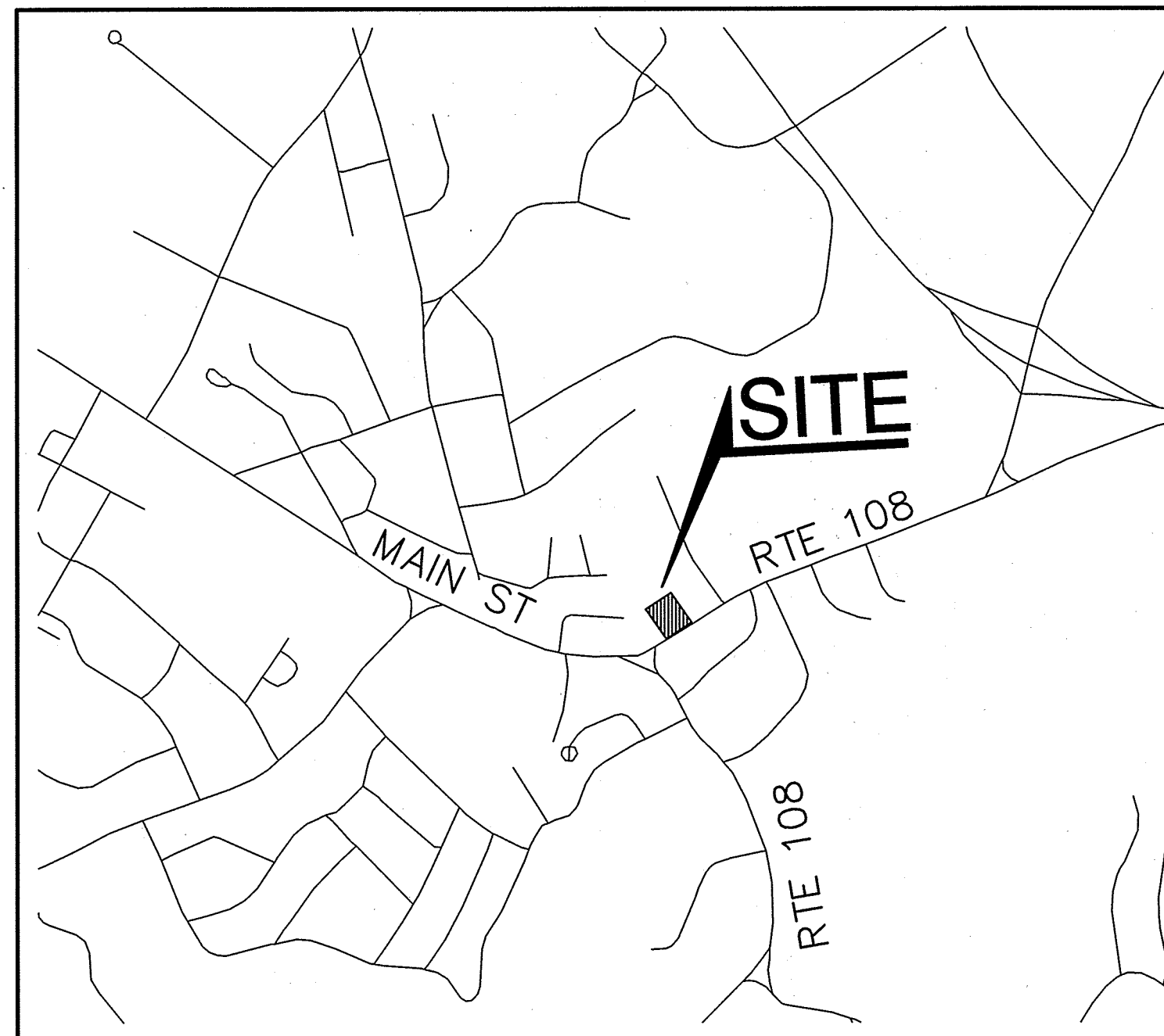


COMMERCIAL DEVELOPMENT 4 BAY CAR SERVICE TAX MAP 4, LOT NUMBER 49 3 DOVER ROAD, ROUTE 108, DURHAM, NH

SHEET INDEX

CS	COVER SHEET
C1	EXISTING CONDITIONS PLAN
C2	DEMOLITION PLAN
C3	SITE & UTILITY PLAN
C4	GRADING AND DRAINAGE PLAN
L1	LANDSCAPE AND LIGHTING PLAN
D1-D2	DETAIL SHEETS
E1	EROSION AND SEDIMENT CONTROL DETAILS
A1	SCHEMATIC PLAN & ELEVATIONS



LOCUS MAP
SCALE 1" = 1000'

PERMITS

TYPE OF PERMIT	STATUS
USEPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT, NOTICE OF INTENT (NOI), AND NOTICE OF TERMINATION (NOT) TO BE FILED IN ACCORDANCE WITH FEDERAL AND LOCAL REGULATIONS PRIOR TO AND FOLLOWING CONSTRUCTION: EPA STORMWATER NOTICE PROCESSING CENTER MAIL CODE 4203M, US EPA 1200 PENNSYLVANIA AVENUE, NW WASHINGTON, DC 20460 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	
NHDOT DRIVEWAY PERMIT: NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, DISTRICT SIX P.O. BOX 740 DURHAM, NEW HAMPSHIRE 03824 (603) 868-1133 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: PERMIT NO. DATED: EXPIRATION:
DURHAM SITE PLAN APPROVAL: TOWN OF DURHAM PLANNING BOARD 15 NEWMARKET RD DURHAM, NEW HAMPSHIRE 03042 (603) 868-8064 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: PERMIT NO. DATED: EXPIRATION:

APPLICANT / DEVELOPER
TROPIC STAR DEVELOPMENT, LLC
321D LAFAYETTE ROAD
HAMPTON, NH 03842
(603) 926-7770
CONTACT: JAMES MITCHELL

CIVIL ENGINEER / SURVEYOR
JONES & BEACH ENGINEERS, INC.
85 PORTSMOUTH AVENUE
PO BOX 219
STRATHAM, NH 03885
(603) 772-4746
CONTACT: WAYNE MORRILL
EMAIL: WMORRILL@JONESANDBEACH.COM

SEWER
WASTEWATER TREATMENT FACILITY
50 PISCATAQUA RD (RT4)
DURHAM, NH 03824
(603) 868-8063

ELECTRIC
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
74 OLD DOVER ROAD
ROCHESTER, NH 03867
(603) 332-4227

TELEPHONE
FAIRPOINT COMMUNICATIONS
1575 GREENLAND ROAD
GREENLAND, NH 03840
(603) 427-5525
CONTACT: JOE CONSIDINE

TELEPHONE
FAIRPOINT COMMUNICATIONS
100 TRI CITY ROAD
SOMERWORTH, NH 03878
ATTN: DAVE KESTNER
(603) 743-1114

CABLE TV
COMCAST COMMUNICATION CORPORATION
334-B CALEF HIGHWAY
EPPING, NH 03042-2325
(603) 679-5695

WATER
DEPARTMENT OF PUBLIC WORKS
100 STONE QUARY DRIVE
DURHAM, NH 03824

PROJECT PARCEL
TOWN OF DURHAM
TAX MAP 4, LOT 49

OWNER
CUMBERLAND FARMS, INC.
100 CROSSING BLVD, V 1015
FRAMINGHAM, MA 01702
BK 1095, PG 35

TOTAL LOT AREA
11,279 SQ. FT.
0.25 ACRES

APPROVED - DURHAM, NH
PLANNING BOARD

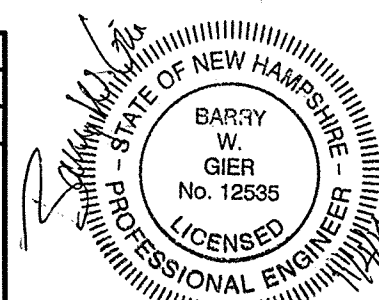
DATE:

VARIANCES GRANTED: JUNE 10, 2014

FROM ARTICLE XII, SECTIONS 175-54 AND 175-55(B); AND ARTICLE XXI, SECTIONS 175-111(G)(5), 175-113 AND 175-116(A) OF THE ZONING ORDINANCE TO ALLOW FOR 12 PARKING SPACES FOR A COMMERCIAL PROPERTY WHERE 16 SPACES WOULD BE REQUIRED, TO ALLOW LESS THAN 5% OF THE PARKING AND DRIVEWAY ARE TO BE LANDSCAPED, TO ALLOW PARKING IN THE REAR YARD, AND TO ALLOW AN ADA PARKING AISLE WITHIN THE FRONT YARD AND A REFUSE CONTAINER WITHIN THE SIDE AND REAR YARDS.

