



TOWN OF MILFORD, NEW HAMPSHIRE  
OFFICE OF COMMUNITY DEVELOPMENT

1 UNION SQUARE, MILFORD, NH 03055

TEL: (603)249-0620

WEB: WWW.MILFORD.NH.GOV

## **STAFF MEMO**

**Date:** August 13, 2021  
**To:** Town of Milford Planning Board  
**From:** Jason Cleghorn, Town Planner  
**Subject:** **SD2021-09 San-Ken Homes and Rokeh Consulting, LLC (owners/applicant), Tax Map 30, Lot 19.** Public Hearing for a Major Subdivision to divide one parcel into three lots within the Residence "A" zoning district.

### **BACKGROUND:**

The applicant is before the Planning Board seeking approval of a major subdivision of Tax Map 30 Lot 19. The three lots would each be larger than what Residence A would require which would be a minimum of 15,000 s.f. on public water and sewer. The lots range in size from 2.94 acres to 1.15 acres. A previous proposal for this property consisted of 7 condominium units.

### **ADDRESS:**

At the intersection of Wheeler and Farley St.

### **WAIVERS REQUESTED:**

1. The applicant has requested a waiver to *Section 7.02 of the Milford Development Regulations Table 1: Roadway Standards* for 30 feet of ROW in lieu of 50 feet. The waiver request is for 20 feet.
2. The applicant has requested a waiver to the *DPW Infrastructure Design, Construction and Administration Standards, Appendix I: Administrative Documents Section N. Tomahawk Turn-Around*, pertaining to the length of the turn-around. The typical section requires 62 feet and the turnaround length from centerline of the roadway to the end of the tomahawk is currently 45.2 feet. The waiver request is for 16.8 feet.

### **EXISTING USE:**

The lot is currently vacant but historically was the site of the historical John Quinlan bleachery site. The Heritage Commission has issued a report about the property.

### **APPLICATION STATUS:**

The application is complete and ready to be accepted.

### **NOTICES:**







Notices were sent to all property abutters on August 5, 2021. No input has been received by town staff from abutters.

### **ZONING DISTRICT/INFORMATION:**

The subject property is within the Residence A ("A") District: As previously mentioned when lots in this zoning district have access to water and sewer, the minimum lot size is 15,000 s.f. and a width of 100 feet. The proposed lots are both larger than the minimum and meet the required frontages.

### **LANDSCAPE/BUFFERING:**

A stockade fence is being erected along the southern property line on the south side of the roadway to buffer the project from the existing homes on Spruce St. The table below shows the total amount of landscaping being installed on the lots, primarily in the front of the lots near the roadway.

KEY	LATIN NAME	COMMON NAME	QUANTITY
	Acer saccharum	SUGAR MAPLE 2 ½" CAL.	4
	Euonymus alatus 'Compacta'	DWARF BURNING BUSH 2-3' 8' O.C.	9
	Taxus 'Greenwave'	GREENWAVE YEW 2 ½ -3' B&B 8' O.C.	14
	Rhododendron 'Purpureum Elegans'	ELEGANT PURPLE RHODODENDRON 2 ½ -3' B&B 3' O.C.	7
	Rhododendron 'P.J.M.'	PJM RHODODENDRON 18-24" B&B 2' O.C.	10
	LAWN	30% KENTUCKY BLUEGRASS 45 % CREEPING FESCUE 10% RED TOP 15% DOMESTIC RYE	
	BARK MULCH PLANTING BED	DEPTH OF BARK MULCH 3" (SEE NOTES ON DETAIL SHEET)	
			

**STORMWATER/DRAINAGE:**

All comments/issues have been addressed so long as the roadway remains private.

**TOWN COMMENTS OUTSTANDING:**

**Department of Public Works**

1. Discussions with DPW by Planning Staff have indicated DPW's lack of support for the waiver related to the tomahawk turnaround. Please keep Planning abreast of any discussions with Mr. Riendeau.

**Planning**

1. Include a turning template for the tomahawk in its current iteration showing which types of vehicles can make the turn.
2. The town will need easement documents for roadway, water and sewer. The water and sewer easement documents will allow the Town to work in those areas. There also need to be documents drawn for the HOA or property owner's maintenance of the roadway and drainage system since the Town will not maintain these entities. Easements with Eversource will also be needed for power.
3. A local stormwater permit needs to be applied for this project beyond this submittal. KV Partners will also review this.

**Informational Planning Comments**

1. Consider submitting conceptual elevations for what the houses will look like as the Planning Board and abutters

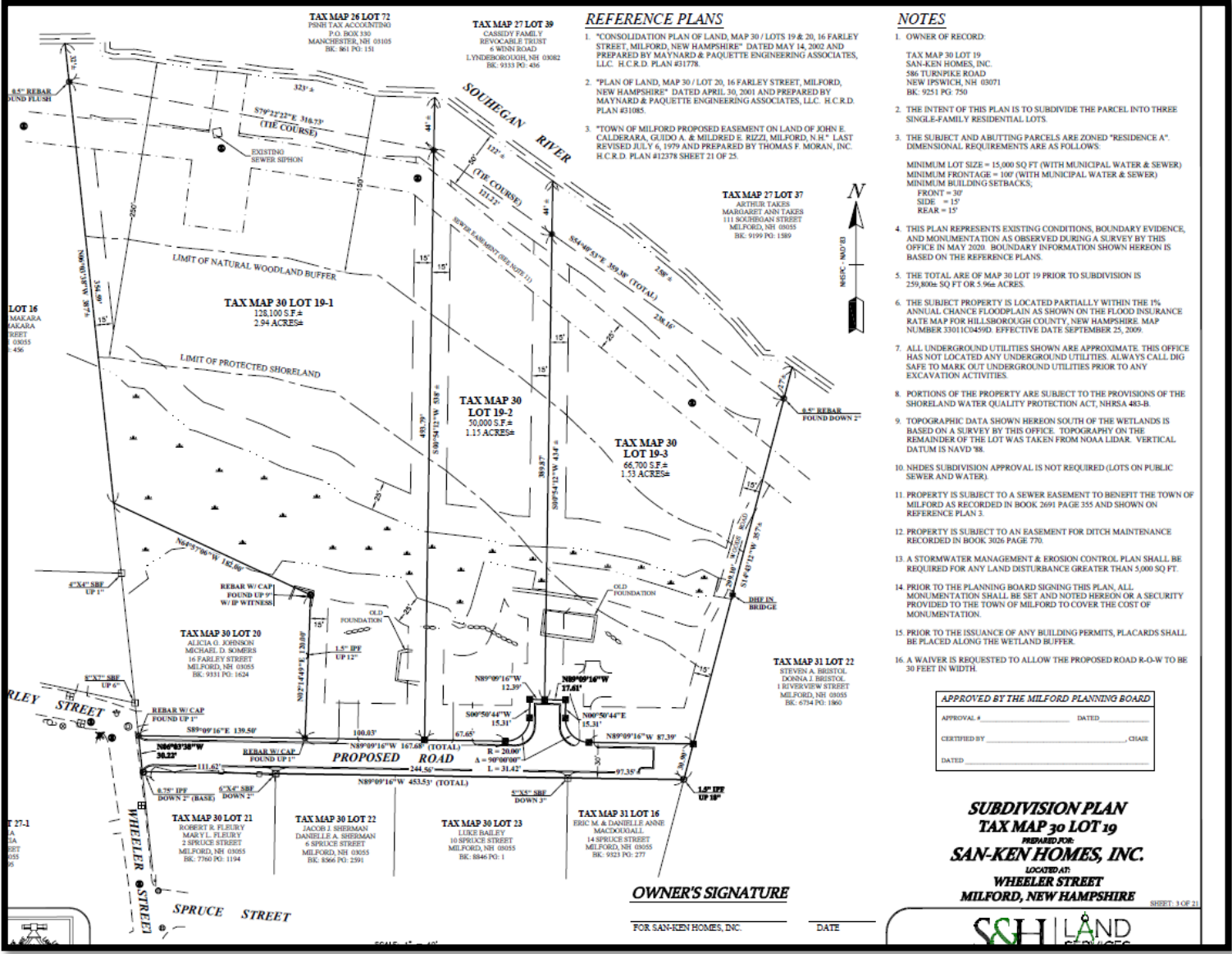
will likely inquire about this.

2. From a planning perspective, the buildable areas for these lots are fairly maxed out which do not leave much room for a future homeowner to 'add onto' these lots with a pool, or patio, or garages etc. There is concern that lots are being created which will require additional regulatory relief down the road which is typically not good practice. Please provide some calculations toward developable footprints, etc.
3. The Planning Board may require sidewalks on either one or both sides of this street for pedestrian circulation. Be prepared for this discussion.

**STAFF RECOMMENDATIONS:**

The applicant should be prepared to address all of the comments raised by the Planning Board, Barring any/all input and recommendations from the Board, Staff recommends approving the major subdivision with the following conditions:

1. Complete the local stormwater permit application process.
2. A Special Exception will be needed prior to construction of the middle and 3<sup>rd</sup> lot given their proximity to the wetland buffer as well as the potential removal of the historic foundation and its proximity to the wetland buffer.
3. The Planning Board should have discussion on each of the waivers individually and a positive finding for each will be necessary for this project's approval as submitted.



**REFERENCE PLANS**

- "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.
- "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.
- "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.

**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 SUBDIVIDE THE PARCEL INTO THREE SINGLE-FAMILY RESIDENTIAL LOTS.
- THE SUBJECT AND ADJUTING 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'
- 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 TOTAL AREA OF MAP 30 LOT 19 PRIOR TO SUBDIVISION IS 259,800± SQ FT OR 5.96± ACRES.
- 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.
- NHDES SUBDIVISION APPROVAL IS NOT REQUIRED (LOTS ON PUBLIC SEWER AND WATER).
- 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.
- A STORMWATER MANAGEMENT & EROSION CONTROL PLAN SHALL BE REQUIRED FOR ANY LAND DISTURBANCE GREATER THAN 5,000 SQ FT.
- PRIOR TO THE PLANNING BOARD SIGNING THIS PLAN, ALL MONUMENTATION SHALL BE SET AND NOTED HEREON OR A SECURITY PROVIDED TO THE TOWN OF MILFORD TO COVER THE COST OF MONUMENTATION.
- PRIOR TO THE ISSUANCE OF ANY BUILDING PERMITS, PLACARDS SHALL BE PLACED ALONG THE WETLAND BUFFER.
- A WAIVER IS REQUESTED TO ALLOW THE PROPOSED ROAD R-O-W TO BE 30 FEET IN WIDTH.

APPROVED BY THE MILFORD PLANNING BOARD

APPROVAL # \_\_\_\_\_ DATED \_\_\_\_\_

CERTIFIED BY \_\_\_\_\_, CHAIR

DATED \_\_\_\_\_

**SUBDIVISION PLAN**  
**TAX MAP 30 LOT 19**  
PREPARED FOR:  
**SAN-KEN HOMES, INC.**  
LOCATED AT:  
**WHEELER STREET**  
**MILFORD, NEW HAMPSHIRE**

**OWNER'S SIGNATURE**

FOR SAN-KEN HOMES, INC.

DATE \_\_\_\_\_

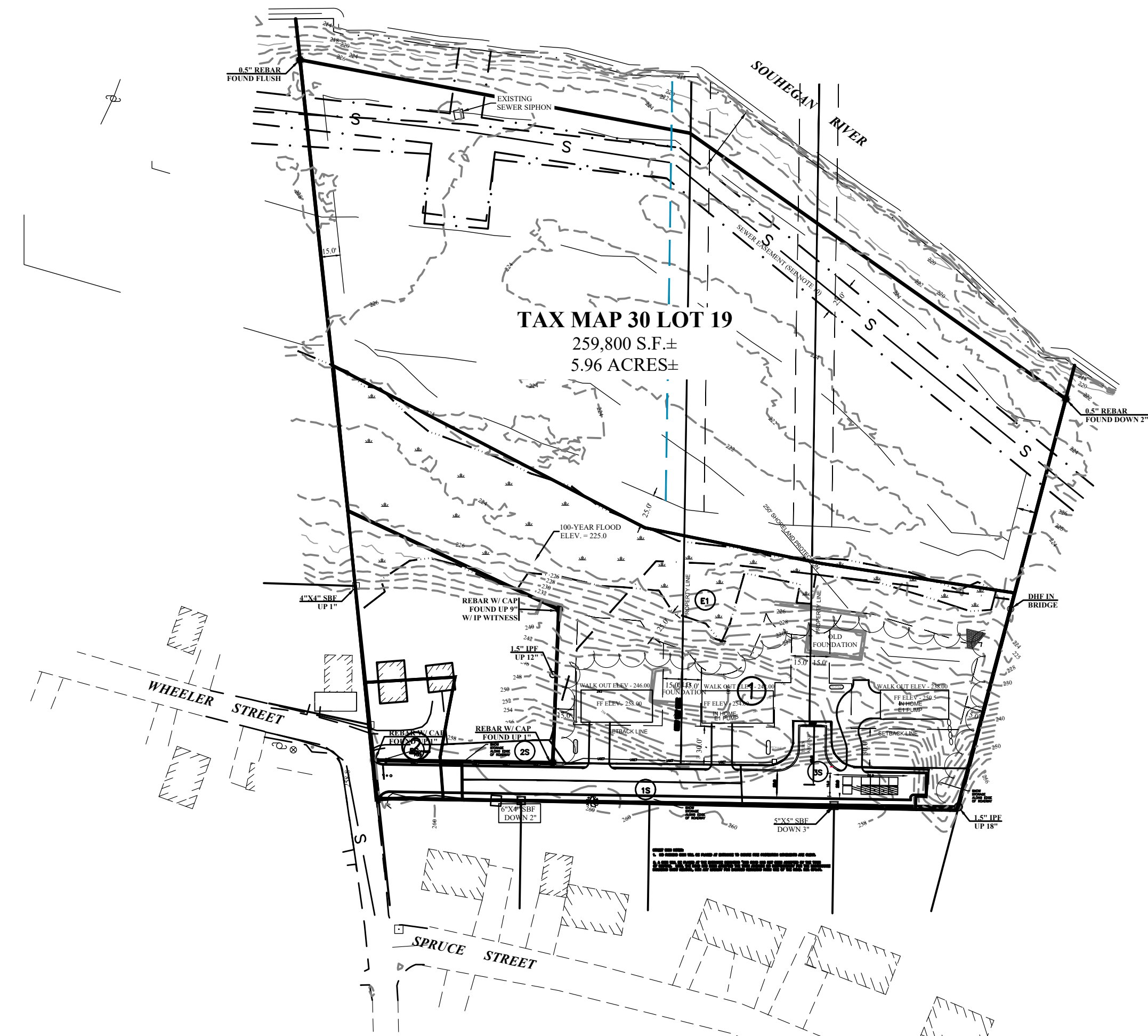
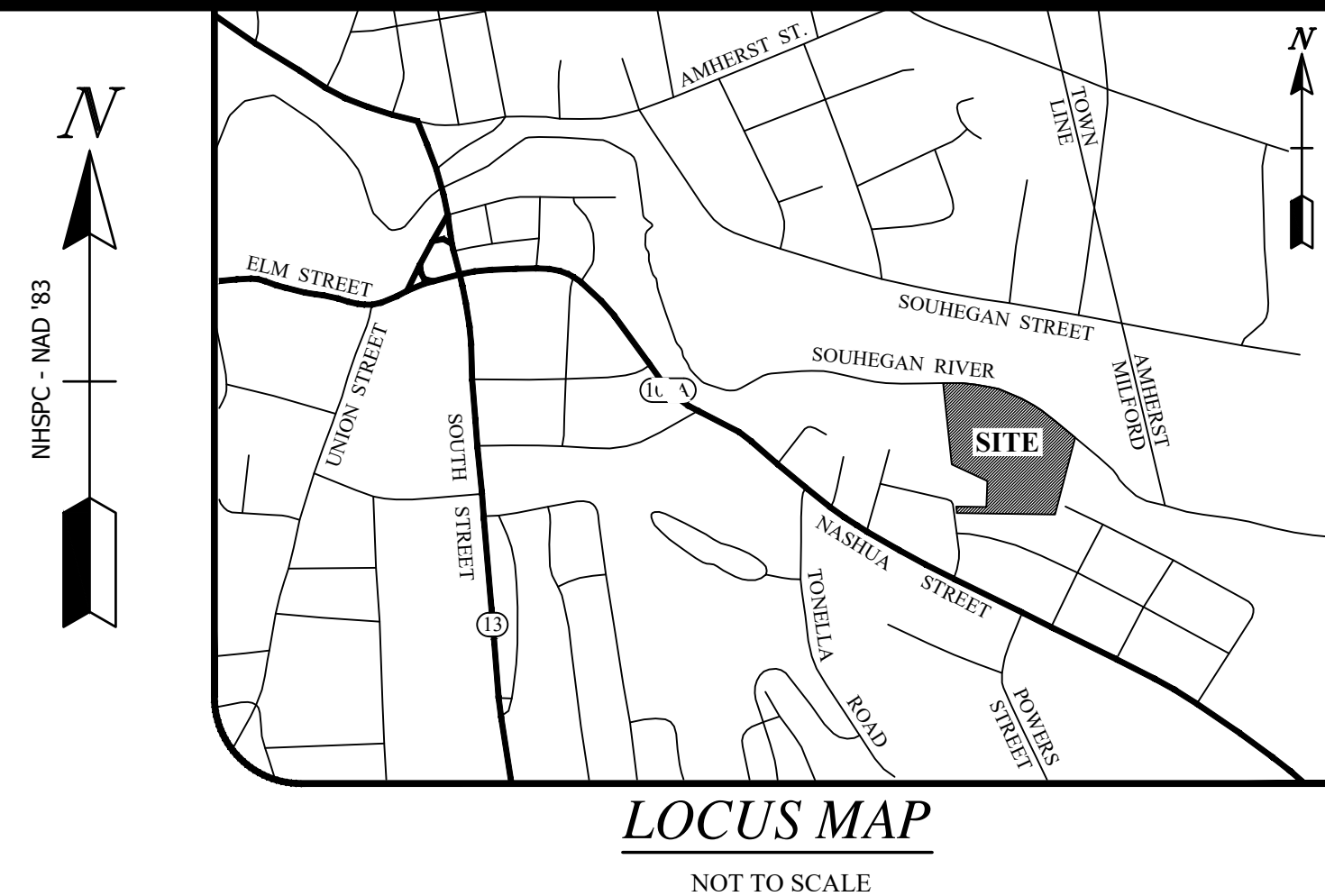


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BK: 9251 PG: 750
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- THE SUBJECT AND ABUTTING PARCELS ARE ZONED "RESIDENCE A". DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS:  
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FRONT = 30'  
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REAR = 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.
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- 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. UPDATED EASEMENTS WILL BE RECORDED WITH NEW DEEDS FOR EACH LOT.
- 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: WAIVER FOR 30' ROW AND WAIVER FOR HAMMERHEAD DIMENSIONS.
- SNOW WILL BE STORED ALONG THE EDGE OF THE ROADWAY AND EDGE OF DRIVEWAYS. EXCESS SNOW WILL BE REMOVED FROM THE SITE
- TOTAL DISTURBED AREA = 41,597 SQ FT.

# S I T E D E V E L O P M E N T P L A N S

## WHEELER ROAD- MILFORD, NH



**LIST OF DRAWINGS**

DWG NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS / BOUNDARY PLAN
3, 4	SUBDIVISION PLANS
5	SITE PLAN
6	UTILITY PLAN
7	GRADING DRAINAGE EROSION CONTROL PLAN
8	LANDSCAPING LIGHTING PLANS
9	ROADWAY AND DRAINAGE PROFILES
10-14	CONSTRUCTION & EROSION CONTROL DETAILS
15-20	STORMTECH DETAILS
20A	WHEELER STREET WATER REPLACEMENT PLAN

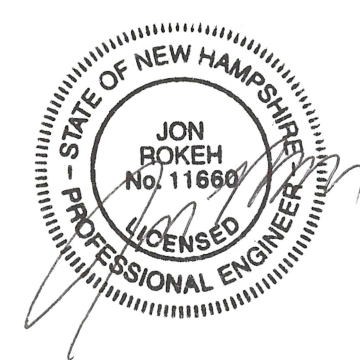
*LIST OF ADDITIONAL CONSULTANTS*

**LAND SURVEYOR**  
S&H LAND SERVICES LLC  
1600 CANDIA ROAD  
SUITE #5  
MANCHESTER NH  
603-628-8500

**WETLANDS**  
CHRISTOPHER GUIDA  
FIELDSTONE LAND CONSULTANTS, PLLC  
206 ELM STREET  
MILFORD, NH, 03055  
phone: (603) 672-5456

**OWNER'S SIGNATURE**

FOR SAN KEN HOMES, INC



DATE

**APPROVED**

MILFORD, NH PLANNING BOARD

DATE APPROVED \_\_\_\_\_

DATE SIGNED: \_\_\_\_\_

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.  
586 TURNPIKE ROAD  
NEW IPSWICH, NH

COVER SHEET  
SINGLE FAMILY HOME DEVELOPMENT  
MAP 30, LOT 19  
WHEELER STREET, MILFORD NH

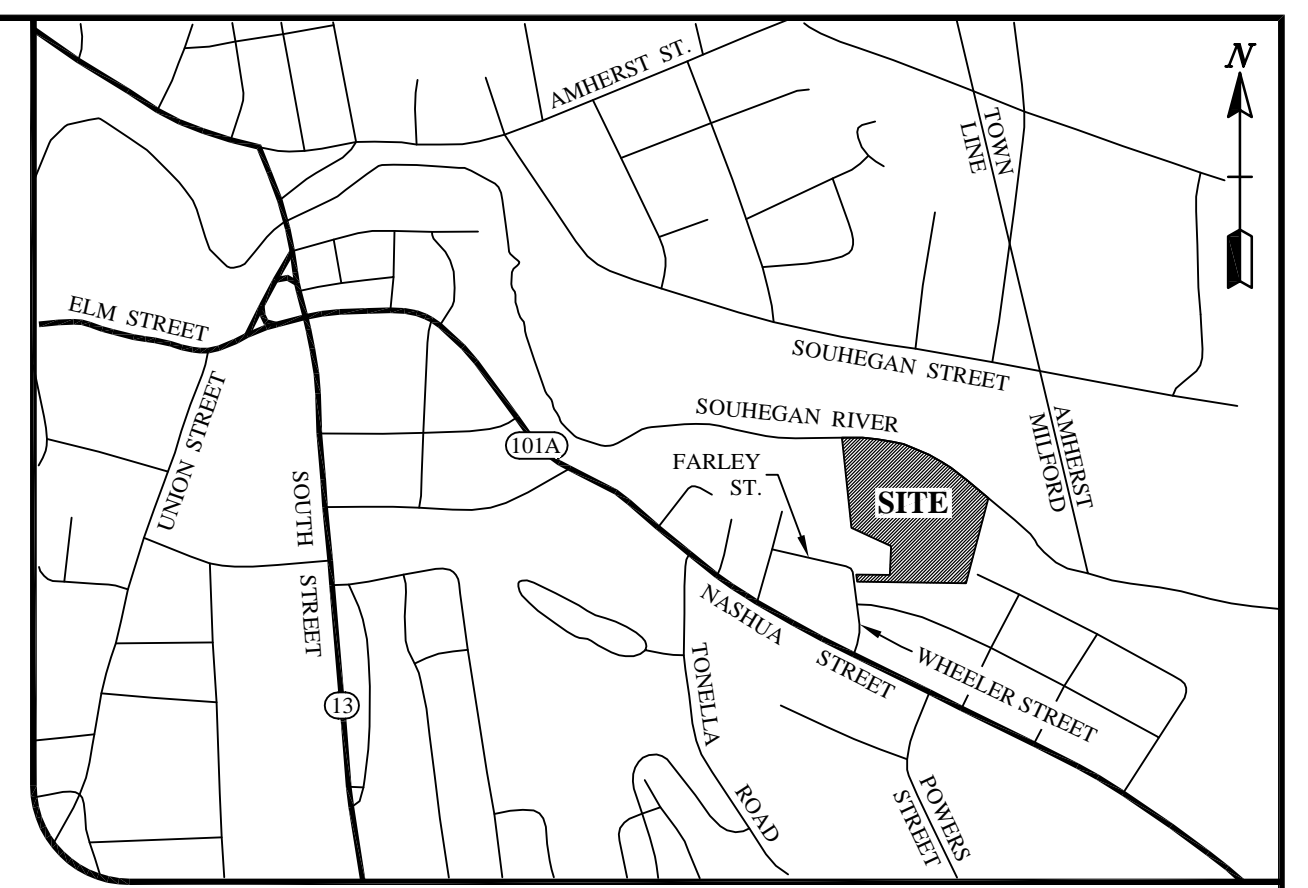
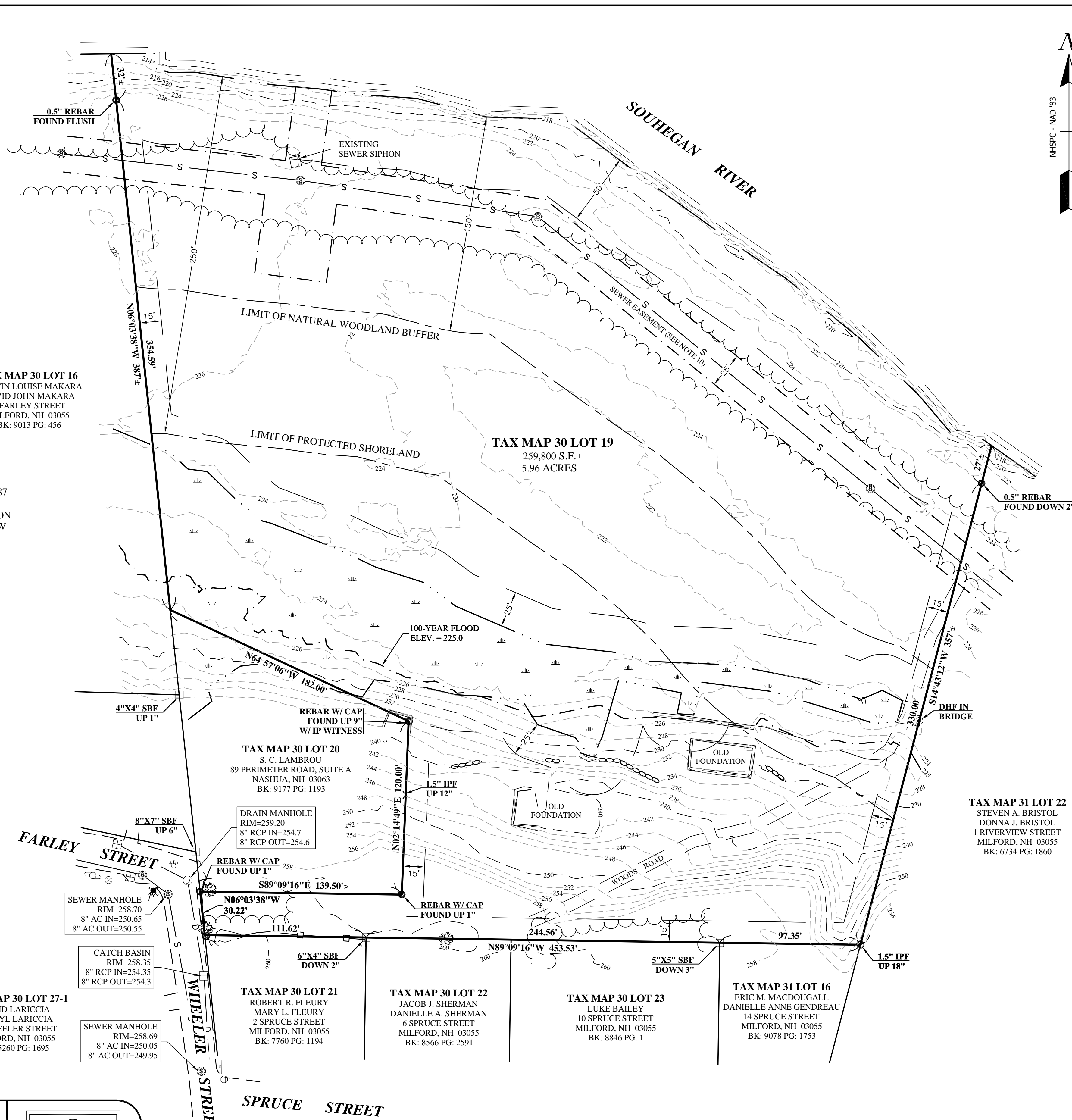
DATE	DESCRIPTION	DWN BY	CK BY
8-9-21	REVISED PER TOWN COMMENTS	JR	JR

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 20

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**LOCUS MAP**  
NOT TO SCALE

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

**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 \_\_\_\_\_

**SYMBOL LEGEND**

- REBAR W/CAP TO BE SET
- BOUND FOUND
- IRON PIPE FOUND
- IRON PIN 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

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

**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

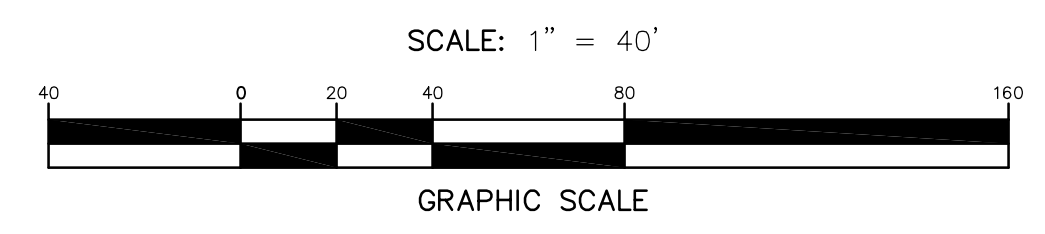
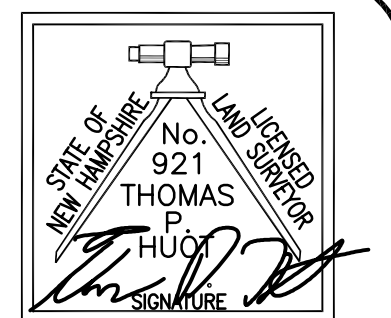
**TAX MAP 31 LOT 22**  
STEVEN A. BRISTOL  
DONNA J. BRISTOL  
1 RIVERVIEW STREET  
MILFORD, NH 03055  
BK: 6734 PG: 1860

