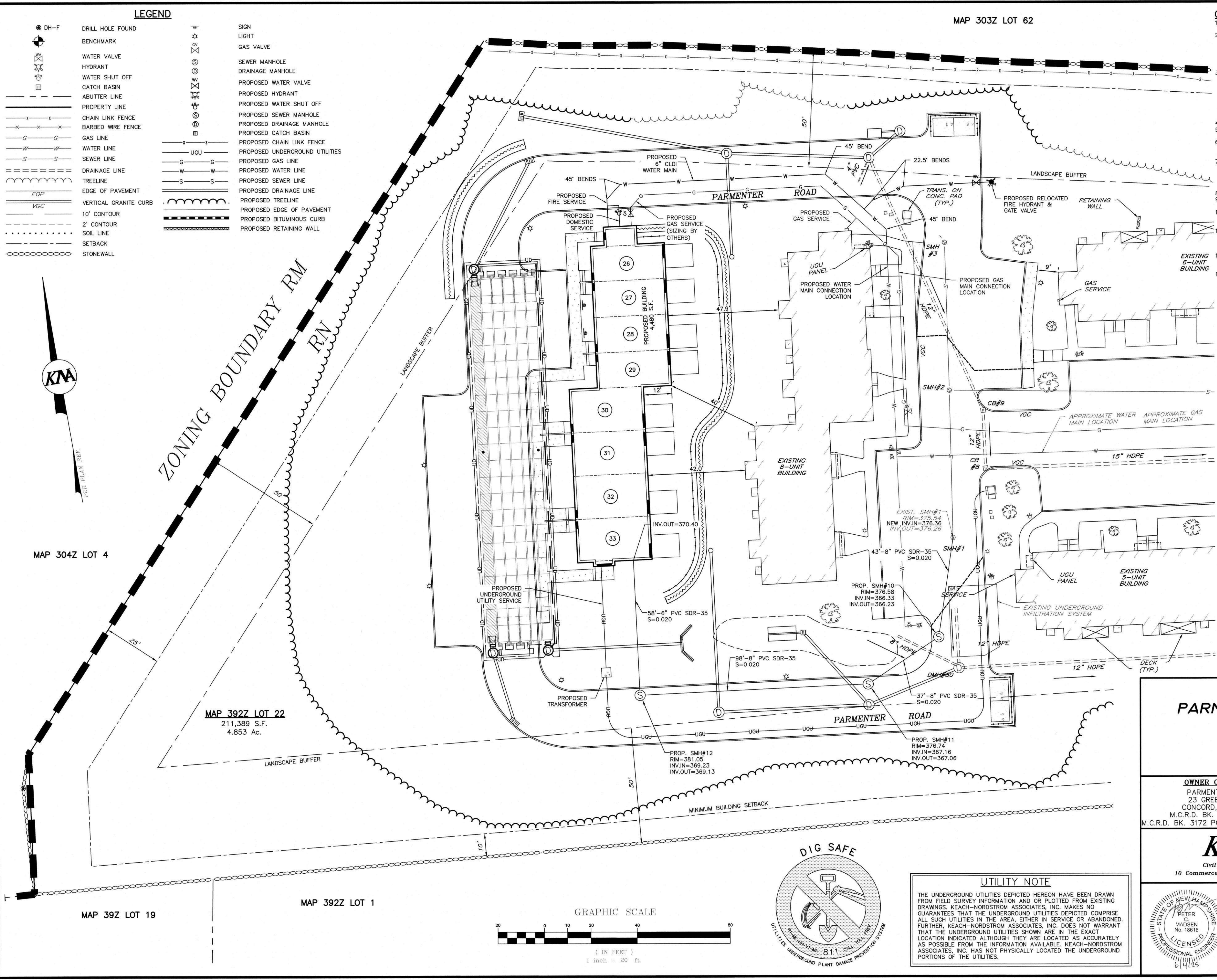


MAP 392Z LOT 1

MAP 39Z LOT 19

MAP 304Z LOT 4

MAP 392Z LOT 22
211,389 S.F.
4.853 Ac.



- CONSTRUCTION NOTES:**
1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED UTILITY SYSTEMS FOR THIS SITE.
 2. ALL WORK SHALL CONFORM TO THE CITY OF CONCORD, LATEST EDITION, CONSTRUCTION STANDARDS AND DETAILS. IN THE ABSENCE OF A CITY STANDARD/SPECIFICATION, WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS PUBLISHED BY THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, ARE HEREBY INCORPORATED BY REFERENCE.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
 4. ALL DISTURBED AREAS NOT TO BE PAVED SHALL BE LOAMED AND SEEDDED.
 5. ALL PIPES SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 6. CONTRACTOR TO VERIFY SIZE OF WATER AND GAS SERVICE LINES WITH MECHANICAL CONTRACTOR/FIRE SUPPRESSION ENGINEER PRIOR TO THE START OF CONSTRUCTION.
 7. PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO ORDERING ANY WATER SYSTEM/SERVICE PARTS, THE PROPOSED SIZE OF THE VARIOUS WATER SERVICES SHALL BE CONFIRMED BY THE PROJECT FIRE SUPPRESSION ENGINEER. ANY ADJUSTMENTS TO THE DESIGN MUST BE APPROVED BY THE CITY OF CONCORD.
 8. THE PROPOSED BUILDINGS SHALL BE FULLY SPRINKLER PROTECTED.
 9. FINAL LAYOUT OF UNDERGROUND UTILITIES TO BE APPROVED BY LOCAL PROVIDER PRIOR TO CONSTRUCTION.
 10. CONTRACTOR IS RESPONSIBLE FOR SIZING WATER SERVICES AND/OR VERIFYING EXISTING WATER SERVICES ARE ADEQUATE FOR THE PROPOSED BUILDING.
 11. PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ELECTRICIAN FOR THE EXACT LOCATION, LAYOUT, CONDUIT SIZE AND CIRCUITS ASSOCIATED WITH THE SITE LIGHTING, EMERGENCY GATE AND COMPACTOR.
 12. APPROXIMATE WATER AND GAS MAIN LOCATIONS ARE SHOWN FROM THE PREVIOUS DESIGN, CONTRACTOR SHALL VERIFY THE LOCATIONS OF THE WATER AND GAS MAINS PRIOR TO CONNECTING.
 13. SERVICE CONNECTIONS TO THE NON-MUNICIPAL UTILITIES SHALL BE CONSTRUCTED TO THE STANDARDS CONTAINED IN THE CITY OF CONCORD CONSTRUCTION STANDARDS AND DETAILS, AND THE STANDARDS ESTABLISHED BY THE PRIVATE UTILITY COMPANY RESPONSIBLE FOR THE SERVICE.

UTILITY PLAN

PARMENTER PLACE PHASE II

MAP 392Z; LOT 22

15 PARMENTER ROAD

CONCORD, NEW HAMPSHIRE

MERRIMACK COUNTY

OWNER OF RECORD:

PARMENTER PLACE

23 GREEN STREET

CONCORD, N.H. 03301

M.C.R.D. BK. 3172 PG. 1090

M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:

CONCORD HOUSING AND REDEVELOPMENT AUTHORITY

23 GREEN STREET

CONCORD, N.H. 03301

KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture

10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH

DATE: APRIL 15, 2025

PROJECT NO: 06-0505-1

SCALE: 1" = 20'

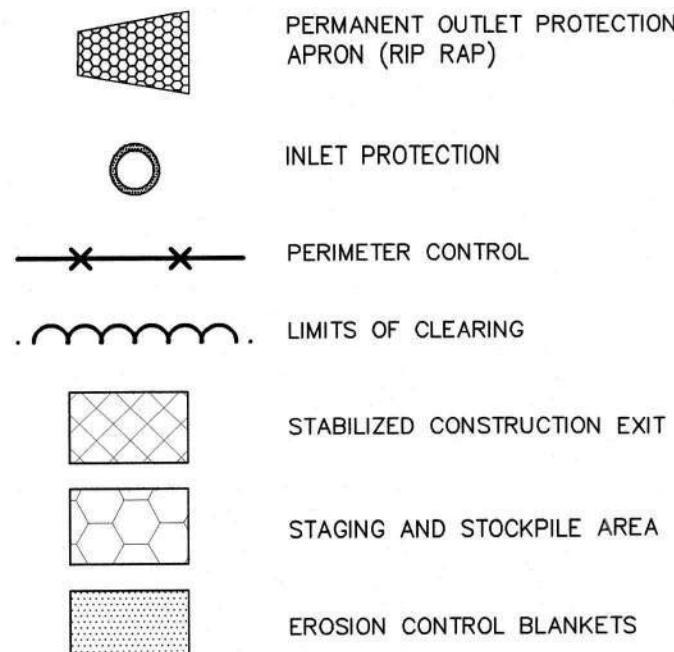
SHEET: 6 OF 20



UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

EROSION & SEDIMENT CONTROL LEGEND



MAP 303Z LOT 62

EROSION CONTROL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE REQUIRED ONSITE TEMPORARY CONSTRUCTION EROSION CONTROL MEASURES AS WELL AS THE PERMANENT EROSION CONTROL MEASURES.
2. ALL MEASURES IN THE PLAN SHALL MEET AS A MINIMUM THE BEST MANAGEMENT PRACTICES SET FORTH IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL TITLED "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION," DATED DECEMBER 2010, AS AMENDED FROM TIME TO TIME.
3. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION, WHEN NECESSARY, SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
4. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
5. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
6. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES. WETLAND AREAS AND SURFACE WATERS SHALL BE PROTECTED FROM SEDIMENT.
7. OFFSITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED NON-EROSIVELY THROUGH THE PROJECT AREA. INTEGRITY OF DOWNSIDE DRAINAGE SYSTEMS SHALL BE MAINTAINED.
8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
10. THE CITY OF CONCORD SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.

KMA

PER PLAN REF.

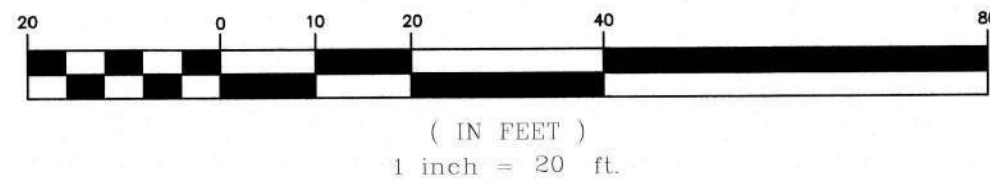
MAP 304Z LOT 4

MAP 392Z LOT 22
211,389 S.F.
4.853 Ac.

MAP 39Z LOT 19

MAP 392Z LOT 1

GRAPHIC SCALE



LOAM & SEED ALL
DISTURBED AREAS (TYP.)



EROSION CONTROL PLAN PARMENTER PLACE PHASE II

MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

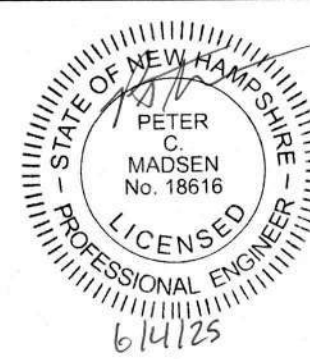
OWNER OF RECORD:

PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090
M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:

CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025		SCALE: 1" = 20'	
PROJECT NO: 06-0505-1		SHEET 7 OF 20	

LEGEND

DH-F	DRILL HOLE FOUND
WV	WATER VALVE
HY	HYDRANT
WSSO	WATER SHUT OFF
CB	CATCH BASIN
S	SIGN
L	LIGHT
GV	GAS VALVE
SM	SEWER MANHOLE
DM	DRAINAGE MANHOLE
PWV	PROPOSED WATER VALVE
PWV	PROPOSED HYDRANT
PWSSO	PROPOSED WATER SHUT OFF
PWSM	PROPOSED SEWER MANHOLE
PWDM	PROPOSED DRAINAGE MANHOLE
PWCB	PROPOSED CATCH BASIN
AL	ABUTTER LINE
PL	PROPERTY LINE
CLF	CHAIN LINK FENCE
BWF	BARBED WIRE FENCE
GL	GAS LINE
WL	WATER LINE
SL	SEWER LINE
DL	DRAINAGE LINE
TL	TREELINE
EOP	EDGE OF PAVEMENT
VGC	VERTICAL GRANITE CURB
SB	SETBACK
LB	LANDSCAPE BUFFER
SW	STONEWALL
PCLF	PROPOSED CHAIN LINK FENCE
PTL	PROPOSED TREELINE
PEP	PROPOSED EDGE OF PAVEMENT
PVGC	PROPOSED VERTICAL GRANITE CURB
PRW	PROPOSED RETAINING WALL

LOAM & SEED ALL
DISTURBED AREAS (TYP.)

MAP 303Z LOT 62

LANDSCAPE NOTES:

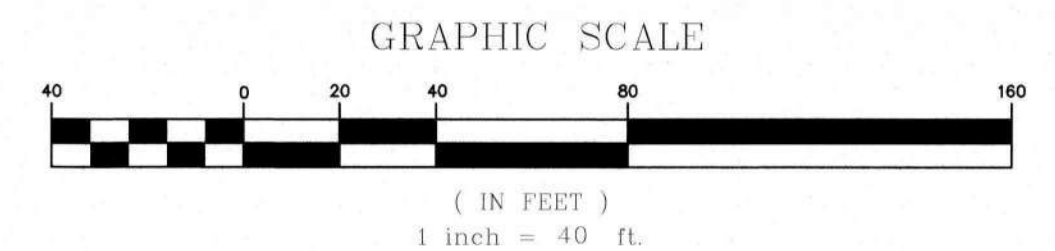
- THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE LANDSCAPE WHICH PROVIDES CLIMATIC RELIEF AND AESTHETIC APPEAL.
- ALL PLANT MATERIALS USED SHALL BE NURSERY STOCK AND SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF INSTALLATION. ANY MATERIAL WHICH DIES OR DOES NOT SHOWN HEALTHY APPEARANCE WITHIN THIS TIME SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, WITH SAME WARRANTY REQUIREMENTS AS THE ORIGINAL. WARRANTIES TYPICALLY DO NOT COVER LOSS DUE TO INSECT INFESTATION OR MECHANICAL DAMAGE (I.E. SNOW STORAGE).
- IF THE SOIL CONDITIONS ARE EXTREMELY SANDY, ALL TREES SHALL HAVE A 6" LAYER OF COMPACTED TOPSOIL PLACED IN THE BASE OF THE PLANT PIT AS A MOISTURE RETENTION LAYER. THE PLANT PIT SIDEWALLS SHALL BE OVER EXCAVATED BY AN ADDITIONAL 12" BEYOND THE NORMAL OUTSIDE RADIUS OF THE HOLE. A TOPSOIL MIXTURE SHALL BE USED TO BACKFILL THE HOLE AS FOLLOWS: ORGANIC TOPSOIL, AMENDED WITH 10% WOOD ASH, 10% MANURE, 30% COMPOST AND A GRANULAR HYDROGEL TO ABSORB AND RETAIN WATER.
- PLANTING BEDS AND SAUCERS SHALL RECEIVE A FOUR INCH (4") MINIMUM THICKNESS OF PINE/MULCH OVER A 5 OZ. POLYPROPYLENE WEED CONTROL FABRIC.
- MINIMUM TOPSOIL DEPTH IN LAWN AREAS AND ALL OTHER DISTURBED AREAS SHALL BE 6".
- MULCH SHALL BE MINIMUM 3" THICKNESS CONSISTING OF 50% SHREDDED BARK AND 50% WOOD CHIPS, 3/4 TO 2 INCH IN SIZE, UNIFORMLY MIXED AND FREE OF ELM WOOD. MULCH TO BE PLACED UNIFORMLY OVER THE PLANTING BED ALLOWING NO WEED BARRIER TO BE SEEN.
- PAVEMENT AND ROAD BASE MATERIAL ENCOUNTERED IN ANY LAWN OR PLANTING BED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SUITABLE AMENDED SOIL INSTALLED AS SPECIFIED IN THE TURF ESTABLISHMENT SCHEDULE.
- THE APPLICANT OR THEIR SUCCESSORS SHALL BE RESPONSIBLE FOR THE REGULAR MAINTENANCE OF ALL PLANTING AND OTHER LANDSCAPE FEATURES. PLANT MATERIALS SHALL BE MAINTAINED ALIVE, HEALTHY AND FREE FROM PESTS AND DISEASE.

LANDSCAPE IRRIGATION SYSTEM DESIGN NOTES:

- LANDSCAPE/IRRIGATION SYSTEM CONTRACTOR SHALL FURNISH AND INSTALL AN UNDERGROUND IRRIGATION SYSTEM CAPABLE OF PROVIDING SEASONAL COVERAGE OVER THOSE AREAS DESIGNATED ON THIS PLAN.
- PRIOR TO THE INSTALLATION OF IRRIGATION SYSTEM, LANDSCAPE/IRRIGATION SYSTEM CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS OF THE IRRIGATION SYSTEM TOGETHER WITH CATALOGUE CUTS OF ALL HEADS, VALVING, CONTROLLER EQUIPMENT, PIPING AND BACKFLOW PREVENTION EQUIPMENT AND APPURTENANCES TO DESIGN ENGINEER FOR REVIEW AND APPROVAL. INSTALLATION OF SYSTEM SHALL NOT COMMENCE UNTIL DESIGN ENGINEER HAS APPROVED SAID SHOP DRAWINGS IN WRITING AND INFORMED THE GENERAL CONTRACTOR OF THE SAME.
- BACKFLOW PREVENTION AND WATER SUPPLY CONNECTIONS TO CONFORM TO THE REQUIREMENTS OF THE LOCAL WATER PRECINCT.

PROPOSED LANDSCAPE CALCULATIONS:

- STREET TREES REQUIRED:**
2 STREET TREES/80 LF OF PROPOSED FRONTAGE
332.12 LF OF EXISTING FRONTAGE/80 LF = 4.2 STREET TREES REQUIRED
5 STREET TREES PROPOSED
- SHADE TREES REQUIRED:**
1 SHADE TREE REQUIRED/1,000 SF OF PARKING
4,107 SF PARKING /1,000 SF = 4.1 SHADE TREES REQUIRED
2 SHADE TREES EXISTING
3 SHADE TREES PROPOSED
- OPEN SPACE AREA:**
5% OPEN SPACE AREA REQUIRED
4,107 SF PARKING X 5% = 206 SF OPEN SPACE AREA
1,732 SF (42.2%) OPEN SPACE AREA PROPOSED



LANDSCAPE PLAN PARMENTER PLACE PHASE II

MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

OWNER OF RECORD:	APPLICANT:
PARMENTER PLACE 23 GREEN STREET CONCORD, N.H. 03301 M.C.R.D. BK. 3172 PG. 1090 M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)	CONCORD HOUSING AND REDEVELOPMENT AUTHORITY 23 GREEN STREET CONCORD, N.H. 03301

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025 SCALE: 1" = 40'			
PROJECT NO: 06-0505-1 SHEET 8 OF 20			

PLANT LIST

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	MATURE HEIGHT
TREES					
QP	2	QUERCUS PALUSTRIS	PIN OAK	3" CAL	50-70'
TC	2	TILIA CORDATA 'GREENSPIRE'	GREEN SPIRE LITTLELEAF LINDEN	3" CAL	40-60'
SR	2	SYRINGA RETICULATA	JAPANESE LILAC TREE	2.5-3" CAL	20-30'
BN	1	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	3-3.5" CAL	40-60'
SP	1	SYRINGA PEKINENSIS 'S. RETICULATA SSP. PEKINENSIS'	CHINESE LILAC TREE	2.5-3" CAL	20-30'
SHRUBS					
CA	3	COTONEASTER APICULATA	CRANBERRY COTONEASTER	18-24" B&B	3-4'
RP	6	RHODODENDRON 'PURPLE GEM'	PURPLE GEM RHODODENDRON	15-18"	6-8'
AR	10	THUJA ACCIDENTALIS 'ELEGANTISSIMA'	GOLD-TIPPED ARBORVITAE	5-6" B&B	15-20'
GRASSES					
PV	8	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	#2 GAL	#2 GAL
FG	8	PENNISETUM ORIENTALE 'KARLEY ROSE'	ORIENTAL PINK FOUNTAIN GRASS	#2 GAL	#2 GAL

- LEGEND**
- DH-F DRILL HOLE FOUND
 - WATER VALVE
 - HYDRANT
 - WATER SHUT OFF
 - CATCH BASIN
 - SIGN
 - LIGHT
 - GAS VALVE
 - SEWER MANHOLE
 - DRAINAGE MANHOLE
 - PROPOSED WATER VALVE
 - PROPOSED HYDRANT
 - PROPOSED WATER SHUT OFF
 - PROPOSED SEWER MANHOLE
 - PROPOSED DRAINAGE MANHOLE
 - PROPOSED CATCH BASIN
 - ABUTTER LINE
 - PROPERTY LINE
 - CHAIN LINK FENCE
 - BARBED WIRE FENCE
 - GAS LINE
 - WATER LINE
 - SEWER LINE
 - DRAINAGE LINE
 - TREELINE
 - EOP EDGE OF PAVEMENT
 - VGC VERTICAL GRANITE CURB
 - SETBACK
 - LANDSCAPE BUFFER
 - STONEWALL
 - PROPOSED CHAIN LINK FENCE
 - PROPOSED TREELINE
 - PROPOSED EDGE OF PAVEMENT
 - PROPOSED VERTICAL GRANITE CURB
 - PROPOSED RETAINING WALL



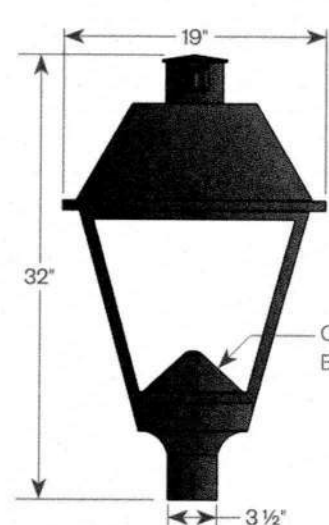
PER PLAN REF.