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Design: BWG	Draft: GPC	Date: 05/30/14
Checked: WGM	Scale: AS NOTED	Project No.: 14011
Drawing Name: 14011-PLAN.dwg		
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0	08/27/14	ISSUED FOR REVIEW	GPC

Designed and Produced in NH

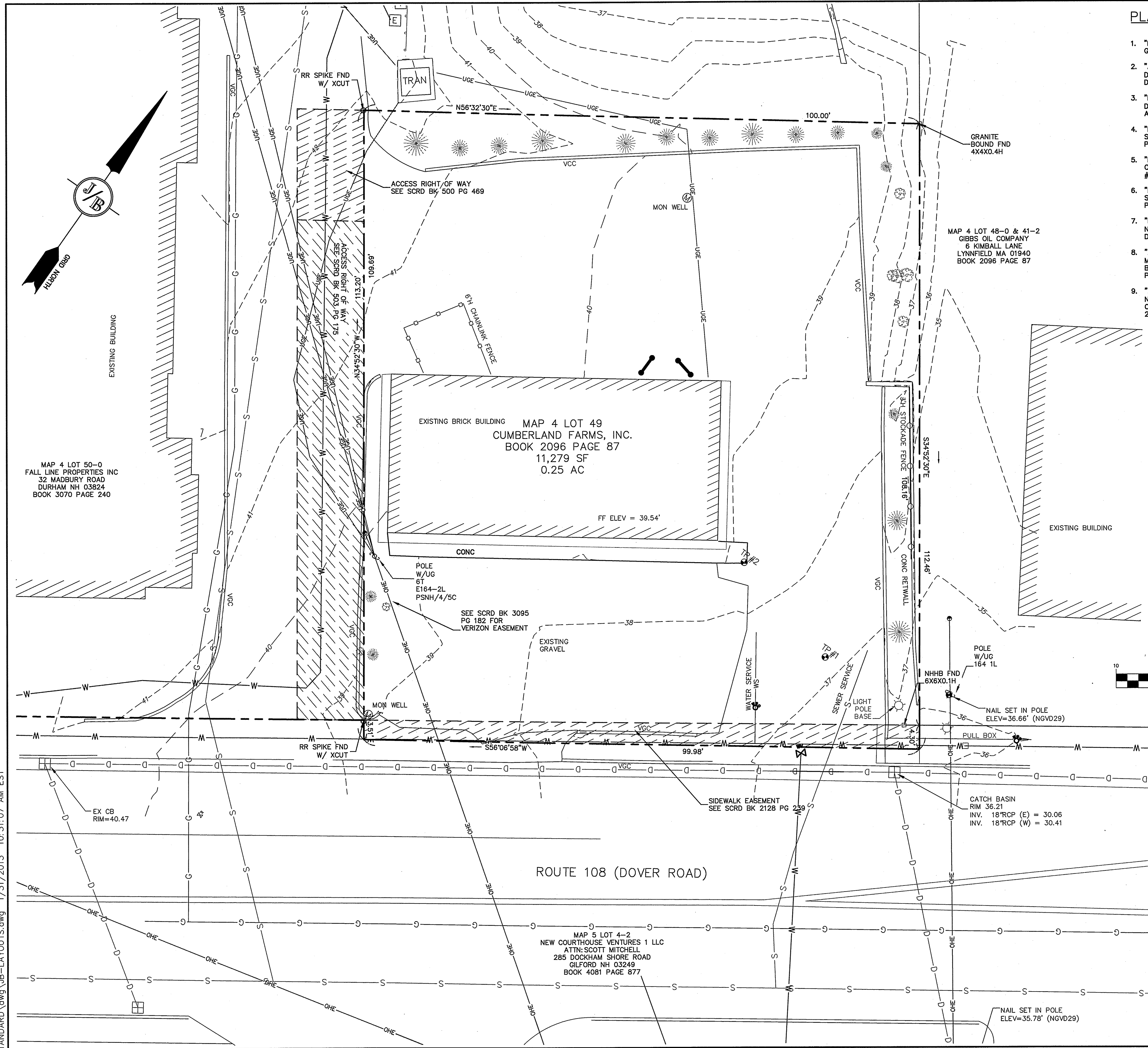
J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	COVER SHEET
Project:	4-BAY CAR SERVICE 3 DOVER ROAD, ROUTE 108, DURHAM, NH
Applicant:	TROPIC STAR DEVELOPMENT, LLC 321D LAFAYETTE ROAD, HAMPTON, NH 03842

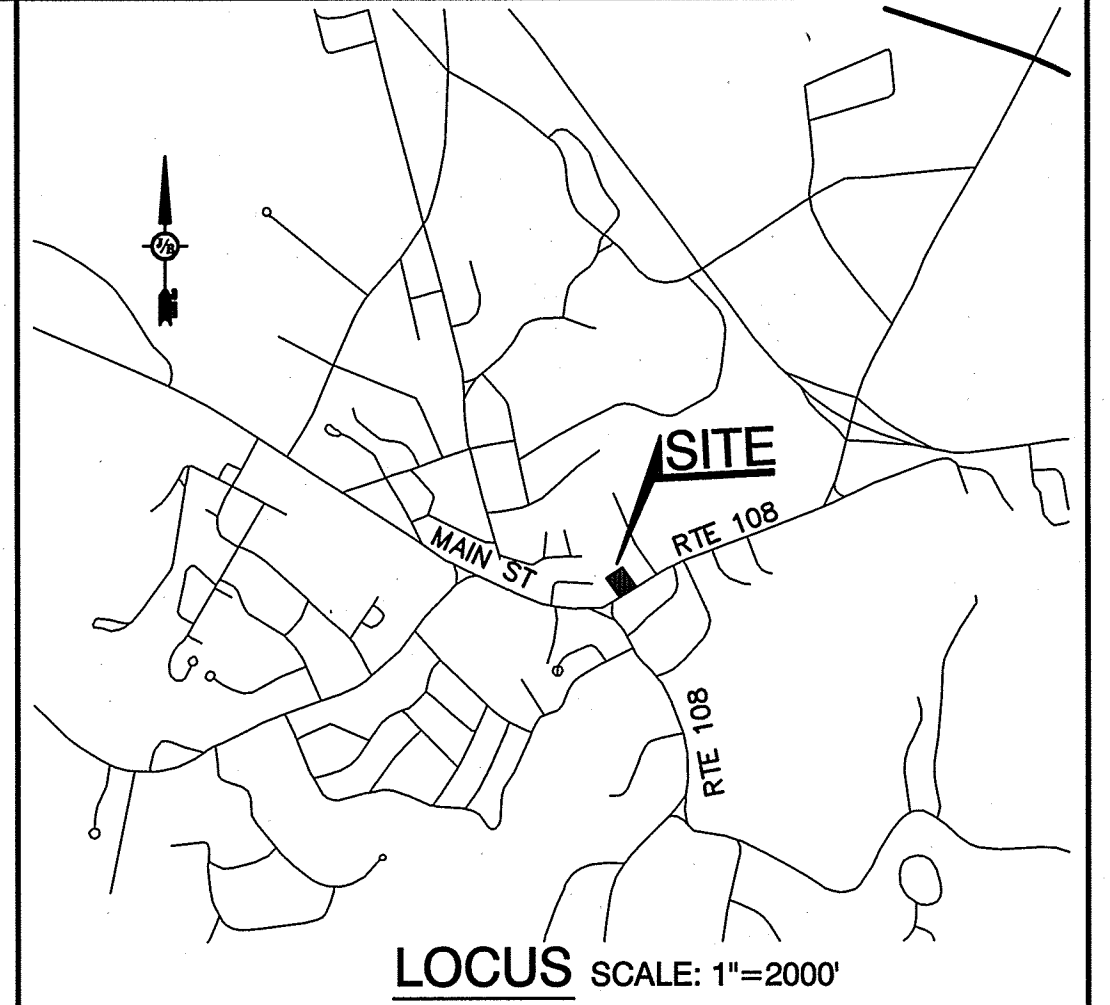
DRAWING No.	CS
SHEET 1 OF 10	JBE PROJECT NO. 14011

CUMBERLAND FARMS DURHAM, NH JBE # 14011 REVISION X.XXXXXX



PLAN REFERENCES

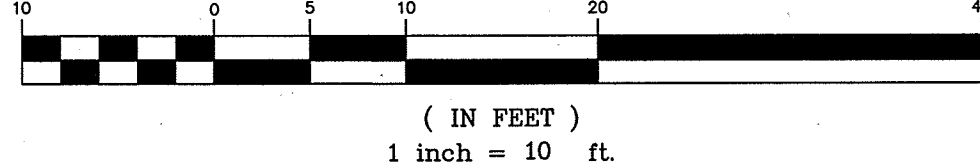
- "PLAN OF LAND FOR GULF OIL CO., DURHAM, NH" PREPARED BY GRANT L. DAVIS, LLS, G.L. DAVIS & ASSOCIATES, DATED APRIL 16, 1957.
- "AS BUILT ALTA SURVEY STORE #6867, PREPARED FOR CIRCLE K CORPORATION, DURHAM, NH," PREPARED BY RICHARD S. LADD, LLS, RSL LAYOUT & DESIGN, INC., DATED SEPTEMBER 26, 1989, S.C.R.D. PLAN #45-85.
- "PLAN OF LAND FOR ROBERTA D. GABRIEL, MAIN STREET, COUNTY OF STRAFFORD, DURHAM, NH," PREPARED BY RICHARD P. MILLETTE, LLS, RICHARD P. MILLETTE & ASSOCIATES, DATED JULY 21, 1993, S.C.R.D. PLAN #42-66.
- "RIGHT-OF-WAY PLANS, TOWN OF DURHAM, COUNTY OF STRAFFORD" PREPARED BY STATE OF NH, NHDOT ROW PLANS, SHEET 8 OF 13, DATED NOVEMBER 1998, S.C.R.D. PLAN #60-59.
- "PROPERTY LAYOUT, TOWN OF DURHAM, COUNTY OF STRAFFORD" PREPARED BY STATE OF NH, NHDOT ROW PLANS, SHEET 4 OF 12, DATED FEBRUARY 2000, S.C.R.D. PLAN #60-56.
- "RIGHT-OF-WAY PLANS, TOWN OF DURHAM, COUNTY OF STRAFFORD" PREPARED BY STATE OF NH, NHDOT ROW PLANS, SHEET 9 OF 13, DATED FEBRUARY 2000, S.C.R.D. PLAN #60-60.
- "EXISTING CONDITIONS PLAN OF TAX MAP 4, LOTS 50-53, MAIN STREET, DURHAM, NEW HAMPSHIRE," PREPARED BY WILLIAM J. DOUCET, LLS, DOUCET SURVEY INC, DATED JULY 17, 2001, S.C.R.D. PLAN #78-38.
- "AS-BUILT CONDOMINIUM SITE PLAN OF HOTEL NEW HAMPSHIRE CONDOMINIUM, TAX MAP 4, LOT 50, MAIN STREET (ROUTE 108), DURHAM, NEW HAMPSHIRE," PREPARED BY WILLIAM J. DOUCET, LLS, DOUCET SURVEY INC., DATED JULY 17, 2001, S.C.R.D. PLAN #86-01.
- "AS-BUILT PLAN, ASSESSORS MAP 5 LOT 4-2, 4 DOVER ROAD, ROUTE 108, DURHAM, NH 03024, PREPARED FOR COURTHOUSE VENTURES, LLC," PREPARED BY CHRISTOPHER FRANCHER, LLS, MHF DESIGN CONSULTANTS, INC., DATED AUGUST 24, 2006, NOT RECORDED.