**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

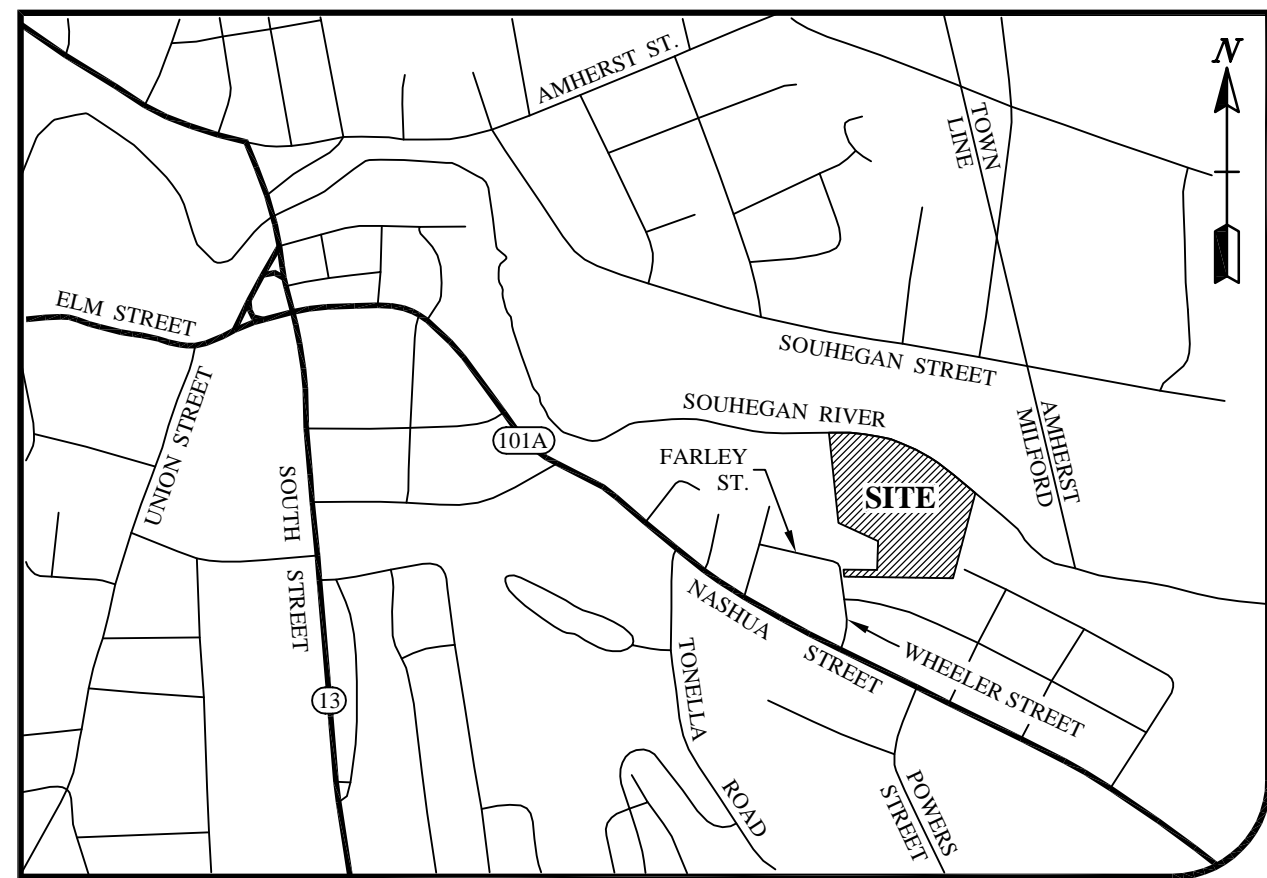
8/9/2021  
DATE



NO.	DATE	DESCRIPTION	BY
1	8/9/21	ADD SHORELAND SETBACK	JRD

**EXISTING CONDITIONS PLAN**  
**TAX MAP 30 LOT 19**  
PREPARED FOR:  
**SAN-KEN HOMES, INC.**  
LOCATED AT:  
**WHEELER STREET**  
**MILFORD, NEW HAMPSHIRE**





**LOCUS MAP**  
NOT TO SCALE

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

**WETLAND CERTIFICATION**

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- ⊙ SEWER MANHOLE
- ⊕ CATCH BASIN
- EDGE OF PAVEMENT
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- UNDERGROUND SEWER
- UNDERGROUND WATER

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SHERYL LARICCIA  
12 WHEELER STREET  
MILFORD, NH 03055  
BK: 5260 PG: 1695

**TAX MAP 30 LOT 20**  
ALICIA G. JOHNSON  
MICHAEL D. SOMERS  
16 FARLEY STREET  
MILFORD, NH 03055  
BK: 9331 PG: 1624

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MARY L. FLEURY  
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**TAX MAP 31 LOT 16**  
ERIC M. & DANIELLE ANNE  
MACDOUGALL  
14 SPRUCE STREET  
MILFORD, NH 03055  
BK: 9323 PG: 277

**TAX MAP 26 LOT 72**  
PSNH TAX ACCOUNTING  
P.O. BOX 330  
MANCHESTER, NH 03105  
BK: 861 PG: 151

**TAX MAP 27 LOT 39**  
CASSIDY FAMILY  
REVOCABLE TRUST  
6 WINN ROAD  
LYNDEBOROUGH, NH 03082  
BK: 9333 PG: 436

**TAX MAP 27 LOT 37**  
ARTHUR TAKES  
MARGARET ANN TAKES  
111 SOUHEGAN STREET  
MILFORD, NH 03055  
BK: 9199 PG: 1589

**REFERENCE PLANS**

- "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.
- "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.
- "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.

**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 SUBDIVIDE THE PARCEL INTO THREE SINGLE-FAMILY RESIDENTIAL LOTS.
- 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'
- 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 TOTAL AREA OF MAP 30 LOT 19 PRIOR TO SUBDIVISION IS 259,800± SQ FT OR 5.96± ACRES.
- 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 33011C0459D. 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.
- NHDES SUBDIVISION APPROVAL IS NOT REQUIRED (LOTS ON PUBLIC SEWER AND WATER).
- 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.
- A STORMWATER MANAGEMENT & EROSION CONTROL PLAN SHALL BE REQUIRED FOR ANY LAND DISTURBANCE GREATER THAN 5,000 SQ FT.
- PRIOR TO THE PLANNING BOARD SIGNING THIS PLAN, ALL MONUMENTATION SHALL BE SET AND NOTED HEREON OR A SECURITY PROVIDED TO THE TOWN OF MILFORD TO COVER THE COST OF MONUMENTATION.
- PRIOR TO THE ISSUANCE OF ANY BUILDING PERMITS, PLACARDS SHALL BE PLACED ALONG THE WETLAND BUFFER.
- A WAIVER IS REQUESTED TO ALLOW THE PROPOSED ROAD R-O-W TO BE 30 FEET IN WIDTH.

APPROVED BY THE MILFORD PLANNING BOARD

APPROVAL # \_\_\_\_\_ DATED \_\_\_\_\_  
CERTIFIED BY \_\_\_\_\_ CHAIR  
DATED \_\_\_\_\_

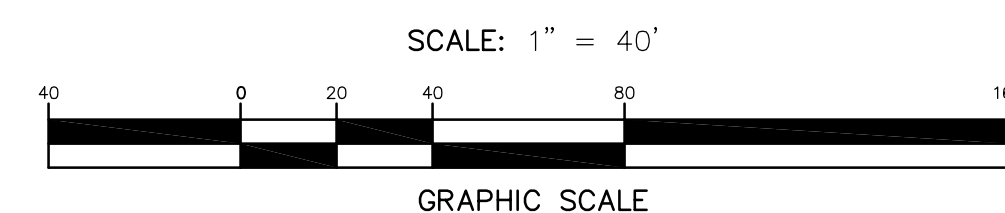
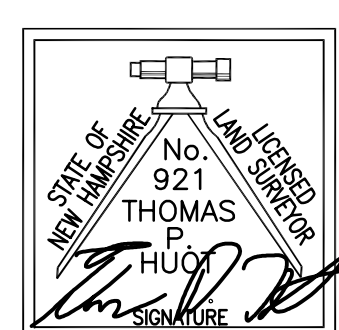
**SUBDIVISION PLAN**  
**TAX MAP 30 LOT 19**  
PREPARED FOR:  
**SAN-KEN HOMES, INC.**  
LOCATED AT:  
**WHEELER STREET**  
**MILFORD, NEW HAMPSHIRE**

SHEET: 3 OF 21

**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  
DATE: 8/9/2021



**OWNER'S SIGNATURE**

FOR SAN-KEN HOMES, INC. DATE \_\_\_\_\_

NO.	DATE	DESCRIPTION	BY
1	8/9/21	PER STAFF REVIEW COMMENTS	JRD
2	8/11/21	PER STAFF REVIEW COMMENTS	JRD



TAX MAP 26 LOT 72  
PSNH TAX ACCOUNTING  
P.O. BOX 330  
MANCHESTER, NH 03105  
BK: 861 PG: 151

TAX MAP 27 LOT 39  
CASSIDY FAMILY  
REVOCABLE TRUST  
6 WINN ROAD  
LYNDEBOROUGH, NH 03082  
BK: 9333 PG: 436

TAX MAP 27 LOT 37  
ARTHUR TAKES  
MARGARET ANN TAKES  
111 SOUHEGAN STREET  
MILFORD, NH 03055  
BK: 9199 PG: 1589

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 19-1  
128,100 S.F.±  
2.94 ACRES±

TAX MAP 30  
LOT 19-2  
50,000 S.F.±  
1.15 ACRES±

TAX MAP 30  
LOT 19-3  
66,700 S.F.±  
1.53 ACRES±

TAX MAP 30 LOT 20  
ALICIA G. JOHNSON  
MICHAEL D. SOMERS  
16 FARLEY STREET  
MILFORD, NH 03055  
BK: 9331 PG: 1624

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

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. & DANIELLE ANNE  
MACDOUGALL  
14 SPRUCE STREET  
MILFORD, NH 03055  
BK: 9323 PG: 277

**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 \_\_\_\_\_

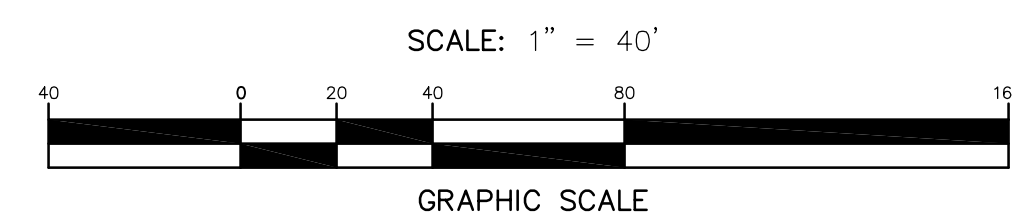
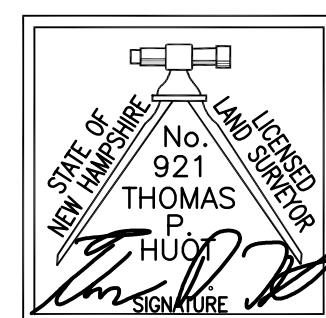
**SYMBOL LEGEND**

- REBAR W/CAP TO BE SET
- BOUND FOUND
- IRON PIPE FOUND
- IRON PIN FOUND
- ⊙ DRILL HOLE FOUND
- SIGN
- UTILITY POLE
- ⊗ GUY WIRE
- ⊕ WATER SHUTOFF
- ⊕ FIRE HYDRANT
- ⊙ SEWER MANHOLE
- ⊕ DRAIN MANHOLE
- ⊕ CATCH BASIN
- EDGE OF PAVEMENT
- 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)."

*[Signature]* 8/9/2021  
LICENSED LAND SURVEYOR DATE



**OWNER'S SIGNATURE**

FOR SAN-KEN HOMES, INC. DATE \_\_\_\_\_

APPROVED BY THE MILFORD PLANNING BOARD

APPROVAL # \_\_\_\_\_ DATED \_\_\_\_\_  
CERTIFIED BY \_\_\_\_\_ CHAIR  
DATED \_\_\_\_\_

**TOPOGRAPHIC PLAN**  
**TAX MAP 30 LOT 19**  
PREPARED FOR:  
**SAN-KEN HOMES, INC.**  
LOCATED AT:  
**WHEELER STREET**  
**MILFORD, NEW HAMPSHIRE**

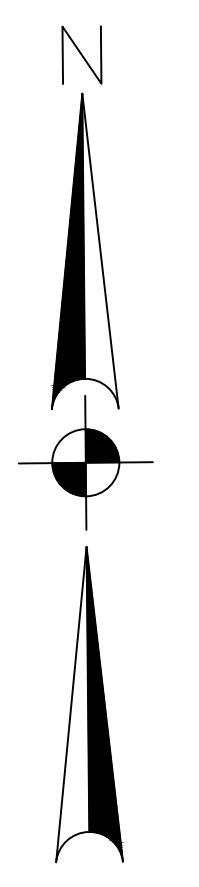
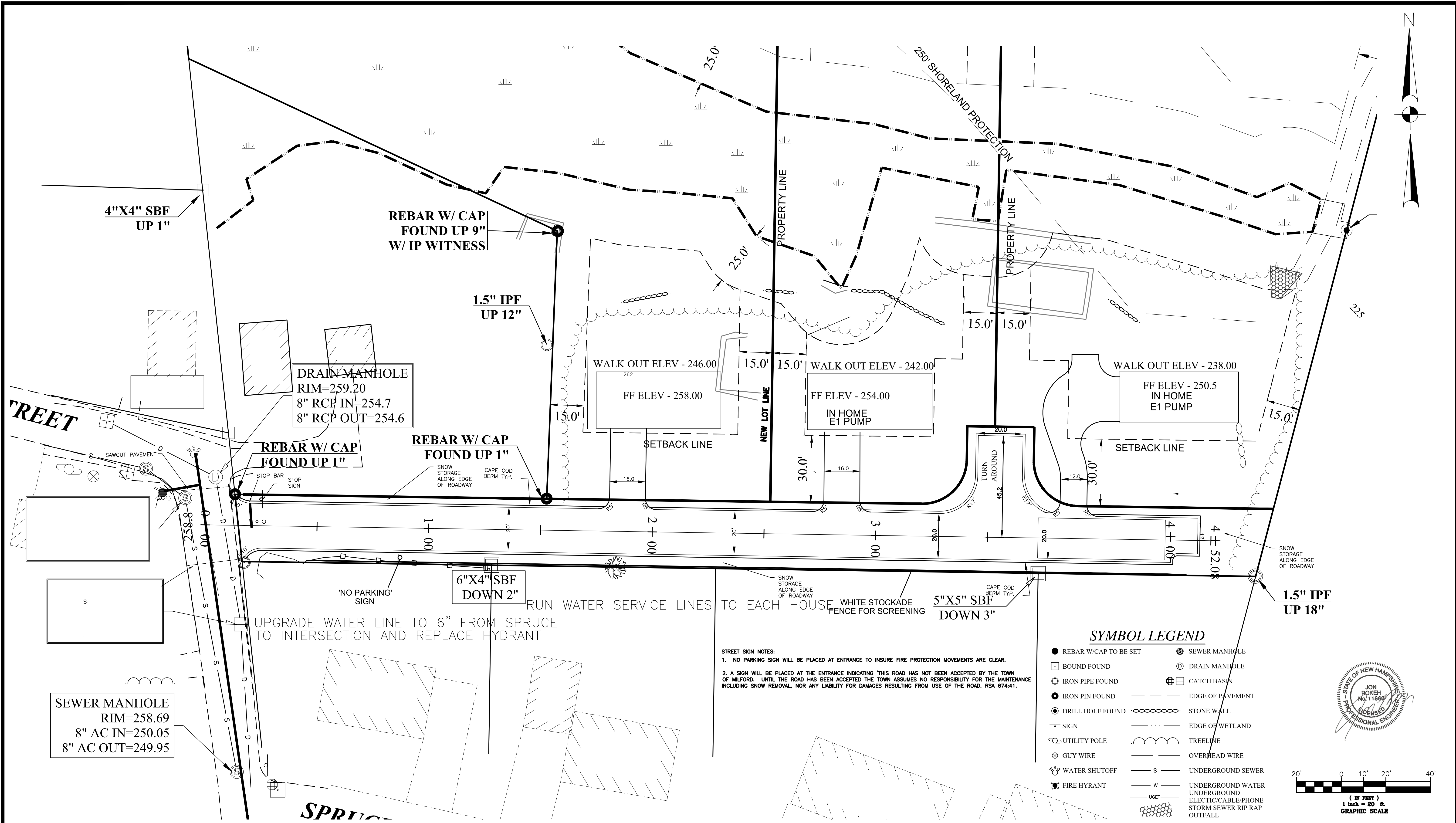
SHEET: 4 OF 21



NO.	DATE	DESCRIPTION	BY
1	8/9/21	PER STAFF REVIEW COMMENTS	JRD
2	8/11/21	PER STAFF REVIEW COMMENTS	JRD

SCALE: 1" = 40' DATE: JULY 16, 2021 TSC3 & SURVEYOR 2 JOB #2019319

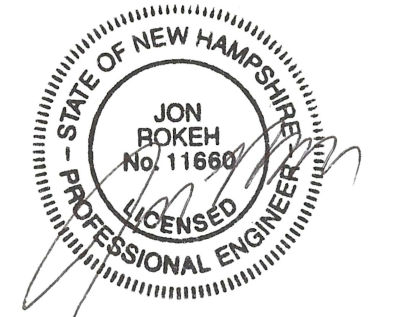
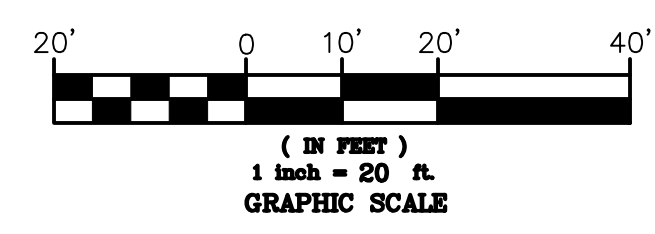




**SYMBOL LEGEND**

- REBAR W/CAP TO BE SET
- BOUND FOUND
- IRON PIPE FOUND
- IRON PIN FOUND
- DRILL HOLE FOUND
- ⊕ 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
- S UNDERGROUND SEWER
- W UNDERGROUND WATER
- UGET UNDERGROUND ELECTRIC/CABLE/PHONE
- STORM SEWER RIP RAP
- OUTFALL

**STREET SIGN NOTES:**  
 1. NO PARKING SIGN WILL BE PLACED AT ENTRANCE TO INSURE FIRE PROTECTION MOVEMENTS ARE CLEAR.  
 2. A SIGN WILL BE PLACED AT THE ENTRANCE INDICATING THIS ROAD HAS NOT BEEN ACCEPTED BY THE TOWN OF MILFORD. UNTIL THE ROAD HAS BEEN ACCEPTED THE TOWN ASSUMES NO RESPONSIBILITY FOR THE MAINTENANCE INCLUDING SNOW REMOVAL, NOR ANY LIABILITY FOR DAMAGES RESULTING FROM USE OF THE ROAD. RSA 674:41.



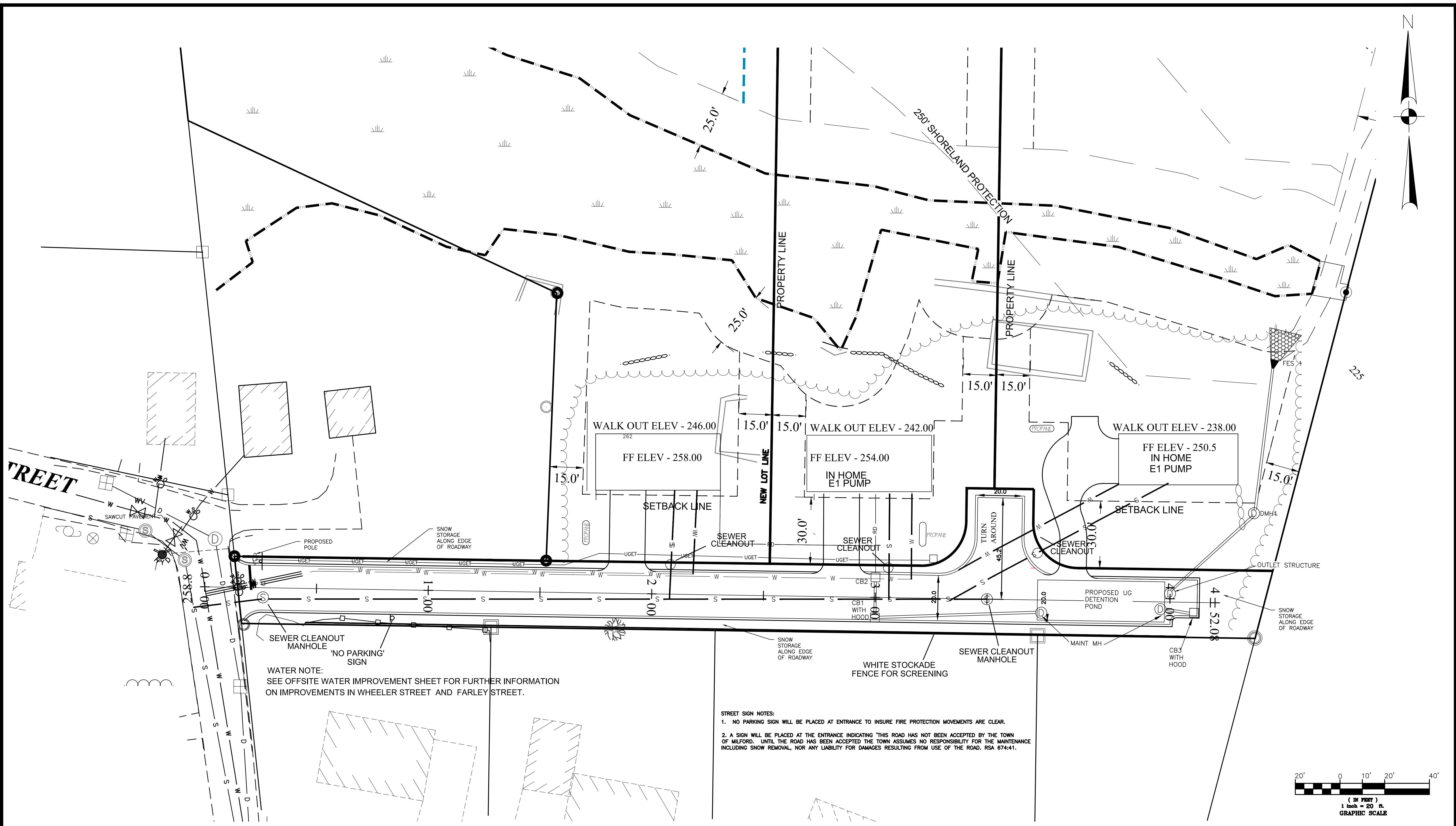
PREPARED FOR:  
 SAN-KEN HOMES, INC.  
 286 TURNPIKE ROAD  
 NEW IPSWICH, NH

SITE PLAN  
 SINGLE FAMILY HOME DEVELOPMENT  
 MAP 30, LOT 19  
 WHEELER STREET, MILFORD NH

DATE	DESCRIPTION	DWN BY	CK BY
7-21-21	EXPAND HAMMERHEAD / ADD NO PARKING SIGN	JR	JR
8-9-21	REVISED PER TOWN COMMENTS	JR	JR

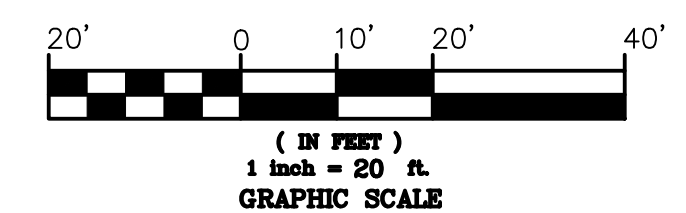
**Rokeh Consulting, LLC**  
 89 KING ROAD, CHICHESTER, NH  
 PH: 603-387-8688

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



WATER NOTE:  
SEE OFFSITE WATER IMPROVEMENT SHEET FOR FURTHER INFORMATION  
ON IMPROVEMENTS IN WHEELER STREET AND FARLEY STREET.

STREET SIGN NOTES:  
1. NO PARKING SIGN WILL BE PLACED AT ENTRANCE TO INSURE FIRE PROTECTION MOVEMENTS ARE CLEAR.  
2. A SIGN WILL BE PLACED AT THE ENTRANCE INDICATING "THIS ROAD HAS NOT BEEN ACCEPTED BY THE TOWN OF MILFORD. UNTIL THE ROAD HAS BEEN ACCEPTED THE TOWN ASSUMES NO RESPONSIBILITY FOR THE MAINTENANCE INCLUDING SNOW REMOVAL, NOR ANY LIABILITY FOR DAMAGES RESULTING FROM USE OF THE ROAD. RSA 674:41.



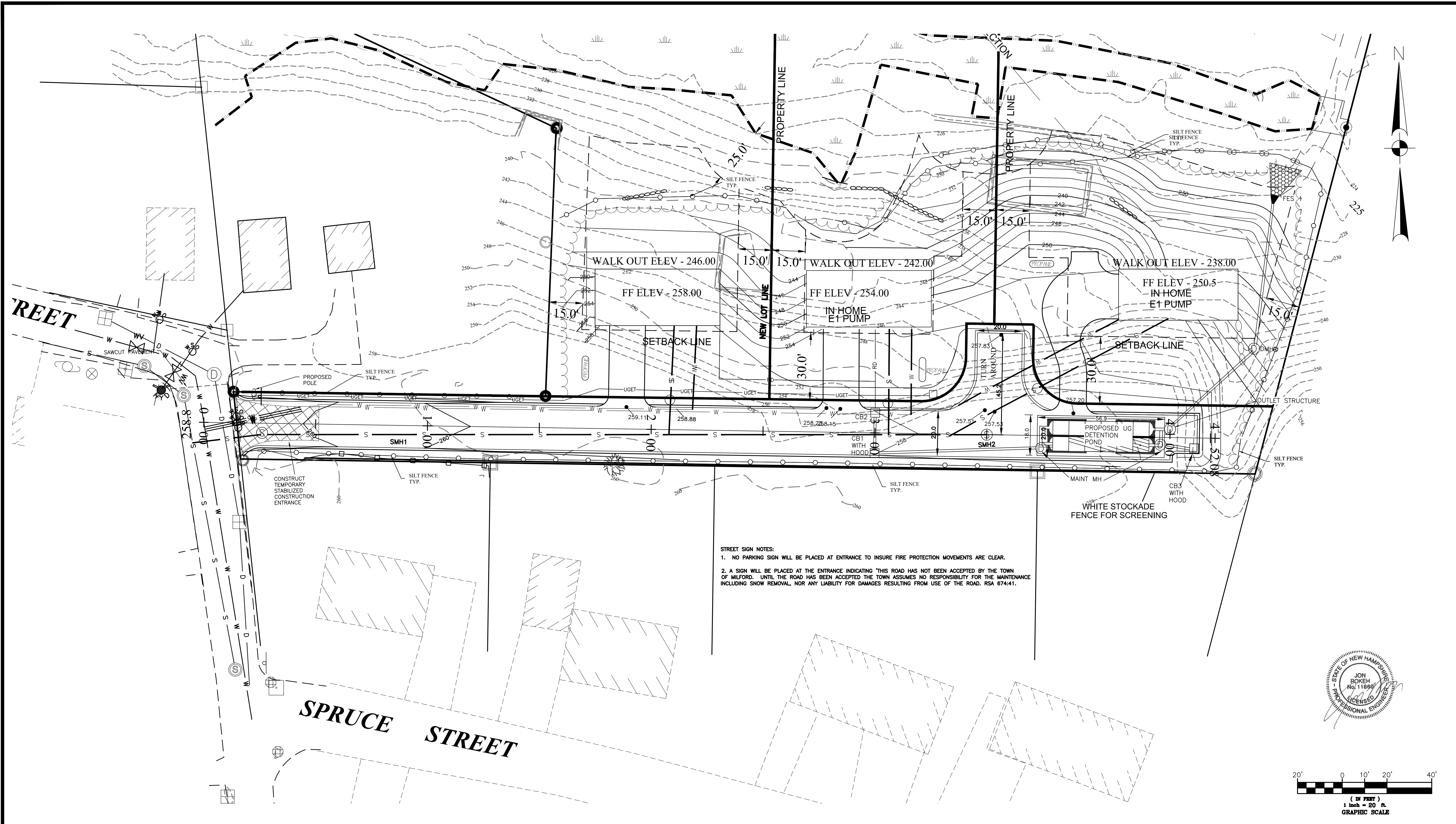
PREPARED FOR:  
SAN-KEN HOMES, INC.  
586 TURNPIKE ROAD  
NEW IPSWICH, NH

UTILITY PLAN  
SINGLE FAMILY HOME DEVELOPMENT  
MAP 30, LOT 19  
WHEELER STREET, MILFORD NH

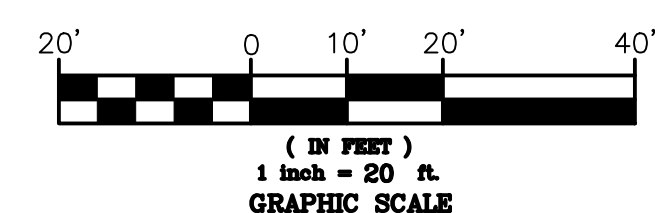
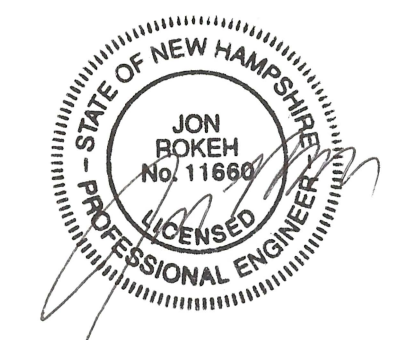
DATE	DESCRIPTION	DWN BY	CK BY
8-9-21	REVISED PER TOWN COMMENTS	JR	JR
8-12-21	REVISED PER ONSITE MEETING WITH MILFORD	JR	JR

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  
6 of 20



STREET SIGN NOTES:  
 1. NO PARKING SIGN WILL BE PLACED AT ENTRANCE TO INSURE FIRE PROTECTION MOVEMENTS ARE CLEAR.  
 2. A SIGN WILL BE PLACED AT THE ENTRANCE INDICATING "THIS ROAD HAS NOT BEEN ACCEPTED BY THE TOWN OF MILFORD. UNTIL THE ROAD HAS BEEN ACCEPTED THE TOWN ASSUMES NO RESPONSIBILITY FOR THE MAINTENANCE INCLUDING SNOW REMOVAL, NOR ANY LIABILITY FOR DAMAGES RESULTING FROM USE OF THE ROAD. RSA 674:41."



