

TOWN OF MILFORD

Office of Community Development

Planning • Zoning • Building Safety • Code Enforcement • Health
Economic Development • Active Projects



Administrative Review

Date: October 8, 2020
To: Jason Plourde, Chair, Zoning Board of Adjustment
From: Lincoln Daley, Community Development Director
Subject: **Case #2020-25:** San-Ken Homes, Inc., Milford Tax Map 30, Lot 19 – Variance Application.
Continued from October 1, 2020.

The applicant is before the Board of Adjustment seeking a VARIANCE Milford Zoning Ordinance, Article V, Sections 5.02.1 and 5.02.3 to permit the construction of a 7 unit condominium multi-family development on a property within the Residential 'A' District. In reviewing the files for this property and based on the comments/requests from the last meeting, I offer the following comments:

1. Existing Conditions:
 - a. The subject property is approximately 5.57 acres and is undeveloped.
 - b. No current utilities are on the subject property. Property would be serviced by town municipal sewer and water.
 - c. The property contains approximately 30 linear of frontage on Wheeler Street (a Class V roadway).
 - d. The property is situated in an established single, two-, and multi-family residential neighborhood and abuts the Souhegan River to the North.
2. The applicant is seeking to build 7 unit, multi-family residential development, shared driveway access, and associated site improvements on the southern portion of the 5.57 acre parcel in the Residential 'A' Zoning District. A concurrent Variance application (Case #2020-24) has been filed seeking relief to allow a multi-family development on a parcel with less than the required 100 linear feet of frontage in a Residential 'A' Zoning District.
3. Access to the property would be through the 30 linear feet of frontage on Wheeler Street (a Class V roadway).
4. Said driveway access would require a driveway permit from the Public Works Department and shall meet the driveway standards and regulations. The driveway and development would be subject to a Milford Stormwater Permit.
5. In accordance with Section 5.02, multi-family dwellings are not permitted use in the Residential 'A' District. The intent of the Residence "A" District is to provide for low-density or low-intensity uses, primarily single-family residential on individual lots.
6. The multi-family use will require a Site Plan and Subdivision Application to be submitted to the Planning Board for their consideration and review. Staff understands that the applicant is in the process of submitting said applications. The Board may wish to consult the Planning Board for their input.

Aerial Photo(s) of Subject Property:



Street Photo(s) of Subject Property:

View Looking East At 30' Wide Access To Subject Property



View Looking North On Wheeler Street To Subject Property



View Looking East on Farley Street To Subject Property





ZBA Application – Variance
MILFORD ZONING BOARD OF ADJUSTMENT

Date Received: 8-20-20
 Case Number: 2020 25
 Application #: 2020 1133
 Date Complete: _____
 Hearing Date: 9-17-20
 Decision Date: _____
 Decision: _____

PROPERTY INFORMATION
Street Address: Wheeler Road
Tax Map / Parcel #: Map 30, Lot 9
<i>A Variance is a use which is not permitted by the Zoning Ordinance. Approval from the Zoning Board of Adjustment is required to allow any use or deviation from the Zoning Ordinance. Please work with the Zoning Administrator to make sure your application is complete and you know what will be required of you at the hearing.</i>
What section of the Zoning Ordinance are you asking to be varied? Article <u>V</u> Section <u>2.1</u>
Describe the variance you are requesting under the above section of the Ordinance. To construct 7 Condo Units in 2 buildings on a lot in the Residence "A" District.



General Criteria Section 10.01
Explain how the proposal meets the following conditions per New Hampshire RSA 674:33.1
1. Granting the Variance would not be contrary to the public interest because: See Attached
2. If the Variance were granted, the spirit of the ordinance would be observed because: See Attached
3. Granting the Variance would do substantial justice because: See Attached
4. Granting the Variance would not diminish the value of surrounding properties because: See Attached
5. Unnecessary Hardship: <i>This section is the central portion of your argument and is the critical factor that the Zoning Board of Adjustment will need to determine what is unique to your property and not generally applicable to other properties in the area or in town.</i>



ZBA Application – Variance
MILFORD ZONING BOARD OF ADJUSTMENT

A. Owing to special conditions of the property that distinguish it from other properties in the area; denial of the Variance would result in unnecessary hardship because:
i. No fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of that provision to the property because :
See Attached
AND
ii. The proposed use is a reasonable one because:
See Attached
(B) Explain how, if the criteria in paragraph (A) are not established, an unnecessary hardship will be deemed to exist if, and only if, owing to special conditions of the property that distinguish it from other properties in the area, the property cannot be reasonably used in strict conformance with the Ordinance, and a Variance is therefore necessary to enable a reasonable use of it:
See Attached
(C) Notwithstanding paragraph (B) above, a Variance may be granted without finding a hardship arising from the terms of the Zoning Ordinance when reasonable accommodations are necessary to allow a person or persons with a recognized physical disability to reside in or regularly use the premises, provided that:
N/A
1. The Variance requested under this paragraph shall be in harmony with the general purpose and intent of the Zoning Ordinance because:
N/A
In addition, Variances may have extra criteria that must be met. This includes, but is not limited to: 6.03.5 Floodplain Management: The criteria for evaluation is listed in 6.03.5:B General Conditions and the applicable conditions are listed in 6.03.5:C. If your project is covered by this regulation, include your answers to the required criteria as specified in the referenced Section of the Milford Zoning Ordinance as an attachment under Section 3 C. of this application.
ATTACHMENTS – additional information may be needed to help the Zoning Board of Adjustment fully understand your petition. A. A plan of the property and all buildings, drawn to scale, is required. B. A Building Permit Application as needed (to be determined by the building official.) C. Additional explanations, justification, abutters' statements, letters, etc.



ZBA Application – Variance

MILFORD ZONING BOARD OF ADJUSTMENT

Please read the following information that is designed to help you understand the unique nature of a Variance petition.

Town of Milford Zoning Ordinance can be found at:

[http://planning.milfordnh.info/DOCUMENTS/ZONING%20ORDINANCE%20MASTER%20\(2011\).pdf](http://planning.milfordnh.info/DOCUMENTS/ZONING%20ORDINANCE%20MASTER%20(2011).pdf)

NH RSAs, Chapters 672-677 can be found at:

<http://www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-LXIV.htm>

VARIANCE: A variance is an authorization, which may be granted under special circumstances, to use your property in a way that is not permitted under the strict terms of the zoning ordinance.

If you are applying for a variance, you must first have some form of determination that your proposed use is not permitted without a variance. Most often, this determination is a denial of a building permit. A copy of the determination must be attached to your application.

For a variance to be legally granted, you must show that your proposed use meets all five (5) of the following conditions:

- a. Granting the Variance would not be contrary to the public interest.

A variance would be considered contrary to the public interest if it unduly and to a marked degree violated the basic zoning objectives of the Zoning Ordinance. Will the variance alter the essential character of the neighborhood or threaten the health, safety, or general welfare of the public?

- b. Granting the Variance would observe the spirit of the ordinance.

This requires that the effect of the variance be evaluated in light of the goals of the zoning ordinance.

- c. Substantial justice would be done by granting the Variance.

Substantial justice is done when any loss to the individual is not outweighed by a gain to the general public.

- d. Granting the Variance would not diminish the value of surrounding property.

The applicant, to convince the Zoning Board must explain that granting the variance will not decrease the value of surrounding property.

- e. Denial of the Variance would result in an unnecessary hardship.

The first requirement is that there are special conditions or characteristics applying to the property (such as, but not limited to, exceptional narrowness, shallowness, or shape of the property, or exceptional topographical conditions), that distinguish it from other properties in the area. Because of these special conditions, no fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of that provision to the property. And finally, the proposed use must be a reasonable one. You must explain what makes the property unique and why a "hardship" would be created if the terms of the ordinance were strictly applied.

In lieu of a claim of unnecessary hardship, the Variance may be granted when reasonable accommodations are necessary to allow a person or persons with a recognized physical disability to reside in or regularly use the premises, provided that any Variance sought shall be in harmony with the general purpose and intent of the zoning ordinance and the Variance shall survive only so long as the particular person or persons have a continuing need to use the premises. To meet this criterion, explain the accommodations that are necessary and identify the person or persons and provide evidence of their disability.

TOWN OF MILFORD ZONING BOARD OF ADJUSTMENT

APPLICATION FOR VARIANCE

Applicant/Owner: San-Ken Homes, Inc

Property: Tax Map 30, Lot 9

Relief Requested:

The above-referenced Applicant respectfully requests a variance from Article V (Zoning Districts and Regulations), Section 02 (Residence "A" District), and Subsection 1 (Acceptable Uses) of the Zoning Ordinance of the Town of Milford ("Ordinance") governing frontage requirements on a class V or better road.

More specifically, the Applicant requests a variance from the Ordinance's Acceptable Uses to allow for the construction of 7 Condominium Units within 2 buildings on a lot of record.

RSA 674:33 (I)(b)'s Variance Criteria

1. **Granting the variance will not be contrary to the public interest.**
(RSA 674:33 (I)(b)(1))
And
2. **The spirit of the ordinance is observed.**
(RSA 674.33(I)(b)(2))

THE VARIANCE WILL NOT BE CONTRARY TO THE PUBLIC INTEREST AND WILL BE CONSISTENT WITH THE SPIRIT OF THE ORDINANCE.

The requirement that the variance not be contrary to the public interest is related to the requirement that it be consistent with the spirit of the ordinance and the two have for years been treated together by the State Supreme Court. See Malachy Glen Associates, Inc v. Town of Chichester, 155 NH 102 (2007). Because the provisions of a zoning ordinance represent a declaration of public interest, any variance would be contrary thereto to some degree. Consequently, the Supreme Court has instructed that to determine whether a requested variance is not contrary to the public interest and is consistent with the spirit of the Ordinance, the Zoning Board of Adjustment must determine whether granting the variance "would unduly and to a marked degree conflict with the ordinance such that it violates the ordinances basic zoning objectives".

The Court has recognized tow test for determining whether granting a variance would violate an Ordinance's basic zoning objectives. One is to determine whether the variance would "alter the essential character of the neighborhood." The second is to determine whether granting the variance would "threaten the public health, safety or welfare."

Granting the variance will not alter the essential character of the neighborhood, as the neighborhood is mostly made up of homes that have under 15,000 square feet per lot, including

one lot that is under 4000 square feet. The Property is more than 5 acres of land, which equates to roughly 34,000 square feet per unit.

The circumstances where a lot is allowed Multi-Family dwellings is not uncommon in the Town's "Residence A District".

Nor would granting the variance threaten the public health, safety, or welfare. The residences would be constructed in accord with all applicable building codes and will be served by municipal water and sewer. The residences will have no significant impact on traffic considerations in the neighborhood.

**3. Granting the variance would do substantial justice.
(RSA 674.33(I)(b)(3))**

As stated previously, the Property is situated in the Residential A District. This property is oversized for the neighborhood. The variance would permit the Property to be used for one seven condominiums in 2 separate buildings. Granting the variance would do substantial justice by allowing multi-family dwellings on the lot, comparable to others in the Residential A Zone, and thus create taxable income for the Town of Milford.

**4. The values of the surrounding properties will not be diminished.
(RSA 674.33(I)(b)(4))**

Granting the variance will allow for construction to take place on the Property. The neighborhood is characterized by residential uses of various types and value. The construction of low-density condominiums will increase the values of the surrounding homes.

**5. Unnecessary Hardship
(RSA 674:33(I)(b)(5))**

- A. Owning to special conditions of the property that distinguish it from other properties in the area, denial of the variance would result in unnecessary hardship because:
 - i. No fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of the provision to the property because:

The Applicant's Property is unlike other properties in the area in that it is a separate and distinct lot that has been in existence since prior to 1936 and is more than 5 acres.

The general purpose of the Acceptable Uses for lots in the Residential A District is to provide for low-density or low-intensity uses, primarily single-family residential on individual lots. Granting the variance will not interfere with the overall intent of the ordinance, since the proposed use is low-density with plenty of acreage to support the use.

And

- ii. The proposed use is reasonable because:

The proposed use of the Property is reasonable because it fits the character and residential use of the neighborhood.

- B. Explain how if the criteria in subparagraph (A) are not established, an unnecessary hardship will be deemed to exist if, and only if, owing to special conditions of the property that distinguish it from other properties in the area, the property cannot be reasonably used in strict conformance with the ordinance, and a variance is therefore necessary to enable a reasonable use of it.

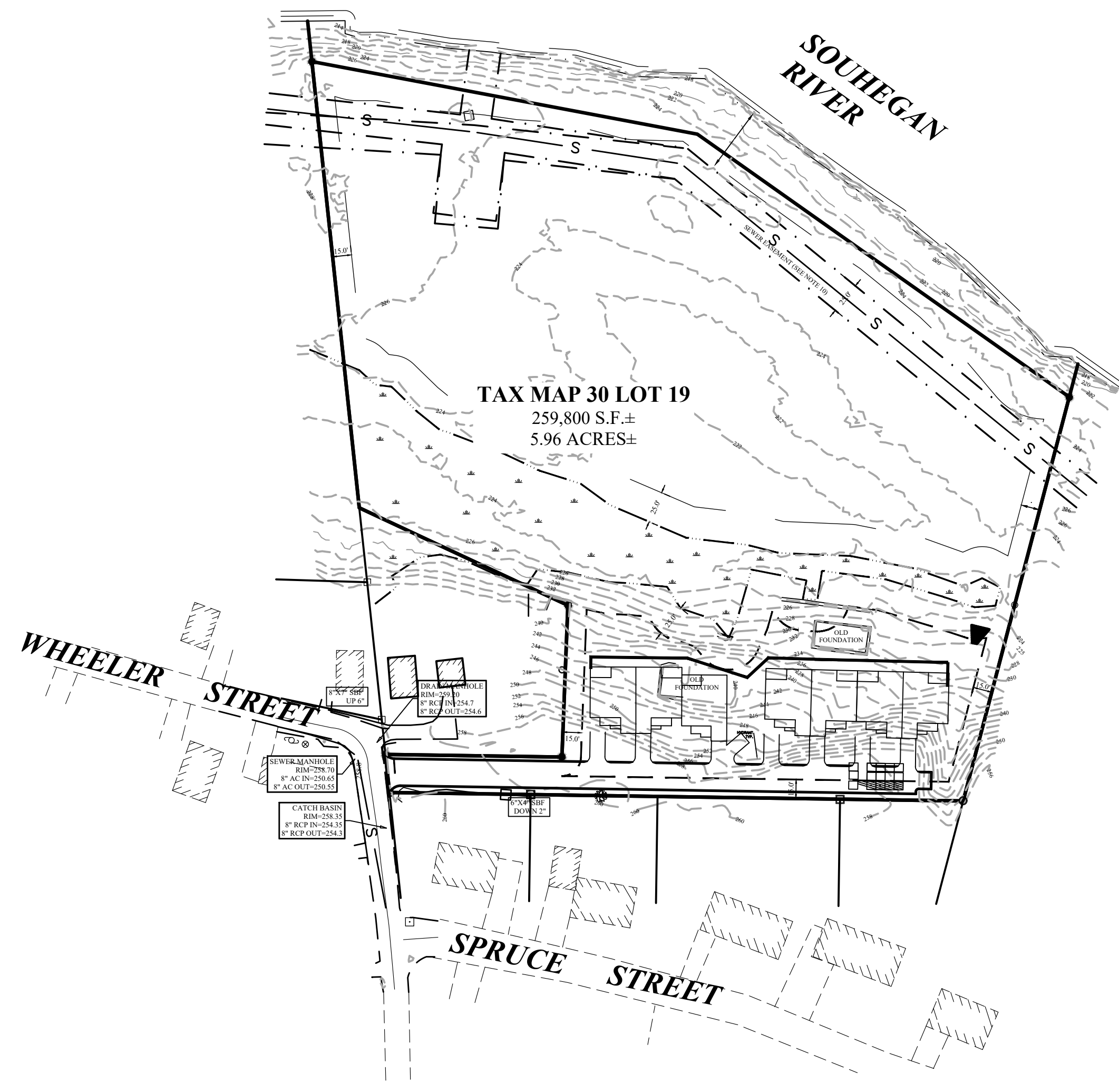
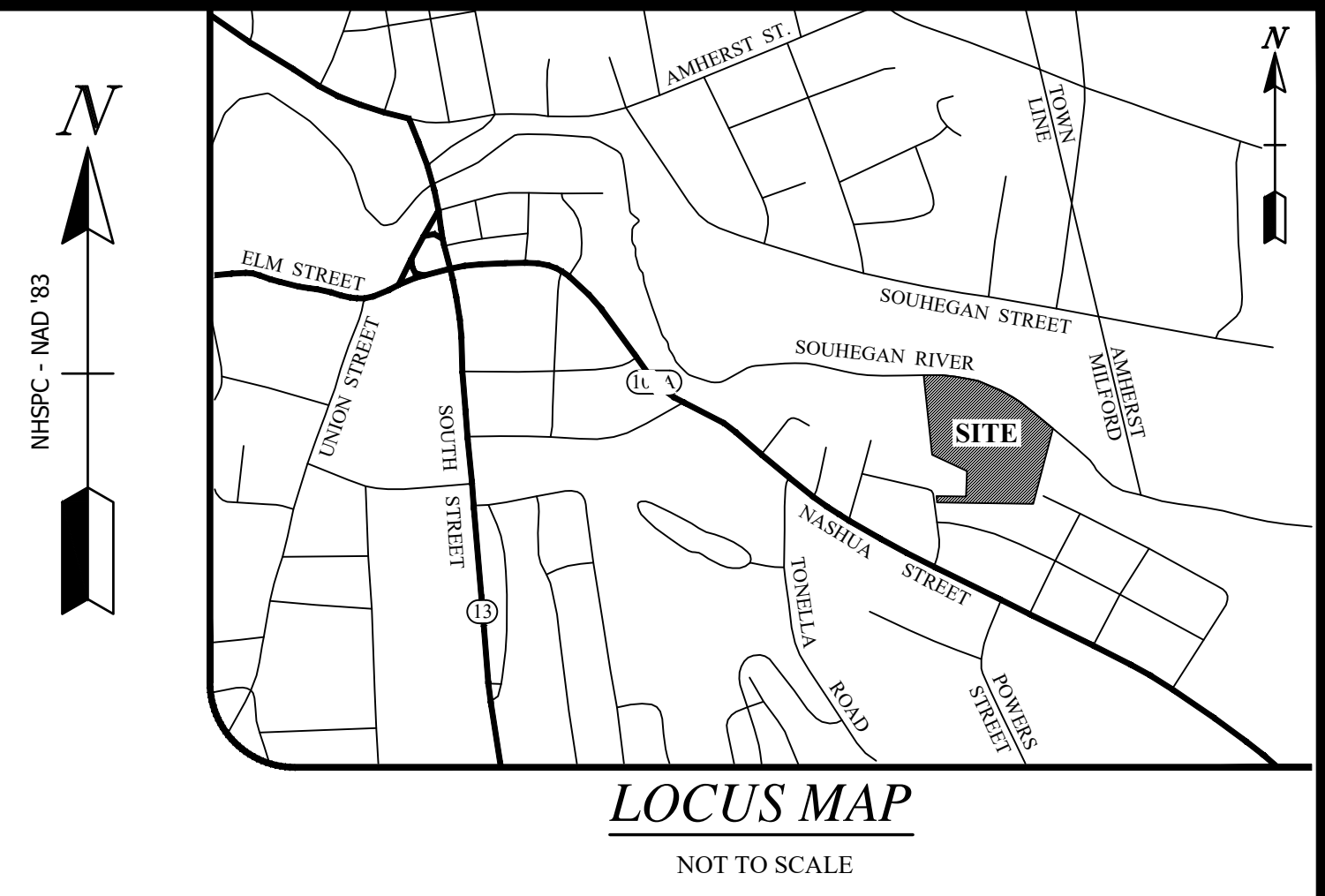
The description of the Property set forth in Section 5.A.(i) above, and elsewhere in this Application is incorporated by reference to establish the special conditions of the Property. Article V, Section 2.1 sets forth the permitted usage in the Residential A District. None of which are practical uses for a 5+ acre lot in a neighborhood of .25 acres lots. This property is an anomaly in the Residential A District because it predates any zoning ordinance that existed. The size of the lot and the improvements needed just to access the buildable area make it onerous to maintain and protect the natural features of the wetlands and floodplain downslope. A multifamily use will allow more extensive drainage improvements to be added to the lot and also allow for better maintenance in perpetuity of those improvements compared to a lesser use. The lot is large enough to create multiple single family lots but would disturb more area than consolidating everything into the compact multifamily development that is proposed. Allowing the multifamily use will enable reasonable use of the property and allow the owner to develop it in a way that is most beneficial to the long term protection of the site.

NOTES

- OWNER OF RECORD:
TAX MAP 30 LOT 19
SAN-KEN HOMES, INC.
586 TURNPIKE ROAD
NEW IPSWICH, NH 03071
BK: 9251 PG: 750
- THE INTENT OF THIS PLAN IS TO SHOW THE BOUNDARY OF THE SUBJECT PARCEL AND THE IMPROVEMENTS THEREON.
- THE SUBJECT AND ABUTTING PARCELS ARE ZONED "RESIDENCE A". DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS:
MINIMUM LOT SIZE = 15,000 SQ FT (WITH MUNICIPAL WATER & SEWER)
MINIMUM FRONTAGE = 100' (WITH MUNICIPAL WATER & SEWER)
MINIMUM BUILDING SETBACKS:
FRONT = 30'
SIDE = 15'
REAR = 15'
- DENSITY CALCULATIONS:
LOT SIZE - (WETLAND & SLOPES >25%) / 15,000 X FACTOR = MAX UNITS
FACTOR = 0.6 (31.7% OF LOT IS WET/STEEP)
(259,800 - 82,437) / 15,000 X 0.6 = 7.09 = 7 MAX UNITS.
- THIS PLAN REPRESENTS EXISTING CONDITIONS, BOUNDARY EVIDENCE, AND MONUMENTATION AS OBSERVED DURING A SURVEY BY THIS OFFICE IN MAY 2020. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON THE REFERENCE PLANS.
- THE SUBJECT PROPERTY IS LOCATED PARTIALLY WITHIN THE 1% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR HILLSBOROUGH COUNTY, NEW HAMPSHIRE. MAP NUMBER 3301C0459D. EFFECTIVE DATE SEPTEMBER 25, 2009.
- ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THIS OFFICE HAS NOT LOCATED ANY UNDERGROUND UTILITIES. ALWAYS CALL DIG SAFE TO MARK OUT UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
- PORTIONS OF THE PROPERTY ARE SUBJECT TO THE PROVISIONS OF THE SHORELAND WATER QUALITY PROTECTION ACT, NHRSA 483-B.
- TOPOGRAPHIC DATA SHOWN HEREON SOUTH OF THE WETLANDS IS BASED ON A SURVEY BY THIS OFFICE. TOPOGRAPHY ON THE REMAINDER OF THE LOT WAS TAKEN FROM NOAA LIDAR. VERTICAL DATUM IS NAVD '88.
- PROPERTY IS SUBJECT TO A SEWER EASEMENT TO BENEFIT THE TOWN OF MILFORD AS RECORDED IN BOOK 2691 PAGE 355 AND SHOWN ON REFERENCE PLAN 3.
- PROPERTY IS SUBJECT TO AN EASEMENT FOR DITCH MAINTENANCE RECORDED IN BOOK 3026 PAGE 770.
- THE SUBJECT PROPERTY FALLS WITHIN THE GROUNDWATER OVERLAY DISTRICT AND SHALL COMPLY TO ALL PERFORMANCE STANDARDS
- WATER, SEWER, ROAD (INCLUDING PARKING LOT) AND DRAINAGE WORKSHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF MILFORD'S WATER UTILITIES DEPARTMENT AND PUBLIC WORKS DEPARTMENT STANDARDS.
- AS-BUILT PLANS SHALL BE DELIVERED TO THE BUILDING DEPARTMENT PRIOR TO A CERTIFICATE OF OCCUPANCY BEING ISSUED.
- NHDES SEWER DISCHARGE PERMIT # XXXXXX
- WITH THE APPROVAL OF THIS PLAN THE FOLLOWING WAIVERS HAVE BEEN APPROVED
- SNOW WILL BE STORED ALONG THE EDGE OF THE ROADWAY AND EDGE OF DRIVEWAYS. EXCESS SNOW WILL BE REMOVED FROM THE SITE

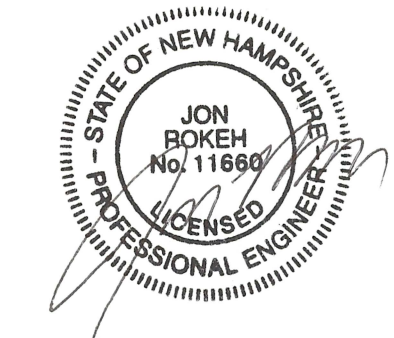
SITE DEVELOPMENT PLANS

WHEELER ROAD- MILFORD, NH



LIST OF DRAWINGS

DWG NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS / BOUNDARY PLAN
3	SITE PLAN
4	UTILITY PLAN
5	GRADING DRAINAGE EROSION CONTROL PLAN
6	LANDSCAPING LIGHTING PLANS
7	ROADWAY AND DRAINAGE PROFILES
8-13	CONSTRUCTION & EROSION CONTROL DETAILS
14-19	STORMTECH DETAILS



APPROVED

MILFORD, NH PLANNING BOARD

DATE APPROVED _____

08/14/2020
DATE

DATE SIGNED: _____

OWNER'S SIGNATURE

[Signature]
FOR SAN KEN HOMES, INC

LIST OF ADDITIONAL CONSULTANTS

- | | |
|--|--|
| <p>LAND SURVEYOR
S&H LAND SERVICES LLC
1600 CANDIA ROAD
SUITE #5
MANCHESTER NH
603-628-8500</p> | <p>WETLANDS
CHRISTOPHER GUIDA
FIELDSTONE LAND CONSULTANTS, PLLC
206 ELM STREET
MILFORD, NH, 03055
phone: (603) 672-5456</p> |
|--|--|

CONTACT DIG SAFE 72 HOURS
PRIOR TO CONSTRUCTION



THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. ROKEH CONSULTING, LLC, MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ANY UTILITIES WHETHER THEY BE ABOVE OR BELOW GROUND. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 1-800-DIG-SAFE.

PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

COVER SHEET
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

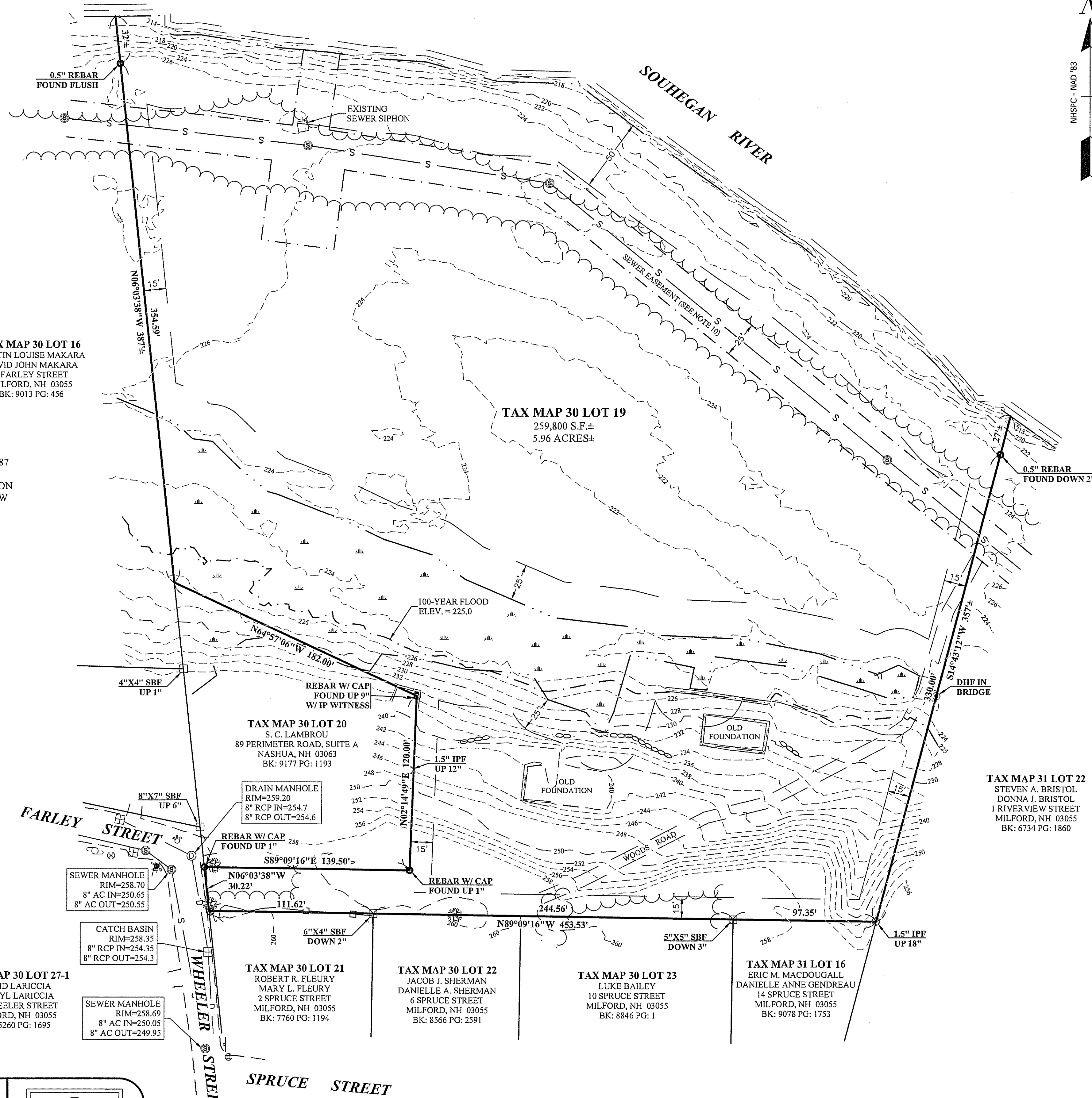
REVISIONS			
DATE	DESCRIPTION	DWN BY	CK BY

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

SCALE: 1" = 80'
DATE: JULY 7, 2020
DR. BY: JR CK. BY: JR
JOB NO.
SHEET
1 of 19

REFERENCE PLANS

1. "CONSOLIDATION PLAN OF LAND, MAP 30 / LOTS 19 & 20, 16 FARLEY STREET, MILFORD, NEW HAMPSHIRE" DATED MAY 14, 2002 AND PREPARED BY MAYNARD & PAQUETTE ENGINEERING ASSOCIATES, LLC. H.C.R.D. PLAN #31778.
2. "PLAN OF LAND, MAP 30 / LOT 20, 16 FARLEY STREET, MILFORD, NEW HAMPSHIRE" DATED APRIL 30, 2001 AND PREPARED BY MAYNARD & PAQUETTE ENGINEERING ASSOCIATES, LLC. H.C.R.D. PLAN #31085.
3. "TOWN OF MILFORD PROPOSED EASEMENT ON LAND OF JOHN E. CALDERARA, GUIDO A. & MILDRED E. RIZZI, MILFORD, N.H." LAST REVISED JULY 6, 1979 AND PREPARED BY THOMAS F. MORAN, INC. H.C.R.D. PLAN #12378 SHEET 21 OF 25.



TAX MAP 30 LOT 16
 KRISTIN LOUISE MAKARA
 DAVID JOHN MAKARA
 6 FARLEY STREET
 MILFORD, NH 03055
 BK: 9013 PG: 456

TAX MAP 30 LOT 19
 259,800 S.F. ±
 5.96 ACRES ±

TAX MAP 30 LOT 20
 S. C. LAMBROU
 89 PERIMETER ROAD, SUITE A
 NASHUA, NH 03063
 BK: 9177 PG: 1193

TAX MAP 30 LOT 21
 ROBERT R. FLEURY
 MARY L. FLEURY
 2 SPRUCE STREET
 MILFORD, NH 03055
 BK: 7760 PG: 1194

TAX MAP 30 LOT 22
 JACOB J. SHERMAN
 DANIELLE A. SHERMAN
 6 SPRUCE STREET
 MILFORD, NH 03055
 BK: 8566 PG: 2591

TAX MAP 30 LOT 23
 LUKE BAILEY
 10 SPRUCE STREET
 MILFORD, NH 03055
 BK: 8846 PG: 1

TAX MAP 31 LOT 16
 ERIC M. MACDOUGALL
 DANIELLE ANNE GENDREAU
 14 SPRUCE STREET
 MILFORD, NH 03055
 BK: 9078 PG: 1753

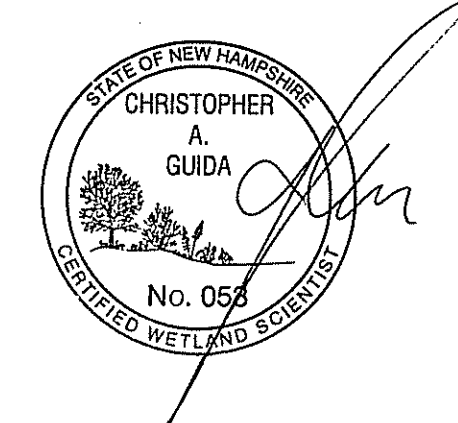
TAX MAP 31 LOT 22
 STEVEN A. BRISTOL
 DONNA J. BRISTOL
 1 RIVERVIEW STREET
 MILFORD, NH 03055
 BK: 6734 PG: 1860

TAX MAP 30 LOT 27-1
 DAVID LARICCIA
 SHERYL LARICCIA
 12 WHEELER STREET
 MILFORD, NH 03055
 BK: 5260 PG: 1695

WETLAND CERTIFICATION

JURISDICTIONAL WETLANDS WERE DELINEATED IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS 1987 WETLANDS DELINEATION MANUAL Y-87-1, REGIONAL SUPPLEMENTS FOR NORTHEAST AND NORTHCENTRAL REGION AND CURRENT FIELD INDICATORS FOR HYDRIC SOILS IN NEW ENGLAND, BY CHRISTOPHER A. GUIDA, C.W.S. IN MAY 2020.

