



TOWN OF MILFORD, NH  
OFFICE OF COMMUNITY DEVELOPMENT

1 UNION SQUARE, MILFORD, NH 03055

TEL: (603)249-0620

WEB: WWW.MILFORD.NH.GOV

## **STAFF MEMO**

**Date:** August 23, 2018  
**To:** Town of Milford Planning Board  
**From:** Lincoln Daley, Community Development Director  
**Subject:** **Hitchiner Manufacturing, Inc., 594 Elm Street, Tax Map 13, Lot 6 and 97 Old Wilton Road, Tax Map 14, Lot 6.** Public Hearing for an amendment to the major site plan approved on May 22, 2018, for the construction of an 85,000 square foot industrial manufacturing building and minor parking improvements to increase the total impervious area for a cooling tower concrete pad and associated drainage improvements within the Industrial zoning district.

### **BACKGROUND:**

The applicant is presenting the formal amendment to the approved May 22, 2018 Site Plan Approval for the construction of an 85,000 square foot manufacturing facility on Hitchiner Way, additional parking spaces, enlarged drainage system and stormwater management system, and related landscaping and site lighting plans. The site plan approval also included the construction of a small parking area in front of the “Barn” company/private cafeteria operation located at 97 Old Wilton Road.

Since the approval, construction of the project is underway. Hitchiner has started foundation construction on the new Plant No. 3 building. They are seeking approval to (1) change from four evaporative cooling towers on a 29’x67’ concrete pad (previously approved) to seven adiabatic cooling towers on a 46’x110’ concrete pad (proposed revision) and (2) and adjustments to the drainage and stormwater management design and detention area resulting in a net increase of impervious area of 3,117 and 4,000 square feet to total disturbed area. This change will reduce water usage by approximately 1.5 million gallons annually.

### **ADDRESS:**

594 Elm Street, Map 13 Lot 6.  
97 Old Wilton Road, Map 14 Lot 6

### **LOT AREA:**

Lot 13-6: ±10.968 Acres (477,751SF)  
Lot 14-4: ±1.8 Acres (78,408SF)

### **APPLICATION STATUS:**

The application is complete and ready to be accepted. The Board will need to make a determination of regional impact.

### **NOTICES:**

Notices were sent to all property abutters on August 16, 2018.

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

The subject property is within the Industrial “I” Zoning District: The intent of the Industrial “I” District is to provide areas for manufacturing, processing, assembly, wholesaling, research and development. The proposed industrial development and site improvements meet the intent of the Industrial District and meet all dimensional

requirements as stated in Section 5.06.

The property also falls within the West Elm Street Gateway District and is subject to the relevant design and performance standard relative to industrial development. The intent of this District is to encourage economic development in the West Elm Street Gateway District by enhancing, preserving and protecting the natural, historic and cultural resources of the Town. The proposal meets the intent of the District by providing a building design that is functional, aesthetically pleasing and harmonious with the architectural heritage of the community as well as providing positive economic return to the Town and property owners. The development reflects the intended character of Milford's industrial neighborhoods relative to massing, height, lot coverage, and setbacks, and enhances the streetscape and visual character of the corridor.

**TRAFFIC AND ACCESS MANAGEMENT:**

Vehicular egress and access to the property and new facility will be from driveways off of Hitchiner Way and Elm Street. Internal drives and parking areas provide for sufficient emergency vehicle access and circulation. Only larger delivery and transport vehicles will access/egress from the site via the Elm Street entrance. The increased area of impervious surface and drainage area will have no impact to the internal circulation patterns and access/egress from the site.

**OPEN SPACE/LANDSCAPING:**

With the increase in impervious area, the applicant will need to recalculate the total open space area for the property and revise the plans accordingly. Even with increase impervious area, it is anticipated that the total open space area will meet the require 30% (currently 32%).

**DRAINAGE:**

Although the project is not located within the 100-year flood plain as shown on the Flood Insurance Rate Map Number 330096, dated September 25, 2009, the property falls within the Milford Groundwater Protection Zone 1 Overlay.

To compensate for the increased impervious area and further encroachment on the northerly slope of the detention area by the larger pad, the applicant made some minor adjustments to the grading in the permanent pool area and moved the southerly slope of the usually dry portion of the detention 15 feet to the south to compensate for the lost volume. This is illustrated on the attached pdf's. The net result is an increase of disturbed area of 4,000 +/- SF and the peak detention basin elevation and peak rates of runoff leaving the site at the POA remaining substantially the same as the approved design.

The applicant submitted the revised plan to the NH DES for review under their approved Alteration of Terrain permit (AoT 180425-065). The NH DES has accepted the revised design and information and informed the applicant that a revised Alternation of Terrain Permit would not be required. The local stormwater permit application will need to be resubmitted to the Environmental Coordinator for review and approval.

**BUILDING ELEVATIONS:**

The previously approved plan included visual mitigation of the water cooling towers and pad in the form of horizontal panels. It is our understanding that the applicant will continue the same or similar visual mitigation. With the recommended enhanced landscaped design and inclusion the proposed architectural design elements, Staff finds that building meets the requirements of the Development Regulations and Zoning Ordinance.

**INTERDEPARTMENTAL REVIEWS:**

**Ambulance:** No comments.

**Assessing:** No comments.

**Building Department:** No comments

**Conservation Commission:** See attached May 18<sup>th</sup> letter.

**Environmental Coordinator:** The applicant will be required to submit a revised local stormwater permit application.

**Fire Department:** No comments.

**Heritage Commission:** No comments/issues.

**Police Department:** No comments submitted.

**SoRLAC:** No comments submitted.

**Water Utilities:** No comments submitted.

**Zoning Administrator:** No further comments.

**Planning Department:**

Said comments and recommendations provide an overview of areas that will be need to be addressed at the Public Hearing or shown as part of the application:

1. General Comment. Modify cover sheet to include both Map 13, Lot 6 and Map 16, Lot 6 in title and subsequent Sheet title blocks.
2. Sheet 1, Notes #4. Please amend the purpose of plan description to detail the proposed amendment(s).
3. Sheet 1, Notes #8. Please revise the open space calculation for Map 13 Lot 6 to include the proposed amendment. In addition, please provide the open space calculation for Map 14 Lot 6.
4. Sheet 9. Please revise the plan to include the engineering and construction details for the cooling town concrete pad and retaining wall.
5. Sheet 9. What is the distance/height from the top to the retaining wall to the grade of the riprap and retaining pond? Will a fence need to be installed for increased safety?
6. Sheet 9. Given the proximity of the 7 coolant towers the wetlands, detention pond, and drainage system, please explain what preventative measure/safeguards will be in place should there be spill?
7. Sheet 9. Please explain the reason for locating a snow storage area within the riprap area of the drainage system.
8. Sheet 20. Please confirm if the trees located within the riprap areas will remain (approx. 8 trees). If they are removed, please revise the landscape to show the locations of the replacement/relocated trees.
9. General Comment. Please detail the total area of increased disturbance associated with the amendment. In addition, a revised Milford Stormwater Permit will need to be filed with the Town for review and approval.
10. General Comment. Please provide the revised drainage calculation and analysis report.
11. General Comment. Please describe the visual mitigation efforts for 7 cooling towers. We presume that the applicant will employ/utilize the previously approved method.

**STAFF RECOMMENDATIONS:**

The applicant should be prepared to address all of the comments raised by the Planning Board, Conservation Commission, Town Consultants, Staff, and public pertaining to the Site Plan Final Design and revise the plans/information accordingly. Barring any/all input and recommendations from the Board, Staff recommends approving the application subject to the following conditions:

1. The Applicant shall submit written confirmation of approvals local stormwater permit from NH DES and Town of Milford.

2. The Applicant shall The Applicants shall submit any/all revised plans, reports, and associated information to the Community Development Office for review and approval by the Town and its agents.

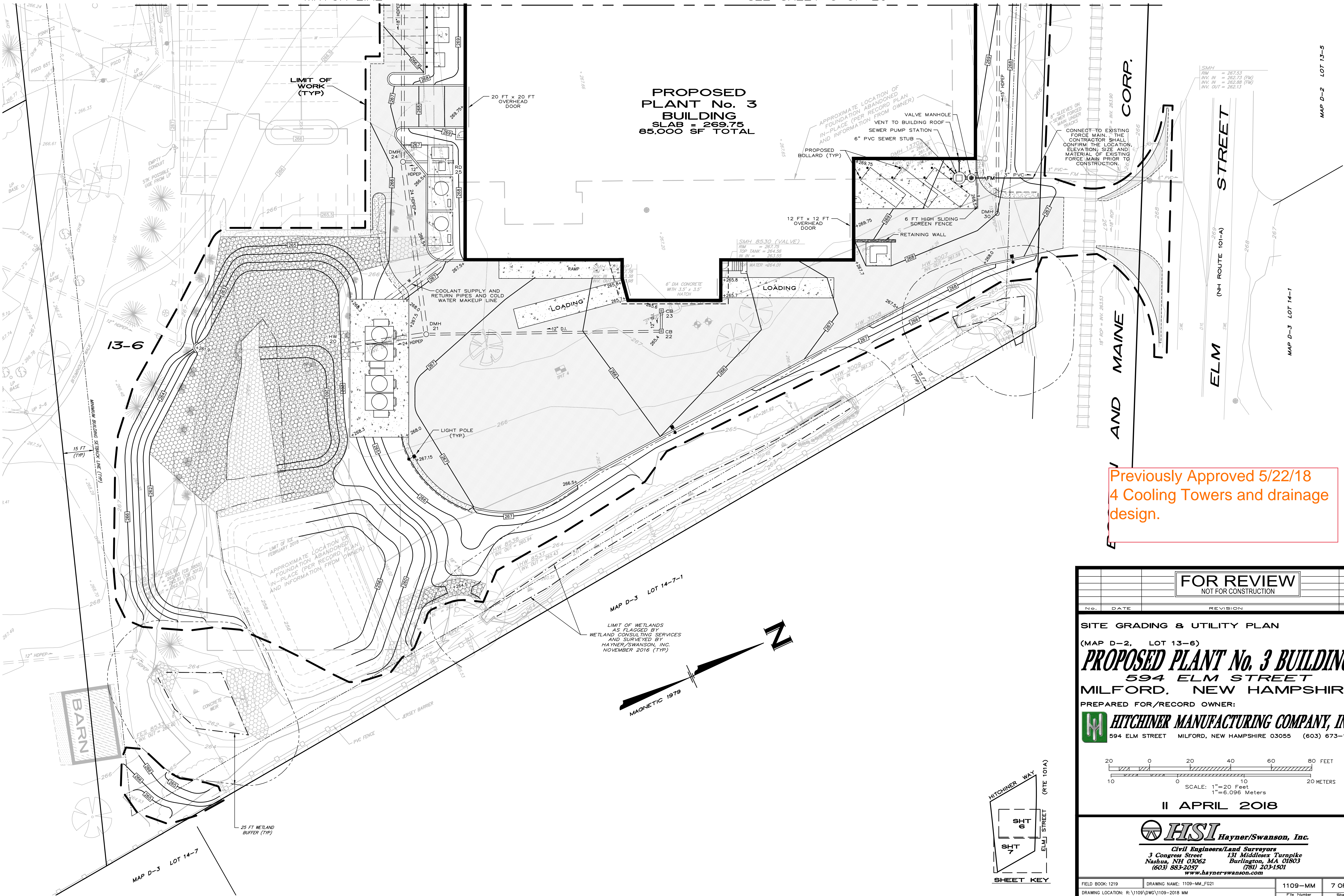


MATCH LINE

SEE SHEET 6 OF 20

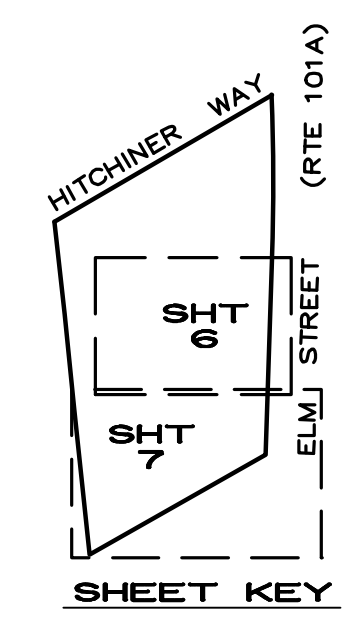
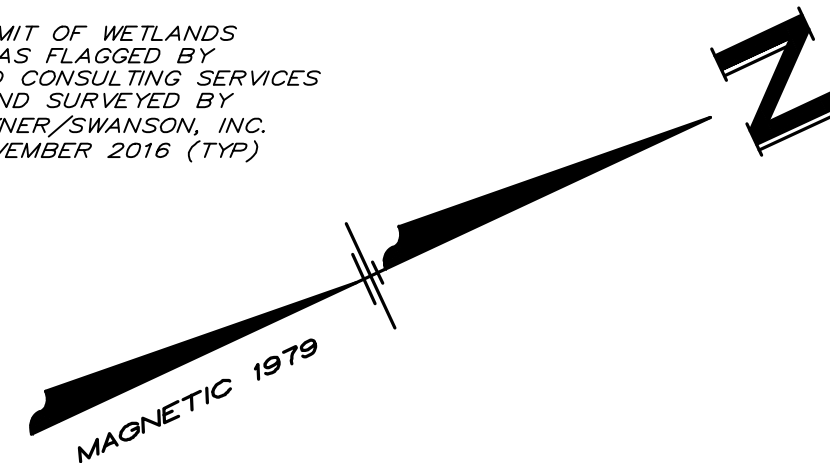
**PROPOSED  
PLANT No. 3  
BUILDING**  
SLAB = 269.75  
85,000 SF TOTAL

Previously Approved 5/22/18  
4 Cooling Towers and drainage  
design.



MAP D-3 LOT 14-7-1

LIMIT OF WETLANDS  
AS FLAGGED BY  
WETLAND CONSULTING SERVICES  
AND SURVEYED BY  
HAYNER/SWANSON, INC.  
NOVEMBER 2016 (TYP)

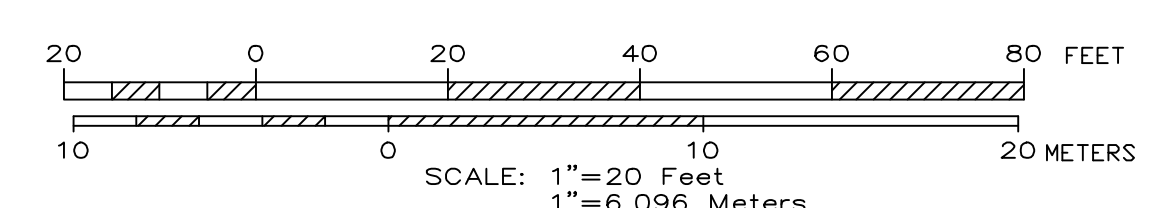


**FOR REVIEW**  
NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY

**SITE GRADING & UTILITY PLAN**  
(MAP D-2, LOT 13-6)  
**PROPOSED PLANT No. 3 BUILDING**  
594 ELM STREET  
MILFORD, NEW HAMPSHIRE  
PREPARED FOR/RECORD OWNER:

**HITCHINER MANUFACTURING COMPANY, INC.**  
594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 (603) 673-1100



11 APRIL 2018

**HSI** Hayner/Swanson, Inc.  
Civil Engineers/Land Surveyors  
3 Congress Street 131 Middlesex Turnpike  
Nashua, NH 03062 Burlington, MA 01803  
(603) 883-2057 (781) 203-1501  
www.haynerswanson.com

Three Congress Street Nashua, New Hampshire 03062-3301  
 Tel (603) 883-2057 Fax (603) 883-5057  
 www.hayner-swanson.com

Hayner/Swanson, Inc.