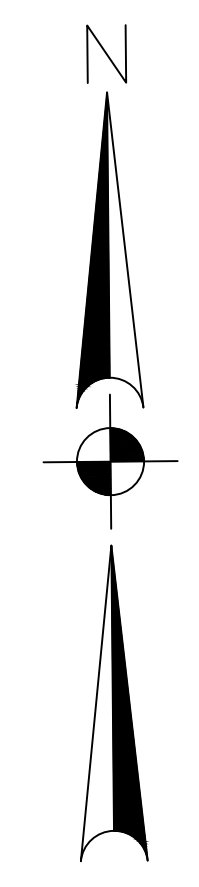
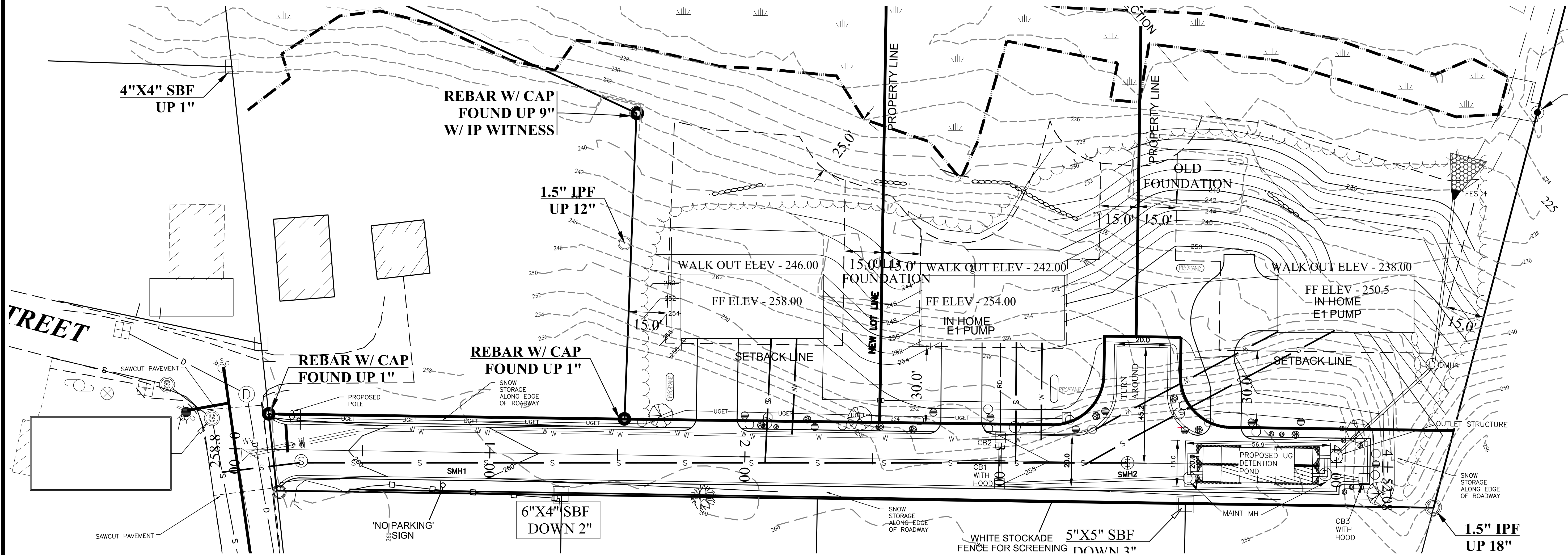
PREPARED FOR:  
 SAN-KEN HOMES, INC.  
 586 TURNPIKE ROAD  
 NEW IPSWICH, NH

GRADING AND DRAINAGE  
 SINGLE FAMILY HOME DEVELOPMENT  
 MAP 30, LOT 19  
 WHEELER STREET, MILFORD NH

DATE	DESCRIPTION	DWN BY	CK BY
8-9-21	REVISED PER TOWN COMMENTS	JR	JR
8-12-21	REVISED PER ONSITE MEETING WITH MILFORD	JR	JR

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

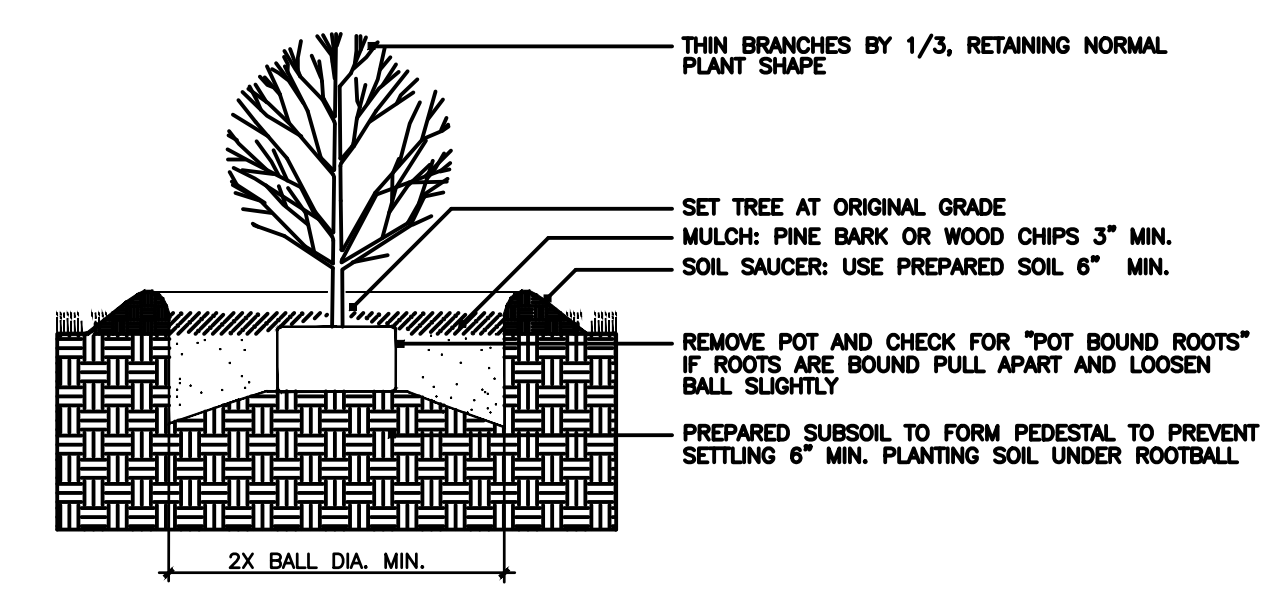
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 DATE: JULY 7, 2020  
 DR. BY: JR  
 JOB NO.  
 SHEET  
 7 of 20



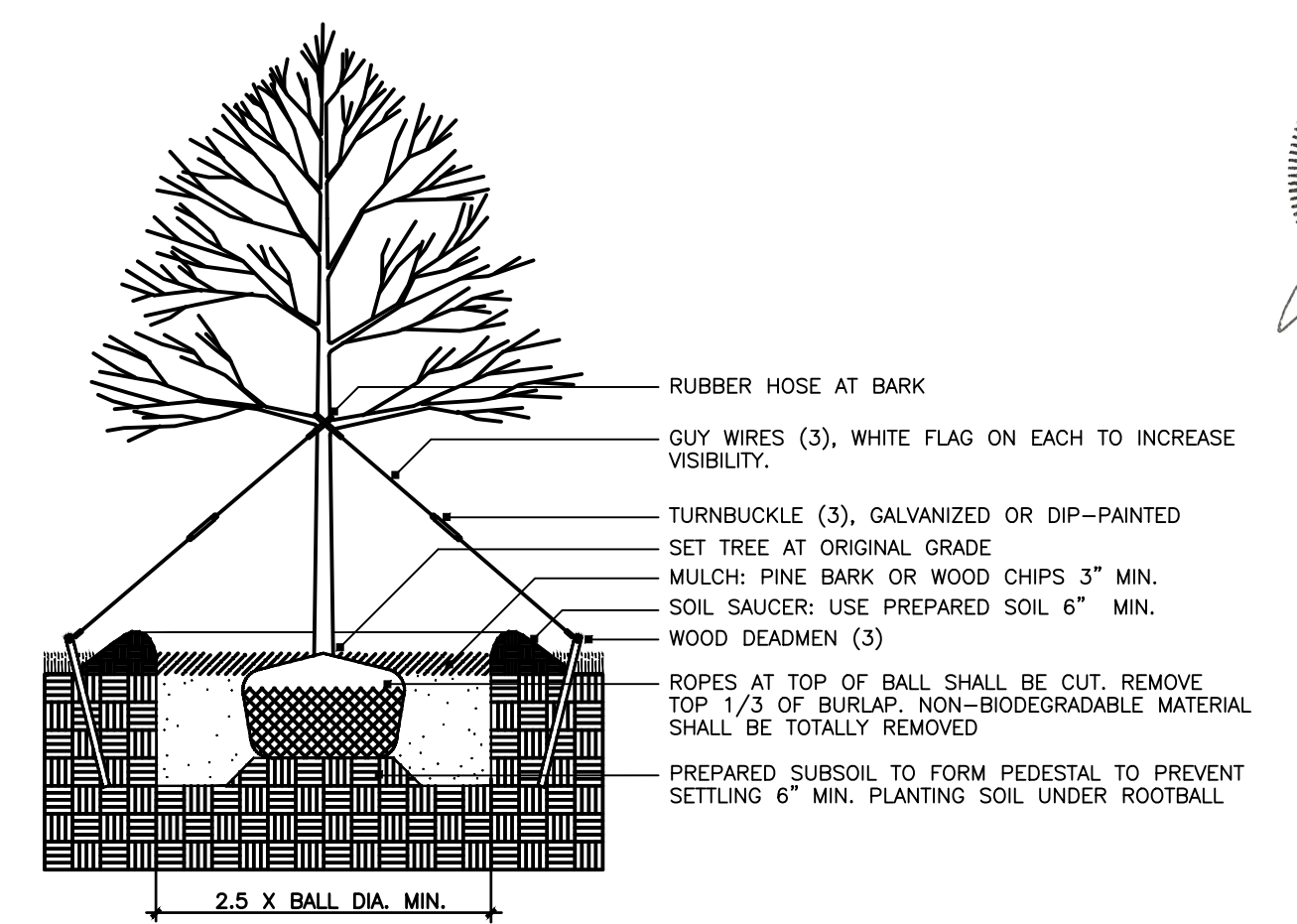
KEY	LATIN NAME	COMMON NAME	QUANTITY
	Acer saccharum	SUGAR MAPLE 2 1/2" CAL.	4
	Euonymus alatus 'Compact'	DWARF BURNING BUSH 2'-3" 8" O.C.	9
	Taxus 'Greenwave'	GREENWAVE YEW 2 1/2"-3" B&B 8" O.C.	14
	Rhododendron 'Purpleum Elegans'	ELEGANT PURPLE RHODODENDRON 2 1/2"-3" B&B 8" O.C.	7
	Rhododendron 'P.J.M.'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

**GENERAL LANDSCAPE NOTES:**

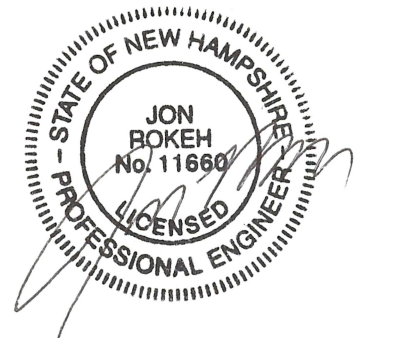
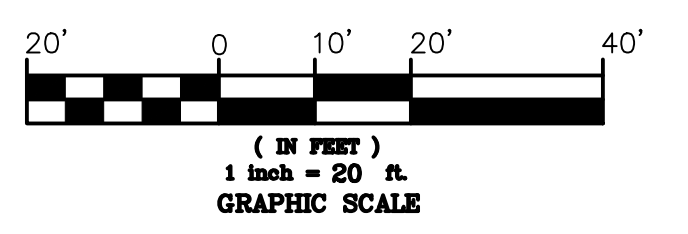
- LANDSCAPE CONTRACTOR SHALL PROVIDE A CERTIFIED SOIL ANALYSIS PRIOR TO ANY PLANT INSTALLATION TO DETERMINE ANY NECESSARY AMENDMENTS TO THE EXISTING SOIL CONDITIONS FOR SEEDING AND PLANTINGS. THE ANALYSIS WILL ALSO BE REQUIRED TO ESTABLISH THE FERTILIZER PROGRAM.
- ALL PLANTING METHODS WILL BE IN STRICT 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



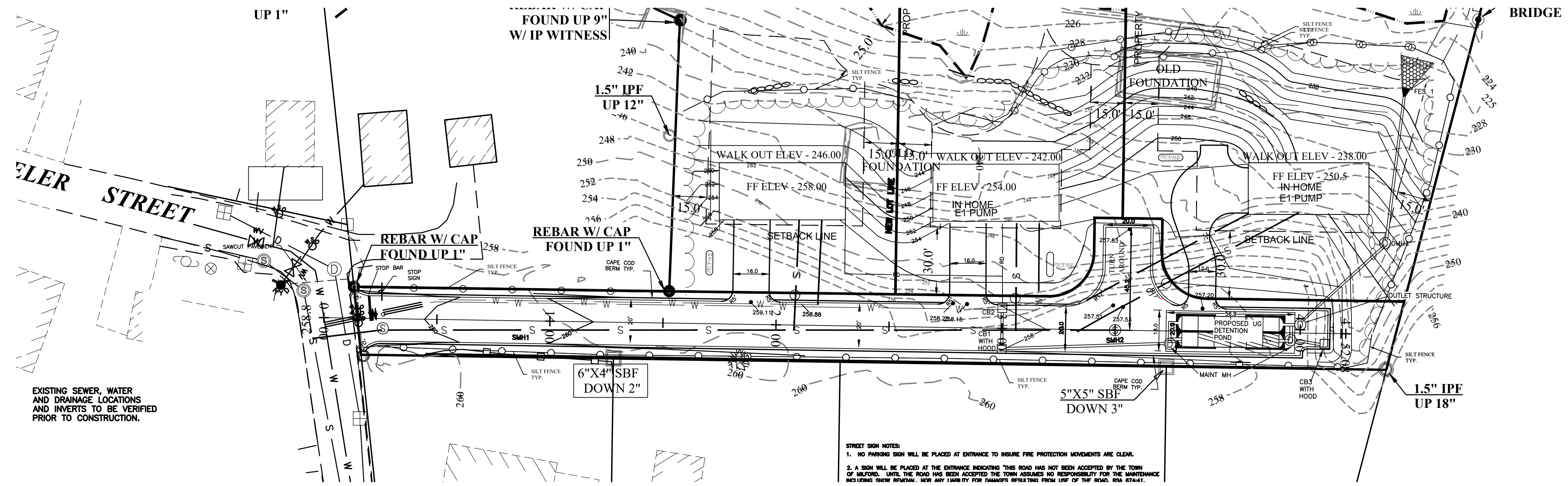
PREPARED FOR:  
SAN-KEN HOMES, INC.  
286 TURNPIKE ROAD  
NEW IPSWICH, NH

LANDSCAPE LIGHTING PLAN  
SINGLE FAMILY HOME DEVELOPMENT  
MAP 30, LOT 19  
WHEELER STREET, MILFORD NH

DATE	DESCRIPTION	DWN BY	CK BY
8-9-21	REVISED PER TOWN COMMENTS	JR	JR

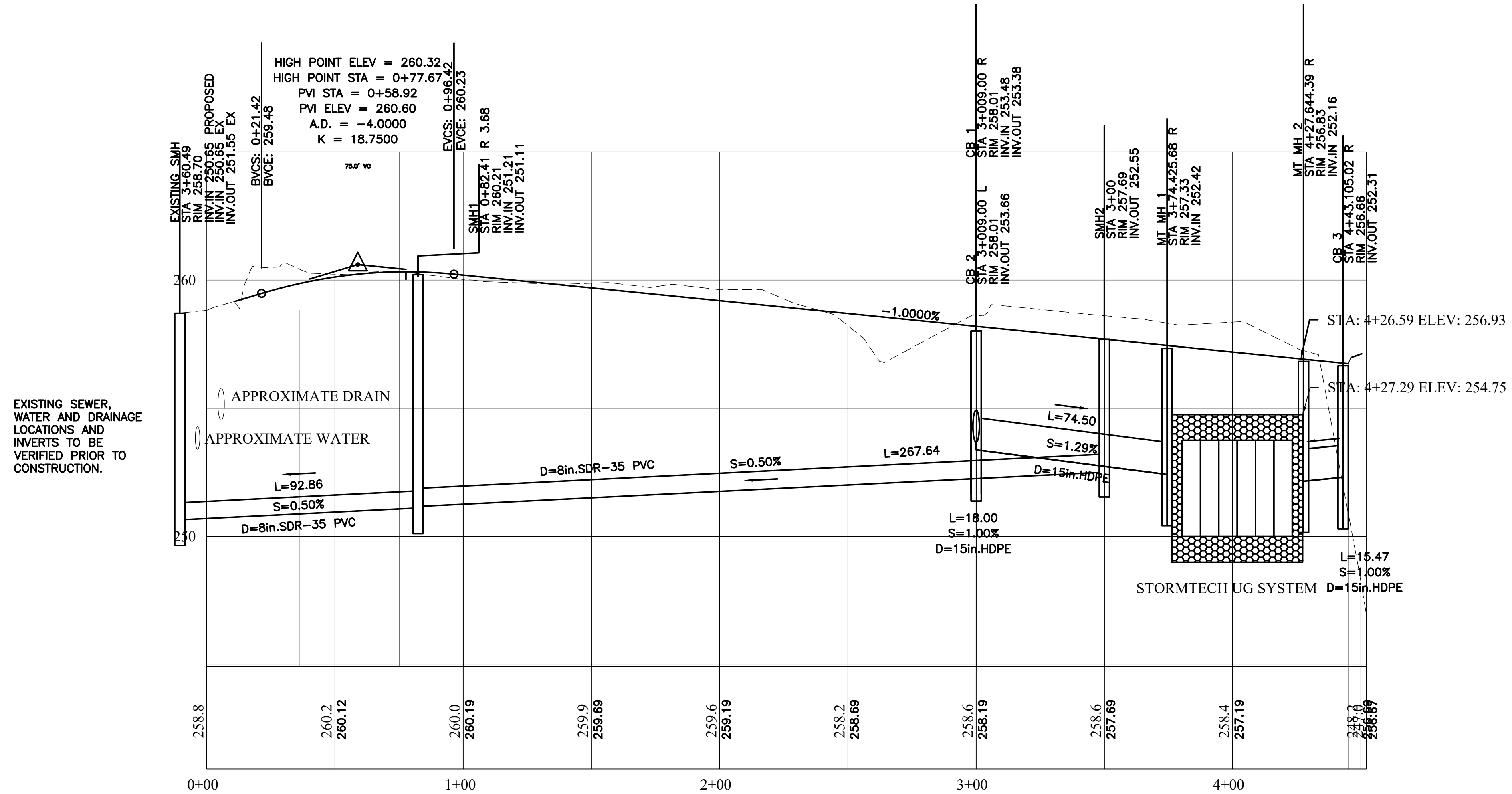
Rokeh Consulting, LLC  
89 KING ROAD, CHICHESTER, NH  
PH: 603-387-8688

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

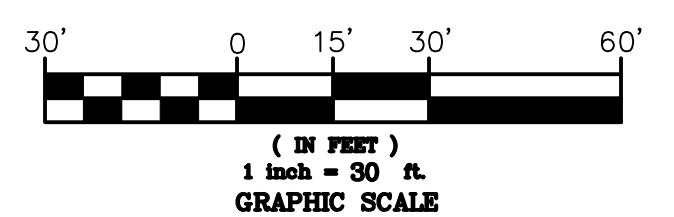
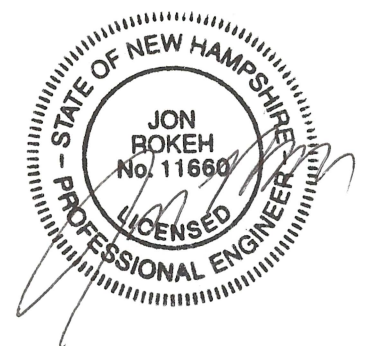


EXISTING SEWER, WATER AND DRAINAGE LOCATIONS AND INVERTS TO BE VERIFIED PRIOR TO CONSTRUCTION.

STREET SIGN NOTES:  
 1. NO PARKING SIGN WILL BE PLACED AT ENTRANCE TO INSURE FIRE PROTECTION MOVEMENTS ARE CLEAR.  
 2. A SIGN WILL BE PLACED AT THE ENTRANCE INDICATING THIS ROAD HAS NOT BEEN ACCEPTED BY THE TOWN OF MILFORD. UNTIL THE ROAD HAS BEEN ACCEPTED THE TOWN ASSUMES NO RESPONSIBILITY FOR THE MAINTENANCE INCLUDING SNOW REMOVAL. NOR ANY LIABILITY FOR DAMAGES RESULTING FROM USE OF THE ROAD. (SEE 41).



EXISTING SEWER, WATER AND DRAINAGE LOCATIONS AND INVERTS TO BE VERIFIED PRIOR TO CONSTRUCTION.



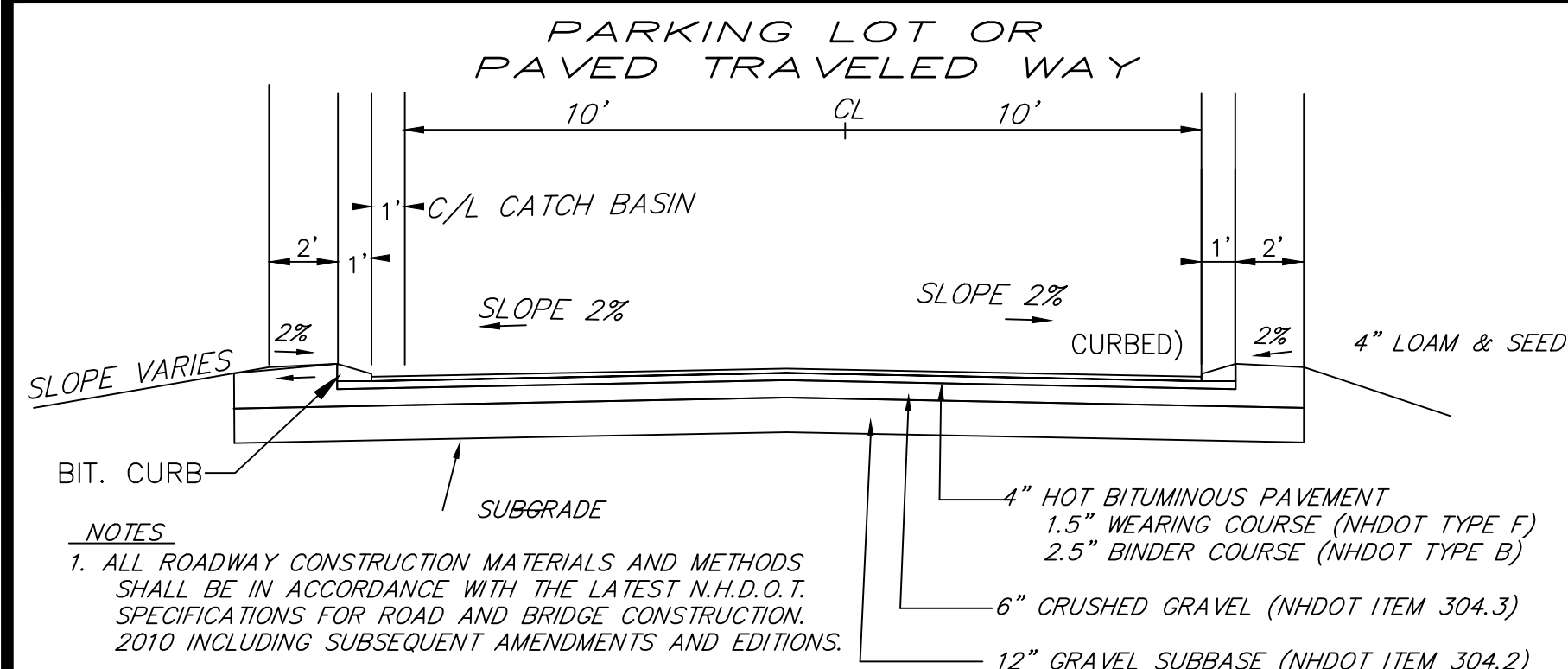
PREPARED FOR:  
 SAN-KEN HOMES, INC.  
 586 TURNPIKE ROAD  
 NEW IPSWICH, NH

ROAD PROFILE  
 SINGLE FAMILY HOME DEVELOPMENT  
 MAP 30, LOT 19  
 WHEELER STREET, MILFORD NH

REVISIONS		DWN BY	CK BY
DATE	DESCRIPTION		
8-9-21	REVISED PER TOWN COMMENTS	JR	JR
8-12-21	REVISED PER ONSITE MEETING WITH MILFORD	JR	JR

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

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

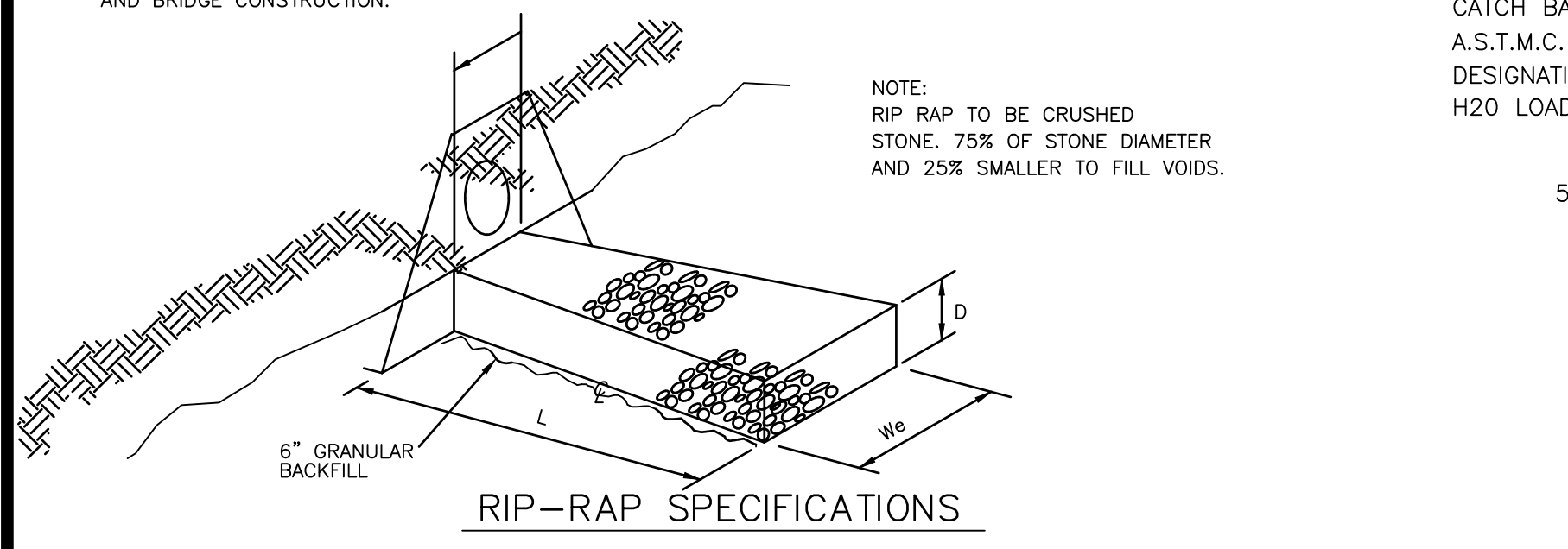


- NOTES**
1. ALL ROADWAY CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH THE LATEST N.H.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2010 INCLUDING SUBSEQUENT AMENDMENTS AND EDITIONS.
  2. PROVIDE 4" (MIN.) COMPACTED LOAM AND SEED ON ALL SLOPES AND DRAINAGE SWALES UNLESS OTHERWISE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

**TYPICAL ROADWAY SECTION**  
(NOT TO SCALE)

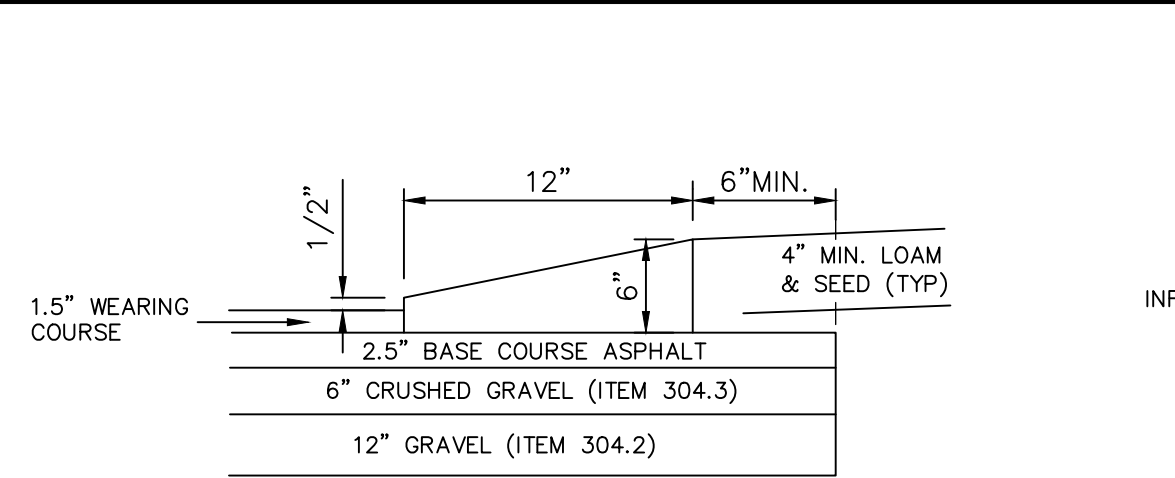
**GENERAL NOTES**

1. 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"
2. 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.
3. BACKFILL OF TRENCHES AND ALL PAVED AREAS SHALL BE COMPACTED IN ACCORDANCE WITH NH DOT-STANDARD SPECIFICATIONS-SECTION 304.
4. 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.
5. ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.
6. 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.
7. SHORING AND STABILIZING OF TRENCH SIDEWALLS DURING EXCAVATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. 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.
9. 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.
10. UTILITY PLANS SHALL BE SUBMITTED TO THE TOWN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 4" TOPSOIL AND SEED OVER ALL DISTURBED UNPAVED AREAS UNLESS OTHERWISE SPECIFIED.
12. 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.
13. 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.
14. 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.
15. ALL PAVEMENT MARKERS SHOWN CONFORM TO THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARDS PLANS FOR ROAD AND BRIDGE CONSTRUCTION.