DATE 8/14/20



SYMBOL LEGEND

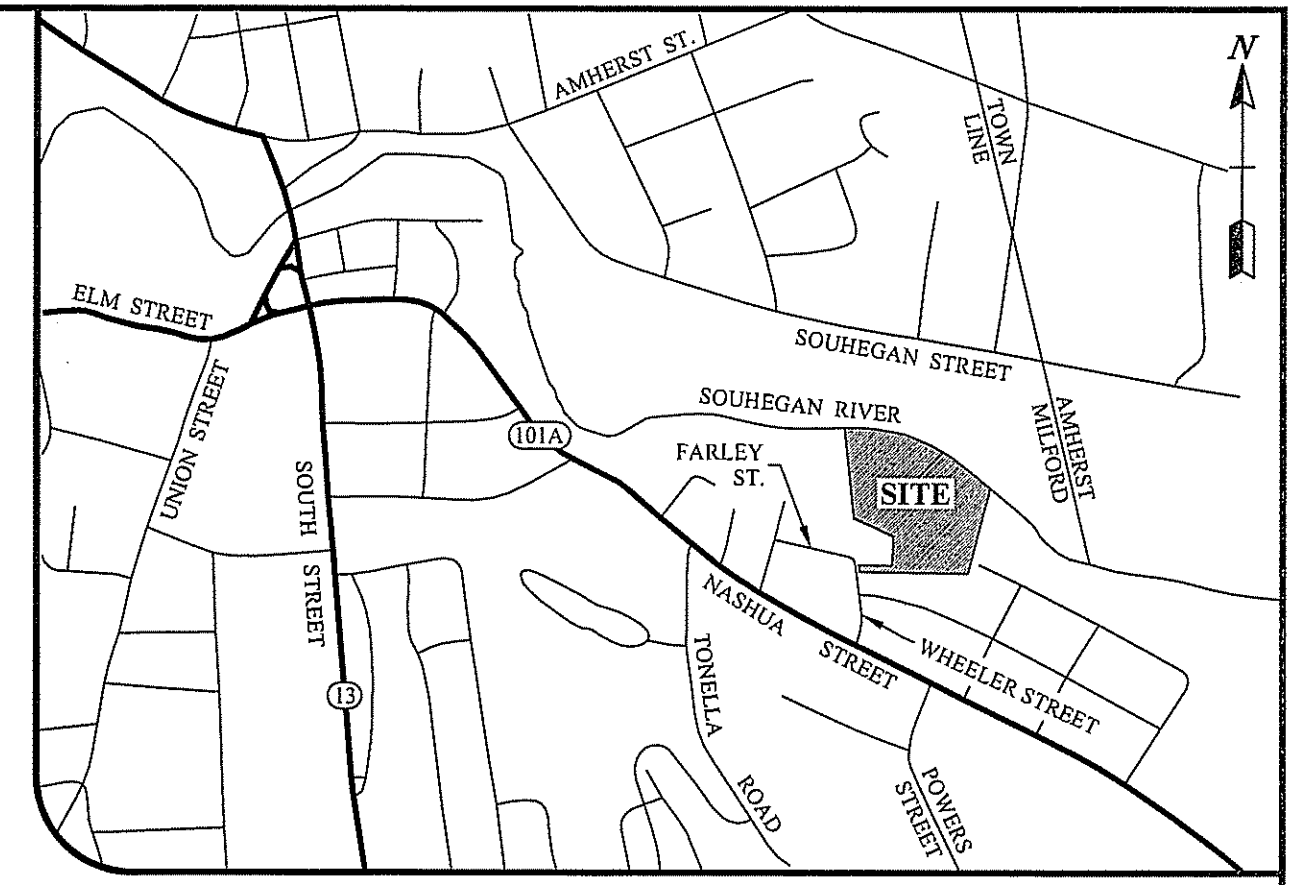
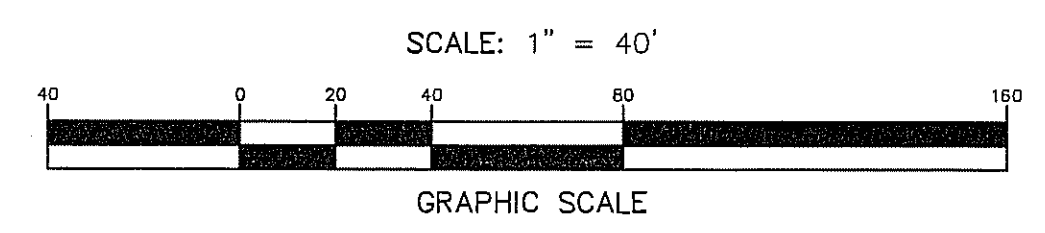
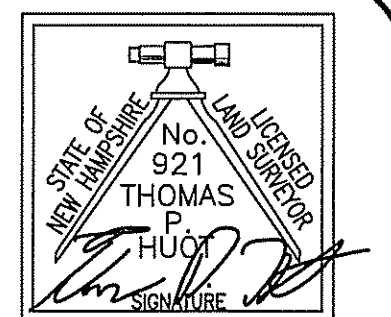
- REBAR W/CAP TO BE SET
- BOUND FOUND
- IRON PIPE FOUND
- DRILL HOLE FOUND
- SIGN
- UTILITY POLE
- ⊗ GUY WIRE
- ⊗ WATER SHUTOFF
- ⊗ FIRE HYDRANT
- ⊙ SEWER MANHOLE
- ⊕ DRAIN MANHOLE
- ⊕ CATCH BASIN
- EDGE OF PAVEMENT
- STONE WALL
- EDGE OF WETLAND
- TREELINE
- OVERHEAD WIRE
- UNDERGROUND SEWER
- UNDERGROUND WATER

SURVEYOR'S CERTIFICATION

"I HEREBY CERTIFY THAT THIS SURVEY AND PLAT WERE PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS AN ERROR OF CLOSURE OF GREATER ACCURACY THAN ONE PART IN TEN THOUSAND (1:10,000)."

Thomas F. Moran
 LICENSED LAND SURVEYOR

8/13/2020
 DATE



LOCUS MAP

NOT TO SCALE

NOTES

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EXISTING CONDITIONS PLAN

TAX MAP 30 LOT 19

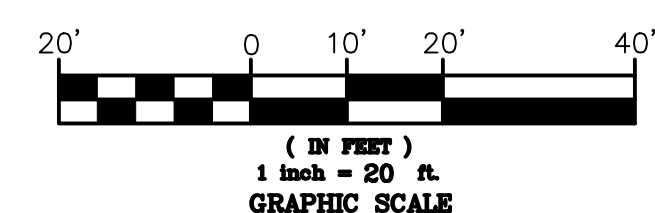
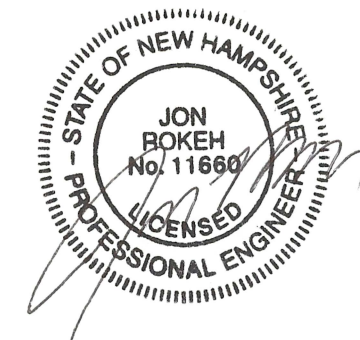
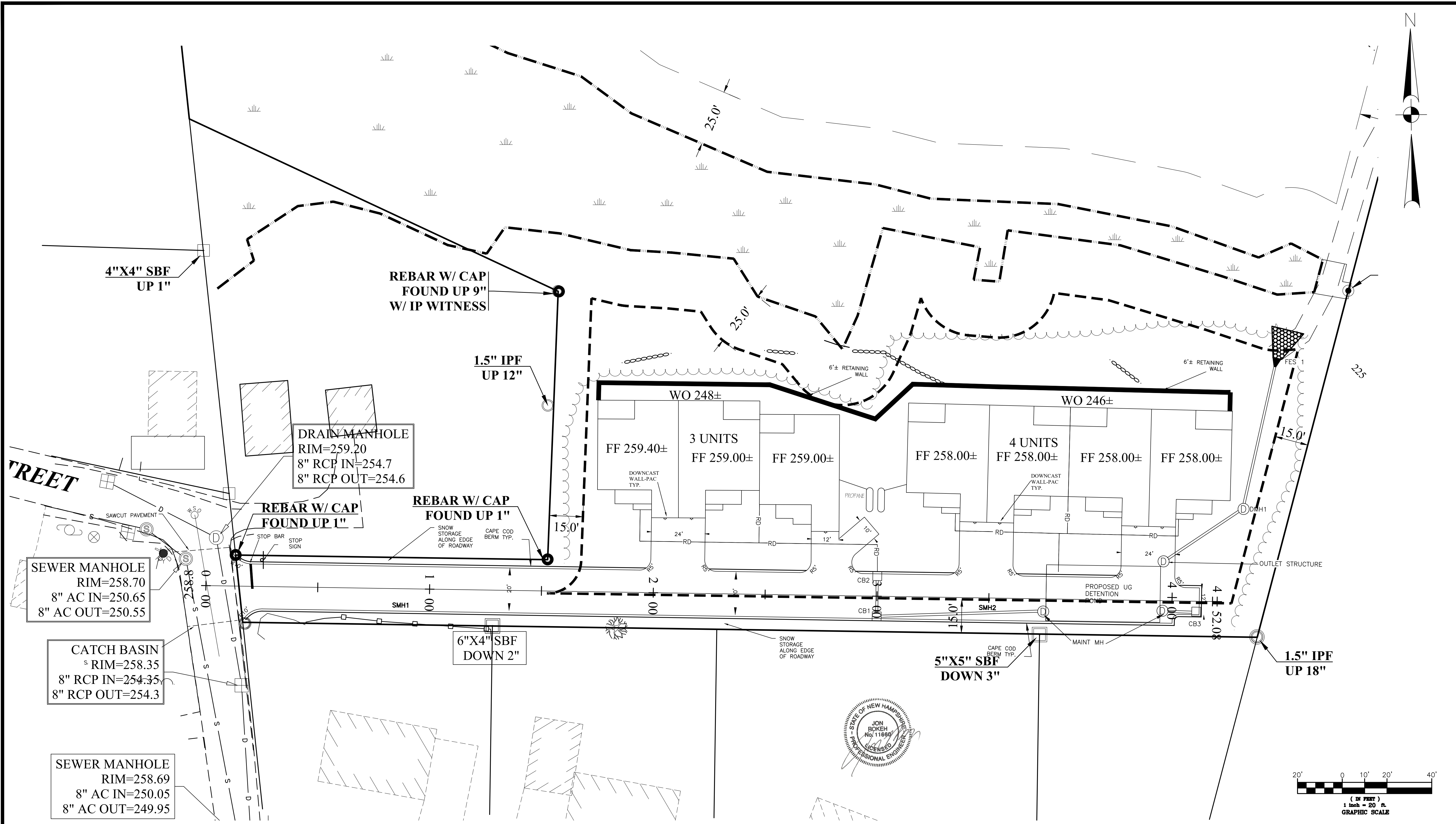
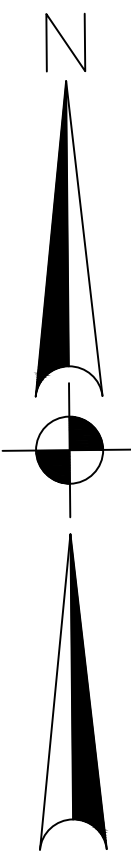
PREPARED FOR:
SAN-KEN HOMES, INC.

LOCATED AT:
**WHEELER STREET
 MILFORD, NEW HAMPSHIRE**



SHLANDSERVICES.COM
 1600 CANDIA ROAD, SUITE #5 - MANCHESTER, NH
 PHONE: (603)-628-8500, FAX: (603)-546-7791

NO.	DATE	DESCRIPTION	BY



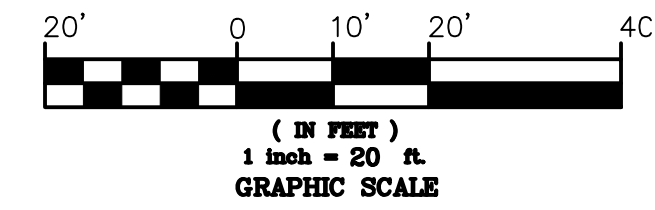
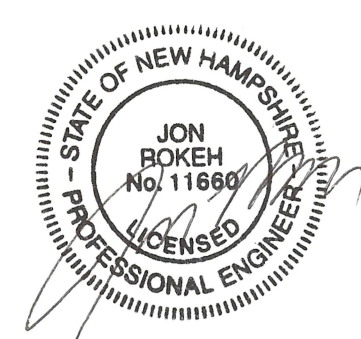
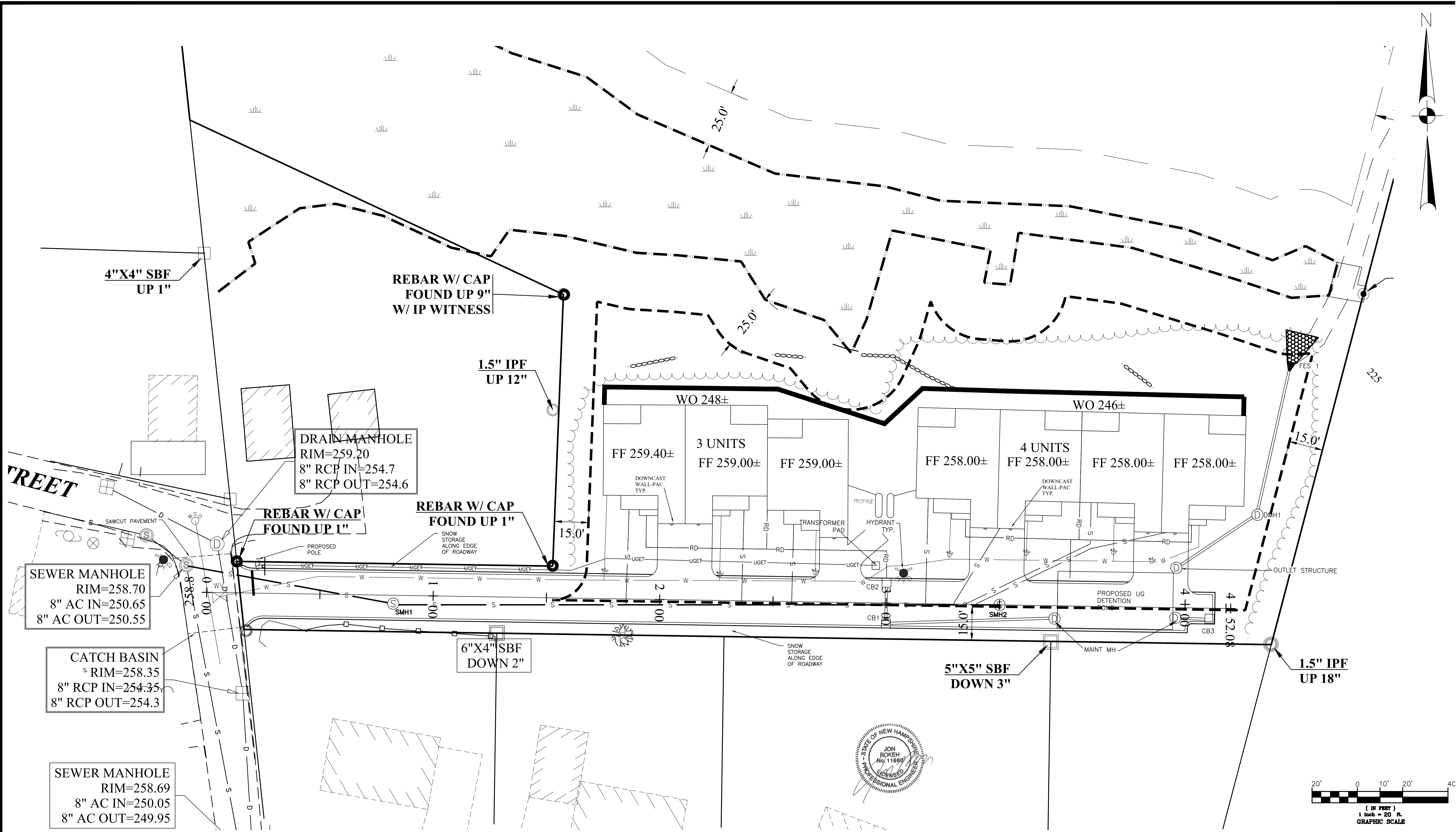
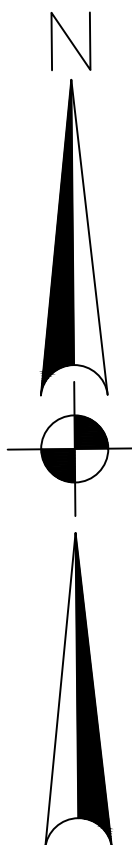
PREPARED FOR:
 SAN-KEN HOMES, INC.
 286 TURNPIKE ROAD
 NEW IPSWICH, NH

SITE PLAN
 CONDOMINIUM SITE PLAN
 MAP 30, LOT 19
 WHEELER STREET, MILFORD NH

DATE	REVISIONS DESCRIPTION	DWN BY	CK BY

Rokeh Consulting, LLC
 89 KING ROAD, CHICHESTER, NH
 PH: 603-387-8688

SCALE: 1" = 20'
 DATE: JULY 7, 2020
 DR. BY: JR CK. BY: JR
 JOB NO.
 SHEET
 3 of 19



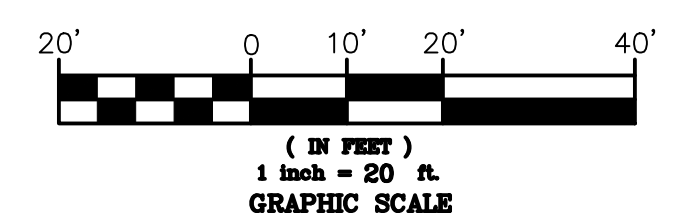
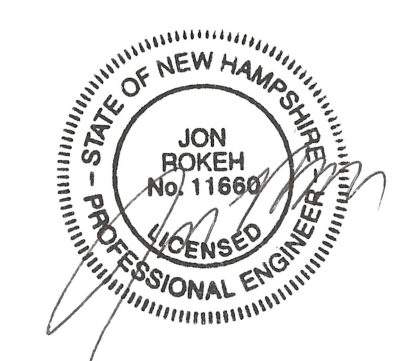
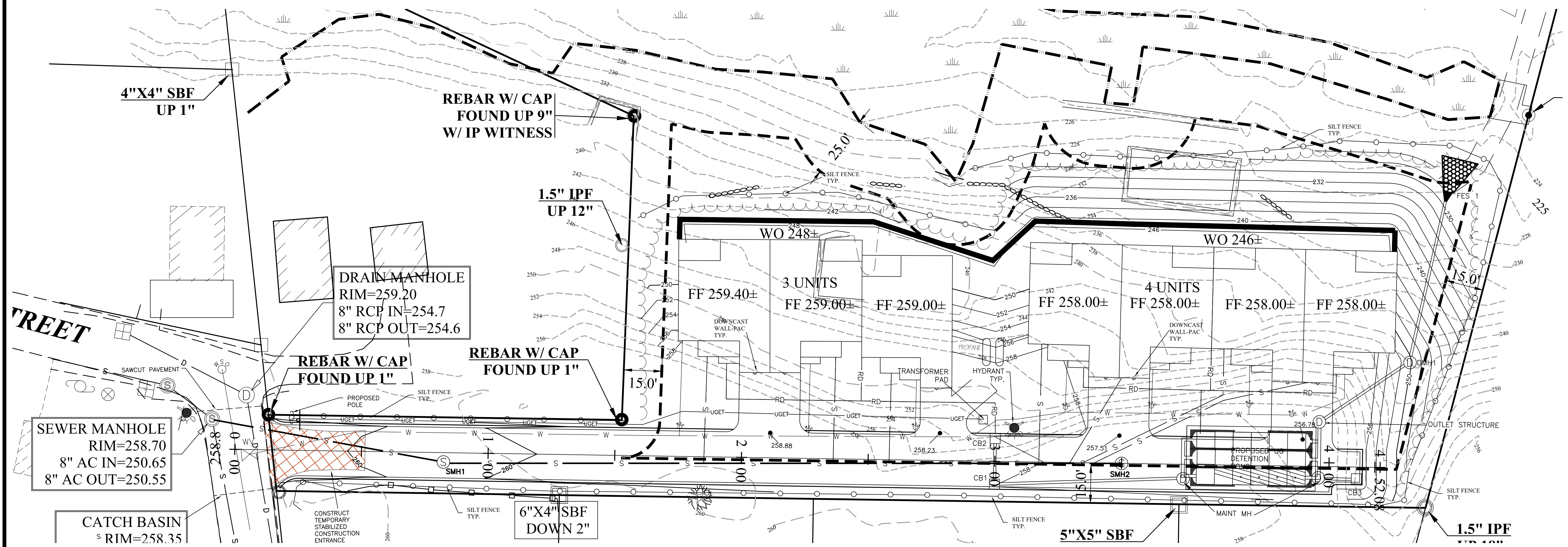
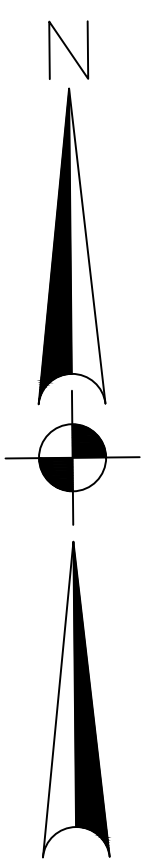
PREPARED FOR:
 SAN-KEN HOMES, INC.
 286 TURNPIKE ROAD
 NEW IPSWICH, NH

UTILITY PLAN
 CONDOMINIUM SITE PLAN
 MAP 30, LOT 19
 WHEELER STREET, MILFORD NH

REVISIONS			
DATE	DESCRIPTION	DWN BY	CK BY

Rokeh Consulting, LLC
 89 KING ROAD, CHICHESTER, NH
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 SHEET
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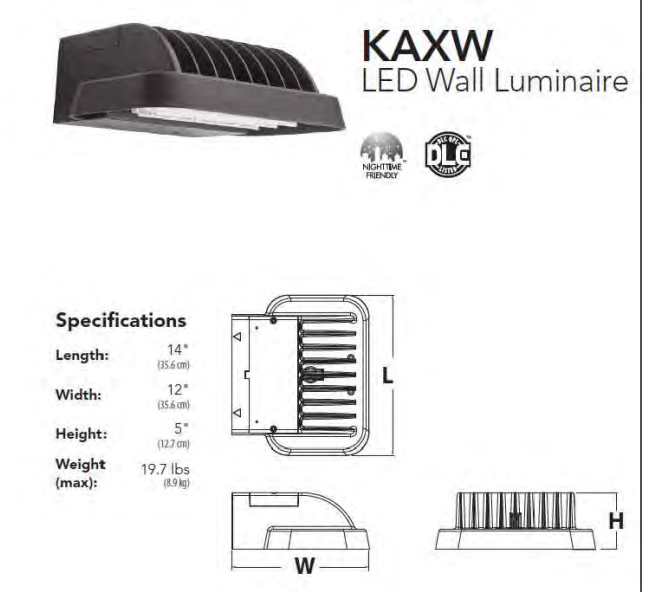
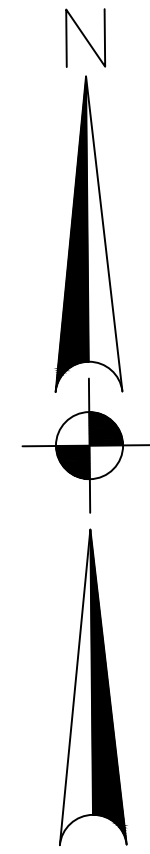
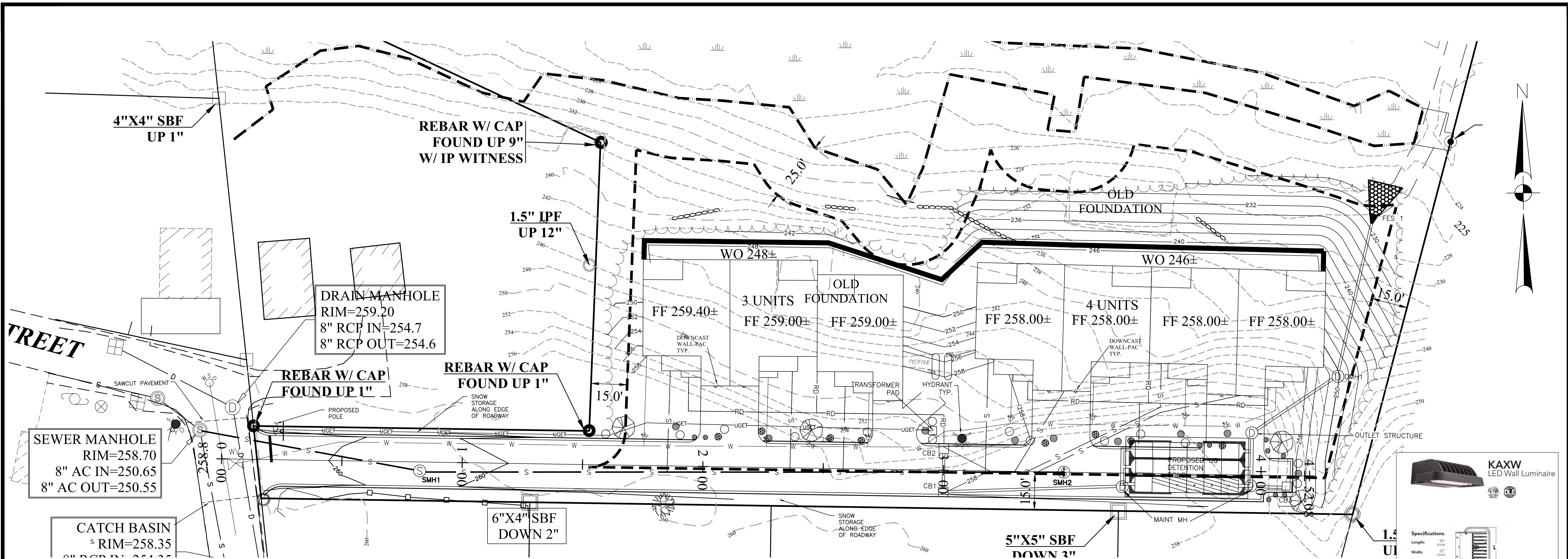
PREPARED FOR:
 SAN-KEN HOMES, INC.
 286 TURNPIKE ROAD
 NEW IPSWICH, NH

GRADING AND DRAINAGE
 CONDOMINIUM SITE PLAN
 MAP 30, LOT 19
 WHEELER STREET, MILFORD NH

DATE	REVISIONS DESCRIPTION	DWN BY	CK BY

Rokeh Consulting, LLC
 89 KING ROAD, CHICHESTER, NH
 PH: 603-387-8688

SCALE: 1" = 20'
 DATE: JULY 7, 2020
 DR. BY: JR
 JOB NO.
 SHEET
 5 of 19

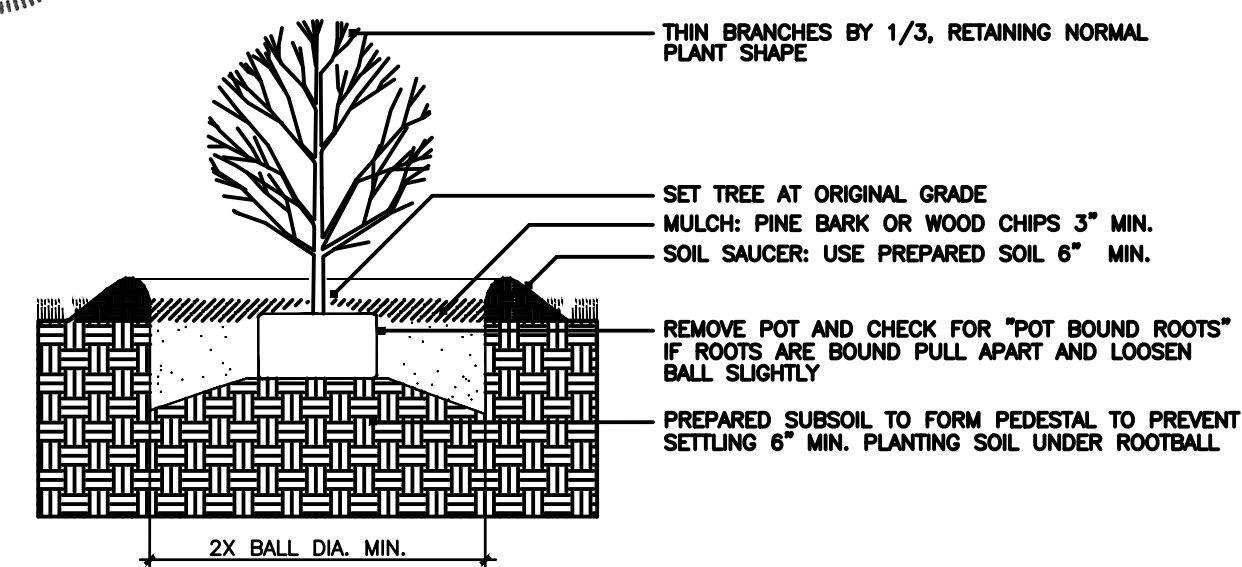


GARAGE WALL PACKS

KEY	LATIN NAME	COMMON NAME	QUANTITY
	<i>Acer saccharum</i>	SUGAR MAPLE 2 1/2" CAL.	4
	<i>Euonymus alatus 'Compact'</i>	DWARF BURNING BUSH 2-3' 8" O.C.	9
	<i>Taxus 'Greenwave'</i>	GREENWAVE YEW 2 1/2-3' B&B 8" O.C.	14
	<i>Rhododendron 'Purpleum Elegans'</i>	ELEGANT PURPLE RHODODENDRON 2 1/2-3' B&B 8" O.C.	7
	<i>Rhododendron 'P.J.M.'</i>	PJM RHODODENDRON 18-24" B&B 2" O.C.	10
		30% KENTUCKY BLUEGRASS 45% CREEPING FESCUE 10% RED TOP 15% DOMESTIC RYE	
		DEPTH OF BARK MULCH 3" (SEE NOTES ON DETAIL SHEET)	

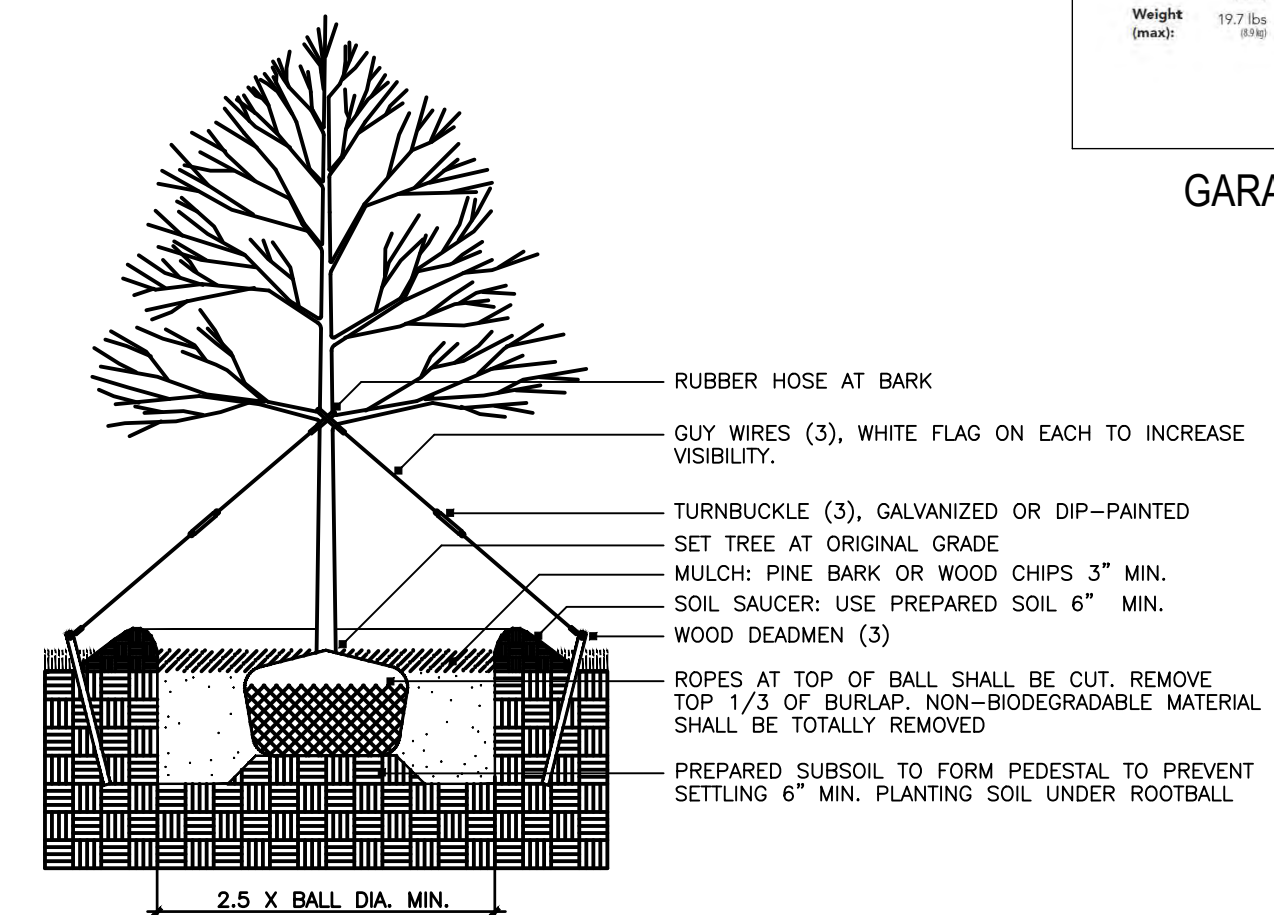
GENERAL LANDSCAPE NOTES:

- LANDSCAPE CONTRACTOR SHALL PROVIDE A CERTIFIED SOIL ANALYSIS PRIOR TO ANY PLANT INSTALLATION TO DETERMINE ANY NECESSARY AMENDMENTS TO THE EXISTING SOIL CONDITIONS FOR SEEDING AND PLANTINGS. THE ANALYSIS WILL ALSO BE REQUIRED TO ESTABLISH THE FERTILIZER PROGRAM.
- ALL PLANTING METHODS WILL BE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
- PLANT LIST: A COMPLETE LIST OF PLANTS INCLUDING A SCHEDULE OF QUANTITIES, SIZES, TYPES AND NAMES IS INCLUDED IN THIS SET OF DRAWINGS. IN THE EVENT OF DISCREPANCIES BETWEEN QUANTITIES OF PLANTS IN THE PLANT LIST AND THE DRAWINGS, THE PLAN SHALL GOVERN. WHEN MULTIPLE PLANT SPECIES ARE LISTED IN ONE PLANT CATEGORY, THE GOAL IS TO PROVIDE THE BEST PLANT AVAILABLE AT THE TIME OF INSTALLATION.
- ALL TREES AND SHRUBS SHALL BE NURSERY GROWN WITHIN A U.S.D.A. PLANT HARDINESS ZONE WHICH IS THE SAME AS, OR COLDER THAN, THE ZONE IN WHICH THE PROJECT IS LOCATED.
- PLANT SUBSTITUTIONS ARE NOT ALLOWED UNLESS APPROVED BY ERIC MITCHELL & ASSOC. INC.
- ALL PLANTS 3' OR GREATER IN HEIGHT OR SPREAD TO BE BALLED AND BURLAPED.
- ALL DISTURBED AREAS TO BE LOAMED @ A DEPTH OF 4" AND SEEDED AND BLENDED INTO EXISTING
- ALL PLANTING AREAS ARE TO BE SURROUNDED BY BARK MULCH AT A DEPTH OF 3".