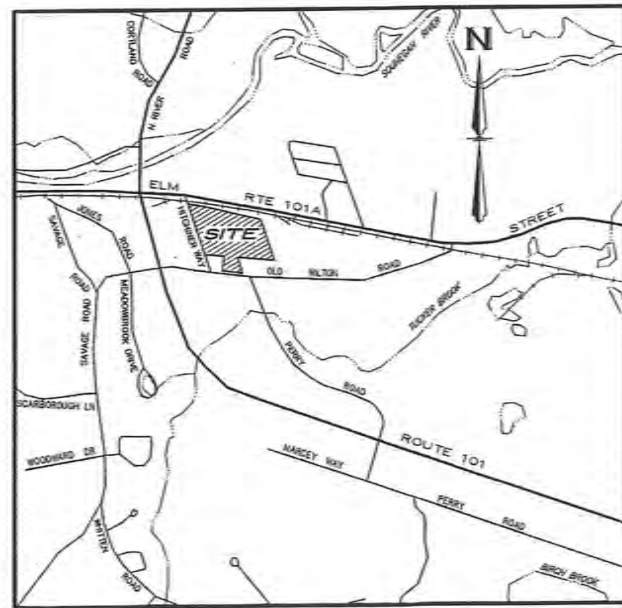


MAP D-2, LOT 13-6  
 SITE PLAN

# PROPOSED PLANT No. 3 BUILDING

ELM STREET  
 MILFORD, NEW HAMPSHIRE

TOWN OF MILFORD  
 RECEIVED  
 AUG 15 2018  
 PB ZBA Office



VICINITY PLAN SCALE: 1" = 1,000'

PREPARED FOR/RECORD OWNER

**HITCHINER MANUFACTURING COMPANY, INC**

594 ELM STREET  
 MILFORD, NEW HAMPSHIRE 03055  
 (603) 673-1100  
 www.hitchiner.com

11 APRIL 2018

REVISED  
 17 MAY 2018  
 13 JUNE 2018  
 2 AUGUST 2018

INDEX OF PLANS		
SHEET No.	TITLE	
1 OF 21	MASTER SITE PLAN	1" = 50'
2-3 OF 21	EXISTING CONDITIONS PLAN	1" = 20'
4-5 OF 21	SITE DEMOLITION PLAN	1" = 20'
6-7 OF 21	SITE GRADING & UTILITY PLAN	1" = 20'
8-9 OF 21	SITE LAYOUT PLAN	1" = 20'
10-11 OF 21	SEDIMENT AND EROSION CONTROL PLAN	1" = 20'
12 OF 21	UTILITY PROFILES	1" = 20' H 1" = 4' V
13 OF 21	UTILITY PROFILES AND DETAILS	
14-15 OF 21	DETAIL SHEET - GENERAL SITE	
16 OF 21	DETAIL SHEET - SEWER PUMP STATION	
17 OF 21	DETAIL SHEET - SEWER	
18 OF 21	DETAIL SHEET - WATER	
19 OF 21	DETAIL SHEET - EROSION CONTROL	
20 OF 21	LANDSCAPE PLAN	1" = 40'
21 OF 21	DETAIL SHEET - LANDSCAPE	
PHOTOMETRIC LIGHTING PLANS		
BUILDING ELEVATIONS		



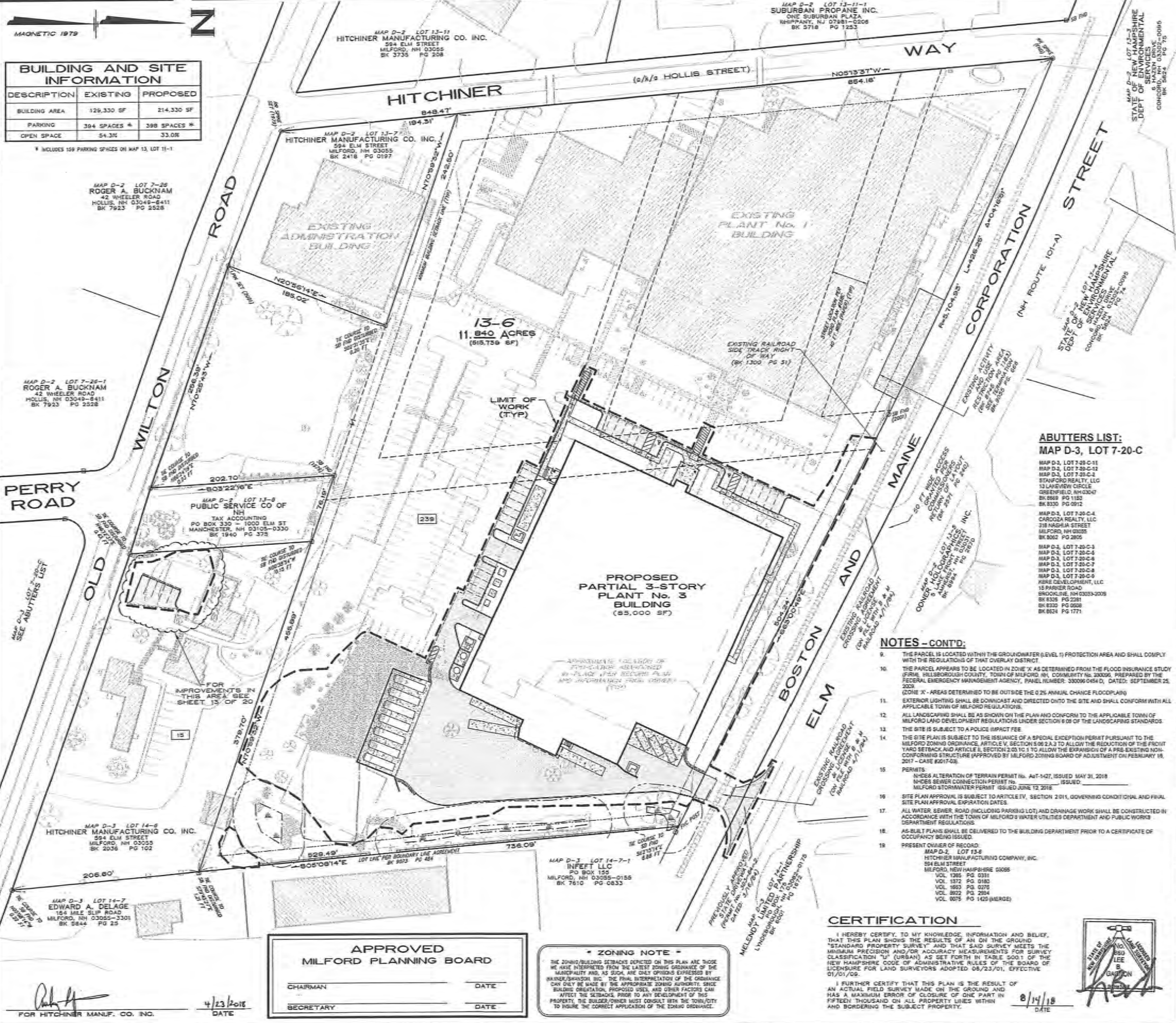
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 www.hayner-swanson.com



8/14/18

APPROVED  
 MILFORD PLANNING BOARD  
 CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_  
 SECRETARY \_\_\_\_\_ DATE \_\_\_\_\_



**BUILDING AND SITE INFORMATION**

DESCRIPTION	EXISTING	PROPOSED
BUILDING AREA	126,330 SF	214,330 SF
PARKING	394 SPACES *	398 SPACES *
OPEN SPACE	54.3%	33.0%

\* INCLUDES 159 PARKING SPACES ON MAP 13, LOT 11-1

MAP D-2 LOT 7-26  
ROGER A. BUCKNAM  
42 WHEELER ROAD  
HOLLIS, NH 03048-6411  
BK 7923 PG 2528

MAP D-2 LOT 7-26-1  
ROGER A. BUCKNAM  
42 WHEELER ROAD  
HOLLIS, NH 03048-6411  
BK 7923 PG 2528

MAP D-2 LOT 13-6  
PUBLIC SERVICE CO OF NH  
TAX ACCOUNTING  
PO BOX 330 - 1000 ELM ST  
MANCHESTER, NH 03105-0330  
BX 1940 PG 375

MAP D-3 LOT 14-6  
HITCHINER MANUFACTURING CO. INC.  
594 ELM STREET  
MILFORD, NH 03055  
BK 5036 PG 102

MAP D-3 LOT 14-7  
EDWARD A. DELAGE  
154 MILE SLIP ROAD  
MILFORD, NH 03055-3301  
BK 5044 PG 25

**APPROVED**  
MILFORD PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

SECRETARY \_\_\_\_\_ DATE \_\_\_\_\_

4/23/2018  
DATE

FOR HITCHINER MANUF. CO. INC.

**ZONING NOTE**

THE ZONING/BUILDING SETBACKS DEPICTED ON THIS PLAN ARE THOSE WE HAVE INTERPRETED FROM THE LATEST ZONING ORDINANCE OF THE MUNICIPALITY AND, AS SUCH, ARE ONLY OPINIONS EXPRESSED BY HAYNER/SWANSON INC. THE FINAL INTERPRETATION OF THE ORDINANCE CAN ONLY BE MADE BY THE APPROPRIATE ZONING AUTHORITY. SINCE BUILDING ORIENTATION, PROPOSED USES, AND OTHER FACTORS CAN AFFECT THE SETBACKS PRIOR TO ANY DEVELOPMENT OF THIS PROPERTY, THE BUILDER/OWNER MUST CONSULT WITH THE TOWN/CITY TO INSURE THE CORRECT APPLICATION OF THE ZONING ORDINANCE.

**CERTIFICATION**

I HEREBY CERTIFY, TO MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN SHOWS THE RESULTS OF AN ON THE GROUND "STANDARD PROPERTY SURVEY" AND THAT SAID SURVEY MEETS THE MINIMUM PRECISION AND/OR ACCURACY MEASUREMENTS FOR SURVEY CLASSIFICATION "U" (URBAN) AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSES FOR LAND SURVEYORS ADOPTED 08/25/01, EFFECTIVE 01/01/02.

I FURTHER CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS A MAXIMUM ERROR OF CLOSURE OF ONE PART IN FIFTY THOUSAND ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

8/14/18  
DATE

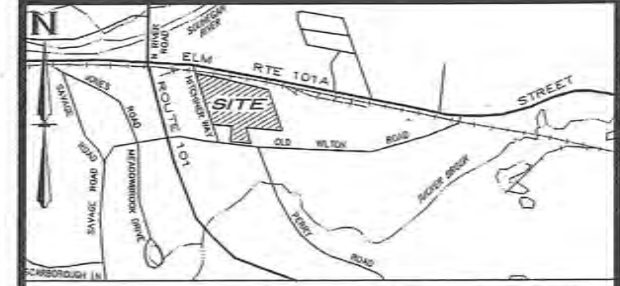


**ABUTTERS LIST:**  
MAP D-3, LOT 7-20-C

- MAP D-3, LOT 7-20-C-1 CARROZZA REALTY, LLC 318 HADEN STREET MILFORD, NH 03055 BK 5062 PG 2650
- MAP D-3, LOT 7-20-C-2 STARFORD REALTY, LLC 13 LAKEVIEW CIRCLE GREENFIELD, NH 03047 BK 5889 PG 1181
- MAP D-3, LOT 7-20-C-3 BARE DEVELOPMENT, LLC 15 PARKER ROAD BROOKLINE, NH 03033-2005 BK 5325 PG 2281
- MAP D-3, LOT 7-20-C-4 HITCHINER MANUFACTURING CO. INC. 594 ELM STREET MILFORD, NH 03055 BK 5036 PG 102

**NOTES - CONTD:**

- THE PARCEL IS LOCATED WITHIN THE GROUNDWATER (LEVEL 1) PROTECTION AREA AND SHALL COMPLY WITH THE REGULATIONS OF THAT OVERLAPPING DISTRICT.
- THE PARCEL APPEARS TO BE LOCATED IN ZONE 'X' AS DETERMINED FROM THE FLOOD INSURANCE STUDY (FIRM) HILLSBOROUGH COUNTY, TOWN OF MILFORD, NH, COMMUNITY NO. 200096, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, PANEL NUMBER: 30006 004 D, DATED: SEPTEMBER 25, 2008. (ZONE 'X' - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN)
- EXTERIOR LIGHTING SHALL BE DOWNCAST AND DIRECTED ONTO THE SITE AND SHALL CONFORM WITH ALL APPLICABLE TOWN OF MILFORD REGULATIONS.
- ALL LANDSCAPING SHALL BE AS SHOWN ON THE PLAN AND CONFORM TO THE APPLICABLE TOWN OF MILFORD LAND DEVELOPMENT REGULATIONS UNDER SECTION 8 OF THE LANDSCAPING STANDARDS.
- THE SITE IS SUBJECT TO A POLICE IMPACT FEE.
- THE SITE PLAN IS SUBJECT TO THE ISSUANCE OF A SPECIAL EXCEPTION PERMIT PURSUANT TO THE MILFORD ZONING ORDINANCE, ARTICLE V, SECTION 5.06 2.3 TO ALLOW THE REDUCTION OF THE FRONT YARD SETBACK AND ARTICLE 4 SECTION 2.03 TO 1 TO ALLOW THE EXPANSION OF A PRE-EXISTING NON-CONFORMING STRUCTURE (APPROVED BY MILFORD ZONING BOARD OF ADJUSTMENT ON FEBRUARY 18, 2017 - CASE #2017-02).
- PERMITS:
  - NOTES ALTERATION OF TERRAIN PERMIT NO. ANT-107, ISSUED MAY 31, 2018
  - NOTES SEWER CONNECTION PERMIT NO. \_\_\_\_\_ ISSUED \_\_\_\_\_
- SITE PLAN APPROVAL IS SUBJECT TO ARTICLE IV, SECTION 2.01, GOVERNING CONDITIONAL AND FINAL SITE PLAN APPROVAL EXPIRATION DATES.
- ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT) AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF MILFORD'S WATER UTILITIES DEPARTMENT AND PUBLIC WORKS DEPARTMENT REGULATIONS.
- AS-BUILT PLANS SHALL BE DELIVERED TO THE BUILDING DEPARTMENT PRIOR TO A CERTIFICATE OF OCCUPANCY BEING ISSUED.
- PRESENT OWNER OF RECORD:
  - MAP D-2, LOT 13-6 HITCHINER MANUFACTURING COMPANY, INC. 594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 VOL. 1395 PG. 0331 VOL. 1372 PG. 0180 VOL. 1853 PG. 0275 VOL. 1822 PG. 2894 VOL. 1807 PG. 102 (MERGE)



VICINITY MAP SCALE: 1" = 1,000'

- PLAN REFERENCES:**
- SITE PLAN (MAP 13, LOT 6)(2 SHEETS), PROPOSED BUILDING ADDITION, MILFORD, NEW HAMPSHIRE, PREPARED FOR/RECORD OWNER: HITCHINER MANUFACTURING COMPANY, INC. MILFORD, NEW HAMPSHIRE, DATED: 24 SEPTEMBER 2010 WITH REVISIONS THRU 22 OCTOBER 2010, AND PREPARED THIS OFFICE.
  - BOUNDARY PLAN ELM STREET (RTE101) MILFORD, NEW HAMPSHIRE PREPARED FOR HITCHINER MANUFACTURING, DATED: APRIL 3 1978 SCALE: 1"= 50 FT BY ALAN H. SHANNON, INC.
  - PLAN ENTITLED: PROPERTY OF ROBERT E. & AMELIA DEWIS OLD WILTON ROAD MILFORD, NH. SCALE: 1"= 40 FT, SURVEYED BY E.F. BET SR. JUNE 1974 RECORDED: HCRD No. 7888.
  - RIGHT OF WAY AND TRACT MAP, WILTON RR CO., OPERATED BY THE BOSTON AND MAINE RR COMPANY STA. 68+00 TO STA. 73+00, SCALE: 1"= 100 FT, JUNE 30, 1914.
  - PLAN ENTITLED: GUY HOLLIS LOTS, MILFORD, NH BY W. FALCONER, SCALE: 1"= 50' DATED: AUGUST 1947 RECORDED: HCRD No. 1680.
  - ACTIVITY AND USE RESTRICTION PLAN, MAP 13, LOT 6, HITCHINER WAY, MILFORD, NEW HAMPSHIRE, PREPARED FOR: GEORGINA, INC., RECORD OWNER: HITCHINER MANUFACTURING CO., INC., DATED: 1 APRIL 2015 AND PREPARED BY THIS OFFICE. RECORDED: HCRD No. 28-04.
  - BOUNDARY LINE AGREEMENT PLAN, HITCHINER MANUFACTURING CO. INC., MAP 13 LOT 6 & MAP 14 LOT 6, 80 OLD WILTON ROAD, LLC MAP 14 LOT 7 AND WELTON, LLC MAP 14 LOT 7.1, ELM STREET AND OLD WILTON ROAD, TOWN OF MILFORD, NEW HAMPSHIRE, PREPARED BY: SANDFOR SURVEYING AND ENGINEERING, DATED: JANUARY 18, 2018 RECORDED: HCRD No. 28-03.
  - PLANS OF PROPOSED FEDERAL AIDE PRIMARY PROJECT RF-610-18(NH) PROJECT NO. 7331-B DATED: JULY 8, 1977 ON FILE WITH USDOT.