MAP 303Z LOT 62

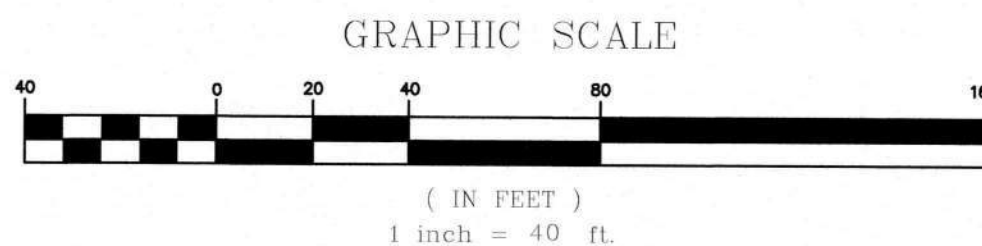
- LIGHTING NOTES:**
1. ALL LIGHTS/FIXTURES SHALL BE AS SPECIFIED BY EXPOSURE LIGHTING.
 2. ALL PROPOSED FIXTURES ARE TO BE FULL CUTOFF.
 3. POLE MOUNTED FIXTURES SHALL BE 12' ABOVE FINISH GRADE.
 4. ALL FINAL SITE LIGHTING AND CONDUIT LAYOUT SHALL BE COORDINATED WITH LOCAL UTILITY PROVIDER.
 5. PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ELECTRICIAN FOR THE EXACT LOCATION, LAYOUT, CONDUIT SIZE AND CIRCUITS ASSOCIATED WITH THE SITE LIGHTING.
 6. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION REGARDING LIGHT INSTALLATION AND WIRING REQUIREMENTS.
 7. ALL LIGHTING MUST COMPLY WITH SECTION 11 OF THE CITY OF CONCORD ZONING ORDINANCE REGULATIONS.



AMERLUX APQ200R SERIES LIGHT POLE



AMERLUX COACH STYLE LANTERN



IN ASSOCIATION WITH:

EXPOSURE
ESS
New England's Premier Lighting,
Controls and Electrical Rep Agency

KENNETH SWEENEY | APPLICATIONS ENGINEER
603.759.1043
6 SCOTT RD | HAMPTON, NH 03842 | 603.601.8080
EXPOSURE2LIGHTING.COM

LIGHTING PLAN
PARMENTER PLACE PHASE II

MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

OWNER OF RECORD:

PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090
M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

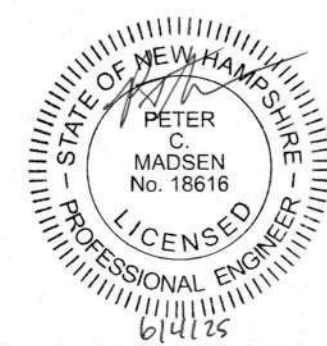
APPLICANT:

CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301



KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS

No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH

DATE: APRIL 15, 2025

SCALE: 1" = 40'

PROJECT NO: 06-0505-1

SHEET 9 OF 20

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
■	1	E	Single	EXISTING RELOCATED POLE LIGHT	MOUNTED ON 12' POLE	Amerlux LLC
■	2	P3	Single	CSL-P-2M-30-T3-TBK / APQ204R-12-TBK	MOUNTED ON 12' POLE	Amerlux LLC
■	2	P4	Single	CSL-P-2M-30-T4-TBK / APQ204R-12-TBK	MOUNTED ON 12' POLE	Amerlux LLC
■	2	P5	Single	CSL-P-2M-30-T5-TBK / APQ204R-12-TBK	MOUNTED ON 12' POLE	Amerlux LLC

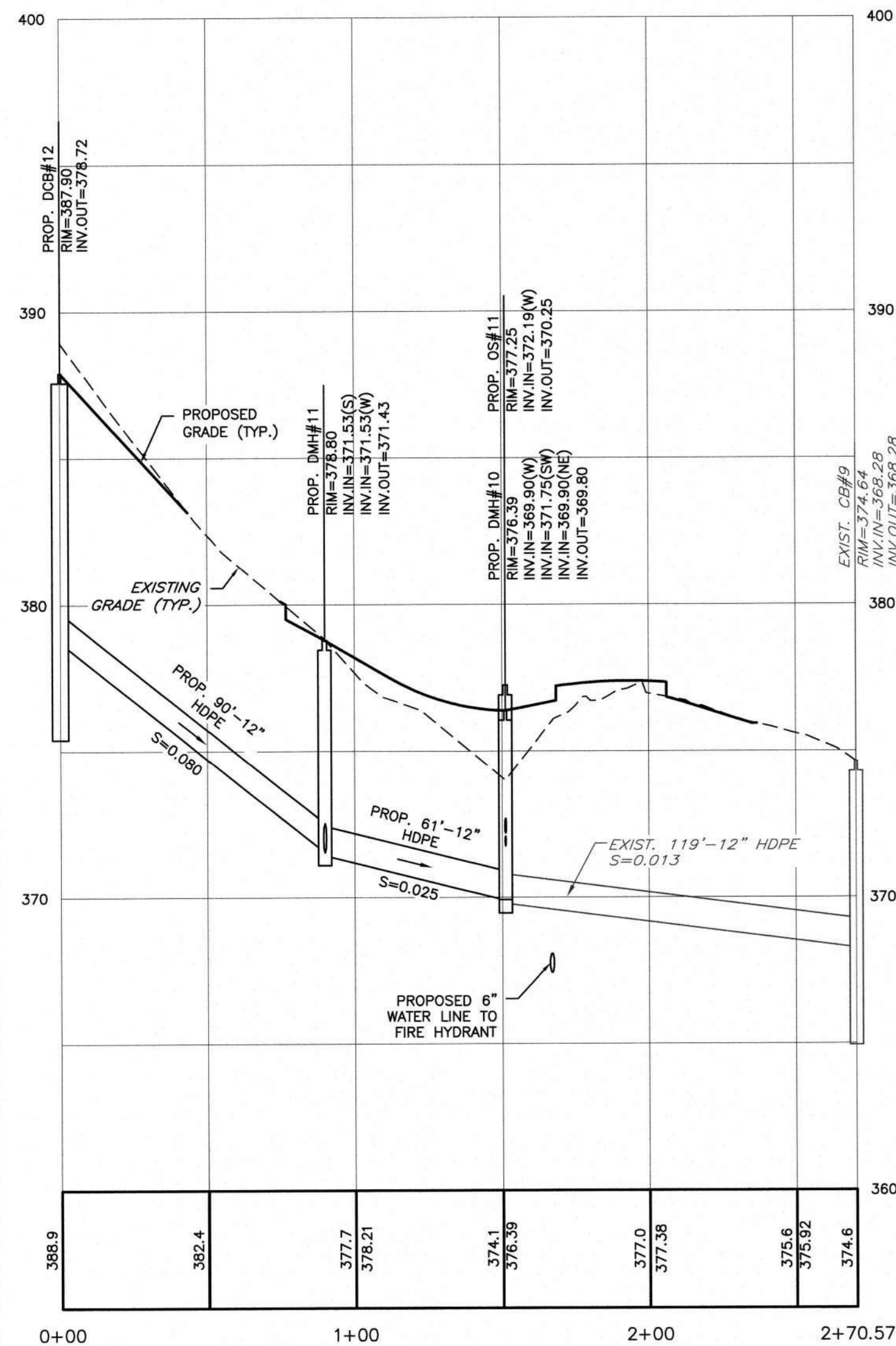
ROADWAY & PARKING SPACES

Illuminance (Fc)
Average = 0.89
Maximum = 5.5
Minimum = 0.0
Avg/Min Ratio = N.A.
Max/Min Ratio = N.A.

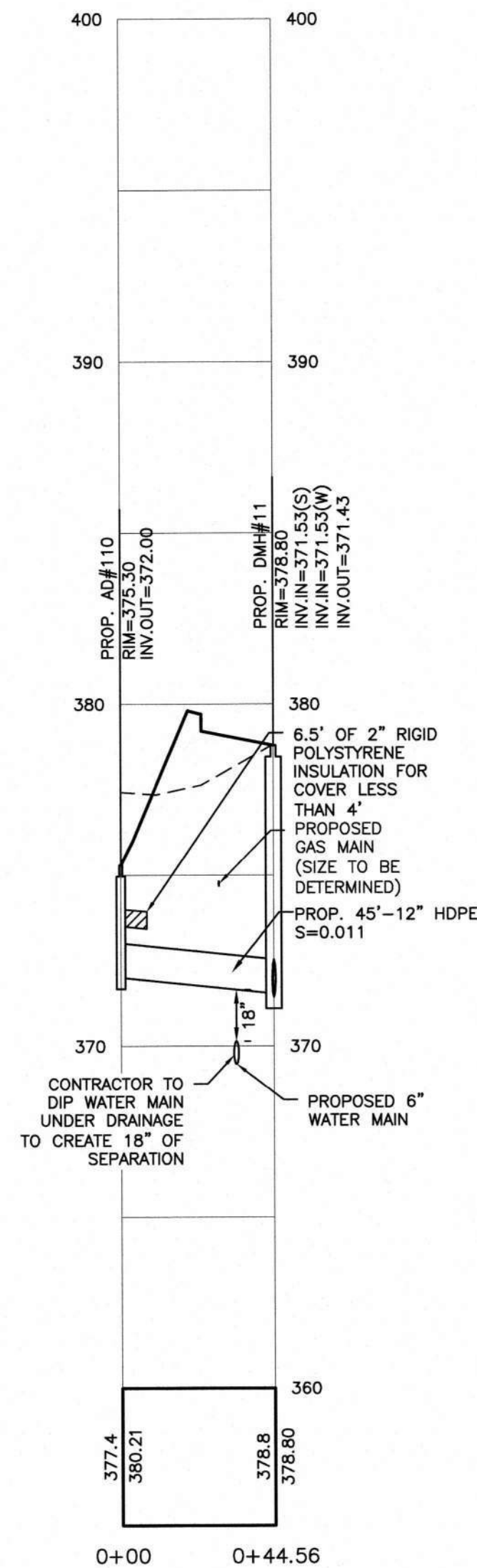
MAP 304Z LOT 4

MAP 39Z LOT 19

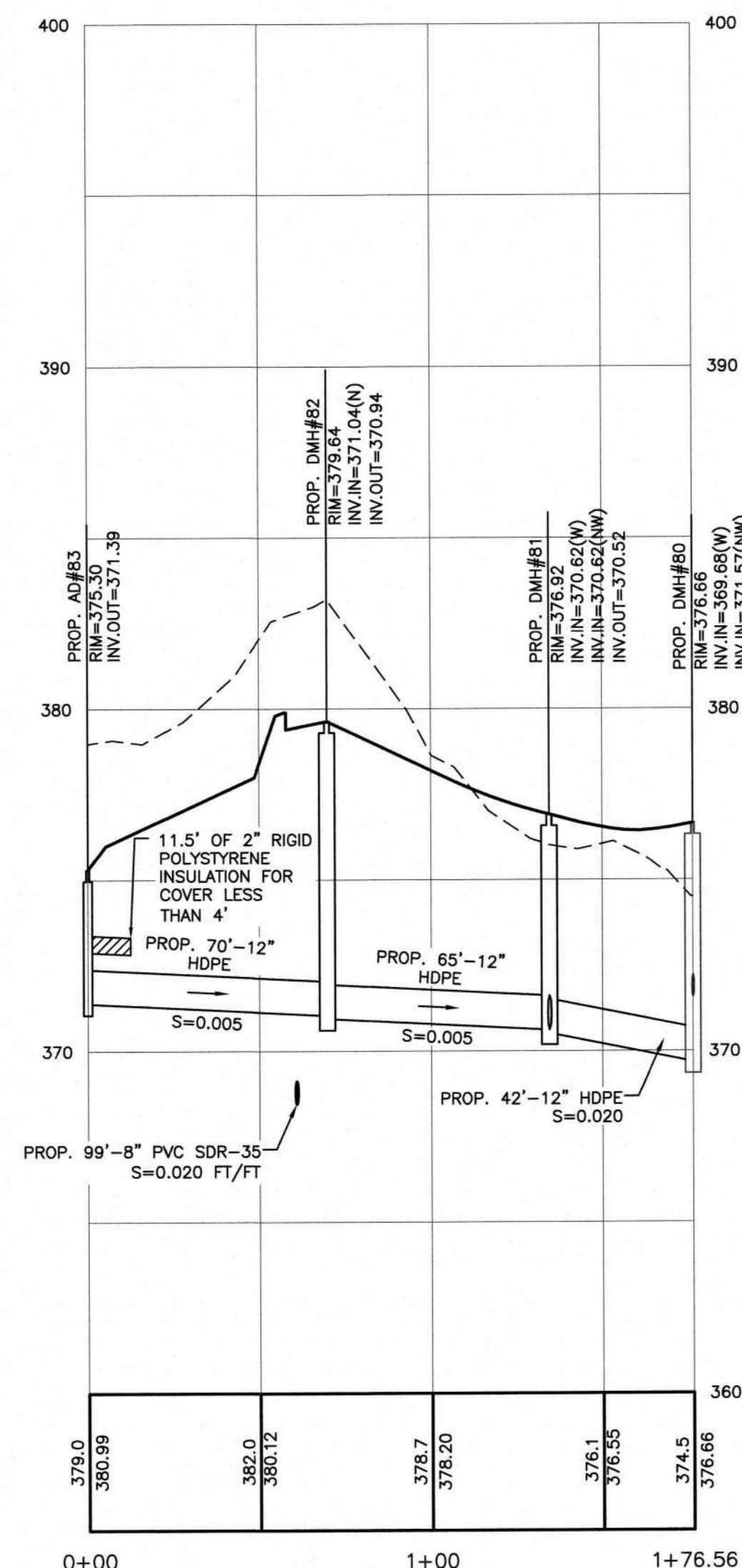
MAP 392Z LOT 1



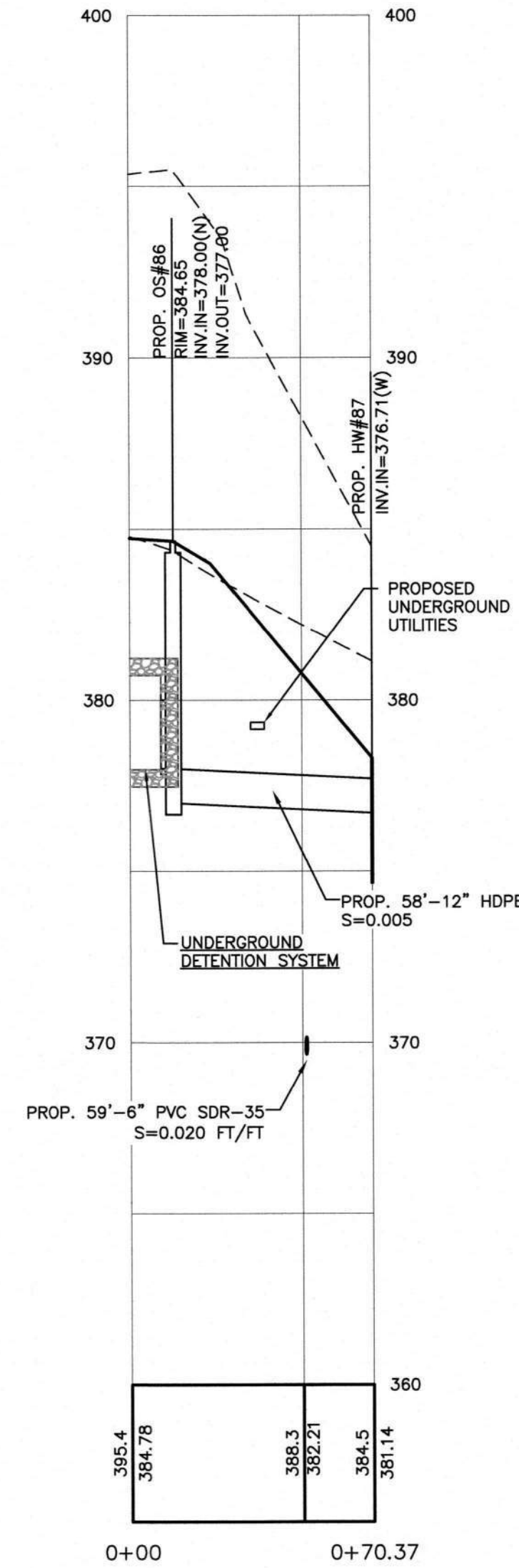
DRAINAGE PROFILE
CB#11 TO EXIST CB#9
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



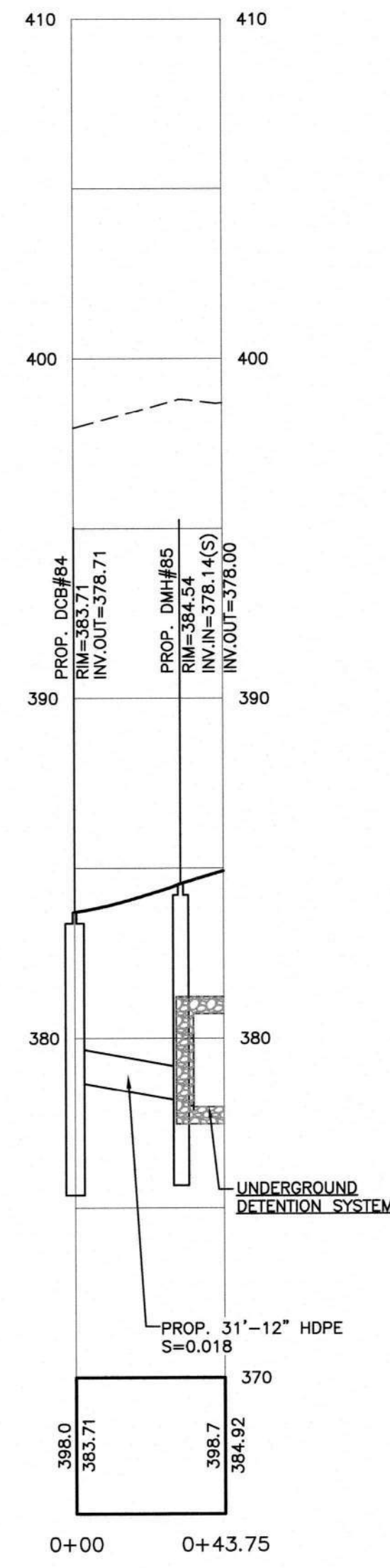
DRAINAGE PROFILE
AD#100 TO DMH#11
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



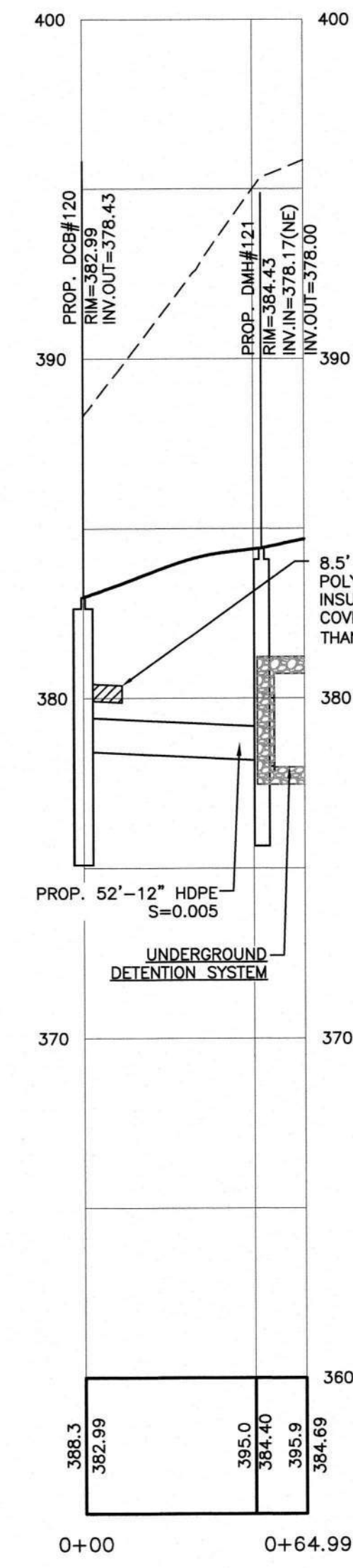
DRAINAGE PROFILE
AD#83 TO EXIST. DMH#80
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



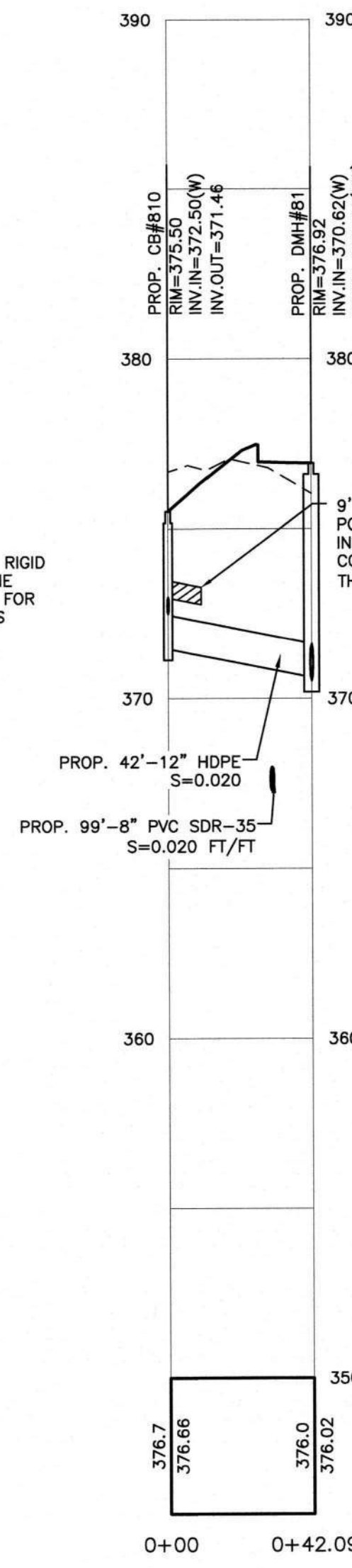
DRAINAGE PROFILE
DMH#86 TO HW#87
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