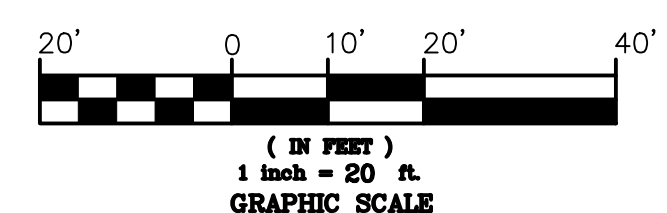
SHRUB PLANTING-POTTED

NOT TO SCALE



DECIDUOUS TREE PLANTING

NOT TO SCALE



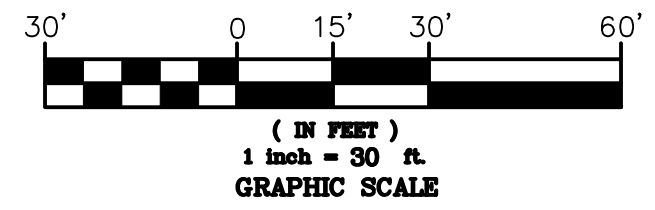
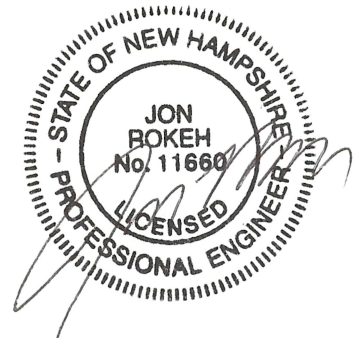
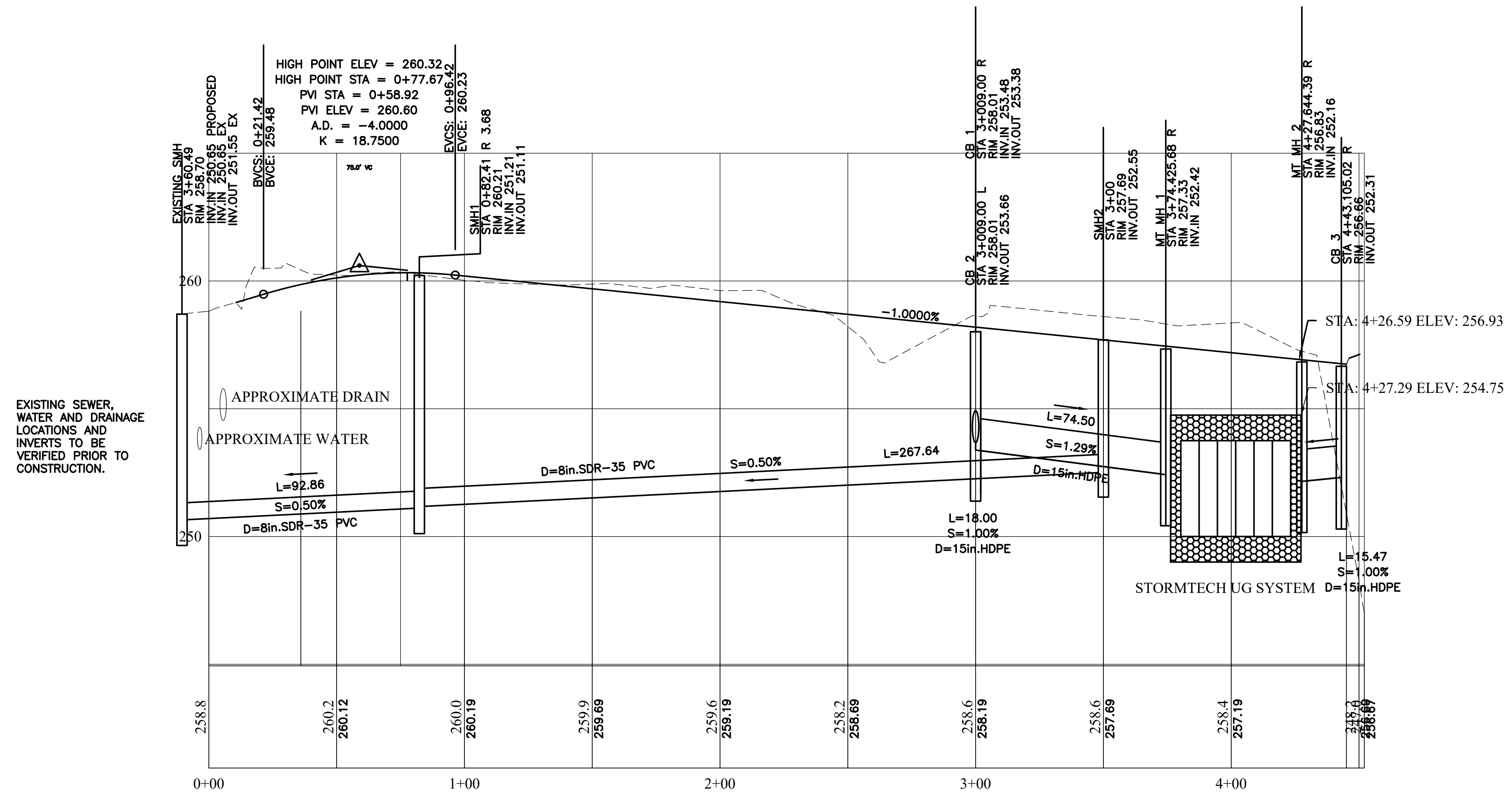
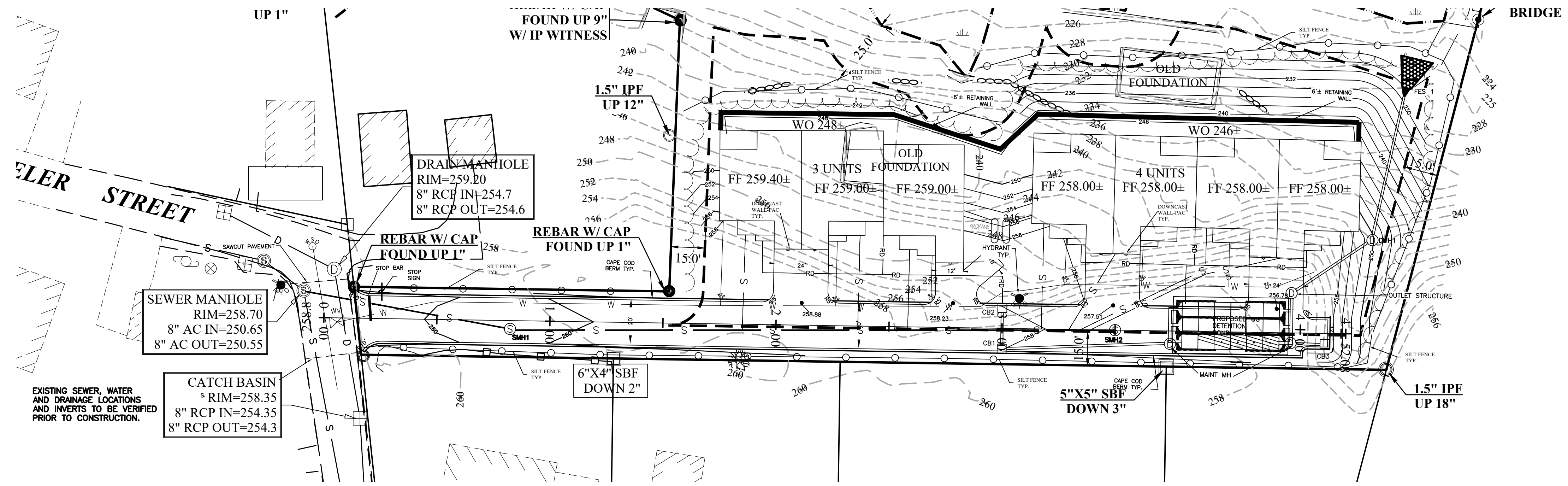
PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

LANDSCAPE LIGHTING PLAN
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

DATE	REVISIONS DESCRIPTION	DWN BY	CK BY

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

SCALE: 1" = 20'
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.
SHEET
6 of 19



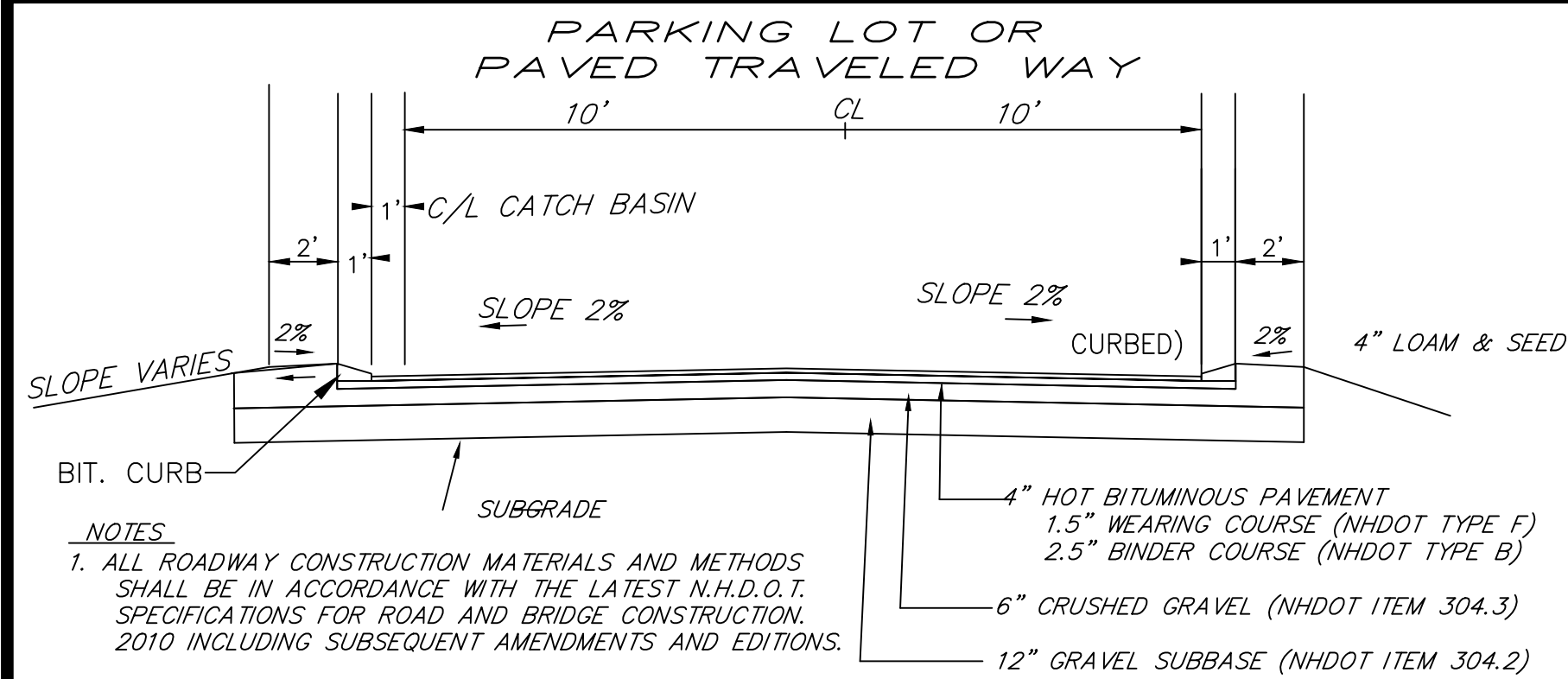
PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

ROAD PROFILE
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

REVISIONS			
DATE	DESCRIPTION	DWN BY	CK BY

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

SCALE: 1" = 30'
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.
SHEET
7 of 19

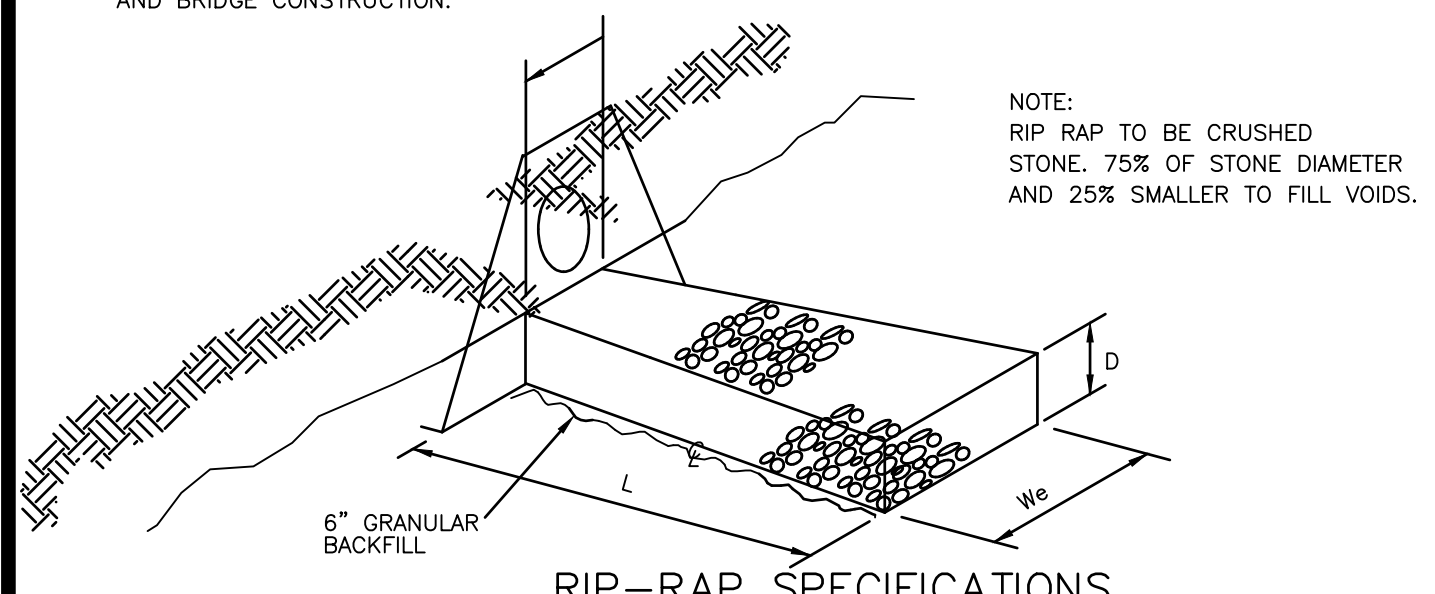


- NOTES**
- ALL ROADWAY CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH THE LATEST N.H.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2010 INCLUDING SUBSEQUENT AMENDMENTS AND EDITIONS.
 - PROVIDE 4" (MIN.) COMPACTED LOAM AND SEED ON ALL SLOPES AND DRAINAGE SWALES UNLESS OTHERWISE NOTED.
 - ALL LEDGE AND ROCK SHALL BE REMOVED TO 6" BELOW SUBGRADE.

TYPICAL ROADWAY SECTION
(NOT TO SCALE)

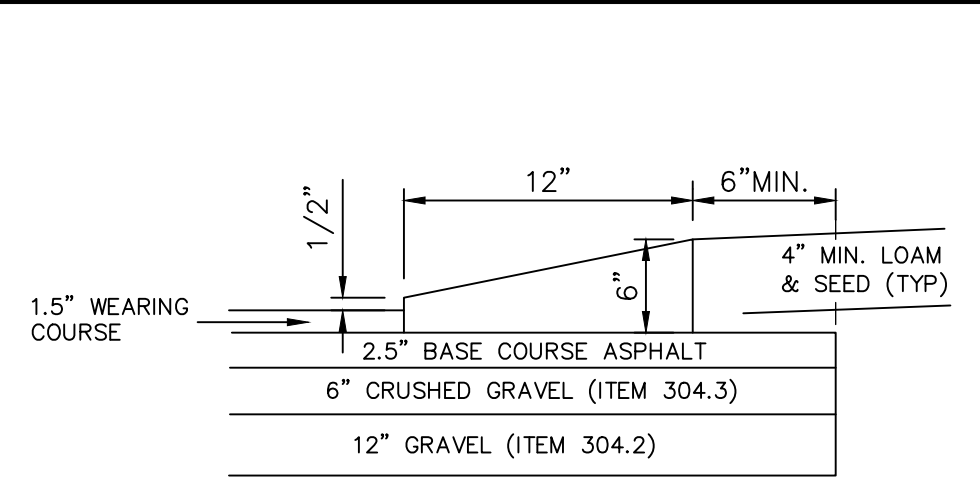
GENERAL NOTES

- MINIMUM ACCEPTABLE STANDARDS FOR ALL CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDT), STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION, (AND ALL SUBSEQUENT AMENDMENTS) AND THE TOWN OF CHICHESTER REGULATIONS. DRAINAGE DESIGN IS BASED ON THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK VOLUME II"
- ALL ELEVATIONS AND LOCATIONS OF EXISTING UTILITY AND DRAINAGE STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO UTILIZATION OF DESIGN ELEVATIONS ON THIS PLAN.
- BACKFILL OF TRENCHES AND ALL PAVED AREAS SHALL BE COMPACTED IN ACCORDANCE WITH NH DOT-STANDARD SPECIFICATIONS-SECTION 304.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES AND SHALL PROVIDE ALL NECESSARY CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE AND STRENGTH TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH DAYS WORK.
- ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.
- THE CONTRACTOR SHALL BE AWARE OF HIS RESPONSIBILITY TO CONTACT "DIG SAFE" AT 111 SO. BEDFORD STREET, BURLINGTON, MA (1-888-344-7233) AT LEAST 72 WORKING HOURS PRIOR TO THE START OF ANY EXCAVATION.
- SHORING AND STABILIZING OF TRENCH SIDEWALLS DURING EXCAVATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL WORK ADJACENT TO UNION ROAD SHALL BE PERFORMED IN WITH THE STREET OPENING REQUIREMENTS OF THE TOWN OF MILFORD AND NH DOT STANDARD SPECIFICATIONS.
- ALL CULVERTS, DRAINAGE STRUCTURES AND ROAD CONSTRUCTION SHALL BE SUBJECT TO PARTIAL AND FINAL INSPECTION PRIOR TO ACCEPTANCE BY THE TOWN OF CHICHESTER. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING INSPECTION BY THE TOWN ENGINEER.
- UTILITY PLANS SHALL BE SUBMITTED TO THE TOWN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 4" TOPSOIL AND SEED OVER ALL DISTURBED UNPAVED AREAS UNLESS OTHERWISE SPECIFIED.
- CORRUGATED PLASTIC PIPE (CPP) WITH SMOOTH INTERIOR - ADS N-12 OR APPROVED EQUAL MAY BE SUBSTITUTED FOR REINFORCED CONCRETE DRAINAGE PIPE (RCP) WITH APPROVAL OF THE CHICHESTER DEPARTMENT OF PUBLIC WORKS AND TOWN ENGINEER.
- CONCRETE END SECTIONS, (FLARED ENDS) SHALL COMPLY WITH NHDT STANDARD SPECIFICATIONS, HIGHWAY DESIGN MANUAL, PLATES 5 & 6, OF STANDARD 11 DATED 1979 AND ALL SUBSEQUENT AMENDMENTS.
- ALL DRIVEWAY GRADING IS SUBJECT TO DEPARTMENT OF PUBLIC WORKS REVIEW PRIOR TO DRIVEWAY CONSTRUCTION ON INDIVIDUAL LOTS. DRIVEWAY CULVERTS, LOCATED OUTSIDE OF THE TOWNS RIGHT OF WAY, MAY BE NECESSARY DEPENDING ON THE ACTUAL PROPOSED LOT DEVELOPMENT.
- ALL PAVEMENT MARKERS SHOWN CONFORM TO THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARDS PLANS FOR ROAD AND BRIDGE CONSTRUCTION.



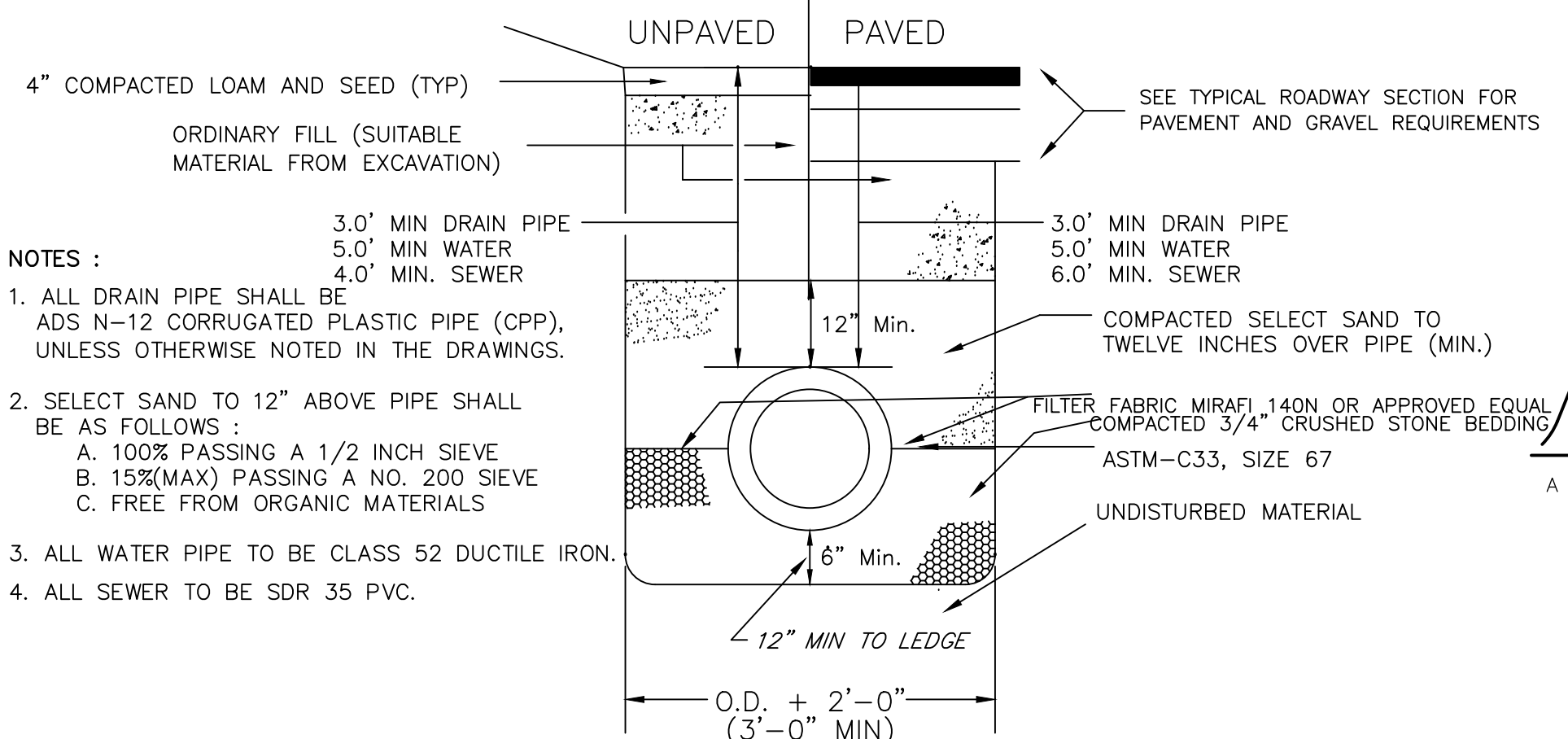
NOT TO SCALE

DESCRIPTION	LENGTH L	INVERT WIDTH Wi	END WIDTH We	CLASS C STONE FILL	DEPTH OF STONE- D
FES 1	12'	4.5'	16'	6"	1.5'

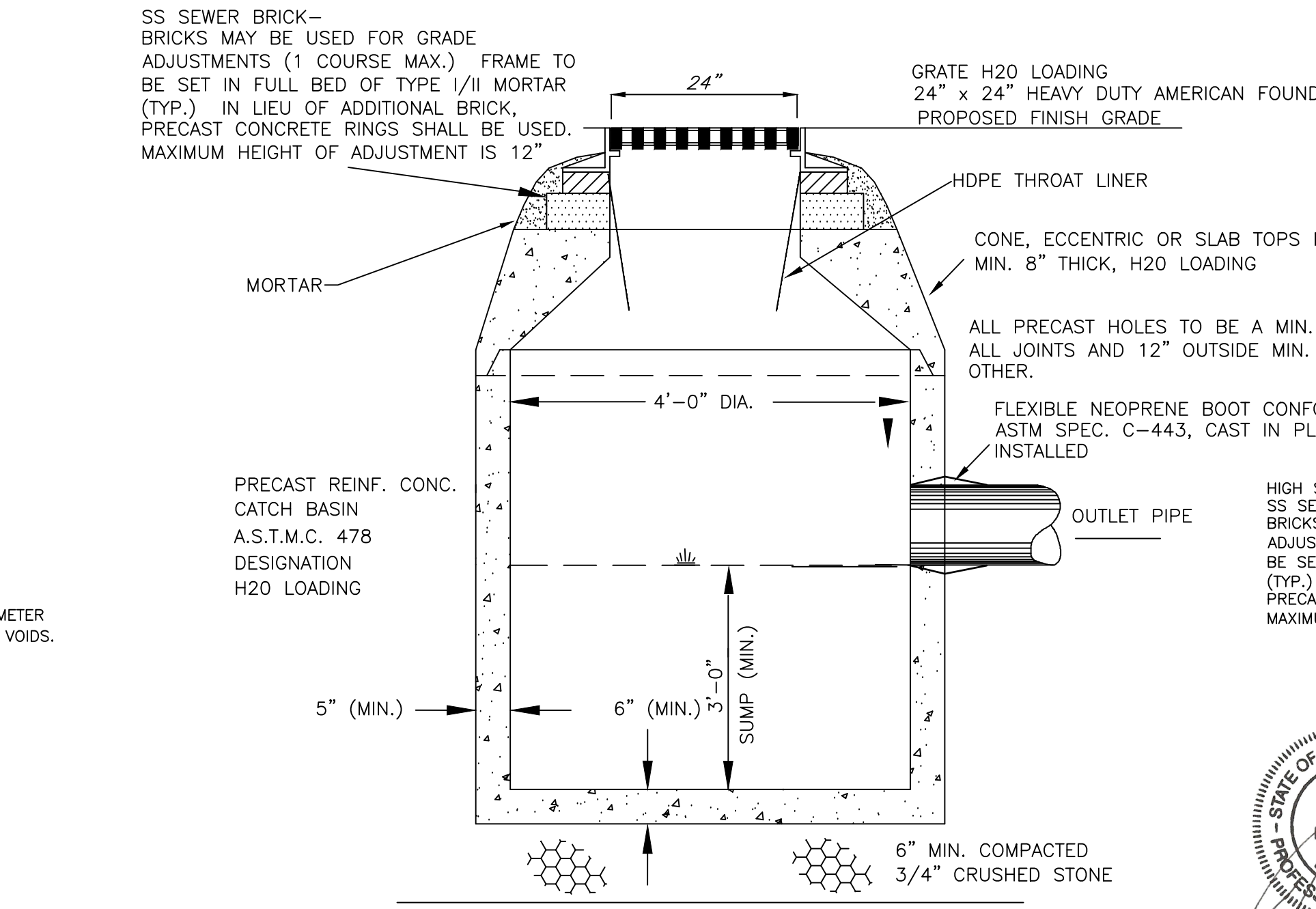


- NOTE**
- APPLY TACK COAT PRIOR TO PLACEMENT OF CURB.
 - BITUMINOUS CURB MATERIAL SHALL MEET THE REQUIREMENTS OF NHDT SECTION 609.
 - CAPE COD BERM TYP. DIMENSIONS SHALL MATCH THOSE GIVEN IN THIS DETAIL.

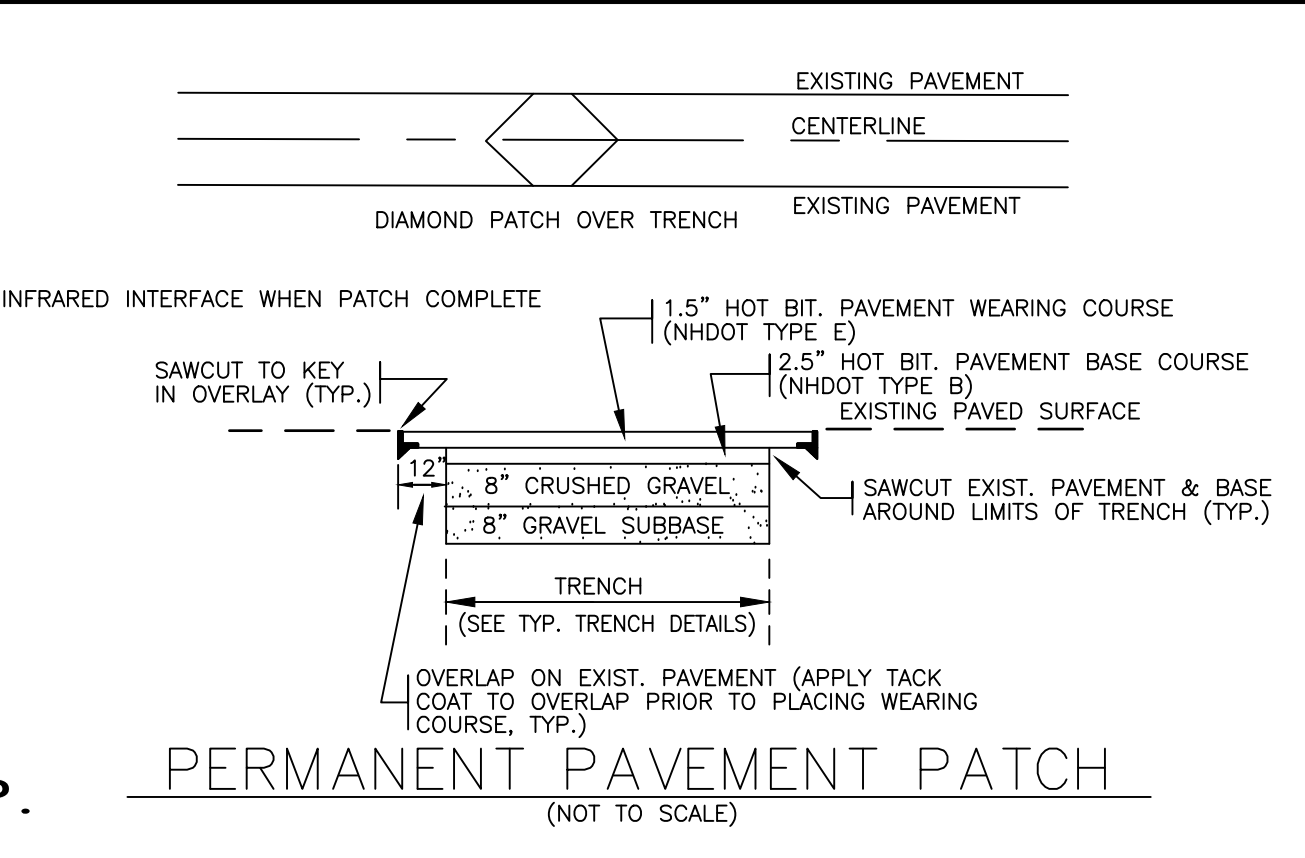
TYPICAL CAPE COD BERM TYP.
(NOT TO SCALE)



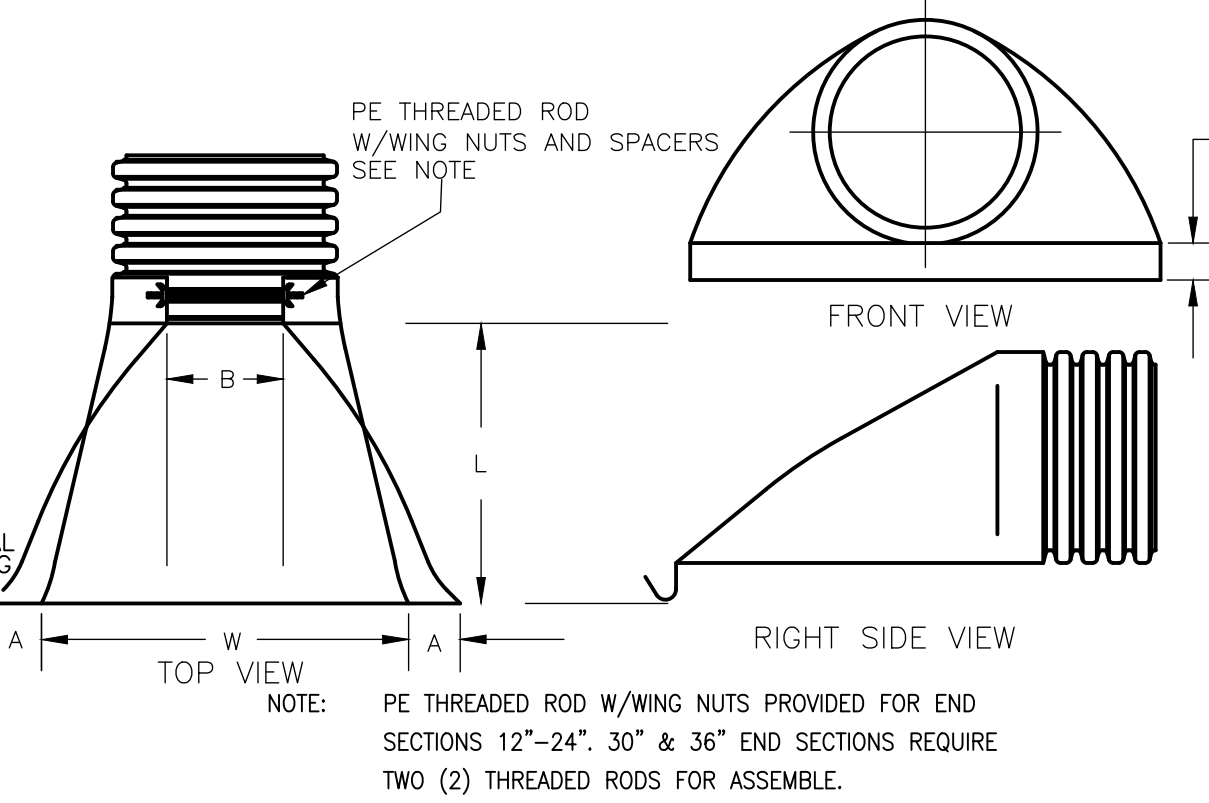
TYPICAL SEWER/ DRAIN PIPE TRENCH
(NOT TO SCALE)



TYPICAL PRECAST CONCRETE CATCH BASIN DETAIL

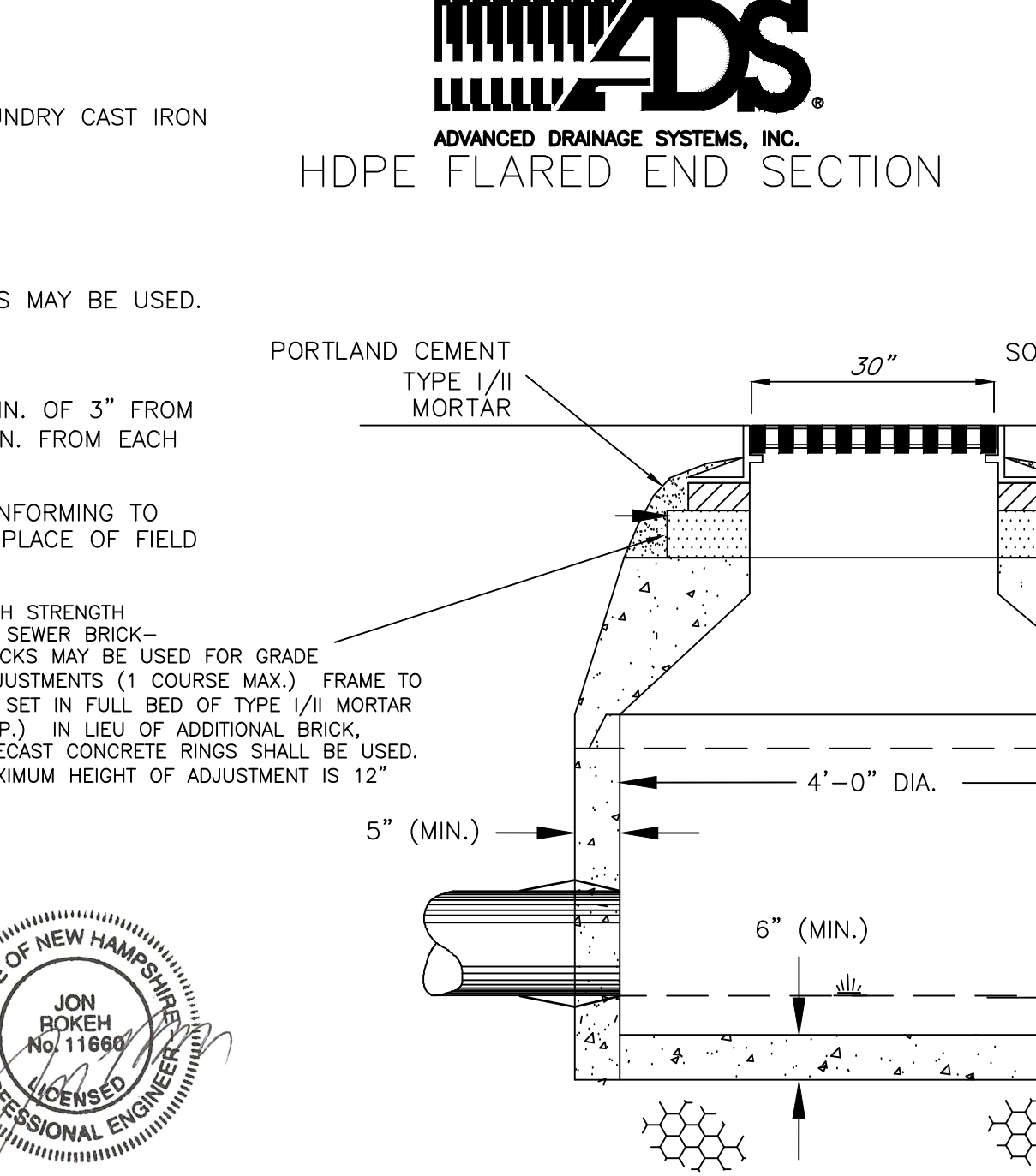


PERMANENT PAVEMENT PATCH
(NOT TO SCALE)