EXISTING CONDITIONS NOTES:

- THIS PLAN IS INTENDED TO DEPICT THE EXISTING CONDITIONS OF MAP 4 LOT 49.
- ZONING DISTRICT: COURTHOUSE
LOT AREA MINIMUM = 5,000 SF
LOT FRONTAGE MINIMUM = 50'
BUILDING SETBACKS (MINIMUM):
FRONT SETBACK = 15'(MIN) 25' (MAX)
SIDE SETBACK = 10'
REAR SETBACK = 15'
MAXIMUM BUILDING = 30' (WITH PB APPROVAL 35%)
EXISTING IMPERVIOUS = 63.9%
- UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE (1-888-344-7233).
- VERTICAL DATUM: NGVD29. HORIZONTAL DATUM: NH GRID 83.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED 100 YEAR FLOOD HAZARD ZONE (ZONE X - AREAS OUTSIDE OF 0.2% ANNUAL CHANCE FLOODPLAIN). REFERENCE FEMA COMMUNITY PANEL NO. 33017 C 0318 D, DATED MAY 17, 2005.
- RESEARCH WAS PERFORMED AT THE TOWN OF DURHAM ASSESSORS OFFICE AND THE STRAFFORD COUNTY REGISTRY OF DEEDS.
- NO COMMISSIONERS RETURN OR TAKINGS WERE FOUND FOR THE SUBJECT PARCEL.
- THE TAX MAP AND LOT NUMBERS ARE BASED ON THE TOWN OF DURHAM TAX RECORDS AND ARE SUBJECT TO CHANGE.
- ALL BOOK AND PAGE NUMBERS REFER TO THE STRAFFORD COUNTY REGISTRY OF DEEDS.
- CERTAIN DATA HEREON MAY VARY FROM RECORDED DATA DUE TO DIFFERENCES IN DECLINATION, ORIENTATION, AND METHODS OF MEASUREMENT.
- THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO RETRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON.
- OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED OR PRESCRIPTIVE. ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL, TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATES ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES.
- THE SURVEY TIE LINES SHOWN ON THIS PLAN ARE NOT BOUNDARY LINES, THEY ONLY SHOULD BE USED TO LOCATE THE PARCEL SURVEYED FROM THE FOUND MONUMENTS SHOWN AND LOCATED BY SURVEY.
- LOCATION, DEPTH, SIZE, TYPE, EXISTENCE OR NONEXISTENCE OF UNDERGROUND UTILITIES AND/OR UNDERGROUND STORAGE TANKS WAS NOT VERIFIED BY THIS SURVEY.

GRAPHIC SCALE

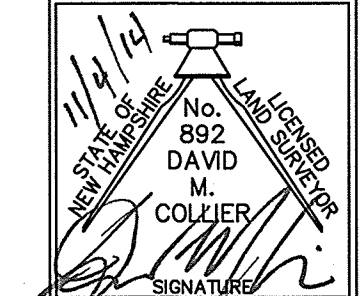


CERTIFICATION:

PURSUANT TO RSA 676:18-III AND RSA 672:14
I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEEDS BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.



DAVID M. COLLIER, LLS 892 DATE: 11/4/14
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

PROJECT PARCEL
TOWN OF DURHAM
TAX MAP 4, LOT 49

OWNER
CUMBERLAND FARMS, INC.
100 CROSSING BLVD, V 1015
FRAMINGHAM, MA 01702
BK 1095, PG 35

TOTAL LOT AREA
11,279 SQ. FT.
0.25 ACRES

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Design: BWG	Draft: GPC	Date: 05/30/14
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J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

Civil Engineering Services

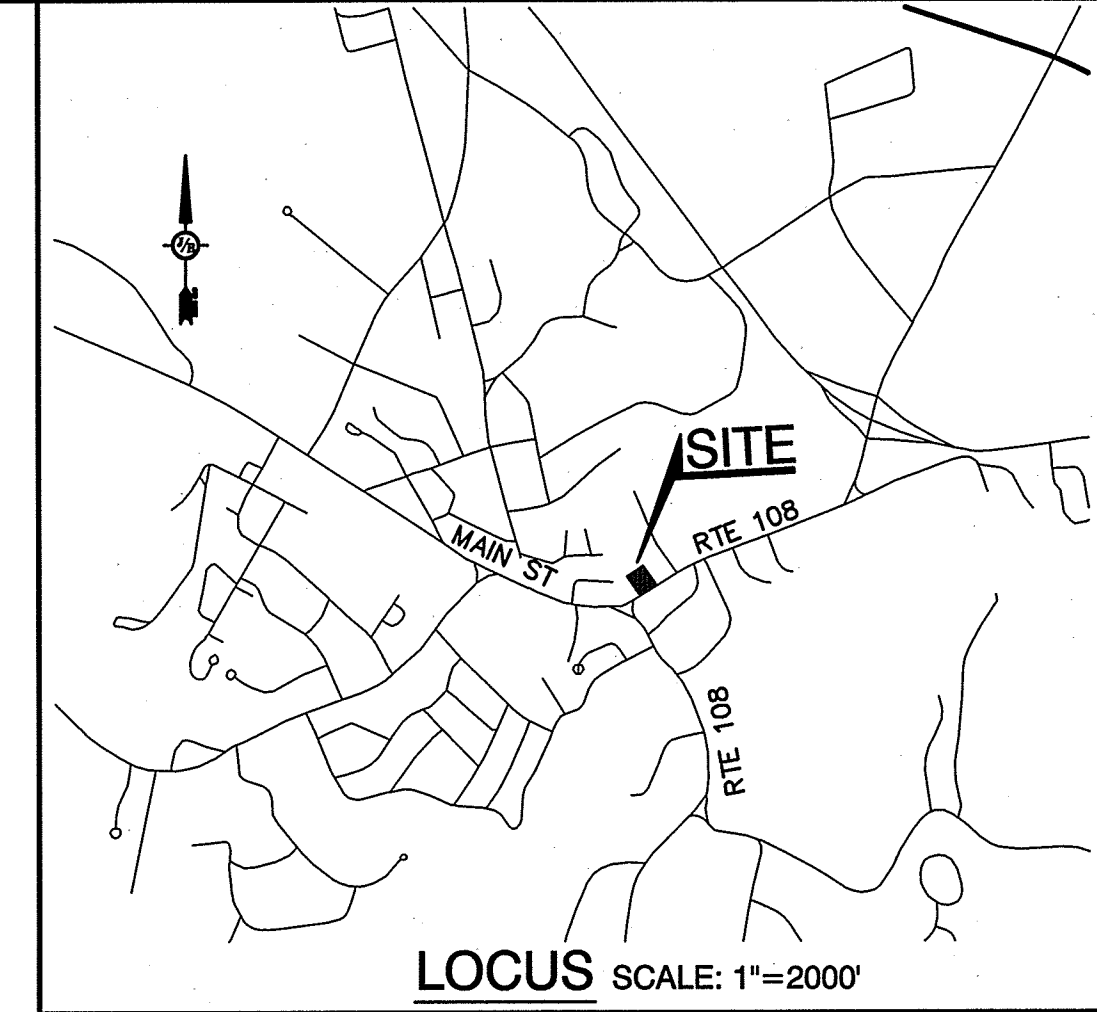
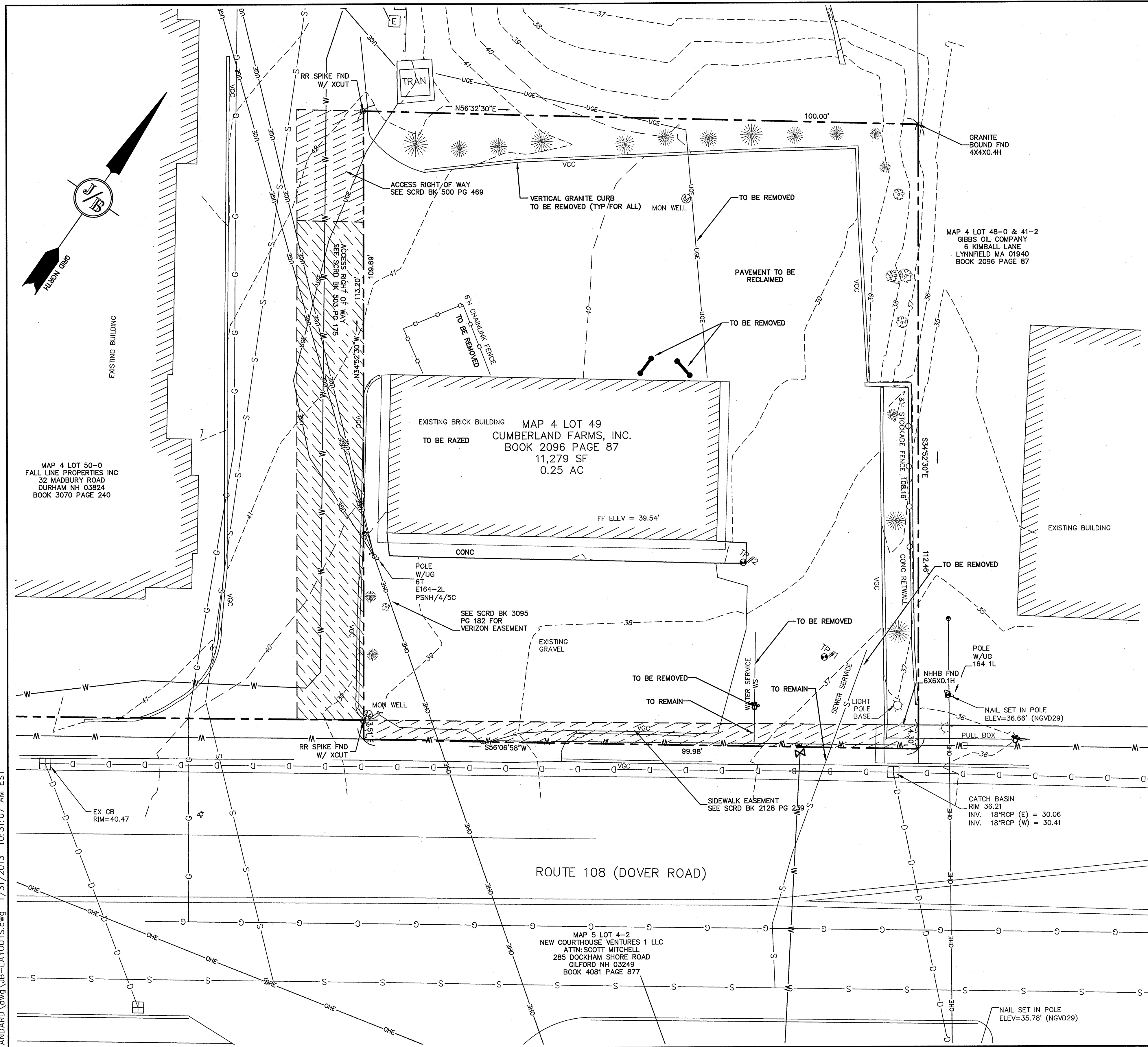
603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	EXISTING CONDITIONS PLAN
Project:	4-BAY CAR SERVICE 3 DOVER ROAD, ROUTE 108, DURHAM, NH
Applicant:	TROPIC STAR DEVELOPMENT, LLC 321D LAFAYETTE ROAD, HAMPTON, NH 03842