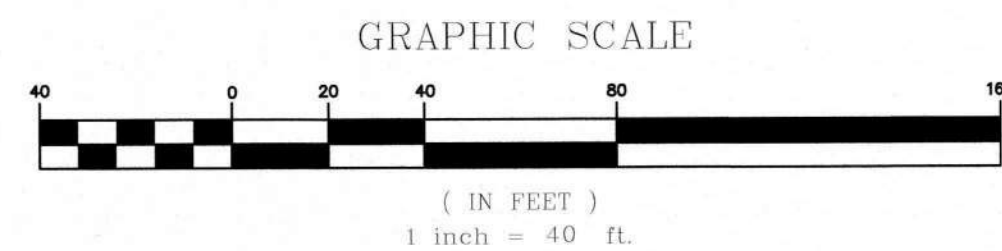
DRAINAGE PROFILE
DCB#84 TO DMH#85
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



DRAINAGE PROFILE
DCB#120 TO DMH#121
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



DRAINAGE PROFILE
CB#810 TO DMH#81
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



DRAINAGE PROFILES

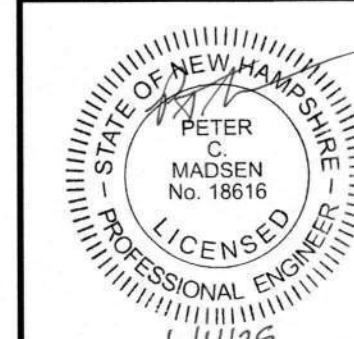
PARMENTER PLACE PHASE II

MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

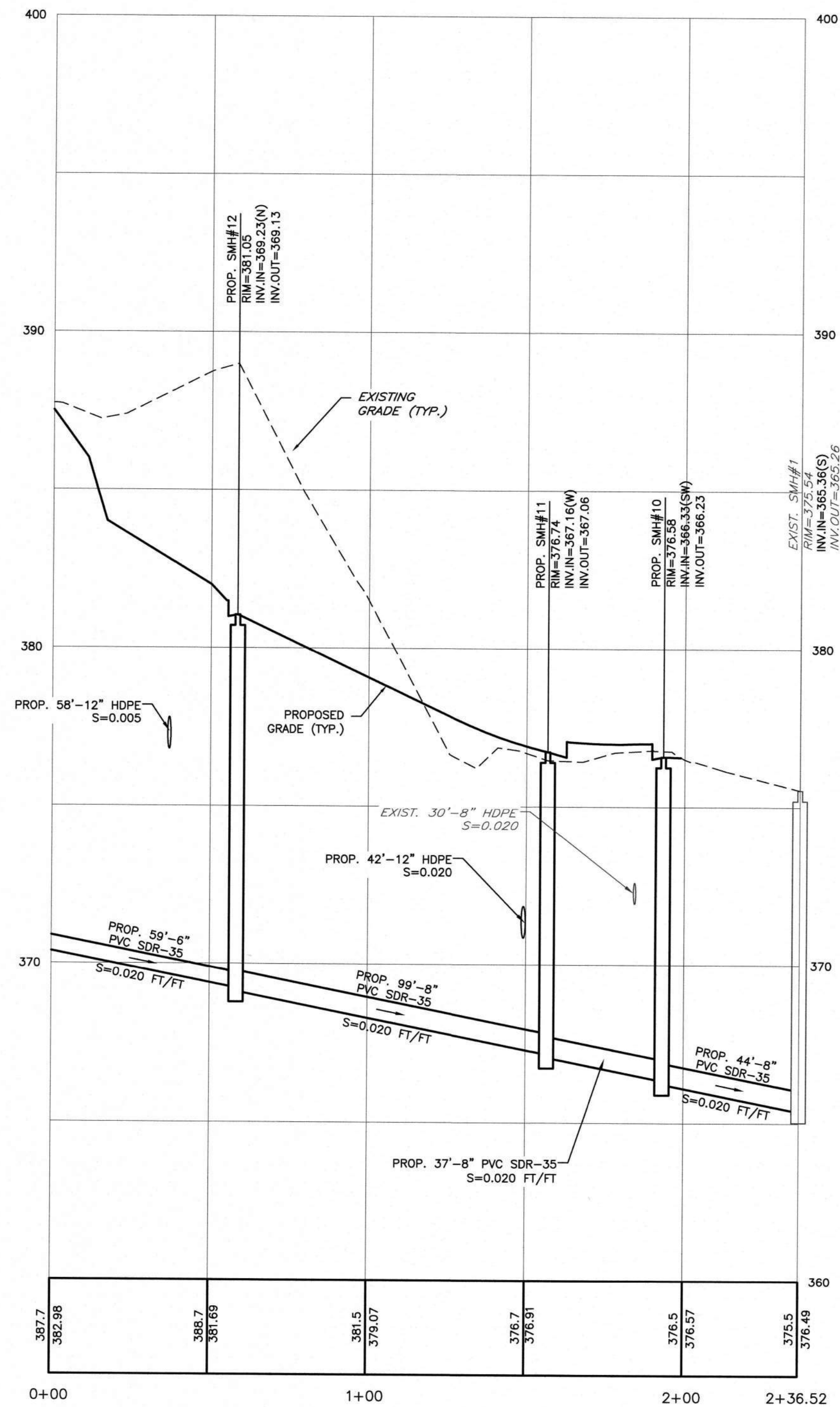
OWNER OF RECORD:
PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090
M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:
CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

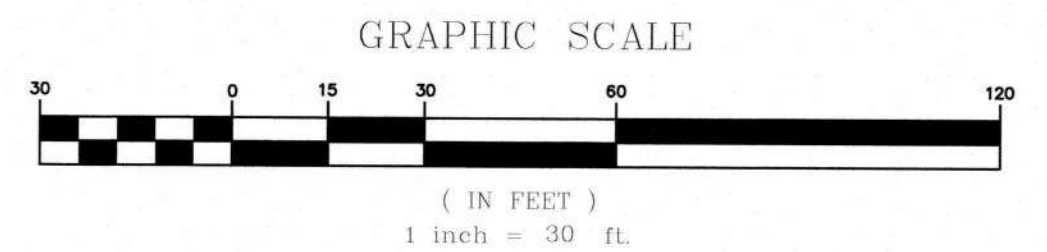
KM KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025		SCALE: AS SHOWN	
PROJECT NO: 06-0505-1		SHEET 10 OF 20	



SEWER PROFILE
 PROP. SMH#11 TO EXIST. SMH#1
 SCALE: 1" = 30' (HORIZ.)
 1" = 3' (VERT.)

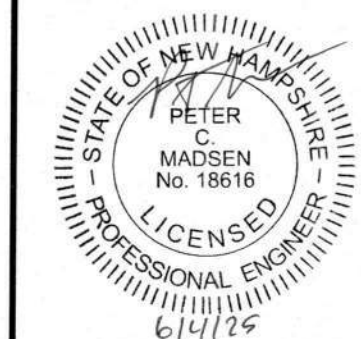


SEWER PROFILES
PARMENTER PLACE PHASE II
 MAP 392Z; LOT 22
 15 PARMENTER ROAD
 CONCORD, NEW HAMPSHIRE
 MERRIMACK COUNTY

OWNER OF RECORD:
 PARMENTER PLACE
 23 GREEN STREET
 CONCORD, N.H. 03301
 M.C.R.D. BK. 3172 PG. 1090
 M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:
 CONCORD HOUSING AND
 REDEVELOPMENT AUTHORITY
 23 GREEN STREET
 CONCORD, N.H. 03301

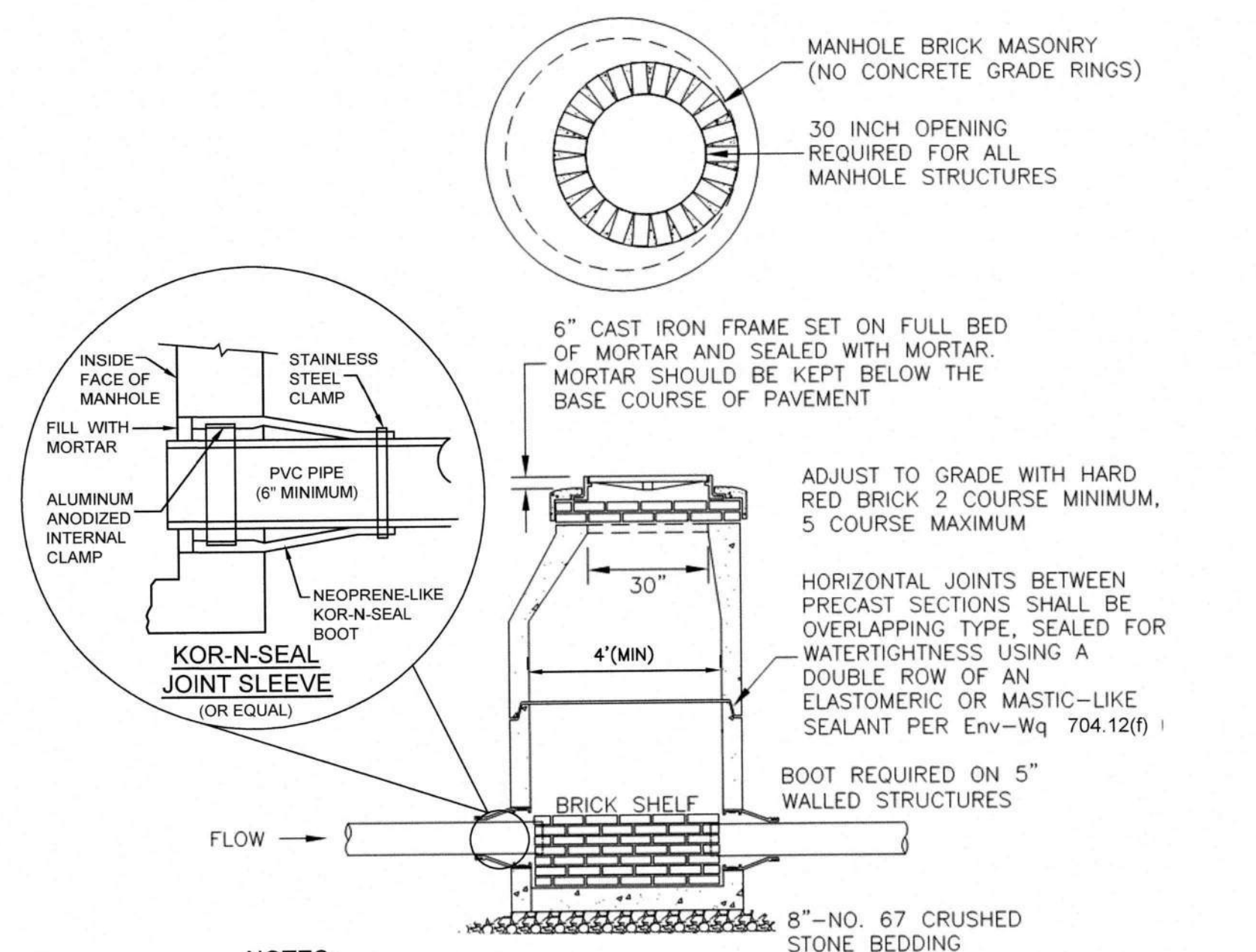
KMA KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025		SCALE: AS SHOWN	
PROJECT NO: 06-0505-1		SHEET 11 OF 20	



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025		SCALE: AS SHOWN	
PROJECT NO: 06-0505-1		SHEET 13 OF 20	



1. PVC PIPE SHALL CONFORM WITH ASTM D3034 AND ASTM D2412 (Env-Wq 704.05 (c),(d)).
2. PVC JOINT SEALS SHALL CONFORM WITH ASTM D3212 (Env-Wq 704.05(e)).

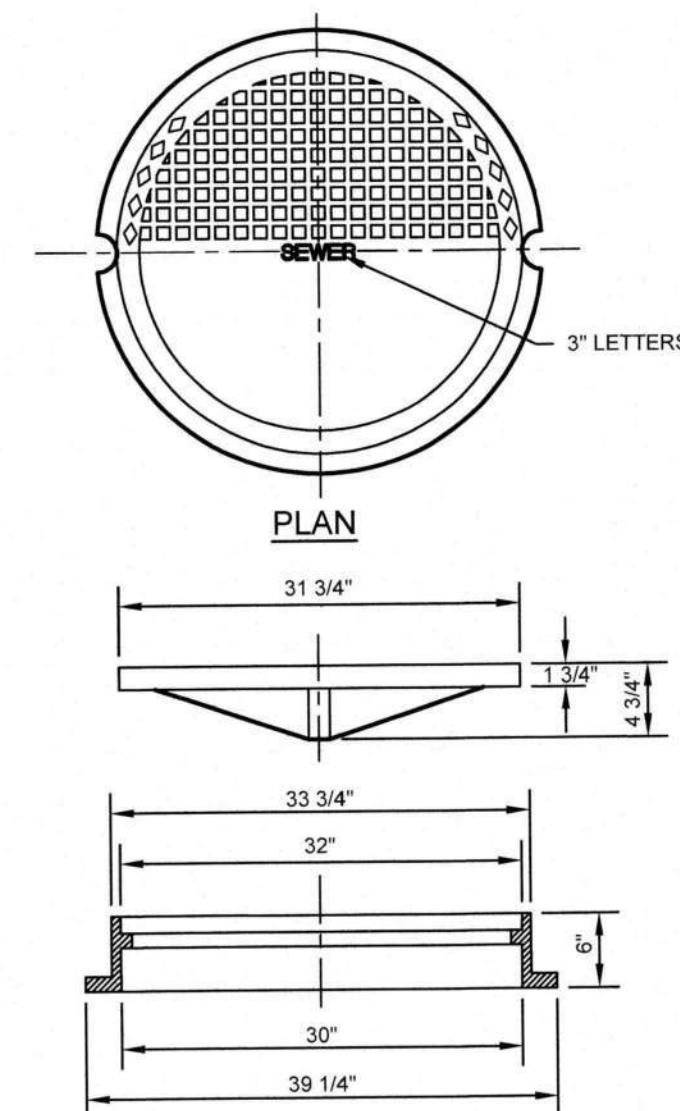
1. ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.
2. LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH:
 - a. ASTM F1417-92(2005) "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES (8" THROUGH 24" DIAMETER) USING LOW-PRESSURE AIR TESTING"
 - b. UN-IBL PVC PIPE ASSOCIATION UNI-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE" (1989).
3. ALL NEW GRAVITY SEWERS SHALL BE CLEANED AND VISUALLY INSPECTED USING A LAMP TEST AND A STRUTTING ROD TO DETERMINE IF THERE IS ANY OBSTRUCTION OR HANDING WATER IN THE SEWER AND SHALL BE TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.
4. ALL PLASTIC SEWER PIPE SHALL BE DEFLECTION TESTED NOT LESS THAN 30 DAYS NOR MORE THAN 90 DAYS FOLLOWING INSTALLATION.
5. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5 PERCENT OF AVERAGE INSIDE PIPE DIAMETER. A RIGID BALL OR MANDEL WITH A DIAMETER OF AT LEAST 95 PERCENT OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED IN TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.

NOT TO SCALE

2. CONCRETE 4,000 PSI AFTER 28 DAYS.
3. H-20 LOADING REQUIRED, PER ENV-WQ 704.12(c).
4. 12" TH REINFORCED CONCRETE WALLS WITH COMPLY WITH ENV-WQ 704.13.
5. ON INSIDE OF STRUCTURE, PRE-CAST JOINTS AND LADDER RUNG HOLES TO BE SEALED WITH PORTLAND CEMENT.
6. LIFT HOLES ARE TO BE SEALED WITH MOTOR FLUSH TO THE OUTSIDE STRUCTURE WALL PRIOR TO BACKFILLING.
7. ALL STRUCTURES WITH MULTIPLE PIPIES SHALL HAVE A MINIMUM 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 50% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THREE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.
8. MANHOLES AND TRAFFIC SIGNAL LOOPS SHALL BE SEPARATED BY A MINIMUM OF 2' TO ALLOW FOR MAINTENANCE OF STRUCTURE.
9. STEPS WITHIN MANHOLES ARE PROHIBITED BY THE CITY OF CONCORD.
10. PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS (Env-Wq 704.12g):
 - A. ELASTOMERIC RUBBER SLEEVE WITH WATER TIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
 - B. CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPING;
 - C. ELASTOMERIC SEALING RINGS CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
 - D. NON-SHRINK GROUTED JOINTS WHERE WATER TIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
11. THE MINIMUM INTERNAL DIAMETER OF MANHOLES SHALL BE 48 INCHES (Env-Wq 704.12n), EXCEPT FOR DROP MANHOLES WHICH MAY HAVE A MINIMUM DIAMETER OF 36".
12. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO THE ASTM C478 STANDARD IN EFFECT AT THE TIME THE BARREL SECTIONS, CONES, AND BASES ARE MANUFACTURED (Env-Wq 704.13a)(3).
13. BRICK OR GRADE ADJUSTMENT SHALL BE CERTIFIED BY ITS MANUFACTURER AS COMPLYING WITH THE ASTM C32 STANDARD IN EFFECT AT THE TIME THE BRICK IS MANUFACTURED, CLAY OR SHALE, FOR GRADE SS HARD BRICK, WITH NO MORE THAN 5 LAYERS OF BRICK FOR GRADE ADJUSTMENT (Env-Wq 704.13 (a)(5)).
14. MORTAR USED IN MANHOLE CONSTRUCTION SHALL COMPLY WITH ENV-WQ 704.13(c).
15. ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF CONCORD CONSTRUCTION STANDARDS AND DETAILS.

1. MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST.
2. THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
 1. THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 10 INCHES Hg AND
 2. THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 1-INCH Hg PRESSURE DROP TO 9 INCH Hg SHALL BE:
 - a. NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP IN DEPTH;
 - b. NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP; AND
 - c. NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.
3. THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIME FAILS TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (b) ABOVE.
4. INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETED.
5. FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON TOP OF THE MANHOLE OR SOME OTHER LOCATION UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENTS TO GRADE.

NOT TO SCALE



NOT TO SCALE

(MARCH 2008)

NEW HAMPSHIRE MAINTAINS A CLEAR OPENING DESIGNATION OF 30" FOR ITS MANHOLE CASTINGS

- 3" LETTERING
- COVERS MARKED SEWER
- NONROCKING COVER
- DIAMOND SURFACE DESIGN

- FULLY MACHINED FRAME AND COVER
- H-20 LOAD RATED
- GRAY CAST IRON MEETS ASTM A48 CLASS 30

CONSTRUCTION DETAILS
PARMENTER PLACE PHASE II

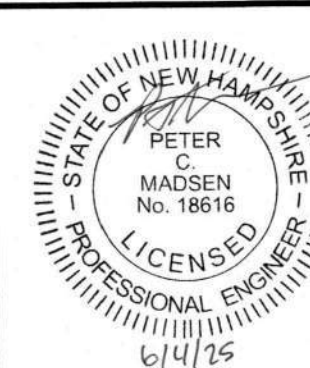
MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090
BK. 3172 PG. 1102 (DECLARATION)