**NOTES:**

- TOTAL SITE AREA: 11.840 ACRES (515,739 SF)
- PRESENT ZONING: INDUSTRIAL
  - MINIMUM LOT REQUIREMENTS: 0 SF
  - FRONTAGE: 0 FT
  - MINIMUM BUILDING SETBACKS: 0 FT
  - FRONT YARD: 30 FT
  - SIDE YARD: 15 FT
  - REAR YARD: 15 FT

THE MILFORD ZONING BOARD OF ADJUSTMENT APPROVED ON APRIL 18, 2018 A SPECIAL EXCEPTION OF ARTICLE VI, SECTION 6.02 B OF THE ZONING ORDINANCE TO ALLOW PERMANENT AND TEMPORARY ENCROACHMENT INTO THE 25 FT WETLAND BUFFER ADJACENT TO THE EASTERN PROPERTY LINE.
- LOT NUMBERS REFER TO TOWN OF MILFORD ASSESSORS MAPS D-2 AND D-3.
- PURPOSE OF PLAN:
  - (A) TO SHOW A PROPOSED 65,000 SF PARTIAL 3-STORY MANUFACTURING BUILDING WITH ASSOCIATED PARKING, LIGHTING, UTILITY, STORMWATER MANAGEMENT/STORAGE, AND LANDSCAPING IMPROVEMENTS.
  - (B) TO SHOW MINOR PARKING IMPROVEMENTS AT "THE BARN"
- SITE IS CURRENTLY SERVICED BY MUNICIPAL WATER AND SEWER, TELEPHONE, ELECTRIC AND GAS. MONUMENTS, WHERE REQUIRED, TO BE SET BY A LICENSED LAND SURVEYOR.
- REQUIRED PARKING:
 

USE:	EXISTING	PROPOSED:
1. EXISTING MANUFACTURING:	218 SPACES	219 SPACES
2. PROPOSED MANUFACTURING:	0	142 SPACES
3. OFFICE:	141 SPACES	141 SPACES
4. RESTAURANT:	17 SPACES	17 SPACES
5. BARN (LOT 14-6):	377 SPACES	619 SPACES
<b>TOTAL PARKING PROVIDED:</b>		
LOCATION:	EXISTING	PROPOSED:
1. PLANTS (1 & 3 (54 ELM STREET))	225 SPACES	225 SPACES
2. SUBURBAN PROPANE LEASE LOT	159 SPACES	159 SPACES
3. METAL CASTING TECHNOLOGY	37 SPACES	37 SPACES
4. ADMINISTRATION (LOT 13-7)	1 SPACES	1 SPACES
5. BARN (LOT 14-6)	7 SPACES	5 SPACES
6. WHITE HOUSE (LOT 14-6)	18 SPACES	18 SPACES
<b>TOTAL PARKING PROVIDED:</b>	482 SPACES	607 SPACES
- OPEN SPACE:
  - REQUIRED: 30 %
  - EXISTING: 54.3 %
  - PROPOSED: 33.4 %

No.	DATE	REVISION	BY
1	02/01/18	FIELD CHANGE #1 - SEWER COOLING TOWER PUMP STATION/SHAWING	ESB
2	05/17/18	ADDRESS TOWN AND OWNER COMMENTS	ESB
3	05/17/18	ADDRESS INGENS AND TOWN COMMENTS	ESB

**MASTER SITE PLAN**  
(MAP D-2, LOT 13-6)  
**PROPOSED PLANT No. 3 BUILDING**  
ELM STREET  
MILFORD, NEW HAMPSHIRE  
PREPARED FOR/RECORD OWNER:  
**HITCHINER MANUFACTURING COMPANY, INC.**  
594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 (603) 673-1100

50 0 50 100 150 200 FEET  
25 0 25 50 METERS  
SCALE: 1"=50 Feet  
1"=15.240 Meters

**11 APRIL 2018**

**HSI Hayner/Swanson, Inc.**  
Civil Engineers/Land Surveyors  
3 Congress Street  
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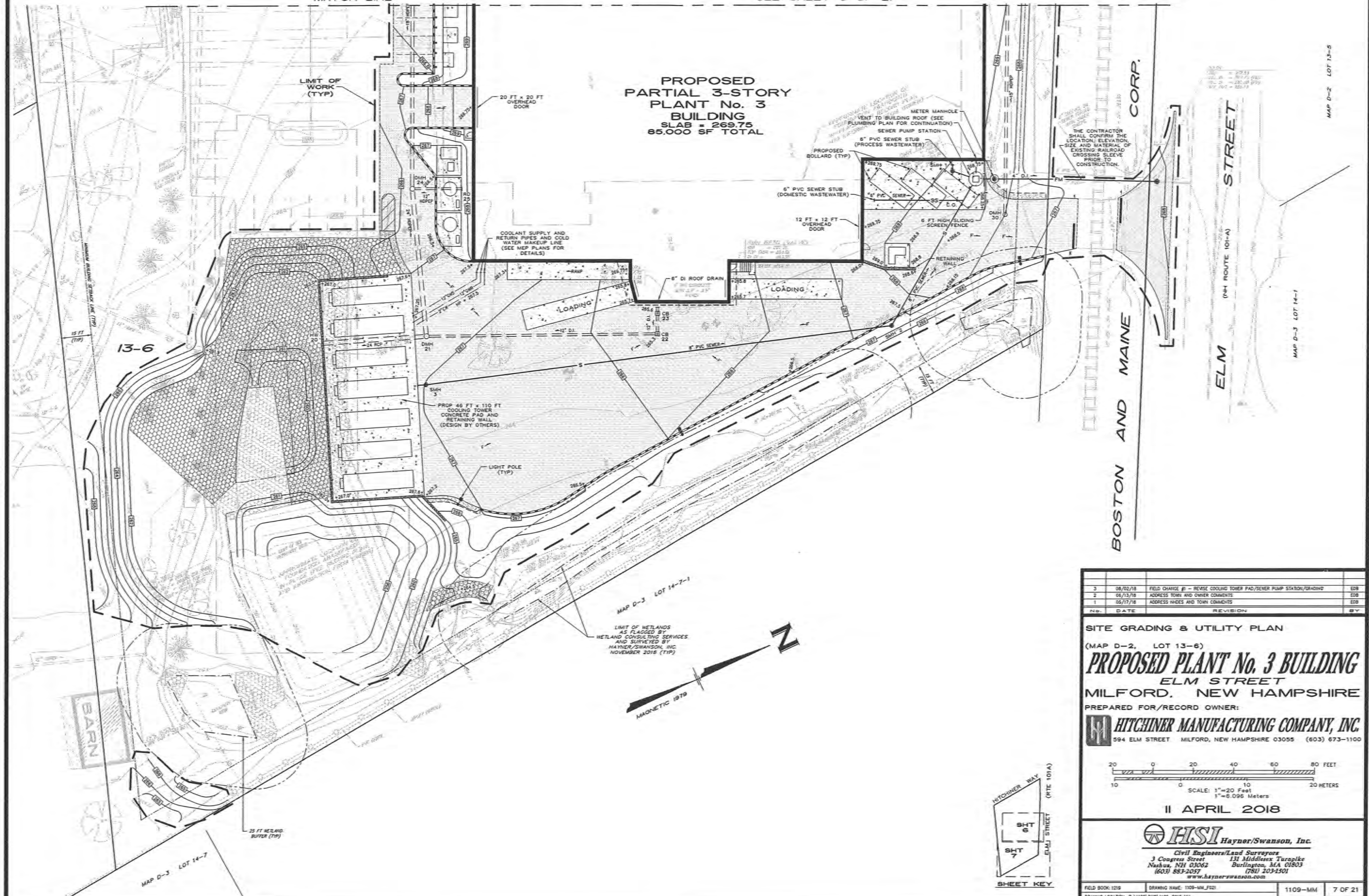
FIELD BOOK: 1219 DRAWING NAME: 1109-MM-T051  
DRAWING LOCATION: R:\1109\1109-2018.MX  
1109-MM 1 OF 21  
PG. 10/21



MATCH LINE

SEE SHEET 6 OF 21

**PROPOSED  
PARTIAL 3-STORY  
PLANT No. 3  
BUILDING**  
SLAB = 269.75  
85,000 SF TOTAL

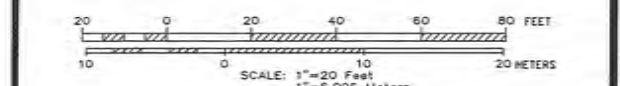


No.	DATE	REVISION	BY
3	08/02/18	FIELD CHANGE #1 - REVISE COOLING TOWER PAD/SEWER PUMP STATION/GRADING	EDB
2	06/13/18	ADDRESS TOWN AND OWNER COMMENTS	EDB
1	06/17/18	ADDRESS INCHES AND TOWN COMMENTS	EDB

**SITE GRADING & UTILITY PLAN**

(MAP D-2, LOT 13-6)  
**PROPOSED PLANT No. 3 BUILDING**  
ELM STREET  
MILFORD, NEW HAMPSHIRE  
PREPARED FOR/RECORD OWNER:

**HITCHINER MANUFACTURING COMPANY, INC.**  
594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 (603) 673-1100



11 APRIL 2018

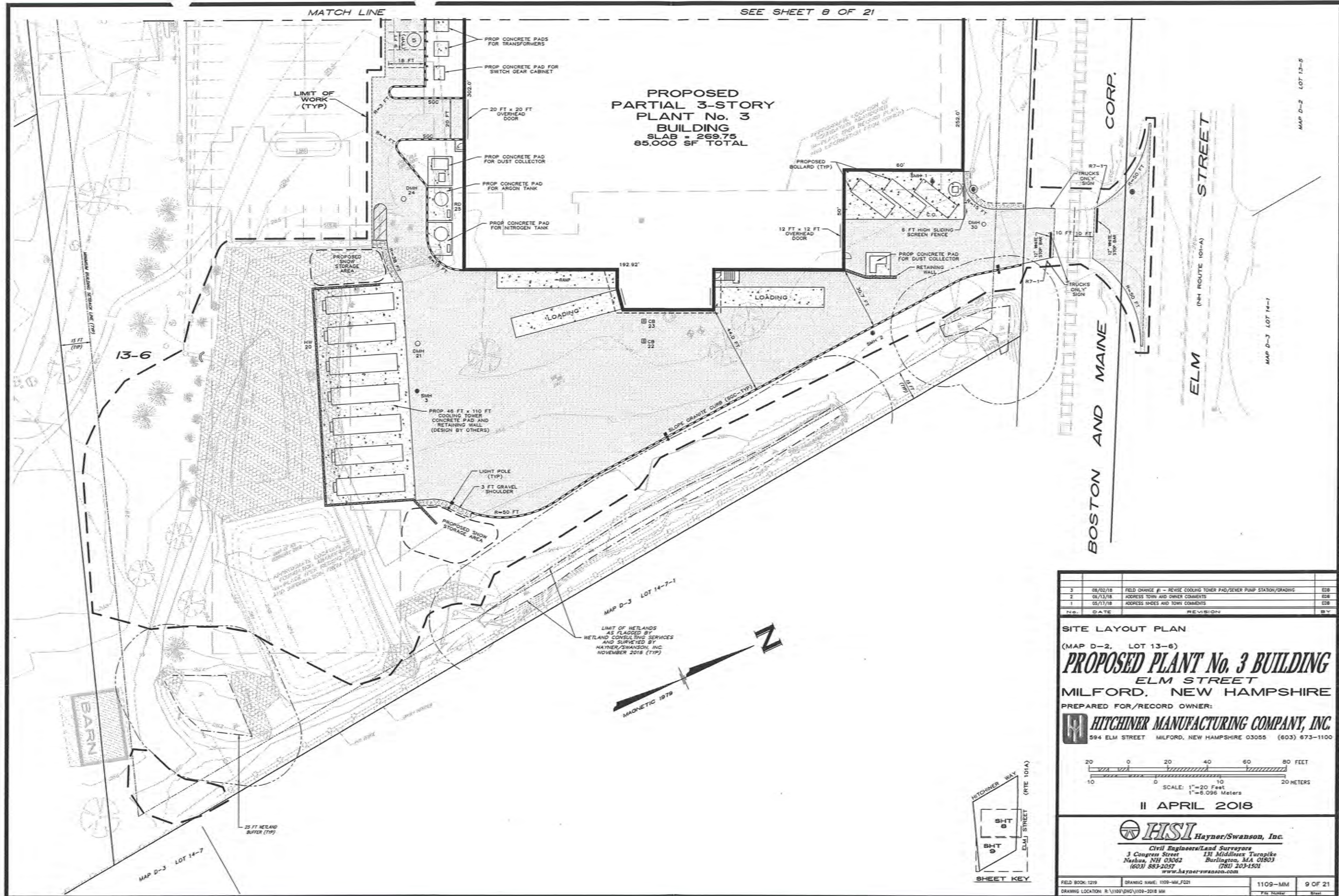
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131 Middlesex Turnpike Burlington, MA 01803 (781) 203-4501  
www.haynerswanson.com

FIELD BOOK: 1219	DRAWING NAME: 1109-MM_721	1109-MM	7 OF 21
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MATCH LINE

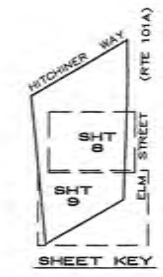
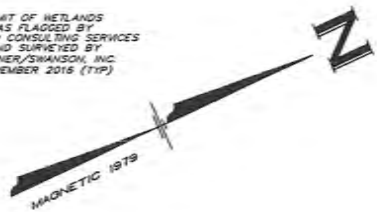
SEE SHEET 8 OF 21