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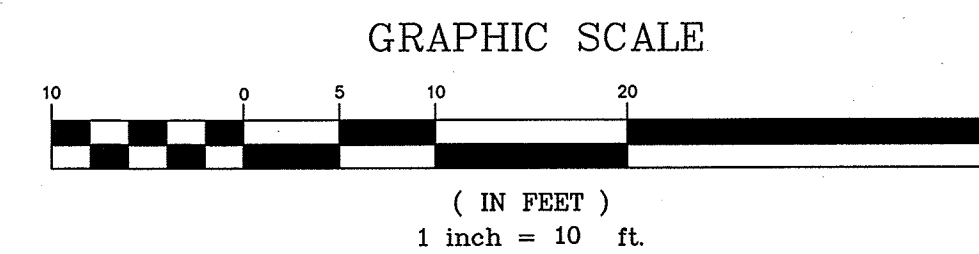
C1

SHEET 2 OF 10
JBE PROJECT NO. 14011



DEMOLITION NOTES:

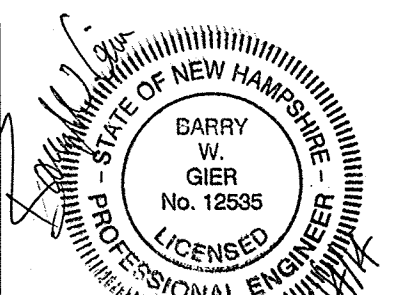
1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED. CLEARING LIMITS ARE THE EDGE OF THE PROPERTY AND THE LIMITS OF WORK.
2. ALL EXISTING STRUCTURES WITHIN THE CONSTRUCTION AREA, UNLESS OTHERWISE NOTED TO REMAIN, SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL GUIDELINES. ANY BURNING ON-SITE SHALL BE SUBJECT TO LOCAL ORDINANCES.
3. ALL EXISTING PAVED SURFACES WITHIN THE LIMITS OF WORK THAT ARE TO REMAIN SHALL BE RECLAIMED TO MINIMUM DEPTH OF 12" AND REGRADED AS SHOWN ON THE GRADING AND DRAINAGE PLAN. RECLAIMED ASPHALT SHALL CONFORM TO STATE SPECIFICATIONS. PRIOR TO REMOVAL, PAVEMENT SHALL BE SAWCUT AT ALL ENTRANCES AND LIMITS OF REMOVAL.
4. ALL EXISTING GRANITE CURBING TO BE REMOVED SHALL BE STOCKPILED IN AN AREA TO BE DESIGNATED BY THE OWNER OR OWNER'S REPRESENTATIVE. THE OWNER SHALL INSPECT GRANITE CURBING TO BE RESET AND APPROVE LOCATION OF RESET CURBING. THE CONTRACTOR SHALL NOT INSTALL USED CURBING AT ANY ENTRANCE LOCATIONS.
5. ALL EXISTING UTILITIES SHALL BE TERMINATED AT THE PROPERTY LINE, UNLESS OTHERWISE NOTED ON THE PLANS, IN CONFORMANCE WITH LOCAL, STATE AND UTILITY COMPANY STANDARDS, SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES PRIOR TO THE START OF WORK.
6. EXISTING WATERLINES AND HYDRANTS TO BE REMOVED SHALL BE CAPPED AT PROPERTY LINE.
7. EXISTING GAS SERVICE LINES ARE TO BE REMOVED ON-SITE UP TO EXISTING GAS MAIN LINES OR VALVES.
8. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL CONTAMINATED MATERIAL LOCATED IN THE AREA OF EXISTING LEACHFIELDS IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
9. ALL CURBING, CONCRETE, PAVEMENT, BUILDINGS AND SUB-BASE MATERIALS LOCATED WITHIN PROPOSED LANDSCAPED AREAS SHALL BE REMOVED AND REPLACED WITH LOAM MATERIALS SUITABLE FOR LANDSCAPING IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS. (SEE ALSO LANDSCAPE PLAN).
10. SEE LANDSCAPE PLAN FOR "TREES TO BE SAVED" AND DETAILS ASSOCIATED WITH LANDSCAPED AREAS.
11. THE CONTRACTOR SHALL OBTAIN TREE CLEARING PERMIT FROM LOCAL AND STATE AUTHORITIES PRIOR TO START OF CONSTRUCTION (IF REQUIRED).
12. CONTRACTOR SHALL HAVE THE OPTION TO REMOVE DRAINAGE/SEWER STRUCTURES, OR REMOVE MANHOLE FRAME AND GRATE/COVER TO A MINIMUM OF 36" BELOW FINISH GRADE, FRACTURE BOTTOM AND FILL WITH COMPACTED BORROW.
13. IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
14. EXISTING SANITARY SEWER LINE AND STRUCTURES LOCATED WITHIN THE EXISTING SEWER EASEMENTS SHALL BE MAINTAINED OR MODIFIED AS NOTED ON PLANS. SEWER LINES SHALL BE DISCONNECTED IN ACCORDANCE WITH LOCAL STANDARDS AND REGULATIONS.
15. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND ANY EARTH MOVING OPERATIONS. SILT FENCE SHALL BE INSTALLED AT THE LIMITS OF IMPACT AREAS ACCORDING TO THE DETAILS SHOWN ON SHEET E1.
16. EXCAVATED MATERIALS WILL BE PLACED WITHIN UPLAND AREAS AS FILL MATERIAL OR HAULED OFF-SITE FOR DISPOSAL IN AN APPROPRIATE UPLAND LOCATION.