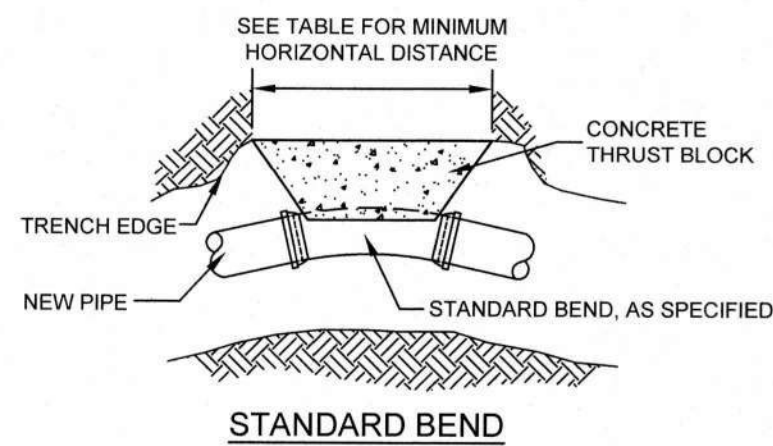
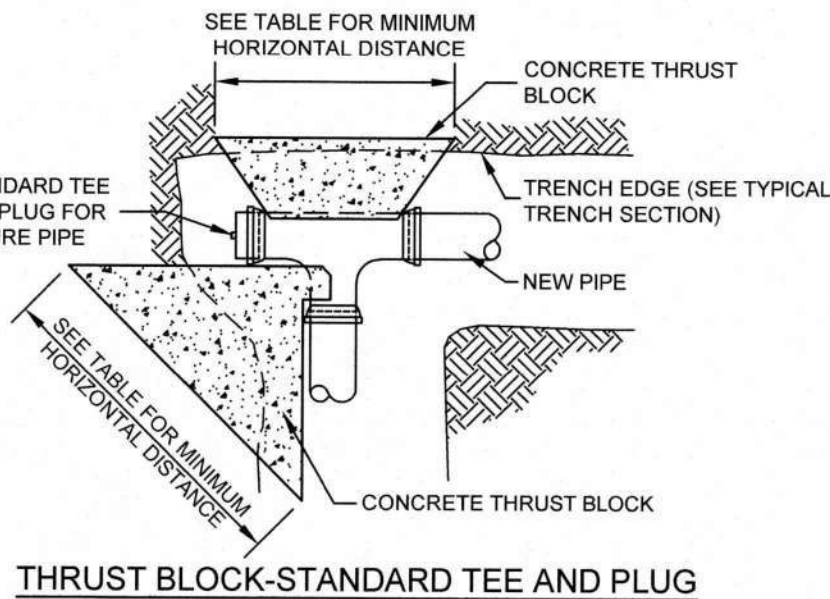
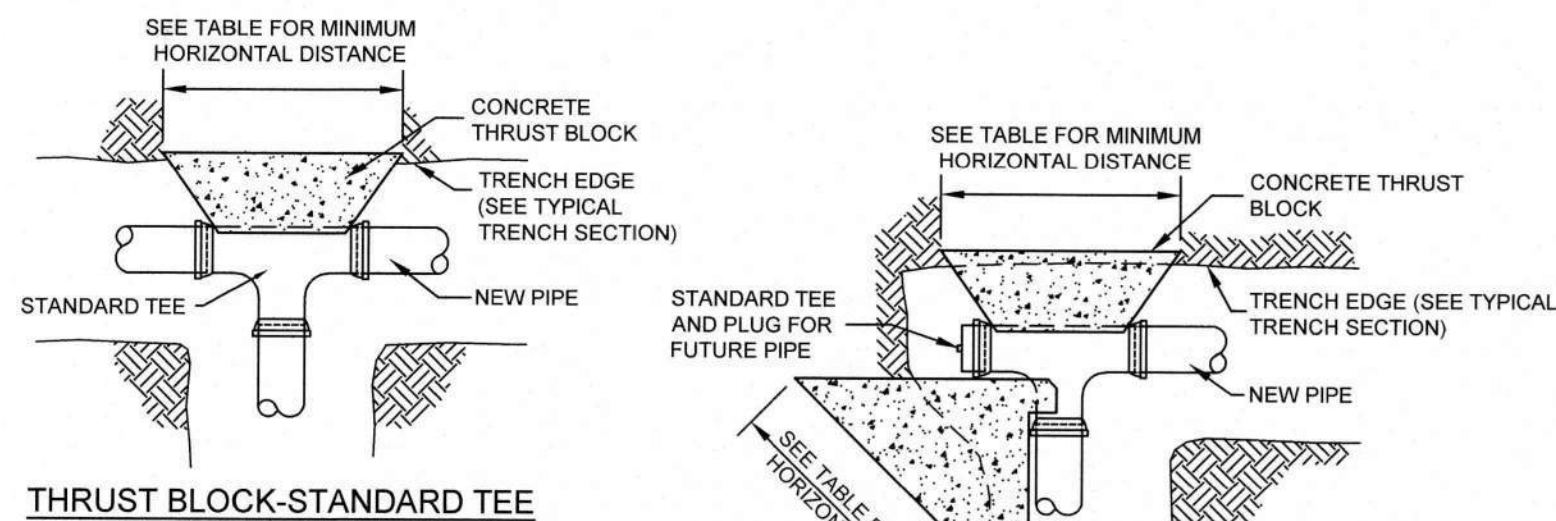
CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

KNA KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

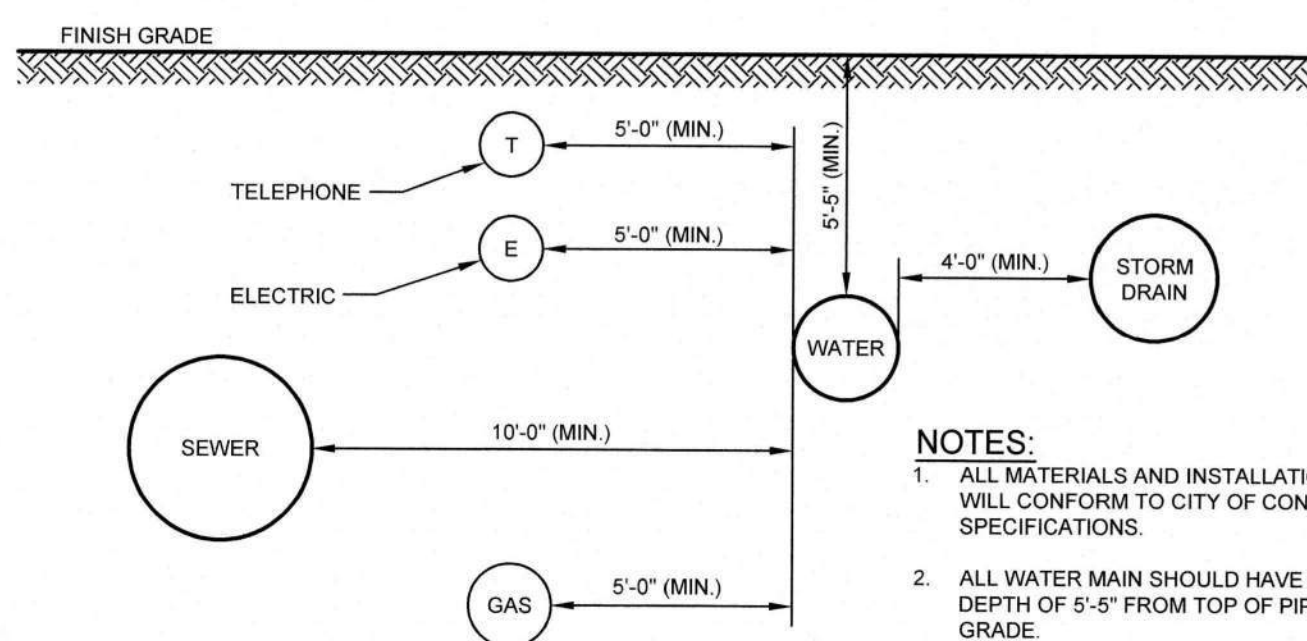
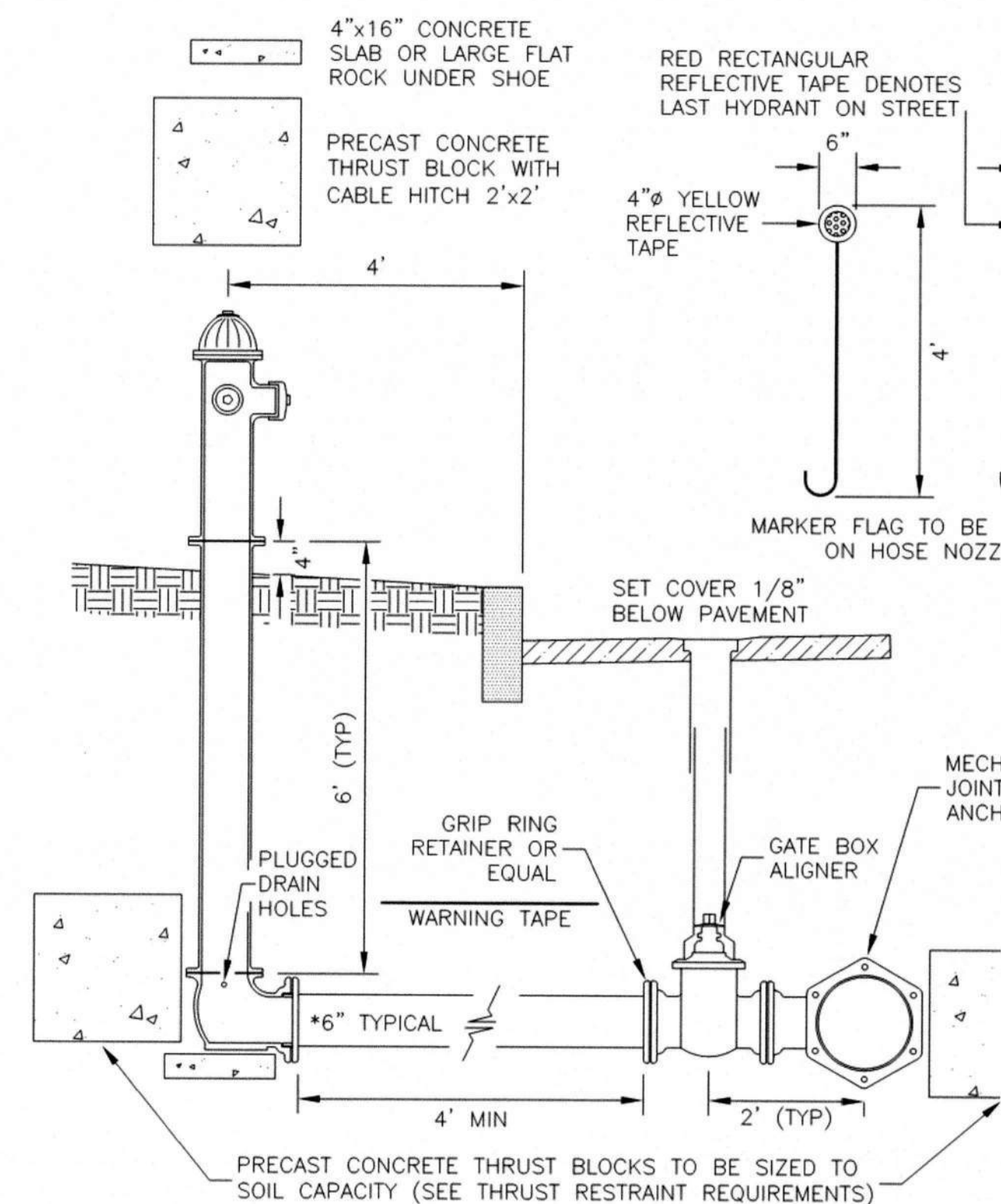


REVISIONS			
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025		SCALE: AS SHOWN	
PROJECT NO: 06-0505-1		SHEET 14 OF 20	

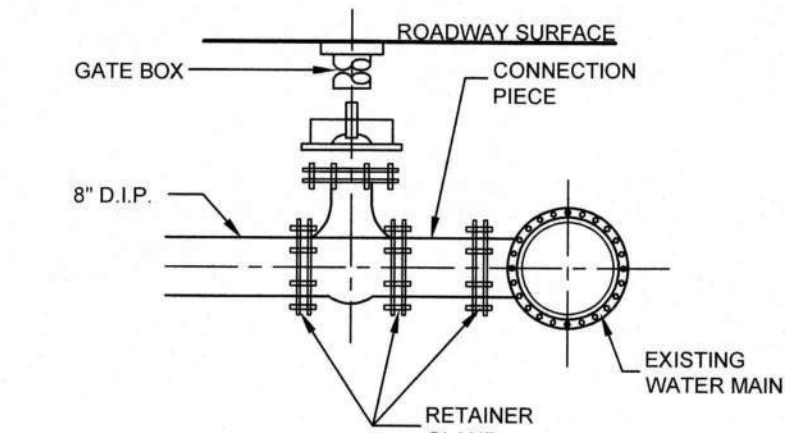
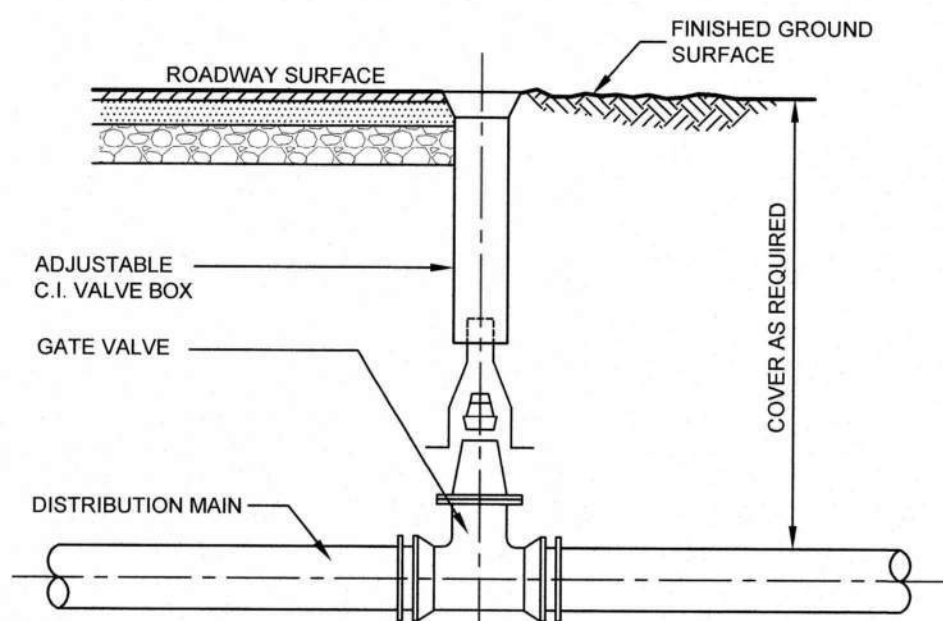


THRUST BLOCK DETAIL
NOT TO SCALE
(MARCH 2008)

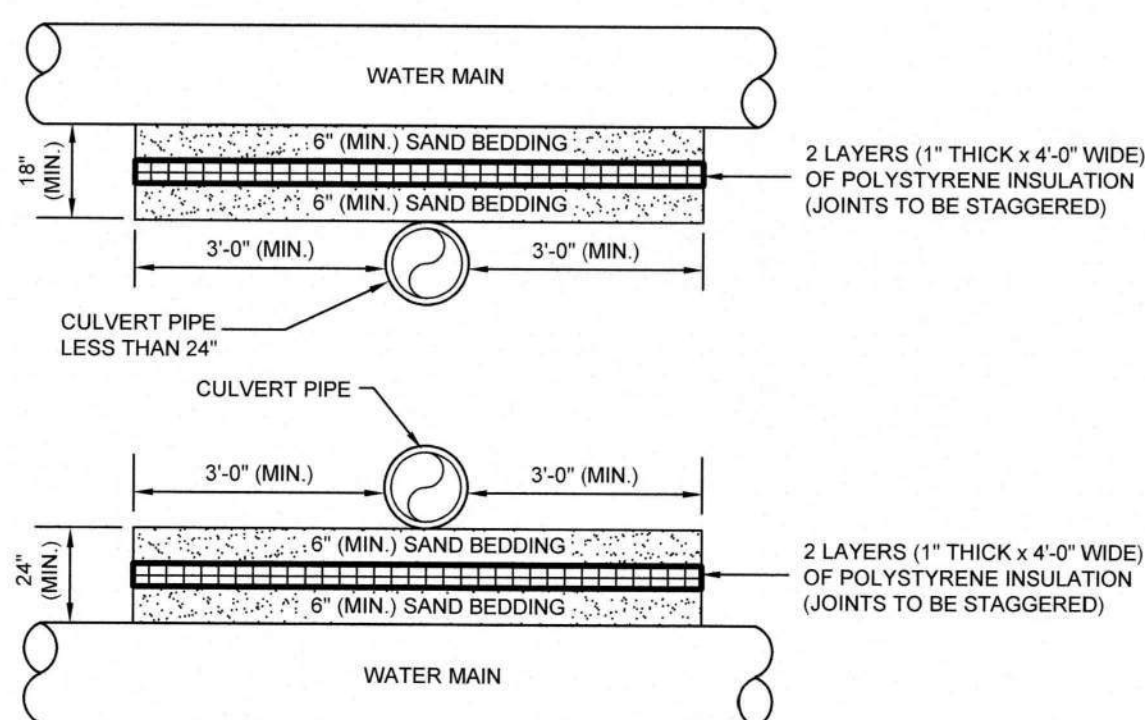
90° BEND



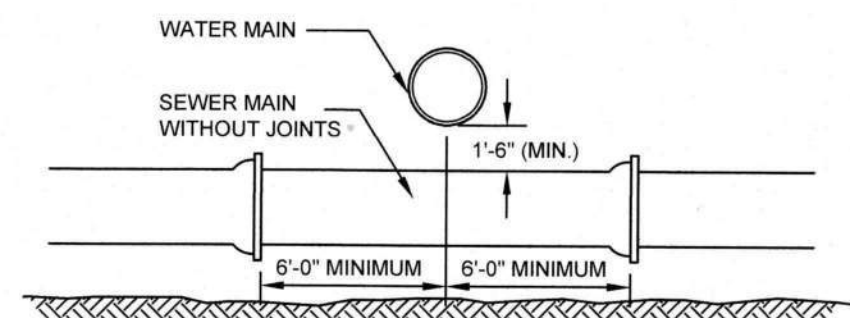
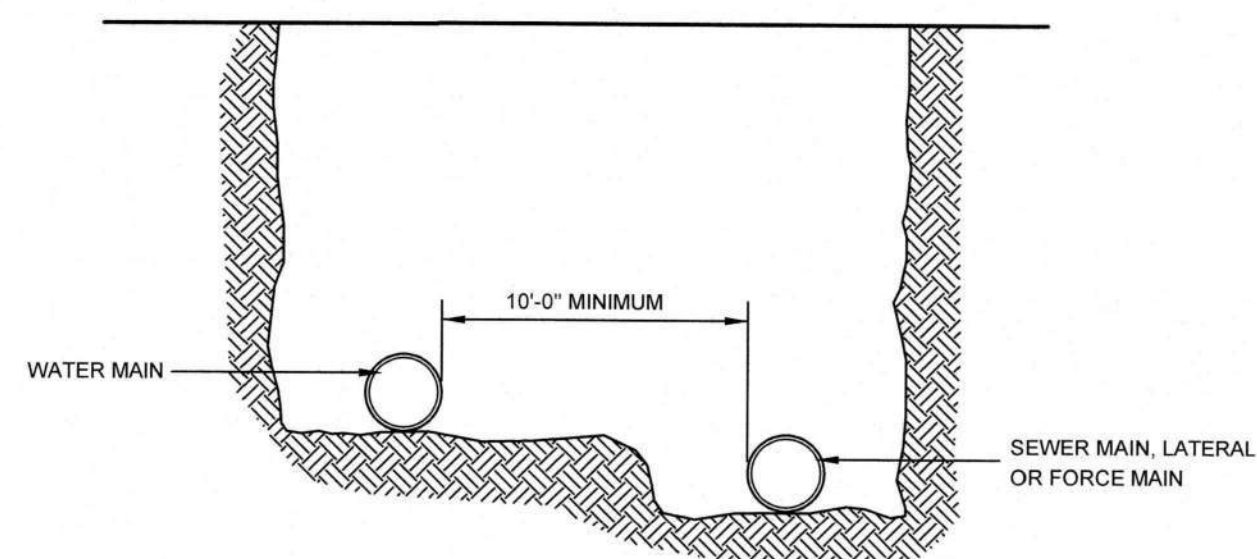
THRUST BLOCK TABLE				
SIZE	TYPE	HORIZONTAL DISTANCE IN SAND OR GRAVEL	HORIZONTAL DISTANCE IN ROCK	VERTICAL DISTANCE
4"	TEE BRANCH	2'-0"	2'-0"	2'-0"
	90° BEND	2'-0"	2'-0"	2'-0"
	45° BEND	2'-0"	2'-0"	2'-0"
	22 1/2° BEND OR LESS	2'-0"	2'-0"	2'-0"
6"	TEE BRANCH	2'-0"	2'-0"	2'-0"
	90° BEND	2'-0"	2'-0"	2'-0"
	45° BEND	2'-0"	2'-0"	2'-0"
	22 1/2° BEND OR LESS	2'-0"	2'-0"	2'-0"
8"	TEE BRANCH	2'-6"	2'-0"	2'-6"
	90° BEND	3'-0"	2'-0"	2'-0"
	45° BEND	2'-6"	2'-0"	2'-0"
	22 1/2° BEND OR LESS	2'-0"	2'-0"	2'-0"
10"	TEE BRANCH	3'-0"	2'-0"	3'-0"
	90° BEND	3'-0"	2'-0"	3'-0"
	45° BEND	2'-6"	2'-0"	2'-6"
	22 1/2° BEND OR LESS	2'-0"	2'-0"	2'-0"
12"	TEE BRANCH	4'-0"	2'-0"	3'-0"
	90° BEND	4'-0"	3'-0"	4'-0"
	45° BEND	3'-6"	2'-0"	3'-0"
	22 1/2° BEND OR LESS	2'-0"	2'-0"	2'-0"
16"	TEE BRANCH	4'-0"	3'-0"	4'-6"
	90° BEND	5'-0"	4'-0"	5'-0"
	45° BEND	4'-0"	3'-0"	4'-0"
	22 1/2° BEND OR LESS	3'-0"	2'-0"	3'-0"
20"	TEE BRANCH	5'-0"	3'-0"	4'-0"
	90° BEND	6'-0"	4'-0"	5'-0"
	45° BEND	4'-6"	3'-0"	4'-6"
	22 1/2° BEND OR LESS	3'-0"	2'-0"	3'-0"