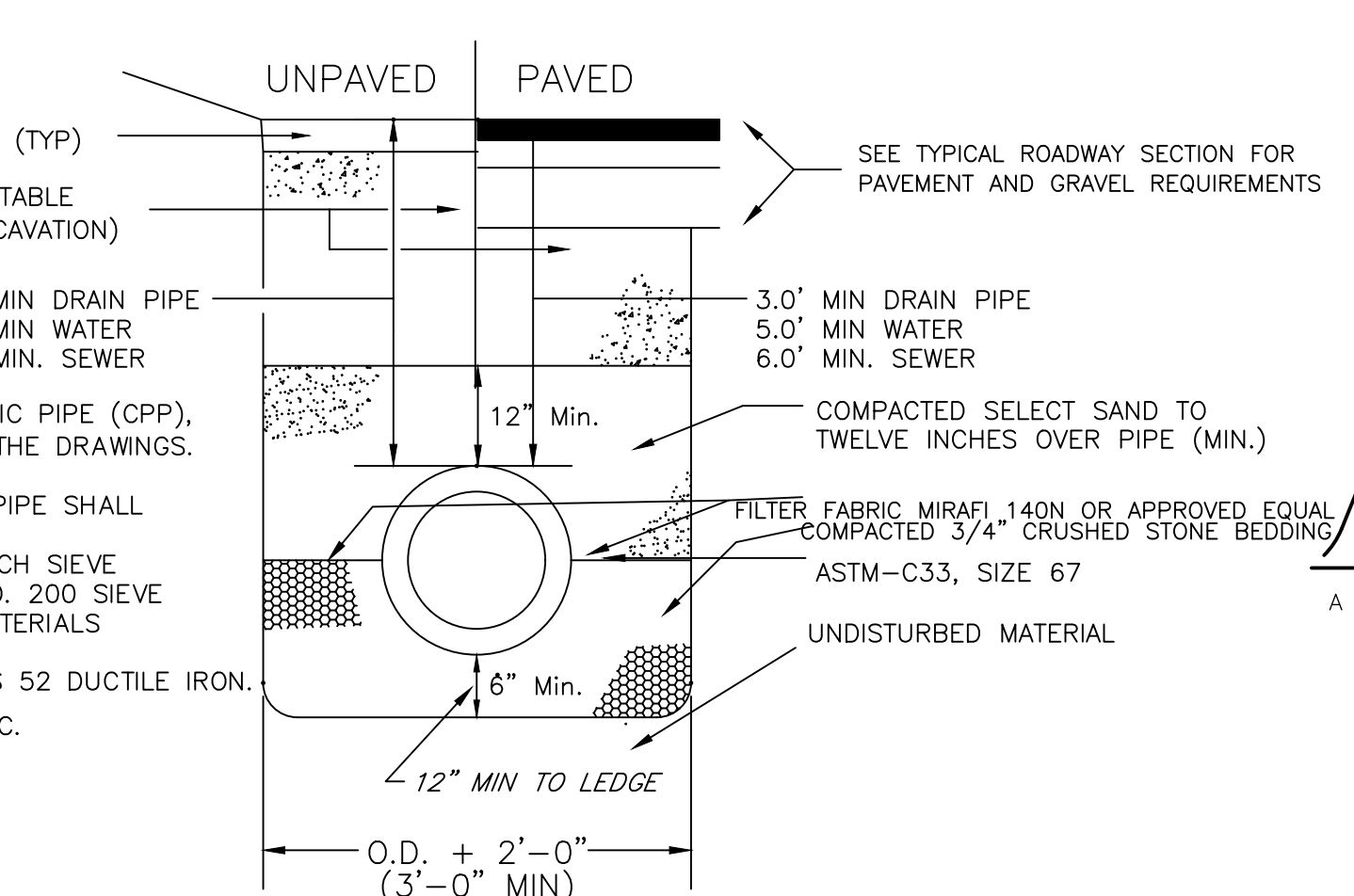
NOT TO SCALE

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'

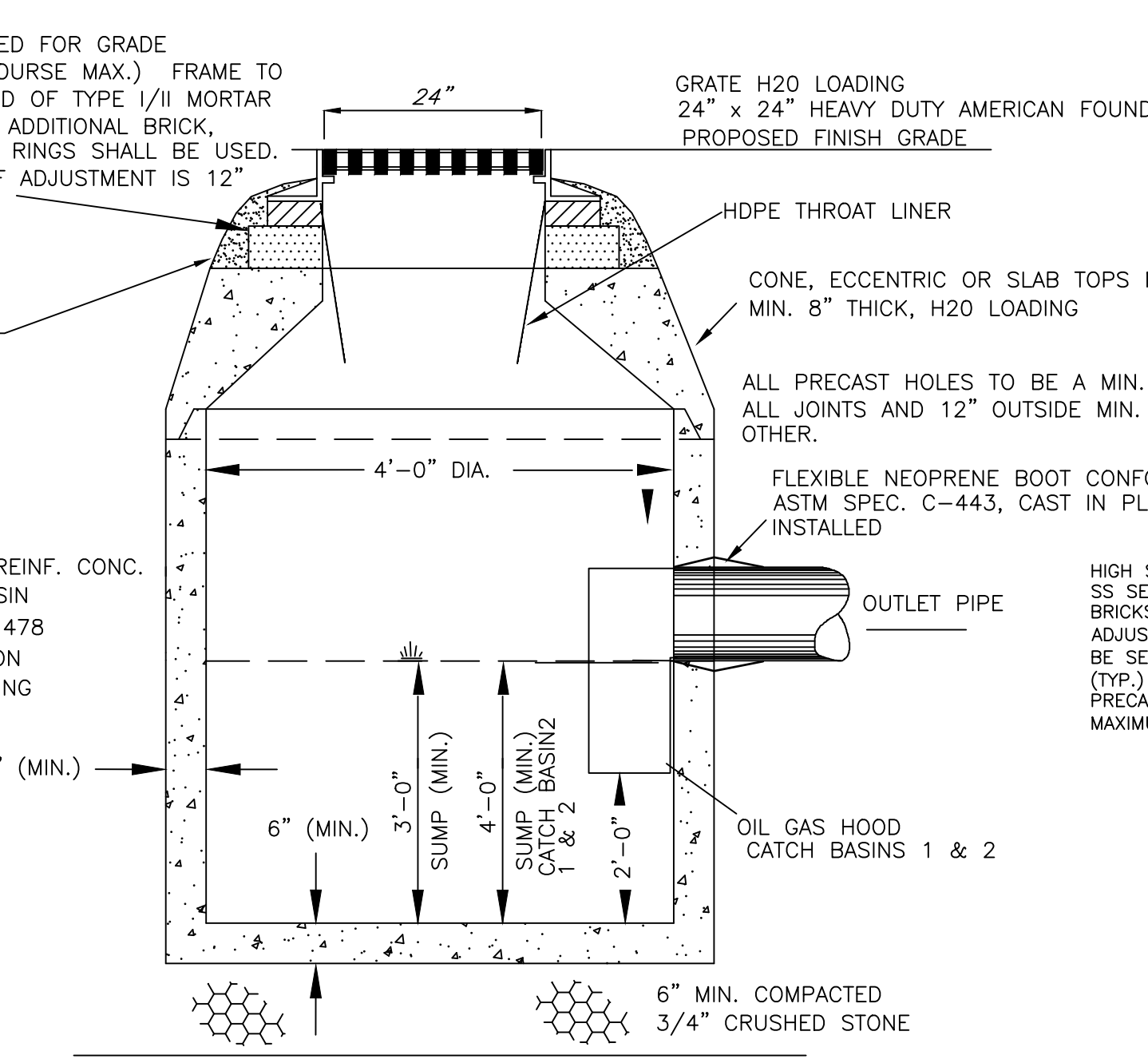


- NOTE**
1. APPLY TACK COAT PRIOR TO PLACEMENT OF CURB.
  2. BITUMINOUS CURB MATERIAL SHALL MEET THE REQUIREMENTS OF NHDT SECTION 609.
  3. CAPE COD BERM TYP. DIMENSIONS SHALL MATCH THOSE GIVEN IN THIS DETAIL.

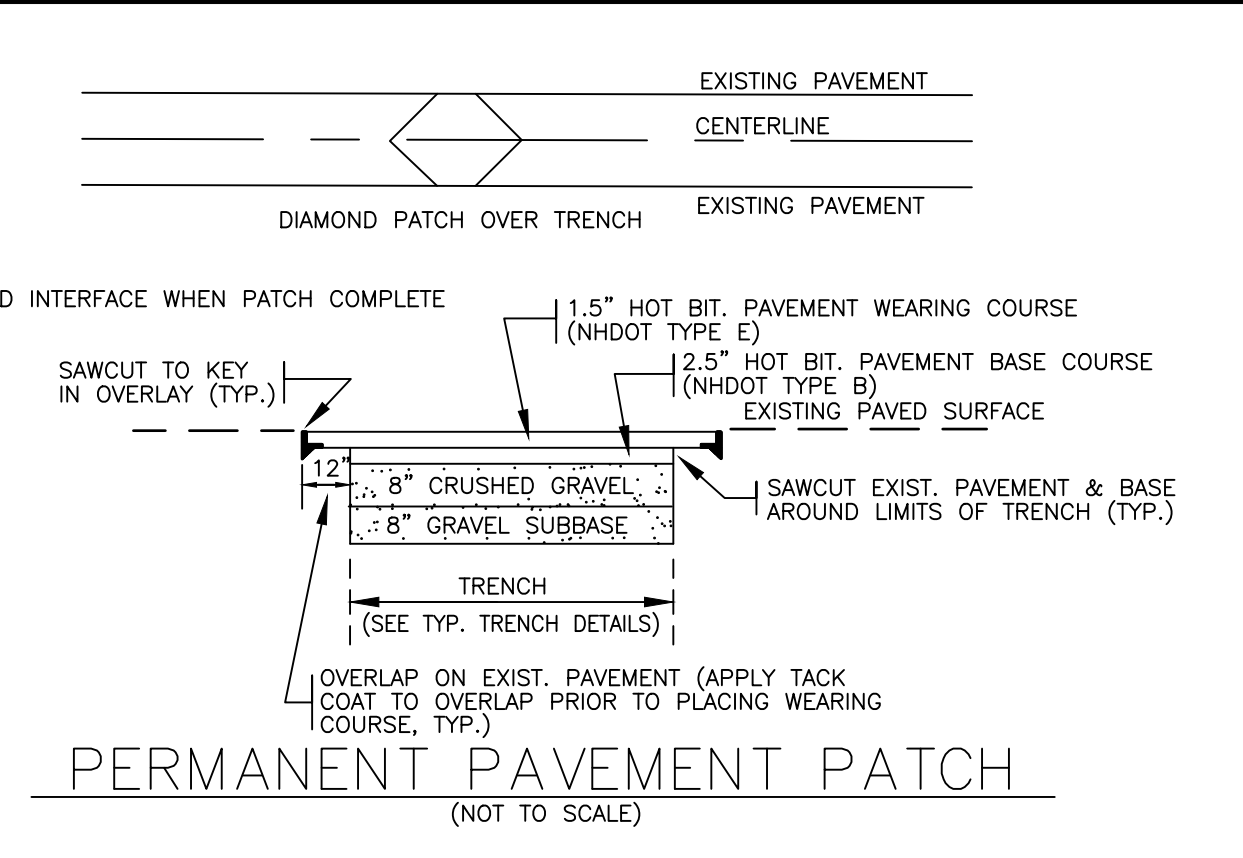
**TYPICAL CAPE COD BERM TYP.**  
(NOT TO SCALE)



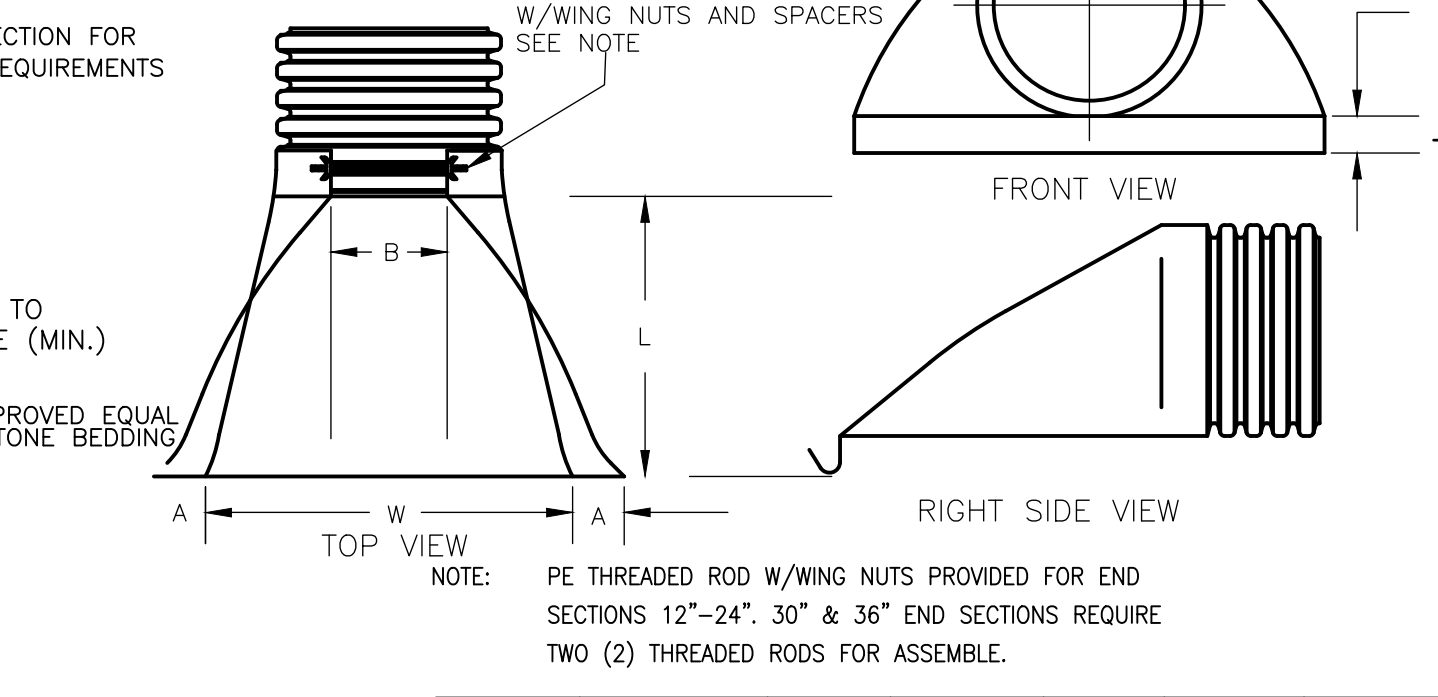
**TYPICAL SEWER/ DRAIN PIPE TRENCH**  
(NOT TO SCALE)



**TYPICAL PRECAST CONCRETE CATCH BASIN DETAIL**



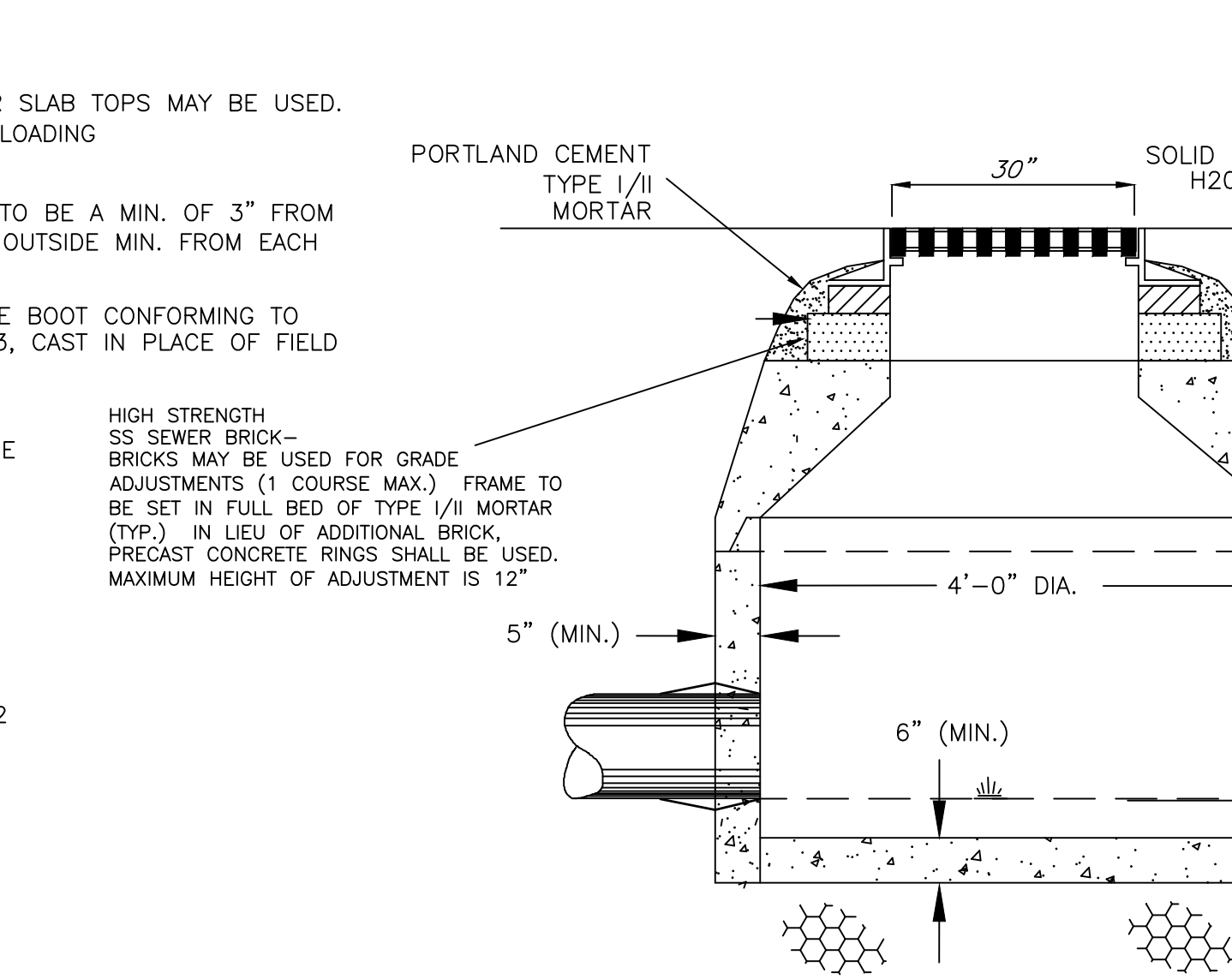
**PERMANENT PAVEMENT PATCH**  
(NOT TO SCALE)



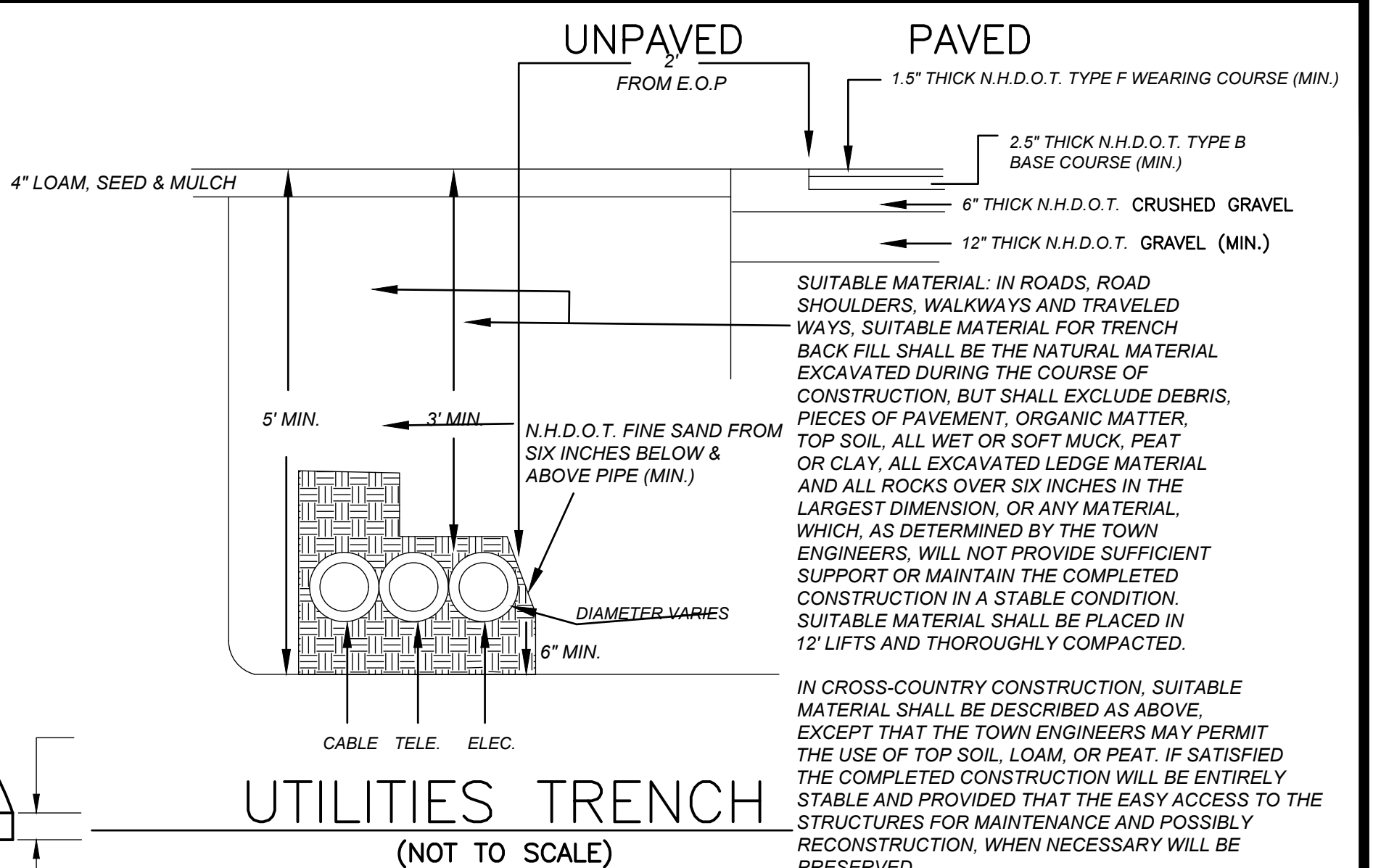
NOTE: PE THREADED ROD W/WING NUTS PROVIDED FOR END SECTIONS 12"-24". 30" & 36" END SECTIONS REQUIRE TWO (2) THREADED RODS FOR ASSEMBLY.

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

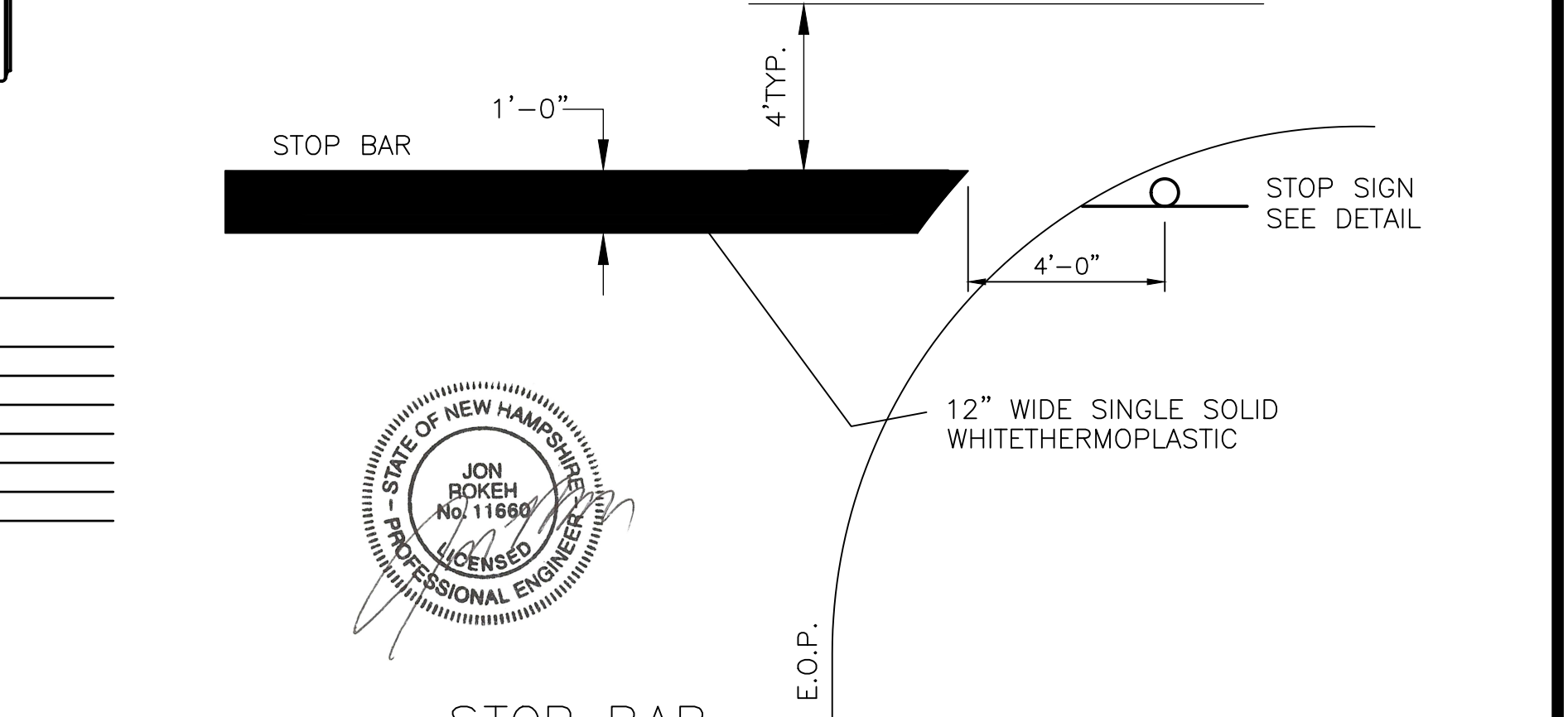
**ADS**  
ADVANCED DRAINAGE SYSTEMS, INC.  
HDPE FLARED END SECTION



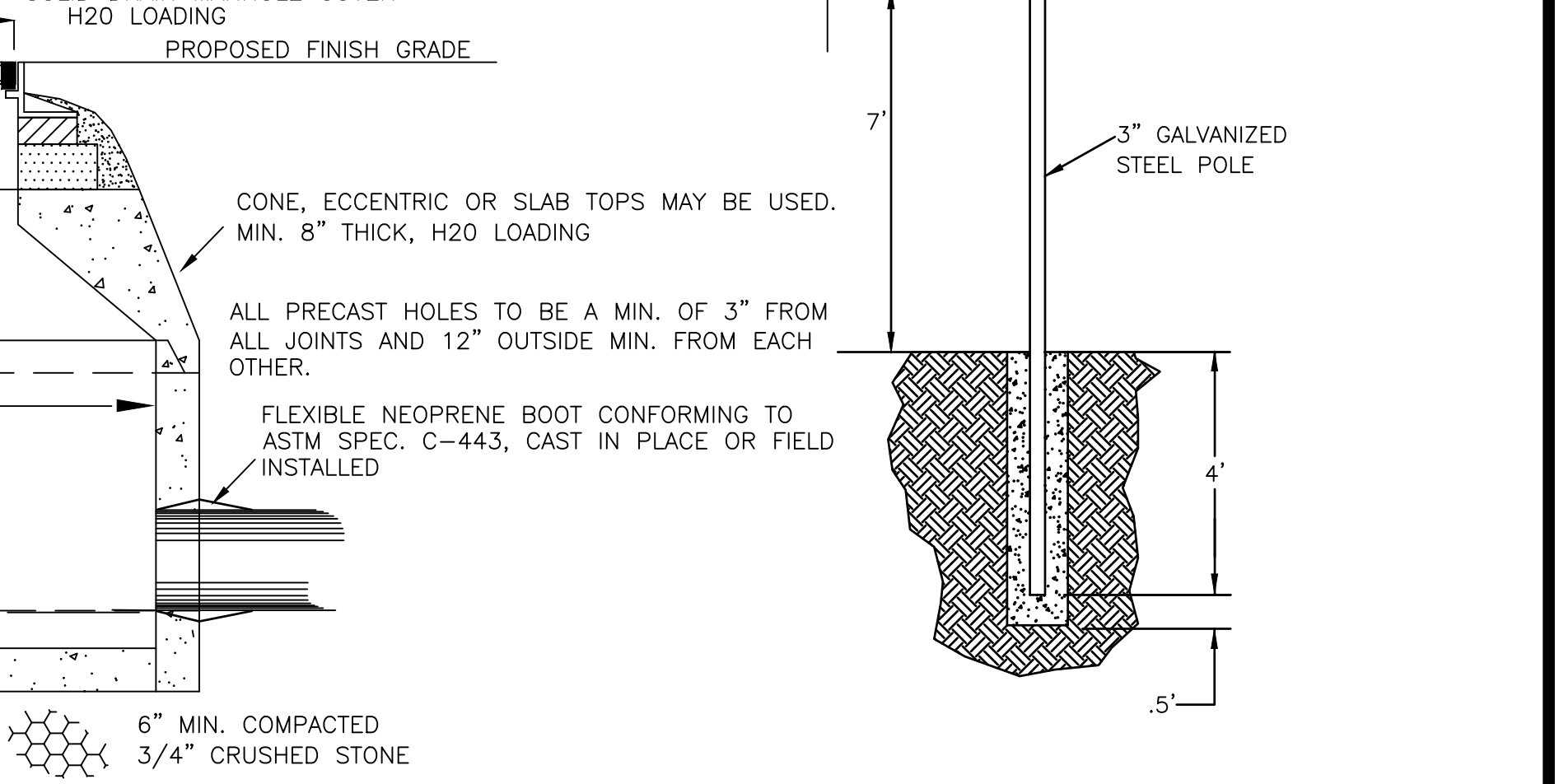
**DRAIN MANHOLE**



**UTILITIES TRENCH**  
(NOT TO SCALE)



**STOP BAR**  
NOT TO SCALE



**STOP SIGN R1-1**  
NOT TO SCALE

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

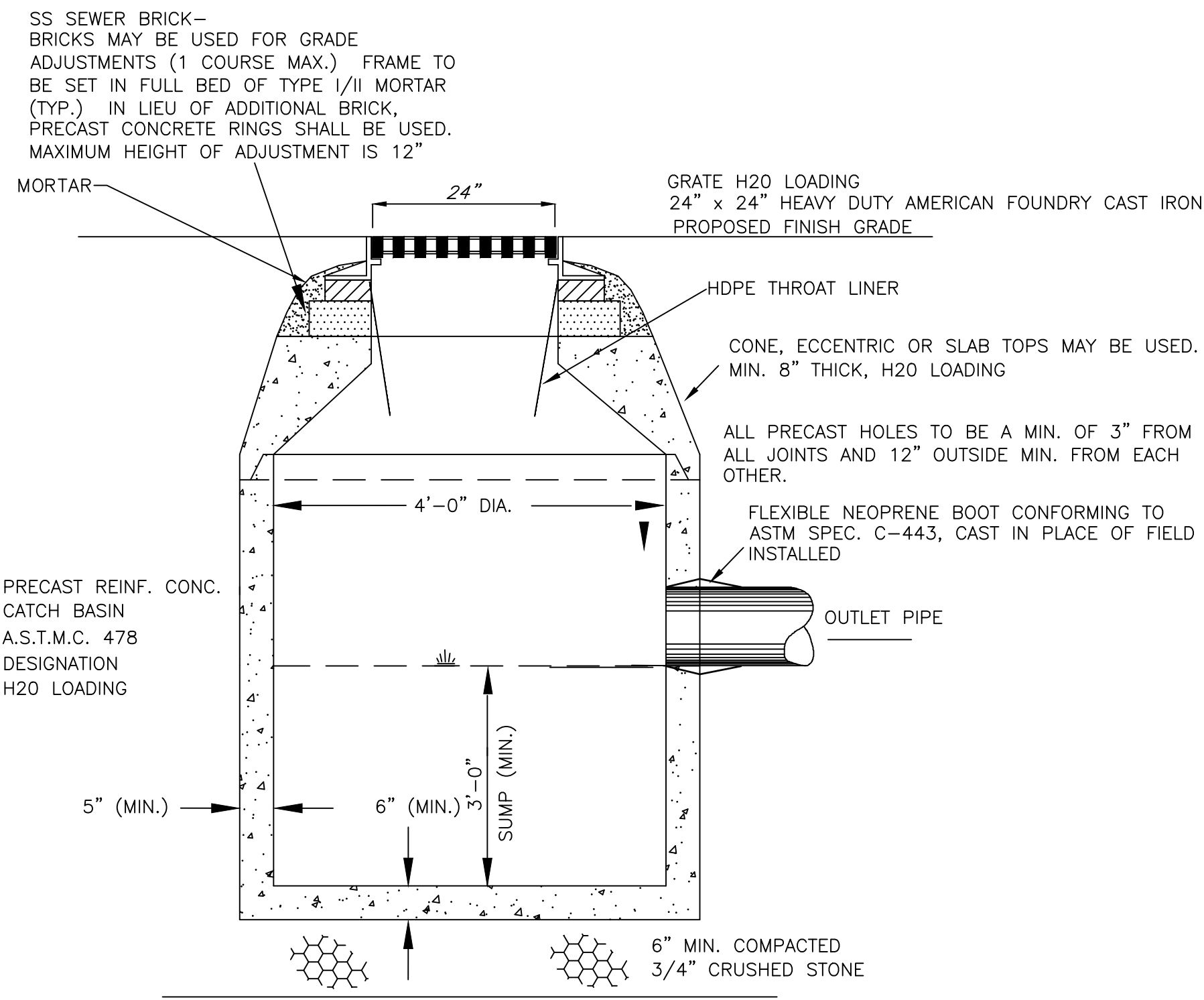
CONSTRUCTION DETAILS  
SINGLE FAMILY HOME DEVELOPMENT  
MAP 30, LOT 19  
WHEELER STREET, MILFORD NH