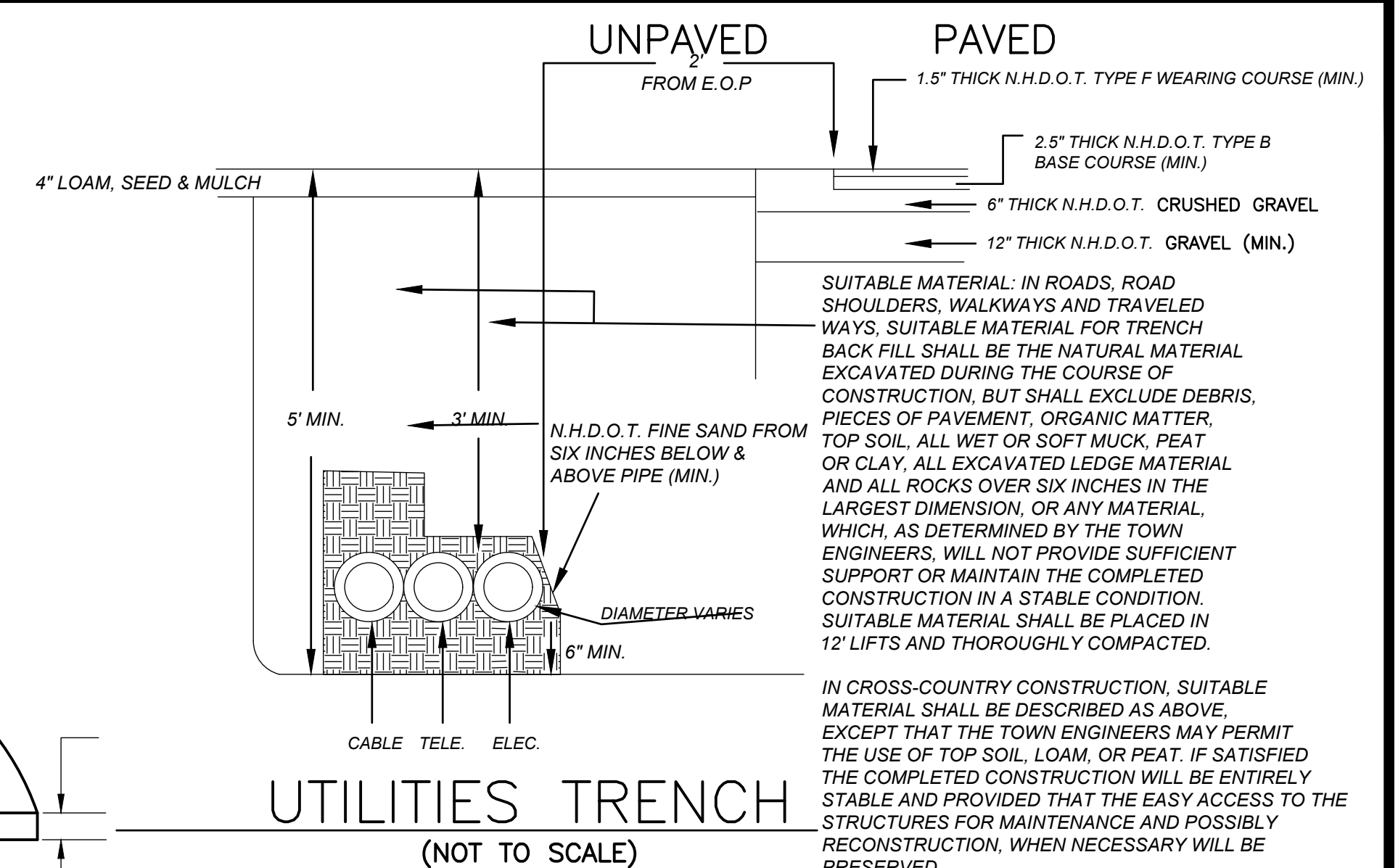


PART #	PIPE SIZE	A	B (MAX)	H	L
1210NP	12 IN	6.50 IN	10.00 IN	6.50 IN	25.00 IN
1510NP	15 IN	6.50 IN	10.00 IN	6.50 IN	25.00 IN
1810NP	18 IN	7.50 IN	15.00 IN	6.50 IN	32.00 IN
2410NP	24 IN	7.50 IN	18.00 IN	6.50 IN	36.00 IN
3015NP	30 IN	7.50 IN	12.00 IN	8.60 IN	58.00 IN
3615NP	36 IN	7.50 IN	25.00 IN	8.60 IN	58.00 IN

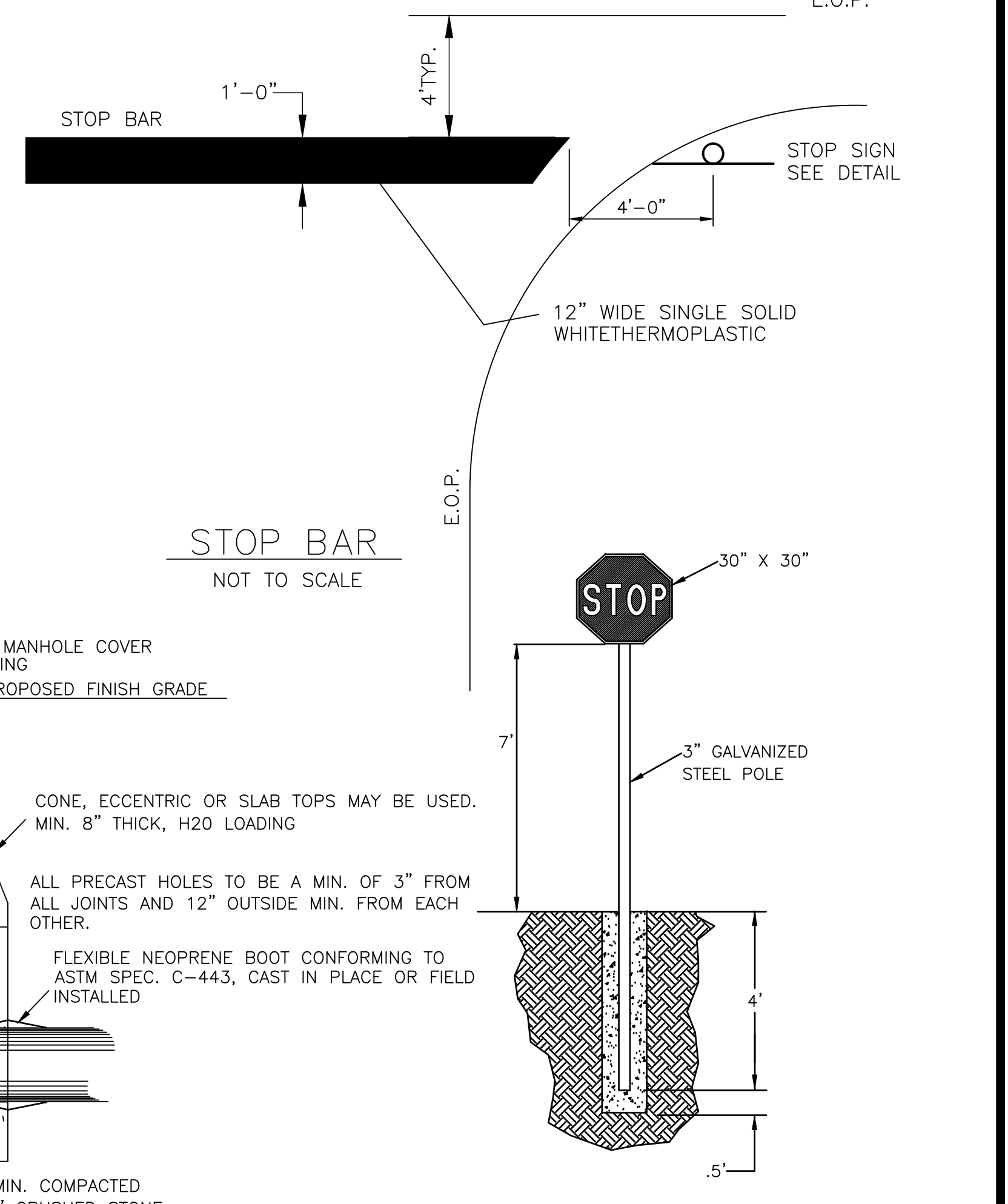
HDPE FLARED END SECTION



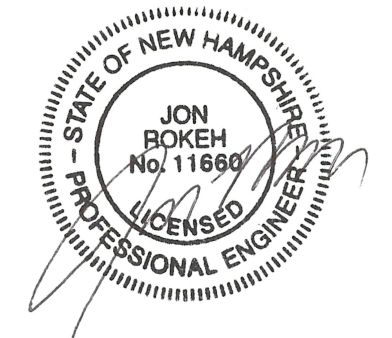
DRAIN MANHOLE



UTILITIES TRENCH
(NOT TO SCALE)



STOP SIGN R1-1
(NOT TO SCALE)



PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

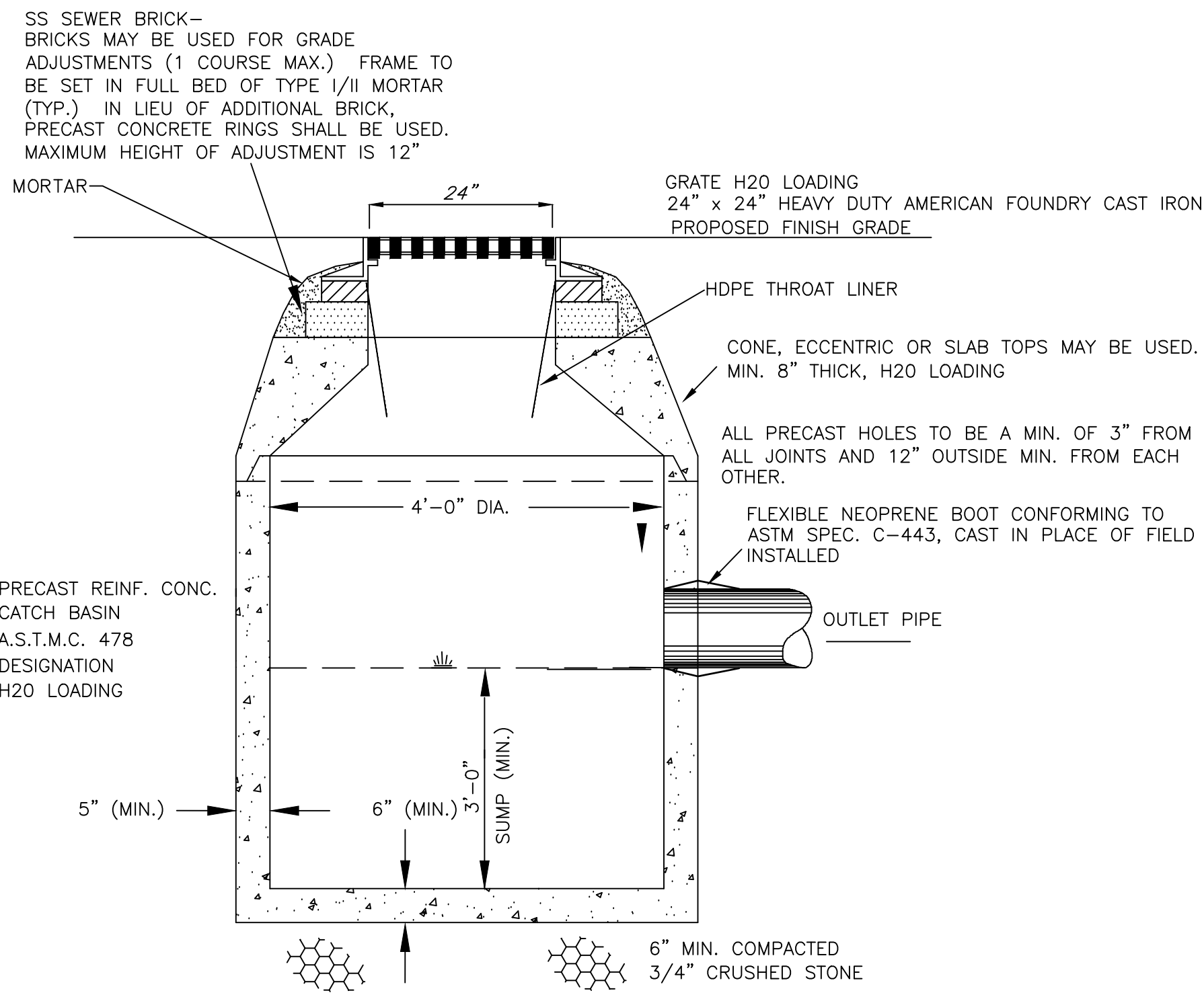
CONSTRUCTION DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

REVISIONS

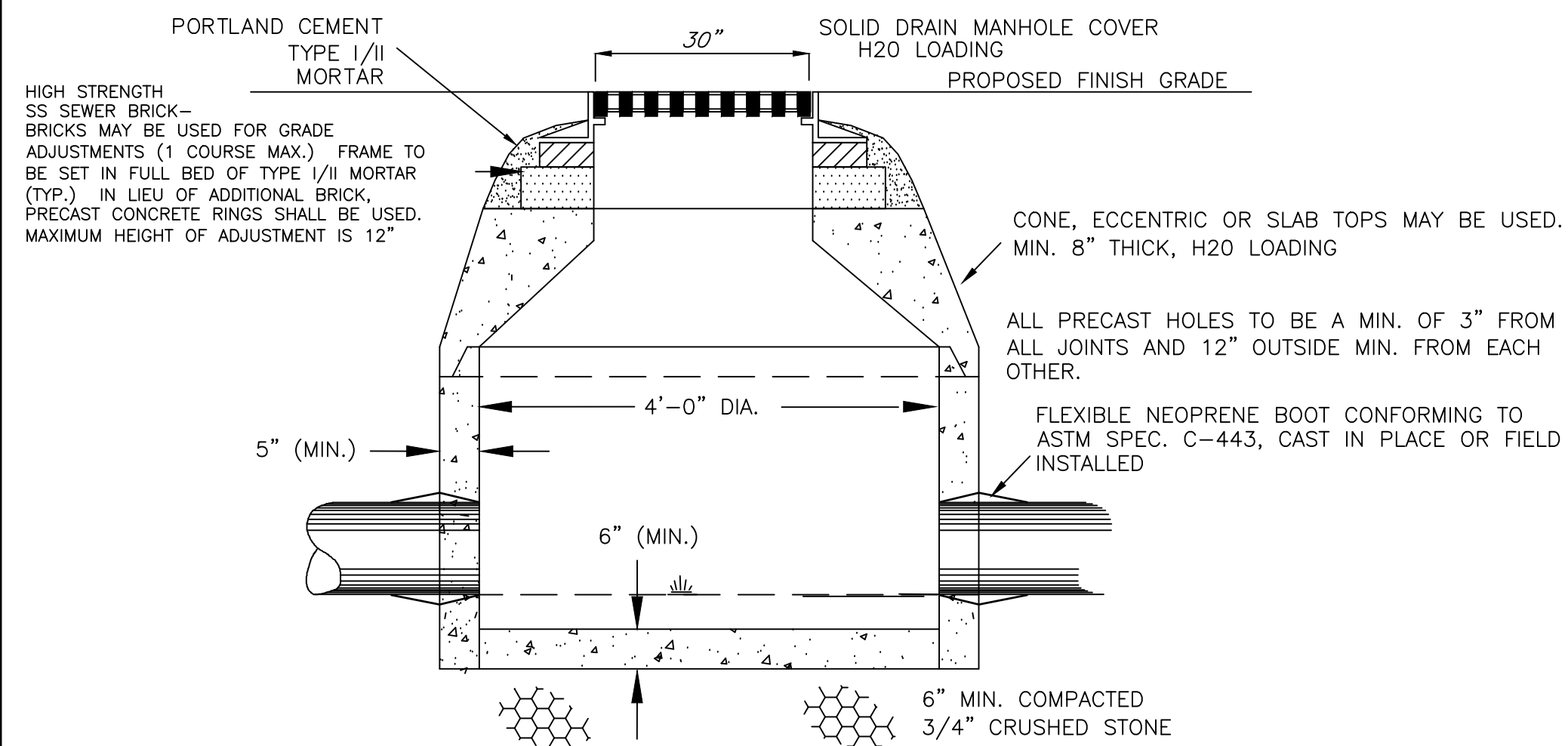
DATE	DESCRIPTION	DWN BY	CK BY

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

SCALE: NTS
DATE: JULY 7, 2020
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SHEET
8 of 19

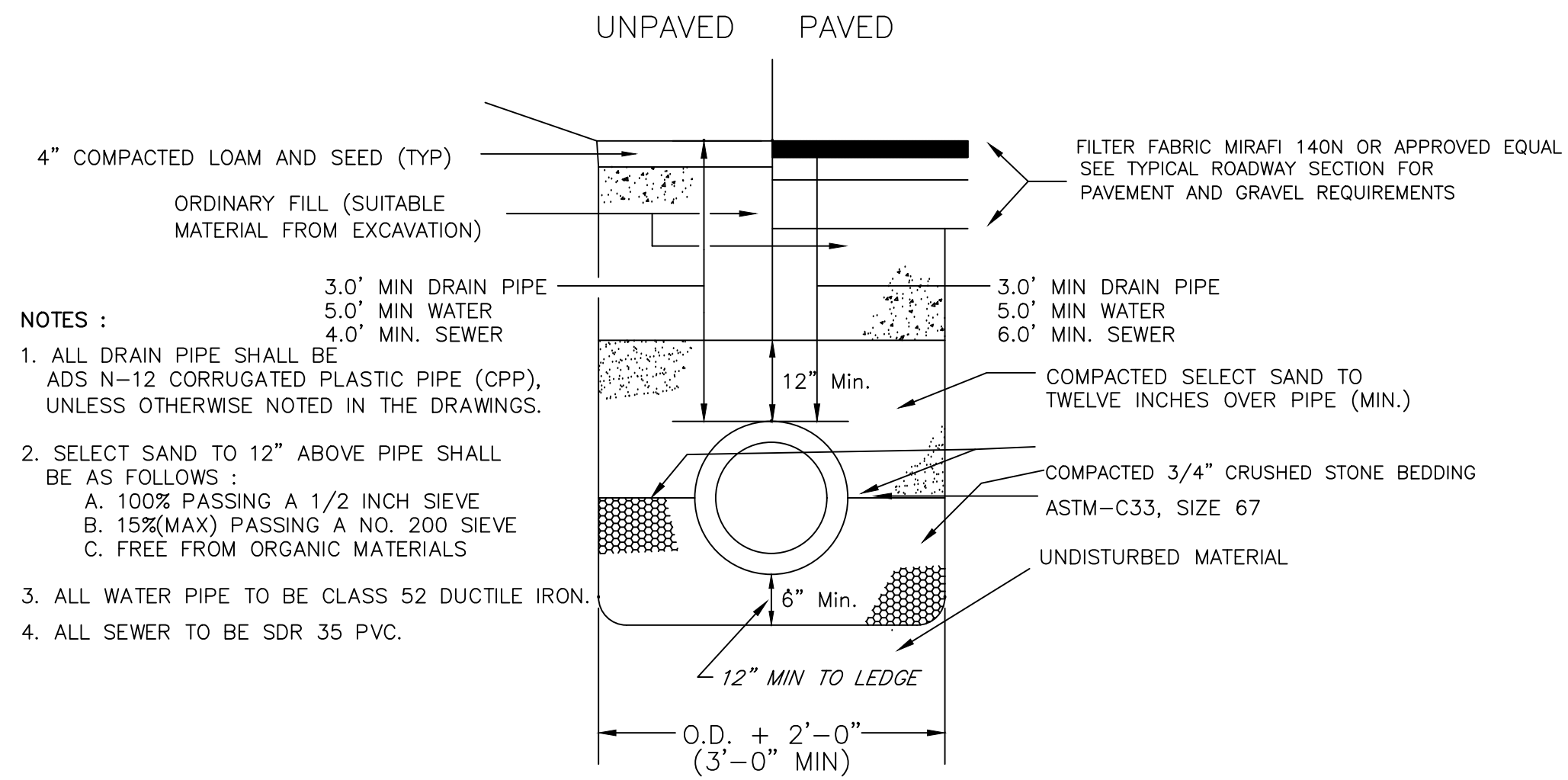


TYPICAL PRECAST CONCRETE CATCH BASIN DETAIL

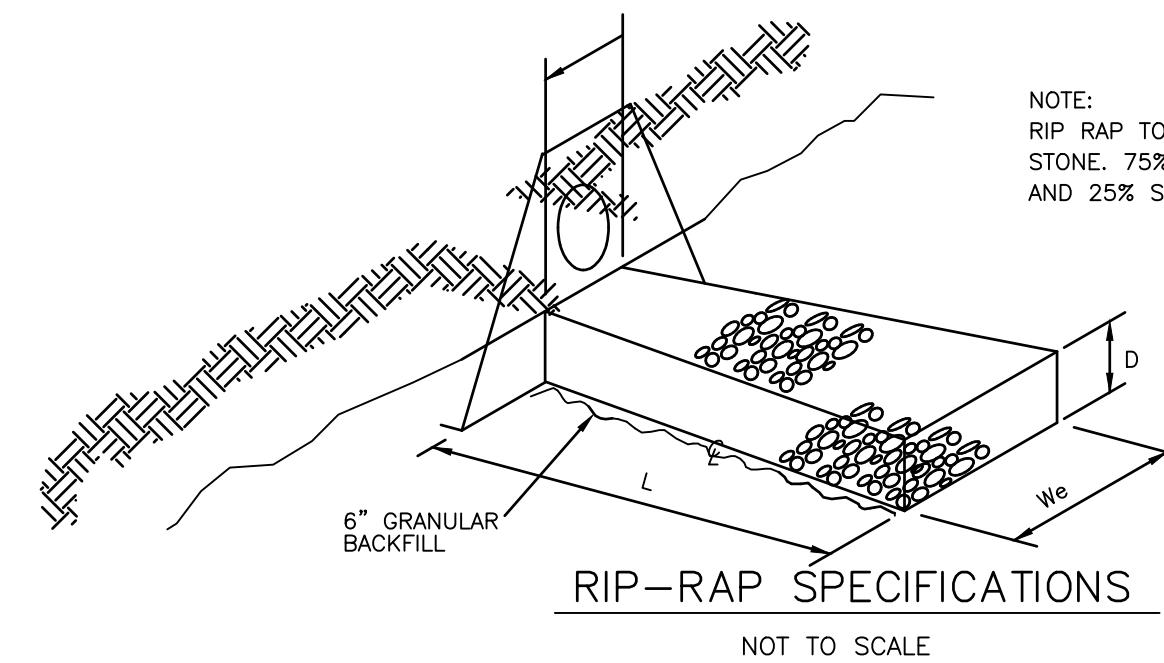


DRAIN MANHOLE

FORBAY SECTION

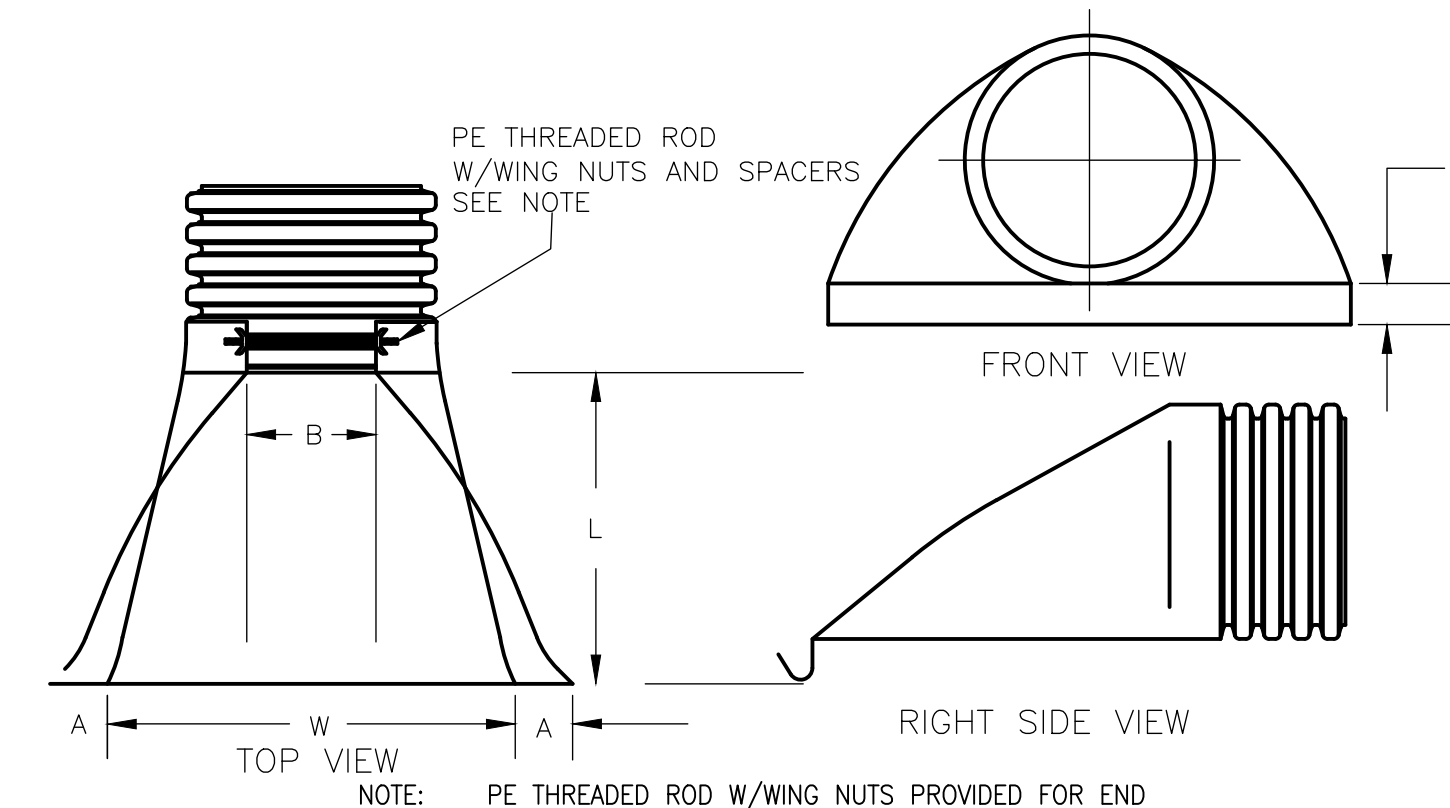


TYPICAL SEWER/ DRAIN PIPE TRENCH (NOT TO SCALE)

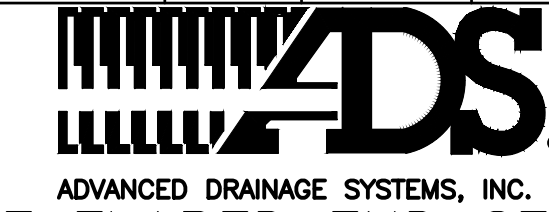


% OF PASSING	REQUIRED RIPRAP GRADATION FOR D50 SELECTED	THICKNESS (D)
100	18" TO 24"	1.5x(D-50 MAX)
85	15.6" TO 21.6"	
50	12" TO 18"	
15	9.6" TO 15.6"	

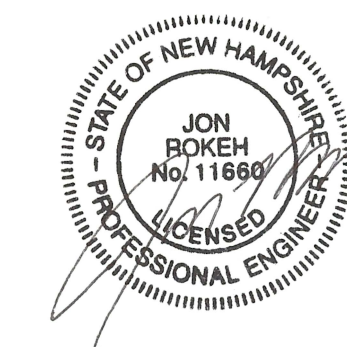
DESCRIPTION	LENGTH L	INVERT WIDTH Wi	END WIDTH We	STONE FILL	DEPTH OF STONE- D
FES 1	17'	6'	19'	17"	3'



PART #	PIPE SIZE	A	B (MAX)	H	L
1210NP	12 IN	6.50 IN	10.00 IN	6.50 IN	25.00 IN
1510NP	15 IN	6.50 IN	10.00 IN	6.50 IN	25.00 IN
1810NP	18 IN	7.50 IN	15.00 IN	6.50 IN	32.00 IN
2410NP	24 IN	7.50 IN	18.00 IN	6.50 IN	36.00 IN
3015NP	30 IN	7.50 IN	12.00 IN	8.60 IN	58.00 IN
3615NP	36 IN	7.50 IN	25.00 IN	8.60 IN	58.00 IN



HDPE FLARED END SECTION



PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

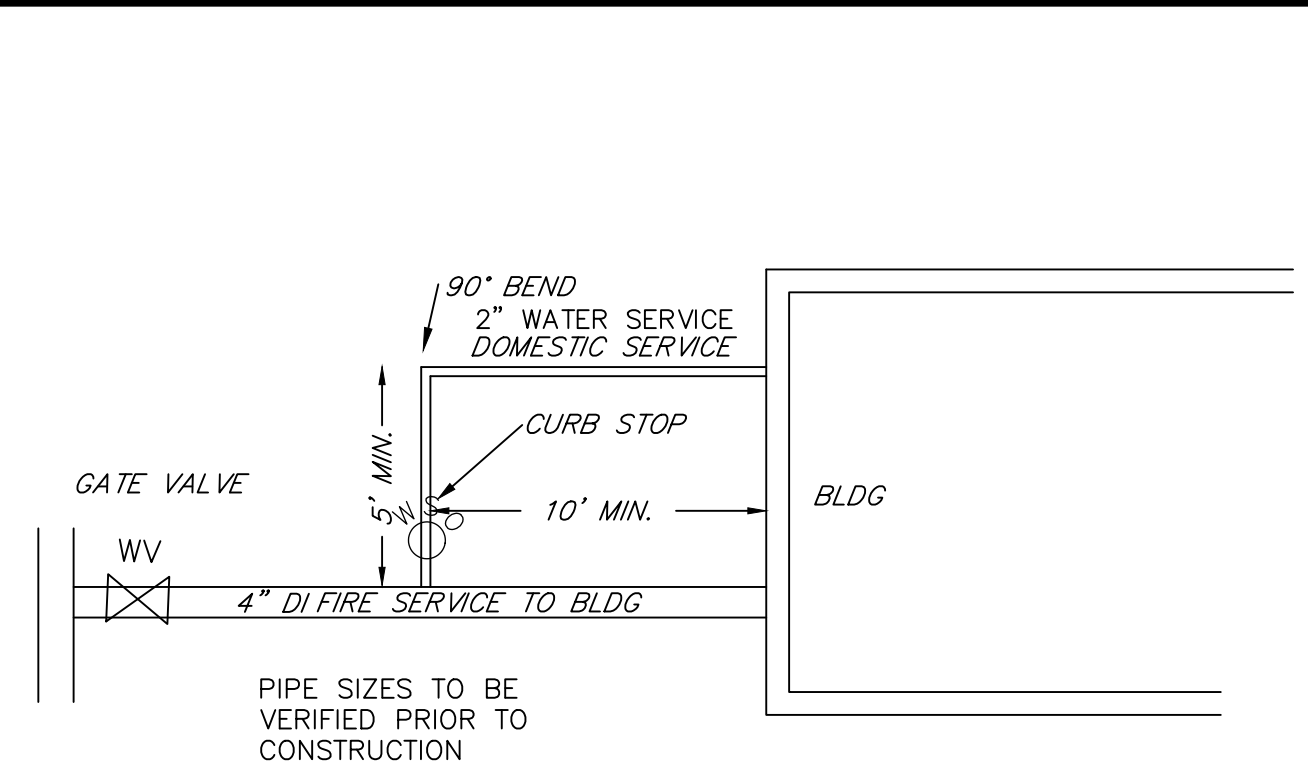
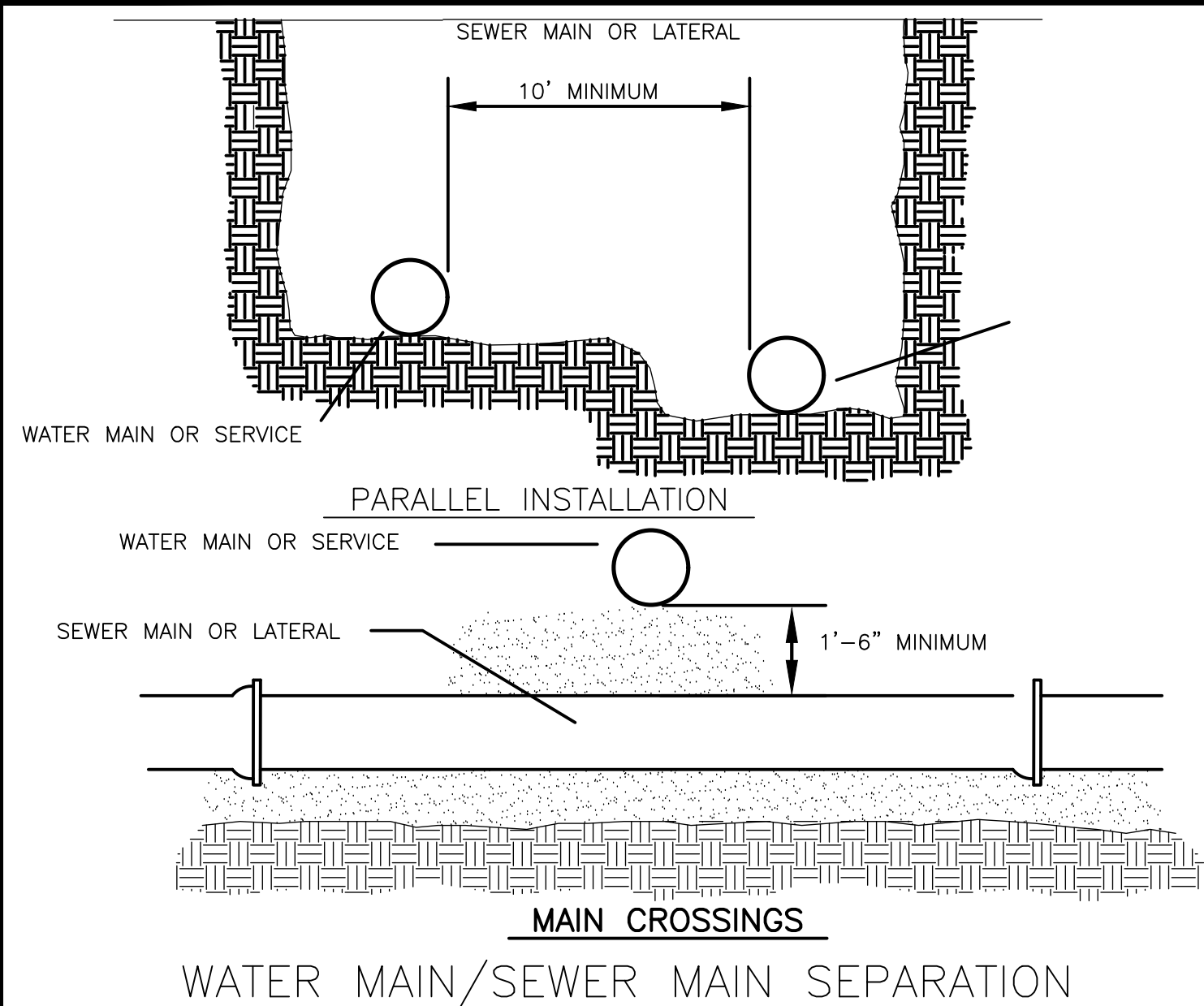
CONSTRUCTION DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