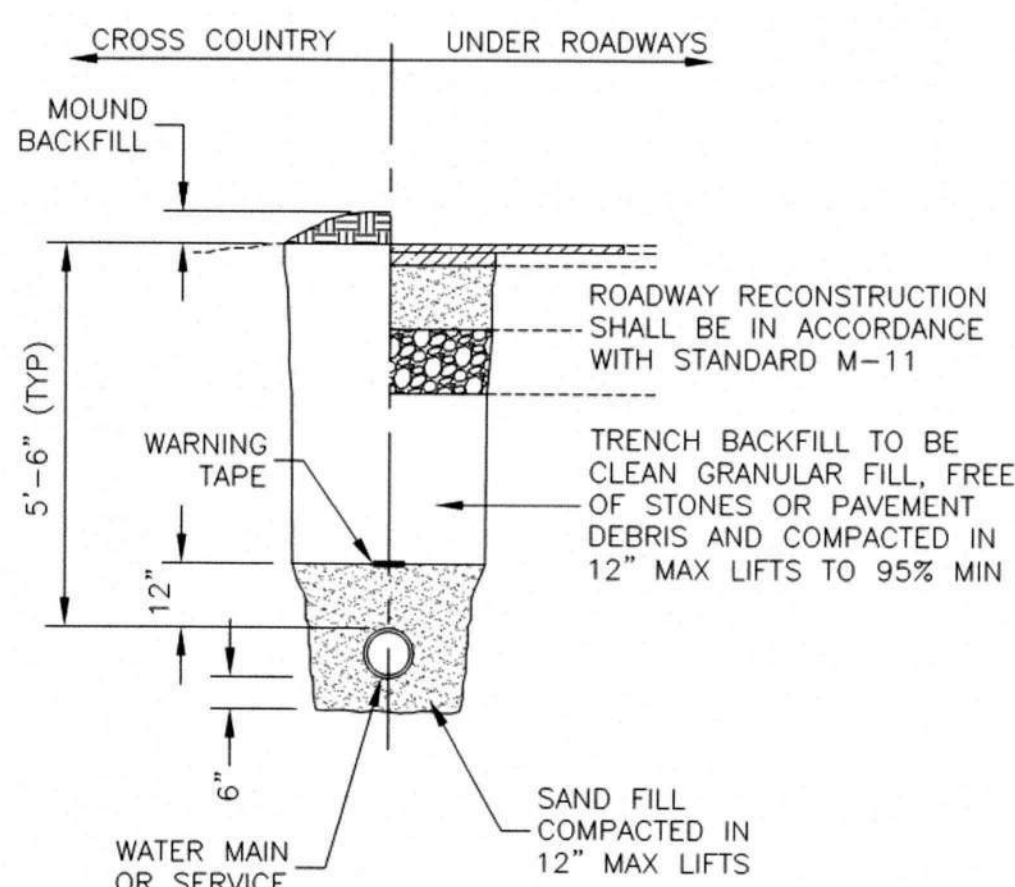
NOTE:
PROVIDE "WET-TAP" OR AS APPROVED BY WATER WORKS DEPARTMENT



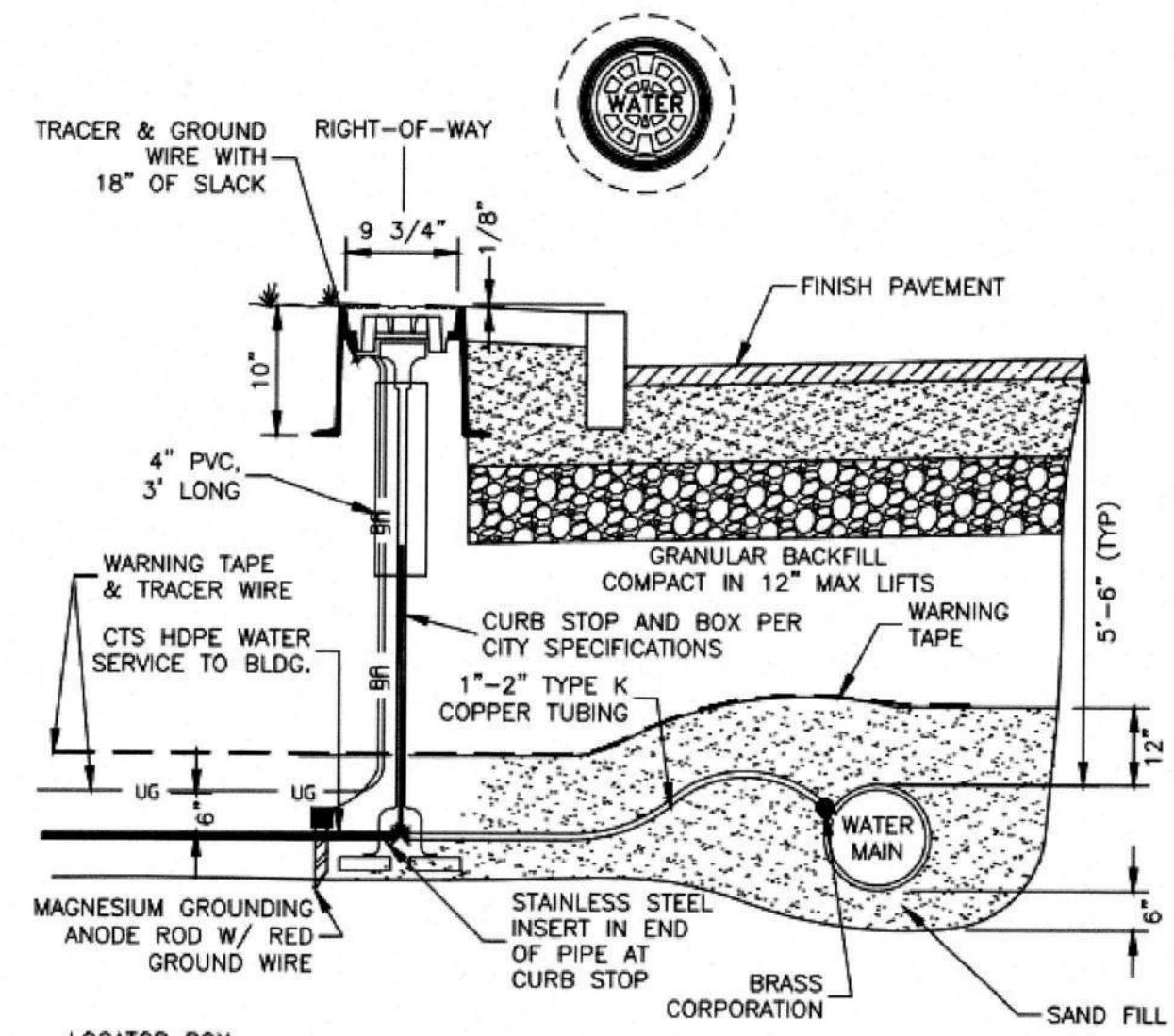
NOTES:
1. INSULATION TO BE USED WHERE PIPE SEPARATION IS 24" OR LESS.



WATER PIPE/SEWER PIPE SEPARATION
NOT TO SCALE
(MARCH 2008)



- NOTES:**
- ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO THE CITY OF CONCORD TECHNICAL SPECIFICATIONS.
 - REQUIREMENTS FOR SUBBASE AND BASE MATERIAL TYPE ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN PAVED AREAS.
 - REQUIREMENTS FOR GRAVEL, LOAM AND/OR SEED ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN NON-PAVED AREAS.
 - 10 GAUGE TRACER WIRE AS MANUFACTURED BY BMS, DIVISION OF ALBESTAR CORP., AVON, MA OR EQUIVALENT.



- LOCATOR BOX:**
- LOCATOR BOX AND COVER SHALL BE CAST IRON
 - LOCATOR BOXES SHALL BE SET AT 500' INTERVALS AND AT BENDS.
 - PROVIDE 18" WIRE LOOP INSIDE THE LOCATOR BOX
 - LOCATOR BOXES SHALL BE SET AT GRADE IN CROSS COUNTRY LOCATIONS AND 1/8" BELOW PAVEMENT, TAPERED OVER 2'
- TRACER WIRE:**
- CONTINUOUS, DIRECT BURIAL RATED
 - 12 AWG HIGH STRENGTH SOLID CORE COPPER CLAD STEEL
 - COATING COLOR SHALL CONFORM TO THE APWA UNIFORM COLOR CODE
- REPAIRS:**
- SPLICES SHALL BE MADE WITH CORROSION PROOF, LOCKABLE WIRE CONNECTORS

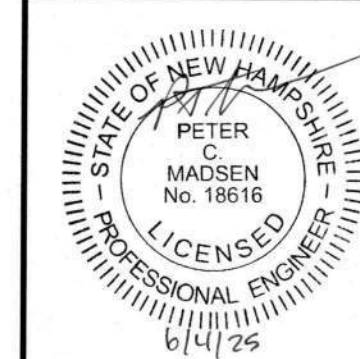
CONSTRUCTION DETAILS PARMENTER PLACE PHASE II

MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

OWNER OF RECORD:
PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090
M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:
CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



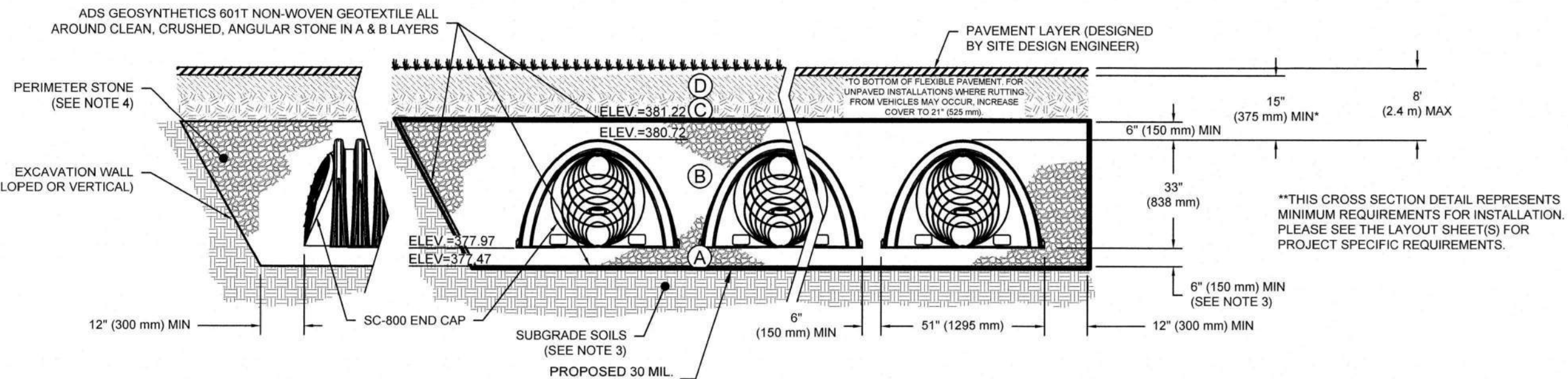
REVISIONS			
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025		SCALE: AS SHOWN	
PROJECT NO: 06-0505-1		SHEET 15 OF 20	

ACCEPTABLE FILL MATERIALS: STORMTECH SC-800 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.	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 15" (375 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 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 ¹ 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 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

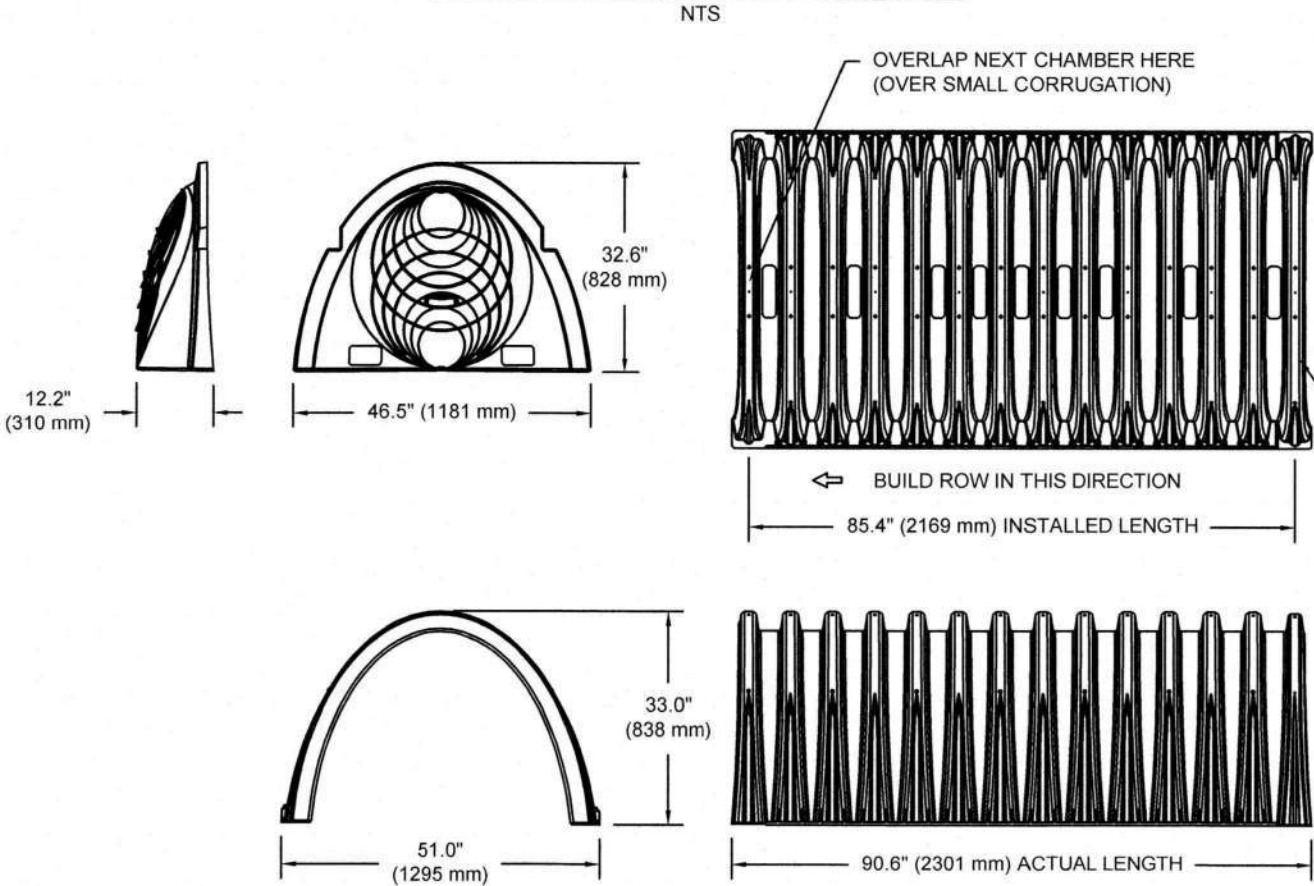
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED 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.
- WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-800 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. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
- 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 F2418 SHALL BE GREATER THAN OR EQUAL TO 750 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.

SC-800 TECHNICAL SPECIFICATION



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 33.0" X 85.4"	(1295 mm X 838 mm X 2169 mm)
CHAMBER STORAGE	50.8 CUBIC FEET	(1.43 m ³)
MINIMUM INSTALLED STORAGE*	81.0 CUBIC FEET	(2.29 m ³)
WEIGHT	81.8 lbs.	(37.1 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	46.5" X 32.6" X 10.5"	(1181 mm X 828 mm X 267 mm)
END CAP STORAGE	3.4 CUBIC FEET	(0.09 m ³)
MINIMUM INSTALLED STORAGE*	15.4 CUBIC FEET	(0.43 m ³)
WEIGHT	15.7 lbs.	(7.1 kg)

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

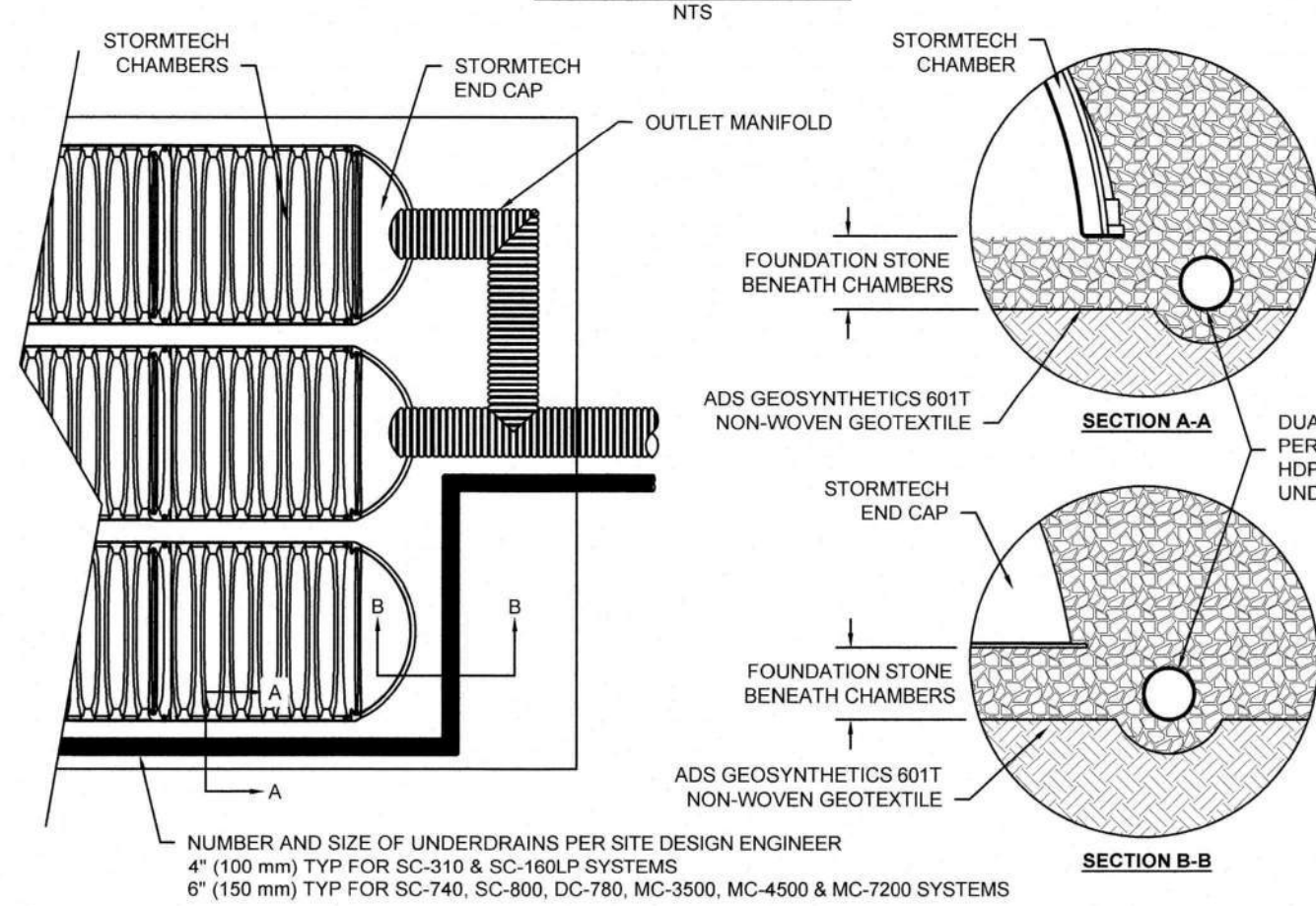
** ASSUMES 6" (152 mm) STONE ABOVE AND BELOW END CAPS, 6" (152 mm) BETWEEN ROWS, 12" (305 mm) BEYOND END CAPS

PRE-CORED HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "BPC"
PRE-CORED HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "TPC"

PART #	STUB	B	C
SC800EPE06TPC	6" (150 mm)	21.4" (544 mm)	---
SC800EPE08BPC	---	---	0.9" (23 mm)
SC800EPE08TPC	8" (200 mm)	19.2" (488 mm)	---
SC800EPE08BPC	---	---	1.0" (25 mm)
SC800EPE10TPC	10" (250 mm)	17.0" (432 mm)	---
SC800EPE10BPC	---	---	1.2" (30 mm)
SC800EPE12TPC	12" (300 mm)	14.4" (366 mm)	---
SC800EPE12BPC	---	---	1.6" (41 mm)
SC800EPE15TPC	15" (375 mm)	11.3" (287 mm)	---
SC800EPE18BPC	---	---	1.7" (43 mm)
SC800EPE18TPC	18" (450 mm)	8.0" (203 mm)	---
SC800EPE18BPC	---	---	2.0" (51 mm)
SC800EPE24BPC	24" (600 mm)	---	2.3" (58 mm)
SC800EPE	NONE	---	SOLID END CAP

NOTE: ALL DIMENSIONS ARE NOMINAL

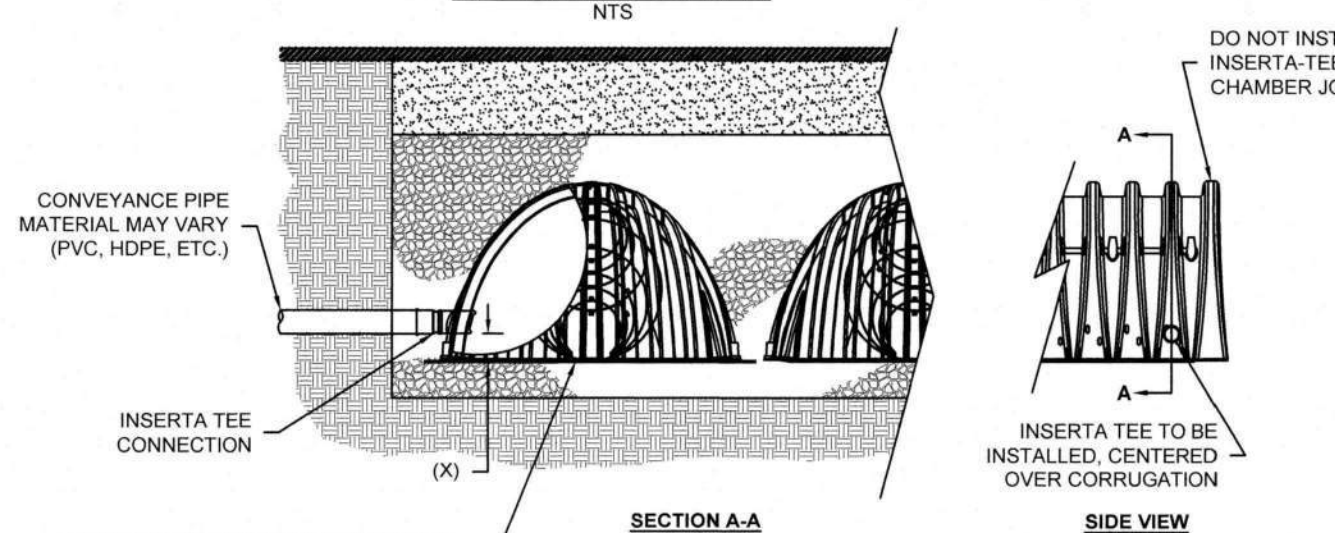
UNDERDRAIN DETAIL



5

UNDERDRAIN DETAIL

INSERTA TEE DETAIL



PLACE ADSPLUS WOVEN GEOTEXTILE (CENTERED ON INSERTA-TEE INLET) OVER BEDDING STONE FOR SCOUR PROTECTION AT SIDE INLET CONNECTIONS. GEOTEXTILE MUST EXTEND 6" (150 mm) PAST CHAMBER FOOT

NOTES:

- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)

INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

SC-800 CROSS SECTION DETAIL

2

SC-800 TECHNICAL SPECIFICATIONS

6

INSERTA-TEE SIDE INLET DETAIL

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST 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.
- B. 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 SPREAD 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.