**REVISIONS**

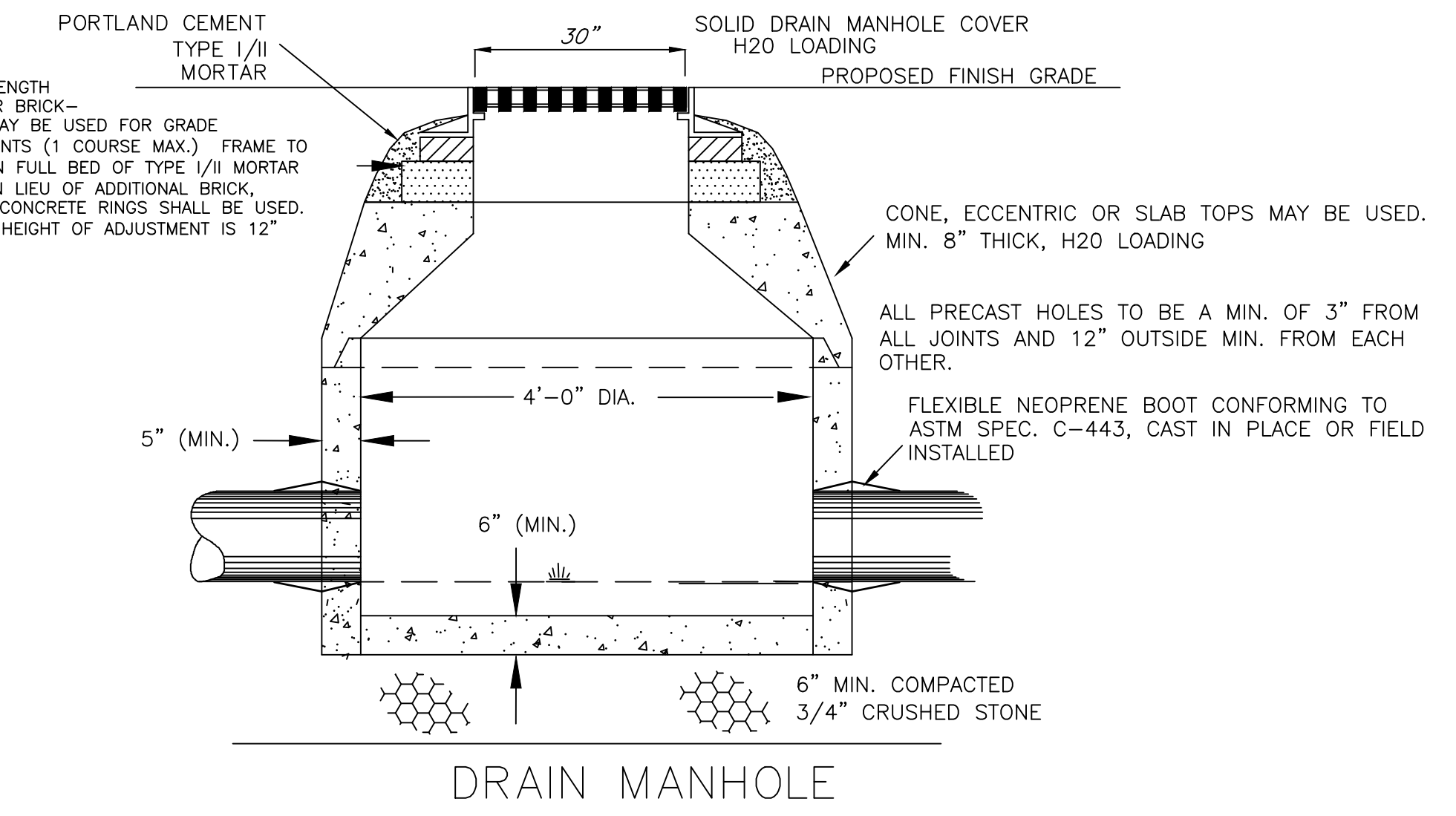
DATE	DESCRIPTION	DWN BY	CK BY
8-9-21	REVISED PER TOWN COMMENTS	JR	JR

SCALE: NTS  
DATE: JULY 7, 2020  
DR. BY: JR  
JOB NO.  
SHEET  
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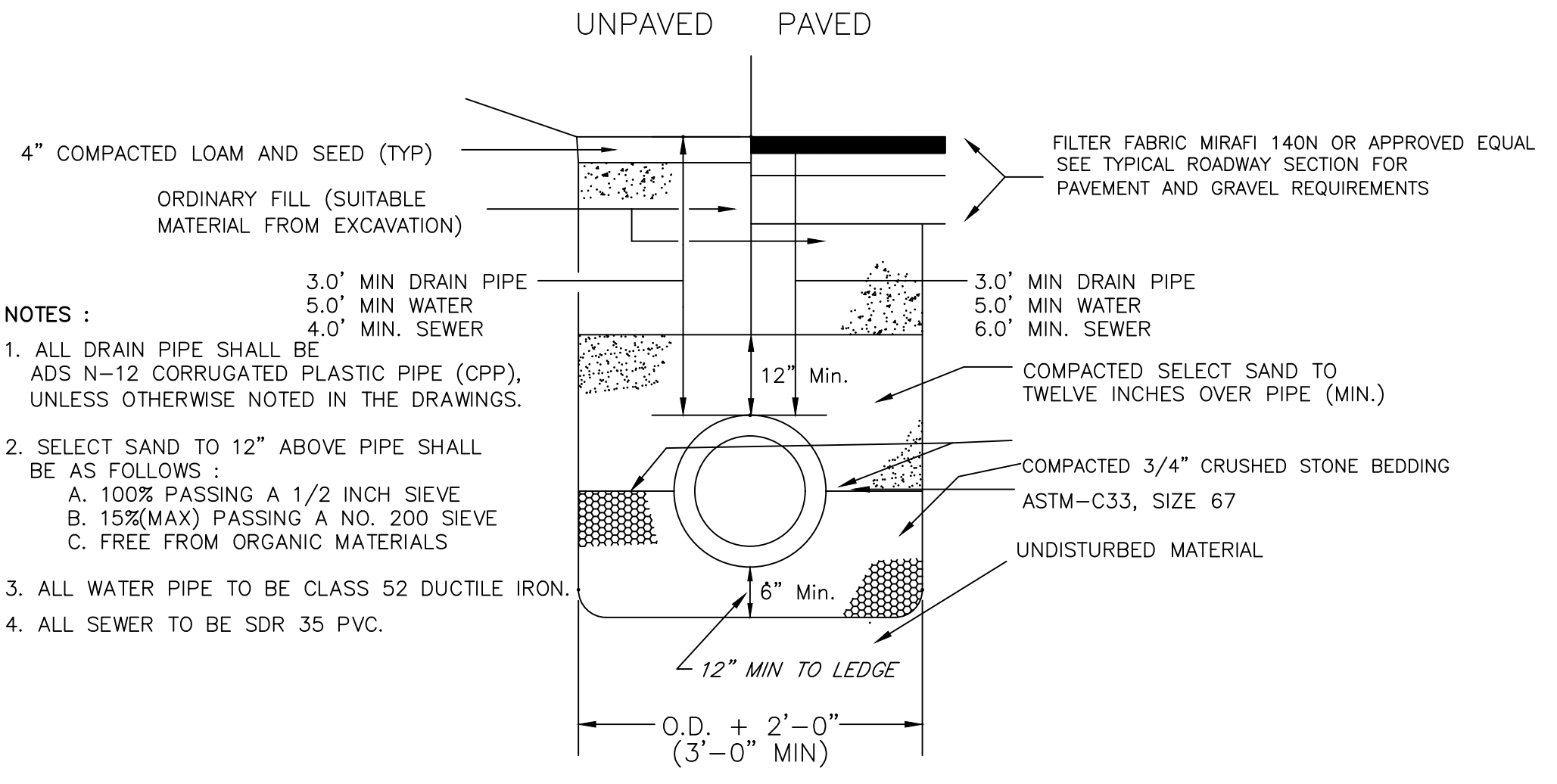
**Rokeh Consulting, LLC**  
89 KING ROAD, CHICHESTER, NH  
PH: 603-387-8688



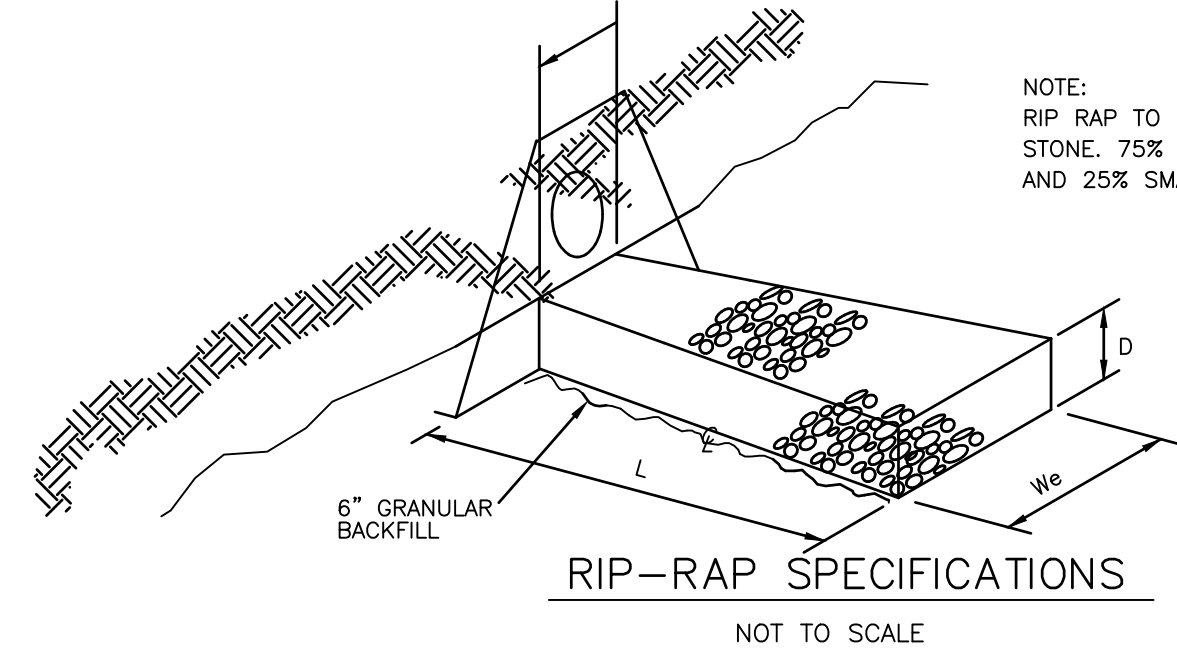
TYPICAL PRECAST CONCRETE CATCH BASIN DETAIL



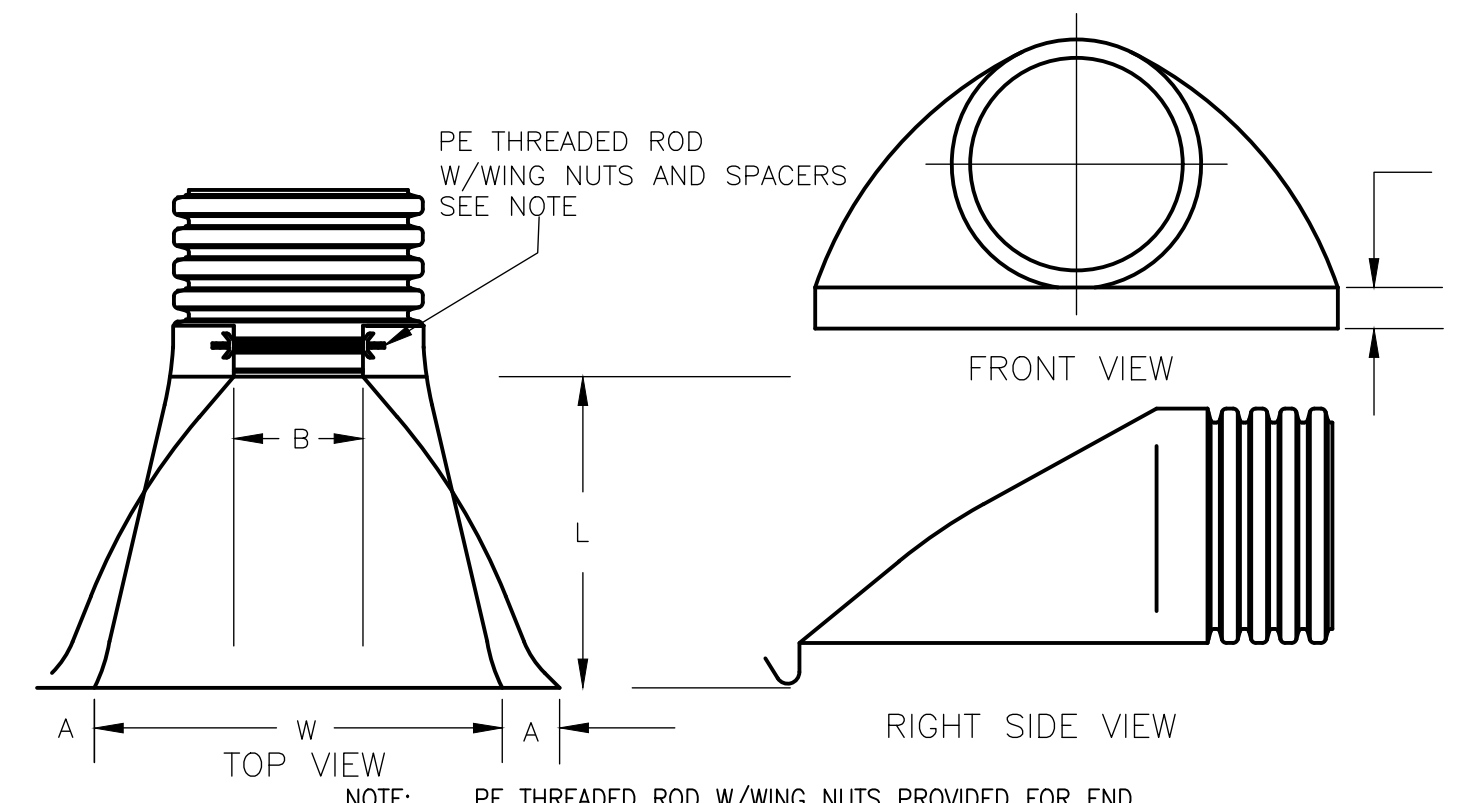
DRAIN MANHOLE FORBAY SECTION



TYPICAL SEWER/ DRAIN PIPE TRENCH (NOT TO SCALE)

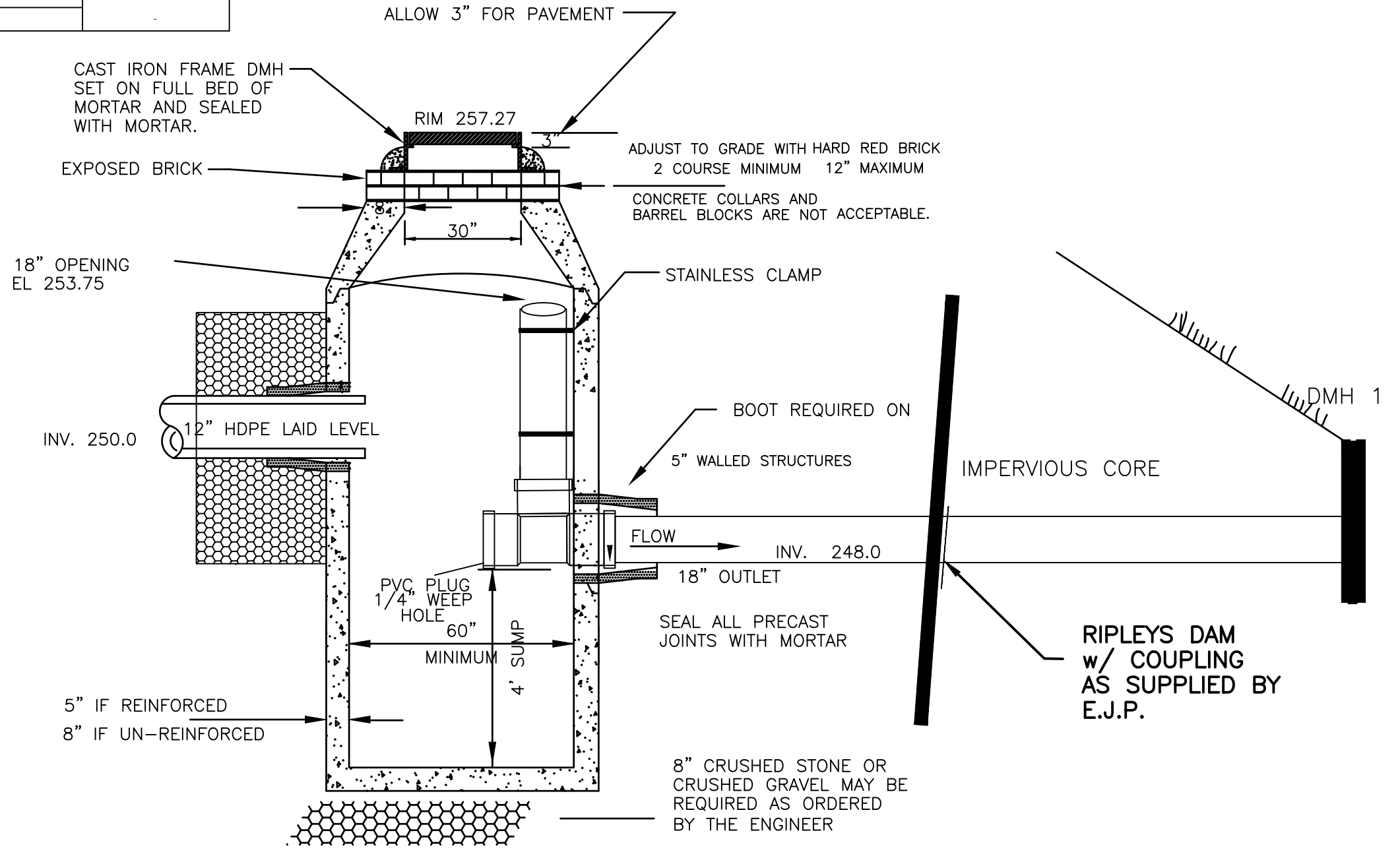


DESCRIPTION	LENGTH L	INVERT WIDTH Wi	END WIDTH We	STONE FILL	DEPTH OF STONE- D
FES 1	17'	6'	19'	17"	3'



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

ADS  
ADVANCED DRAINAGE SYSTEMS, INC.  
HDPE FLARED END SECTION



OUTLET STRUCTURE DETAIL

**NOTE:**  
SEE ADS SHOP DRAWINGS FOR UNDERGROUND DETENTION DETAILS AND CONSTRUCTION

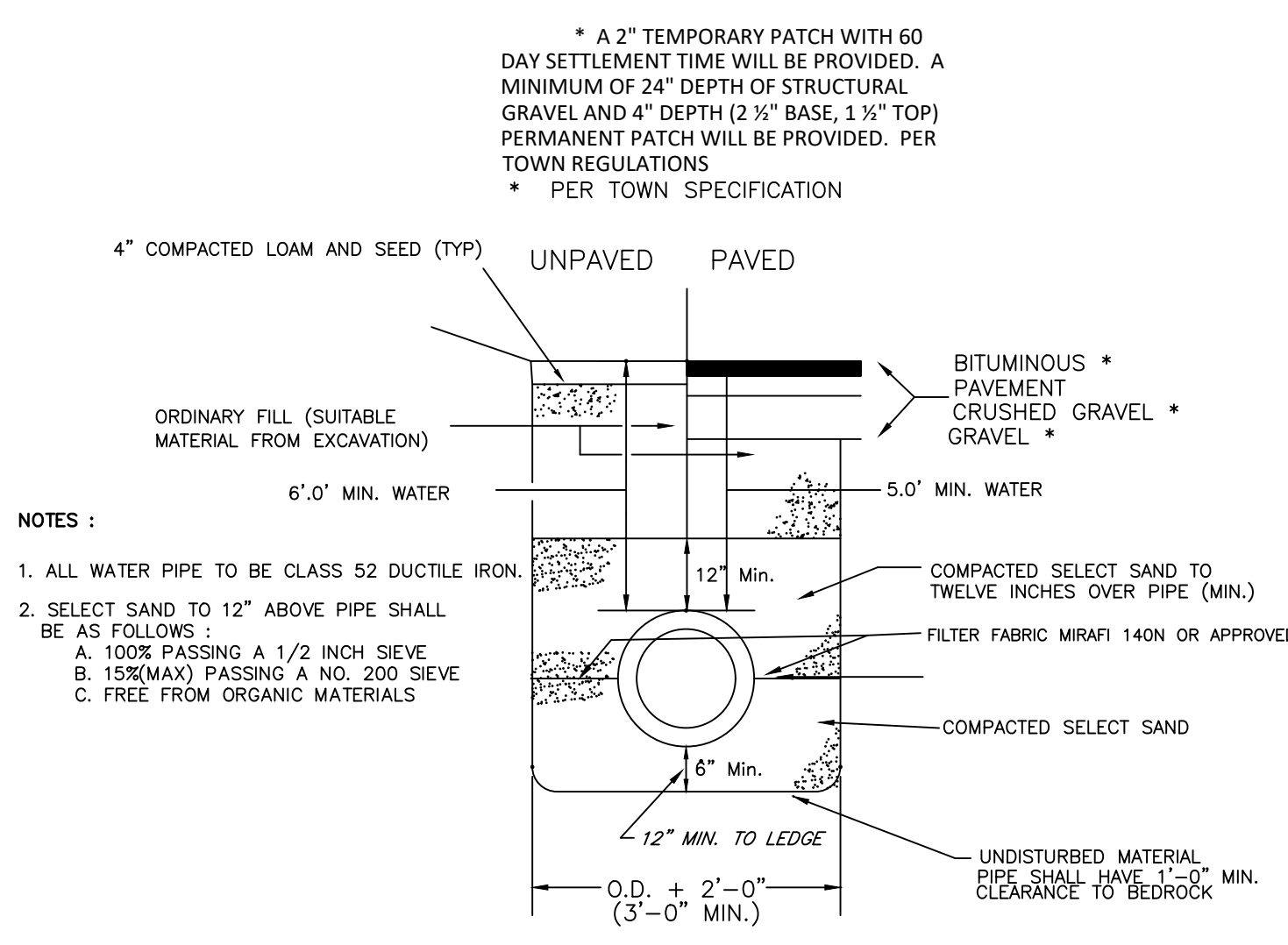
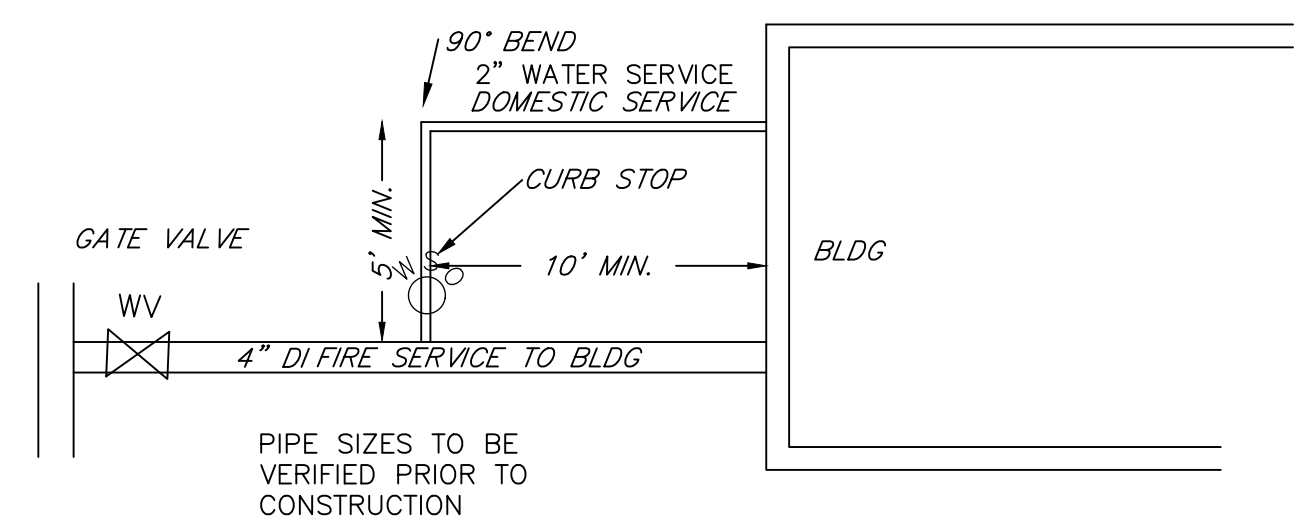
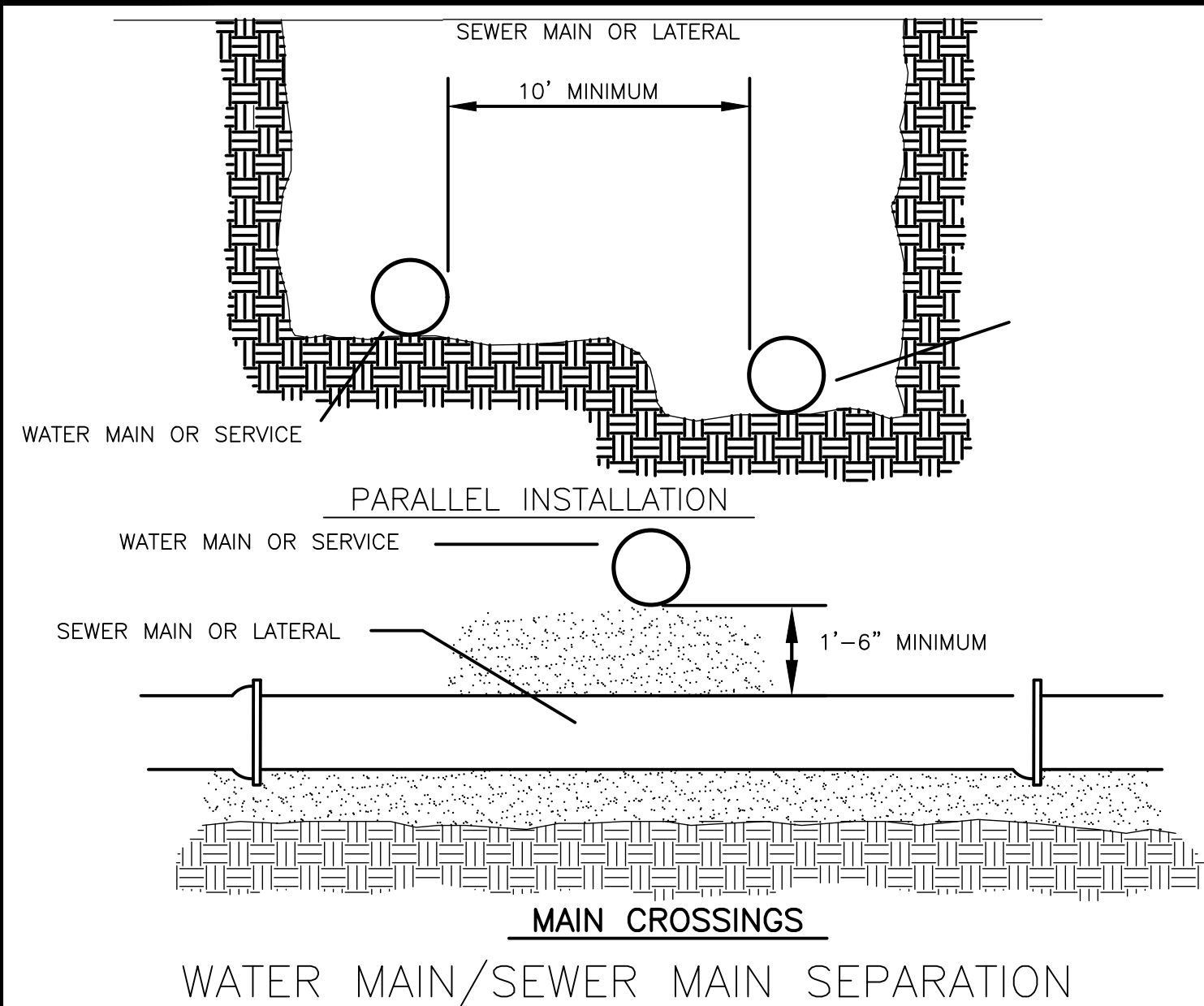
PREPARED FOR:  
SAN-KEN HOMES, INC.  
286 TURNPIKE ROAD  
NEW IPSWICH, NH