REVISIONS			
DATE	DESCRIPTION	DWN BY	CK BY

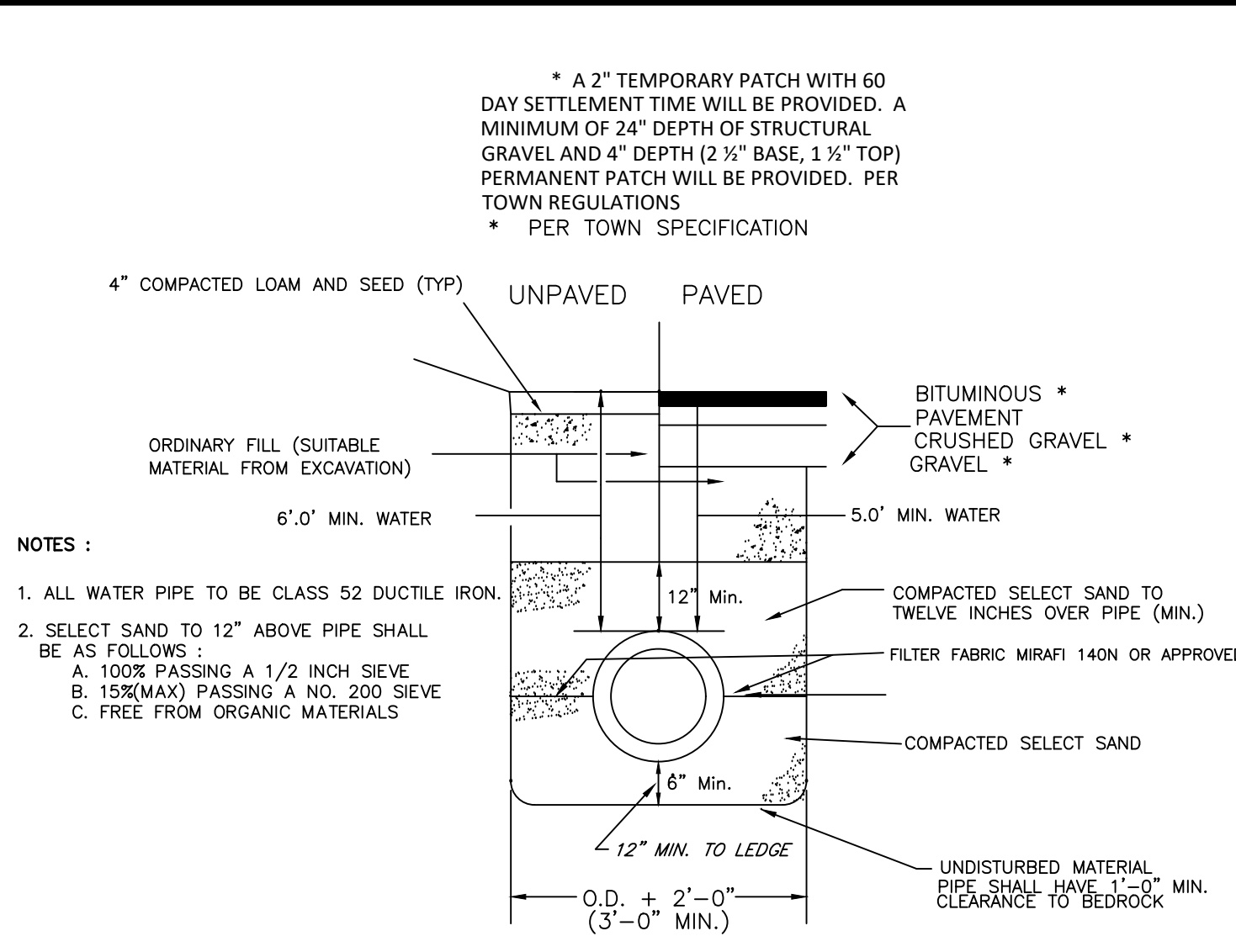
Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

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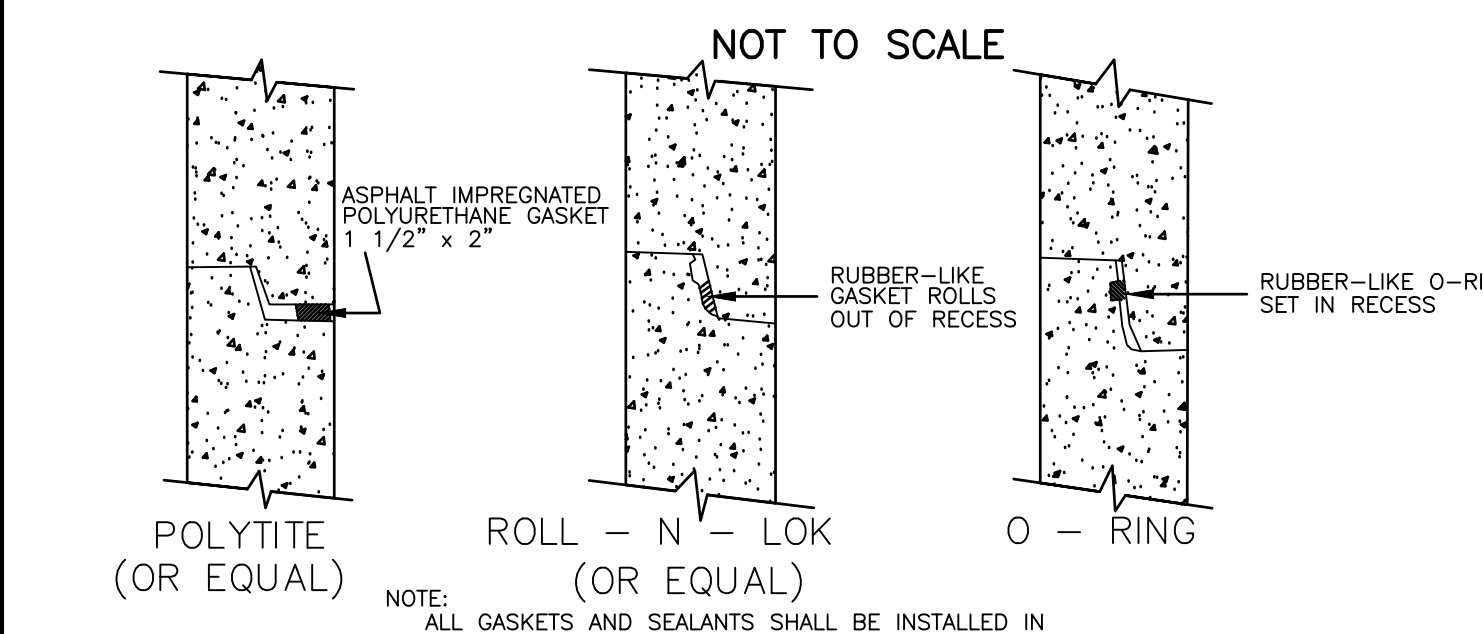
SHEET
9 of 19



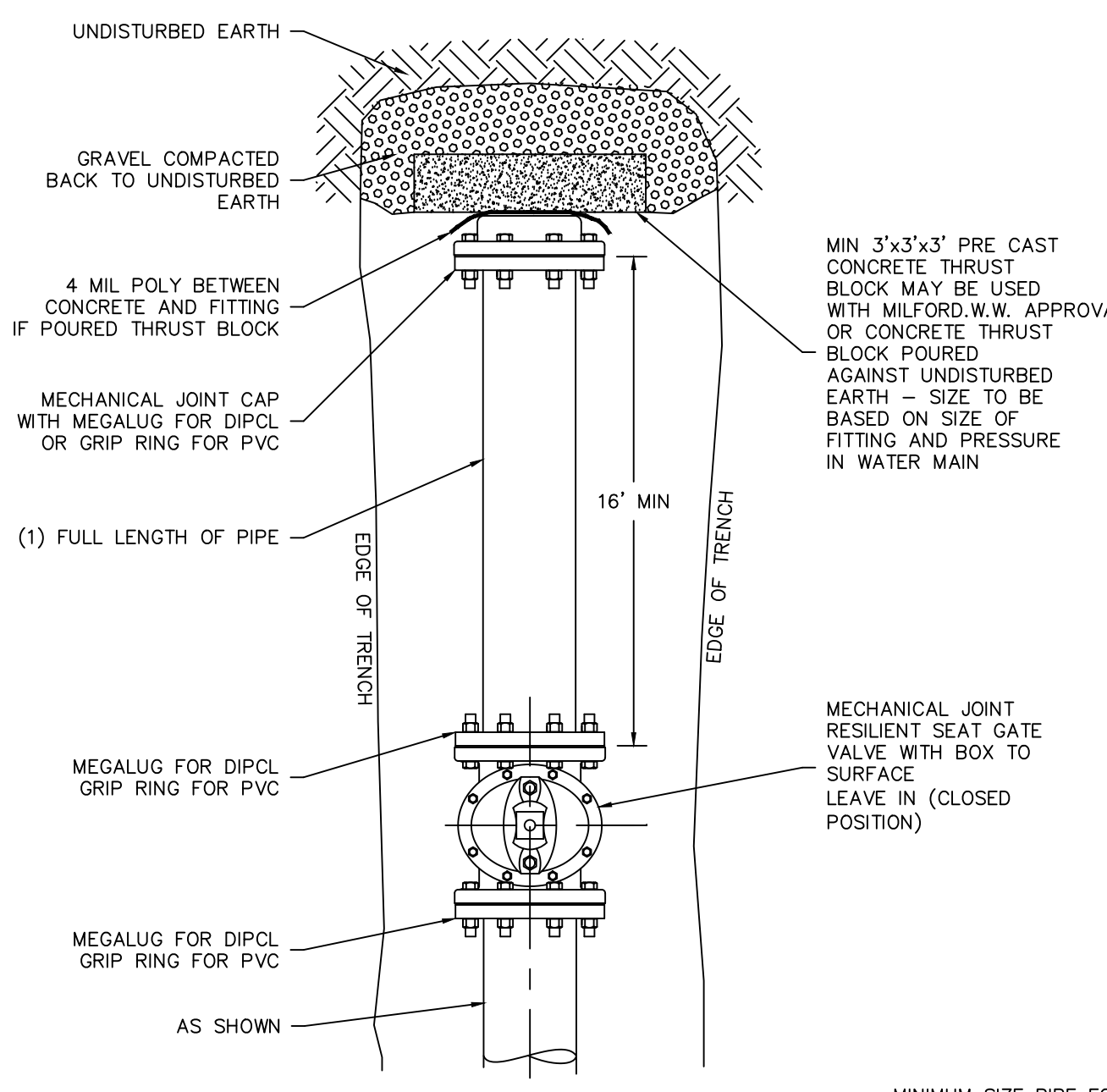
TYPICAL DOMESTIC SERVICE AND FIRE SERVICE



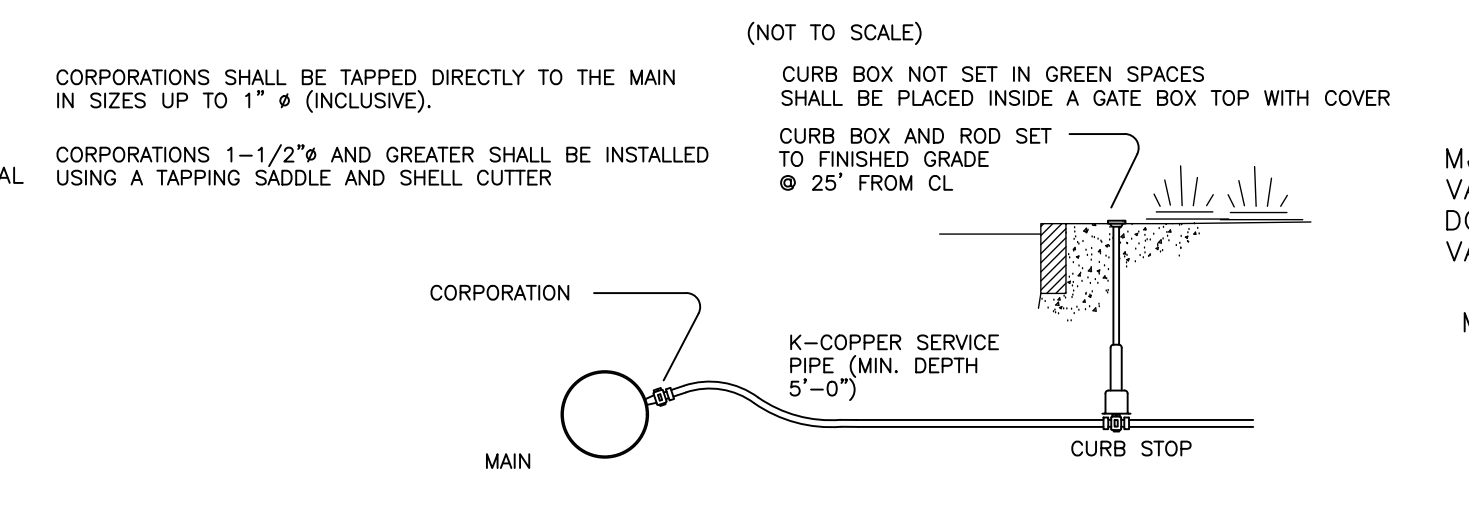
TYPICAL WATER TRENCH



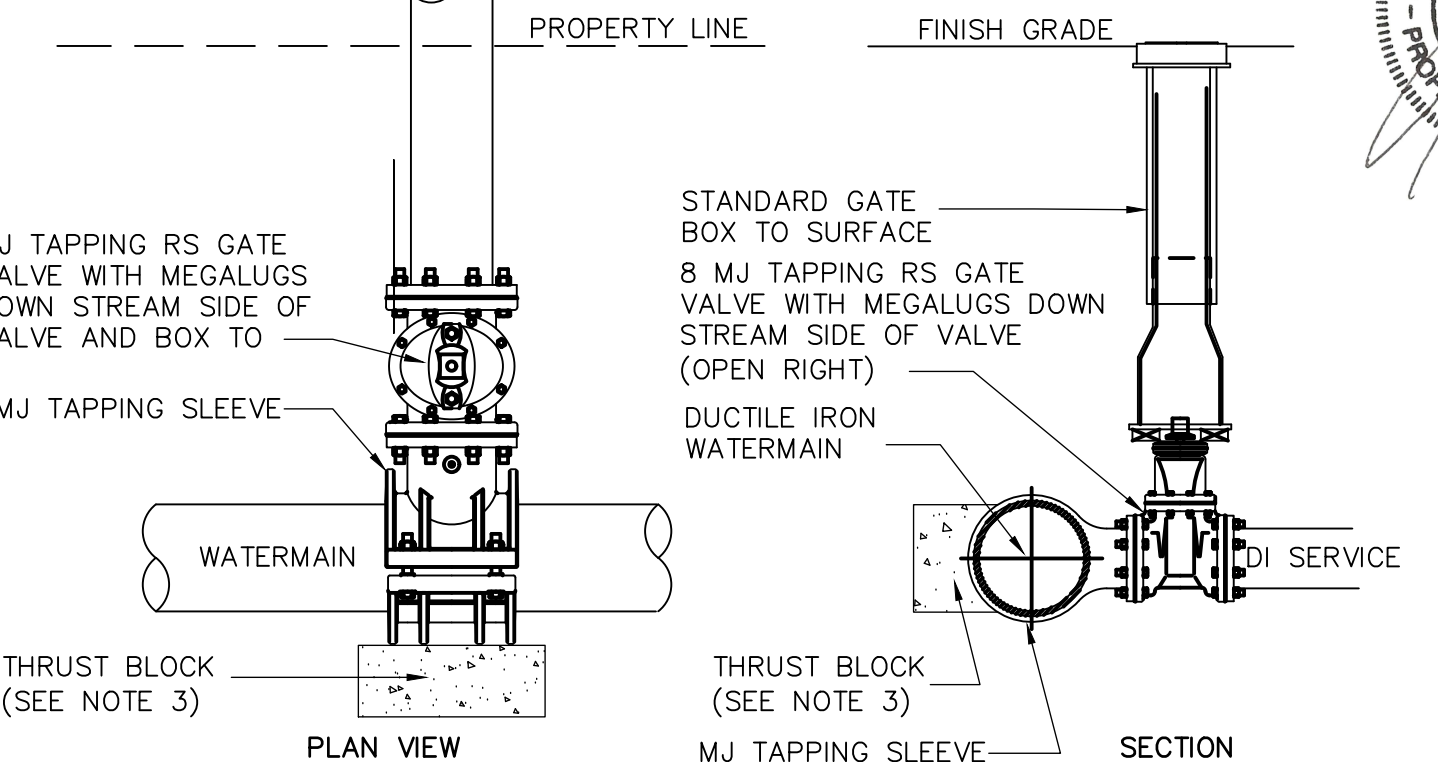
WATER MAIN/SEWER MAIN SEPARATION



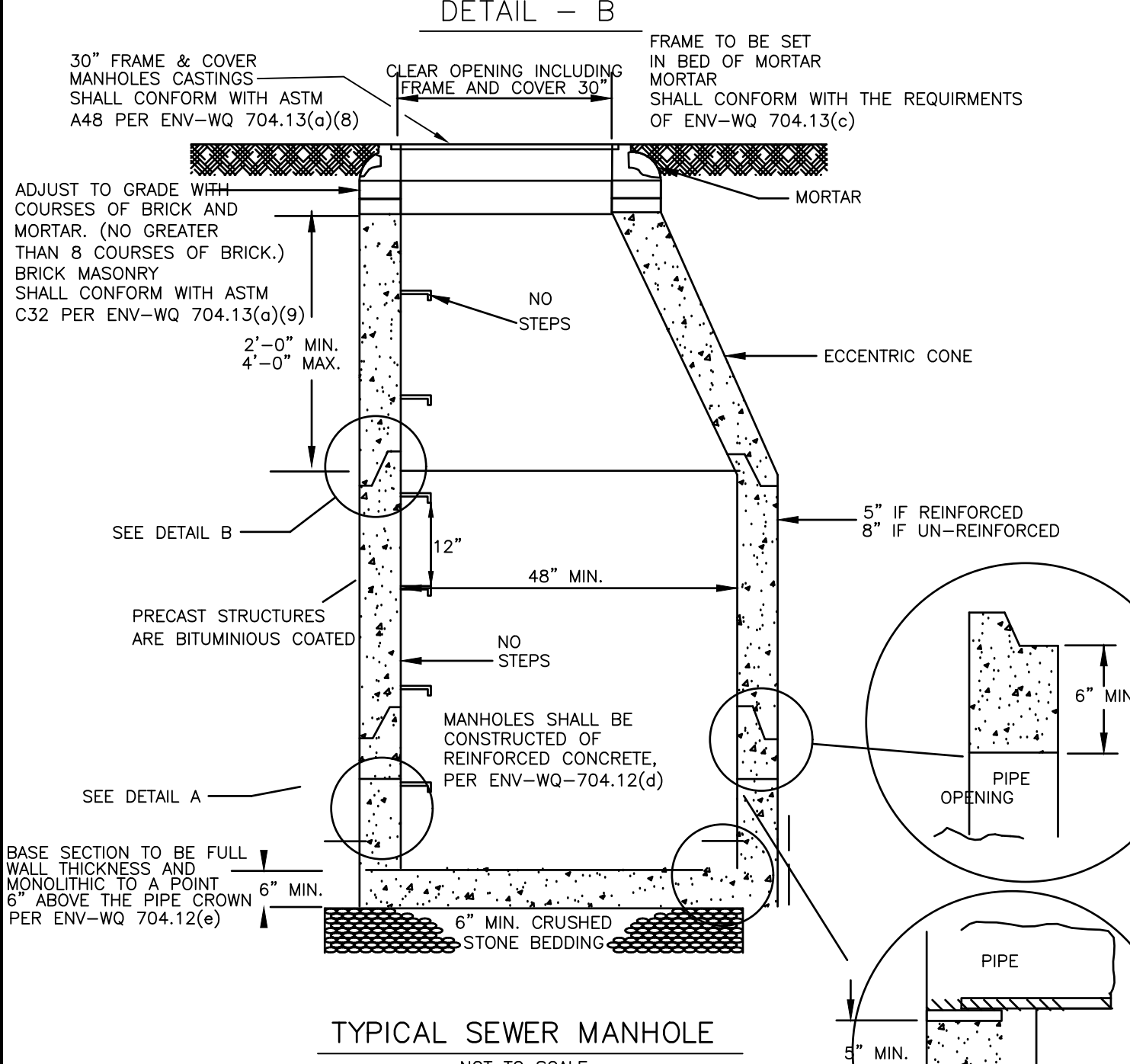
TYPICAL END OF MAIN INSTALLATION



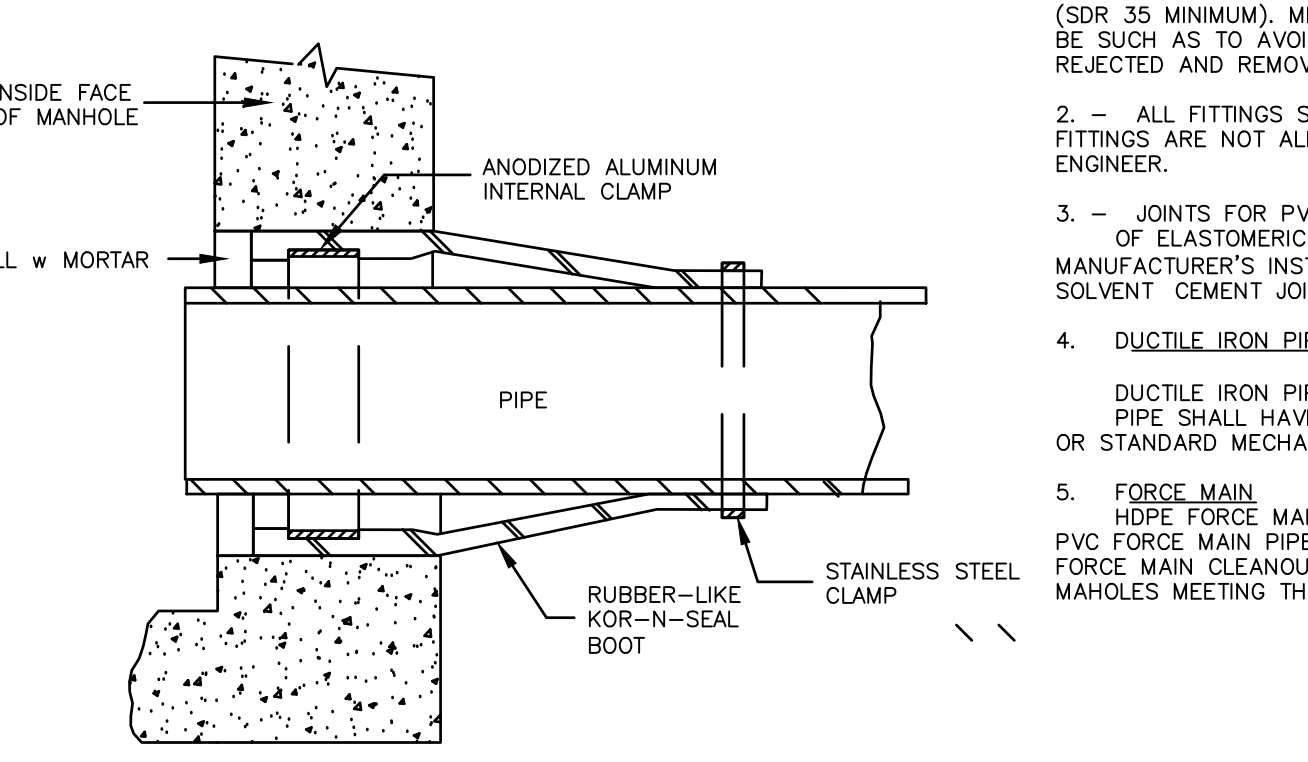
TYPICAL DOMESTIC SERVICE CONNECTION



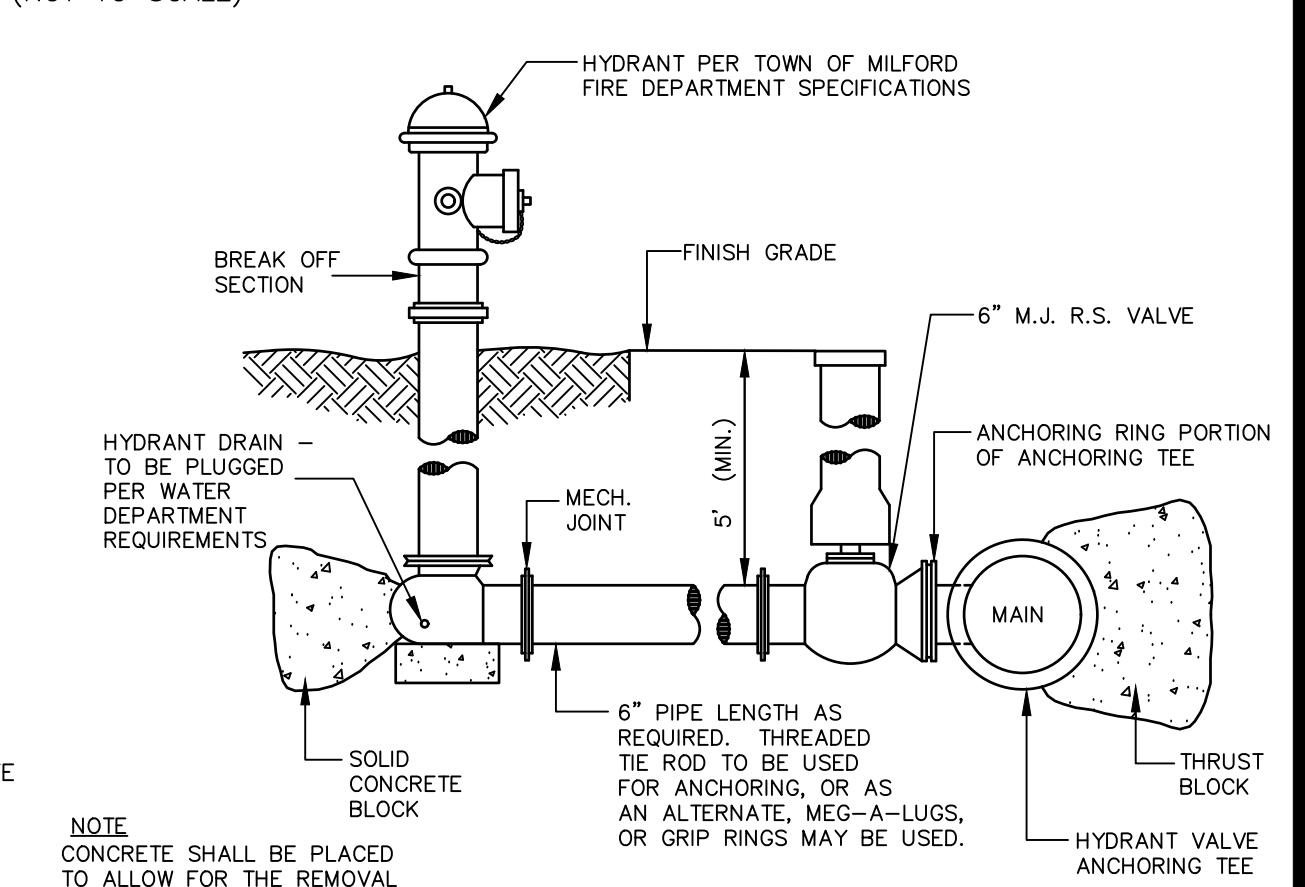
WET TAP TEE INSTALLATION



TYPICAL SEWER MANHOLE



TYPICAL THRUST BLOCK DETAILS



HYDRANT INSTALLATION DETAIL

- MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE SIX INCHES.
- PIPE AND JOINT MATERIALS
- PLASTIC PIPE: PVC SEWER PIPE AND FITTINGS SHALL CONFORM TO ASTM D2412 (SDR 35 MINIMUM). METHODS OF SHIPPING AND STORAGE ON SITE SHALL BE SUCH AS TO AVOID INJURY TO THE PIPE. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
 - ALL FITTINGS SHALL BE INJECTION MOLDED FITTINGS. FABRICATED FITTINGS ARE NOT ALLOWED EXCEPT AS PERMITTED BY THE TOWN ENGINEER.
 - JOINTS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212. MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION SHALL BE FOLLOWED. SOLVENT CEMENT JOINTS SHALL NOT BE PERMITTED.
 - DUCTILE IRON PIPE: DUCTILE IRON PIPE SHALL CONFORM TO AWWA C151/A21.50 & A21.51. PIPE SHALL HAVE EITHER THE RUBBER-RING TYPE, PUSH-ON JOINT, OR STANDARD MECHANICAL JOINT.
 - FORCE MAIN: HDPE FORCE MAIN SEWER PIPE SHALL CONFORM WITH ASTM D3035. PVC FORCE MAIN PIPE SHALL CONFORM WITH ASTM D2241 OR ASTM D1785. FORCE MAIN CLEANOUT VALVES AND FITTINGS SHALL BE INSTALLED IN MAHOLES MEETING THE REQUIREMENTS OF ENV-WQ 704.12 TO 704.17.

AxB = BEARING AREA		MINIMUM THRUST BLOCK BEARING AREA REQ'D. AGAINST UNDISTURBED MATERIAL (S.F.)	
PIPE SIZE	90° BEND	TEE	45° BEND
16"	28	22	20
12"	16	14	11
8"	7	6	5
6"	5	4	3

- NOTE:
- ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO D.P.W. TECHNICAL SPECIFICATIONS.
 - ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5' FROM TOP OF PIPE TO FINISH GRADE.
 - MIN 2'x2'x4' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH D.P.W. APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH - SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATERMAIN.

NOTES:
ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO MILFORD W.W. TECHNICAL SPECIFICATIONS. MAHOLES SHALL MEET THE REQUIREMENTS OF ENV-WQ 704.12 TO 704.17.

REFERENCE: "STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWERAGE AND WASTE WATER TREATMENT FACILITIES", DEPT OF ENVIRONMENTAL SERVICES.



PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

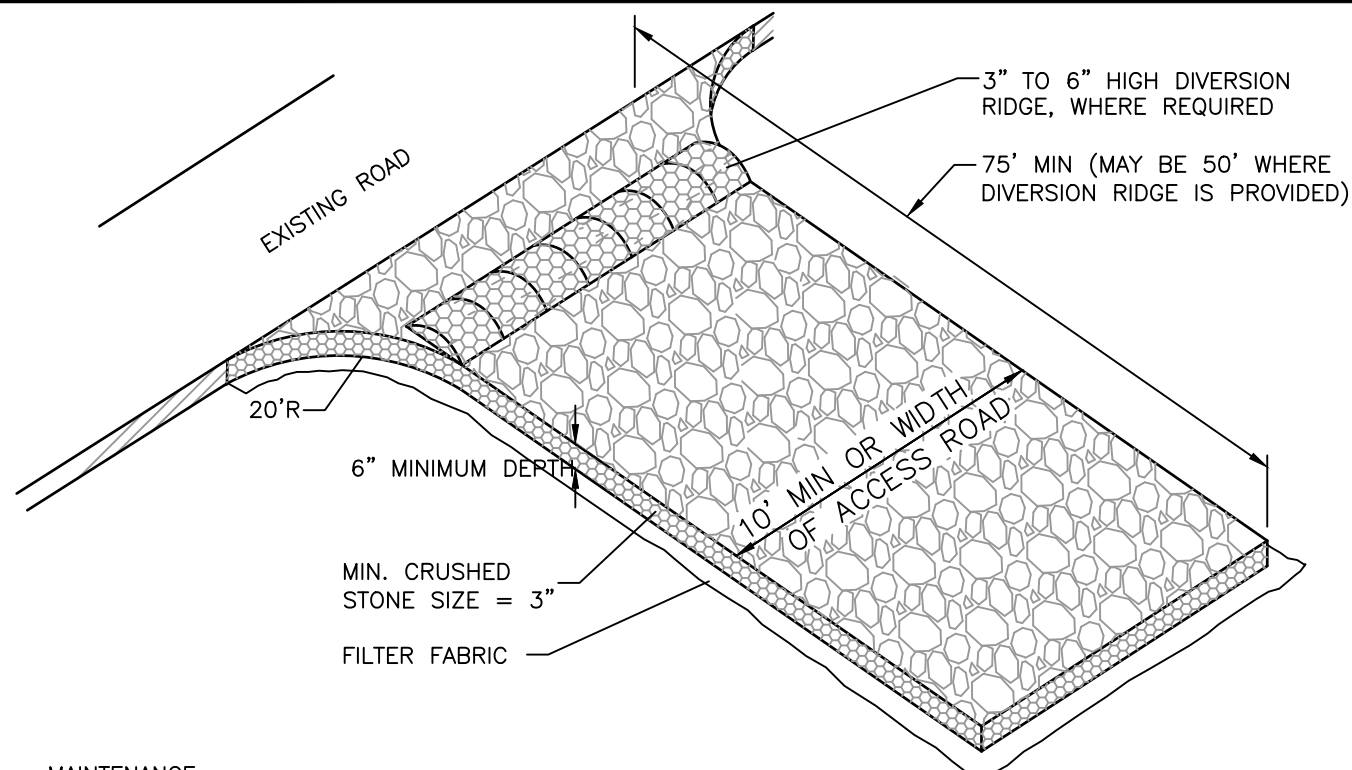
CONSTRUCTION DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

SCALE: NTS
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.
SHEET
10 of 19



MAINTENANCE

1. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHALL THEN BE RECONSTRUCTED.

2. THE CONTRACTOR SHALL SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.

3. WHEN WHEEL WASHING IS REQUIRED, IT SHALL BE CONDUCTED ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

CONSTRUCTION SPECIFICATIONS

4. ONLY CONSTRUCTION TRAFFIC LEAVING THE SITE IS REQUIRED TO USE THE TEMPORARY STABILIZED EXIT. CONSIDER PROVIDING A SEPARATE, UNPROTECTED, ENTRANCE FOR TRAFFIC ENTERING THE SITE. THIS WILL INCREASE THE LONGEVITY OF THE STABILIZED EXIT BY ELIMINATING HEAVY LOADS ENTERING THE SITE AND REDUCING THE TOTAL TRAFFIC OVER THE DEVICE.

5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR MAINTENANCE OF ANY MEASURES USED TO TRAP SEDIMENT.

6. STONE FOR A TEMPORARY CONSTRUCTION EXIT SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.

7. THE MINIMUM LENGTH OF THE PAD SHALL BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH HIGH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.

8. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.

9. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE EXIT OR 10 FEET, WHICH EVER IS GREATER.

10. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.

11. ALL FLOWING WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.

TEMPORARY CONSTRUCTION EXIT
NOT TO SCALE

CONSTRUCTION SEQUENCES:

NOTE: - ALL EROSION CONTROLS TO BE INSPECTED WEEKLY AND AFTER EVERY .5" OF RAINFALL.

- ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

- PRIOR TO CONSTRUCTION INSTALL FABRIC SILTATION FENCING AS SHOWN ON PLAN. CONSTRUCT TEMPORARY STABILIZED ENTRANCE, AND INSTALL OTHER APPROPRIATE SEDIMENT AND EROSION CONTROL.
- COMPLETE TEMPORARY SEDIMENT BASINS AT INLET LOCATIONS. CONSTRUCT BERMS AND SWALES TO DIRECT STORMWATER TO BASINS. SEDIMENT MUST BE REMOVED TO THE DESIGN GRADE OF THE BASIN UPON COMPLETION OF CONSTRUCTION.
- ALLOW FOR VEGETATION STABILIZATION TO OCCUR WITHIN THE SWALES PRIOR TO DIRECTING STORM WATER INTO THE
 - A.) BASE COURSE GRAVELS HAVE BEEN 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.
- CUT AND CLEAR ALL VEGETATION AND STUMPS FROM AREAS TO BE DISTURBED FOR THE CONSTRUCTION OF THE PROPOSED ROADWAY
- REMOVE TOPSOIL AND OTHER ORGANIC MATERIALS FROM AREAS TO BE DISTURBED. ALL SUCH TOPSOIL REMOVED SHALL BE STOCKPILED FOR LATER USE. ALL STOCKPILES SHALL BE SEEDED AND MULCHED TO PREVENT LOSS DUE TO EROSION, AND ENCLOSED WITH FABRIC SILT FENCE. WHEN CONSTRUCTION ACTIVITIES ARE TEMPORARILY CEASED FOR MORE THAN 21 DAYS, PERMANENTLY CEASED, OR SHUT DOWN FOR WINTER, THE CONTRACTOR SHALL LEAVE NO SLOPES STEEPER THAN 3:1 AND SHALL IMPLEMENT TEMPORARY LOAMING, SEEDING AND MULCHING. WHERE CONSTRUCTION ACTIVITIES HAVE BEEN SUSPENDED OUTSIDE THE GROWING SEASON ALL EXPOSED SOIL SHALL BE STABILIZED BY MULCHING, AND ALL SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NETTING & PINNING.
- CONSTRUCT, CUT, AND FILL SLOPES. ALL CUT AND FILL SLOPES TO BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION. ALL SLOPES GREATER THAN 3:1 TO BE STABILIZED WITH JUTE MATTING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
- CONSTRUCT STORM DRAINAGE, AND OTHER UNDERGROUND UTILITIES. ALL SWALES TO BE PROTECTED WITH TEMPORARY EROSION CONTROL MEASURES SHOWN. ALL CATCH BASIN OPENINGS TO BE PROTECTED WITH BLOCK AND GRAVEL INLET SEDIMENT FILTERS AS SHOWN. SEDIMENT TRAPS AND/OR BASINS SHOULD BE USED UNTIL BASINS/PONDS ARE STABILIZED.
- BEGIN TOP SOILING, SEEDING AND MULCHING IMMEDIATELY AFTER COMPLETION OF EMBANKMENTS. TEMPORARY EROSION CONTROL / DIVERSION CHANNELS SHALL BE IMPLEMENTED WHERE REQUIRED TO PREVENT EROSION OF EMBANKMENTS. ANY EROSION OCCURRING SHALL BE REPAIRED IMMEDIATELY UPON DISCOVERY.
- FINISH GRADING & PAVING. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADES.
- ALL PAVED AREAS TO BE COMPLETED BY OCTOBER 15. ALL LANDSCAPED AREAS TO BE STABILIZED BY OCTOBER 15TH, WITH HAY MULCH AND SEED.
- COMPLETE PERMANENT SEEDING AND MULCHING OF ALL DISTURBED AREAS. ALL TEMPORARY EROSION CONTROL MEASURES TO REMAIN IN PLACE UNTIL A FULL VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL DISTURBED AREAS.
- SILT FENCES AND HAY BALE BARRIERS TO BE REMOVED ONCE THE SITE HAS STABILIZED.

MAINTENANCE REQUIREMENTS

1. TEMPORARY SEEDING SHALL BE INSPECTED WEEKLY AND AFTER ANY RAINFALL EXCEEDING 1/4 INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHALL ALSO BE INSPECTED JUST PRIOR TO SEPTEMBER 15, TO ASCERTAIN WHETHER ADDITIONAL SEEDING IS REQUIRED TO PROVIDE STABILIZATION OVER THE WINTER PERIOD.

2. BASED ON INSPECTION, AREAS SHALL BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS. IF IT IS TOO LATE IN THE PLANTING SEASON TO APPLY ADDITIONAL SEED, THEN OTHER TEMPORARY STABILIZATION MEASURES SHALL BE IMPLEMENTED

3. AT A MINIMUM, 85% OF THE SOIL SURFACE SHALL BE COVERED BY VEGETATION.

4. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND AREAS SHALL BE RESEEDED, WITH OTHER TEMPORARY MEASURES (E.G., MULCH) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

SPECIFICATIONS

SITE PREPARATION:

5. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.

6. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.

7. RUNOFF SHALL BE DIVERTED FROM THE SEEDED AREA.

8. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHALL INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

9. STONES AND TRASH SHALL BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.

10. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.

11. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON.

- APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER1 (N-P205-K20) OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET).

- FERTILIZER SHALL BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE2 NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHALL BE APPLIED WITHIN 25 FEET OF A SURFACE WATER BODY. THESE LIMITATIONS ARE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:

12. SELECT SEED FROM RECOMMENDATIONS IN TABLE 4-1.

13. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTHS FROM 1/4 TO 3/8 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10 % WHEN HYDROSEEDING.

14. TEMPORARY SEEDING SHALL TYPICALLY OCCUR PRIOR TO SEPTEMBER 15TH.

15. AREAS SEEDED BETWEEN MAY 15TH AND AUGUST 15TH SHALL BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.

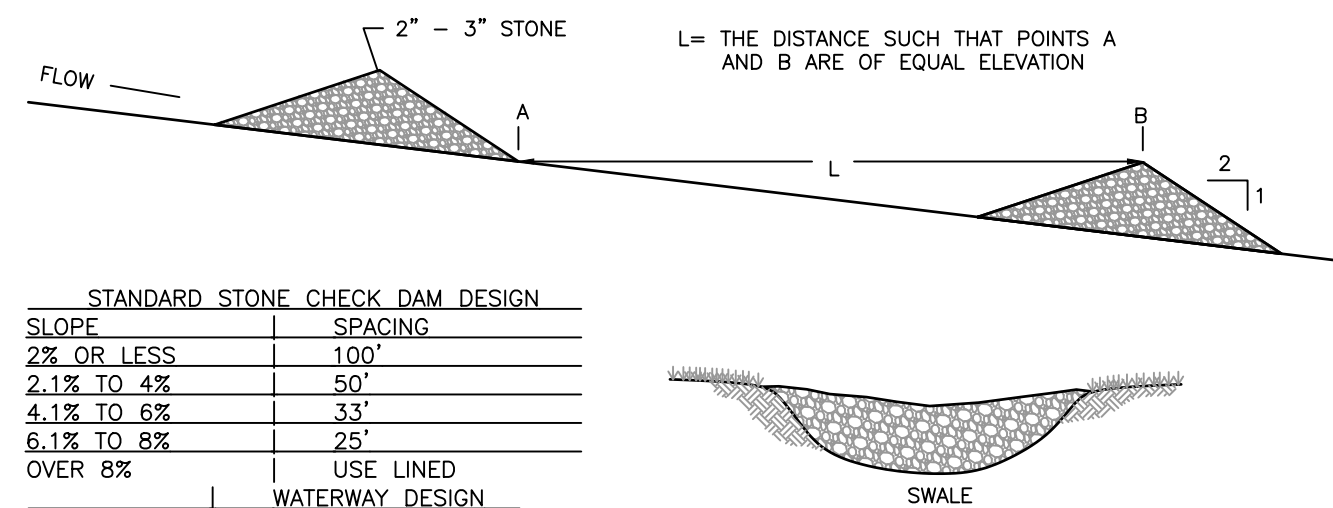
16. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

TABLE 4-1. SEEDING RECOMMENDATIONS FOR TEMPORARY VEGETATION

SPECIES	PER ACRE BUSHELS (BU) OR POUNDS (LBS)	PER 1,000 FT2	REMARKS
WINTER RYE	2 BU. OR 112 LBS.	2.5	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	2.5 BU. OR 80 LBS.	2.5	BEST FOR SPRING SEEDINGS. SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS	40 LBS.	1 LB.	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. COVER THE SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS	30 LBS.	0.7 LB.	GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL RYEGRASS. SEED BETWEEN APRIL 1 AND LINE 1 AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. MULCHING WILL ALLOW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.

TEMPORARY VEGETATION

- REMOVE ACCUMULATIONS OF SEDIMENT FROM DRAINAGE STRUCTURES, TREATMENT SWALES TO BE CLEANED OUT, LOAMED & MATTED AS NECESSARY UPON COMPLETION OF PROJECT.
- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS FROM INITIAL DISTURBANCE.
- WINTER CONSTRUCTION NOTES:
 - A.) DURING WINTER CONDITIONS, THE MAXIMUM ALLOWABLE DISTURBED AREA SHALL BE 0.5 ACRES.
 - B.) ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MAXIMUM 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 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
 - C.) ALL DITCHES AND SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15th, OR WHICH ARE DISTURBED AFTER OCTOBER 15th, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
 - D.) AFTER OCTOBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER N.H.D.O.T. ITEM 304.3.
- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A.) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - B.) A MINIMUM OF 85% VEGETATIVE GROWTH HAS BEEN ESTABLISHED;
 - C.) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
 - D.) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.



SLOPE	SPACING
2% OR LESS	100'
2.1% TO 4%	50'
4.1% TO 6%	33'
6.1% TO 8%	25'
OVER 8%	USE LINED WATERWAY DESIGN

CONSIDERATIONS

1. THIS PRACTICE IS INTENDED FOR USE IN AREAS OF CONCENTRATED FLOW, BUT MUST NOT BE USED IN STREAM CHANNELS (WHETHER PERENNIAL OR INTERMITTENT).

2. THE CHECK DAM MAY BE LEFT IN PLACE PERMANENTLY TO AVOID UNNECESSARY DISTURBANCE OF THE SOIL ON REMOVAL, BUT ONLY IF THE PROJECT DESIGN HAS ACCOUNTED FOR THEIR HYDRAULIC PERFORMANCE AND CONSTRUCTION PLANS CALL FOR THEM TO BE RETAINED.

3. IF IT IS NECESSARY TO REMOVE A STONE CHECK DAM FROM A GRASSLINED CHANNEL THAT WILL BE MOWED, CARE SHALL BE TAKEN TO ENSURE THAT ALL STONES ARE REMOVED. THIS INCLUDES STONE THAT HAS WASHED DOWNSTREAM.

MAINTENANCE REQUIREMENTS

4. CHECK DAMS SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL AND NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY.

5. INSPECTIONS SHALL VERIFY THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.

6. EROSION CAUSED BY HIGH FLOWS AROUND THE EDGES OF THE DAM MUST BE CORRECTED IMMEDIATELY.

7. IF EVIDENCE OF SILTATION IN THE WATER IS APPARENT DOWNSTREAM FROM THE CHECK DAM, THE CHECK DAM SHALL BE INSPECTED AND ADJUSTED IMMEDIATELY.

8. CHECK DAMS SHALL BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH SIGNIFICANT RAINFALL. SEDIMENT SHALL BE REMOVED WHEN IT REACHES ONE HALF OF THE ORIGINAL HEIGHT OR BEFORE.

SPECIFICATIONS

9. CHECK DAMS SHALL BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.

10. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHALL BE LESS THAN ONE ACRE.

11. THE MAXIMUM HEIGHT OF THE DAM SHALL BE 2 FEET.

12. THE CENTER OF THE DAM SHALL BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES.

13. THE MAXIMUM SPACING BETWEEN THE DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE OVERFLOW ELEVATION OF THE DOWNSTREAM DAM.

14. STONE CHECK DAMS SHALL BE CONSTRUCTED OF A WELL-GRADED ANGULAR 2-INCH TO 3-INCH STONE. 3/4-INCH STONE ON THE UPGRADIENT FACE IS RECOMMENDED FOR BETTER FILTERING.

15. IF PROVIDED BY DESIGN AND CONSTRUCTION PLANS, LEAVE THE DAM IN PLACE PERMANENTLY.

16. TEMPORARY STRUCTURES SHALL BE REMOVED ONCE THE SWALE OR DITCH HAS BEEN STABILIZED:

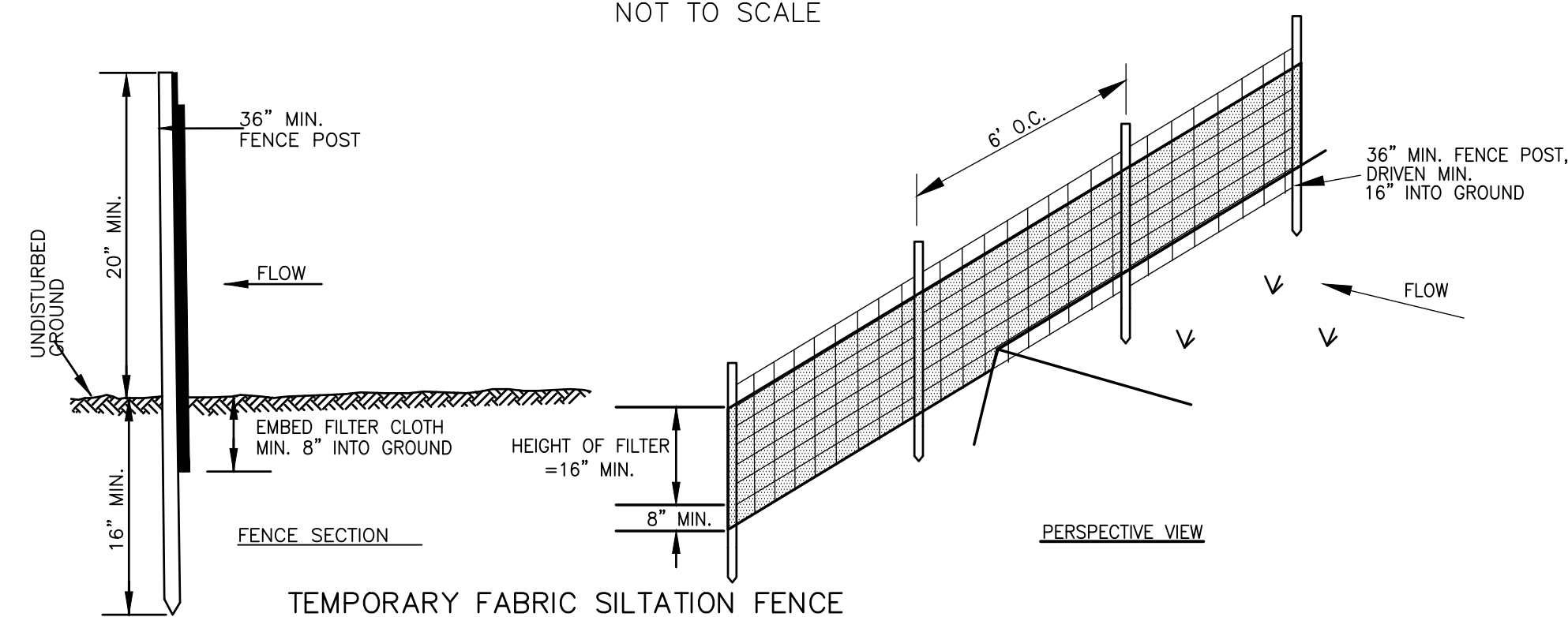
- IN TEMPORARY DITCHES AND SWALES, CHECK DAMS SHALL BE REMOVED AND THE DITCH FILLED IN WHEN IT IS NO LONGER NEEDED.
- IN PERMANENT STRUCTURES, CHECK DAMS SHALL BE REMOVED WHEN A PERMANENT LINING HAS BEEN ESTABLISHED. IF THE PERMANENT LINING IS VEGETATION, THEN THE CHECK DAM SHALL BE RETAINED UNTIL THE GRASS HAS MATURED TO PROTECT THE DITCH OR SWALE. THE AREA BENEATH THE CHECK DAM MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER REMOVAL.

TEMPORARY STONE CHECK DAMS

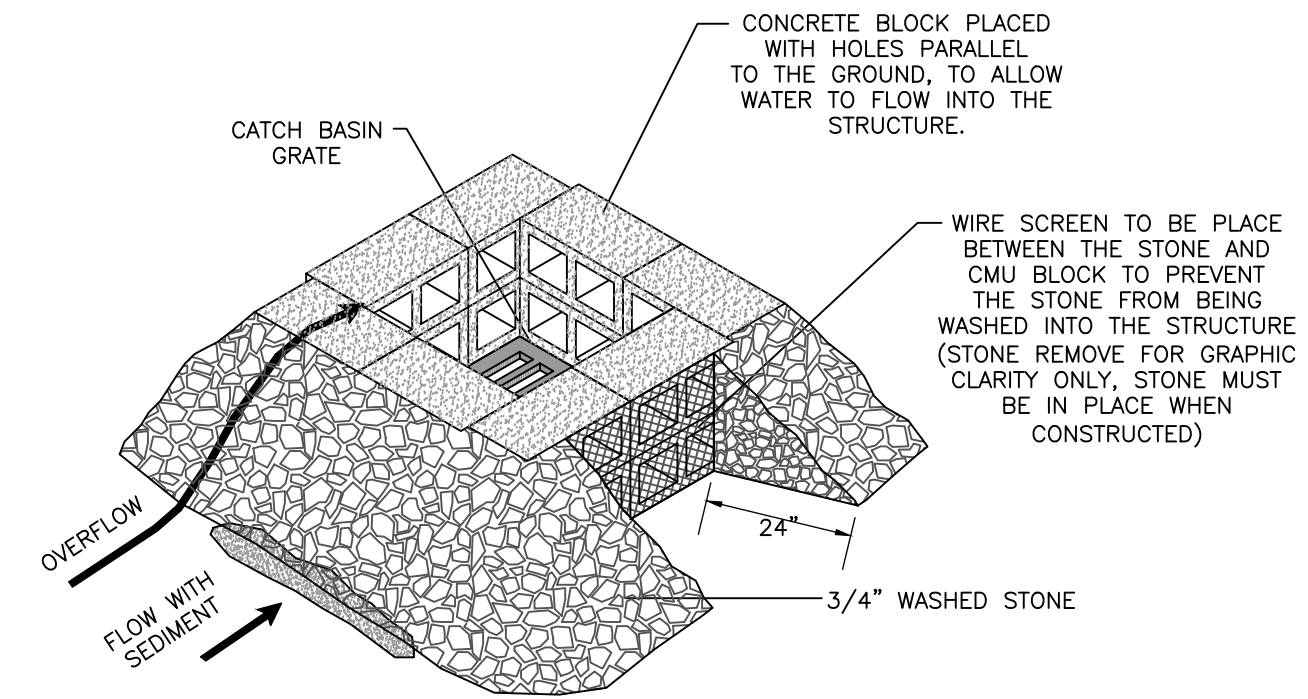
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TEMPORARY CONSTRUCTION EXIT

NOT TO SCALE



- NOTES:
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



MAINTENANCE REQUIREMENTS

1. INLET BARRIERS SHALL BE INSPECTED BEFORE AND AFTER EACH RAIN EVENT AND REPAIRED AS NEEDED.

2. SEDIMENT SHALL BE REMOVED AND THE STORM DRAIN SEDIMENT BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE BARRIER. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

3. THE BARRIERS SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

4. ALL CATCH BASINS AND STORM DRAIN INLETS MUST BE CLEANED AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED.

SPECIFICATIONS

5. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN ONE ACRE.

6. THE INLET PROTECTION DEVICE SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES.

7. ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.

8. THE BLOCKS SHALL BE PLACED LENGTHWISE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET.

9. THE BLOCK ENDS SHALL ABUT ONE ANOTHER.

10. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4-INCH, 8-INCH AND 12-INCH WIDE BLOCKS. THE BARRIER OF BLOCKS AND GRAVEL FILTER SHALL BE A MINIMUM OF 12 INCHES HIGH AND NO MORE THAN 24 INCHES HIGH.

11. A HARDWARE CLOTH OR WIRE MESH SHALL BE PLACED OVER THE OPENINGS OF THE CONCRETE BLOCKS AND EXTEND AT LEAST 12 INCHES AROUND THE OPENING TO PREVENT AGGREGATE FROM BEING TRANSPORTED THROUGH THE OPENINGS IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED.

12. THE GRAVEL FILTER SHALL BE CLEAN COARSE AGGREGATE.

13. THE GRATE SHALL BE PLACED AGAINST THE WIRE AND ALONG THE OUTSIDE EDGES OF THE BLOCKS TO THE TOP OF THE BLOCK BARRIER.

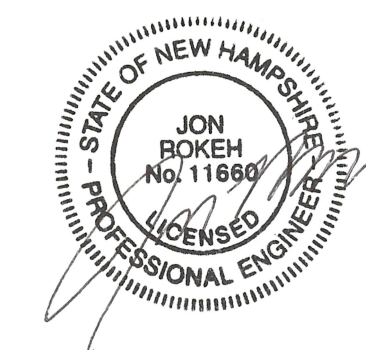
14. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND REPLACED.

MANUFACTURED SEDIMENT BARRIERS

15. MANUFACTURED SEDIMENT BARRIERS ARE NOW AVAILABLE THAT COULD BE FUNCTIONALLY EQUIVALENT TO THE BARRIERS LISTED ABOVE. THESE MEASURES ARE ACCEPTABLE AS LONG AS THEY ARE INSTALLED, USED, AND MAINTAINED AS SPECIFIED BY THE VENDOR OR MANUFACTURER, AND PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM. IF SUCH PRODUCTS FAIL TO PERFORM THE REQUIRED SEDIMENT TRAPPING FUNCTION, THEY SHALL BE REMOVED AND REPLACED WITH AN EFFECTIVE ALTERNATIVE BARRIER.

TEMPORARY STORM DRAIN INLET PROTECTION

NOT TO SCALE



PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

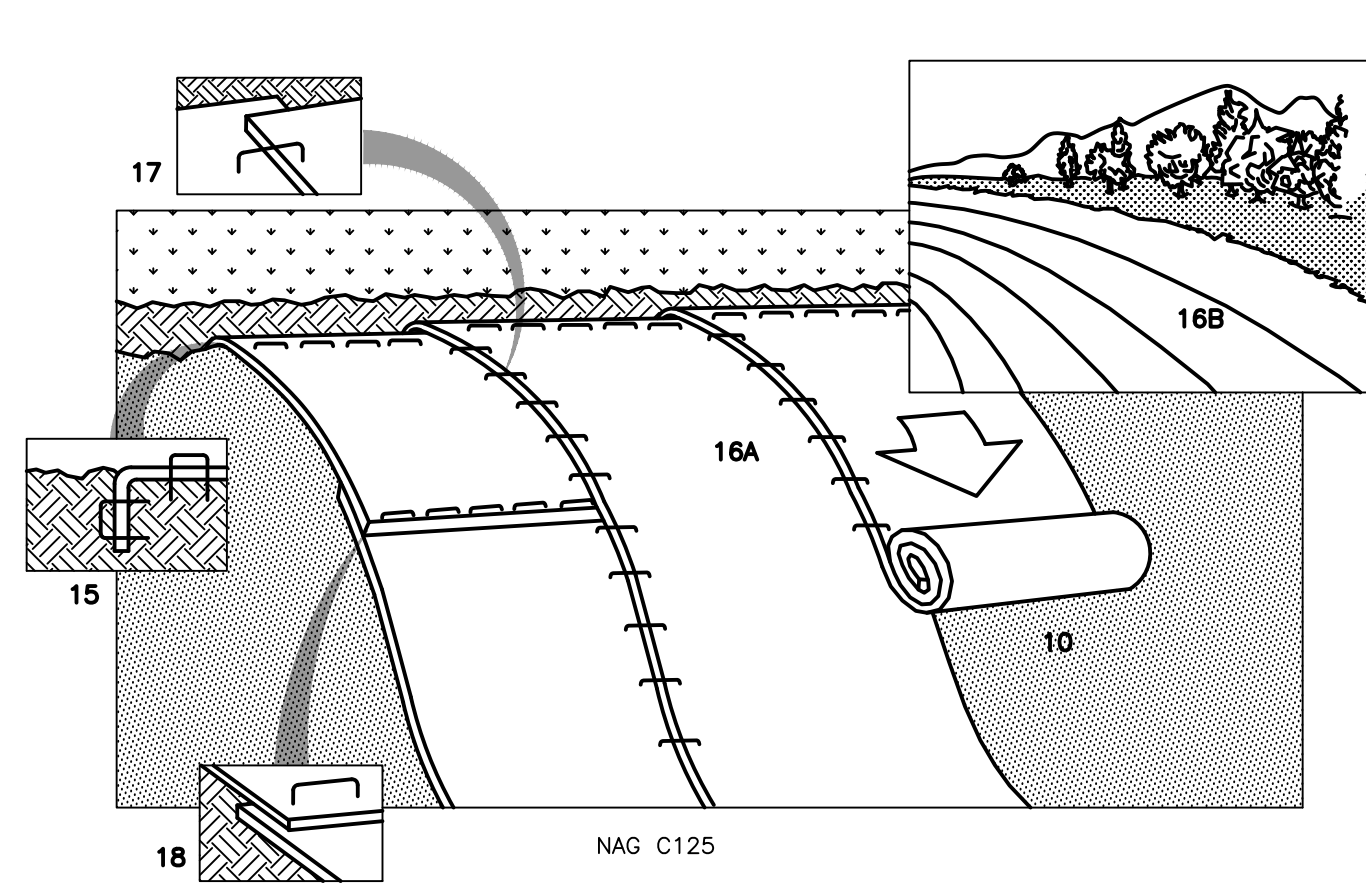
CONSTRUCTION DETAILS
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MAP 30, LOT 19
WHEELER STREET, MILFORD NH

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

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DR. BY: JR
JOB NO.



CONSIDERATIONS

1. DURING THE GROWING SEASON (APRIL 15 – SEPTEMBER 15) USE MATS OR MULCH AND NETTING ON SLOPES 15% OR GREATER AND ANY DISTURBED SOIL ADJACENT TO LAKES, STREAMS AND ON WETLANDS.
2. DURING THE LATE FALL AND WINTER (SEPTEMBER 15 – APRIL 15) USE HEAVY GRADE MATS ON ALL AREAS NOTED ABOVE PLUS USE LIGHTER GRADE MATS OR MULCH AND NETTING ON SLOPES GREATER THAN 8%. THERE MAY BE CASES WHERE MATS WILL BE NEEDED ON SLOPES FLATTER THAN 8%, DEPENDING ON SITE CONDITIONS AND THE LENGTH OF THE SLOPE.
3. INSTALL MATS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

MAINTENANCE REQUIREMENTS

4. ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING 1/2 INCH IN A 24-HOUR PERIOD.
5. ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED OR REPLACED.

SPECIFICATIONS

SITE PREPARATION:

6. GRADE AND SHAPE AREA OF INSTALLATION.
7. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
8. PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
9. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.

SEEDING:

10. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND RE-VEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATION. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEEDED.

11. WHERE SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

INSTALLING AND ANCHORING BLANKETS:

12. BLANKETS SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S SPECIFICATIONS.
13. ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.

INSTALLATION ON SLOPES:

14. BLANKETS SHALL BE INSTALLED ON SLOPES PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.
15. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
16. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
17. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP.
18. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

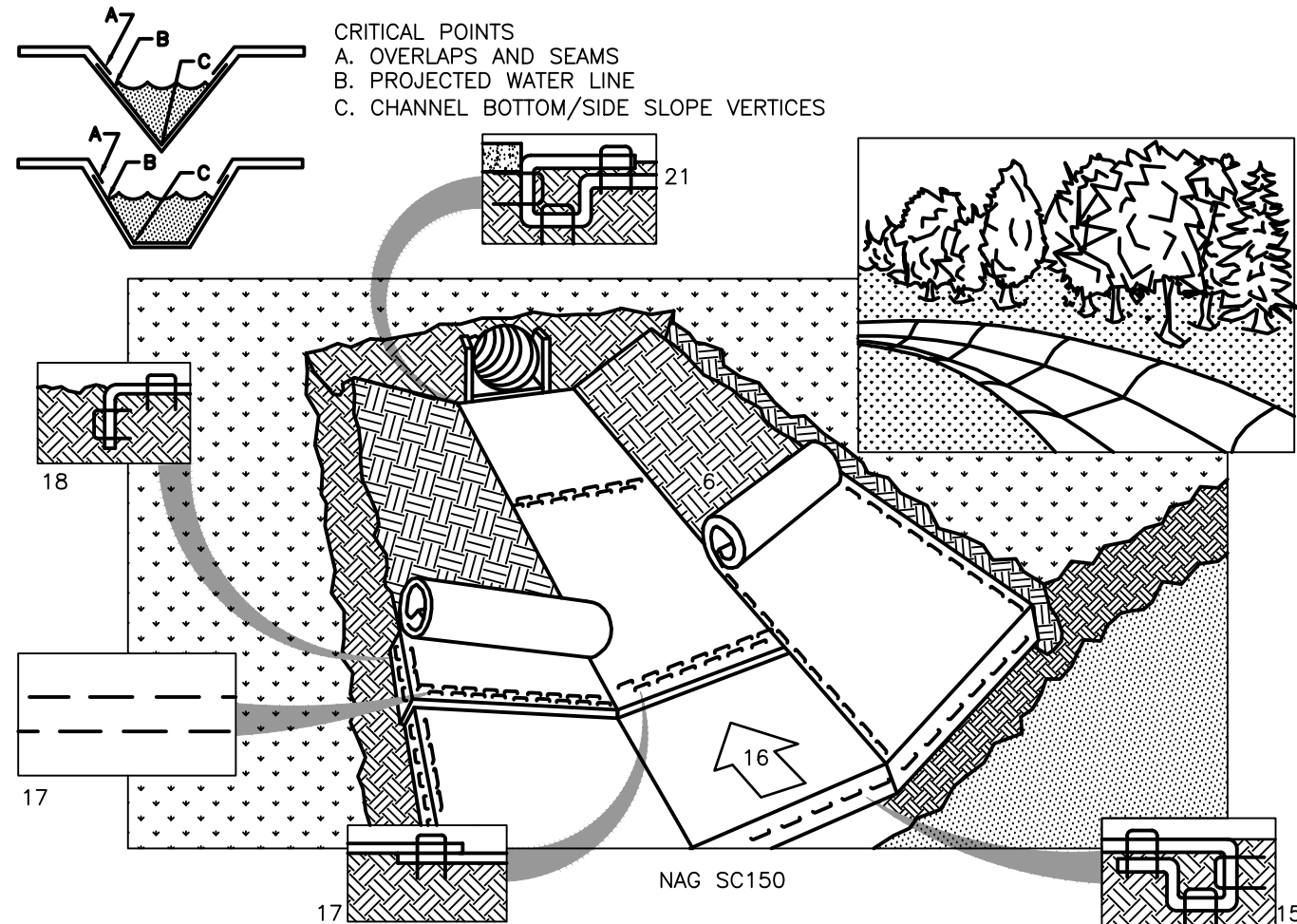
**TEMPORARY EROSION CONTROL
BLANKET ON SLOPES**

NOT TO SCALE

**TEMPORARY EROSION CONTROL BLANKETS
NHFG WILDLIFE FRIENDLY REQUIREMENTS**

CONSIDERATIONS

1. THE ELIMINATION OF PLASTIC OR 'BIODEGRADABLE PLASTIC' EROSION CONTROL NETTING IS REQUIRED AS THESE ARE KNOWN SOURCE OF ENTRAPMENT AND MORTALITY TO PROTECTED SNAKES AND TURTLES.
2. SEVERAL "WILDLIFE FRIENDLY" OPTIONS SUCH AS WOVEN ORGANIC MATERIAL (E.G., COCO MATTING) OR THE USE OF EROSION CONTROL BERM OKAY
3. ACCEPTABLE MATERIALS INCLUDE NORTH AMERICAN GREEN C125BN OR EAST COAST EROSION CONTROL BLANKET ECC-2B BOTH ARE BIODEGRADABLE WITH A COCONUT FIBER MATRIX AND JUTE NETTING.



CONSIDERATIONS

1. DURING THE GROWING SEASON (APRIL 15 – SEPTEMBER 15) USE MATS OR MULCH AND NETTING ON THE BASE OF GRASSED WATERWAYS.
2. DURING THE LATE FALL AND WINTER (SEPTEMBER 15 – APRIL 15) USE HEAVY GRADE MATS ON SIDE SLOPES OF GRASSED WATERWAYS.
3. INSTALL MATS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

MAINTENANCE REQUIREMENTS

4. ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING 1/2 INCH IN A 24-HOUR PERIOD.
5. ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED OR REPLACED.

SPECIFICATIONS

SITE PREPARATION:

6. GRADE AND SHAPE AREA OF INSTALLATION.
7. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
8. PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
9. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.

SEEDING:

10. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND RE-VEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATION. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEEDED.

11. WHERE SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

INSTALLING AND ANCHORING BLANKETS:

12. BLANKETS SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S SPECIFICATIONS.
13. ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.

INSTALLATION IN CHANNELS:

14. BLANKETS SHALL BE INSTALLED IN CHANNELS PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.
15. BEGIN AT THE OUTLET OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
16. ROLL CENTER BLANKET IN DIRECTION OF THE INLET END OF THE CHANNEL.
17. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
18. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
19. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED.
20. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
21. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

**TEMPORARY EROSION CONTROL
BLANKET FOR CHANNELS**

NOT TO SCALE

TEMPORARY & PERMANENT MULCHING

CONSIDERATIONS

1. WITHIN 100 FEET OF STREAMS, WETLANDS AND IN LAKE WATERSHEDS, TEMPORARY MULCH SHOULD BE APPLIED WITHIN 7 DAYS OF EXPOSING SOIL OR PRIOR TO ANY STORM EVENT.
2. AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING.
3. AREAS THAT CANNOT BE SEEDED WITHIN THE GROWING SEASON SHOULD BE MULCHED FOR OVER-WINTER PROTECTION. THE AREA SHOULD BE SEEDED AT THE BEGINNING OF THE NEXT GROWING SEASON.
4. MULCH ANCHORING SHOULD BE USED ON SLOPES WITH GRADIENTS GREATER THAN 5% IN LATE FALL (PAST SEPTEMBER 15), AND OVER-WINTER (SEPTEMBER 15 – MAY 15).
5. PERMANENT MULCH CAN BE USED IN CONJUNCTION WITH TREE, SHRUB, VINE, AND GROUND COVER PLANTINGS.