CONSTRUCTION DETAILS

PARMENTER PLACE PHASE II

MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

OWNER OF RECORD:

PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090

M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:

CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture

10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS

No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH

DATE: APRIL 15, 2025

PROJECT NO: 06-0505-1

SCALE: AS SHOWN

SHEET 16 OF 20

3

SC-800 ISOLATOR ROW PLUS DETAIL

SC-800 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-800.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- 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 SHALL BE GREATER THAN OR EQUAL TO 750 LBS/FT²/IN. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. 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.

SC-800 STORMTECH CHAMBER SPECIFICATIONS CONTINUED

- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD. THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-800 SYSTEM

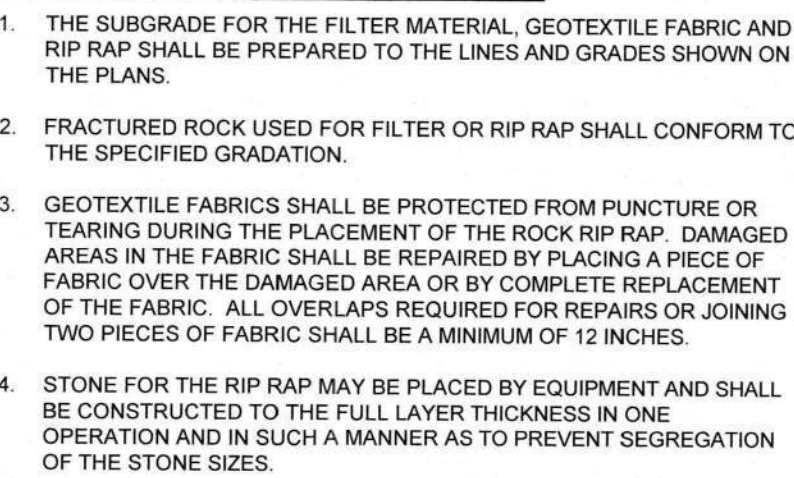
- STORMTECH SC-800 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOTTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE, AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

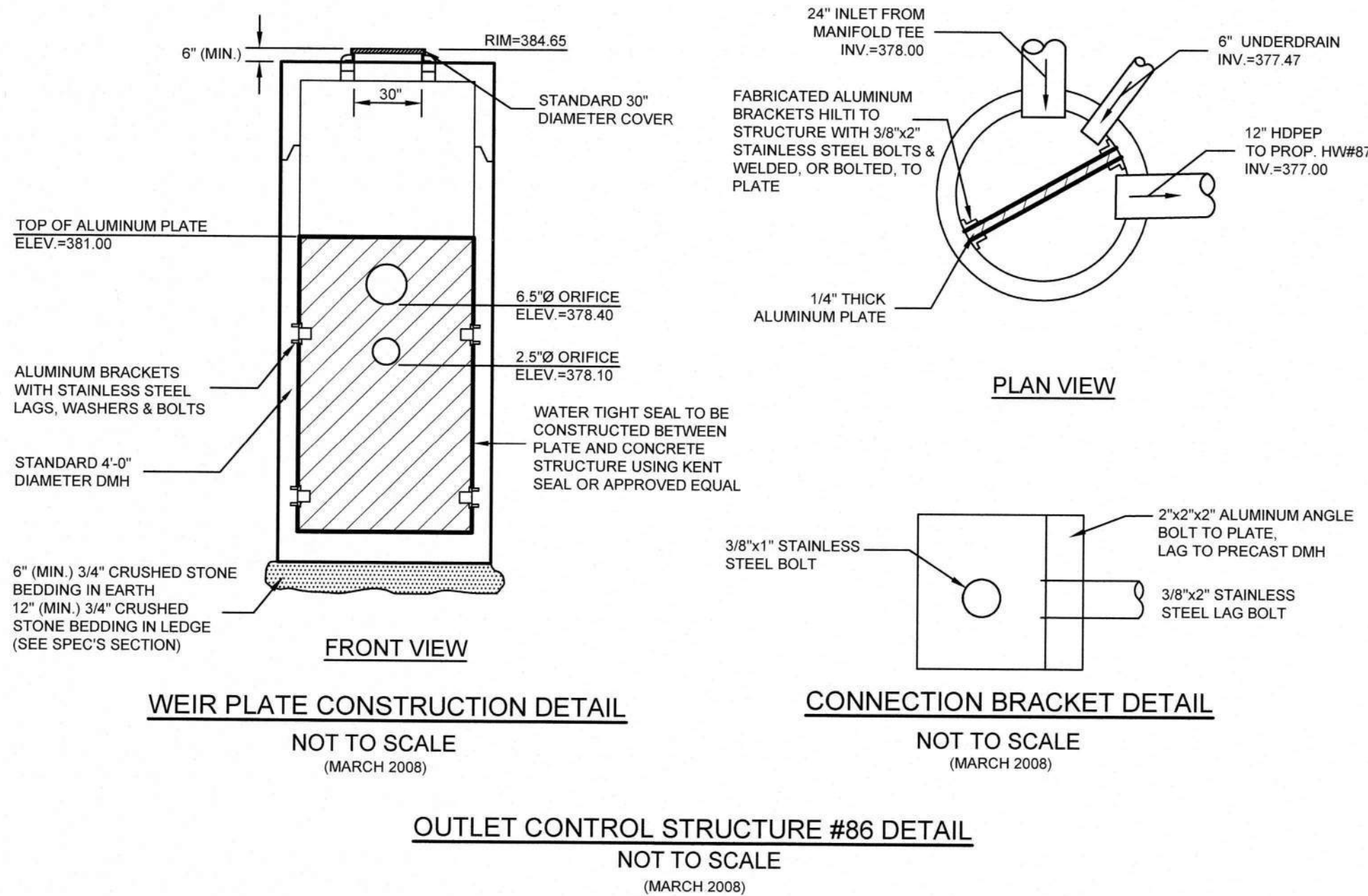
- STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-800 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIRED LOADERS, JUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

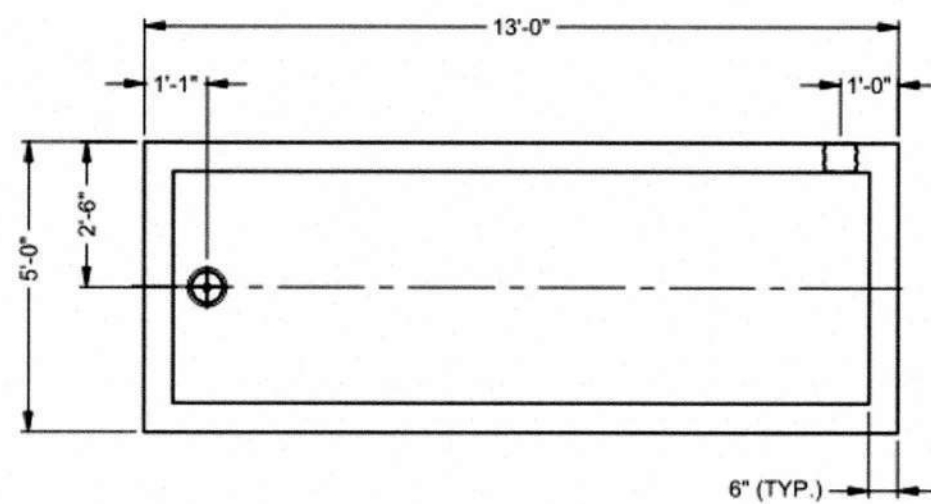
CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



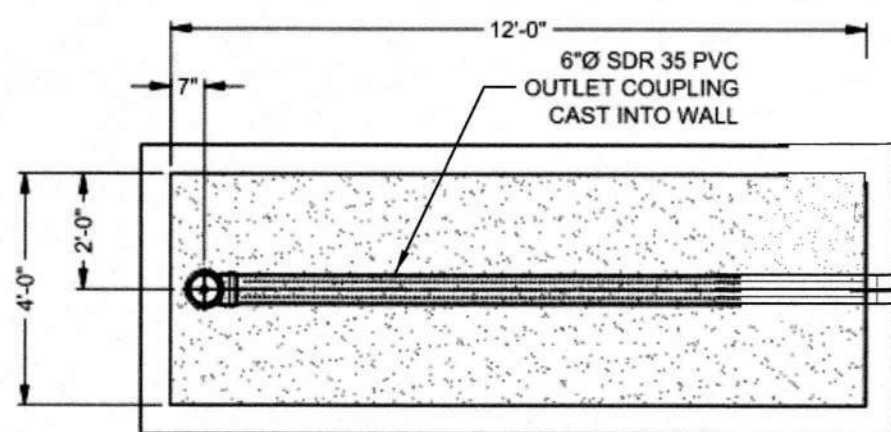
THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR RAIN EVENT. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED, OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.



<h1 style="margin: 0;">CONSTRUCTION DETAILS</h1> <h2 style="margin: 0;">PARMENTER PLACE PHASE II</h2> <p style="margin: 5px 0 0 0;">MAP 392Z; LOT 22</p> <p style="margin: 5px 0 0 0;">15 PARMENTER ROAD</p> <p style="margin: 5px 0 0 0;">CONCORD, NEW HAMPSHIRE</p> <p style="margin: 5px 0 0 0;">MERRIMACK COUNTY</p>																																											
OWNER OF RECORD: PARMENTER PLACE 23 GREEN STREET CONCORD, N.H. 03301 M.C.R.D. BK. 3172 PG. 1090 M.C.R.D. PG. 3172 PG. 1102 (DECLARATION)		APPLICANT: CONCORD HOUSING AND REDEVELOPMENT AUTHORITY 23 GREEN STREET CONCORD, N.H. 03301																																									
<div style="display: flex; align-items: center; justify-content: center;"> <div> <h3 style="margin: 0;">KEACH-NORDSTROM ASSOCIATES, INC.</h3> <p style="margin: 5px 0 0 0;">Civil Engineering Land Surveying Landscape Architecture</p> <p style="margin: 5px 0 0 0;">10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881</p> </div> </div>																																											
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center; padding: 5px;">REVISIONS</th> </tr> <tr> <th style="width: 10%; padding: 5px;">No.</th> <th style="width: 20%; padding: 5px;">DATE</th> <th style="width: 60%; padding: 5px;">DESCRIPTION</th> <th style="width: 10%; padding: 5px;">BY</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">6/2/2025</td> <td>REVISED PER CITY COMMENTS</td> <td style="text-align: center;">MCH</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 65%; padding: 5px;"> DATE: APRIL 15, 2025 </td> <td style="width: 35%; padding: 5px;"> SCALE: AS SHOWN </td> </tr> <tr> <td style="padding: 5px;"> PROJECT NO: 06-0505-1 </td> <td style="padding: 5px;"> SHEET 17 OF 20 </td> </tr> </table>		REVISIONS				No.	DATE	DESCRIPTION	BY	1	6/2/2025	REVISED PER CITY COMMENTS	MCH																									DATE: APRIL 15, 2025	SCALE: AS SHOWN	PROJECT NO: 06-0505-1	SHEET 17 OF 20
REVISIONS																																											
No.	DATE	DESCRIPTION	BY																																								
1	6/2/2025	REVISED PER CITY COMMENTS	MCH																																								
DATE: APRIL 15, 2025	SCALE: AS SHOWN																																										
PROJECT NO: 06-0505-1	SHEET 17 OF 20																																										

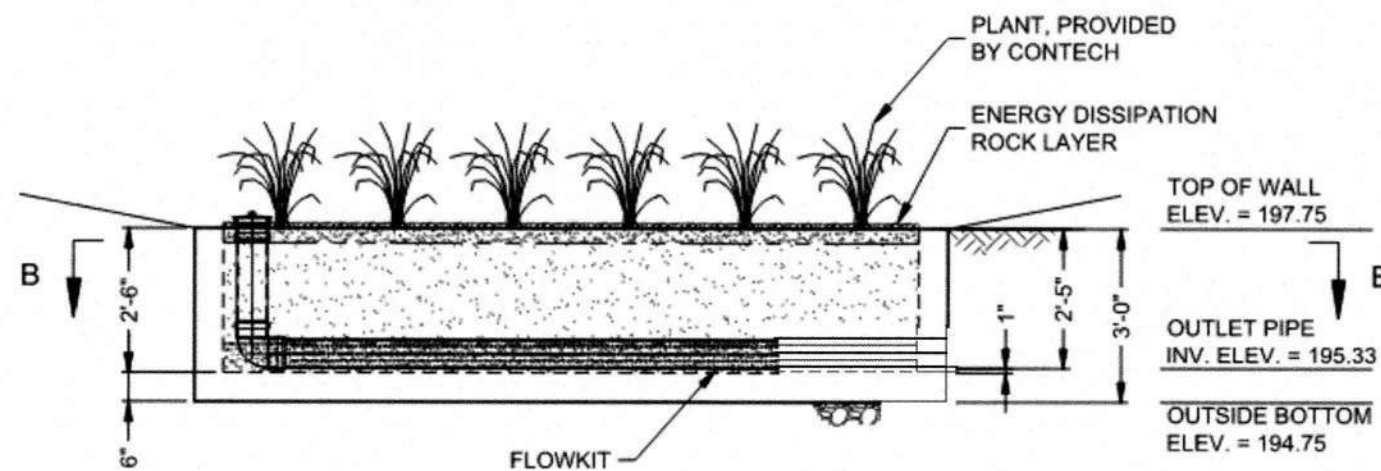


PLAN VIEW

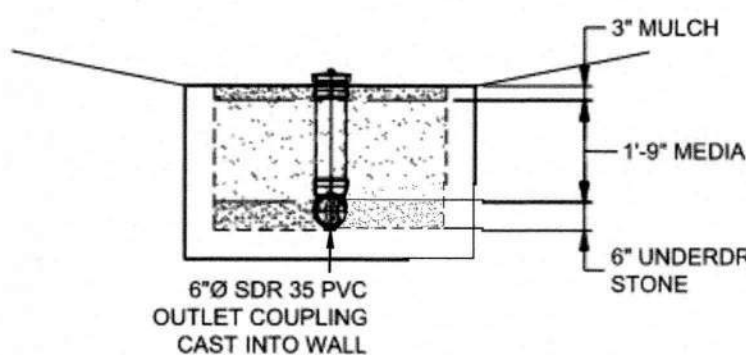


SECTION B-B

RETAINING WALL AND WALL EXTENSIONS
TO BE PROVIDED BY OTHERS



ELEVATION VIEW



RIGHT END ELEVATION VIEW

FILTERRA BIOSCAPE DETAIL
NOT TO SCALE

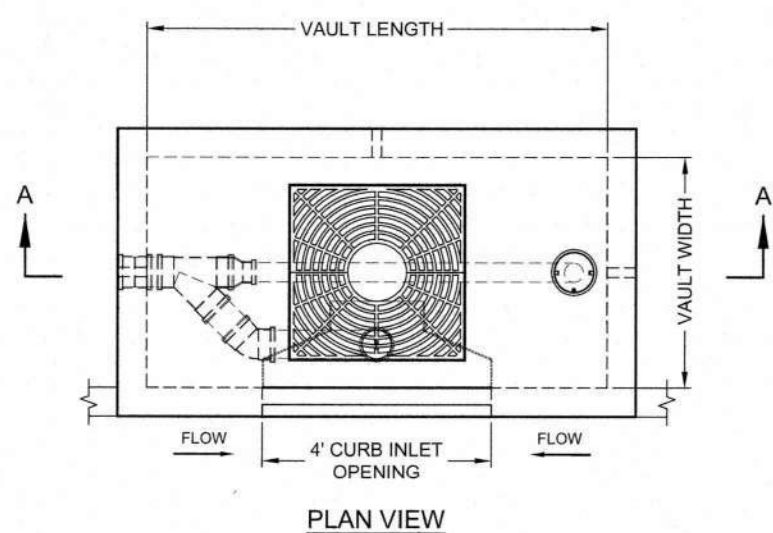
- AS WITH ALL OPEN TOP BIOTENTION SYSTEMS, FILTERRA BIOSCAPE VAULT IS OPEN TO THE ATMOSPHERE WITH A MEDIA SURFACE RECESSED BELOW FINISHED GRADE. CONTRACTOR OR OWNER IS RESPONSIBLE FOR PROVIDING ANY REQUIRED SAFETY MEASURES AROUND SYSTEM PERIMETER. TO MAINTAIN AESTHETICS, REMOVAL OF HEAVY STORMWATER DEBRIS MAY BE NECESSARY BETWEEN REGULAR FILTERRA SYSTEM MAINTENANCE EVENTS.
- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE
 - FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE.
 - FILTERRA WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
 - STRUCTURE SHALL MEET PEDESTRIAN LIVE LOAD WITH H-5 (4000 LBS.) WHEEL LOAD MOUNTING THE CURB AND ADJACENT HS-20 LIVE LOAD SURCHARGE ON THE WALLS OF THE STRUCTURE, ASSUMING EARTH COVER OF 0' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
 - FILTERRA STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C857, ASTM C918 AND ACI-318 LOAD FACTOR DESIGN METHOD.
 - PLANT, MULCH, AND DISSIPATION ROCKS SUPPLIED BY CONTECH AND DELIVERED AT TIME OF SYSTEM ACTIVATION. PLANT SELECTION SHALL BE DONE BY THE ENGINEER OF RECORD IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
- 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 FILTERRA STRUCTURE. SPREADER BAR WITH SUFFICIENT CABLE IS REQUIRED FOR SAFETY AND REDUCTION OF DAMAGE TO CONCRETE STRUCTURE.
 - CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
 - CONTRACTOR TO PROVIDE AND INSTALL INLET AND OUTLET PIPES, AS NEEDED. PVC COUPLING IS CAST-IN TO STRUCTURE WALL FOR OUTLET CONNECTION.
 - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT FILTERRA MEDIA BAY FROM CONSTRUCTION-RELATED EROSION RUNOFF.
 - CONTECH IS RESPONSIBLE FOR ACTIVATION OF THE SYSTEM WHICH INCLUDES PLANTING OF THE SPECIFIED PLANT, MULCH INSTALLATION, AND PLACING OF DISSIPATION ROCK. ACTIVATION ONLY OCCURS WHEN THE SITE IS FULLY STABILIZED WITH FINAL PAVEMENT OR LANDSCAPING INSTALLED AND CLEANED OF CONSTRUCTION SEDIMENT.
 - CONTACT CONTECH MAINTENANCE AND FIELD OPERATIONS AT 513-645-7770 TO SCHEDULE ACTIVATION.
 - IT IS RECOMMENDED THAT ALL FILTERRA UNITS BE WATERED BY IRRIGATION LINES OR SPRINKLER SYSTEMS ON A REGULAR BASIS. FILTERRA UNITS MAY BE EQUIPPED WITH IRRIGATION HOLES FOR NEW OR EXISTING IRRIGATION LINES UPON REQUEST.
- STRUCTURE WEIGHT**
APPROXIMATE HEAVIEST PICK = 23,000 LBS.
BASE SECTION SHIPPED WITH STONE AND FILTERRA MEDIA INSTALLED
STRUCTURE DELIVERED IN 1 PIECE(S)
- MAX. FOOTPRINT = 5' x 13'