CONSTRUCTION DETAILS  
SINGLE FAMILY HOME DEVELOPMENT  
MAP 30, LOT 19  
WHEELER STREET, MILFORD NH

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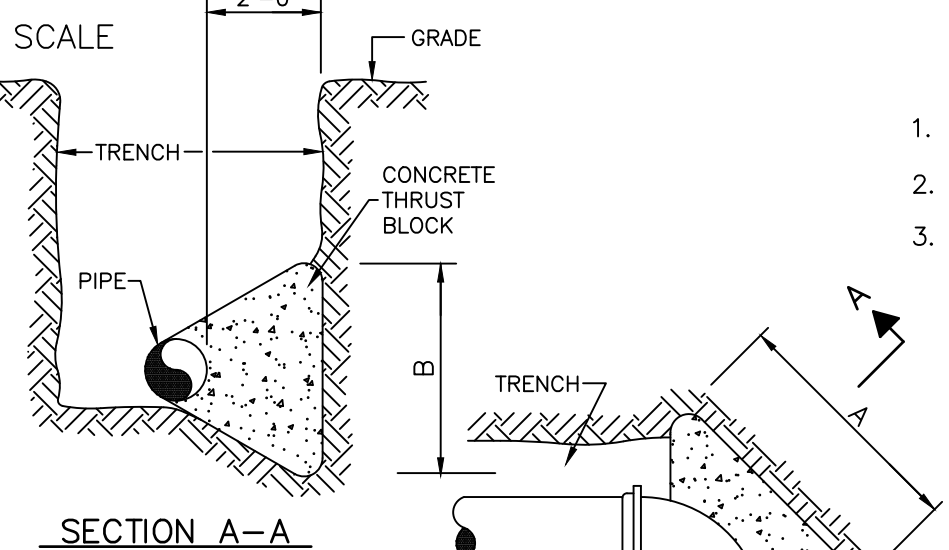
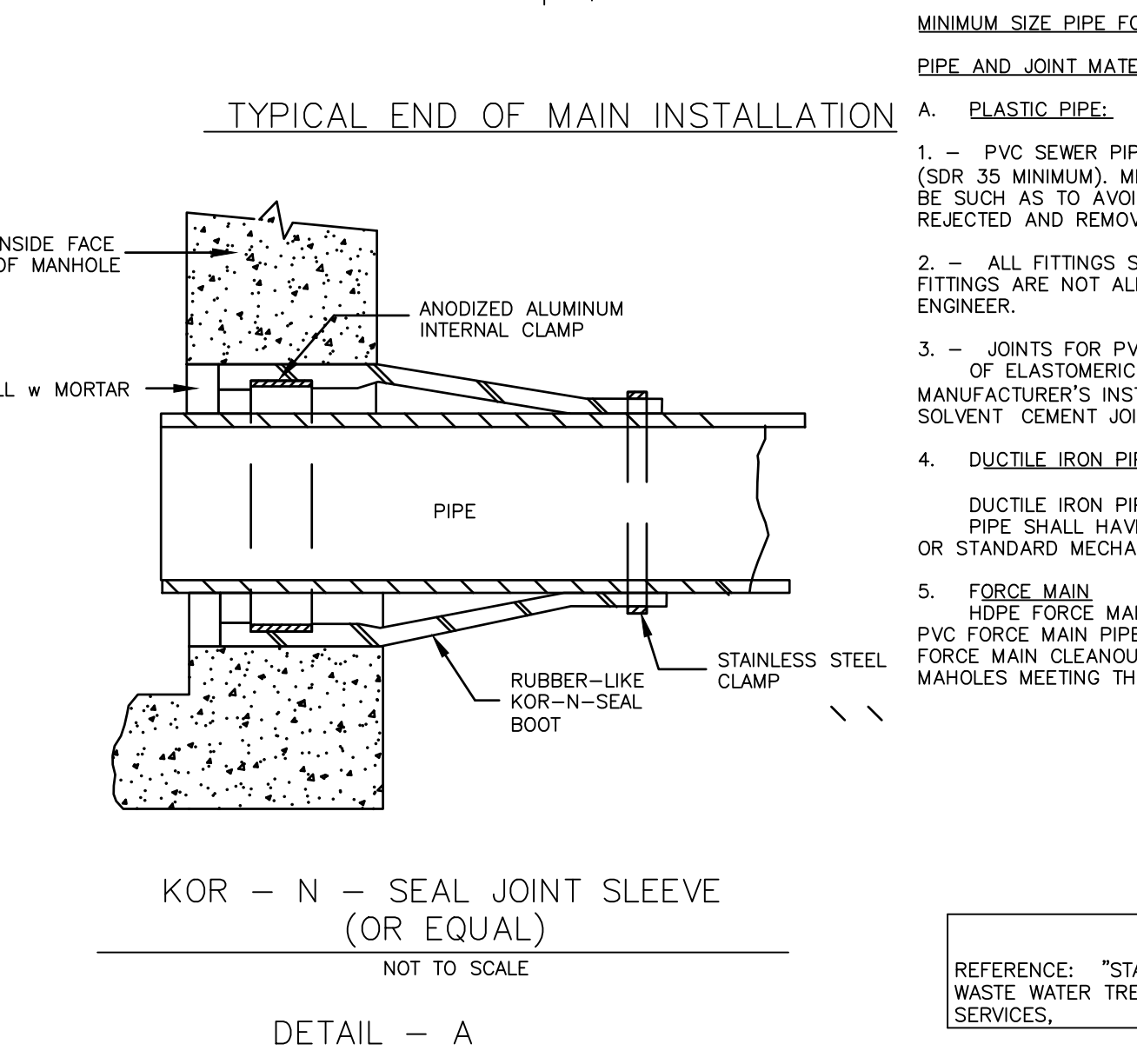
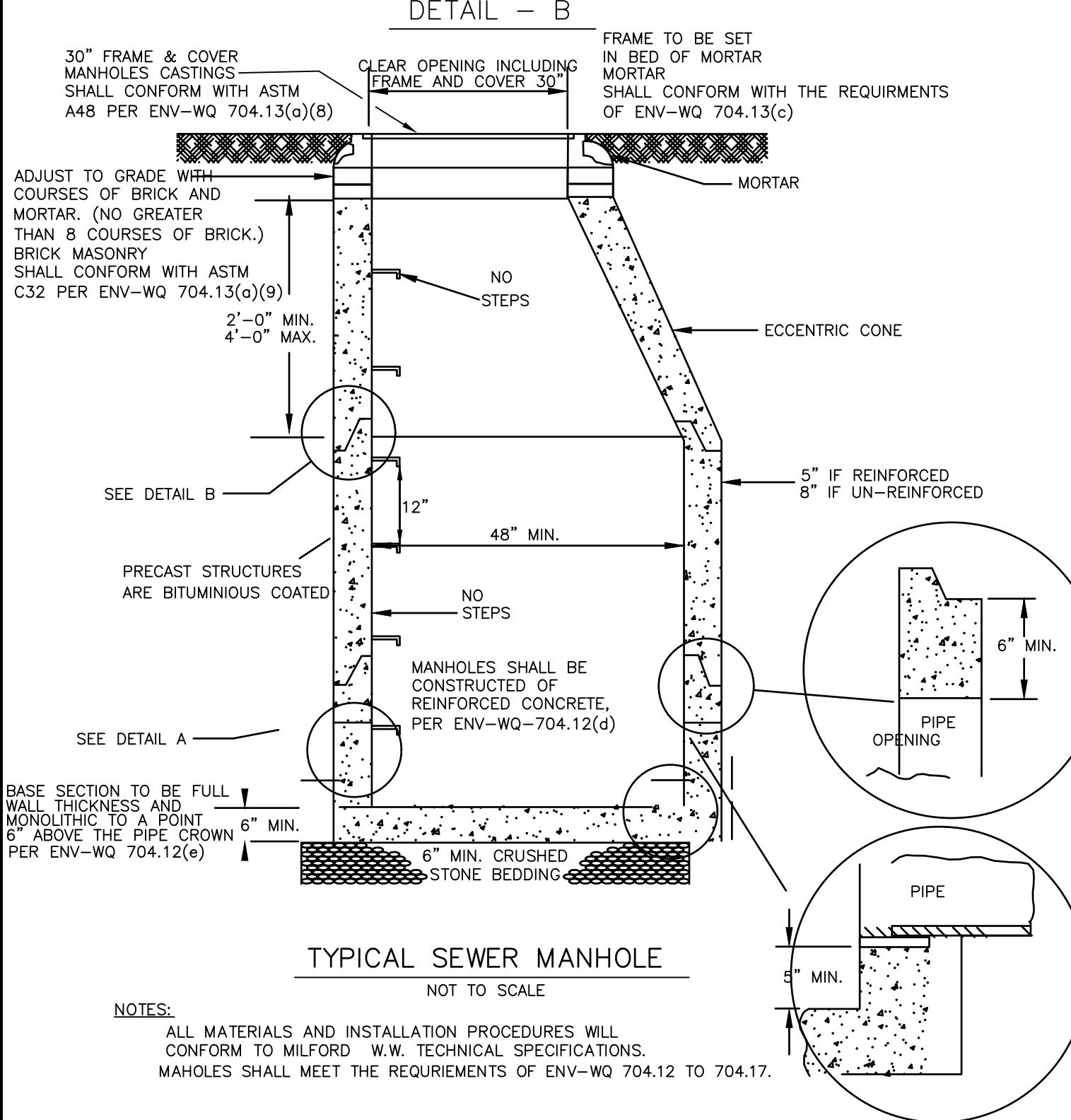
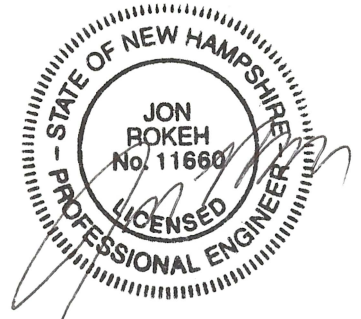
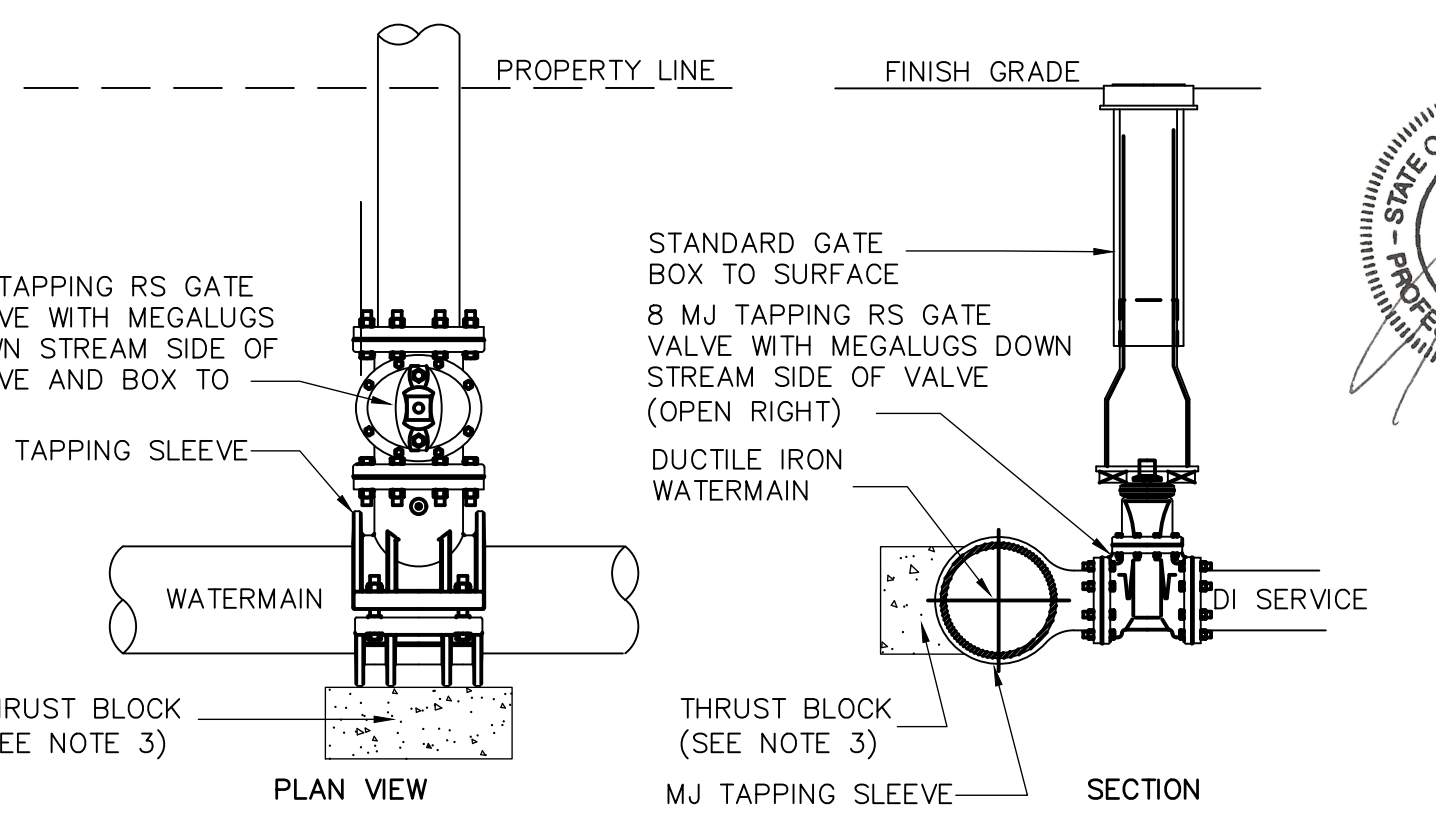
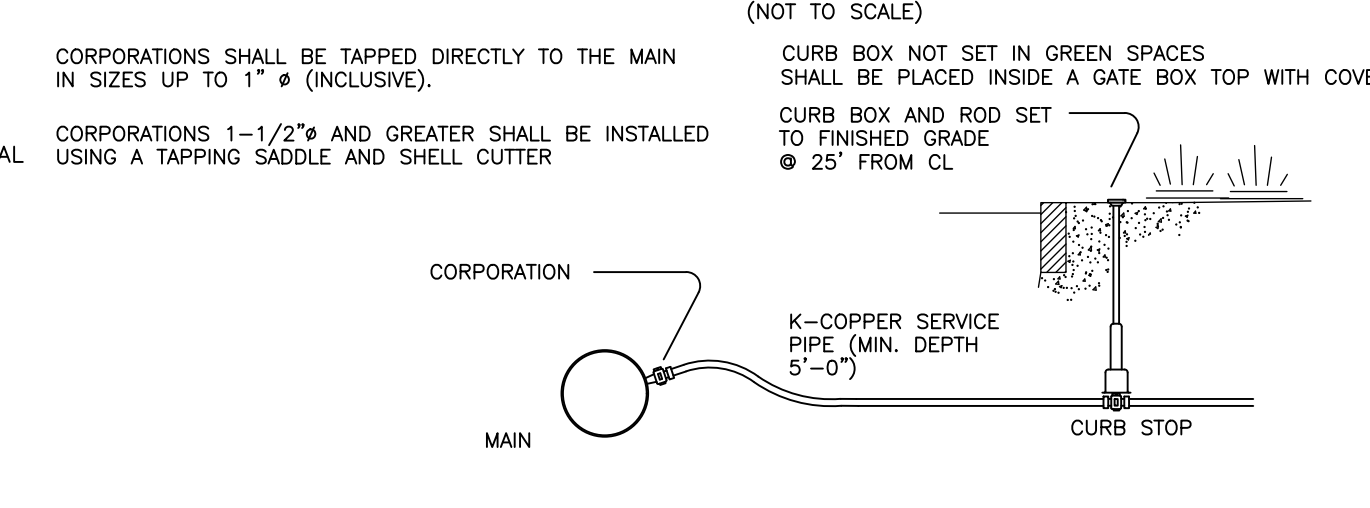
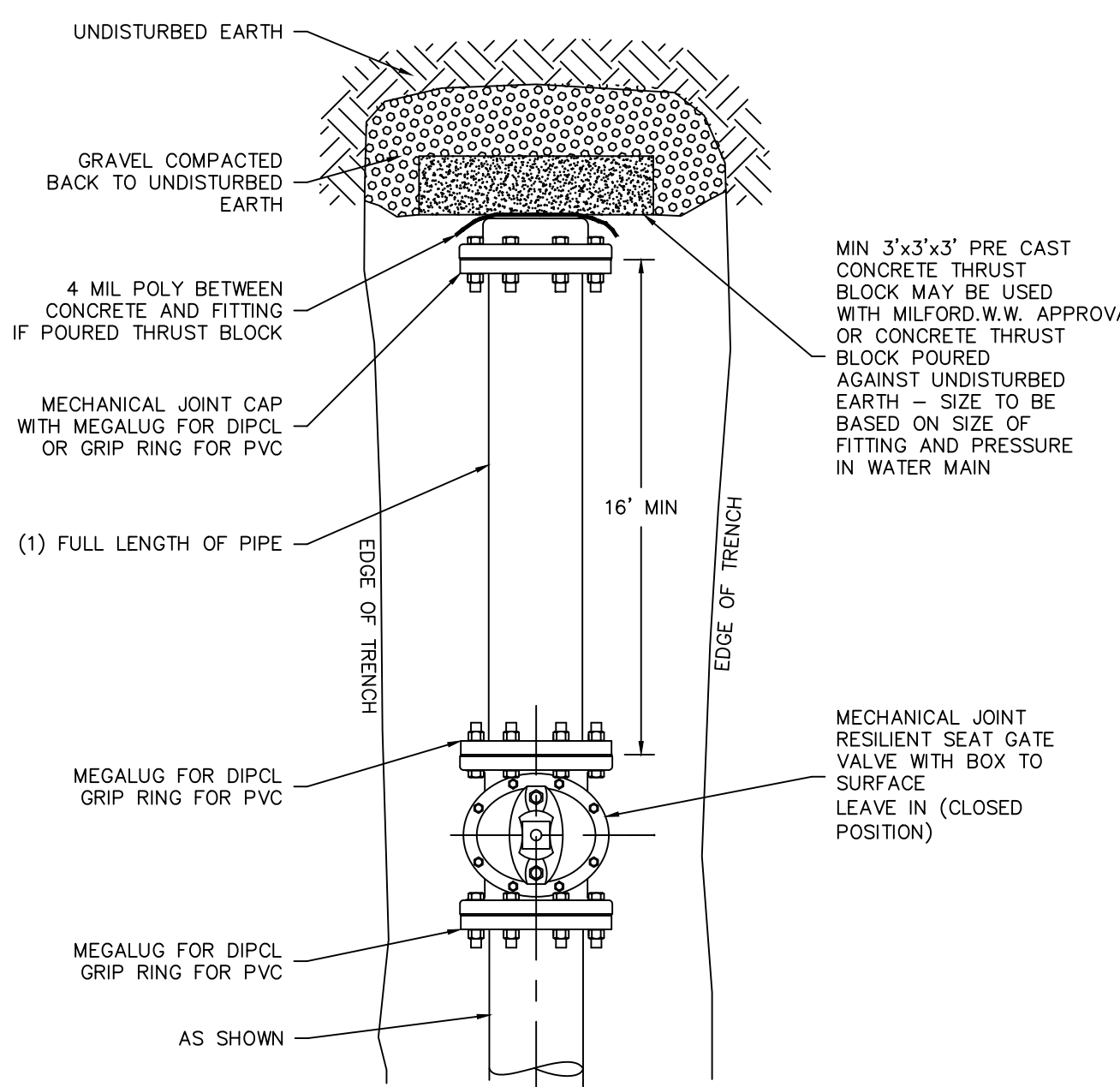
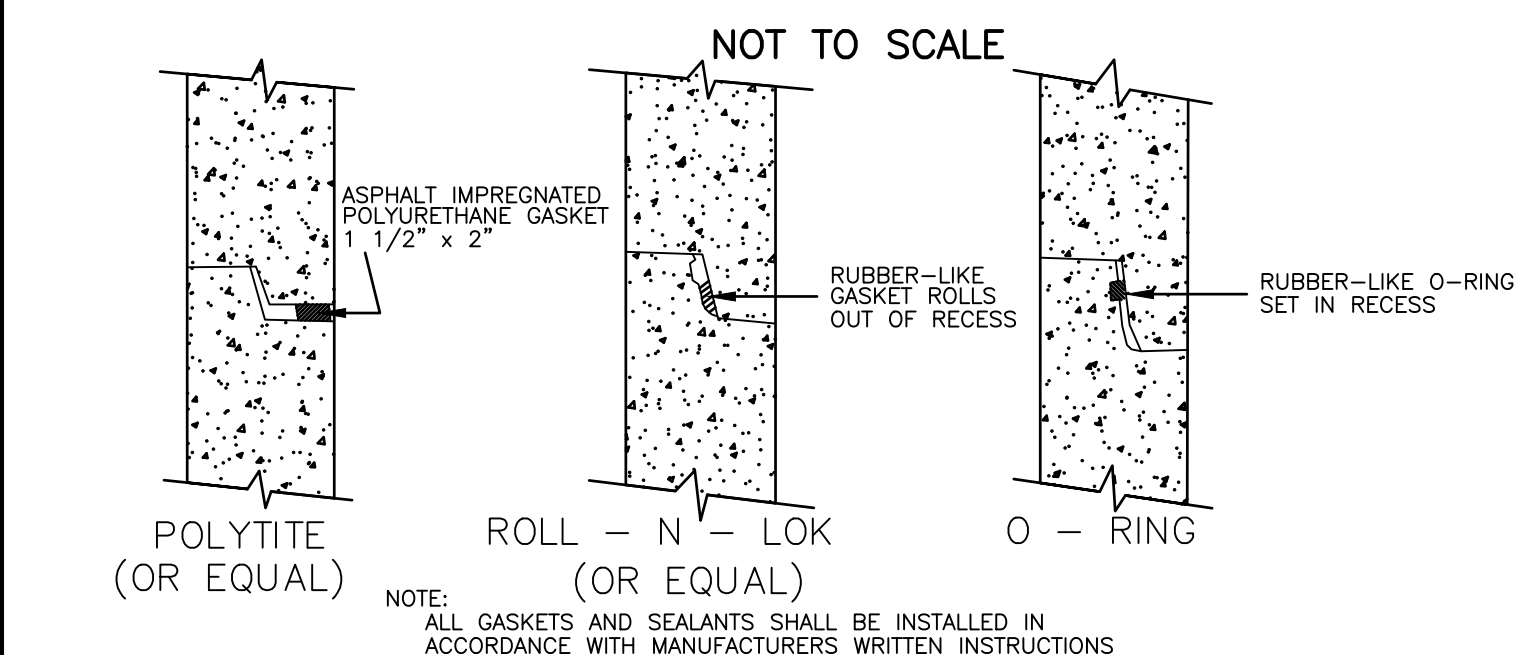
Rokeh Consulting, LLC  
89 KING ROAD, CHICHESTER, NH  
PH: 603-387-8688

SCALE: NTS  
DATE: JULY 7, 2020  
DR. BY: JR  
JOB NO.  
SHEET  
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**GENERAL NOTES**

- ALL WORK SHALL BE DONE IN CONFORMANCE WITH THE TOWN OF MILFORD REGULATIONS; AND ALL ROAD AND DRAINAGE STRUCTURES SHALL MEET NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDT), STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1990, (AND ALL SUBSEQUENT AMENDMENTS). DRAINAGE DESIGN IS BASED ON THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE" AUGUST 1992, WHICH IS AVAILABLE FROM THE ROCKINGHAM COUNTY CONSERVATION DISTRICT OFFICE.
- BACKFILL OF TRENCHES SHALL BE IN 6" LIFTS, COMPACTED TO 95% MAX. DRY DENSITY UNDER ALL PAVED AND SHOULDER AREAS AND 92% MAX. DRY DENSITY UNDER OTHER ALL AREAS IN ACCORDANCE WITH NH DOT-STANDARD SPECIFICATIONS-SECTION 304.
- THE CONTRACTOR SHALL BE AWARE OF HIS RESPONSIBILITY TO CONTACT "DIG SAFE" AT 111 SO. BEDFORD STREET, BURLINGTON, MA (1-800-225-4977) AT LEAST 72 WORKING HOURS PRIOR TO THE START OF ANY EXCAVATION.
- ALL WORK ADJACENT TO A STREET SHALL BE PERFORMED IN ACCORDANCE WITH THE STREET OPENING REQUIREMENTS OF THE TOWN OF MILFORD
- ALL CULVERTS, DRAINAGE STRUCTURES, WATER LINE, SEWER, AND ROAD CONSTRUCTION SHALL BE SUBJECT TO PARTIAL AND FINAL INSPECTION PRIOR TO ACCEPTANCE BY THE TOWN OF MILFORD. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING INSPECTION BY THE TOWN ENGINEER.
- THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 4" TOPSOIL AND SEED OVER ALL DISTURBED UNPAVED AREAS UNLESS OTHERWISE SPECIFIED.

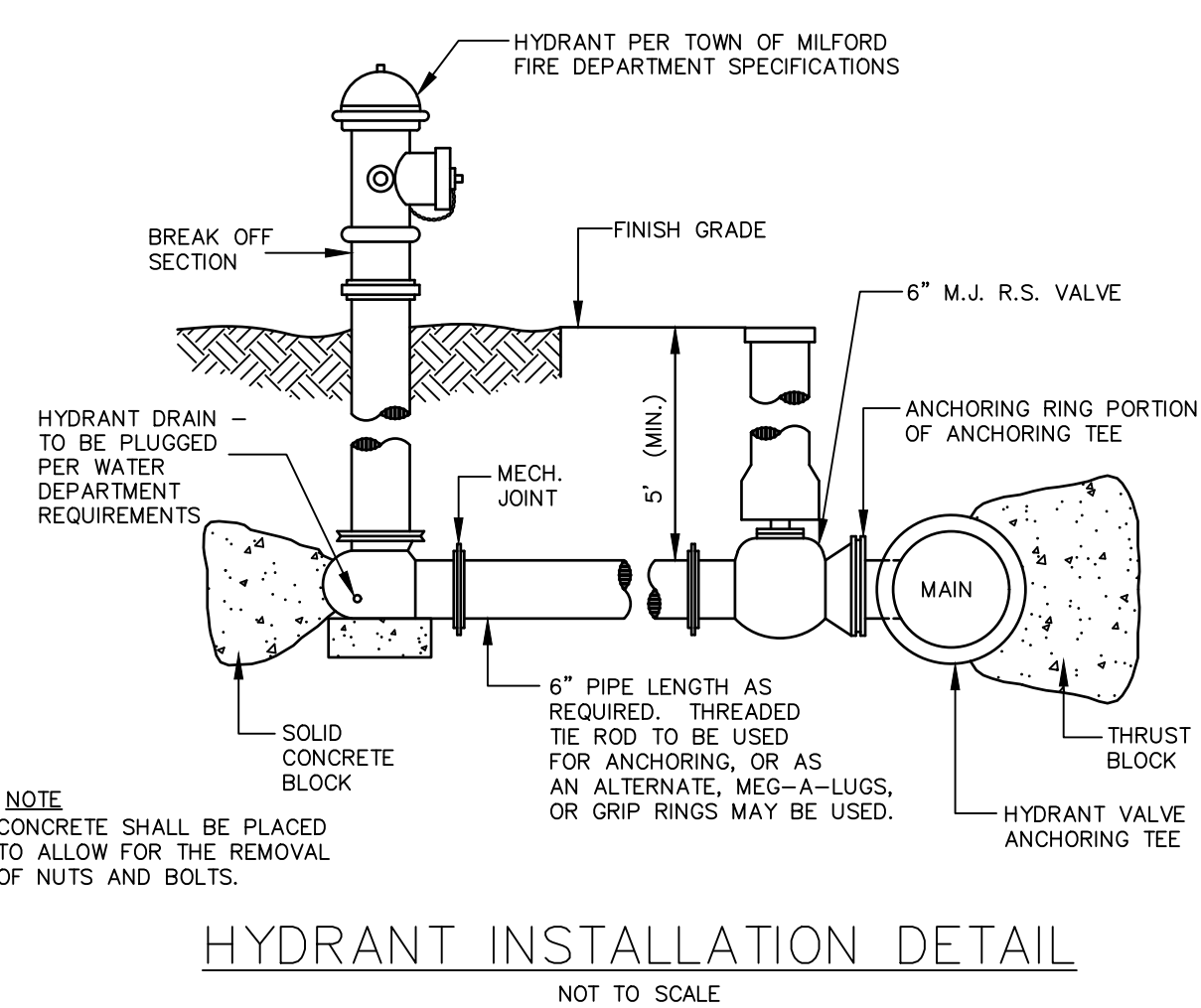


AxB = BEARING AREA		MINIMUM THRUST BLOCK BEARING AREA REQ'D. AGAINST UNDISTURBED MATERIAL (S.F.)	
PIPE SIZE	90° BEND	TEE	45° BEND
16"	28	22	20
12"	16	14	11
8"	7	6	5
6"	5	4	3

NOTE: INSTALL THRUST BLOCKS AT EVERY CHANGE IN DIRECTION FOR WATER DISTRIBUTION PIPING 4" AND LARGER AND AT FIRE HYDRANTS.