**PROPOSED  
PARTIAL 3-STORY  
PLANT No. 3  
BUILDING**  
SLAB = 269.75  
85,000 SF TOTAL



MAP D-3 LOT 14-7-1

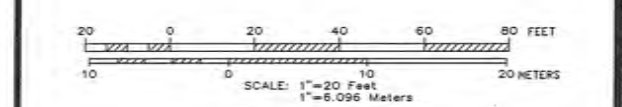
LIMIT OF WETLANDS  
AS FLAGGED BY  
WETLAND CONSULTING SERVICES  
AND SURVEYED BY  
HAYNER/SWANSON, INC.  
NOVEMBER 2016 (TYP)



No.	DATE	REVISION	BY
3	08/02/18	FIELD CHANGE #1 - REVISE COOLING TOWER PAD/SEWER PUMP STATION/GRADING	EDB
2	06/13/18	ADDRESS TOWN AND OWNER COMMENTS	EDB
1	05/17/18	ADDRESS SHDES AND TOWN COMMENTS	EDB

**SITE LAYOUT PLAN**  
(MAP D-2, LOT 13-6)  
**PROPOSED PLANT No. 3 BUILDING**  
ELM STREET  
MILFORD, NEW HAMPSHIRE  
PREPARED FOR/RECORD OWNER:

**HITCHINER MANUFACTURING COMPANY, INC.**  
594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 (603) 873-1100



11 APRIL 2018

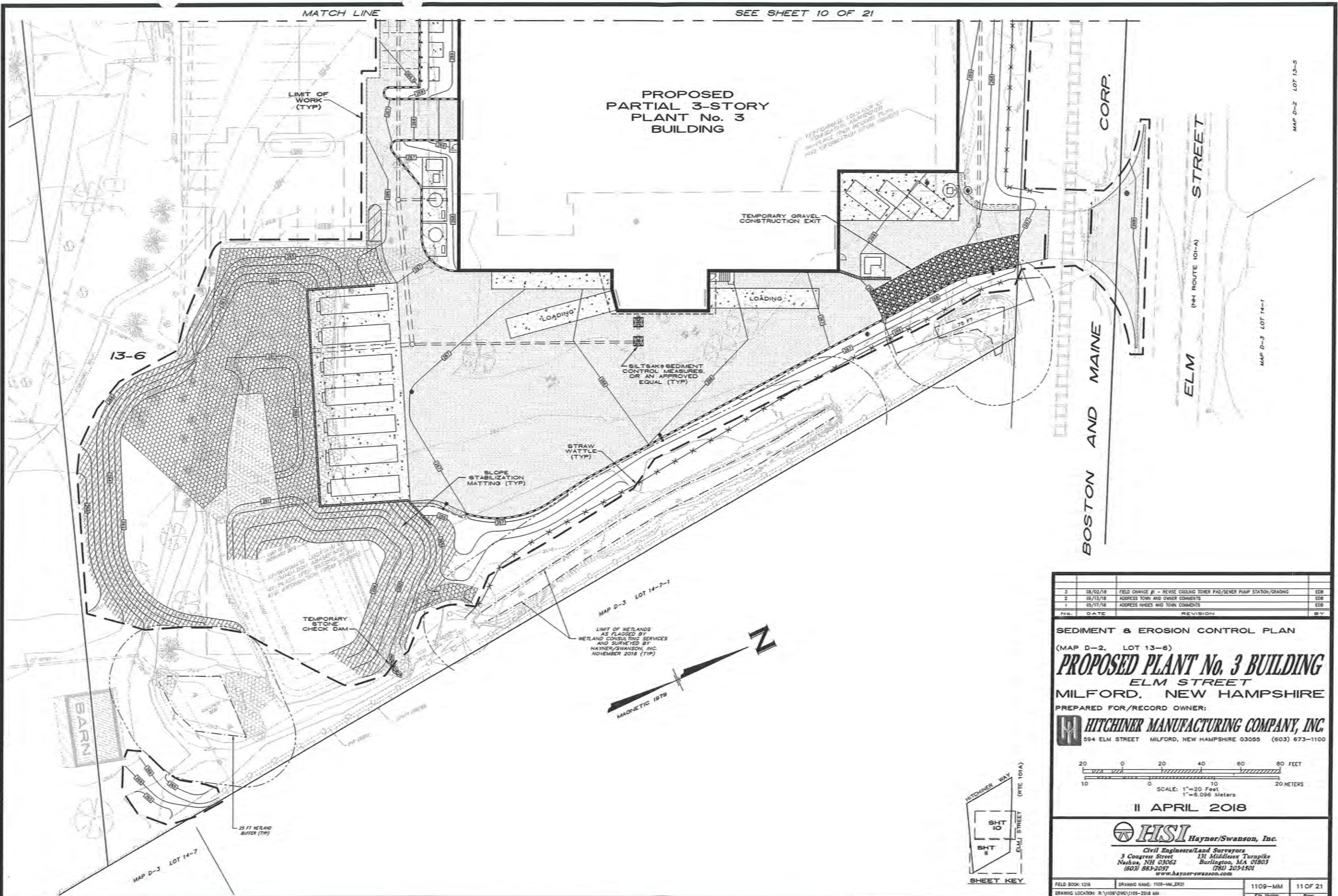
**HSI Hayner/Swanson, Inc.**  
Civil Engineers/Land Surveyors  
3 Congress Street  
Nashua, NH 03062  
(603) 883-2057  
www.hayner-swanson.com

FIELD BOOK: 1219	DRAWING NAME: 1109-WL_F021	1109-MM	9 OF 21
DRAWING LOCATION: R:\1109\PROJ\1109-2018.WL		File Number	Sheet

MATCH LINE

SEE SHEET 10 OF 21

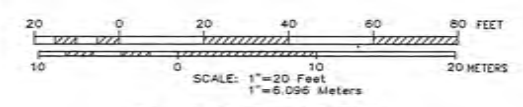
### PROPOSED PARTIAL 3-STORY PLANT No. 3 BUILDING



No.	DATE	REVISION	BY
3	08/02/18	FIELD CHANGE #1 - REVISE COOLING TOWER PANS/SEWER PUMP STATION/GRADING	EDB
2	06/13/18	ADDRESS TOWN AND OWNER COMMENTS	EDB
1	06/17/18	ADDRESS NOTES AND TOWN COMMENTS	EDB

SEDIMENT & EROSION CONTROL PLAN  
 (MAP D-2, LOT 13-6)  
**PROPOSED PLANT No. 3 BUILDING**  
 ELM STREET  
 MILFORD, NEW HAMPSHIRE  
 PREPARED FOR/RECORD OWNER:

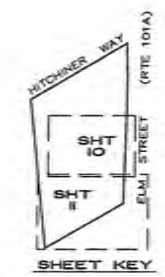
**HITCHNER MANUFACTURING COMPANY, INC.**  
 594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 (603) 673-1100

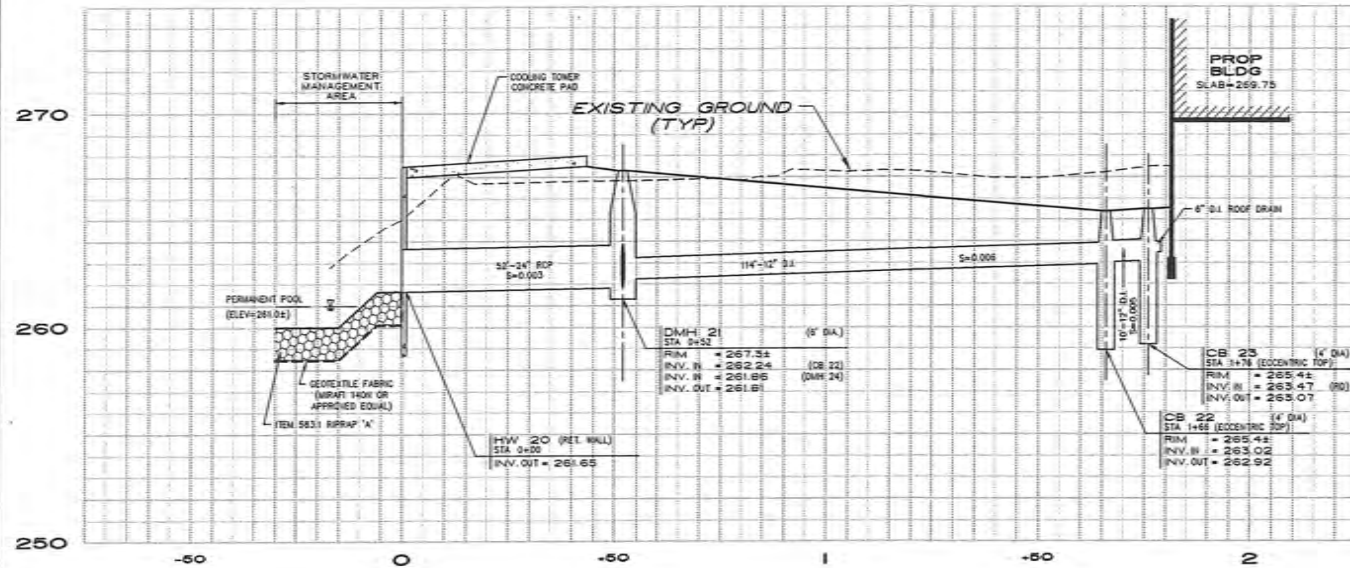


11 APRIL 2018

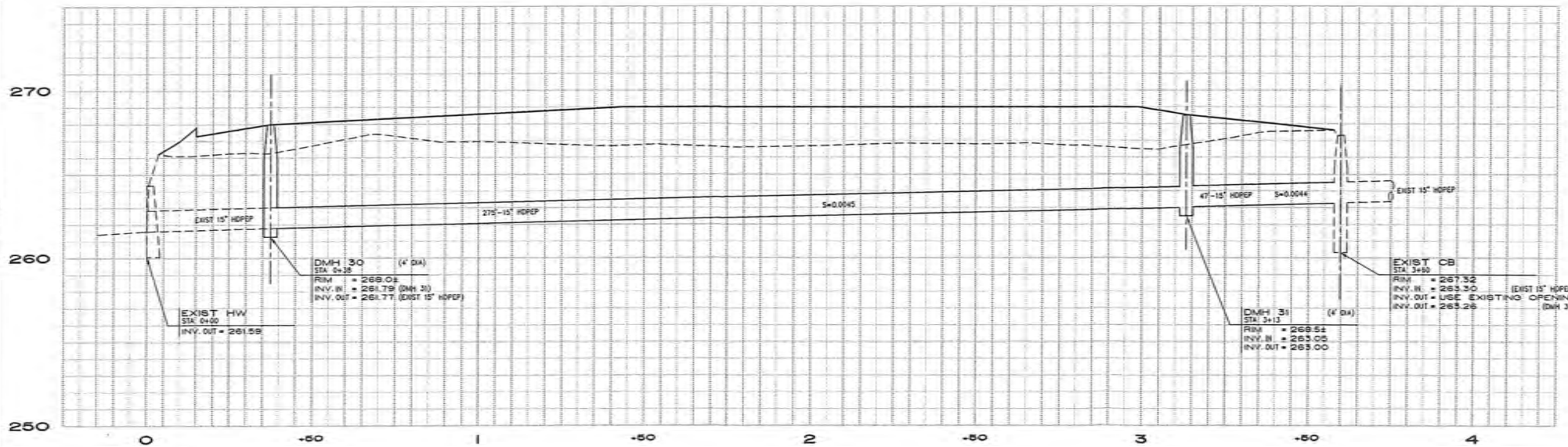
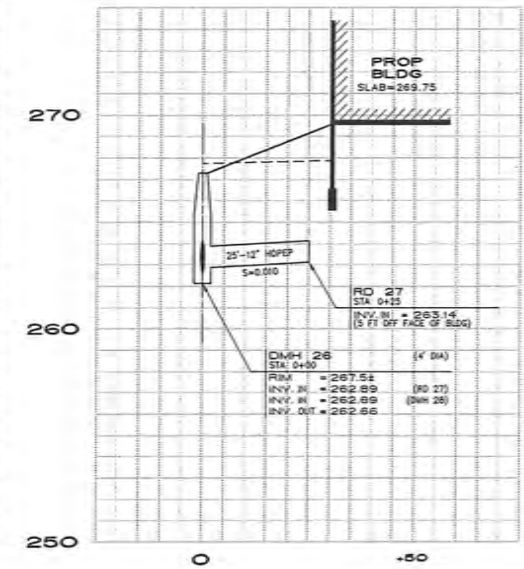
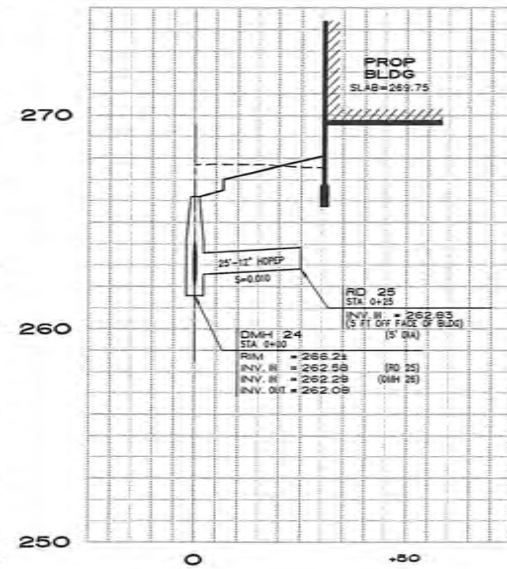
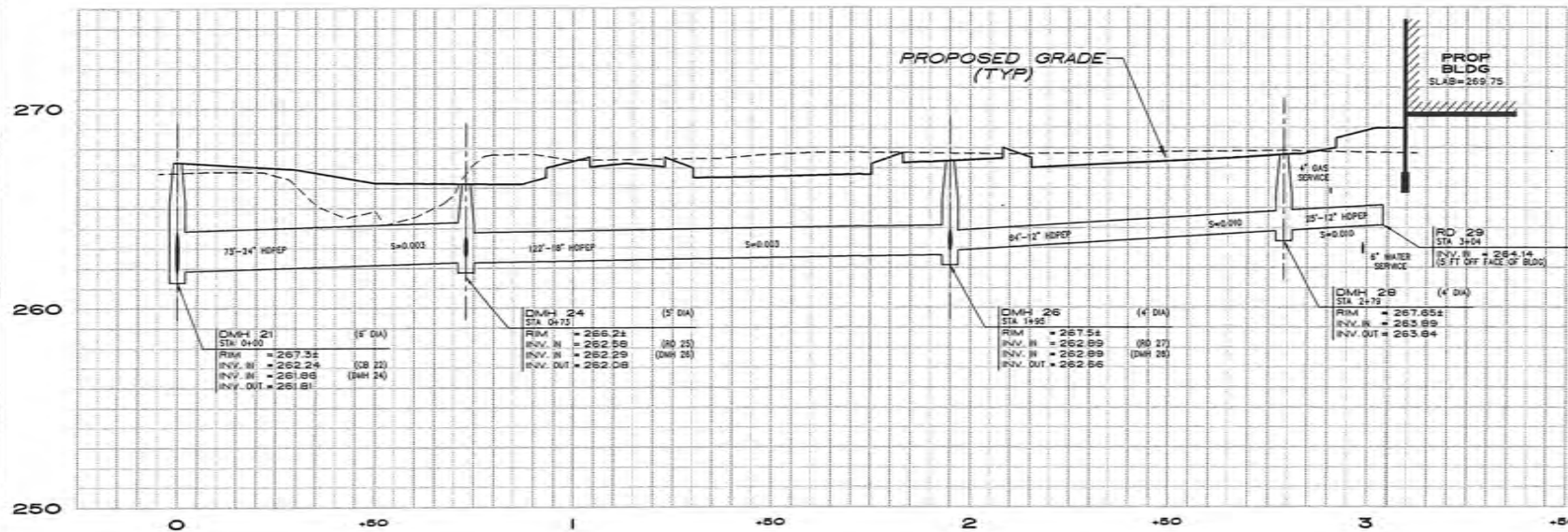
**HSI** Hayner/Swanson, Inc.  
 Civil Engineers/Land Surveyors  
 3 Congress Street  
 Nashua, NH 03062  
 (603) 883-2057

131 Middlesex Turnpike  
 Burlington, MA 01803  
 (781) 203-1501  
 www.hayner-swanson.com





- NOTES**
1. STRUCTURE DIAMETERS AS SHOWN ON DRAINAGE PROFILES ARE CONSIDERED TO BE MINIMUM INSIDE DIMENSIONS. ALL STRUCTURES SHALL BE A MINIMUM INSIDE DIAMETER OF 48" UNLESS OTHERWISE INDICATED. LARGER STRUCTURES MAY BE NECESSARY DUE TO ALIGNMENT AND/OR PIPE SIZES. STRUCTURE MANUFACTURER SHALL DETERMINE FINAL SIZE.
  2. PIPE LENGTHS ARE MEASURED FROM CENTERLINE OF STRUCTURE TO CENTERLINE OF STRUCTURE.
  3. EXTERIOR FOUNDATION WALLS AND FOOTINGS AS SHOWN ARE APPROXIMATE.
  4. DRAINAGE PIPE SHALL BE HOPE PIPE (ADS-N-12, WATER TIGHT JOINTS, H-20 LOADING), UNLESS OTHERWISE NOTED. PIPE ALTERNATIVES SHALL BE APPROVED BY THE ENGINEER.