MAINTENANCE REQUIREMENTS

6. ALL TEMPORARY MULCHES MUST BE INSPECTED PERIODICALLY AND IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION OR DISPLACEMENT OF THE MULCH. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHOULD BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGES OCCUR, REPAIR ANY DAMAGE TO THE SLOPE AND RE-INSTALL OR REPLACE NETTING AS NECESSARY. INSPECTIONS SHOULD TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED (85% SOIL SURFACE UNIFORMLY COVERED WITH HEALTHY STAND OF GRASS).
7. EROSION CONTROL MIX MULCH USED FOR TEMPORARY STABILIZATION SHOULD BE LEFT IN PLACE. VEGETATION ADDS STABILITY AND SHOULD BE PROMOTED.
8. WHERE PERMANENT MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.
9. PERMANENT MULCHED AREAS SHOULD BE INSPECTED AT LEAST ANNUALLY, AND AFTER EACH LARGE RAINFALL (2.5 INCHES OR MORE IN A 24-HOUR PERIOD). ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY. WHERE EROSION CONTROL MIX HAS BEEN USED, PLACE ADDITIONAL MIX ON TOP OF THE MULCH TO MAINTAIN THE RECOMMENDED THICKNESS. WHEN THE MULCH IS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED OR INEFFECTIVE, IT MUST BE REPLACED OR REPAIRED.
10. IF THE MULCH NEEDS TO BE REMOVED, SPREAD IT OUT INTO THE LANDSCAPE.

SPECIFICATIONS

GENERAL:

11. APPLY MULCH PRIOR TO A STORM EVENT. THIS IS APPLICABLE IN EXTREMELY SENSITIVE AREAS SUCH AS WITHIN 100 FEET OF LAKES, PONDS, RIVERS, STREAMS, AND WETLANDS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
12. MULCHING SHOULD BE COMPLETED WITHIN THE FOLLOWING SPECIFIED TIME PERIODS FROM ORIGINAL SOIL EXPOSURE:
 - WITHIN 100 FEET OF RIVERS AND STREAMS, WETLANDS, AND IN LAKE AND POND WATERSHEDS, THE TIME PERIOD SHOULD BE NO GREATER THAN 7 DAYS. THIS 7-DAY LIMIT SHOULD BE REDUCED FURTHER DURING WET WEATHER PERIODS.
 - IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS, THE LENGTH OF TIME VARYING WITH SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS. OTHER STATE OR LOCAL RESTRICTIONS MAY ALSO APPLY.
13. THE CHOICE OF MATERIALS FOR MULCHING SHOULD BE BASED ON SITE CONDITIONS, SOILS, SLOPE, FLOW CONDITIONS, AND TIME OF YEAR.
14. ORGANIC MULCHES INCLUDING HAY AND STRAW SHOULD BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS.
15. APPLICATION RATE SHOULD BE 2 BALES (70-90 POUNDS) PER 1000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90 % OF THE GROUND SURFACE.
16. HAY OR STRAW MULCH SHOULD BE ANCHORED TO PREVENT DISPLACEMENT BY WIND OR FLOWING WATER, USING ONE OF THE FOLLOWING METHODS:
 - NETTING: INSTALL JUTE, WOOD FIBER, OR BIODEGRADABLE PLASTIC NETTING OVER HAY OR STRAW TO ANCHOR IT TO THE SOIL SURFACE. INSTALL NETTING MATERIAL ACCORDING TO MANUFACTURER'S RECOMMENDATION. NETTING SHOULD BE USED JUDICIOUSLY, AS WILDLIFE CAN BECOME ENTANGLED IN THE MATERIALS.
 - TACKIFIER: APPLY POLYMER OR ORGANIC TACKIFIER TO ANCHOR HAY OR STRAW MULCH. APPLICATION RATES VARY BY MANUFACTURER; TYPICALLY 40-60 LBS/ACRE FOR POLYMER MATERIAL, AND 80-120 LBS/ACRE FOR ORGANIC MATERIAL. LIQUID MULCH BINDERS ARE ALSO TYPICALLY APPLIED HEAVIER AT EDGES, IN VALLEYS, AND AT CRESTS THAN OTHER AREAS.

WOOD CHIPS OR BARK:

17. WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON), IT SHOULD BE APPLIED TO A DEPTH OF FOUR INCHES (150-200 POUNDS OF HAY OR STRAW PER 1000 SQUARE FEET, OR DOUBLE STANDARD APPLICATION RATE). SEEDING CANNOT GENERALLY BE EXPECTED TO GROW UP THROUGH THIS DEPTH OF MULCH AND WILL BE SMOOTHED. IF VEGETATION IS DESIRED, THE MULCH WILL NEED TO BE REMOVED IN THE SPRINGTIME AND THE AREA SEEDED AND MULCHED.

EROSION CONTROL MIX:

18. WOOD CHIPS OR GROUND BARK SHOULD BE APPLIED TO A THICKNESS OF 2 TO 6 INCHES.
19. WOOD CHIPS OR GROUND BARK SHOULD BE APPLIED AT A RATE OF 10 TO 20 TONS PER ACRE OR 460 TO 920 POUNDS PER 1,000 SQUARE FEET.
20. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS: WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
 - EROSION CONTROL MIX SHOULD CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHOULD MEET THE FOLLOWING STANDARDS:
 - THE ORGANIC MATTER SHOULD BE BETWEEN 25 AND 65%, DRY WEIGHT BASIS.
 - PARTICLE SIZE BY WEIGHT SHOULD BE 100% PASSING A 3" SCREEN, 90% TO 100% PASSING A 1-1/2" SCREEN, 70% TO 100% PASSING A 0.75-1/2" SCREEN, AND A MAXIMUM OF 30% TO 75%, PASSING A 0.25-1/8" SCREEN.
 - THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
 - THE MIX SHOULD NOT CONTAIN SILTS, CLAYS OR FINE SANDS.
 - SOLUBLE SALTS CONTENT SHOULD BE < 4.0 MMHOS/CM.
 - THE PH SHOULD BE BETWEEN 5.0 AND 8.0.
21. COMPOSITION OF THE EROSION CONTROL MIX SHOULD BE AS FOLLOWS:
 - EROSION CONTROL MIX SHOULD BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
22. THE BARRIER MUST BE A MINIMUM OF 12" HIGH, AS MEASURED ON THE UPHILL SIDE OF THE BARRIER, AND A MINIMUM OF TWO FEET WIDE.

WINTER CONSTRUCTION NOTES

1. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCT. 15TH, OR WHICH ARE DISTURBED AFTER OCT. 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING ELSEWHERE. THE INSTALLATION 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 OCT. 15TH, OR WHICH ARE DISTURBED AFTER OCT. 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER, 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

GN-4: VEGETATION STABILIZATION NOTES

ALL VEGETATION STABILIZATION SHALL BE IN ACCORDANCE WITH USDA NRCS "VEGETATING NEW HAMPSHIRE SAND AND GRAVEL PITS", IN ADDITION TOO "BEST MANAGEMENT PRACTICES FOR ROUTINE ROADWAY MAINTENANCE ACTIVITIES IN NEW HAMPSHIRE", LATEST EDITIONS.

PARK SEED TYPE 15 SHALL NORMALLY BE USED ON LOAM AREAS. THIS SEED MIXTURE SHALL CONFORM TO TABLE 1 UNLESS AMENDED BY THE PROJECT ENGINEER TO SUIT ACTUAL FIELD CONDITIONS.

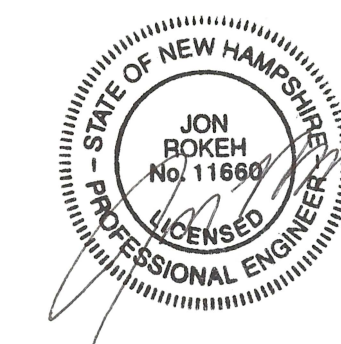
KIND OF SEED	TABLE 1		POUNDS/ACRE
	MINIMUM PURITY (%)	MINIMUM GERMINATION (%)	
CREeping FESCUE	96	85	40
PERENNIAL RYEGRASS	98	90	50
KENTUCKY BLUEGRASS	97	85	25
REDTOP	95	80	5
		TOTAL	120

SLOPE SEED TYPE 44 SHALL NORMALLY BE USED FOR ALL SLOPE WORK, and SHALL CONFORM TO TABLE 2 UNLESS AMENDED BY THE DESIGN ENGINEER TO SUIT ACTUAL FIELD CONDITIONS.

KIND OF SEED	TABLE 2		POUNDS/ACRE
	MINIMUM PURITY (%)	MINIMUM GERMINATION (%)	
CREeping RED FESCUE	96	85	35
PERENNIAL RYEGRASS	98	90	30
REDTOP	95	80	5
ALSIKE CLOVER	97	90	5
BIRDSFOOT TREFOIL	98	80	5
		TOTAL	80

SEEDING SEASON:

1. SEEDBED PREPARATION
 - A. ALL AREAS TO BE SEEDED SHALL BE A REASONABLY FIRM, BUT FRIABLE.
 - B. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING.
 - C. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION, FOLLOWING SEEDING OPERATIONS.
 - D. ALL AREAS TO BE SEEDED SHALL MEET THE SPECIFIED GRADES, AS SPECIFIED ON THE APPROVED PLAN.
 - E. ALL VEGETATION SHALL BE INSPECTED ANNUALLY FOR UNHEALTHY or DEAD AREAS. ANY and ALL SUCH AREAS ARE TO BE REPAIRED or REPLACED IN KIND.
2. ESTABLISHING A STAND
 - A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
 - AGRICULTURAL LIMESTONE: 2 TONS PER ACRE OR 0.09 LBS. PER SQ. FT.
 - NITROGEN (N): 50 LBS. PER ACRE OR 1.1 LBS. PER 1000 SQ. FT.
 - PHOSPHATE (P₂O₅): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT.
 - POTASH (K₂O): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT.
 (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10)
 - B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH 0.25 INCH O SOIL OR LESS, BY CULTIPACKING OR RAKING.
3. MULCH
 - A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - B. MULCH WILL BE HELD IN PLACE USING TECHNIQUES FROM THE "BEST MANAGEMENT PRACTICE FOR MULCHING", AS SHOWN IN, "STORMWATER MANAGEMENT AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE".
4. MAINTENANCE TO ESTABLISH A STAND
 - A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
 - B. FERTILIZATION WILL BE PERFORMED ANNUALLY IN ACCORDANCE WITH NOTE 2A.
 - C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING or TRIMMING WILL BE PERFORMED ANNUALLY TO CONTROL GROWTH.
 - B. ALL VEGETATION SHOULD BE INSPECTED REGULARLY and AFTER EVERY MAJOR RAIN EVENT (≥ 5/24 hr). DAMAGED AREAS SHOULD BE REPAIRED AND RE-VEGETATED IMMEDIATELY.



PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

CONSTRUCTION DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

REVISIONS

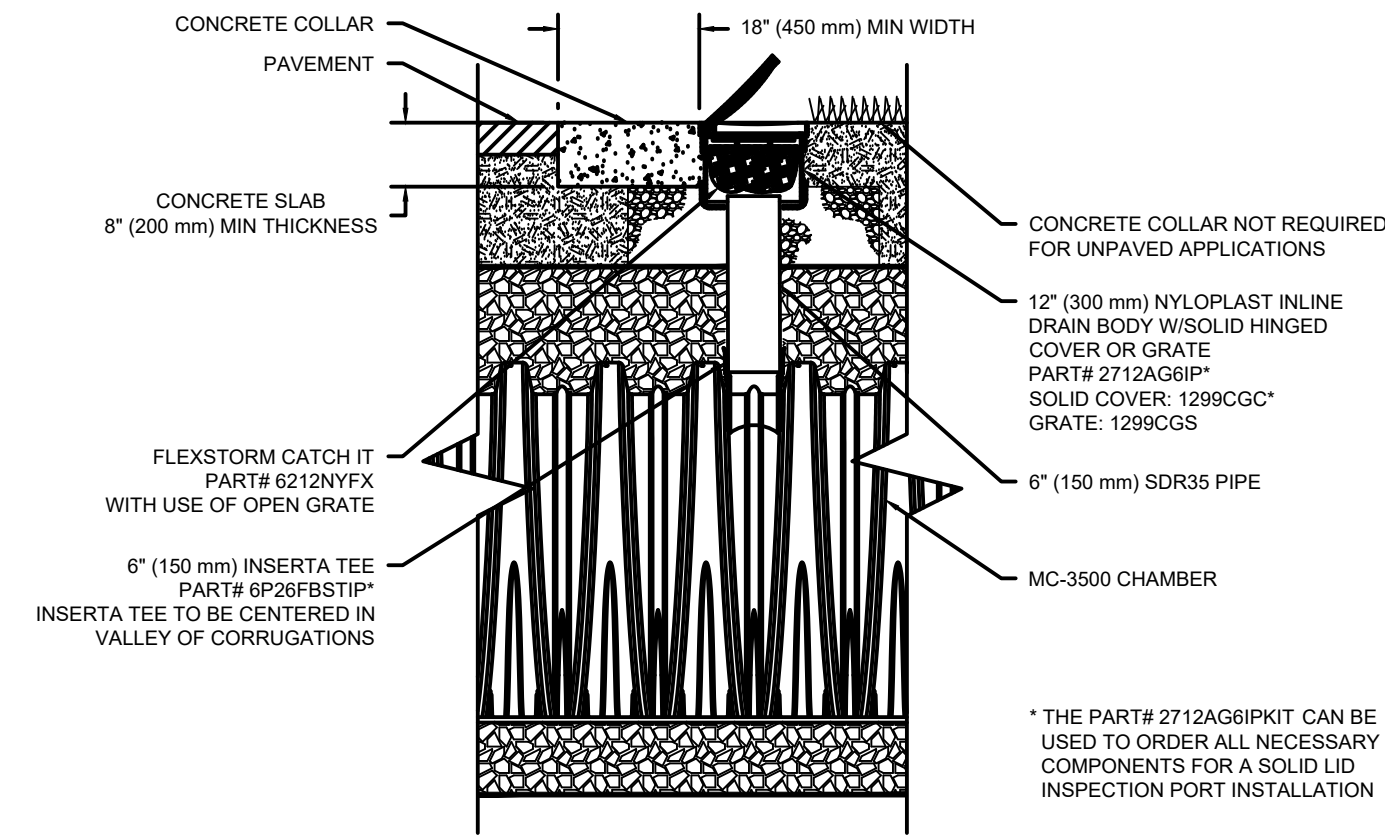
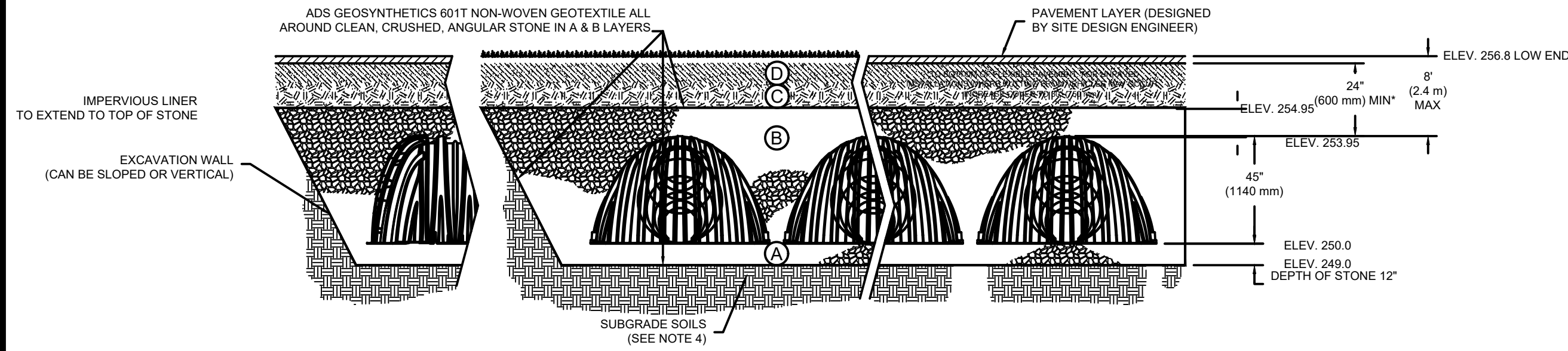
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Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

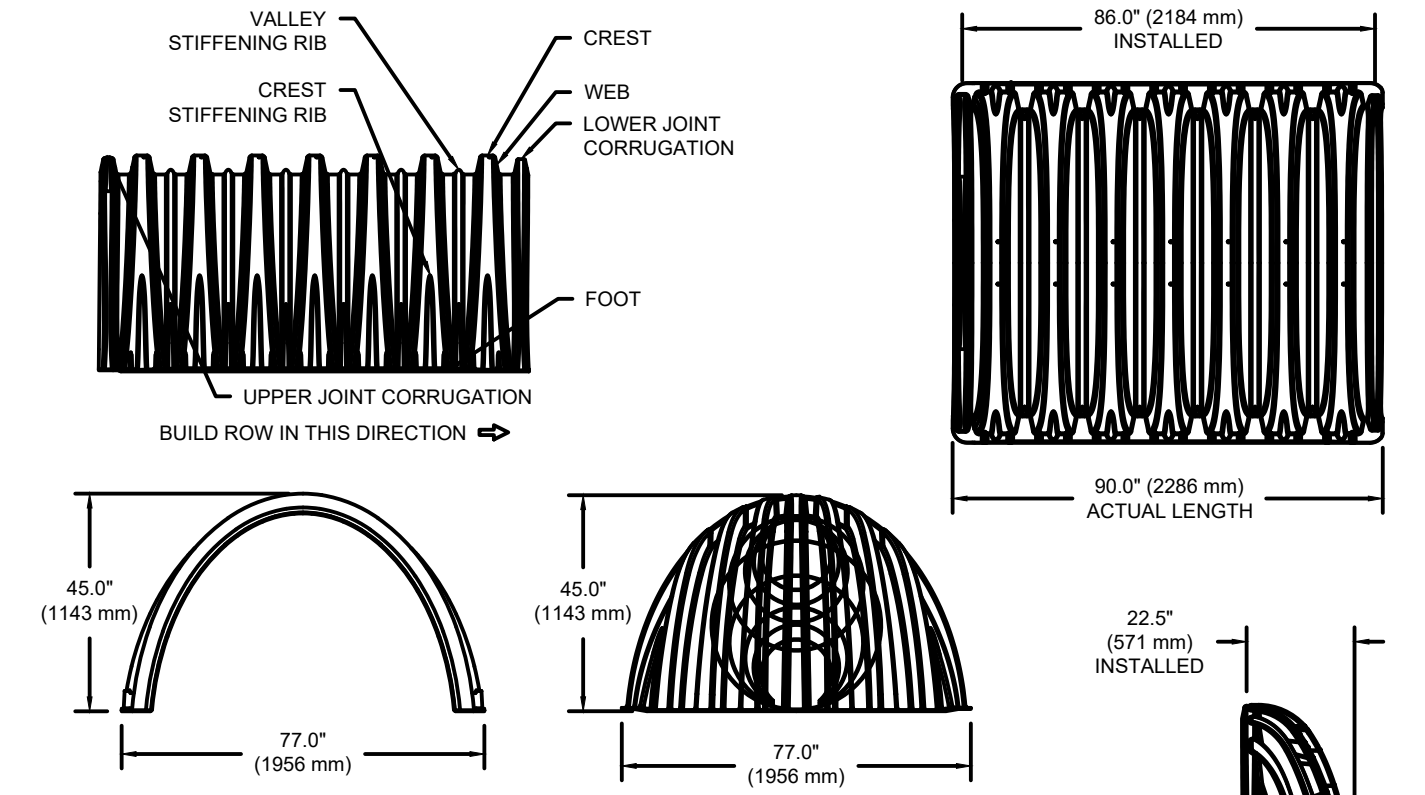
SCALE: NTS
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.

SHEET
12 of 19

- PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE"
 2. STORMTECH COMPACTON REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTON, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTON EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTON REQUIREMENTS.



MC-3500 6" INSPECTION PORT DETAIL
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m ³)
MINIMUM INSTALLED STORAGE*	178.9 CUBIC FEET	(5.06 m ³)
WEIGHT	135.0 lbs.	(61.2 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 22.5"	(1956 mm X 1143 mm X 571 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m ³)
MINIMUM INSTALLED STORAGE*	46.0 CUBIC FEET	(1.30 m ³)
WEIGHT	50.0 lbs.	(22.7 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B	---	31.16" (791 mm)	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	---	0.81" (21 mm)
MC3500IEPP08B	---	29.04" (738 mm)	---
MC3500IEPP10T	10" (250 mm)	---	0.93" (24 mm)
MC3500IEPP10B	---	26.36" (670 mm)	---
MC3500IEPP12T	12" (300 mm)	---	1.35" (34 mm)
MC3500IEPP12B	---	23.39" (594 mm)	---
MC3500IEPP15T	15" (375 mm)	---	1.50" (38 mm)
MC3500IEPP15B	---	20.03" (509 mm)	---
MC3500IEPP18TC	18" (450 mm)	---	1.77" (45 mm)
MC3500IEPP18BC	---	14.48" (368 mm)	---
MC3500IEPP24TC	24" (600 mm)	---	2.06" (52 mm)
MC3500IEPP24BC	---	---	---
MC3500IEPP30BC	30" (750 mm)	---	---

NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PRECURED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MC-3500 TECHNICAL SPECIFICATION
NTS

NOTE:

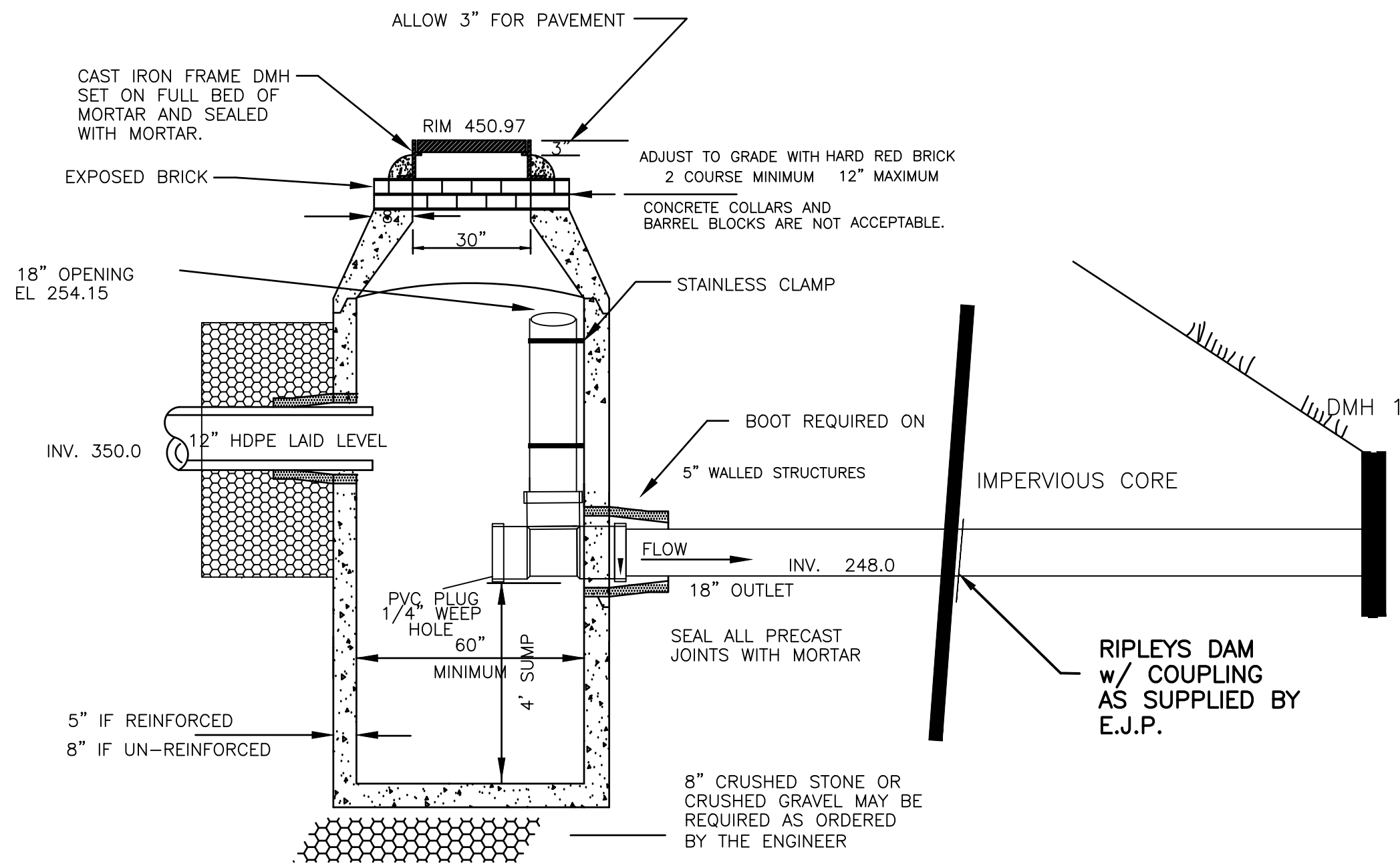
SEE ADS SHOP DRAWINGS FOR UNDERGROUND DETENTION DETAILS AND CONSTRUCTION

INSPECTION & MAINTENANCE

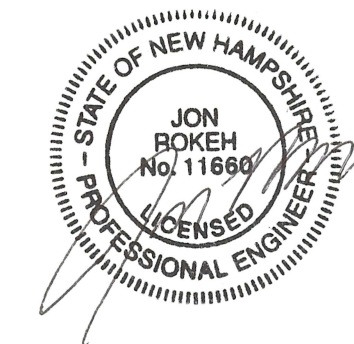
- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR ROWS
 1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 3. 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 USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. 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

1. 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.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



OUTLET STRUCTURE DETAIL



PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

STORMTECH DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

DATE	DESCRIPTION	GRATE H2O LOADING DWN BY	CK BY

Rokeh Consulting, LLC
89 KING ROAD, CHICHESTER, NH
PH: 603-387-8688

SCALE: 1" = 30"
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.

SHEET
13 of 19



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by StormTech
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INSTRUCTIONS,
DOWNLOAD THE
INSTALLATION APP

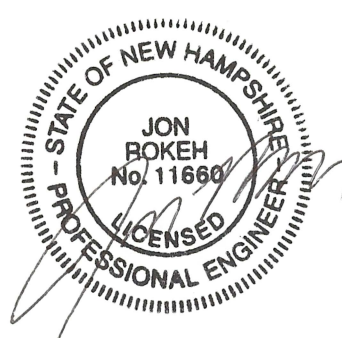


WHEELER STREET

MILFORD, NH

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. 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.
5. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES 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 AASHTO FOR THERMOPLASTIC PIPE.
 - b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.



IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.

STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER 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.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4. ^J
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING. ^J
10. 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

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE". ^J
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING. ^J
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

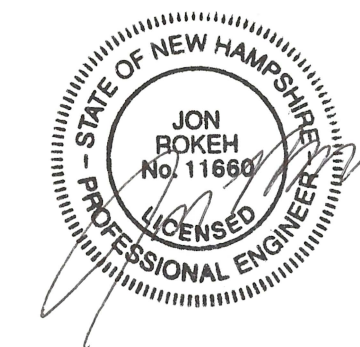
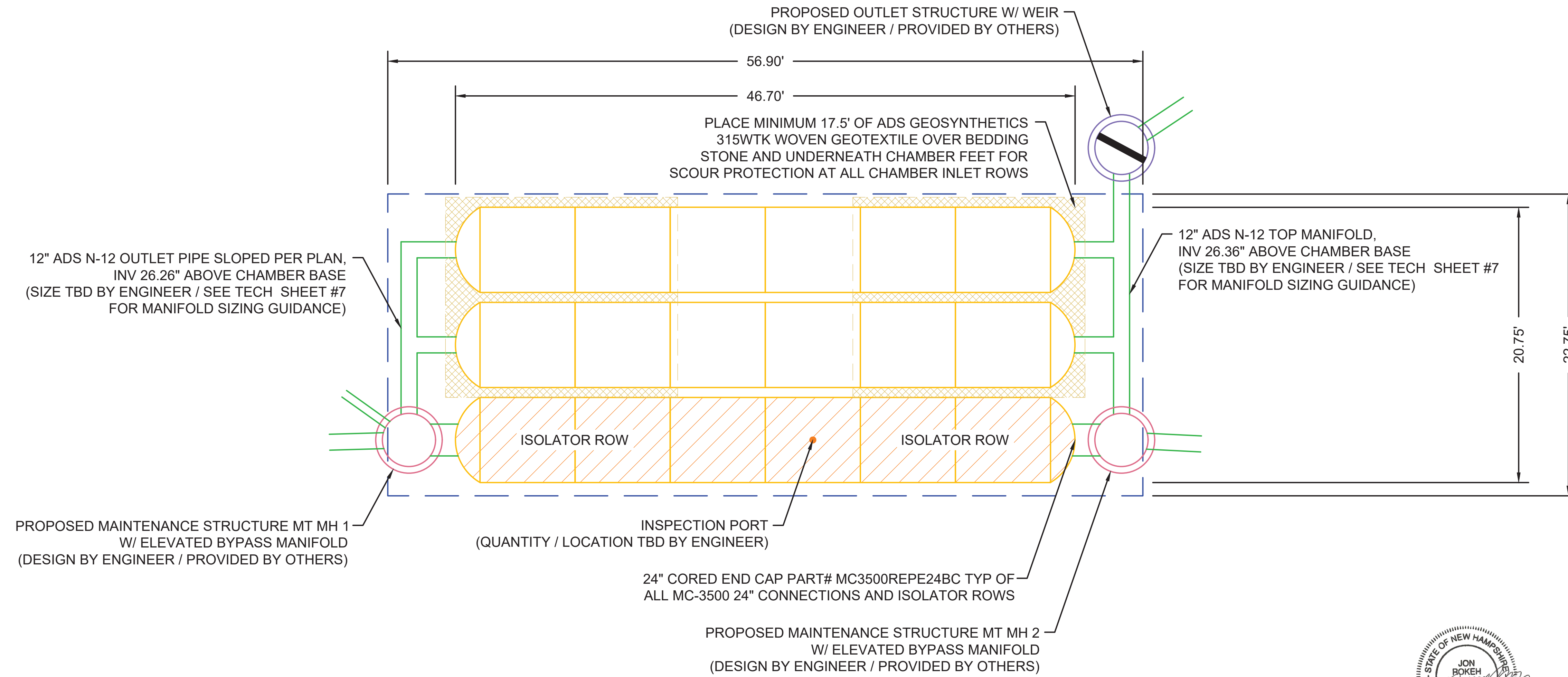
CONCEPTUAL LAYOUT

(18) STORMTECH MC-3500 CHAMBERS
 (6) STORMTECH MC-3500 END CAPS
 INSTALLED WITH 15" COVER STONE, 12" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 4349 CF
 AREA OF SYSTEM: 1295 FT²
 PERIMETER OF SYSTEM: 159 FT

PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	261.75
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	255.75
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	255.25
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	255.25
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	255.25
TOP OF STONE:	255.00
TOP OF CHAMBER:	253.75
12" TOP CONNECTION INVERT:	252.20
24" BOTTOM CONNECTION INVERT (ISOLATOR ROW):	250.17
BOTTOM OF CHAMBER:	250.00
BOTTOM OF STONE:	249.00

COMPUTER GENERATED CONCEPTUAL LAYOUT
NOT FOR CONSTRUCTION



WHEELER STREET MILFORD, NH	DATE: 08/12/2020	DRAWN: AC
DESCRIPTION	PROJECT #: Tool	CHECKED: ---
CHK	DRW	REV

DESCRIPTION	CHK	DRW	REV

StormTech
 Retention - Retention - Water Quality
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 860-525-8188 | 888-892-2894 | WWW.STORMTECH.COM

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 HILLIARD, OH 43026
 1-800-733-7473
ADS
 ADVANCED DRAINAGE SYSTEMS, INC.
NOT TO SCALE

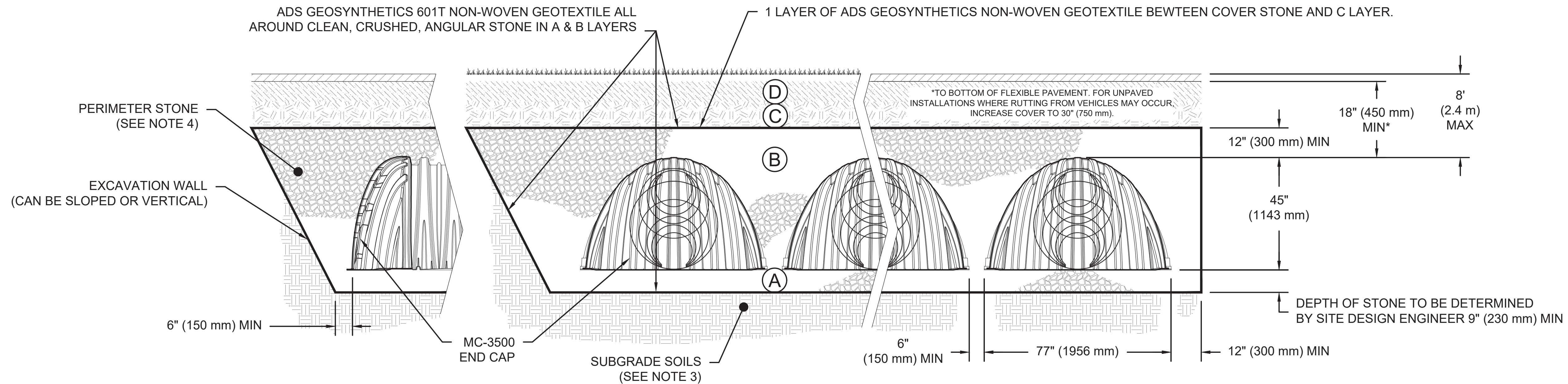
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ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

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 24" (600 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 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

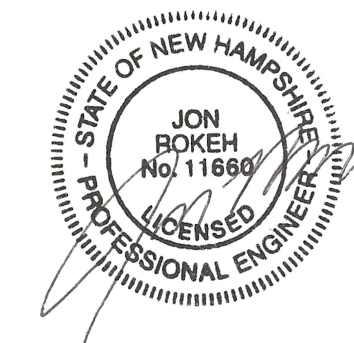
PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. 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.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. 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 3".
 - 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 500 LBS/IN/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.



WHEELER STREET MILFORD, NH	DATE: 08/12/2020 DRAWN: AC PROJECT #: Tool CHECKED: ---
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REV	DRW	CHK	DESCRIPTION

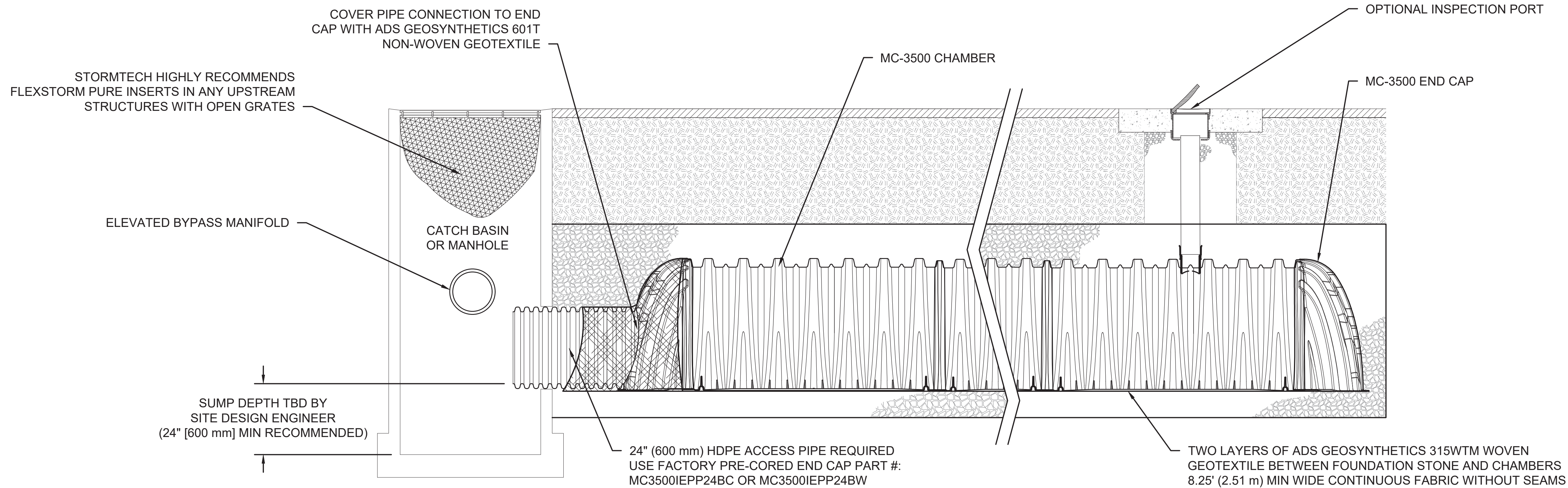
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860-525-8188 | 888-892-2894 | WWW.STORMTECH.COM

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1-800-733-7473

ADVANCED DRAINAGE SYSTEMS, INC.