STONE BACKING MAY BE SUBSTITUTED FOR CONCRETE THRUST BLOCKS PROVIDED THE STONE(S) ARE OF EQUAL SIZE AND BEAR ON UNDISTURBED EARTH

THRUST BLOCK REQUIREMENTS (WHERE POSSIBLE) USE OF JOINT RESTRAINT SYSTEMS SHALL NOT ELIMINATE REQUIREMENTS (WHERE POSSIBLE)



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

**CONSTRUCTION DETAILS**  
SINGLE FAMILY HOME DEVELOPMENT  
MAP 30, LOT 19  
WHEELER STREET, MILFORD NH

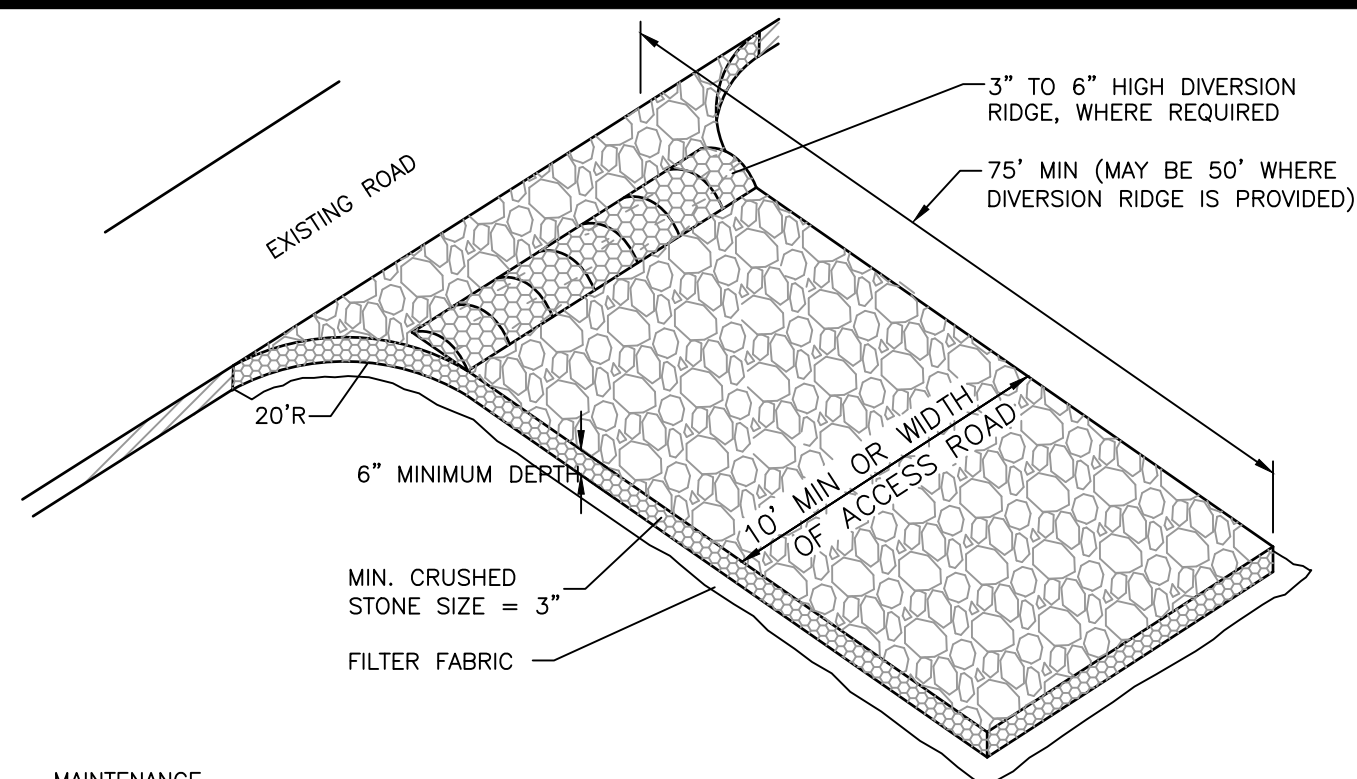
**REVISIONS**

DATE	DESCRIPTION	DWN BY	CK BY
8-9-21	EDITS PER TOWN COMMENTS	JR	JR

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

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

**NOTE:**

- 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% VEGETATIVE 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 ENCIRCLED 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**

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

- INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
- GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
- RUNOFF SHALL BE DIVERTED FROM THE SEEDED AREA.
- 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:**

- STONES AND TRASH SHALL BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
- WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
- 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 RELEASED 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:**

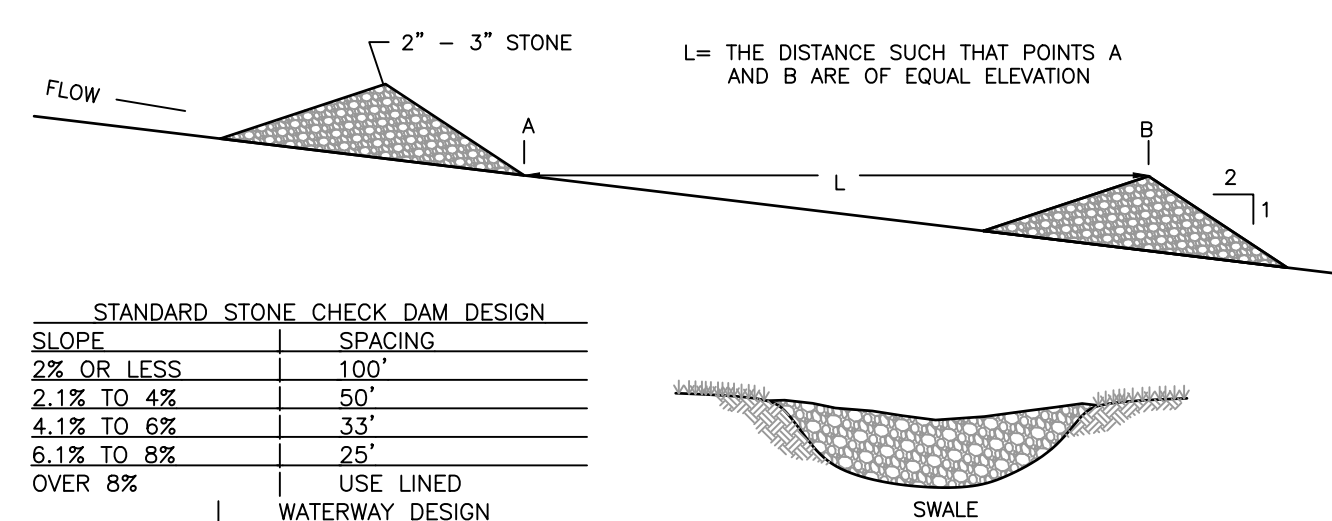
- SELECT SEED FROM RECOMMENDATIONS IN TABLE 4-1.
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTRIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER), NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10 % WHEN HYDROSEEDING.
- TEMPORARY SEEDING SHALL TYPICALLY OCCUR PRIOR TO SEPTEMBER 15TH.
- AREAS SEEDED BETWEEN MAY 15TH AND AUGUST 15TH SHALL BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.
- 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 LBS. 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.	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 JUNE 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:
  - DURING WINTER CONDITIONS, THE MAXIMUM ALLOWABLE DISTURBED AREA SHALL BE 0.5 ACRES.
  - 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.
  - 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.
  - 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:
  - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
  - A MINIMUM OF 85% VEGETATIVE GROWTH HAS BEEN ESTABLISHED;
  - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
  - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.



**CONSIDERATIONS**

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

- CHECK DAMS SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL AND NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY.
- INSPECTIONS SHALL VERIFY THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
- EROSION CAUSED BY HIGH FLOWS AROUND THE EDGES OF THE DAM MUST BE CORRECTED IMMEDIATELY.
- IF EVIDENCE OF SILTATION IN THE WATER IS APPARENT DOWNSTREAM FROM THE CHECK DAM, THE CHECK DAM SHALL BE INSPECTED AND ADJUSTED IMMEDIATELY.
- 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.
- CHECK DAMS SHALL BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.
- THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHALL BE LESS THAN ONE ACRE.
- THE MAXIMUM HEIGHT OF THE DAM SHALL BE 2 FEET.
- THE CENTER OF THE DAM SHALL BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES.
- 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.
- 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.
- IF PROVIDED BY DESIGN AND CONSTRUCTION PLANS, LEAVE THE DAM IN PLACE PERMANENTLY.
- 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.

**SPECIFICATIONS**

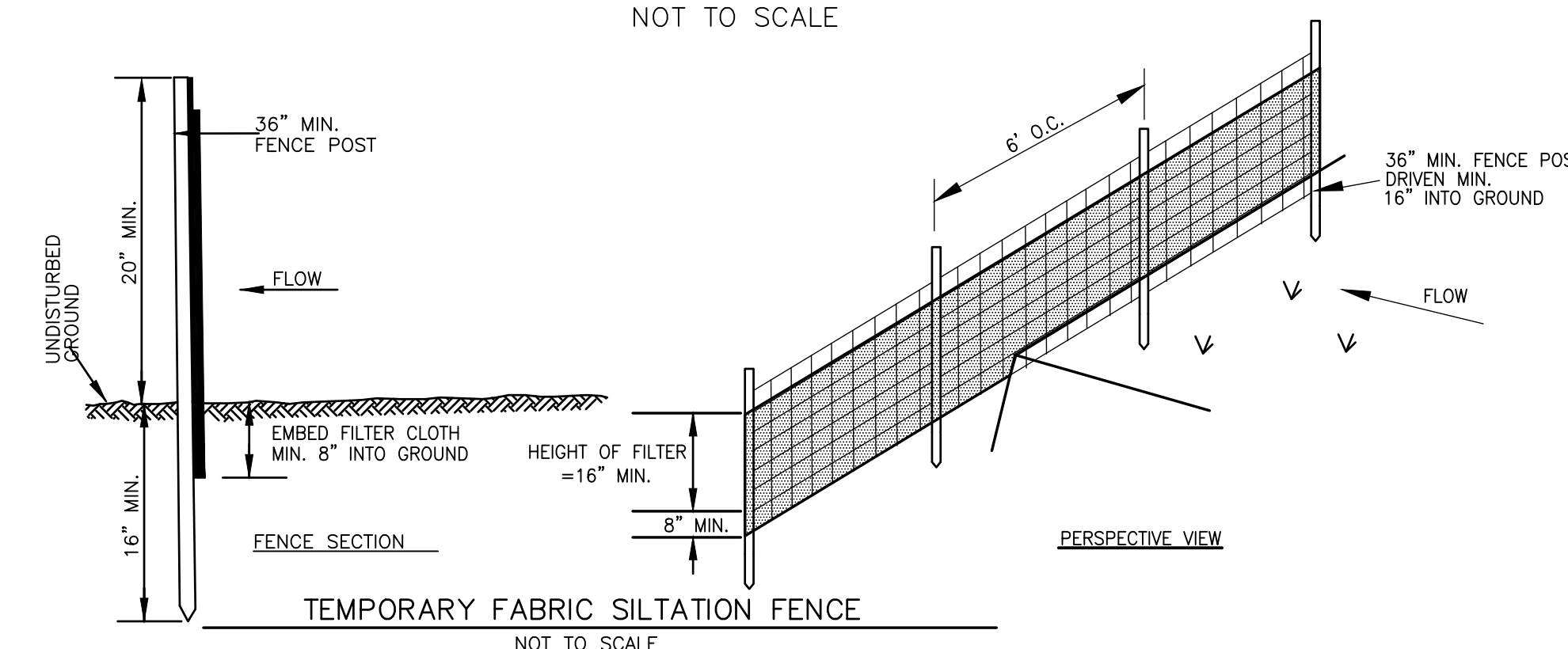
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- THE MAXIMUM HEIGHT OF THE DAM SHALL BE 2 FEET.
- THE CENTER OF THE DAM SHALL BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES.
- THE MAXIMUM SPACING BETWEEN THE DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE OVERFLOW ELEVATION OF THE DOWNSTREAM DAM.
- 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.
- IF PROVIDED BY DESIGN AND CONSTRUCTION PLANS, LEAVE THE DAM IN PLACE PERMANENTLY.
- 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.
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**TEMPORARY STONE CHECK DAMS**

NOT TO SCALE

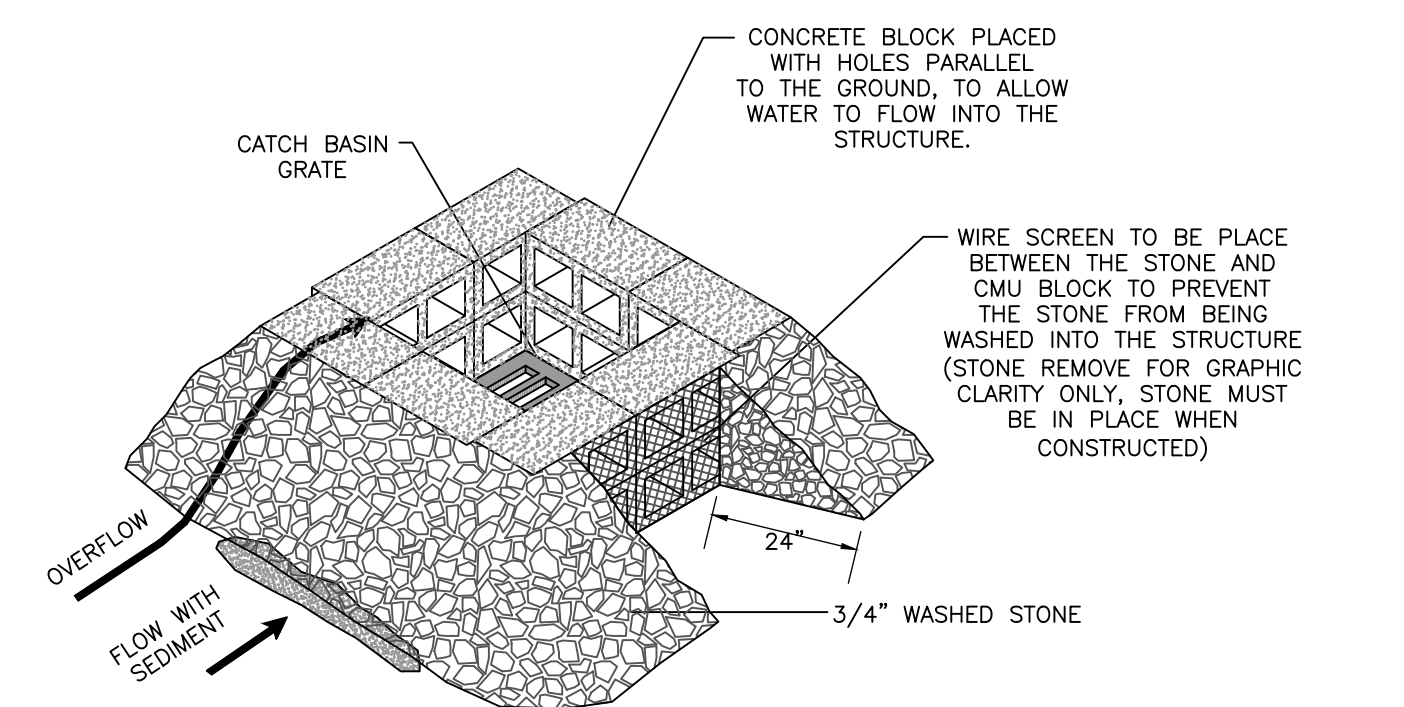
**TEMPORARY CONSTRUCTION EXIT**

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**

- INLET BARRIERS SHALL BE INSPECTED BEFORE AND AFTER EACH RAIN EVENT AND REPAIRED AS NEEDED.
- 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.
- THE BARRIERS SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- ALL CATCH BASINS AND STORM DRAIN INLETS MUST BE CLEANED AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED.

**SPECIFICATIONS**

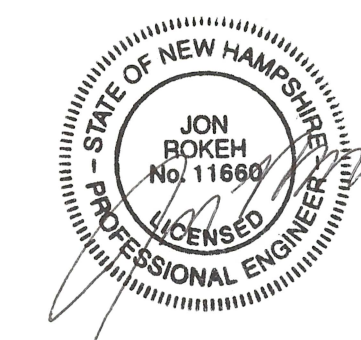
- THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN ONE ACRE.
- THE INLET PROTECTION DEVICE SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES.
- ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.
- THE BLOCKS SHALL BE PLACED LENGTHWISE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET.
- THE BLOCK ENDS SHALL ABUT ONE ANOTHER.
- 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.
- 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.
- THE GRAVEL FILTER SHALL BE CLEAN COARSE AGGREGATE.
- THE GRAVEL SHALL BE PLACED AGAINST THE WIRE AND ALONG THE OUTSIDE EDGES OF THE BLOCKS TO THE TOP OF THE BLOCK BARRIER.
- 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  
 SINGLE FAMILY HOME DEVELOPMENT  
 MAP 30, LOT 19  
 WHEELER STREET, MILFORD NH

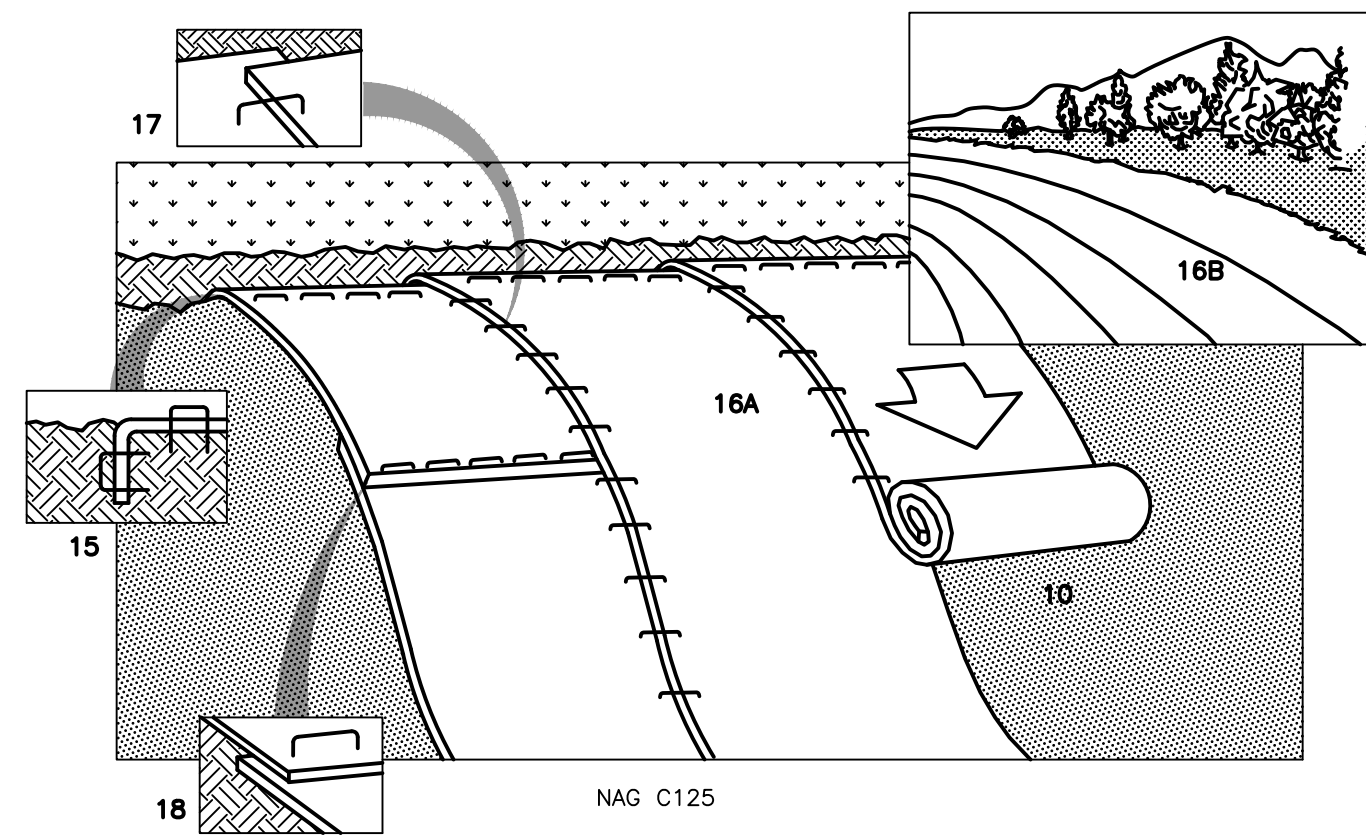
**REVISIONS**

DATE	DESCRIPTION	DWN BY	CK BY
8-9-21	REVISED PER TOWN COMMENTS	JR	JR

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

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

SHEET  
 13 of 20



- 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.

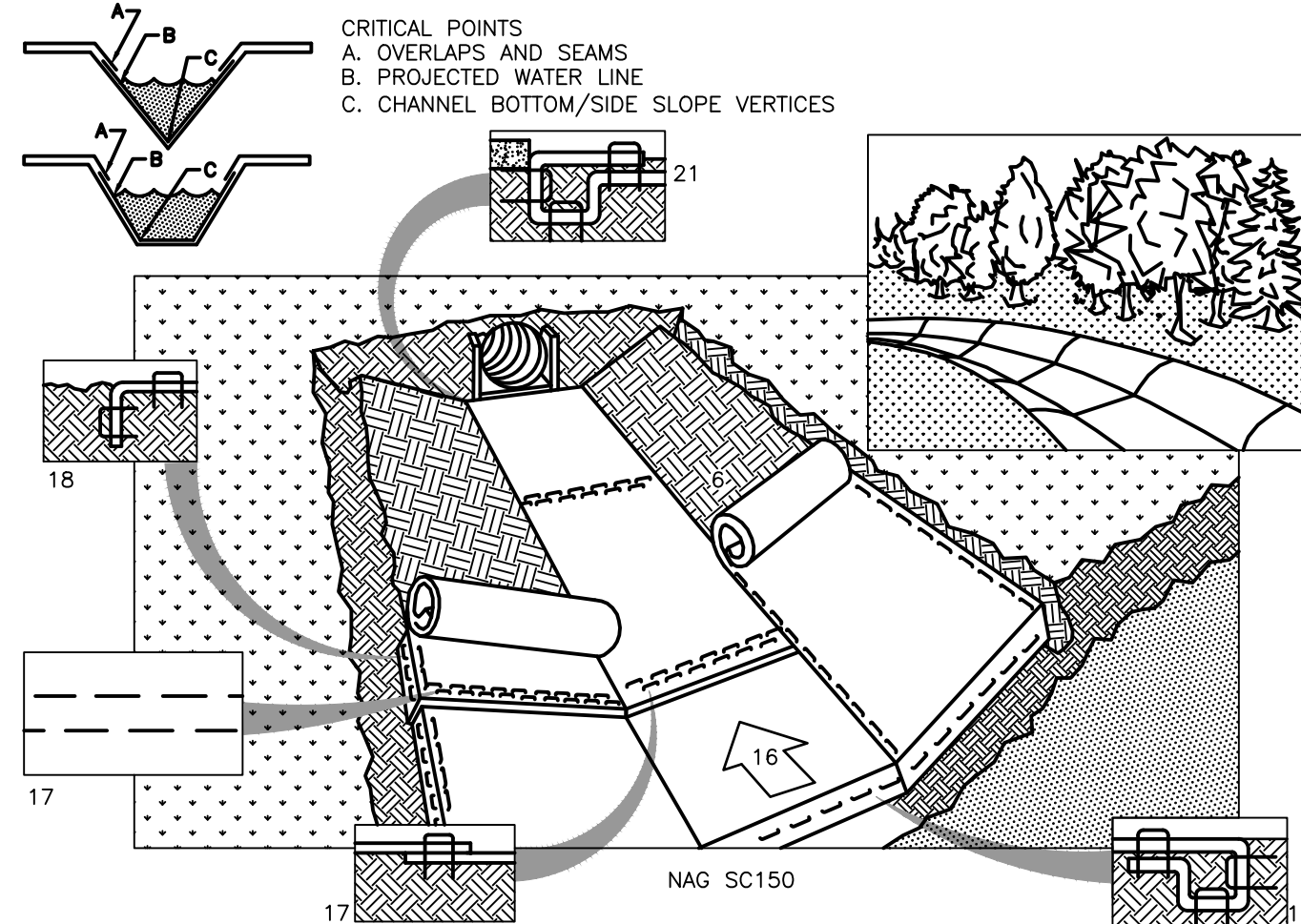
- INSTALLING AND ANCHORING BLANKETS:**
12. BLANKETS SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S SPECIFICATIONS.
  13. ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.

- 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.

- HAY OR STRAW MULCHES:**
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 SMOOTHERED. IF VEGETATION IS DESIRED, THE MULCH WILL NEED TO BE REMOVED IN THE SPRINGTIME AND THE AREA SEEDED AND MULCHED.
  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.

- EROSION CONTROL MIX:**
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.
  21. COMPOSITION OF THE EROSION CONTROL MIX SHOULD BE AS FOLLOWS:
    - 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 PORTION 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.

22. THE BARRIER MUST 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.
23. 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 (P<sub>2</sub>O<sub>5</sub>): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT.
    - POTASH (K<sub>2</sub>O): 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  
SINGLE FAMILY HOME DEVELOPMENT  
MAP 30, LOT 19  
WHEELER STREET, MILFORD NH

DATE	DESCRIPTION	GRATE H2O LOADING DWN BY	CK BY
8-9-21	REVISED PER TOWN COMMENTS	JR	JR

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

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

SHEET  
14 of 20



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# WHEELER STREET MILFORD, NH

## MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. 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.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. 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.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
  - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
  - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
  - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. 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 - 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 MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. 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".
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 CONSTRUCTION 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.

**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.**

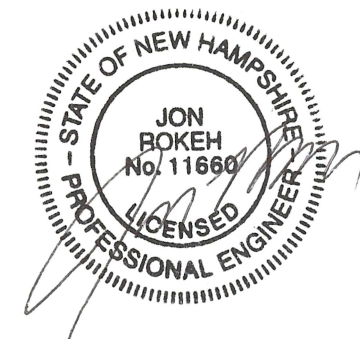
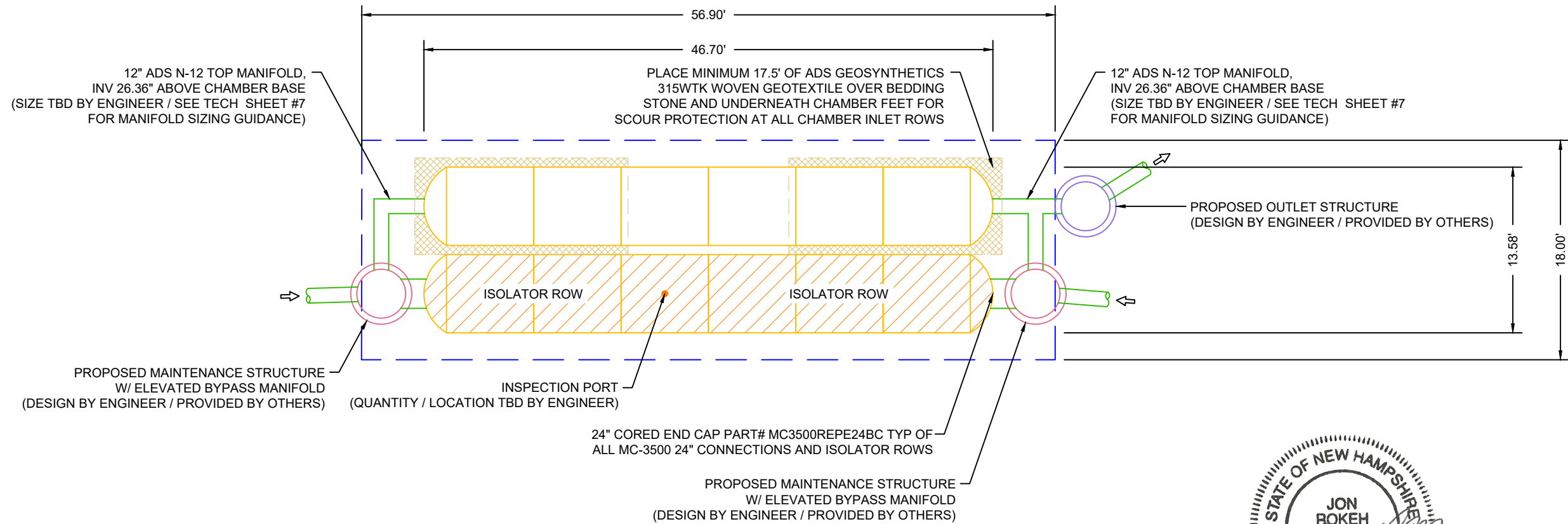
CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

**CONCEPTUAL LAYOUT**

(12) STORMTECH MC-3500 CHAMBERS  
 (4) STORMTECH MC-3500 END CAPS  
 INSTALLED WITH 12" COVER STONE, 12" BASE STONE, 40% STONE VOID  
**INSTALLED SYSTEM VOLUME: 3183 CF**  
 AREA OF SYSTEM: 1024 FT<sup>2</sup>  
 PERIMETER OF SYSTEM: 150 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:	254.75
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



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

REV	DRW	CHK	DESCRIPTION
03/11/2021	AC		REVISED PER ENGINEER'S PLANS
07/19/2021	AC		REVISED PER ENGINEER'S PLANS

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**NOT TO SCALE**

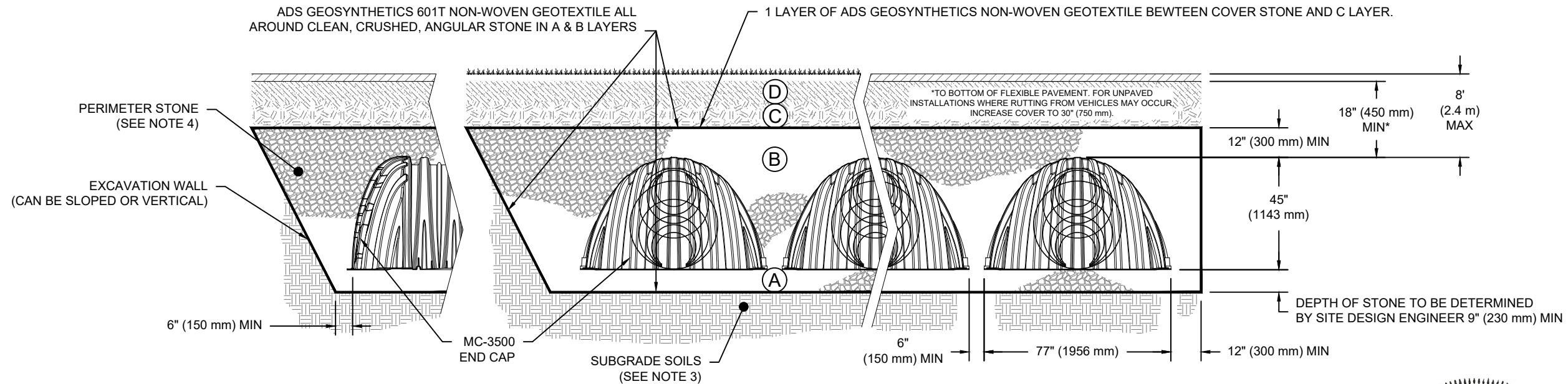
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

## ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	<b>FINAL FILL:</b> 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	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	<b>INITIAL FILL:</b> 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.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE.  MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 <sup>1</sup> A-1, A-2-4, A-3  OR  AASHTO M43 <sup>1</sup> 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	<b>EMBEDMENT STONE:</b> FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 4	NO COMPACTION REQUIRED.
A	<b>FOUNDATION STONE:</b> FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

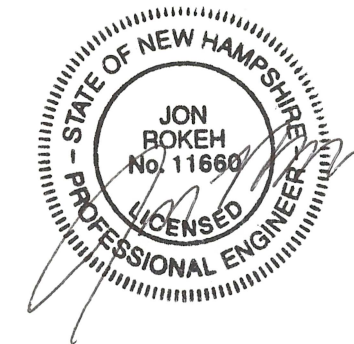
**PLEASE NOTE:**

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



**NOTES:**

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 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.



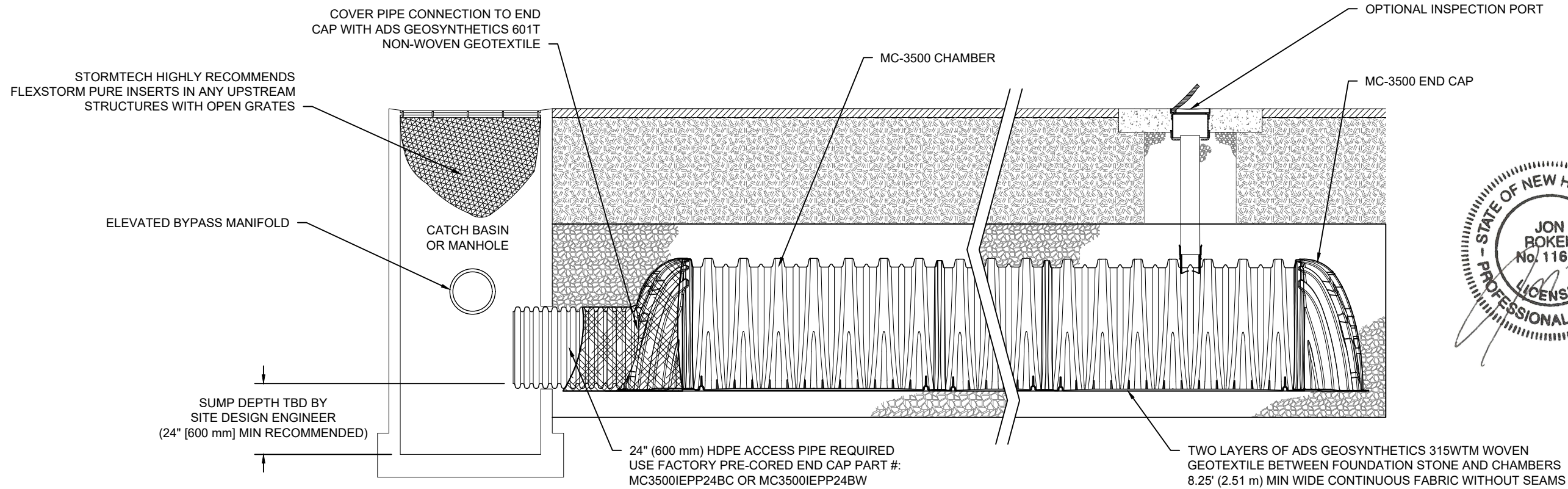
WHEELER STREET MILFORD, NH		DATE: 08/12/2020	DRAWN: AC	CHECKED: --
DESCRIPTION	REVISED PER ENGINEER'S PLANS	PROJECT #:	TOOL	
CHK	REVISED PER ENGINEER'S PLANS			
DRW	AC			
REV	07/19/2021			
	03/11/2021			

REV	07/19/2021			
DRW	AC			
CHK				
DESCRIPTION				

**StormTech**  
 Attention: Retention + Water Quality  
 70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067  
 860-529-8188 | 888-892-2894 | WWW.STORMTECH.COM

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

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.