CONTECH
CONTRACT
DRAWING

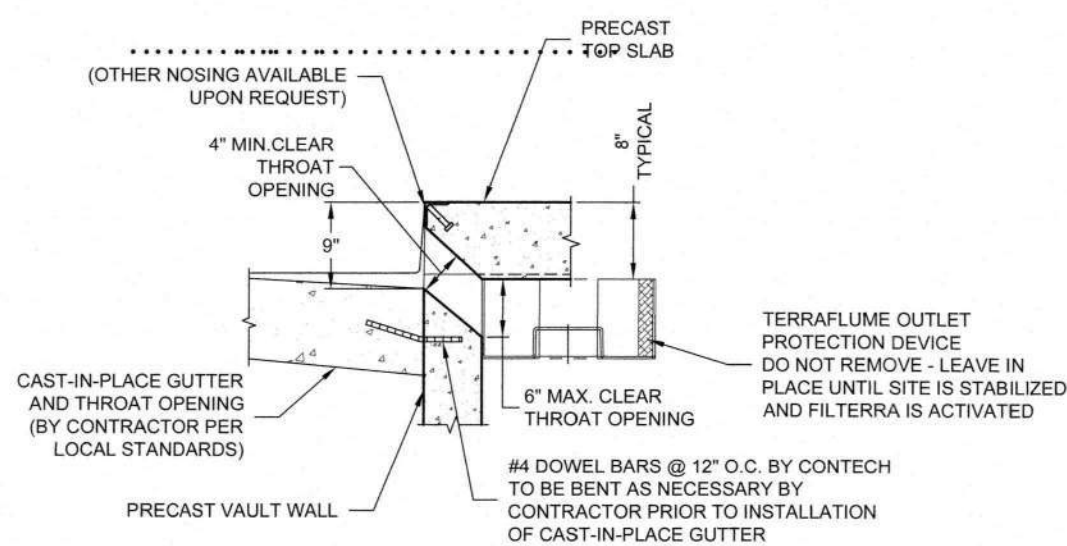
ARRO
LAYOUT 6
FTSV1204-B

MATERIALS LIST

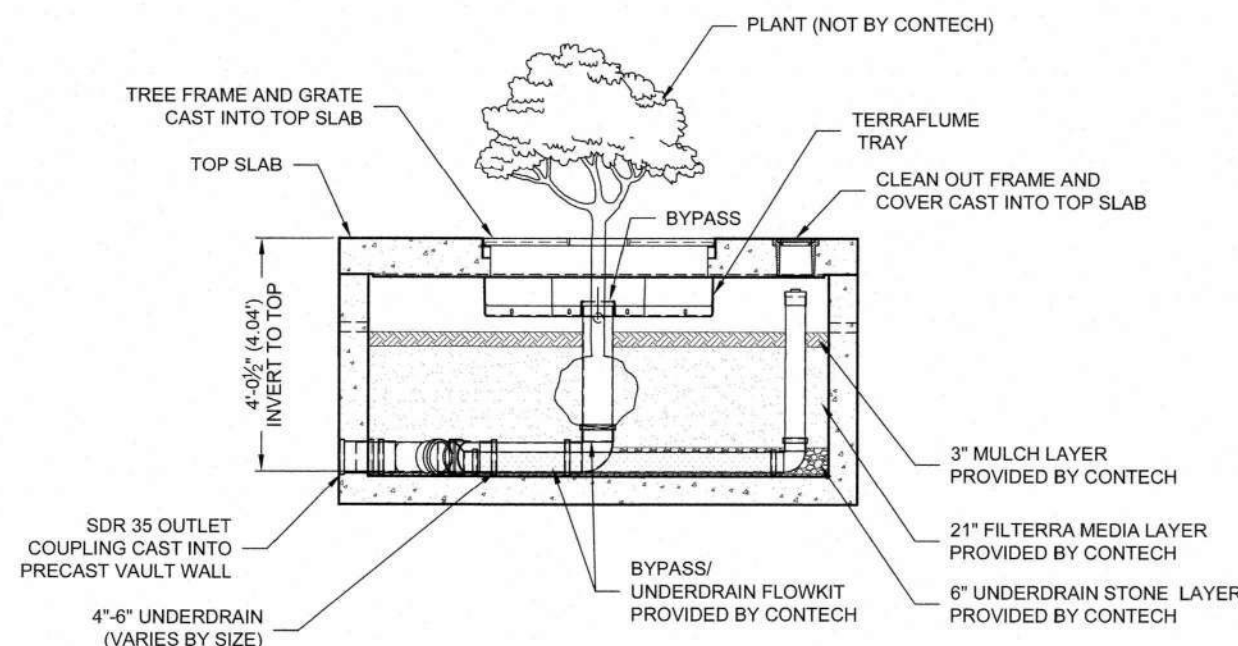
COUNT	DESCRIPTION	INSTALLED BY
1	PLANT. SEE GENERAL NOTE 6	CONTECH
12 CF	MULCH. SEE GENERAL NOTE 6	CONTECH
1	ENERGY DISSIPATION ROCK LAYER	CONTECH
84 CF	STANDARD FILTERRA MEDIA (4.2 T)	CONTECH
24 CF	1/2" #4 ROUND AGGREGATE UNDERDRAIN STONE (1.14 T)	CONTECH
1	FILTERRA FLOWKIT 412B-S BR (-FL)	CONTECH
1	6" SDR 35 COUPLING	CONTECH



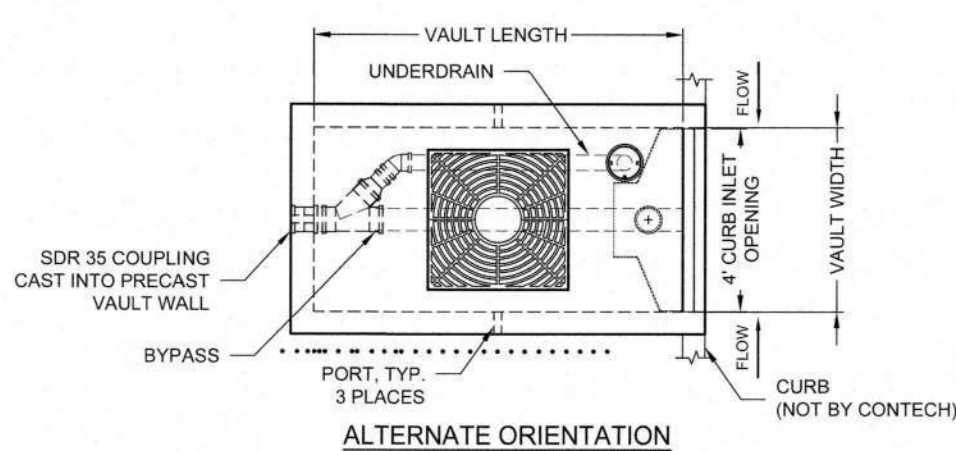
PLAN VIEW



SECTION A-A



SECTION A-A



ALTERNATE ORIENTATION

FTIBC CONFIGURATION							
VAULT SIZE (L x W)	MEDIA AREA (SF)	LONG SIDE INLET DESIG. / PART NO.	SHORT SIDE INLET DESIG. / PART NO.	AVAILABILITY	MAX. OUTLET/ BYPASS PIPE DIA.	MAX. BYPASS FLOW (CFS)	UNDERDRAIN PIPE DIA. (PERF)
4 x 4	16	FTIBC0404	FTIBC0404	ALL	6" SDR 35	1.42	4" SDR 35
6 x 4	24	FTIBC0604	FTIBC0406	ALL	6" SDR 35	1.89	4" SDR 35
8 x 4	32	FTIBC0804	FTIBC0408	ALL (EXCEPT DE, MD, NJ, PA, VA, WV ONLY)	6" SDR 35	1.89	4" SDR 35
7.83 x 4.5	35	FTIBC078045	FTIBC045078	DE, MD, NJ, PA, VA, WV ONLY	6" SDR 35	1.89	4" SDR 35
6 x 6	36	FTIBC0606	FTIBC0606	ALL (EXCEPT CA, TX)	6" SDR 35	1.89	4" SDR 35
8 x 6	48	FTIBC0806	FTIBC0608	ALL	10" SDR 35	2.37	4" SDR 35
10 x 6	60	FTIBC1006	FTIBC0610	ALL (EXCEPT CA, TX)	10" SDR 35	2.37	6" SDR 35
8 x 8	64	FTIBC0808	FTIBC0808	CA, TX ONLY	10" SDR 35	2.37	6" SDR 35
12 x 6	72	FTIBC1206	FTIBC0612	ALL (EXCEPT TX)	10" SDR 35	2.37	6" SDR 35
10 x 8	80	FTIBC1008	FTIBC0810	CA, TX ONLY	10" SDR 35	2.37	6" SDR 35
13 x 7	91	FTIBC1307	FTIBC0713	ALL (EXCEPT CA, TX)	10" SDR 35	2.37	6" SDR 35
12 x 8	96	FTIBC1208	FTIBC0812	CA, TX ONLY	10" SDR 35	2.37	6" SDR 35
14 x 8	112	FTIBC1408	N/A	ALL	10" SDR 35	2.37	6" SDR 35

INTERNAL PIPE CONFIGURATION MAY VARY DEPENDING ON VAULT SIZE

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor for Contech Engineered Solutions LLC or one of its affiliated companies ("Contech"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of Contech. Filterra is a registered trademark of Contech Engineered Solutions LLC. All other trademarks are the property of their respective owners. Contech Engineered Solutions LLC is not responsible for any errors or omissions in this drawing or for any consequences arising from its use. Contech Engineered Solutions LLC is not responsible for any damages, including consequential damages, arising from its use. Contech Engineered Solutions LLC is not responsible for any damages, including consequential damages, arising from its use.

CONTECH
ENGINEERED SOLUTIONS LLC
www.contechES.com
9100 Centre Pointe Dr., Suite 400, West Chester, OH 45389
800-338-1122 513-645-7000 513-645-7993 FAX

FILTERRA INTERNAL BYPASS CURB (FTIBC)
CONFIGURATION DETAIL



CONSTRUCTION DETAILS
PARMENTER PLACE PHASE II
MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

OWNER OF RECORD:	APPLICANT:
PARMENTER PLACE 23 GREEN STREET CONCORD, N.H. 03301 M.C.R.D. BK. 3172 PG. 1090 M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)	CONCORD HOUSING AND REDEVELOPMENT AUTHORITY 23 GREEN STREET CONCORD, N.H. 03301

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS			
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025		SCALE: AS SHOWN	
PROJECT NO: 06-0505-1		SHEET 18 OF 20	

TURF ESTABLISHMENT SCHEDULE

PURPOSE:

TO ESTABLISH AND MAINTAIN PERMANENT AND TEMPORARY TURF AREAS, RESTORE GROWTH TO EXISTING TURF AREAS DISTURBED DURING CONSTRUCTION AND CONTROL SOIL EROSION.

PREPARATION AND EXECUTION:

1. RAKE THE SUBGRADE OF ALL AREAS TO BE LOAMED AND SEEDED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
2. PLACE LOAM OVER AREAS TO BE SEEDDED AND SPREAD.
3. FINE GRADE SURFACE AND SUPPLEMENT WITH SUITABLE LOAM WHERE NEEDED TO CREATE A UNIFORM SURFACE ACCORDING TO THE FINISH GRADES INDICATED. TOP AND BOTTOM OF SLOPES SHALL BE ROUNDED. NO LOAM SHALL BE SPREAD IF THE SUBGRADE IS EXCESSIVELY WET OR FROZEN.
4. APPLY LIME EVENLY OVER LOAM SURFACE AND THOROUGHLY INCORPORATE LIME INTO THE LOAM BY HEAVY RAKING TO AT LEAST ONE-HALF THE DEPTH OF THE LOAM.
5. APPLY NO PHOSPHATE, SLOW RELEASE FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
6. DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDDED BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE SPRAY.
7. SEEDING FOR PERMANENT COVER SHALL OCCUR BETWEEN SEPTEMBER 15 AND OCTOBER 15 AND BETWEEN APRIL 15 AND JUNE 15. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER, WHEN THE GROUND IS FROZEN OR EXCESSIVELY WET OR OTHERWISE UNTILABLE.
8. WITHIN 24 HOURS AFTER SEEDING OPERATION, POUNDS PER 1,000 S.F. IT IS RECOMMENDED THAT THE SOIL BE TESTED PRIOR TO APPLYING ANY FERTILIZERS TO DETERMINE WHAT LEVELS AND RATES ARE NECESSARY.
9. PROTECT AND PREVENT AGAINST WASHOUTS, ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEEDDED.
10. WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY OCTOBER 15, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER.

MAINTENANCE:

ALL SEEDED AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDED AREA. MAINTAIN SEEDED AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

APPLICATION RATES:

1. LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
2. LIME SHALL BE APPLIED AT A RATE OF 75 TO 100 POUNDS PER 1,000 S.F.
3. FERTILIZER SHALL BE APPLIED AT A RATE OF 30 POUNDS PER 1,000 S.F. IT IS RECOMMENDED THAT THE SOIL BE TESTED PRIOR TO APPLYING ANY FERTILIZERS TO DETERMINE WHAT LEVELS AND RATES ARE NECESSARY.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE APPLIED AT A RATE OF AT LEAST 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
5. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 S.F.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE APPLIED AT A RATE OF 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.6 POUNDS PER 1,000 S.F.
8. MULCH SHALL BE APPLIED AT A RATE OF 90 POUNDS PER 1,000 S.F.

MATERIALS:

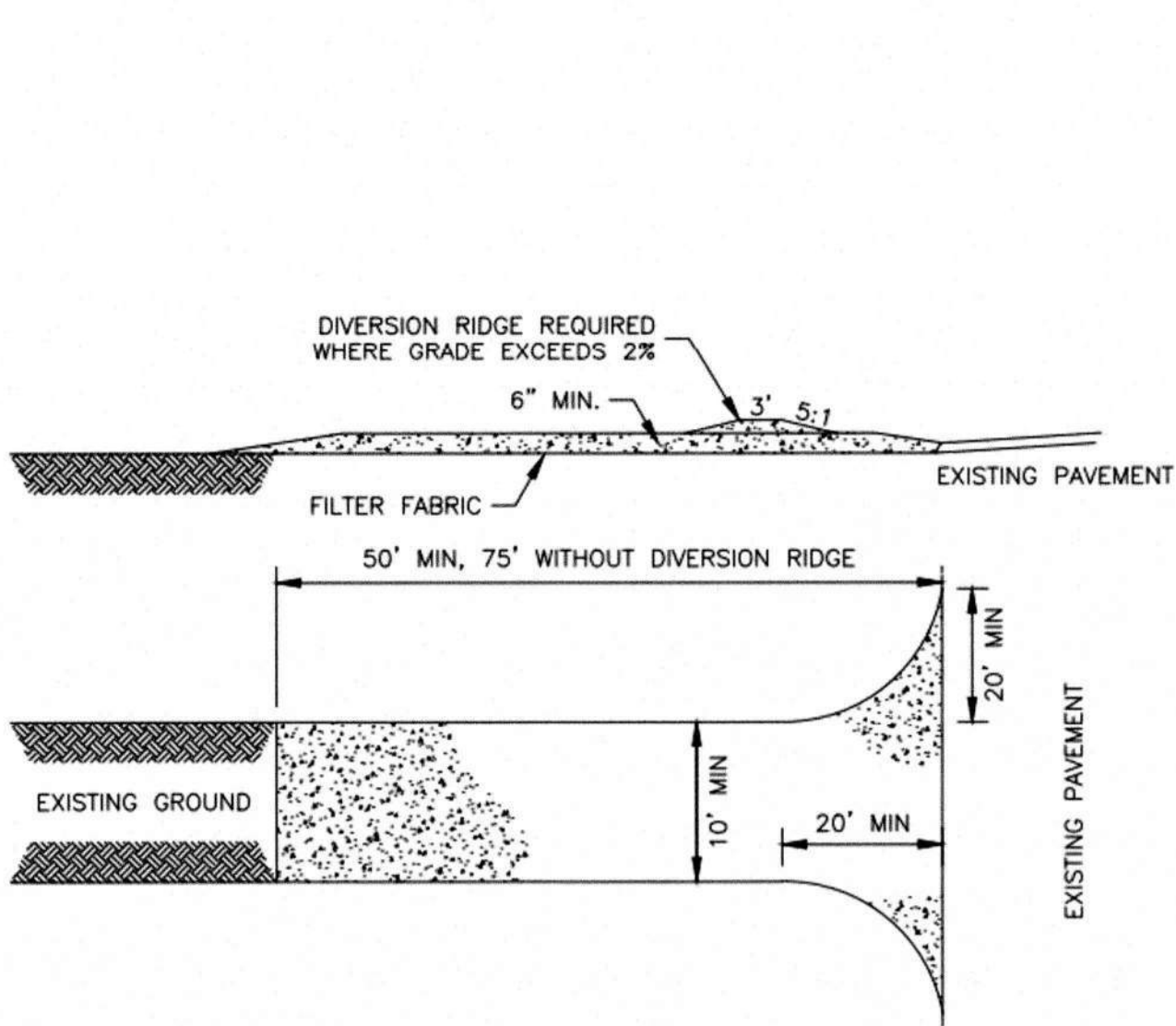
1. LOAM USED FOR TOPSOIL SHALL BE FRIABLE, FERTILE, NATURAL, FREE-DRAINING LOAM, FREE OF ROOTS, GRASS, STICKS, WEEDS, CLAY, SOD LUMPS, DEBRIS AND STONES LARGER THAN 1 INCH IN ANY DIMENSION. SOIL SHALL NOT BE EXCESSIVELY ACID OR ALKALINE AND CONTAIN NO TOXIC MATERIALS.
2. LIME SHALL BE GROUND LIMESTONE CONTAINING NO LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.
3. FERTILIZER SHALL BE NO PHOSPHORUS, SLOW RELEASE.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE 99% PURE LIVE SEED AND CONSIST OF THE FOLLOWING:
 - 25% CREEPING RED FESCUE
 - 25% KENTUCKY BLUEGRASS
 - 25% REDTOP
 - 25% MANHATTAN PERENNIAL RYEGRASS
5. TEMPORARY SEEDING MIXTURE SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:
 - 15% BLACKWELL OR SHELTER SWITCHGRASS
 - 30% NIAGRA OR KAW BIG BLUESTEM
 - 30% CAMPER OR BLAZE LITTLESTEM
 - 15% NE-27 OR BLAZE SAND LOVEGRASS
 - 10% VIKING BIRDSFOOT TREFOILINOCULUM SPECIFIC TO BIRDSFOOT TREFOIL MUST BE USED WITH THIS MIXTURE. IF SEEDING BY HAND, A STICKING AGENT SHALL BE USED. IF SEEDING WITH A HYDROSEEDER, USE FOUR TIMES THE RECOMMENDED AMOUNT OF INOCULUM.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE 99% PURE LIVE SEED AND SHALL CONSIST OF THE FOLLOWING:
 - 30% CREEPING RED FESCUE
 - 40% PERENNIAL RYE GRASS
 - 15% REDTOP
 - 15% BIRDSFOOT TREFOIL*IN ADDITION TO THE MIX SPECIFIED ABOVE, CROWN VETCH SHALL BE USED ON ALL SLOPES STEEPER THAN 3 : 1. CROWN VETCH SHALL BE APPLIED AT A RATE OF 10 POUNDS PER ACRE AND INOCULUM SPECIFIC TO CROWN VETCH MUST BE USED.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES SHALL CONSIST OF THE FOLLOWING:
 - 25% CREEPING RED FESCUE
 - 15% SWITCH GRASS
 - 15% FOX SEDGE
 - 15% CREEPING BENTGRASS
 - 10% FLATPEA
 - 20% WILDFLOWER VARIETY
8. STRAW USED FOR MULCH SHALL CONSIST OF MOWED AND PROPERLY CURED GRASS OR LEGUME MOWINGS, FREE FROM WEEDS, TWIGS, DEBRIS OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.
9. NATIVE PLANTINGS SHOULD BE USED FOR ALL NEW GREENSCAPES.
10. ALL WILDFLOWER SEEDING MIXES SHOULD BE FREE OF INVASIVE SPECIES.

CONSTRUCTION SEQUENCE

1. FIRST CUT AND CLEAR TREES AND BRUSH ONLY WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED CONSTRUCTION. ALL TREES, BRANCHES AND OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
2. PRIOR TO COMMENCEMENT OF ANY EARTHMOVING OPERATIONS, ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES, INCLUDING SPECIFIED PERIMETER SILTATION FENCING AND STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
3. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. NATIVE ORGANIC SOIL MATERIALS SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED WITHIN AREAS OF THE WAY OR OF OTHER CONSTRUCTIONS ACTIVITIES AND DRAINAGE FLOW. STOCKPILES SHALL BE TEMPORARILY SEED WITH WINTER RYE AND BE SURROUNDED WITH HAY BALES AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION.
4. BEGIN EARTHMOVING OPERATIONS, COMMENCING WITH WORK NEEDED TO BALANCE SITE AND FACILITATE BUILDING FOUNDATION AND RETAINING WALL CONSTRUCTION. PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
5. ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
6. INSTALL DRAINAGE SWALE SYSTEMS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED.
7. PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESS.
8. COMPLETE EXCAVATION/STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE A THICKNESS OF 4 INCHES OF FRIABLE LOAM.
9. FINE GRADE ALL FUTURE TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
10. INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
11. CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGH ONE WINTER.
12. INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
13. COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

WINTER CONSTRUCTION NOTES:

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

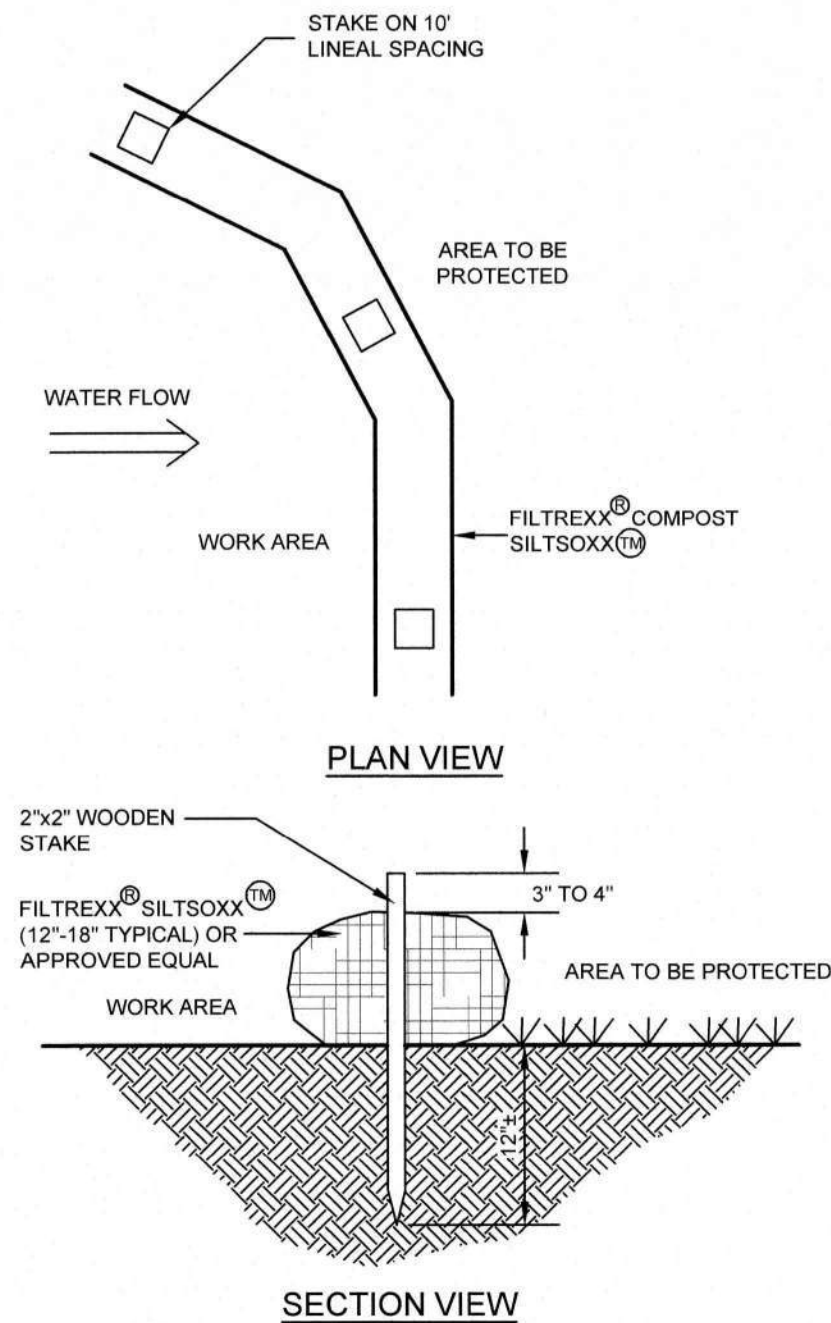


CONSTRUCTION REQUIREMENTS

1. STONE SIZE - 3" COARSE AGGREGATE.
2. THICKNESS - 6" MIN
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. LENGTH - NOT LESS THAN 50', EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MIN LENGTH WOULD APPLY.
7. WIDTH - 10' MIN, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE SUGRESS OR EGRESS OCCURS.
8. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE.
9. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
10. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
11. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION EXIT DETAIL