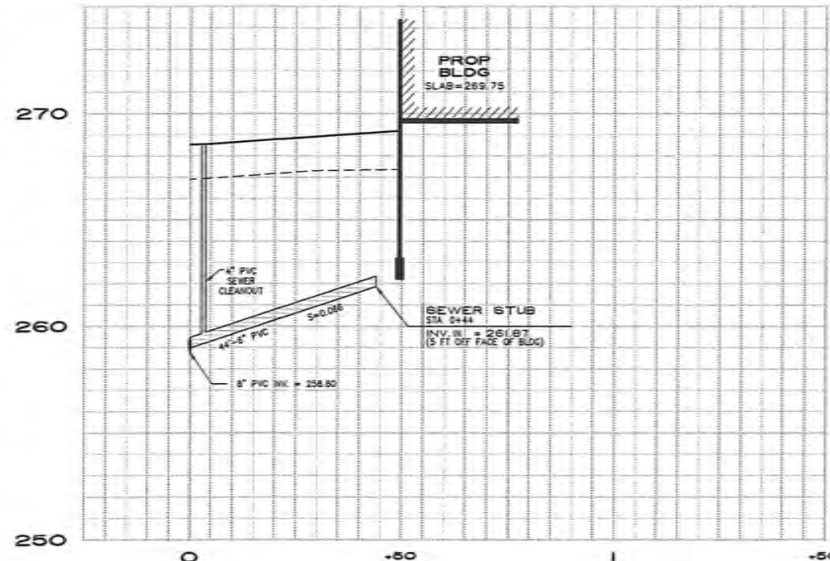
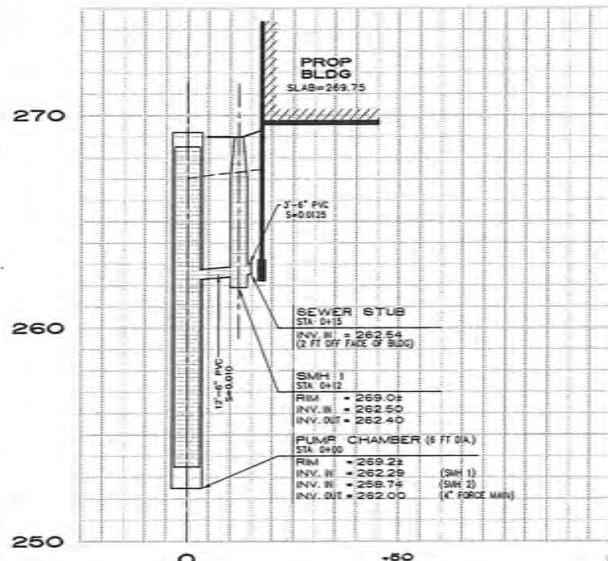
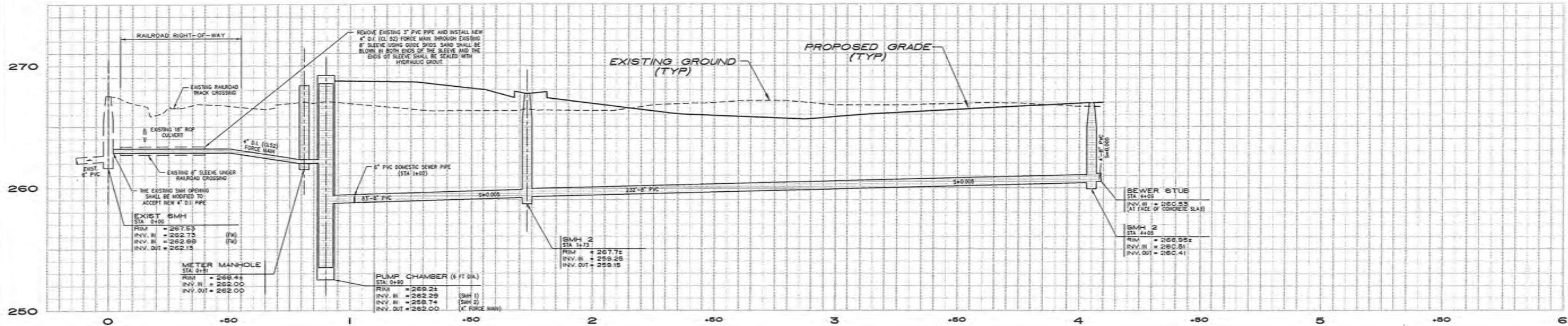
No.	DATE	REVISION	BY
3	08/02/18	FIELD CHANGE #1 - REVERSE COOLING TOWER PAD/SEWER PUMP STATION/GRADING	EDB
2	06/12/18	ADDRESS TOWN AND OWNER COMMENTS	EDB
1	05/17/18	ADDRESS INDES AND TOWN COMMENTS	EDB

UTILITY PROFILES  
 (MAP D-2, LOT 13-8)  
**PROPOSED PLANT No. 3 BUILDING**  
 ELM STREET  
 MILFORD, NEW HAMPSHIRE  
 PREPARED FOR/RECORD OWNER:  
**HITCHINER MANUFACTURING COMPANY, INC.**  
 594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 (603) 673-1100

SCALE: HORIZ. 1" = 20  
 VERT. 1" = 4

11 APRIL 2018

**HISI** Hayner/Swanson, Inc.  
 Civil Engineers/Land Surveyors  
 3 Congress Street 131 Middlesex Turnpike  
 Nashua, NH 03062 Burlington, MA 01803  
 (603) 883-2057 (781) 203-1500  
 www.hayner-swanson.com



- NOTES**
- STRUCTURE DIAMETERS AS SHOWN ON DRAINAGE PROFILES ARE CONSIDERED TO BE MINIMUM INSIDE DIMENSIONS. ALL STRUCTURES SHALL BE A MINIMUM INSIDE DIAMETER OF 48" UNLESS OTHERWISE INDICATED. LARGER STRUCTURES MAY BE NECESSARY DUE TO ALIGNMENT AND/OR PIPE SIZES. STRUCTURE MANUFACTURER SHALL DETERMINE FINAL SIZE.
  - PIPE LENGTHS ARE MEASURED FROM CENTERLINE OF STRUCTURE TO CENTERLINE OF STRUCTURE.
  - EXTERIOR FOUNDATION WALLS AND FOOTINGS AS SHOWN ARE APPROXIMATE.
  - SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) SDR 35 UNLESS OTHERWISE NOTED.

No.	DATE	REVISION	BY
3	09/02/18	FIELD CHANGE #1 - REVISE COOLING TOWER PAD/SEWER PUMP STATION/DRAINAGE	EDB
2	06/13/18	ADDRESS TOWN AND OWNER COMMENTS	EDB
1	05/17/18	ADDRESS INHES AND TOWN COMMENTS	EDB

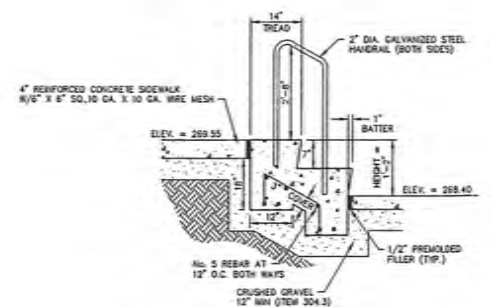
UTILITY PROFILES & DETAILS  
(MAP D-2, LOT 13-6)  
**PROPOSED PLANT No. 3 BUILDING**  
ELM STREET  
MILFORD, NEW HAMPSHIRE  
PREPARED FOR/RECORD OWNER:

**HITCHINER MANUFACTURING COMPANY, INC.**  
594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 (603) 673-1100

SCALE: HORIZ. 1" = 20  
VERT. 1" = 4

11 APRIL 2018

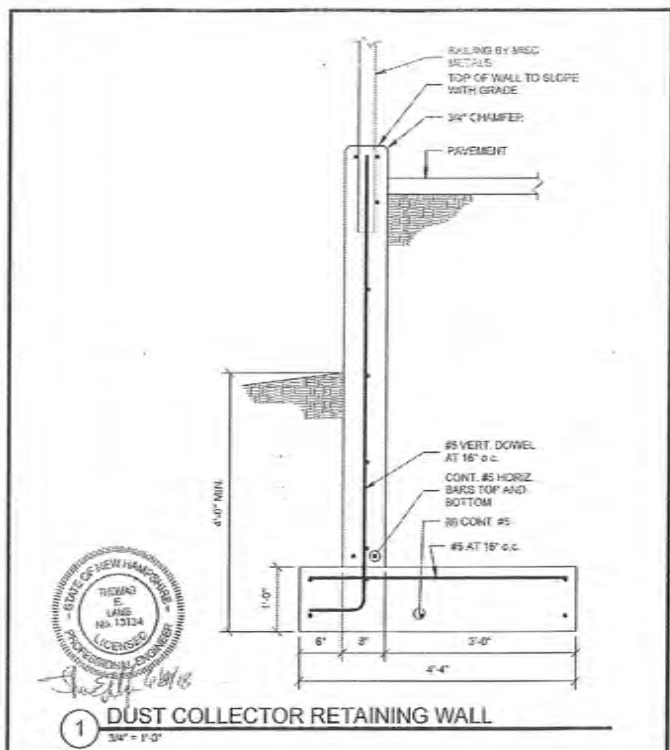
**HSI** Hayner/Swanson, Inc.  
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3 Congress Street  
Nashua, NH 03062  
(603) 883-2057  
www.haynerswanson.com



**NOTES**

- THE WIDTH OF THE STAIRS SHALL BE 5'-0".
- CONCRETE SHALL BE 3000 PSI.
- CONCRETE TRENDS SHALL HAVE LIGHT BRUSH FINISH.

**CONCRETE STAIRS DETAIL (AT EMPLOYEE ENTRANCE)**  
NOT TO SCALE



**1** DUST COLLECTOR RETAINING WALL  
3/4" x 1'-0"

**TFM** ENGINEERS  
Employers

48 Constitution Drive  
Bedford, NH 03110  
Phone #: (603) 472-4189  
Fax #: (603) 472-6747  
www.tfmeng.com

HITCHINER PLANT 3  
117 Old Wilson Road  
Milford, New Hampshire  
DENNIS MOSES ARCHITECTS

RETAINING WALL

S101	3/4" x 1'-0"	75549.13
05/02/18	TEL	JPN

SKS-1

**GENERAL NOTES**

**[A] GENERAL**

THE CONTRACTOR SHALL FURNISH ALL PLANT, LABOR, EQUIPMENT, APPLIANCES AND MATERIALS, OBTAIN ALL NECESSARY PERMITS, PERFORM ALL OPERATIONS IN CONNECTION WITH THE SATISFACTORY INSTALLATION OF THE PUMP STATION AND INCIDENTAL WORK, AND COMPLETE THE INSTALLATION IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND STANDARD DETAILS AND CONDITIONS OF THE CONTRACT. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, CODE OF ADMINISTRATIVE RULES, ENV-WS 700.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH FOUR (4) COPIES OF SHOP DRAWINGS OF THE FOLLOWING ITEMS FOR APPROVAL PRIOR TO CONSTRUCTION:

- (A) DETAILS ON INSTALLATION OF PUMPS AND PUMP PERFORMANCE CURVES.
- (B) RAIL SYSTEMS AND BREAK AWAY FITTING DATA.
- (C) PIPING AND VALVES.
- (D) PUMP CONTROL PANEL DATA AND STATION WIRING SCHEMATIC.
- (E) ELECTROMAGNETIC FLOW METER AND TRANSMITTING/RECORDING DEVICE DATA.
- (F) PUMP CHAMBER STRUCTURE, ACCESS DOOR, AND VENT PIPING DATA.

**[B] MATERIALS**

1. **PUMP AND APPURTENANCES:** DUPLEX SUBMERSIBLE PUMPS SHALL BE BARRIES 3/4" INCH SOLID HANDLING SERIES 4XSHV 2 HP, MODEL No. 4XSHV221M WITH 160MM IMPELLER CAPABLE OF 135 GPM AGAINST A TDH OF 8.5 FEET. A SUBMERSIBLE TYPE ELECTRIC MOTOR OF 2 HP, 1750 RPM, 480 VOLT, THREE PHASE, 60 HERTZ, THERMALLY PROTECTED AND UNDERWRITER LISTED FOR CLASS I, DIVISION 1, HAZARDOUS AREAS SHALL BE FURNISHED FOR EACH PUMP. 120 VOLT CIRCUITS SHALL BE PROVIDED FOR THE CONTROLS AND FLOW METER. BREAK AWAY FITTINGS (BARRIES SAF 4X) SHALL BE PROVIDED FOR EACH PUMP. THE CONTRACTOR TO CONFIRM AVAILABILITY OF POWER PRIOR TO ORDERING PUMPS.

AN UNDERWRITER LISTED DUPLEX CONTROL PANEL WITH FLOAT SWITCHES SHALL BE WIRED INTO THE CONTROL PANEL FOR PUMP OFF, LEAD PUMP ON, LAG PUMP ON, AND ALARM WATER LEVELS. THE PUMPS SHALL OPERATE ALTERNATELY AND SHALL BE PROVIDED WITH RUNNING TIME METERS THAT INDICATE THE CUMULATIVE RUNNING TIME OF EACH PUMP IN HOURS AND TENTHS OF HOURS. BOTH AUDIBLE LOCAL INDICATOR LIGHTS AND VISUAL WATER ALARMS SHALL BE MOUNTED ADJACENT TO THE PUMP CONTROL PANEL. THE POWER SOURCE FOR THE ALARM SYSTEM SHALL BE AN INDEPENDENT BATTERY, WITH CONTINUOUS CHARGE OR MAIN LINE POWER WITH A BACK-UP BATTERY SYSTEM WHICH SHALL BE CONNECTED AUTOMATICALLY SHOULD MAIN POWER FAIL.