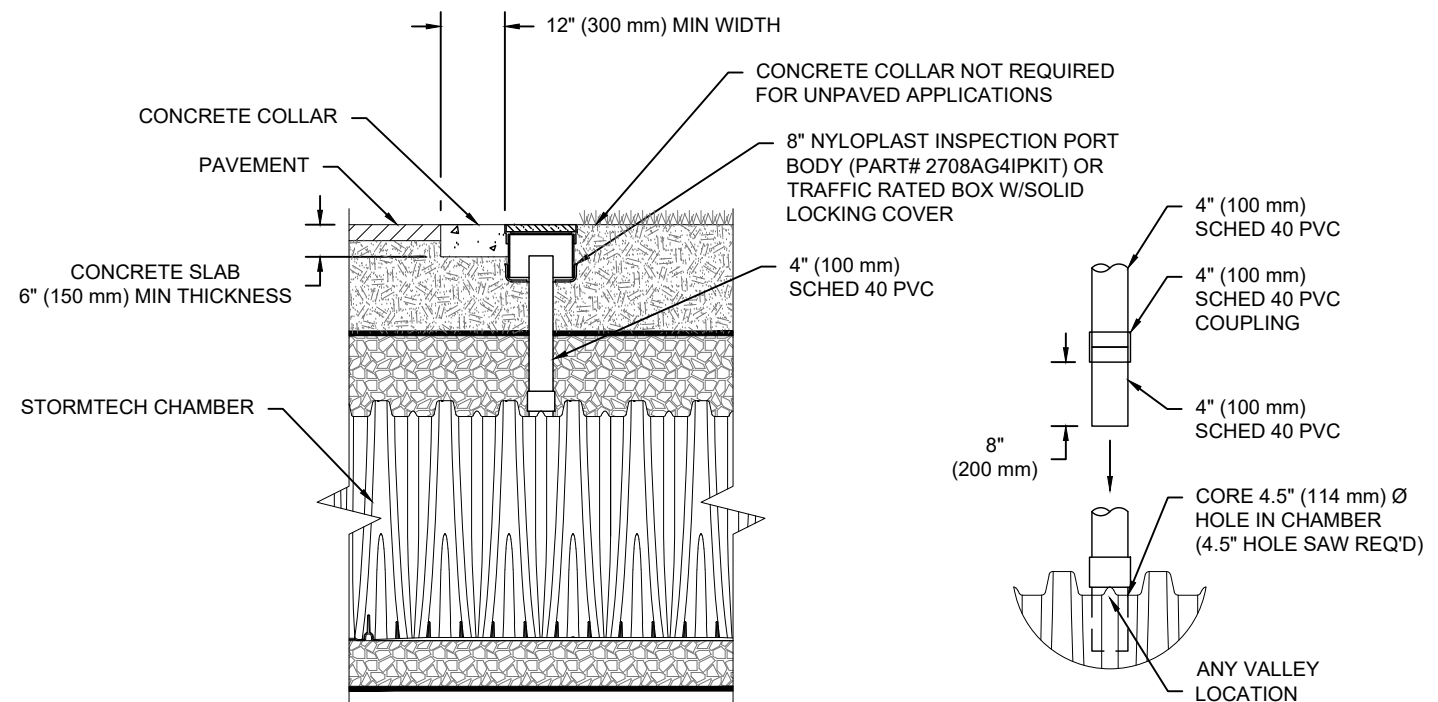
**MC-3500 ISOLATOR ROW DETAIL**  
NTS

**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\"/>**

- NOTES:
1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.
  2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED (4\"/>

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

REV	DRW	CHK	DESCRIPTION
03/11/2021	AC		REVISED PER ENGINEER'S PLANS
07/19/2021	AC		REVISED PER ENGINEER'S PLANS

**StormTech**  
Retention • Retention • Water Quality

70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067  
860-525-8188 | 1888-892-2894 | WWW.STORMTECH.COM

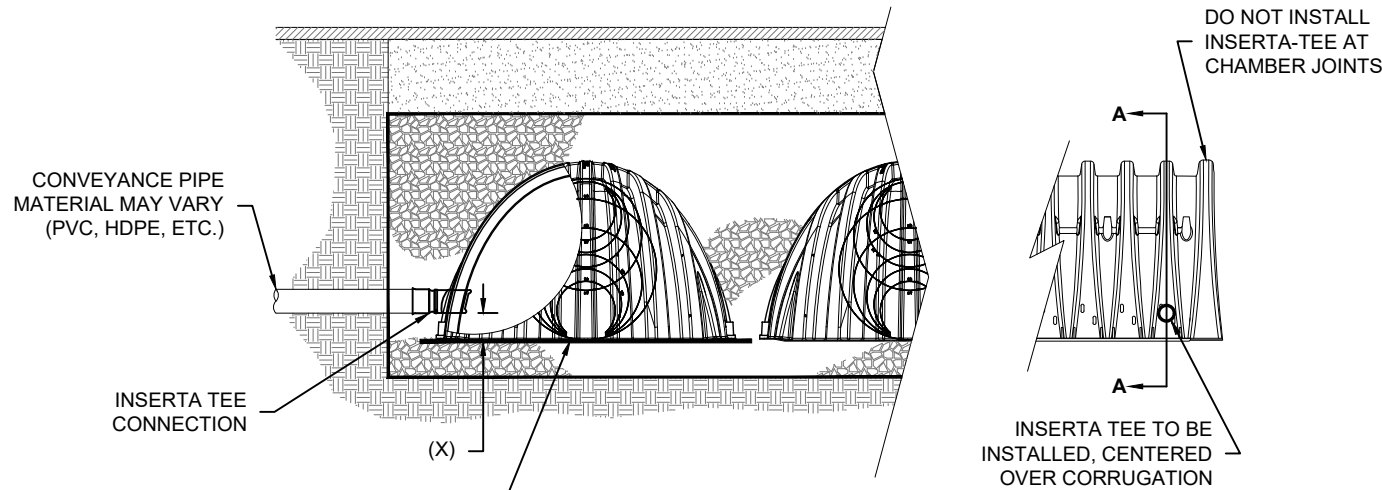
**ADS**  
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4640 TRUEMAN BLVD  
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**INSERTA TEE DETAIL**

NTS



**SECTION A-A**

**SIDE VIEW**

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

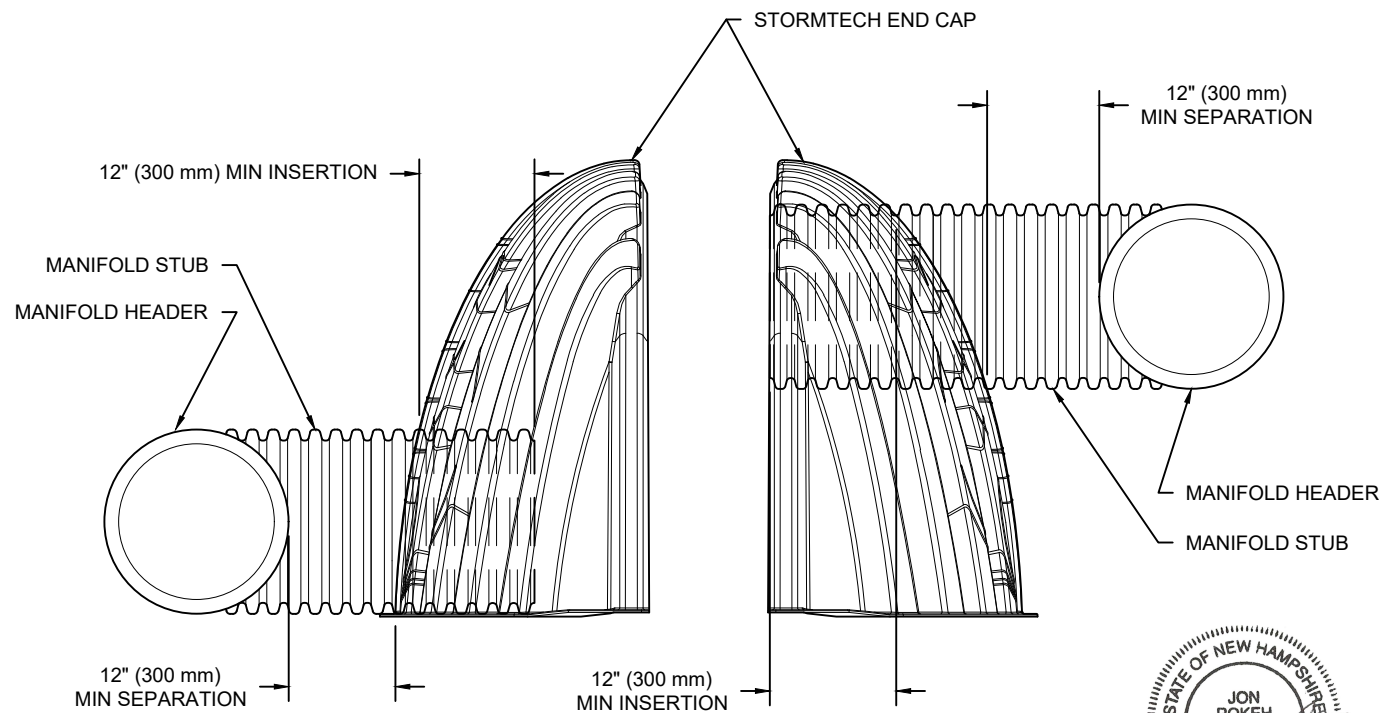
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)

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-SERIES END CAP INSERTION DETAIL**

NTS

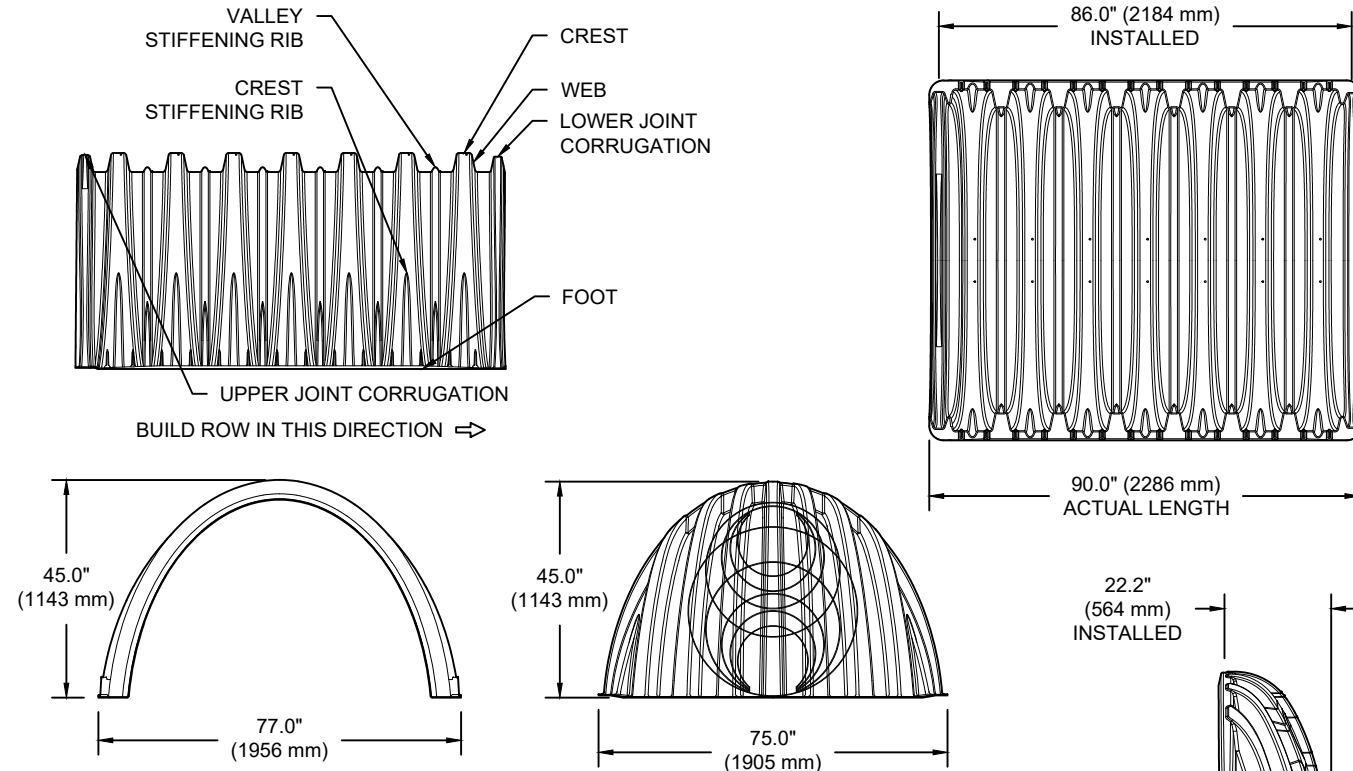


NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.



**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

CUSTOM PRECORED 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.

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

REV	DRW	CHK	DESCRIPTION
03/11/2021	AC		REVISED PER ENGINEER'S PLANS
07/19/2021	AC		REVISED PER ENGINEER'S PLANS

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ELEV - 242.00

4.00

MP  
246

FF ELEV - 252.5  
IN-HOME  
E1 PUMP

PROPANE

SETBACK LINE

RD

PROPANE

TURN  
AROUND

ROW

DMH

OUTLET STRUCTURE

257.53

257.20

51.0

PROPOSED UG  
DETENTION  
POND

18.0

SMH2

CB3

SILT FENCE  
TYP.

SILT FENCE  
TYP.

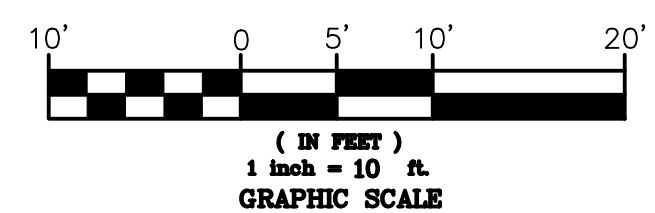
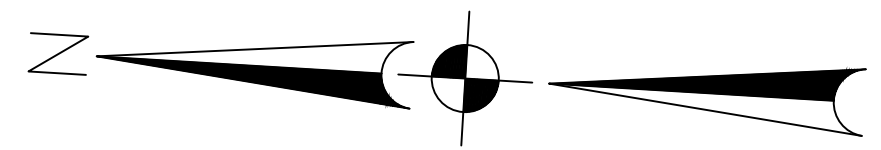
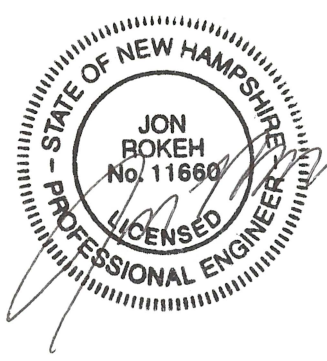
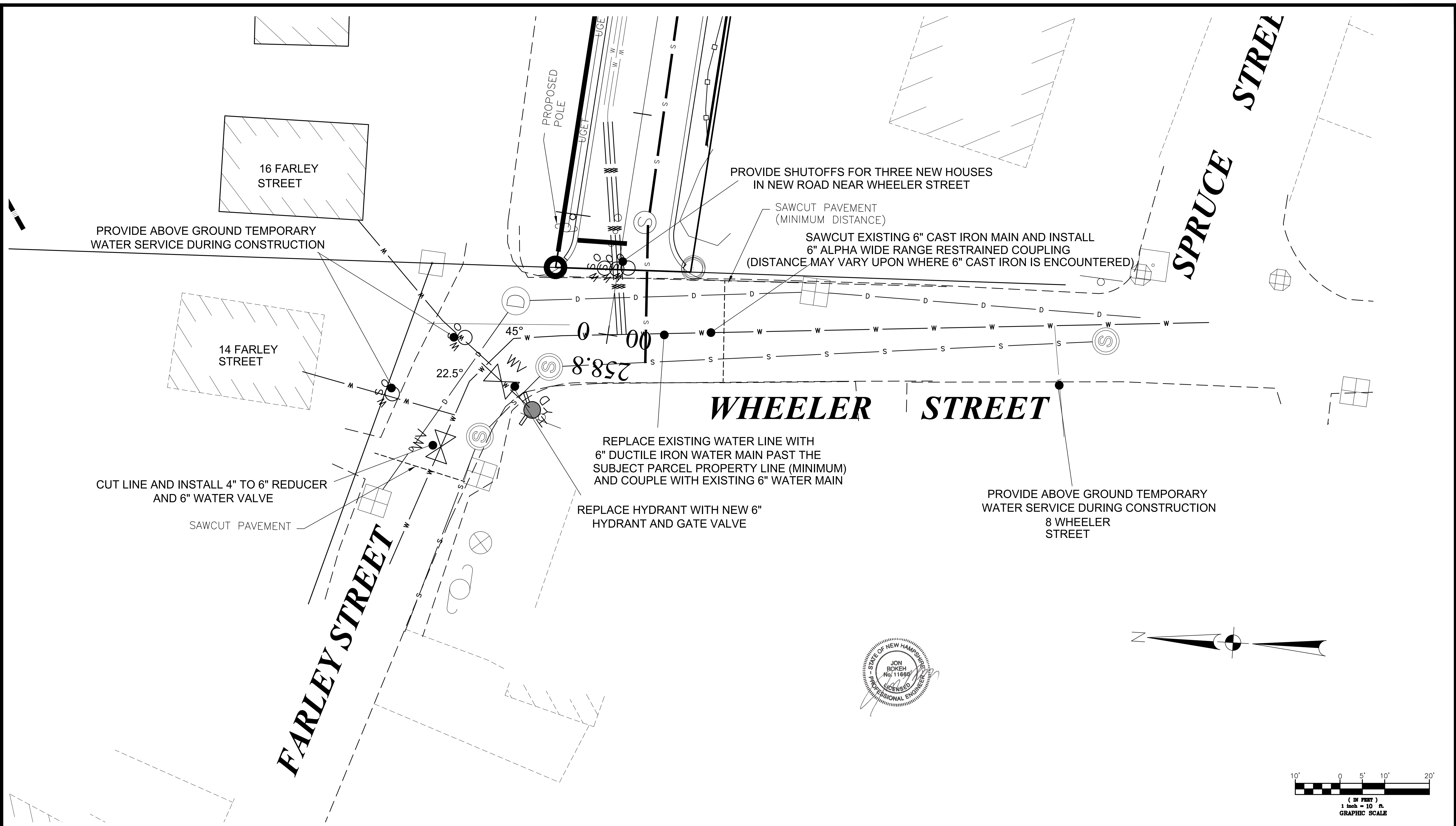
5"X5" SBF  
DOWN 3"

MAINT MH

1.5" IPF  
UP 18"







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

**WHEELER STREET WATER REPLACEMENT PLAN**  
**SINGLE FAMILY HOME DEVELOPMENT**  
 MAP 30, LOT 19  
 WHEELER STREET, MILFORD NH

DATE	REVISIONS DESCRIPTION	DWN BY	CK BY
8-9-21	REVISED PER TOWN COMMENTS	JR	JR
8-12-21	REVISED PER ONSITE MEETING WITH MILFORD	JR	JR

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

SCALE: 1" = 10'  
 DATE: JULY 7, 2020  
 DR. BY: JR CK. BY: JR  
 JOB NO.  
 SHEET  
 20A of 20

# Rokeh Consulting, LLC

Town of Milford Planning Board  
C/o Lincoln Daley  
1 Union Square  
Milford, NH 03055

RE: San Ken Inc. Tax Map 30, Lot 19 - 3 Lot Subdivision Plan – Wheeler Street, Milford

Dear Members of Board,

The application before you is for a three lot, single family home subdivision with a new roadway. A new roadway will be constructed along with the associated grading, drainage and utilities for the site. The homes will be serviced by municipal water and sewer. The water and sewer service mains that will service the new development are proposed according to discussions with the Milford DPW department. A hammerhead turnaround is proposed within the development per discussions with the Milford Fire Department.

The roadway will be a closed drainage system with curb and gutter and built to the Town standard. A 30 foot ROW width is requested to match with the ROW area to Wheeler Street that was left when the lot was created. In discussions with the Milford DPW they indicated that Milford has several areas where public roads are in a 30 foot ROW.

The proposal for the single family home development is consistent with all the surrounding homes in the neighborhood and is an allowed use in the zone.

Thank you for your consideration of this request. Please do not hesitate to contact me with any questions you have at 603-387-8688.

Sincerely,



Jon Rokeh, PE

# Rokeh Consulting, LLC

Town of Milford Planning Board  
C/o Lincoln Daley  
1 Union Square  
Milford, NH 03055

RE: San Ken Inc Wheeler Street Subdivision Plan Waiver Request for hammerhead dimensions  
Tax Map 30, Lot 19, Wheeler Street, Milford

Dear Members of Board,

Please let this letter serve as our official request for a waiver from the standard hammerhead turnaround dimensions. We have worked with the fire department and have provided a hammerhead turnaround area that is satisfactory for the turning movements needed for the fire truck and is also proportional to the ROW proposed for the development.

Thank you for your consideration of this request. Please do not hesitate to contact me with any questions you have at 603-387-8688.

Sincerely,

A handwritten signature in black ink, appearing to read "Jon Rokeh". The signature is fluid and cursive, with the first name "Jon" and the last name "Rokeh" clearly distinguishable.

Jon Rokeh, PE

# Rokeh Consulting, LLC

Town of Milford Planning Board  
C/o Lincoln Daley  
1 Union Square  
Milford, NH 03055

RE: San Ken Inc Wheeler Street Subdivision Plan Waiver Request. Tax Map 30, Lot 19  
Wheeler Street, Milford

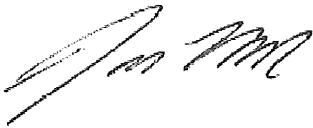
Dear Members of Board,

Please let this letter serve as our official request for a waiver to allow a 30 foot ROW for a new road for the purpose of subdividing the existing lot into three single family home lots. The ROW area that was left in the past for this lot has approximately 30 feet of frontage on Wheeler Street. In discussions with the Department of Public Works there are many streets in Milford that have a 30 foot ROW.

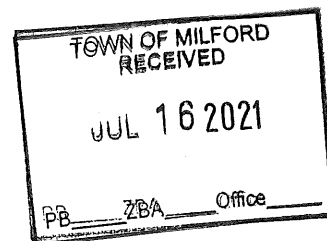
The roadway itself would be built to the town standard there would just be less of an offset to either side of the roadway to the ROW lines.

Thank you for your consideration of this request. Please do not hesitate to contact me with any questions you have at 603-387-8688.

Sincerely,



Jon Rokeh, PE



## The Bleachery of Milford

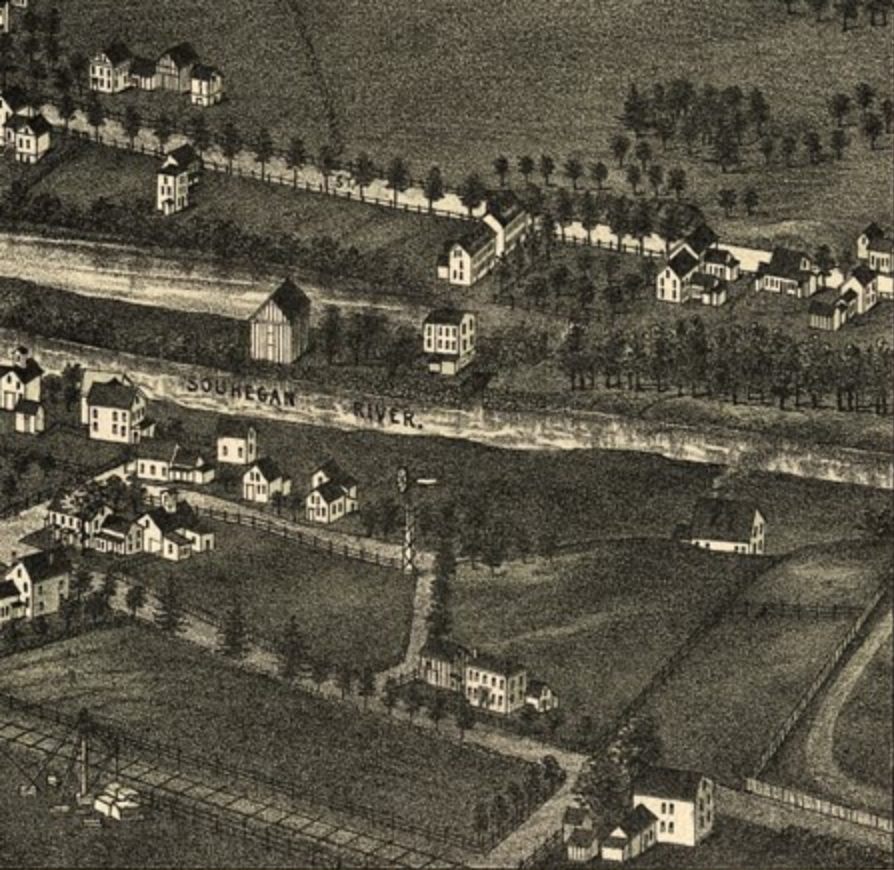
John Quinlan was born in Ireland in 1830 and came to Milford to raise his family in 1855. He was a farmer and a “bleacher” or one who bleaches cotton fabric for the mills. He marries Mary Herlihy in 1860 where they settled on the north side of what we call today, Nashua Street. The roads of Farley and Wheeler were unnamed paths to the Souhegan River to the north. Nashua Street was then known as the “road to Nashua”. The bleachery was a set of buildings that used ditches, canals and a supply of spring water to assist in the bleaching process.

When the bleachery was in full operation, the business did the cotton yarn bleaching for the Morse, Kaley & Co. According to stories in the Milford Cabinet, Mr. Quinlan got his start in this location around 1860. A fire later destroyed one of the main bleachery buildings in June of 1894, but it was quickly rebuilt. Quinlan offered a reward of \$500 and the town offered \$300 for someone to turn-in whoever set fire to his bleachery. This shows the commitment of the town to support an important industry.

Like Milford Springs, the early information on this bleachery make reference to a “Never failing supply of the best spring water, the supply of which is on an average of 250,000 gallons in their reservoir near the building”. This appears today as a rectangular pond just to the north of Spruce Street. After the operation of the bleachery, the buildings on the site were used for the storage of materials to manufacture gun powder. The property was leased to the Wedgerite Powder Co. during the time of WWI.

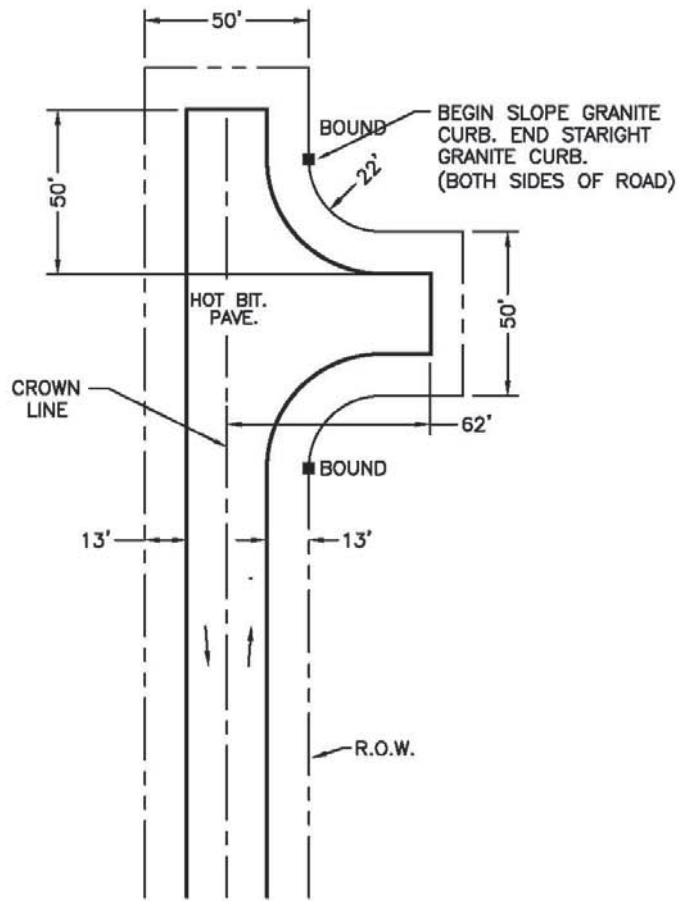
John Quinlan’s son William, was an 1880 graduate of Milford High School and after a short period at studying law, came home to work for the family business. William Quinlan eventually came down with Typhoid fever and then Tuberculosis and died in 1900 at the young age of 38 years. The senior John Quinlan carried on the operation of the bleachery for a few years after, but by 1906 the property was put up for sale. John Quinlan died in March of 1907 at 77 years.

To this day the foundations of several buildings and a pool are still located in the area where Wheeler and Farley Streets come together. By the year, 1924, when Margaret Johnson sells the property to Antonio Amadio, the bleachery was no longer running and sat as a set of abandoned buildings.



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- 22 Darracott's Novelty Works.
- 23 Edward Finerty, Carriage Mfny.
- 24 Bragg, Conant & Co., Box Factory.
- 25 Russel, Luce & Co., Monumental Works.
- 26 I. H. Carlton, Marble & Granite Works.
- 27 J. Quinlan, Cotton Yarn Bleachery.
- 28 Railroad Passenger Station.



**NOTES:**

1. ALL CURBING SHALL BE GRANITE CURB, WHEN CURBING IS REQUIRED.
2. BOUNDS SHALL BE CONSTRUCTED AT EACH PROPERTY LINE INTERSECTION WITH THE R.O.W.
3. ROADWAY WIDTHS SHALL COMPLY WITH ROADWAY STANDARDS TABLE.
4. DRIVEWAYS SHALL NOT BE ALLOWED DIRECTLY OFF THE ENDS OF THE TOMAHAWK.

**PLAN VIEW**

SCALE: 1" = 50'

DIMENSIONS ARE TO FACE OF CURB

DRAWN BY:	D.K.P.
CHECKED BY:	R.L.
APPROVED BY:	R.L.
SCALE:	AS SHOWN
DATE:	NOV. 2003

TOWN OF MILFORD, NEW HAMPSHIRE  
DESIGN SPECIFICATIONS

**TOMAHAWK  
TURN-AROUND**

SM	UPDATED	3/10
REV.	DESCRIPTION	DATE
FIGURE:	R-06	A