PROJECT PARCEL TOWN OF DURHAM TAX MAP 4, LOT 49
OWNER CUMBERLAND FARMS, INC. 100 CROSSING BLVD, V 1015 FRAMINGHAM, MA 01702 BK 1095, PG 35
TOTAL LOT AREA 11,279 SQ. FT. 0.25 ACRES

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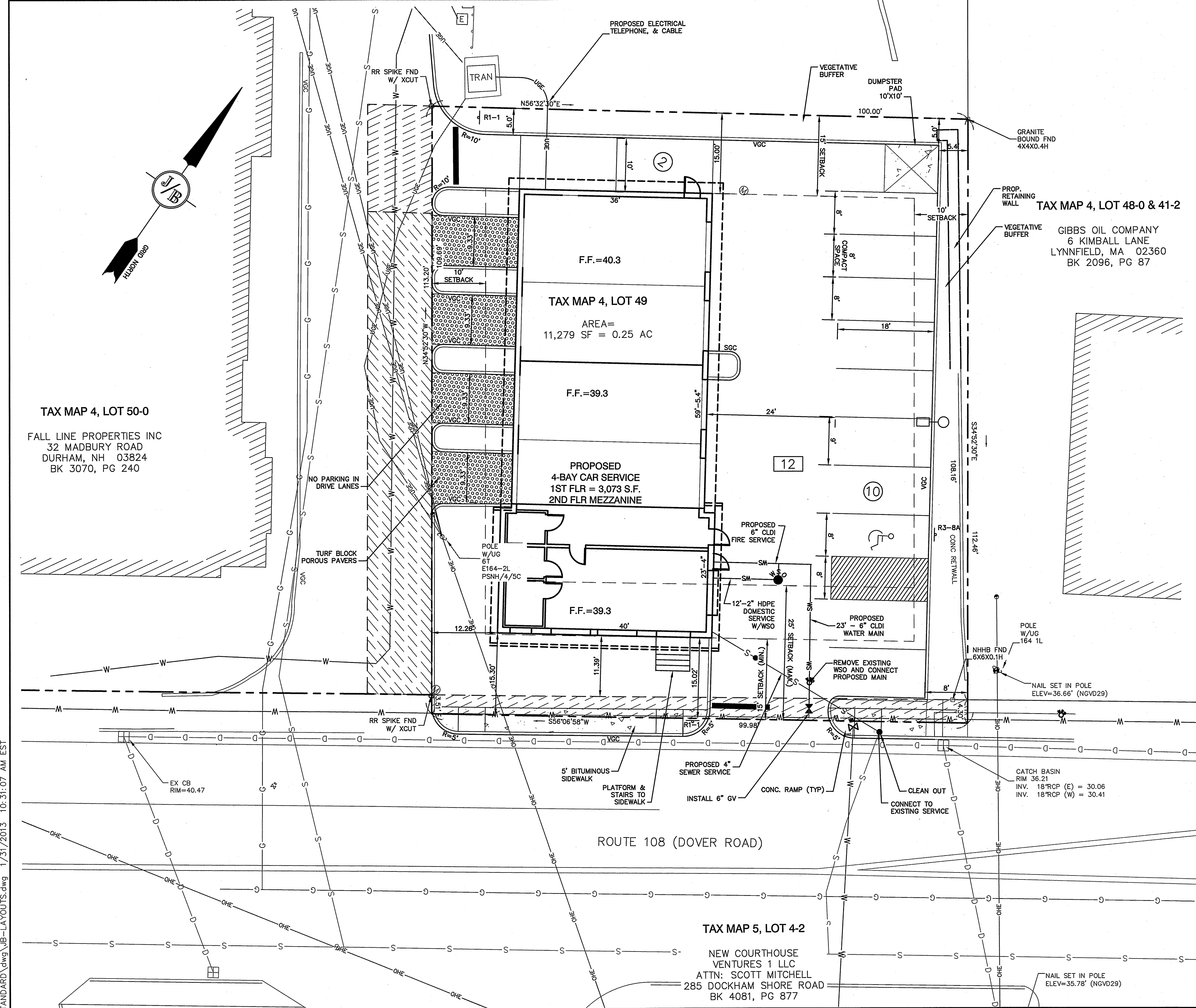
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

Civil Engineering Services

603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DEMOLITION PLAN
Project:	4-BAY CAR SERVICE 3 DOVER ROAD, ROUTE 108, DURHAM, NH
Applicant:	TROPIC STAR DEVELOPMENT, LLC 321D LAFAYETTE ROAD, HAMPTON, NH 03842

DRAWING No.	C2
SHEET 3 OF 10 JBE PROJECT NO. 14011	



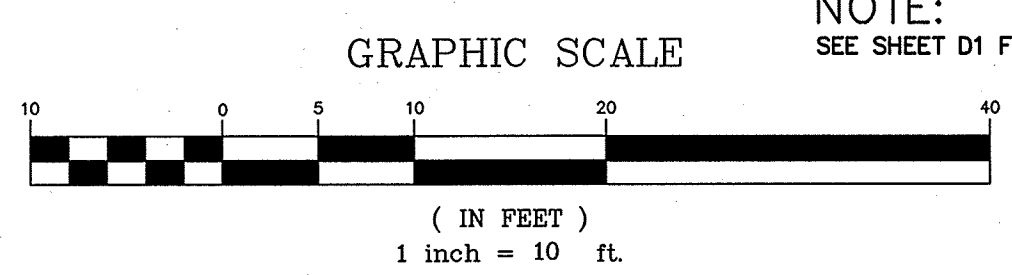
SITE NOTES:

- THE INTENT OF THIS PLAN IS TO REMOVE EXISTING STRUCTURES AS SHOWN, AND CONSTRUCT A FOUR BAY AUTOMOTIVE SERVICE STATION.
 - ZONING DISTRICT: COURTHOUSE
- | | | |
|--------------------------|--------------------------|------------------------|
| LOT AREA: | REQUIRED:
5,000 SF | PROPOSED:
11,279 SF |
| LOT FRONTAGE: | 50' | 99.98' |
| BUILDING SETBACKS: | | |
| FRONT SETBACK: | 25' (MAX.)
15' (MIN.) | 7.78' |
| SIDE SETBACK: | 10' | 10' |
| REAR SETBACK: | 15' | 15' |
| MAX. BUILDING HEIGHT: | 30' | |
| IMPERVIOUS SURFACE RATIO | 80% | 73.6% |
- PARKING CALCULATIONS:
3 SPACES PER BAY AND 1 SPACE PER 1 EMPLOYEE.
PROPOSED = 4 BAYS + 4 EMPLOYEES
TOTAL SPACES REQUIRED = 16
TOTAL SPACES PROVIDED = 12
 - TOTAL ON-SITE IMPERVIOUS AREA = 8,305 S.F.
 - THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS, INCLUDING ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED. CONTRACTOR TO ALWAYS CONTACT DIG SAFE PRIOR TO DIGGING ONSITE OR OFFSITE TO ENSURE SAFETY AND OBEY THE LAW.
 - ALL CONSTRUCTION SHALL CONFORM TO TOWN STANDARDS AND REGULATIONS, AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
 - PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
 - ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE TOWN ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
 - ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND NHDOT STANDARDS AND SPECIFICATIONS (NON-REFLECTORIZED PAVEMENT MARKINGS), UNLESS OTHERWISE NOTED.
 - ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL HAVE TWO COATS OF PAINT, ALKYD BASIN SYNTHETIC RESIN, FEDERAL SPECIFICATION TIP-115 TYPE 1, IN A COLOR OF WHITE.
 - ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS SHALL BE PAINTED IN A COLOR OF WHITE.
 - ALL CURBING TO BE SLOPED GRANITE WITH A MINIMUM RADIUS OF 2', UNLESS OTHERWISE NOTED.
 - ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE TO OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
 - SNOW TO BE STORED AT EDGE OF PAVEMENT AND IN AREAS SHOWN ON THE PLANS, OR TRUCKED OFFSITE TO AN APPROVED SNOW DUMPING LOCATION.
 - ROOF TOP HEATING AND AIR CONDITIONING UNITS (RTU's) SHALL BE DESIGNED TO VENT UPWARDS AND AIR INTAKES SHALL BE DIRECTED AWAY FROM ABUTTING NEIGHBORS.
 - DUMPSTERS AND/OR ROLL-OFFS ARE NOT TO BE PICKED UP BETWEEN 7:00 PM AND 7:00 AM.
 - ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.

TAX MAP 4, LOT 48-0 & 41-2
 GIBBS OIL COMPANY
 6 KIMBALL LANE
 LYNNFIELD, MA 02360
 BK 2096, PG 87

TAX MAP 4, LOT 50-0
 FALL LINE PROPERTIES INC
 32 MADBURY ROAD
 DURHAM, NH 03824
 BK 3070, PG 240

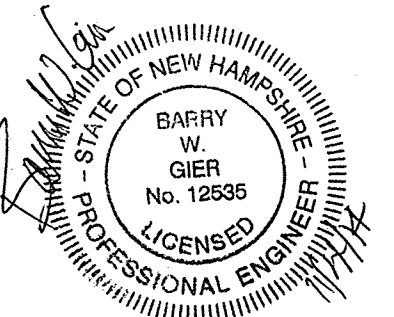
TAX MAP 5, LOT 4-2
 NEW COURTHOUSE
 VENTURES 1 LLC
 ATTN: SCOTT MITCHELL
 285 DOCKHAM SHORE ROAD
 BK 4081, PG 877



NOTE:
SEE SHEET D1 FOR UTILITY NOTES.