CONDUIT AND FITTINGS SHALL MEET EXPLOSION PROOF REQUIREMENTS. LIFTING RAILS, CONTROLS AND APPURTENANCES SHALL BE FURNISHED AS SPECIFIED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE BY ELECTRICIANS LICENSED IN THE STATE OF NEW HAMPSHIRE. ALL ANCHOR BOLTS SHALL BE STAINLESS STEEL. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

THE PUMP CONTROLS, FLOW METER TRANSMITTER AND ACCESSORIES SHALL BE HOUSED IN A STAINLESS STEEL ENCLOSURE ON THE EXTERIOR OF THE BUILDING WITHIN 20 FEET AND IN SIGHT OF THE PUMP CHAMBER. THE ENCLOSURE SHALL BE A MINIMUM OF 80" HIGH X 48" WIDE X 18" DEEP AS MANUFACTURED BY PENTAIR (MODEL ADM81855FSD). THE ENCLOSURE SHALL BE NEMA 4X RATED AND BE PROVIDED WITH LIGHTING AND NECESSARY ACCESSORIES FOR INDICATING EQUIPMENT. THE ENCLOSURE SHALL BE MOUNTED ON THE BUILDING OR ON A FREE STANDING PAD ABOVE GRADE. THE AUDIBLE AND VISUAL HIGH WATER ALARMS SHALL BE MOUNTED ON THE EXTERIOR OF THE ENCLOSURE.

2. **PIPE FITTINGS AND APPURTENANCES:** ALL PIPING AND FITTINGS SHALL BE DUCTILE IRON CLASS 52, CEMENT LINED. VALVES SHALL BE RATED FOR 150 PSI.

3. **PUMP CHAMBER:** THE PUMP CHAMBER SHALL BE PRECAST, REINFORCED CONCRETE 8-FOOT DIAMETER SEWER MANHOLE MEETING THE REQUIREMENTS ASTM C400 WITH 7 INCH MINIMUM WALLS. THE TOP SLAB AND FLOOR THICKNESS SHALL BE A MINIMUM OF 8 INCHES. THE BASE SLAB SHALL BE CAST MONOLITHICALLY WITH THE BASE MANHOLE SECTION AND THE BASE SHALL EXTEND 8 INCHES BEYOND THE WALLS TO ASSIST IN RESISTING HYDROSTATIC UPLIFT BASED ON GROUNDWATER TO THE SURFACE. THE PUMP CHAMBER SHALL BE DESIGNED BY A STRUCTURAL ENGINEER FOR ALL ANTICIPATED LOADS INCLUDING HYDROSTATIC UPLIFT AND HS-20 WHEEL LOADING. THE SHOP DRAWINGS SHALL BE STAMPED BY A REGISTERED PROFESSIONAL ENGINEER IN NEW HAMPSHIRE.

MANHOLE JOINTS SHALL BE SEALED IN AN APPROVED MANNER AND SUBJECT TO THE SAME WATER TIGHTNESS TESTING AS REQUIRED FOR SEWER MANHOLES.

OPENINGS FOR PIPES AND OTHER APPURTENANCES SHALL BE CAST OR CORED BY THE MANUFACTURER AND FINISHED WITH AN APPROVED PIPE TO MANHOLE JOINT WHICH SHALL BE WATER TIGHT.

4. **PUMP CHAMBER COVER:** THE PUMP CHAMBER COVER SHALL BE A SINGLE LEAF ALUMINUM COVER H-20 LOAD RATED SERIES H AS MANUFACTURED BY HALLIDAY PRODUCTS OR APPROVED EQUAL. THE COVER SHALL HAVE A CLEAR OPENING OF 30" X 48". THE UNIT SHALL BE CAST INTO THE TOP SLAB BY THE PRECAST MANUFACTURER. HINGES SHALL BE STAINLESS STEEL WITH STAINLESS STEEL HARDWARE AND LOCKING MECHANISM. SIGN ON UNDERSIDE OF ACCESS DOOR TO READ "HAZARDOUS AREA. ENTER ONLY WITH PROPER EQUIPMENT." THE UNIT SHALL BE PROVIDED WITH FALL PROTECTION GRATING WITH PAD LOCK.

5. **ELECTRICAL SYSTEM:** ELECTRICAL SYSTEMS AND COMPONENTS INCLUDING MOTORS, LIGHTS, CABLE, CONDUITS, SWITCHBOXES, AND CONTROL CIRCUITS IN ENCLOSED OR PARTIALLY ENCLOSED SPACES WHERE FLAMMABLE MIXTURES OCCASIONALLY MAY BE PRESENT INCLUDING RAW SEWER MET WELLS, SHALL BE CERTIFIED BY THEIR MANUFACTURER AS (A) COMPLYING WITH THE NEC REQUIREMENTS ADOPTED BY REFERENCE IN THE STATE BUILDING CODE PURSUANT TO RSA 155-A:11 IV, FOR CLASS 1, DIVISION 1 LOCATIONS. THE PUMPS SHALL BE FURNISHED WITH A DUPLEX PUMP CONTROL. THE DUPLEX PANEL SHALL BE FURNISHED AND INSTALLED TO RUN THE PUMPS BASED OFF THE INPUT FROM THE LEVEL CONTROL DEVICES AND SHALL INCLUDE:

- o NEMA 4X FIBERGLASS OR STAINLESS STEEL ENCLOSURE WITH STAINLESS STEEL HARDWARE.
- o AN EXTERNAL FLASHING AMBER ALARM LIGHT TO INDICATE AN ALARM CONDITION.
- o AN AUDIBLE ALARM, WITH SILENCE CIRCUIT AND SILENCE BUTTON ON EXTERIOR OF PANEL.
- o INDIVIDUAL PUMP CIRCUIT BREAKERS AND CONTROL CIRCUIT BREAKER.
- o MOTOR STARTERS WITH ADJUSTABLE OVERLOADS FOR EACH PUMP MOTOR.
- o HAND/OFF/AUTO SWITCH FOR EACH PUMP MOTOR.
- o ON/OFF/TEST SWITCH FOR ALARM.
- o INDIVIDUAL PUMP RUN LIGHTS.
- o ALARM INDICATOR LIGHT.
- o NECESSARY CONTROL, RELAYS, INCLUDING AUTOMATIC ALTERNATOR WITH INDICATOR LIGHT FOR NEXT PUMP MOTOR TO BE CALLED.
- o INDIVIDUAL PUMP SEAL FAIL LIGHTS AND RELAYS THAT WILL TRIGGER ALARM. SEAL FAIL WILL NOT INHIBIT THE RUNNING OF THE PUMP MOTOR.
- o INDIVIDUAL PUMP OVERHEAT LIGHTS AND RELAYS THAT WILL TRIGGER ALARM. WHEN PUMP IS OVERHEATED THE RELAYS SHALL INHIBIT THE RUNNING OF THE AFFECTED PUMP MOTOR.
- o INTRINSICALLY SAFE BARRIERS FOR LEVEL CONTROL LINES GOING TO LISTED LOCATIONS.
- o TO THE MAXIMUM EXTENT PRACTICAL, THE CONTROL, RELAYS, MOTORS STARTERS, CIRCUIT BREAKERS, AND OTHER COMPONENTS SHOULD BE ON RAIL MOUNTED WITH APPROPRIATE ROOF BASES FOR FIELD REPLACEMENT OF CONTROLS AND CONTROL RELAYS. A "LADDER DIAGRAM" SHALL BE PROVIDED WITHIN THE PUMP PANEL.
- o UL LISTING AND LABELING FOR CLASS OF LISTED LOCATION WHERE PUMP MOTORS ARE LOCATED.

6. **METERING MANHOLE:** A 4" ELECTROMAGNETIC FLOW METER (STRANS F M MAG 5000 WITH REMOTE CONTACT TRANSMITTER) SHALL BE INSTALLED IN A SEPARATE MANHOLE AND WIRED TO A RECORDING TRANSMITTER DEVICE MOUNTED IN A NEMA 4X ENCLOSURE ON THE OUTSIDE OF THE BUILDING ADJACENT TO THE PUMP CONTROL PANEL. THE METERING MANHOLE SHALL BE PRECAST REINFORCED CONCRETE, 4'0" INSIDE DIAMETER, WITH 8 INCH MINIMUM WALLS AND FLOOR. THE CEILING THICKNESS SHOULD BE A MINIMUM OF 8 INCHES AND DESIGNATED FOR HS-20 LOADING WITH A 30 INCH DIAMETER FRAME AND COVER. THE MANHOLE SHALL BE PROVIDED WITH A 2-INCH FLOOR DRAIN AND P-TRAP CONNECTED TO THE PUMP CHAMBER.

MANHOLE JOINTS SHALL BE SEALED IN AN APPROVED MANNER AND SUBJECT TO THE SAME WATER TIGHTNESS TESTING AS REQUIRED FOR SEWER MANHOLES.

OPENINGS FOR PIPES AND OTHER APPURTENANCES SHALL BE CAST OR CORED BY THE MANUFACTURER AND FINISHED WITH AN APPROVED PIPE TO MANHOLE JOINT.

7. **UTILITIES:** THIS WORK SHALL CONSIST OF PROVIDING ALL REQUIRED PUBLIC UTILITY SERVICES AND CONNECTIONS AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. ELECTRICAL SERVICE SHALL BE PROVIDED, AS REQUIRED, TO RESULT IN A FULLY OPERABLE SYSTEM.

8. **FIELD ACCEPTANCE TEST:** AFTER INSTALLATION OF THE EQUIPMENT AND AFTER COMPLETION OF THE SERVICES OF THE MANUFACTURER'S REPRESENTATIVE, THE CONTRACTOR SHALL CONDUCT A FIELD ACCEPTANCE TEST AS DIRECTED BY THE ENGINEER. FOUR (4) COPIES OF INSTALLATION AND OPERATION MANUALS FOR ALL ELECTRICAL AND MECHANICAL COMPONENTS SHALL BE PROVIDED.

ALL FINAL ADJUSTMENTS NECESSARY TO PLACE THE EQUIPMENT IN SATISFACTORY ORDER SHALL BE MADE AT THE TIME OF THE ABOVE TEST.

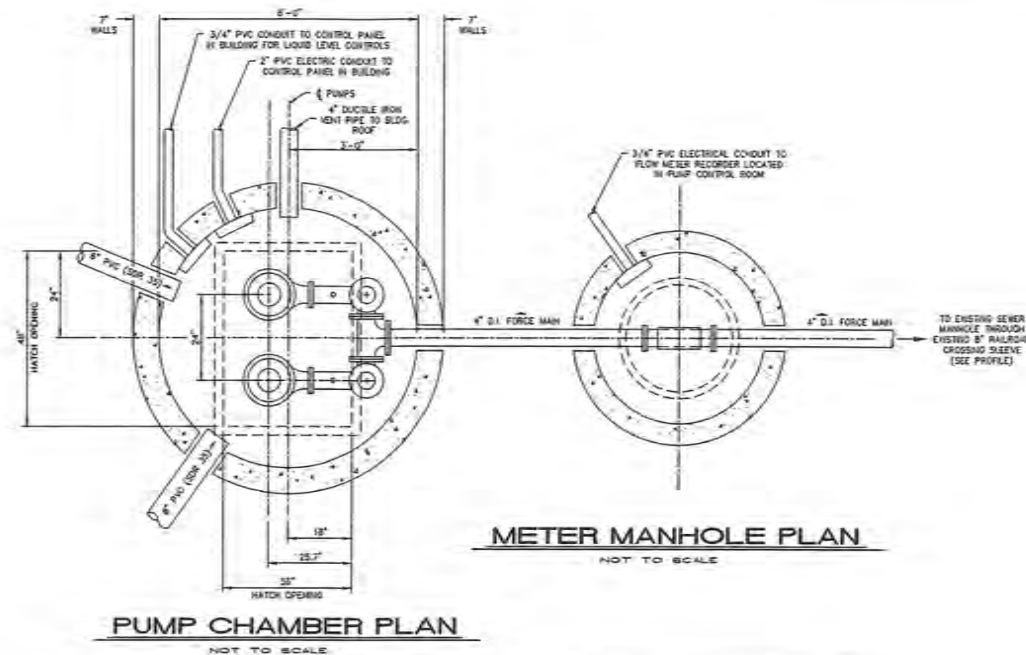
ALL LABOR AND MATERIALS NECESSARY FOR THE TEST, INCLUDING WATER, SHALL BE FURNISHED BY THE CONTRACTOR.

AFTER INSTALLATION, ALL PIPING AND THE FORCE MAIN SHALL BE PRESSURE TESTED FOR TIGHTNESS IN AN APPROVED MANNER. SHOULD LEAKS BE FOUND, FAULTY JOINTS SHALL BE REPAIRED, EVEN TO THE EXTENT OF DISASSEMBLY AND REMAINING THE JOINT. ALL DEFECTIVE PIPES AND FITTINGS SHALL BE REMOVED AND REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER.

9. **GUARANTEE:** THE PUMP STATION SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE ENGINEER.

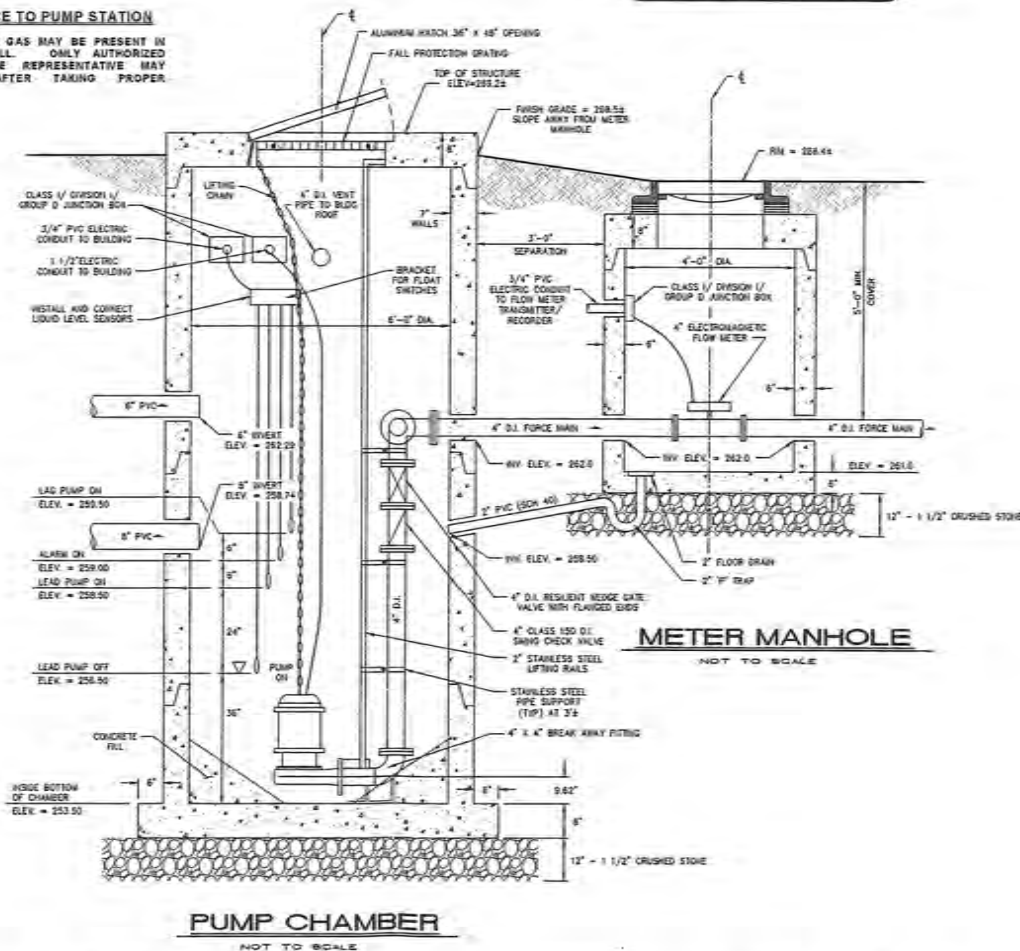
10. **EMERGENCY GENERATOR:** AN EMERGENCY GENERATOR MEETING THE REQUIREMENTS OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES EN-WS 705.11 SHALL BE PROVIDED FOR THE PUMPS, ALARMS AND ALL CONTROLS.