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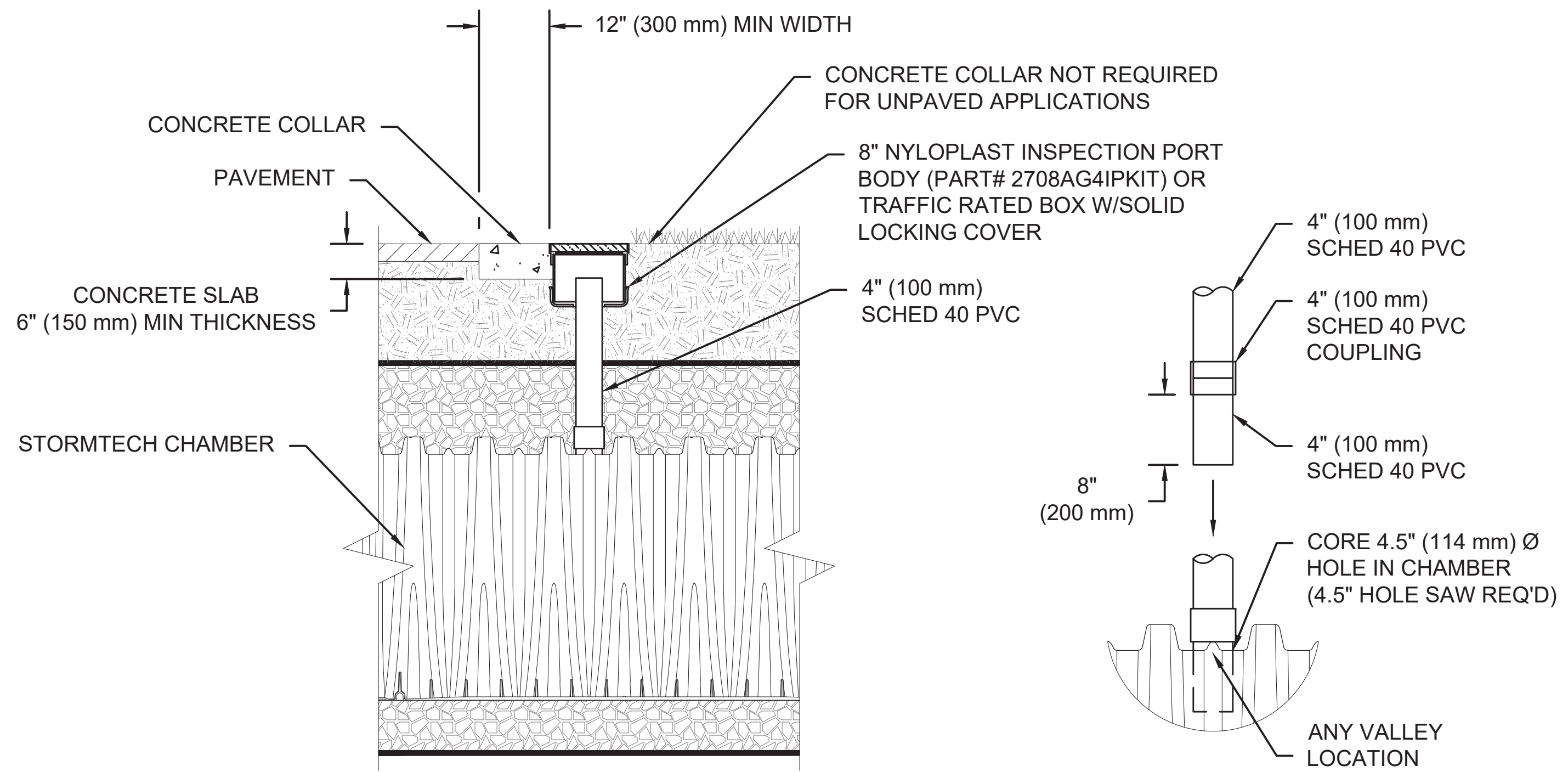
MC-3500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. 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 USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. 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.

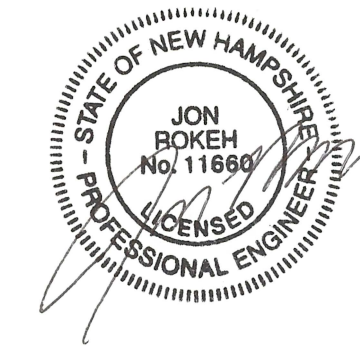
NOTES

1. 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.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



CONNECTION DETAIL
NTS

4\"/>

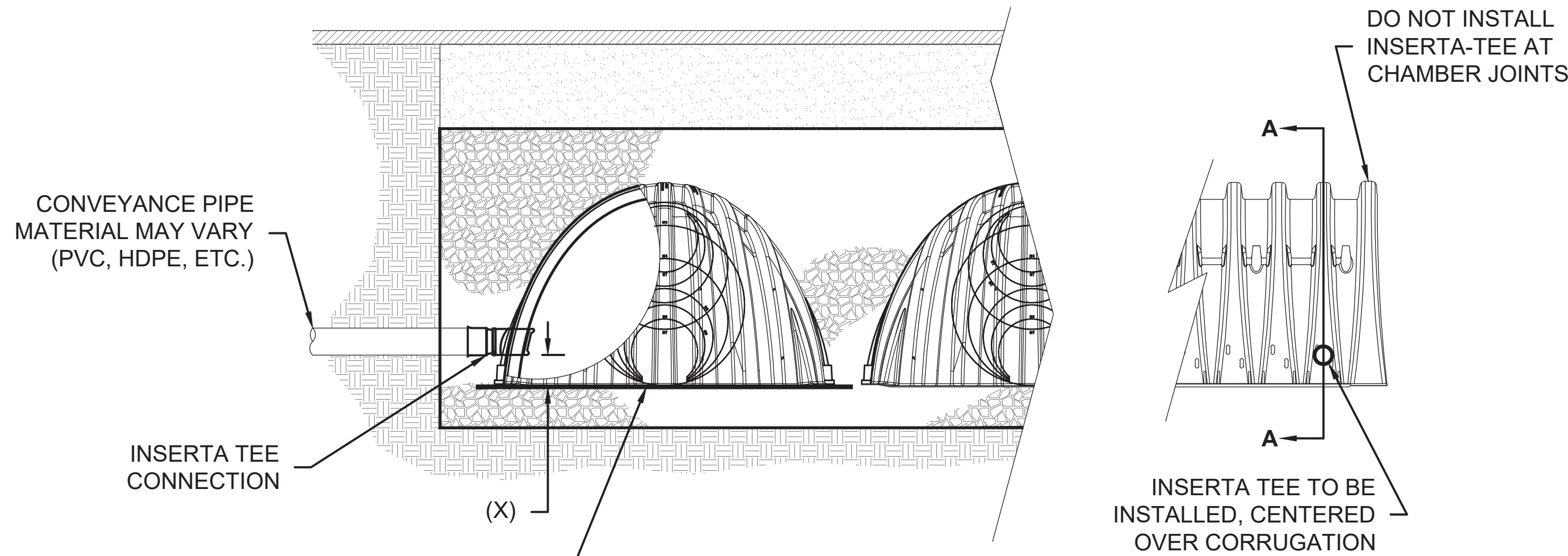


WHEELER STREET MILFORD, NH	DATE: 08/12/2020	DRAWN: AC	CHECKED: ---
DESCRIPTION	PROJECT #: Tool		
CHK			
DRW			
REV			

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INSERTA TEE DETAIL

NTS



PLACE ADS GEOSYNTHETICS 315 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

SECTION A-A

SIDE VIEW

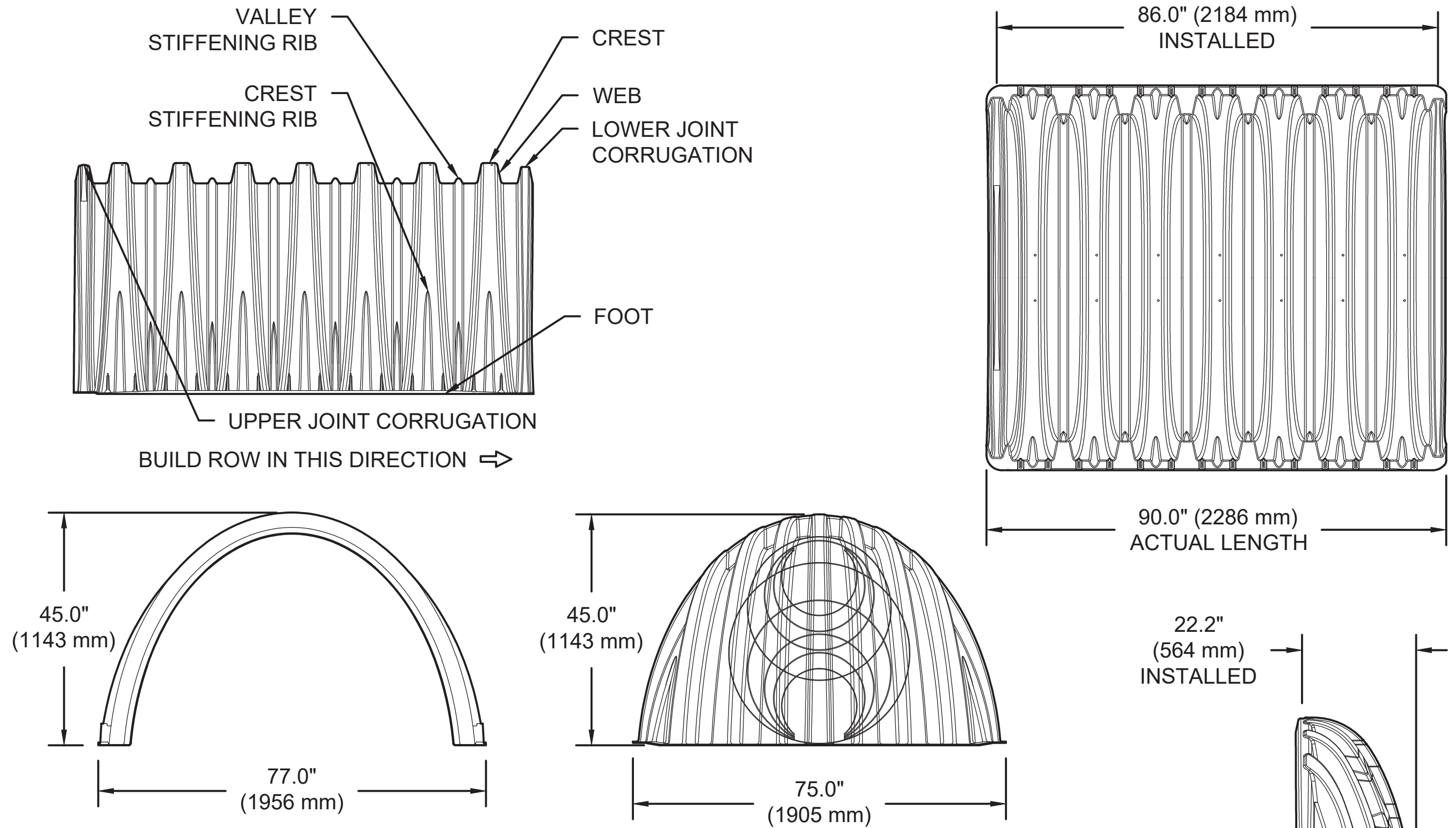
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)

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

NOTE: PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

MC-3500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)		
77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)	
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	178.9 CUBIC FEET	(5.06 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)		
75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)	
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	46.0 CUBIC FEET	(1.30 m³)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

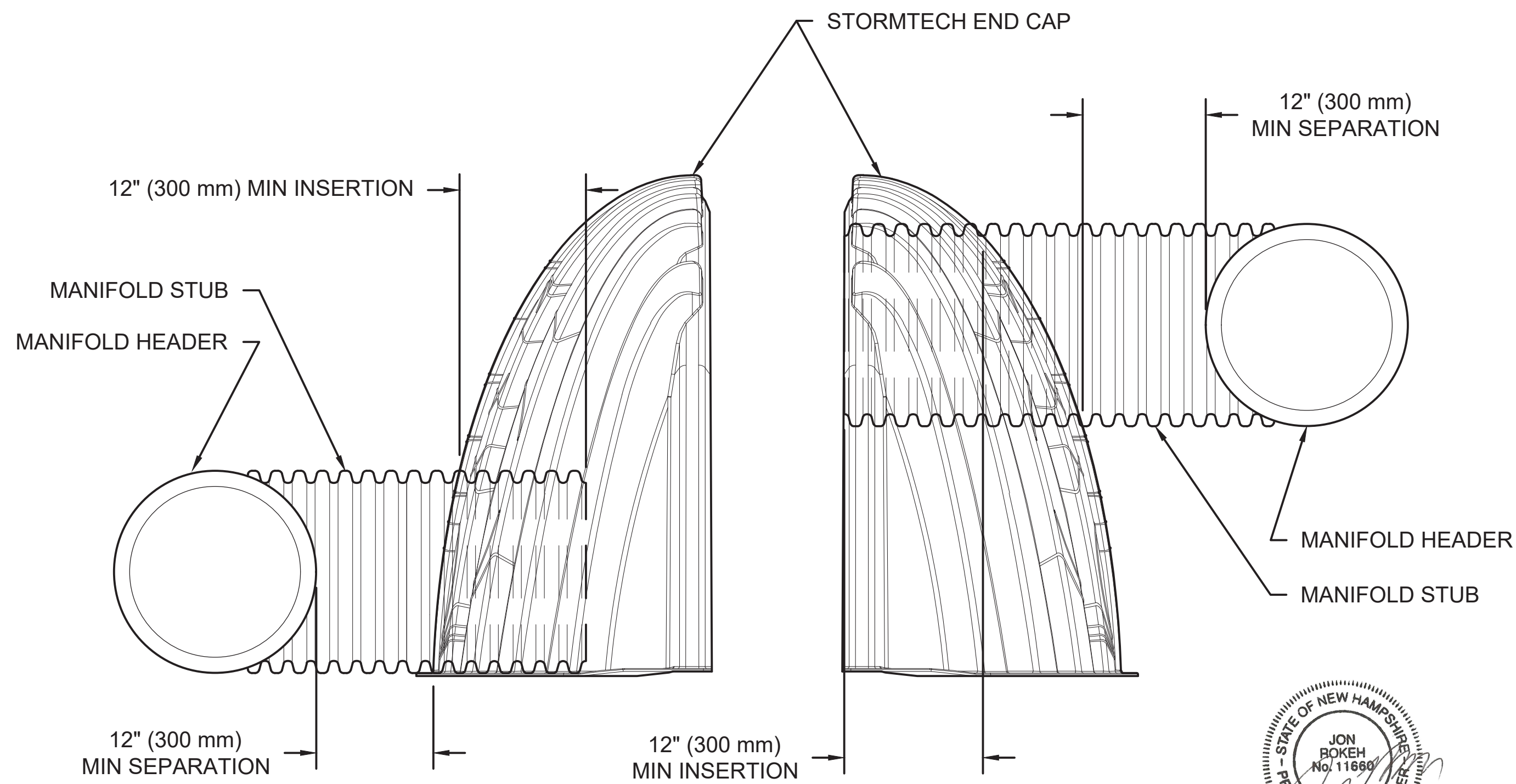
STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
 STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
 END CAPS WITH A WELDED CROWN PLATE END WITH "C"
 END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			---
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW		---	---
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			---
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW		---	---
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

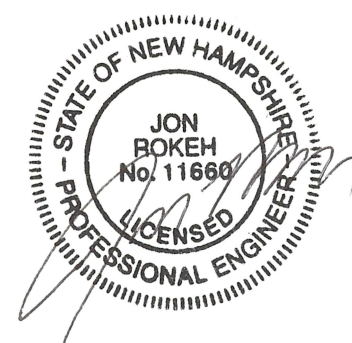
NOTE: ALL DIMENSIONS ARE NOMINAL

MC-SERIES END CAP INSERTION DETAIL

NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.



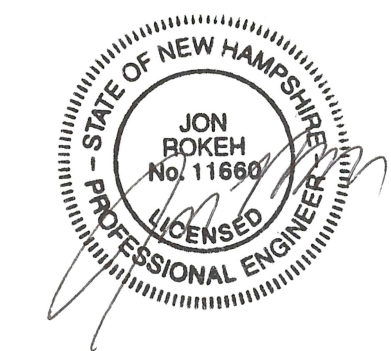
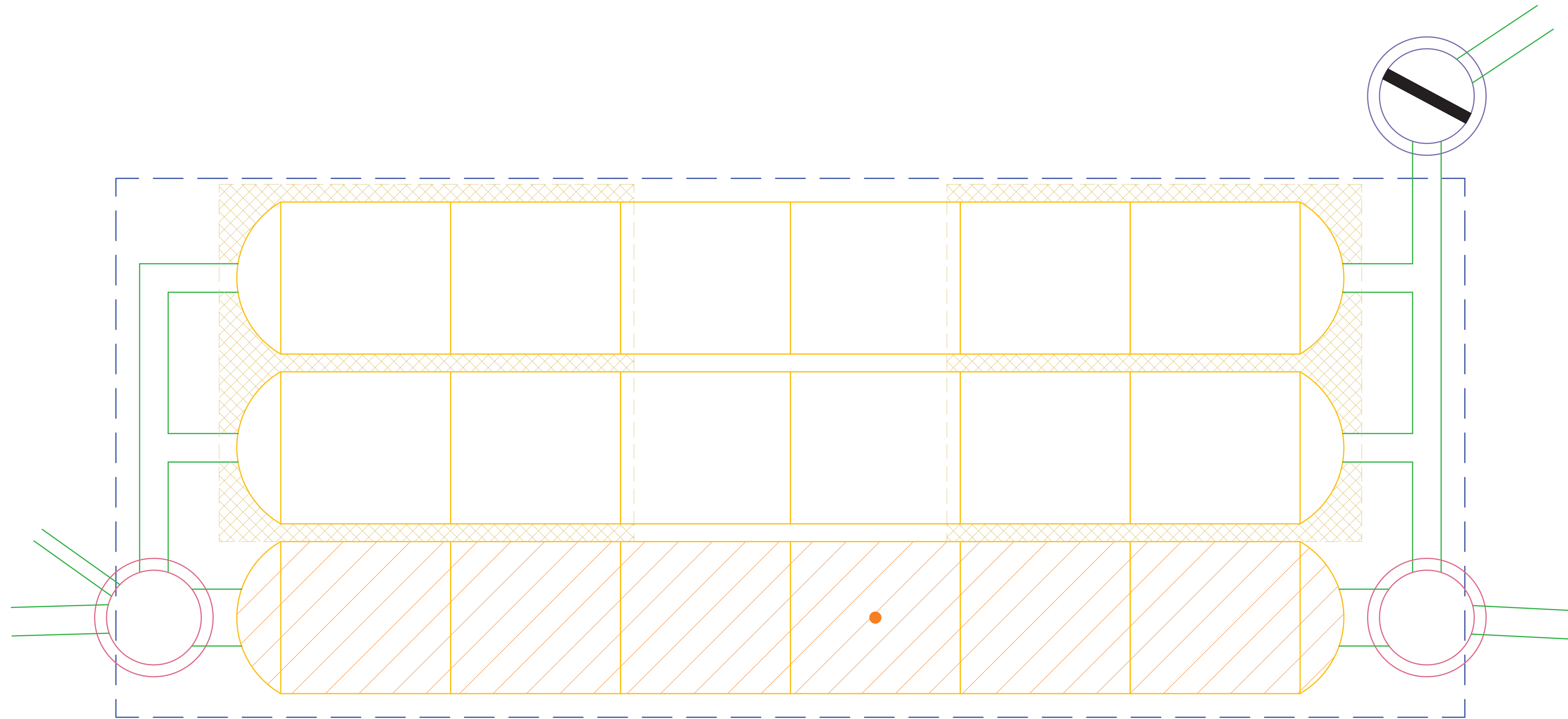
WHEELER STREET MILFORD, NH	DATE: 08/12/2020	DRAWN: AC	CHECKED: ---
PROJECT #: Tool			

REV	DRW	CHK	DESCRIPTION

StormTech
 Precision • Retention • Water Quality
 70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
 860-525-8188 | 888-892-2894 | WWW.STORMTECH.COM

ADS
 ADVANCED DRAINAGE SYSTEMS, INC.
 4640 TRUEMAN BLVD
 HILLIARD, OH 43026
 1-800-733-7473

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Facsimile
Condo Units

Another Quality Home By:



REVISION TABLE

NUMBER	DATE	REVISION BY	DESCRIPTION

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To Scale on 11" x 17" Paper

Pictures are facsimiles, and may show upgrade items, items that will not be included, or items that may be changed dependant on availability.

DRAWING SHEET INDEX

COVER SHEET:

CS-1 Cover Sheet

ARCHITECTURAL:

- A-1 First Floor
- A-2 Exterior Elevations
- A-3 Exterior Elevations
- A-4 Exterior Elevations
- A-5 Floor Framing Overviews
- A-6 Floor Framing Overviews
- A-7 Framing Detail
- A-8 Framing Detail
- A-9 Framing Detail
- A-10 Building Sections and Details
- S-1 Basement/Foundation Plan

PLAN DETAILS

FINISHED LIVING AREA:	3584
UNFINISHED LIVING AREA:	0
BASEMENT AREA:	3584
TOTAL LIVING AREA:	3584
GARAGE AREA:	783
DECK AREA:	384
PORCH AREA:	288
BEDROOMS:	6
BATHROOMS:	6
GARAGE BAYS:	3

DATE:

8/14/2020

SCALE:

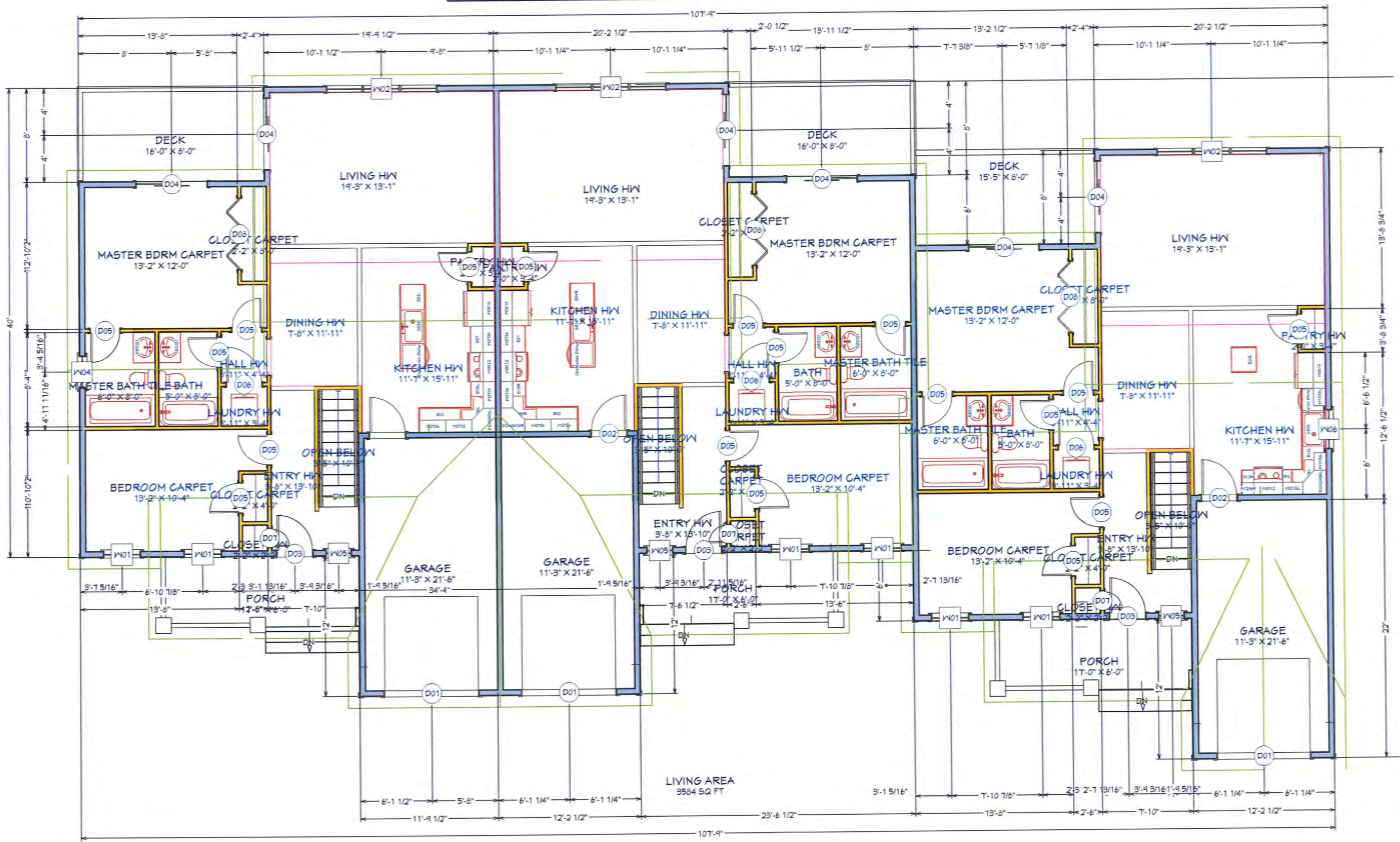
NOT TO SCALE

SHEET:

CS-1

DOOR SCHEDULE					
NUMBER	LABEL	QTY	WIDTH	HEIGHT	DESCRIPTION
D01	8060	3	36"	80"	GARAGE-C12-REC13
D02	3066	3	36"	80"	EXT. HINGED-DOOR P04
D03	3066	3	36"	80"	EXT. HINGED-DOOR E21
D04	6066	4	72"	80"	EXT. SLIDER-GLASS PANEL
D05	2666	16	30"	80"	HINGED-DOOR P04
D06	3066	3	36"	80"	HINGED-DOOR P04
D07	1666	3	18"	80"	HINGED-DOOR P04
D08	6066	3	72"	80"	4 DR. BIFOLD-DOOR P04

WINDOW SCHEDULE					
NUMBER	LABEL	QTY	WIDTH	HEIGHT	DESCRIPTION
W01	3355DH	6	38 5/8"	65"	DOUBLE HUNG
W02	4666MU	3	113 7/8"	76"	MULLED UNIT
W03	4655MU	3	113 7/8"	65"	MULLED UNIT
W04	2940DH	1	32 5/8"	48"	DOUBLE HUNG
W05	2355DH	3	26 5/8"	65"	DOUBLE HUNG
W06	3434DC	1	40"	40"	DOUBLE CASEMENT-LH/RHR



NUMBER	DATE	REVISION BY	DESCRIPTION

DATE:
8/14/2020

SCALE:
1/8" = 1'

SHEET:
A-1



MATERIAL LEGEND

- ① ASPHALT SHINGLES
- ② CONTINUES RIDGE VENT W/ ASPHALT SHINGLE CAP
- ③ BENT METAL (ALUMINUM) DRIPEDGE, FASCIA & TRIM - COLOR WHITE
- ④ VINYL SIDING & CORNER TRIM
- ⑤ VINYL WINDOWS (TILT-WASH) W/ ARGON INSULATED GLASS, GRILLES AND SCREENS
(SEE WINDOW SCHEDULE FOR SIZES AND TYPES) U VALUE = .35 MAX, SHGC = ANY
- ⑥ PREHUNG, FIBERGLASS INSULATED DOOR
- ⑦ METAL GARAGE DOOR
- ⑧ TREX PORCH/DECK

REVISION TABLE

NUMBER	DATE	REVISION BY / DESCRIPTION

DATE:

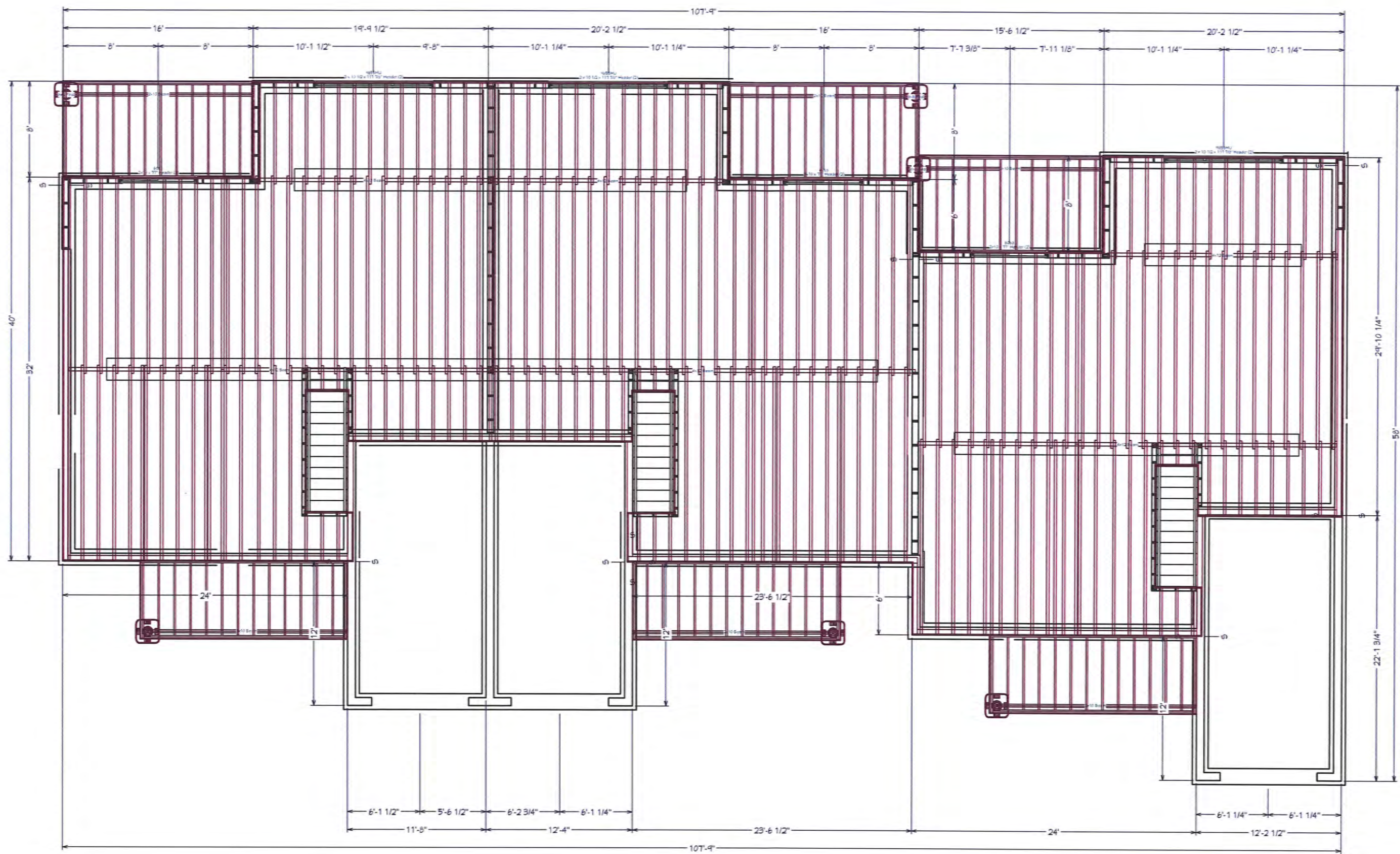
8/14/2020

SCALE:

1/8" = 1'

SHEET:

A-2



Foundation

REVISION TABLE	
NUMBER	DATE

NUMBER	DATE	REVISOR	DESCRIPTION

DATE:

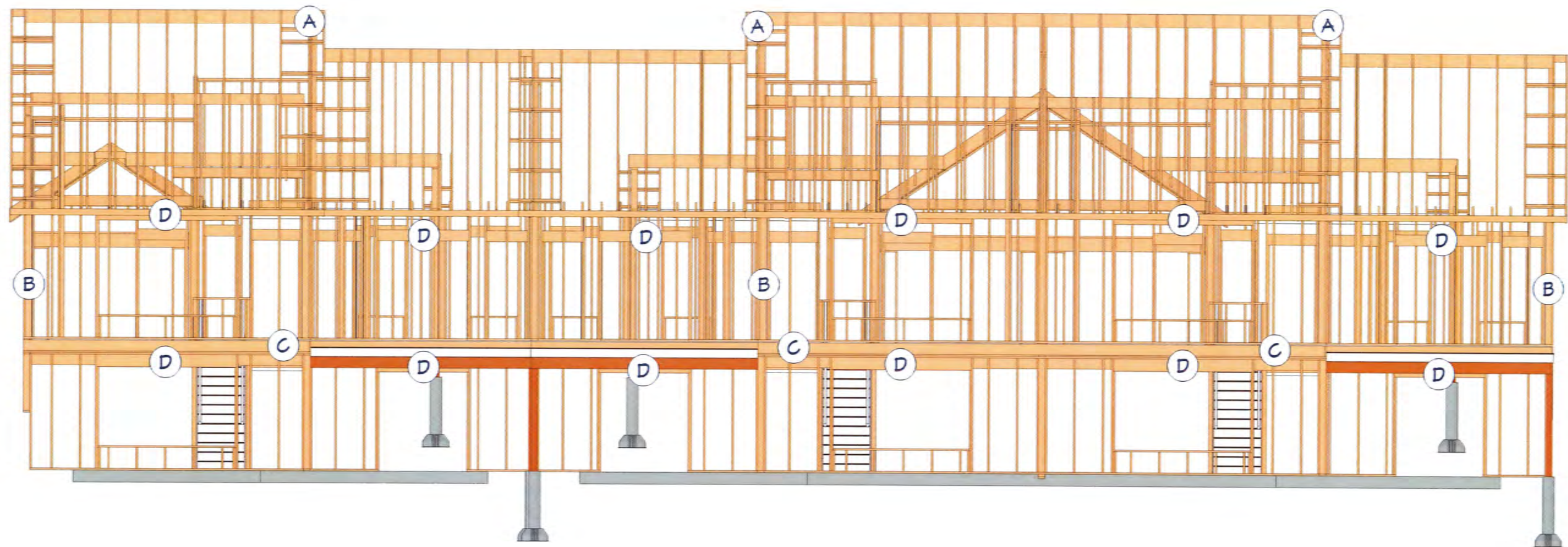
8/14/2020

SCALE:

1/8" = 1'

SHEET:

A-5



NUMBER	DATE	REVISED BY	DESCRIPTION

DATE:

8/14/2020

SCALE:

SHEET:

A-8