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Design: BWG	Draft: GPC	Date: 05/30/14
Checked: WGM	Scale: 1"=10'	Project No.: 14011
Drawing Name: 14011-PLAN.dwg		
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0	08/27/14	ISSUED FOR REVIEW	GPC

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

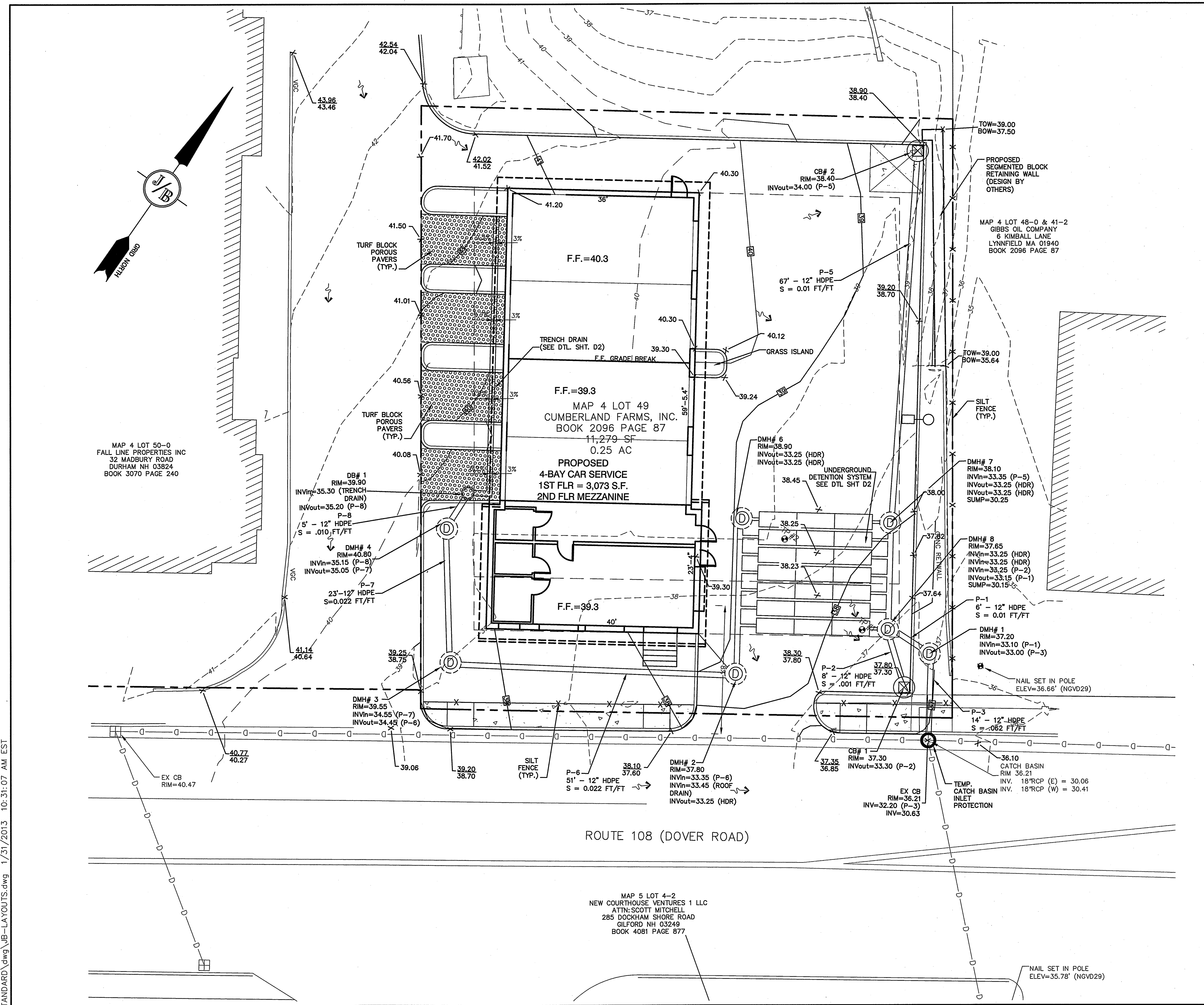
Plan Name:	SITE & UTILITY PLAN MAP 4, LOT 49
Project:	4-BAY CAR SERVICE 3 DOVER ROAD, ROUTE 108, DURHAM, NH
Applicant:	TROPIC STAR DEVELOPMENT, LLC 321D LAFAYETTE ROAD, HAMPTON, NH 03842

DRAWING No. **C3**

SHEET 4 OF 10
JBE PROJECT NO. 14011

GRADING AND DRAINAGE NOTES:

- UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 888-DIG-SAFE (888-344-7233).
- VERTICAL DATUM: NGVD 29.
- ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
- SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE CONSTRUCTION SEQUENCE ON SHEET E1.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT'S LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
- ALL ROOF DRAINS FROM BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT THE END. ALL EXTERIOR ROOF DOWNSPOUTS ARE TO BE INSTALLED WITH OVERFLOW DEVICES.
- DETENTION BASIN AND CONTRIBUTING AREA ARE TO BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THE DETENTION BASIN.
- PROPOSED RIM ELEVATIONS OF DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
- ALL SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER), UNLESS OTHERWISE SPECIFIED.
- ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS. CATCH BASINS SHALL HAVE 3' DEEP SUMPS WITH GREASE HOODS, UNLESS OTHERWISE NOTED.
- ALL DRAINAGE STRUCTURES SHALL BE PRECAST, UNLESS OTHERWISE SPECIFIED. SEE SHEET D2 FOR DRAINAGE DETAILS.
- ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC H20 LOADING AND SHALL BE INSTALLED ACCORDINGLY.
- IMMEDIATELY APPLY AND COMPACT STONE BASE FOR BUILDING PAD TO +/- 1/2" PRIOR TO EXCAVATING INTERIOR AND PERIMETER FOOTINGS.
- IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
- ALL DRAINAGE PIPE SHALL BE NON-PERFORATED ADS N-12 OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED.
- STONE INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS. SEE DETAIL WITHIN THE DETAIL SHEETS.
- LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY ALL GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE EPA SWPPP DURING CONSTRUCTION OPERATIONS.
- NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
- ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING.
- SHOULD CONSTRUCTION STOP FOR LONGER THAN 3 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
- MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.5" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
- THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
- SEDIMENT SHALL BE REMOVED FROM ALL SEDIMENT BASINS BEFORE THEY ARE 25% FULL.
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY BY ON-SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.
- SEE ALSO EROSION AND SEDIMENT CONTROL SPECIFICATIONS ON SHEET E1.



MAP 4 LOT 50-0
FALL LINE PROPERTIES INC
32 MADBURY ROAD
DURHAM NH 03824
BOOK 3070 PAGE 240

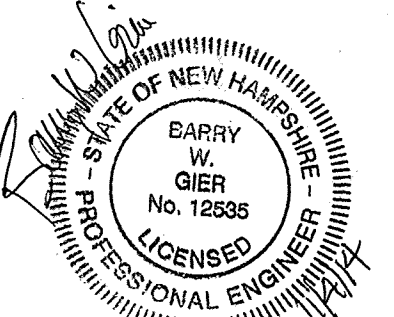
MAP 4 LOT 49
CUMBERLAND FARMS, INC.
BOOK 2096 PAGE 87
11,279 SF
0.25 AC
PROPOSED
4-BAY CAR SERVICE
1ST FLR = 3,073 S.F.
2ND FLR MEZZANINE

MAP 5 LOT 4-2
NEW COURTHOUSE VENTURES 1 LLC
ATTN: SCOTT MITCHELL
285 DOCKHAM SHORE ROAD
GILFORD NH 03249
BOOK 4081 PAGE 877

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PROJECT PARCEL TOWN OF DURHAM TAX MAP 4, LOT 49
OWNER CUMBERLAND FARMS, INC. 100 CROSSING BLVD, V 1015 FRAMINGHAM, MA 01702 BK 1095, PG 35
TOTAL LOT AREA 11,279 SQ. FT. 0.25 ACRES

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Drawing Name: 14011-PLAN.dwg		
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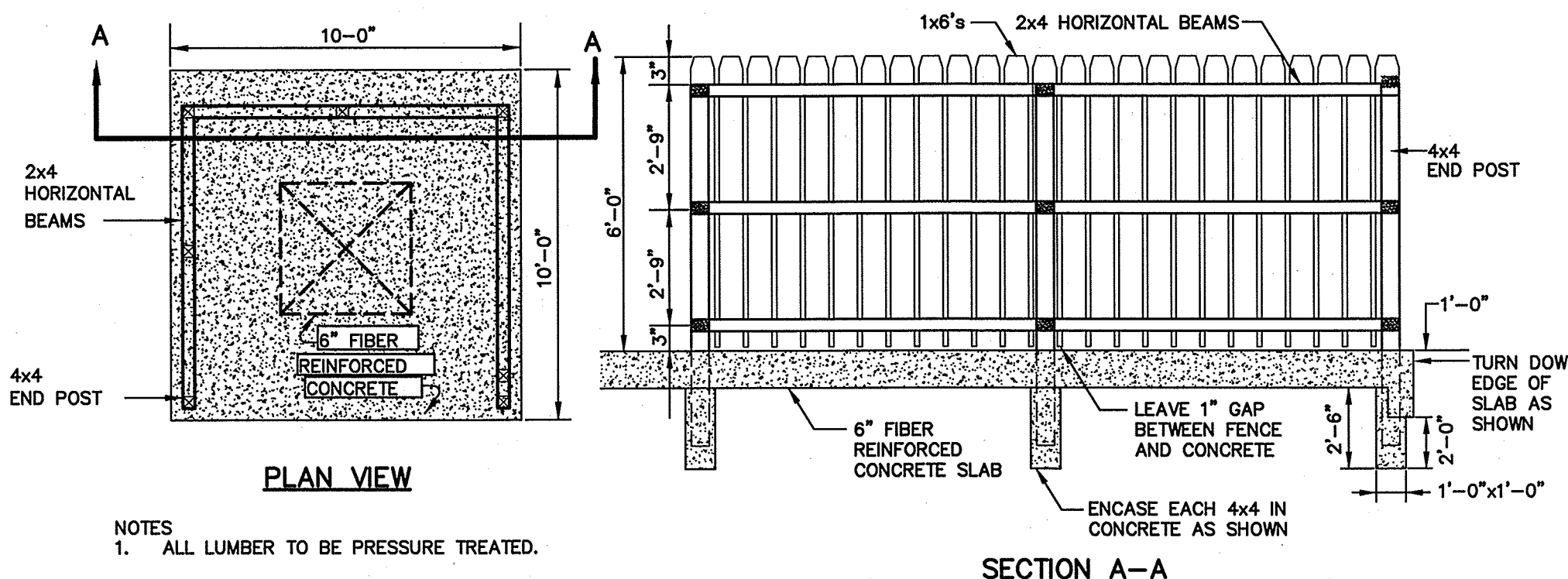
Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