11. **FLOOD ELEVATION:** THE 100 YEAR FEMA FLOOD IS LOCATED APPROXIMATELY 250 FEET FROM THE PUMP CHAMBER. AT THE PUMP CHAMBER THE 100 YEAR FLOOD ELEVATION IS EL. 267.0 (NAD83), AND THE PUMP CHAMBER HATCH ELEVATION IS 268.37 (NAD83).



**SIGN AT ENTRANCE TO PUMP STATION**

"CAUTION - HAZARDOUS GAS MAY BE PRESENT IN PUMP STATION WETWELL. ONLY AUTHORIZED PROFESSIONAL SERVICE REPRESENTATIVE MAY ENTER CHAMBER, AFTER TAKING PROPER PRECAUTIONS"



**NOTE**  
AN ADDITIONAL JUNCTION BOX WITHIN THE PUMP CHAMBER IS NEEDED FOR THE FLOATS INTRINSICALLY SAFE RELAYS. A 3/4" PVC CONDUIT TO THE PUMP CONTROL PANEL SHALL BE PROVIDED FOR THIS JUNCTION BOX.

**NOTE**  
MANHOLE STEPS ARE PROHIBITED.

No.	DATE	REVISION	BY
3	01/02/18	FIELD CHANGE #1 - REVISE COOLING TOWER PAD/SEWER PUMP STATION DRAWING	EDB
2	08/13/18	ADDRESS TOWN AND OWNER COMMENTS	EDB
1	05/17/18	ADDRESS NOTES AND TOWN COMMENTS	EDB

**DETAIL SHEET - SEWER PUMP STATION**

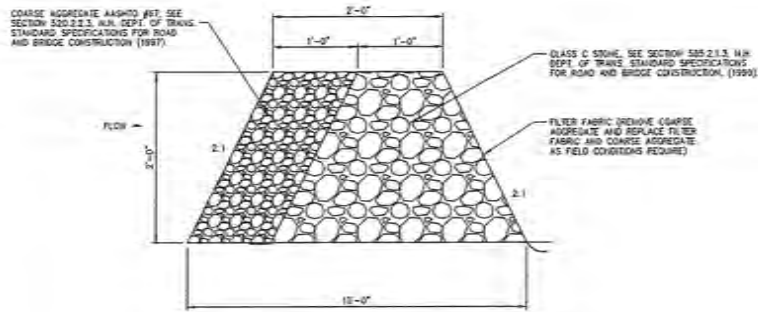
(MAP D-2, LOT 13-6)  
**PROPOSED PLANT No. 3 BUILDING**  
ELM STREET  
MILFORD, NEW HAMPSHIRE  
PREPARED FOR/RECORD OWNER:

**HITCHINER MANUFACTURING COMPANY, INC.**  
594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 (603) 673-1100

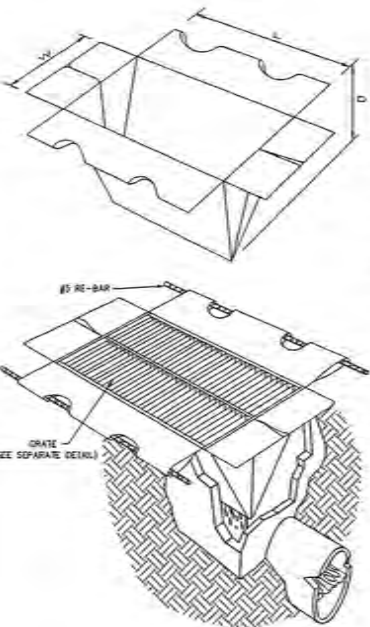
SCALE AS SHOWN

11 APRIL 2018

**HSI** Hayner/Swanson, Inc.  
Civil Engineers/Land Surveyors  
3 Congress Street 131 Middlesex Turnpike  
Nashua, NH 03062 Burlington, MA 01803  
(603) 883-2057 (781) 203-1501  
www.haynerswanson.com



**TEMPORARY STONE CHECK DAM TYPICAL SECTION**  
NOT TO SCALE



**SILTSAK® DETAIL**  
NOT TO SCALE

**SILTSAKS NOTES**

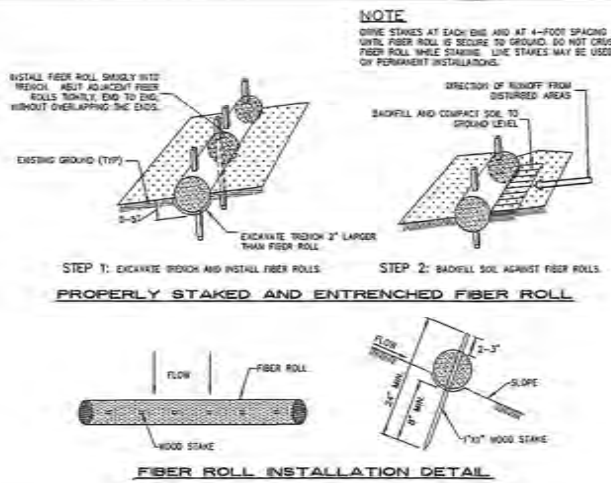
- THE SILTSAKS SHALL BE MANUFACTURED FROM NON-POLYPROPYLENE AND SEWN BY A DOUBLE NEEDLE MACHINE, USING A HEAVY DUTY WELDED STITCH.
- THE SILTSAK SEAMS SHALL HAVE A CERTIFIED AVERAGE WIDE WIND STRENGTH PER ASTM'S ASTM STANDARDS AS FOLLOWS:  

SEAM STYLE	TEST METHOD	TEST RESULT
REGULAR FLOW	ASTM D-4352	105 LBS
W/ROLL	ASTM D-4352	148 LBS
- THE SILTSAK SHALL BE MANUFACTURED TO FIT THE OPENING OF THE CATCH BASIN OR DROP INLET. THE SILTSAK SHALL HAVE THE FOLLOWING FEATURES: TWO CLAMP STRIPS ATTACHED AT THE BOTTOM TO FACILITATE THE SHUDDING OF THE SILTSAK. THE SILTSAK SHALL HAVE LIFTING LOOPS AS AN INTERNAL PART OF THE SYSTEM TO BE USED TO LIFT THE SILTSAK FROM THE BASIN. THE SILTSAK SHALL HAVE A RESTRAINT CORD APPROXIMATELY HALF WAY UP THE BACK TO KEEP THE SIDES AWAY FROM THE CATCH BASIN WALLS. THIS YELLOW CORD IS ALSO A VISIBLE MEANS OF INDICATING WHEN THE BACK SHOULD BE ENDED, CLEANED, AND PLACED BACK INTO THE BASIN.
- THE GEOTEXTILE FABRIC SHALL BE WOVEN POLYPROPYLENE FABRIC WITH THE FOLLOWING PROPERTIES:  

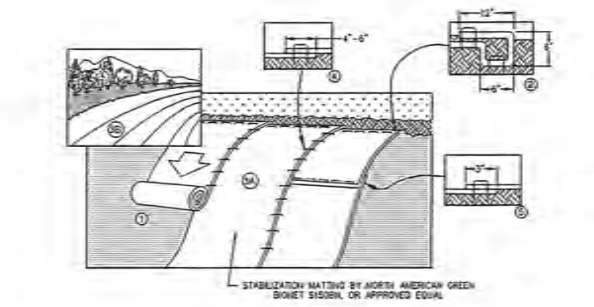
PROPERTY	TEST METHOD	TEST RESULT
GRAB TENSILE	ASTM D-4333	200 LBS
GRAB ELONGATION	ASTM D-4333	20%
PUNCHURE	ASTM D-4333	125 LBS
MULLER BURST	ASTM D-3759	800 PSI
TRAPWOOD TEAR	ASTM D-4333	100 LBS
UV RESISTANCE	ASTM D-4335	60%
APPARENT OPENING	ASTM D-4319	40 MICRONS
FLOW RATE	ASTM D-4461	40 GAL/MINUTE
PERMEABILITY	ASTM D-4461	400 SEC



**TEMPORARY GRAVEL CONSTRUCTION EXIT**  
NOT TO SCALE

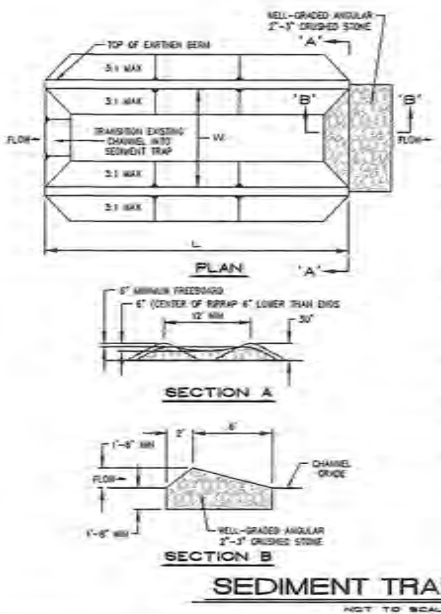


**FIBER ROLL (STRAW WATTLE) DETAIL**  
NOT TO SCALE



- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- SEED AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP 1" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDING BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FILL REMAINING 12" PORTION OF TRENCH WITH SOIL AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH GRAVITY. PLACE THE EDGE OF THE OVERLAPPING BLANKET BLANKET BEING INSTALLED ON TOP SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURERS RECOMMENDATION.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 3" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET BLANKET BEING INSTALLED ON TOP EVEN WITH THE SEAM STITCH OF THE PREVIOUSLY INSTALLED BLANKET.
- OVERLAPPING BLANKETS SPACES DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
- PLACE STAPLES/STAKES PER MANUFACTURER RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.

**STABILIZATION MATTING DETAIL**  
NOT TO SCALE



- SEDIMENT TRAP INSTALLATION NOTES**
- SEE PLAN VIEW FOR LOCATION, LENGTH AND WIDTH OF SEDIMENT TRAP.
  - SEDIMENT TRAPS SHALL BE SIZED TO PROVIDE A VOLUME OF 2500 PER ACRE OF CONTRIBUTING DRAINAGE AREA.
  - SEDIMENT TRAPS SHALL BE INSTALLED PRIOR TO ANY UPWARD AND DISTURBING ACTIVITIES.
  - SEDIMENT TRAP BOW SHALL BE CONSTRUCTED FROM MATERIAL FROM EXCAVATION. THE BOW SHALL BE CONTACTED TO THE TOP OF THE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
  - SEDIMENT TRAP OUTLET TO BE CONSTRUCTED OF WELL-GRADED ANGULAR 2"-5" CRUSHED STONE.
  - THE TOP OF THE EARTHEN BOW SHALL BE A MINIMUM OF 6" HIGHER THAN THE TOP OF THE OUTLET STRUCTURE.
  - THE BOW OF THE OUTLET STRUCTURE SHALL BE A MINIMUM OF 6" HIGHER THAN THE CENTER OF THE OUTLET STRUCTURE.

- SEDIMENT TRAP MAINTENANCE NOTES**
- INSPECT BOWS, EACH WINTER AND WHATEVER WHEN IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BOWS SHOULD BE FRAGILE, NOT REACTIVE. INSPECT BOWS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION AND PERFORM NECESSARY MAINTENANCE.
  - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BOWS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
  - WHERE BOWS HAVE FIRED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
  - REMOVE SEDIMENT ACCUMULATED IN TRAP AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BOW. TYPICALLY WHEN THE SEDIMENT DEPTH REACHES 1/2 THE HEIGHT OF THE OUTLET.
  - SEDIMENT TRAPS SHALL REMAIN IN PLACE UNTIL THE CONTRIBUTING DISTURBED AREA IS STABILIZED.
  - WHEN SEDIMENT TRAPS ARE REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDING AND MULCHED OR OTHERWISE STABILIZED.

**SEDIMENT TRAP DETAIL**  
NOT TO SCALE

**GENERAL NOTES**

- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS THEREOF IN NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES STORMWATER MANUALS, VOLUME 1-3 LATEST EDITION.
- THE WORK AREA SHALL BE GRADED, SHIPPED, AND OTHERWISE DRAINED IN SUCH A MANNER AS TO MINIMIZE SOIL EROSION, SILTATION OF DRAINAGE CHANNELS, DAMAGE TO EXISTING VEGETATION, AND DAMAGE TO PROPERTY OUTSIDE THE LIMITS OF THE WORK AREA. SILT FENCES, STRAW BALES AND/OR DETENTION BASINS WILL BE NECESSARY TO ACCOMPLISH THIS END.
- STRIPPED TOPSOIL SHALL BE STOCKPILED, WITHOUT COMPACTION, AND STABILIZED AGAINST EROSION IN ACCORDANCE WITH "TEMPORARY STABILIZATION OF DISTURBED AREAS", AS OUTLINED IN NOTE 14.
- TEMPORARY STABILIZATION OF DISTURBED AREAS:  
 SEED BED PREPARATION: 10-10 PERCENT FERTILIZATION TO BE SPREAD AT THE RATE OF 7 LBS PER 1000 SF AND AGRICULTURAL LIMESTONE AT A RATE OF 90 LBS PER 1000 SF AND INCORPORATED INTO THE SOIL. THE SOIL, FERTILIZER AND LIMESTONE SHALL BE TILLED TO PREPARE FOR SEEDING.  
 A. SEED MIXTURE: USE ANY OF THE FOLLOWING:  

SPECIES	RATE PER 1000 SF	DEPTH	SEEDING DATES
WINTER RYE	2.5 LBS	1"	08/15 TO 08/19
GRASS	2.5 LBS	1"	08/15 TO 10/15
ANNUAL RYE GRASS	1.0 LBS	0-2"	08/15 TO 09/15

 B. MULCHING: MULCH SHOULD BE USED ON HIGHLY ERODIBLE AREAS, AND WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT AS FOLLOWS:  

TYPE	RATE PER 1000 SF	USE & COMMENTS
STRAW	70 TO 90 LBS	MAY BE USED WITH PLANTINGS, MUST BE ANCHORED TO BE USED ALONE
WOOD CHIPS OR BARK MULCH	400 TO 600 LBS	USED WITH TREE AND SHRUB PLANTINGS
FIBROUS MATTING	AS RECOMMENDED BY MANUFACTURER	MUST BE BIODEGRADABLE. USE IN SLOPE AREAS AND AREAS DIFFICULT TO VEGETATE.