NOT TO SCALE



SECTION VIEW

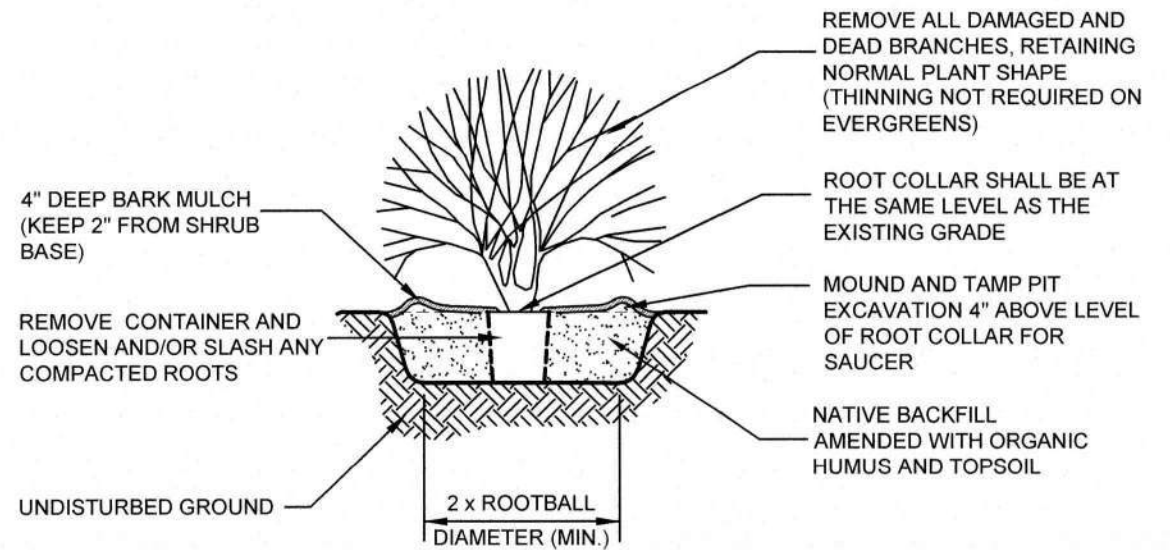
NOTES:

1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. SILT/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. SILT/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX® SILT/ROCK/SEED FILL DETAIL

NOT TO SCALE

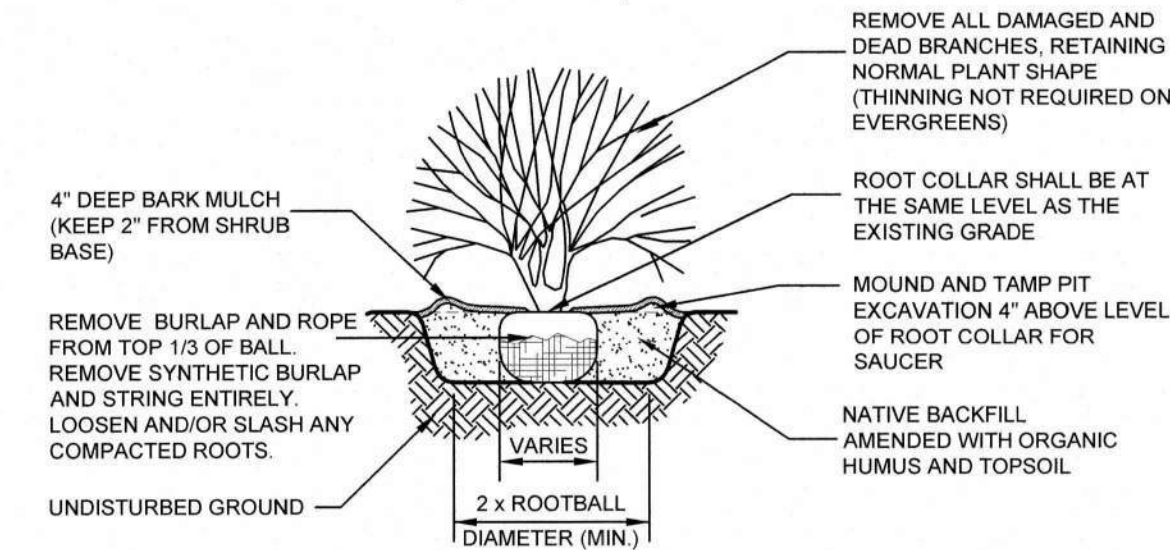
(AUGUST 2011)



CONTAINER SHRUB PLANTING DETAIL

NOT TO SCALE

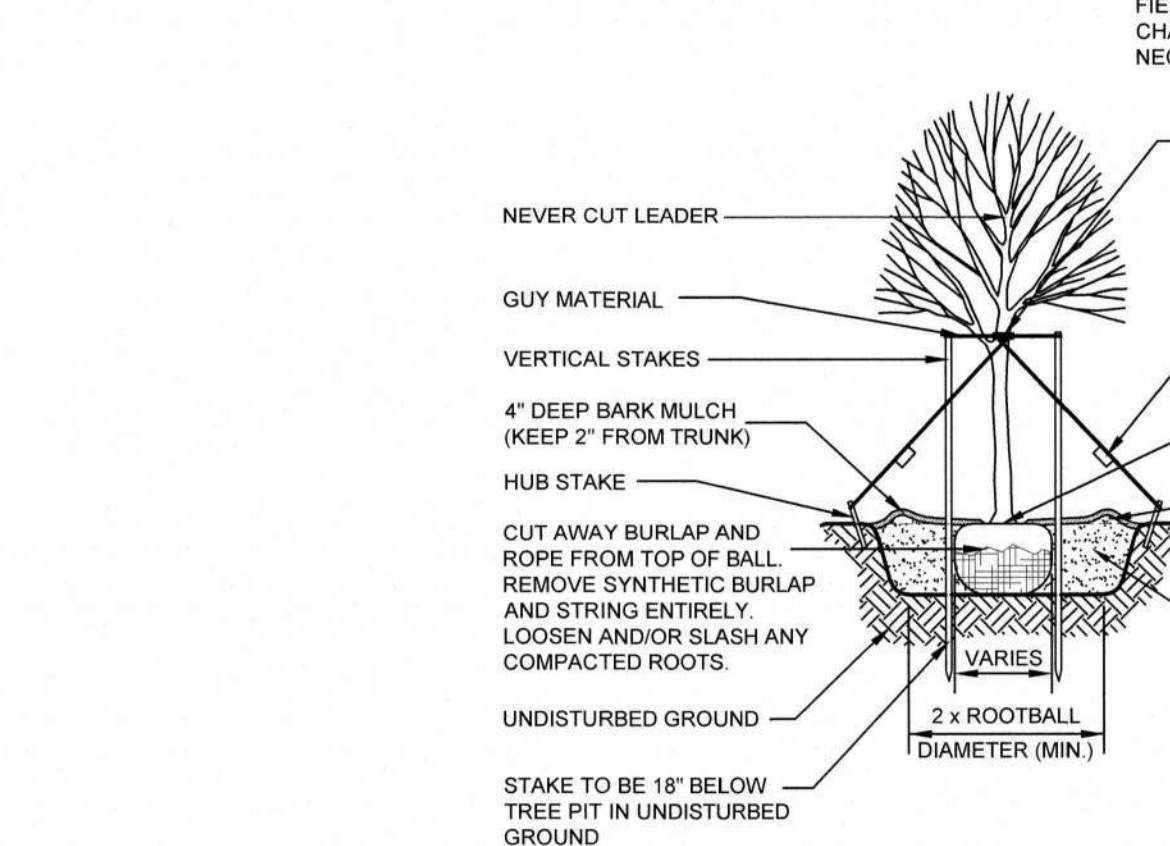
(JANUARY 2012)



BALLED & BURLAP SHRUB PLANTING DETAIL

NOT TO SCALE

(JANUARY 2012)



DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

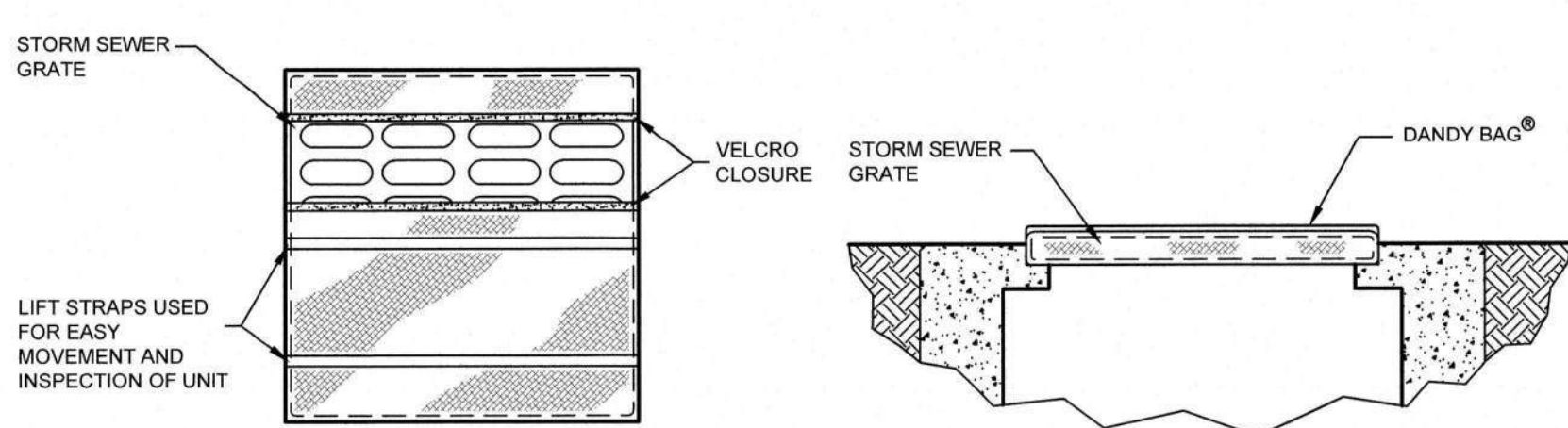
(JANUARY 2012)

CONSTRUCTION SPECIFICATIONS:

1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES WHERE NOTED OR AS DIRECTED BY DESIGN ENGINEER.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MIDSECTION AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

MAINTENANCE:

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.



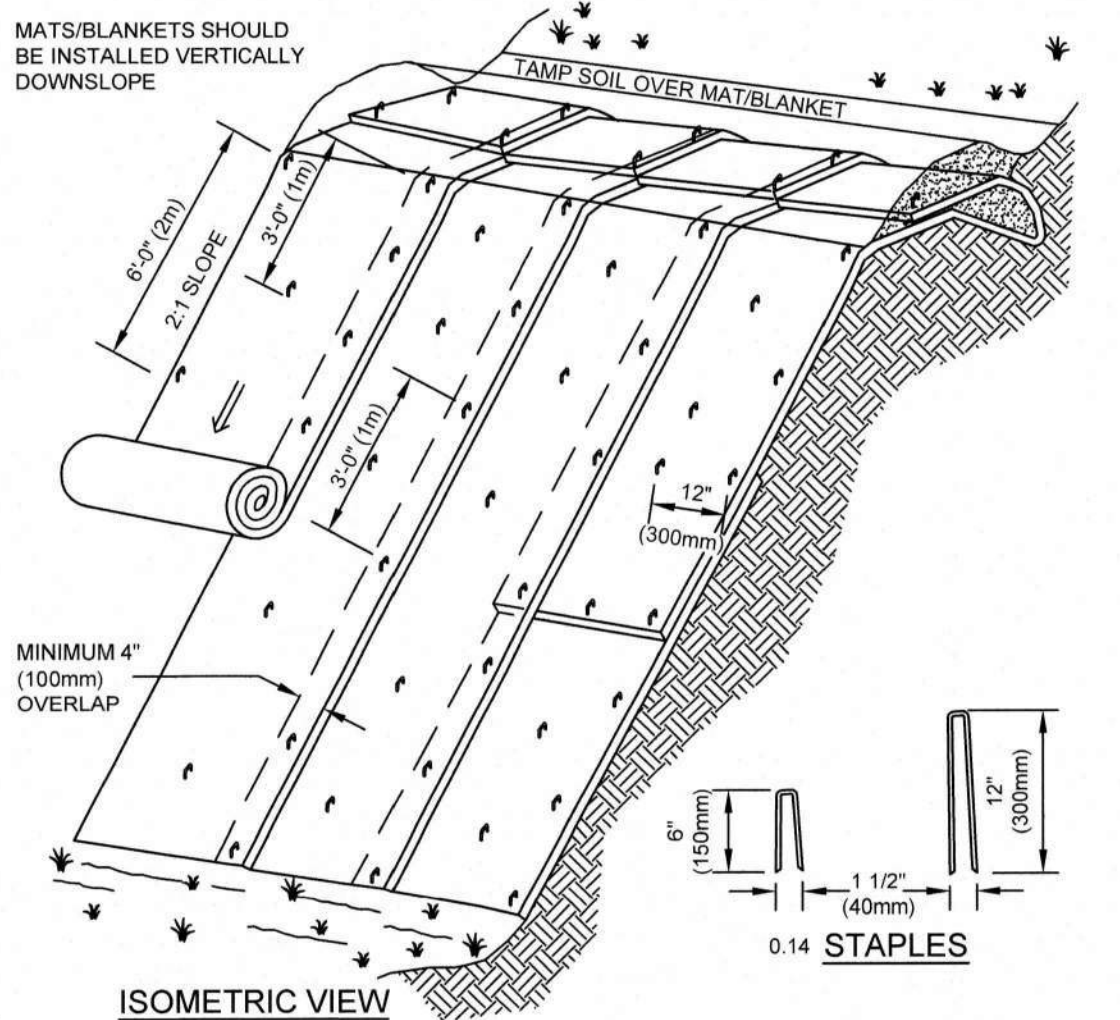
HI-FLOW DANDY BAG® (SAFETY ORANGE)

MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	kN (lbs)	1.62 (365) x 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 x 10
PUNCTURE STRENGTH	ASTM D 4633	kN (lbs)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	KPa (psi)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	kN (lbs)	0.51 (115) x 0.33 (75)
UV RESISTANCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
FLOW RATE	ASTM D 4491	1/min/m² (gal/min/ft²)	5907 (145)
PERMITTIVITY	ASTM D 4491	Sec⁻¹	2.1

DANDY BAG®

NOT TO SCALE

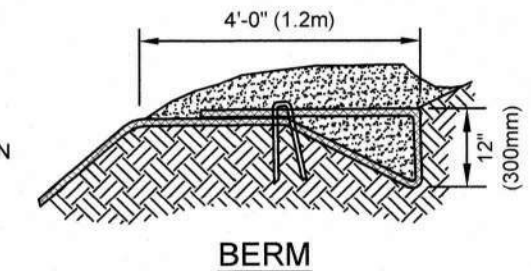
(APRIL 2010)



ISOMETRIC VIEW

NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. EROSION BLANKETS TO BE A BONISO OR AN APPROVED ALTERNATIVE WHICH MUST CONSIST OF ALL NATURAL FIBERS.
5. THERE SHALL BE NO PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES MATERIAL UTILIZED.



BERM

EROSION CONTROL BLANKETS - SLOPE INSTALLATION

NOT TO SCALE

CONSTRUCTION DETAILS
PARMENTER PLACE PHASE II
MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

OWNER OF RECORD:

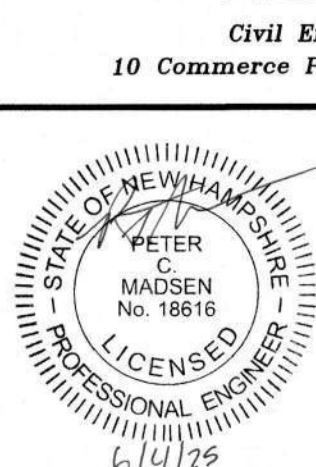
PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090

M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:

CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS

No.	DATE	DESCRIPTION	BY
1	6/3/2025	REVISED PER CITY COMMENTS	MCH

DATE: APRIL 15, 2025

PROJECT NO: 06-0505-1

SCALE: AS SHOWN

SHEET 19 OF 20

TP #1	
LOGGED BY GPC PERC TEST @ 20" DATE: 3-4-2025 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	
0"	FOREST MAT
4"	10YR 6/6, GRANULAR, FRIABLE SAND ROOTS
16"	10YR 7/6, GRANULAR, FRIABLE, FINE SAND, FEW ROOTS, STONES
40" E.S.H.W.T.	10YR 6/3, FIRM, SAND, STONES W/ REDOX FEATURES
72" BOTTOM OF HOLE	

TP #2	
LOGGED BY GPC PERC TEST @ 20" DATE: 3-4-2025 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	
0"	FOREST MAT
16"	10YR 6/4, GRANULAR, FRIABLE SAND, ROOTS
53" E.S.H.W.T.	10YR 4/4, FIRM, SAND, STONES W/ REDOX FEATURES
72" BOTTOM OF HOLE	

TP #3	
LOGGED BY GPC PERC TEST @ 20" DATE: 3-4-2025 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	
0"	FOREST MAT
20"	10YR 6/6, GRANULAR, FRIABLE SAND ROOTS
32"	10YR 6/4, GRANULAR, FRIABLE, FINE SAND, FEW ROOTS, STONES
64" E.S.H.W.T.	10YR 5/2, FIRM, SAND, STONES W/ REDOX FEATURES
80" BOTTOM OF HOLE	

TP #4	
LOGGED BY GPC PERC TEST @ 20" DATE: 3-4-2025 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	
0"	FOREST MAT
10"	10YR 6/6, GRANULAR, FRIABLE SAND ROOTS
20"	10YR 6/4, GRANULAR, FRIABLE, FINE SAND, FEW ROOTS, STONES
42" E.S.H.W.T.	10YR 5/2, FIRM, SAND, GRAVELY W/ REDOX FEATURES
80" BOTTOM OF HOLE	

TP #5	
LOGGED BY GPC PERC TEST @ 20" DATE: 3-4-2025 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	
0"	FOREST MAT
12"	10YR 6/6, GRANULAR, FRIABLE SAND ROOTS
24"	10YR 6/4, GRANULAR, FRIABLE, FINE SAND, FEW ROOTS, STONES
48" E.S.H.W.T.	10YR 5/2, FIRM, SAND, GRAVELY W/ REDOX FEATURES
96" BOTTOM OF HOLE	

TP #6	
LOGGED BY GPC PERC TEST @ 20" DATE: 3-4-2025 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	
0"	FOREST MAT
6"	10YR 5/6, GRANULAR, FRIABLE SAND FILL
18"	10YR 3/1, BURIED "A"
36"	10YR 6/6, GRANULAR, FRIABLE, FINE LOAMY SAND, FEW ROOTS, STONES
44" E.S.H.W.T.	10YR 6/1, FINE SILTY SAND W/ REDOX FEATURES
80" BOTTOM OF HOLE	

TP #7	
LOGGED BY GPC PERC TEST @ 20" DATE: 3-4-2025 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	
0"	FOREST MAT
10"	BURIED PAVEMENT
14"	10YR 6/3, SAND FILL
22"	10YR 5/8, GRANULAR, FRIABLE, FINE LOAMY SAND, FEW ROOTS, STONES
45" E.S.H.W.T.	10YR 5/2, FINE SAND W/ REDOX FEATURES
75" BOTTOM OF HOLE	

TP #8	
LOGGED BY GPC PERC TEST @ 20" DATE: 3-4-2025 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	
0"	FOREST MAT
8"	5YR 4/6, GRANULAR, FRIABLE LOAMY SAND ROOTS
16"	10YR 6/4, GRANULAR, FRIABLE, FINE SAND, FEW ROOTS, STONES
32" E.S.H.W.T.	10YR 5/2, FIRM, SAND, GRAVELY W/ REDOX FEATURES
64" BOTTOM OF HOLE	

TEST PIT LOGS
PARMENTER PLACE PHASE II
MAP 392Z; LOT 22
15 PARMENTER ROAD
CONCORD, NEW HAMPSHIRE
MERRIMACK COUNTY

OWNER OF RECORD:
PARMENTER PLACE
23 GREEN STREET
CONCORD, N.H. 03301
M.C.R.D. BK. 3172 PG. 1090
M.C.R.D. BK. 3172 PG. 1102 (DECLARATION)

APPLICANT:
CONCORD HOUSING AND
REDEVELOPMENT AUTHORITY
23 GREEN STREET
CONCORD, N.H. 03301

KMA

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE

PETER MADSEN
No. 18616
LICENSED PROFESSIONAL ENGINEER

6/4/25

REVISIONS			
No.	DATE	DESCRIPTION	BY
1	6/2/2025	REVISED PER CITY COMMENTS	MCH
DATE: APRIL 15, 2025		SCALE: AS SHOWN	
PROJECT NO: 06-0505-1		SHEET 20 OF 20	