603-772-4746
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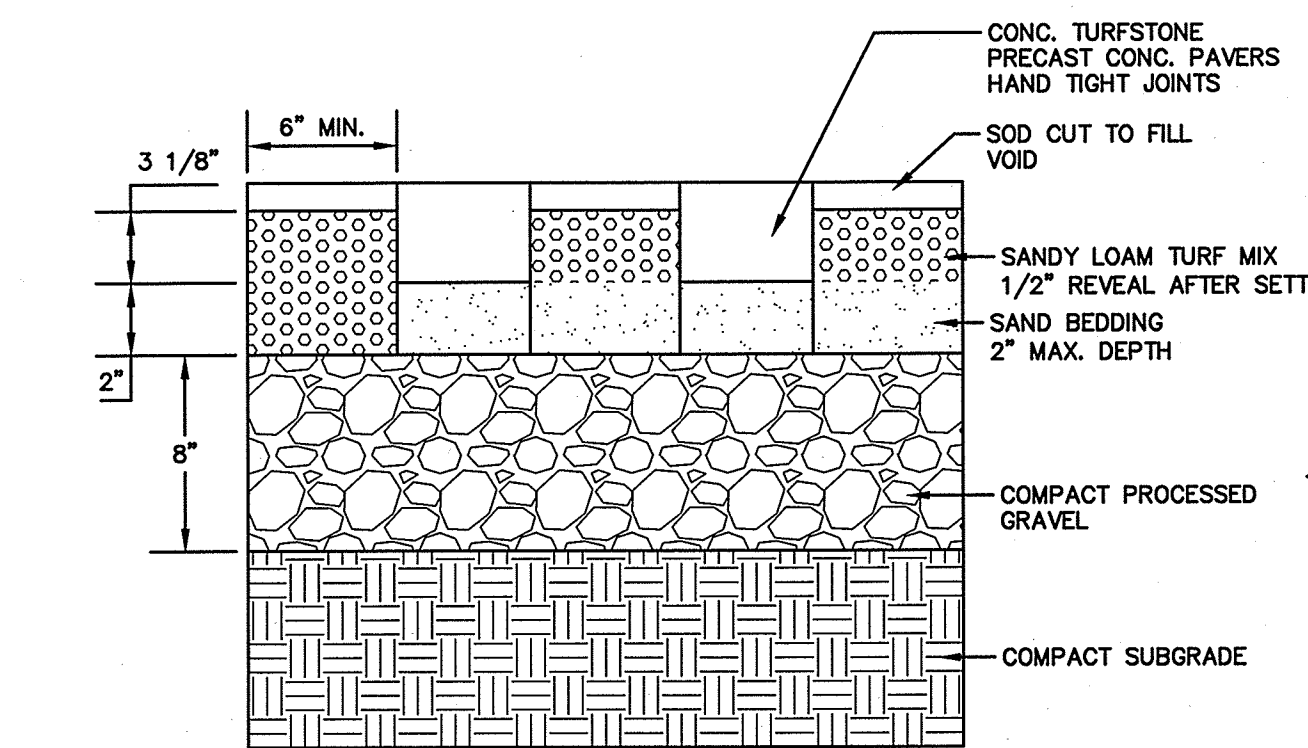
Plan Name:	GRADING AND DRAINAGE PLAN
Project:	4-BAY CAR SERVICE 3 DOVER ROAD, ROUTE 108, DURHAM, NH
Applicant:	TROPIC STAR DEVELOPMENT, LLC 321D LAFAYETTE ROAD, HAMPTON, NH 03842

DRAWING No.	C4
SHEET 5 OF 10	JBE PROJECT NO. 14011



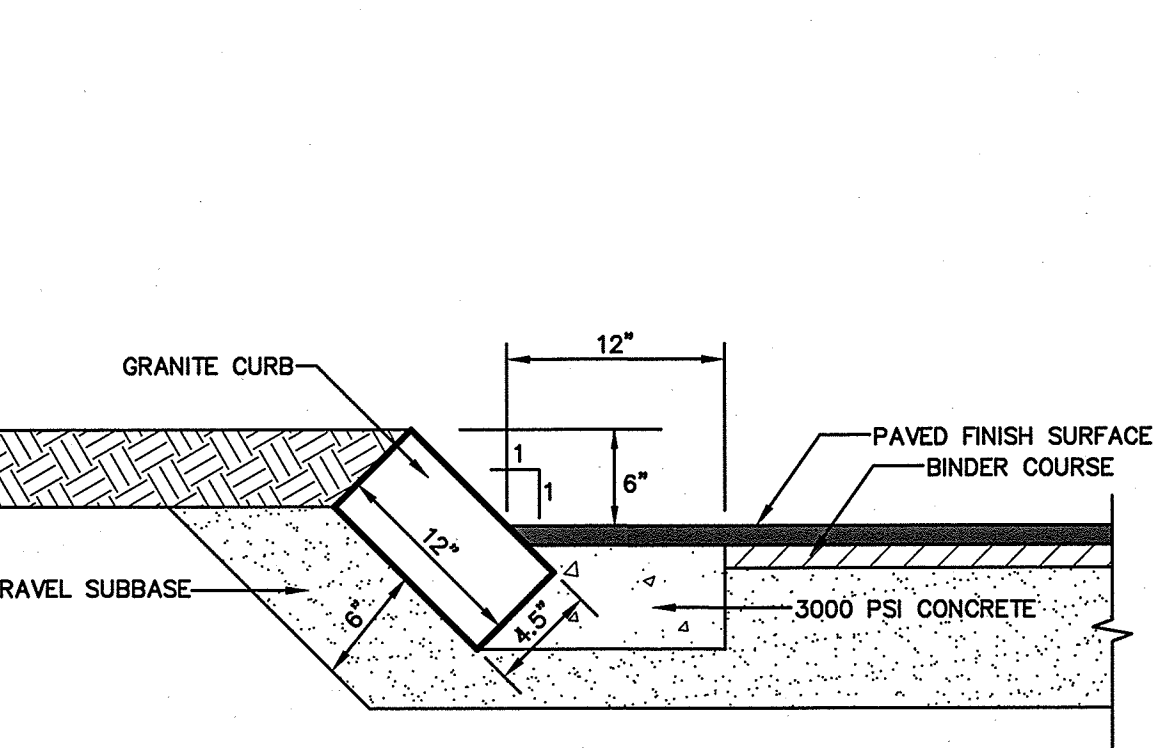
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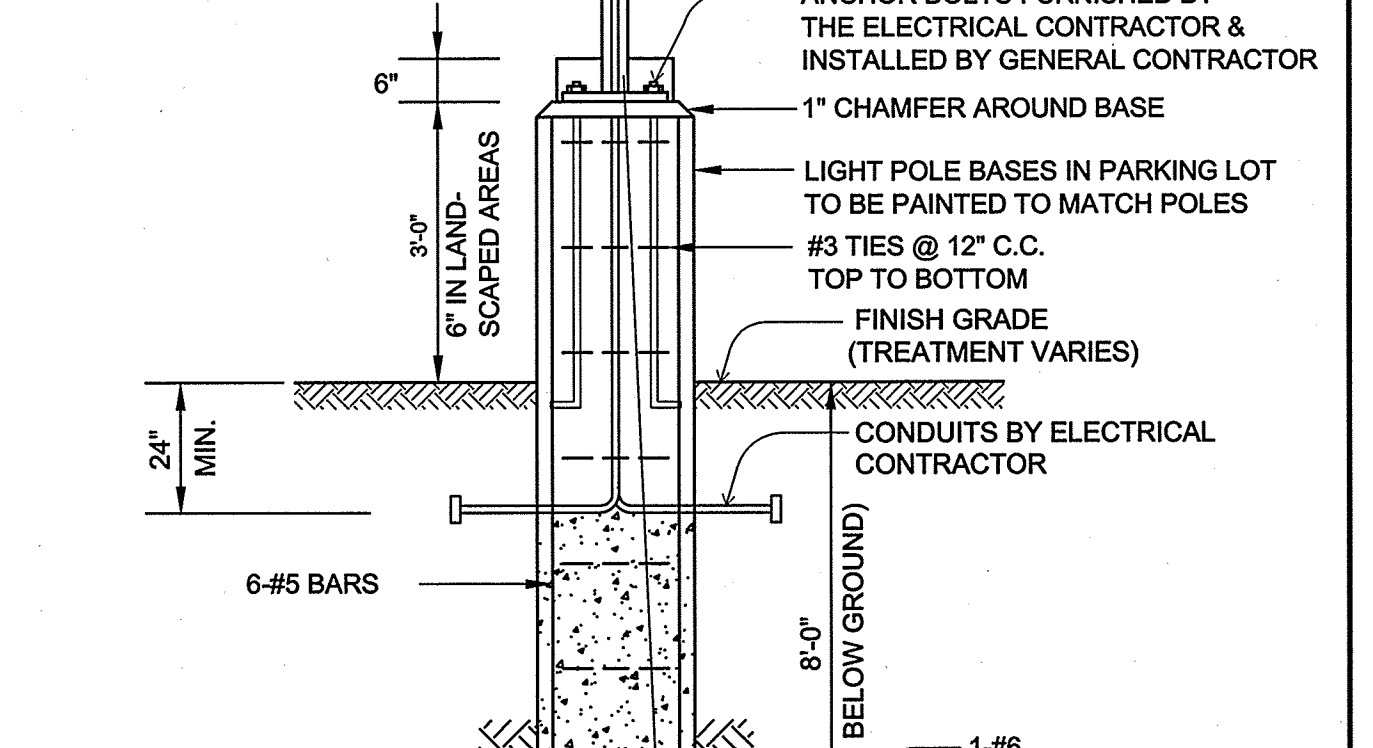
TURF BLOCK POROUS PAVERS