 CUSHED STONE 1/2 TO 1" DIA SPREAD TO GREATER THAN 1" THICKNESS USE IN SPECIFIC AREAS AS SHOWN ON PLAN OR AS NOTED.
- PERMANENT STABILIZATION OF DISTURBED AREAS:  
 A. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.  
 B. ALL CUT AND FILL SLOPES SHALL BE SEED/EDDOWED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- AN AREA SHALL BE CONSIDERED STABILIZED IF ONE OF THE FOLLOWING HAS OCCURRED:  
 A. BASE COURSE GRASSES HAVE BEEN INSTALLED IN AREAS TO BE PAVED.  
 B. A MINIMUM OF 60% VEGETATED GROWTH HAS BEEN ESTABLISHED.  
 C. A MINIMUM OF 3 INCHES OF NON-ERODIBLE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.  
 D. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES ALTERATION OF TERRAIN PERMIT NO. 407-1427.
- SITE LOCATION:  
 42° 30' 28" N LATITUDE, 71° 41' 29" W LONGITUDE (PER GOOGLE EARTH)
- TOTAL AREA OF DISTURBED SOILS: 163,300 SF.
- REFERENCE IS MADE TO THE LATEST EDITION OF THE FEDERAL REGISTER (43 FR 765), ENVIRONMENTAL PROTECTION AGENCY NPDES GENERAL PERMITS FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES, #24 ADDITIONAL APPROPRIATE CONTACT (202) 564-9548 OR [www.epa.gov/npdes/permits/](http://www.epa.gov/npdes/permits/).
- THE ENTIRE CONTENTS OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE RETAINED ON-SITE FOR THE DURATION OF THE CONTRACT AND BE MADE AVAILABLE TO LOCAL, STATE AND FEDERAL CODE ENFORCEMENT PERSONNEL.
- THIS PROJECT SHALL BE MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:3 AND AGR 300 RELATIVE TO INVASIVE SPECIES, AND FUGITIVE OYST IS CONTROLLED IN ACCORDANCE WITH EN-A-1000.
- TEMPORARY WATER DIVERSIONS (DRAINS, BASINS, ETC) MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.

**CONSTRUCTION SEQUENCE**

- CLEAR SITE ACCORDING TO PLAN.
- CONSTRUCTION OF TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES, TO BE IN ACCORDANCE WITH THE PLANS. PERIMETER CONTROLS TO BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
- GRUB SITE ACCORDING TO PLAN.
- CUT AND DISPOSE OF ANY DEBRIS PRODUCED DURING THE CLEARING AND GRUBBING ACTIVITY.
- CONSTRUCT DETENTION BASIN EXPANSION AND SWALES PRIOR TO ROUGH GRADING. SEED AND MULCH IMMEDIATELY.
- SITE GRADING OF BUILDING AND PARKING AREAS. ALL CUT AND FILL SLOPES SHALL BE SEEDING AND MULCHED AFTER BEING CONSTRUCTED.
- INSTALLATION OF UNDERGROUND UTILITIES AND CATCH BASINS SHALL BE PROTECTED FROM EROSION, IN ACCORDANCE WITH THE "SILTSACK DETAIL". THE CONTROL SHALL REMAIN UNTIL THE SITE IS SUFFICIENTLY STABILIZED. RIPRAP SHALL BE PLACED AT EACH HEADWALL OUTLET AS THE BUILDING IS COMPLETED. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED.
- NO PORTION OF THE PROJECT SHALL BE LEFT DISTURBED AND UNSTABILIZED FOR A PERIOD OF 45 DAYS OR GREATER. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED PRIOR TO WINTER CONDITIONS. STABILIZATION SHALL BE DEFINED AS 70% VEGETATIVE GROWTH BY NOVEMBER 1<sup>ST</sup> OR INSTALLATION OF EROSION CONTROL MATTING.
- COMPLETED AREAS SHALL BE STABILIZED 72 HOURS AFTER COMPLETION.
- ALL PERMANENT STORM WATER MANAGEMENT MEASURES SHALL HAVE A HEALTHY STAND OF VEGETATION ESTABLISHED PRIOR TO DIRECTING RUNOFF INTO THEM.
- FINAL PAVING OF PARKING LOT.
- LOAM AND SEED ALL DISTURBED AREAS.
- INSPECTIVITY OF ALL SEDIMENT AND EROSION CONTROL MEASURES.
- WATER LANDSCAPING ALONG WITH PERMANENT SEEDING OF ALL DISTURBED AREAS.
- REMOVE ANY TEMPORARY EROSION CONTROL MEASURES NOT NEEDED.

**WINTER CONDITION NOTES**

- ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 60% VEGETATIVE GROWTH BY OCTOBER 15<sup>TH</sup> OR WHICH ARE DISTURBED AFTER OCTOBER 15<sup>TH</sup> SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 1:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 60% VEGETATIVE GROWTH BY OCTOBER 15<sup>TH</sup> OR WHICH ARE DISTURBED AFTER OCTOBER 15<sup>TH</sup> SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER OCTOBER 15<sup>TH</sup>, COMPLETE 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 INDOT ITEM 304.3.

**SITE MAINTENANCE/INSPECTION PROGRAM**

THE FOLLOWING PROVIDES AN ITEMIZATION OF SPECIFIC SITE MAINTENANCE PRACTICES THAT WILL BE EMPLOYED ON THE SITE TO MINIMIZE POLLUTANT GENERATION AND TRANSPORT FROM THE SITE. THE SITE MAINTENANCE PROGRAM INCLUDES ROUTINE INSPECTIONS, PREVENTATIVE MAINTENANCE AND "GOOD HOUSEKEEPING" PRACTICES.

**ROUTINE INSPECTIONS**

- THE CONTRACTOR SHALL INSPECT ALL CONTROL MEASURES AT LEAST ONCE A WEEK AND WITHIN TWELVE (12) HOURS OF THE END OF A STORM WITH RAINFALL AMOUNT GREATER THAN 0.5 INCHES. THE INSPECTIONS WILL VERIFY THAT THE STRUCTURAL BMPs DESCRIBED IN THE PLANS ARE IN GOOD CONDITION AND ARE MAINTAINING EROSION CONTROL PERFORMANCE. INSPECTION REPORT WILL BE MADE WITH EACH INSPECTION. COMPLETED INSPECTION FORMS SHALL BE KEPT ON-SITE FOR THE DURATION OF THE PROJECT. FOLLOWING CONSTRUCTION, THE COMPLETED FORMS SHALL BE RETAINED AT THE CONTRACTOR'S OFFICE FOR A MINIMUM OF ONE YEAR.

**PREVENTATIVE MAINTENANCE**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL TEMPORARY AND PERMANENT CONTROLS THROUGHOUT THE DURATION OF THIS CONTRACT. MAINTENANCE PRACTICES SHALL INCLUDE, BUT ARE NOT LIMITED TO:
- CLEANING OF CATCH BASINS TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY QUARTERLY INSPECTIONS.
  - CLEANING OF SEDIMENT AND DEBRIS FROM STORMWATER MANAGEMENT AREA FOREBAY TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY MONTHLY INSPECTIONS.
  - IMPLEMENTATION OF OTHER MAINTENANCE OR REPAIR ACTIVITIES AS DEEMED NECESSARY BASED UPON WEED INSPECTIONS.
  - REMOVAL OF BUILT UP SEDIMENT ALONG SILT FENCES AND/OR STRAW BALE BARRIERS.
  - REMOVAL OF BUILT UP SEDIMENT IN BOTH TEMPORARY AND PERMANENT CONTROLS SUCH AS GRASS SWALES, SEDIMENT FOREBAYS AND RECHARGE DETENTION BASINS.
  - RECONSTRUCTING THE TEMPORARY GRAVEL CONSTRUCTION EXIT IF NOT WORKING PROPERLY.
  - TREATMENT OF NON STORM WATER DISCHARGES SUCH AS WATER FROM WATER LINE FLOODINGS OR GROUNDWATER FROM DEWATERING EXCAVATIONS. SUCH FLOWS SHOULD BE DIRECTED TO A TEMPORARY SEDIMENTATION BASIN OR STORMWATER MANAGEMENT AREA.
  - SWEEP PARKING LOTS AND DRIVES REGULARLY TO IMMEDIATE SEDIMENT ACCUMULATION. FREQUENTLY WILL BE SEASONALLY ACCORDING TO SEDIMENT ACCUMULATION ON PAVED SURFACES (E.G. MORE FREQUENT SWEEPING DURING THE WINTER AND SPRING).

**GOOD HOUSEKEEPING PRACTICES**

- THE CONTRACTOR SHALL EMPLOY MEASURES AND PRACTICES TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS TO STORM AND WATER RUNOFF. THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO THE HANDLING, USE AND DISPOSAL OF MATERIALS SUCH AS PETROLEUM PRODUCTS, FERTILIZERS AND PESTICIDES TO ENSURE THAT THE RISK ASSOCIATED WITH THE USE OF THESE PRODUCTS IS MINIMIZED. THE FOLLOWING "GOOD HOUSEKEEPING" PRACTICES SHALL BE FOLLOWED DURING CONSTRUCTION OF THE PROJECT:  
 A. AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.  
 B. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.  
 C. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THEIR MANUFACTURER'S LABELS.  
 D. WHENEVER POSSIBLE, ALL OF A PRODUCT SHALL BE USED BEFORE DISPOSING OF THE CONTAINER.  
 E. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.  
 F. THE CONTRACTOR SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

**SPILL PREVENTION AND CLEANUP PRACTICES**

- MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE APPROPRIATE AND CLEANUP SUPPLIES.
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON-SITE. EQUIPMENT AND MATERIAL WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, SHOES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
- THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT HURRY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
- THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL, IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

**DETAIL SHEET - EROSION CONTROL**

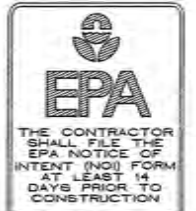
(MAP D-2, LOT 13-B)  
**PROPOSED PLANT No. 3 BUILDING**  
 ELM STREET  
 MILFORD, NEW HAMPSHIRE  
 PREPARED FOR/RECORD OWNER:

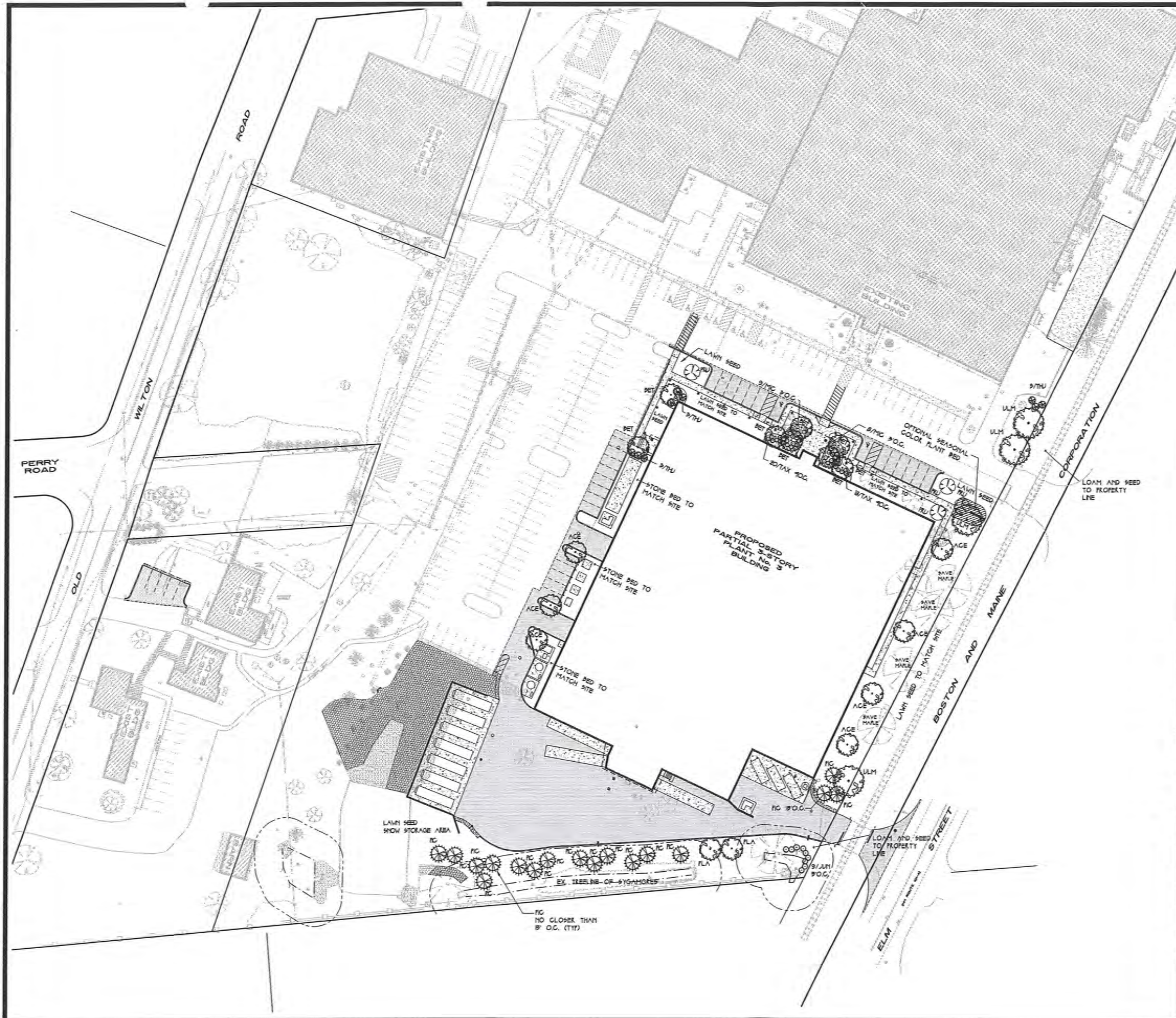
**HITCHINER MANUFACTURING COMPANY, INC.**  
 894 ELM STREET, MILFORD, NEW HAMPSHIRE 03055 (603) 673-1100

**SCALE AS SHOWN**

**11 APRIL 2018**

**HESI Hayner/Swanson, Inc.**  
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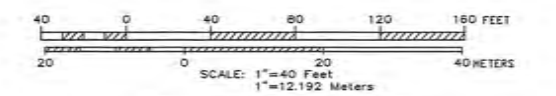
**MATERIAL LIST**

8/AGE	ACER FREEMANI (ARMSTRONG MAPLE)	9'-9" GAL
8/PET	PETULA NIGRA (HERITAGE RIVER BRCH)	14-16" MULTI-STEM
9/JUN	JUNIPERUS CHINENSIS (SEAGREEN JUNPER)	2'-2.5" DB
8/PG	MICROBIOTA DECUSATA (RUSSIAN CYPRUS)	#9 GAL
8/PG	FICUS ORIENTALIS (ORIENTAL SHRUB)	7'-8" DB
2/PLA	PLATANUS ACERIFOLIA (EXCLAMATION PLANTREE)	2.5'-3" GAL
4/PRU	PRUNUS SARGENTI (PINK FLAK SARGENT CHERRY)	2.5'-3" GAL
8/TAX	TAXUS MEDIA (EVERLOW YEW)	2'-2.5" DB
9/THU	THUJA OCCIDENTALIS (TECHNY MISSION ARBORVITAE)	7'-8" DB
4/ULM	ULMUS PARVIFOLIA ALEE (ALLEE CHINESE ELM)	9'-9" GAL
PARK MULCH TO MATCH EXISTING CONDITIONS		
LAWN SEED TO MATCH EXISTING CONDITIONS		

No.	DATE	REVISION	BY
3	08/02/18	FIELD CHANGE #1 - REVISE COOLING TOWER PAD/SEWER PUMP STATION/GRADING	EDB
2	08/13/18	ADDRESS TOWN AND OWNER COMMENTS	JH
1	05/17/18	ADDRESS ISSUES AND TOWN COMMENTS	JH

**LANDSCAPE PLAN**  
 (MAP D-2, LOT 13-6)  
**PROPOSED PLANT No. 3 BUILDING**  
 ELM STREET  
 MILFORD, NEW HAMPSHIRE  
 PREPARED FOR/RECORD OWNER:

**HITCHINER MANUFACTURING COMPANY, INC.**  
 594 ELM STREET MILFORD, NEW HAMPSHIRE 03055 (603) 673-1100



11 APRIL 2018

PREPARED BY:  
**BLACKWATER DESIGN**  
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