NOT TO SCALE



SLOPED GRANITE CURB

NOT TO SCALE



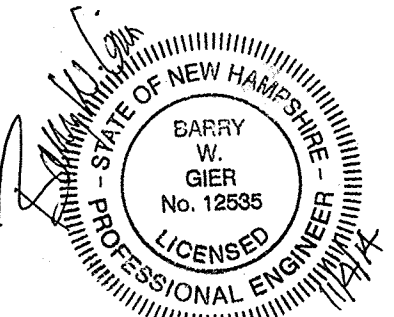
POLE FOUNDATION

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UTILITY NOTES:

- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, CONNECTION FEES AND BONDS.
- THE CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF FOURTEEN (14) DAYS TO ALL CORPORATIONS, COMPANIES AND/OR LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
- THE LOCATION, SIZE, DEPTH AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (ELECTRIC, TELEPHONE, CABLE TELEVISION, FIRE ALARM, GAS, WATER, AND SEWER).
- A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL PROJECT-RELATED UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
- ALL CONSTRUCTION SHALL CONFORM TO THE TOWN STANDARDS AND REGULATIONS, AND NHDES STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE STRINGENT, UNLESS OTHERWISE SPECIFIED.
- ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
- BUILDING TO BE SERVICED BY UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS. ENGINEER TO BE NOTIFIED.
- AS-BUILT PLANS SHALL BE SUBMITTED TO DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR TO PROVIDE UNDERDRAIN, AS NECESSARY, AT DISCRETION OF THE PROJECT ENGINEER.
- INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE THROUGH CHANNEL UNDERLAYMENT OF INVERT, AND SHELF SHALL CONSIST OF BRICK MASONRY.
- FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA. CLEAR OPENING. THE WORD "SEWER" OR "DRAIN" SHALL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS.
- SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H2O LOADS.
- CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS, SERVICES, AND FORCE MAINS.
- SANITARY SEWER FLOW CALCULATIONS:
8 EMPLOYEES @ 35 GPD/EMPLOYEES
TOTAL FLOW = 630 GPD
- PROPOSED RIM ELEVATIONS OF DRAINAGE AND SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE AS SHOWN ON THE GRADING AND DRAINAGE PLAN.
- ALL WATER MAINS AND SERVICE PIPES SHALL HAVE A MINIMUM 12" VERTICAL AND 24" HORIZONTAL SEPARATION TO MANHOLES, OR CONTRACTOR SHALL INSTALL BOARD INSULATION FOR FREEZING PROTECTION.
- WATER MAINS SHALL BE HYDROSTATICALLY PRESSURE TESTED FOR LEAKAGE PRIOR TO ACCEPTANCE. WATERMAINS SHALL BE TESTED AT 1.5 TIMES THE WORKING PRESSURE OR 150 PSI, WHICHEVER IS GREATER. TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C 600. WATERMAINS SHALL BE DISINFECTED AFTER THE ACCEPTANCE OF THE PRESSURE AND LEAKAGE TESTS ACCORDING TO AWWA STANDARD C 651.
- ALL WATER AND SANITARY LEADS TO BUILDING(S) SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT END.
- IF THE BUILDING IS REQUIRED TO HAVE A SPRINKLER SYSTEM, A PRECONSTRUCTION MEETING SHALL BE HELD BETWEEN THE CONTRACTOR, OWNER, ARCHITECT AND THE LOCAL FIRE DEPARTMENT PRIOR TO THE INSTALLATION.
- THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, MECHANICAL JOINTS AND FIRE HYDRANTS.
- DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING.
- REFER TO FIRE PROTECTION SHEETS FOR LOCATION AND DETAIL OF FIRE LINE LEAD IN TO BUILDING.
- FIRE LINE SHALL BE STUBBED UP 1' ABOVE FINISH FLOOR ELEVATION IN SPRINKLER ROOM.
- AN APPROVED AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH 101 LIFE SAFETY CODE/NFPA 1 AND LOCAL REGULATIONS. FIRE DEPARTMENT CONNECTION SHALL BE FIELD VERIFIED BY LOCAL FIRE DEPARTMENT TO ENSURE OPTIMUM PLACEMENT.
- THE CONTRACTOR SHALL HAVE THE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER FIRE PROTECTION SYSTEM PRIOR TO INSTALLATION.
- CONTRACTOR TO FURNISH SHOP DRAWINGS FOR UTILITY RELATED ITEMS TO ENSURE CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS SHOULD BE SENT IN TRIPPLICATE TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- EXISTING UTILITIES SHALL BE DIGSAFED BEFORE CONSTRUCTION.
- ALL WATER LINES SHOULD HAVE TESTABLE BACKFLOW PREVENTERS AT THE ENTRANCE TO EACH BUILDING.
- ENV-WQ 704.07 GRAVITY SEWER PIPE TESTING: GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY USE OF LOW-PRESSURE AIR TESTS CONFORMING WITH ASTM F1417-92(2005) OR UNI-BELL PVC PIPE ASSOCIATION UNI-B-6. LINES SHALL BE CLEANED AND VISUALLY INSPECTED AND TRUE TO LINE AND GRADE. DEFLECTION TESTS SHALL TAKE PLACE AFTER 30 DAYS FOLLOWING INSTALLATION AND THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 7 1/2% OF AVERAGE INSIDE DIAMETER.
- SANITARY SEWER LINES SHALL BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM AN EXISTING OR PROPOSED WATER LINE. WHEN A SEWER LINE CROSSES UNDER A WATER LINE, THE SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATERMAIN. THE SEWER LINE SHALL ALSO MAINTAIN A VERTICAL SEPARATION OF NOT LESS THAN 18 INCHES.
- SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6 FEET BELOW GRADE IN ALL ROADWAY LOCATIONS, AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS-COUNTRY LOCATIONS. PROVIDE TWO-INCHES OF R-10 FOAM BOARD INSULATION 2'-FOOT WIDE TO BE INSTALLED 6-INCHES OVER SEWER PIPE IN AREAS WHERE DEPTH IS NOT ACHIEVED. A WAIVER FROM THE DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER ENGINEERING BUREAU IS REQUIRED PRIOR TO INSTALLING SEWER AT LESS THAN MINIMUM COVER.
- SEWER AND WATER INFRASTRUCTURE ON PRIVATE PROPERTY IS TO REMAIN PRIVATE, HOWEVER, THE TOWN RESERVES THE RIGHT TO ENTER THE PROPERTY IN ORDER TO INSPECT, REPAIR AND/OR TERMINATE INDIVIDUAL SEWER OR WATER SERVICES (AT OWNER'S EXPENSE). THIS RIGHT IS TO BE CONVEYED TO THE TOWN IN THE SITE'S DECLARATION OF CONDOMINIUM DOCUMENTS, AND IN ALL INDIVIDUAL DEEDS.
- ALL WATER AND SANITARY LEADS TO BUILDING(S) SHALL END AT RIGHT OF WAY AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT END.
- THE CONTRACTOR SHALL MAINTAIN WATER SERVICE TO USERS AT ALL TIMES. REQUIREMENTS BY THE TOWN WATER DEPARTMENT REGARDING NOTIFICATION FOR INTERRUPTION OF SERVICE SHOULD BE INCLUDED (TYPICALLY 24 HOURS) AND ALLOWABLE INTERRUPTION DURATION. WATER TESTING AND DISINFECTION REQUIREMENTS SHALL BE PERFORMED IN ACCORDANCE WITH TOWN AND NHDES REGULATIONS.
- ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.

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85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

Civil Engineering Services

603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **DETAIL SHEET**

Project: **4-BAY CAR SERVICE**
3 DOVER ROAD, ROUTE 108, DURHAM, NH

Applicant: **TROPIC STAR DEVELOPMENT, LLC**
321D LAFAYETTE ROAD, HAMPTON, NH 03842

DRAWING No. **D1**

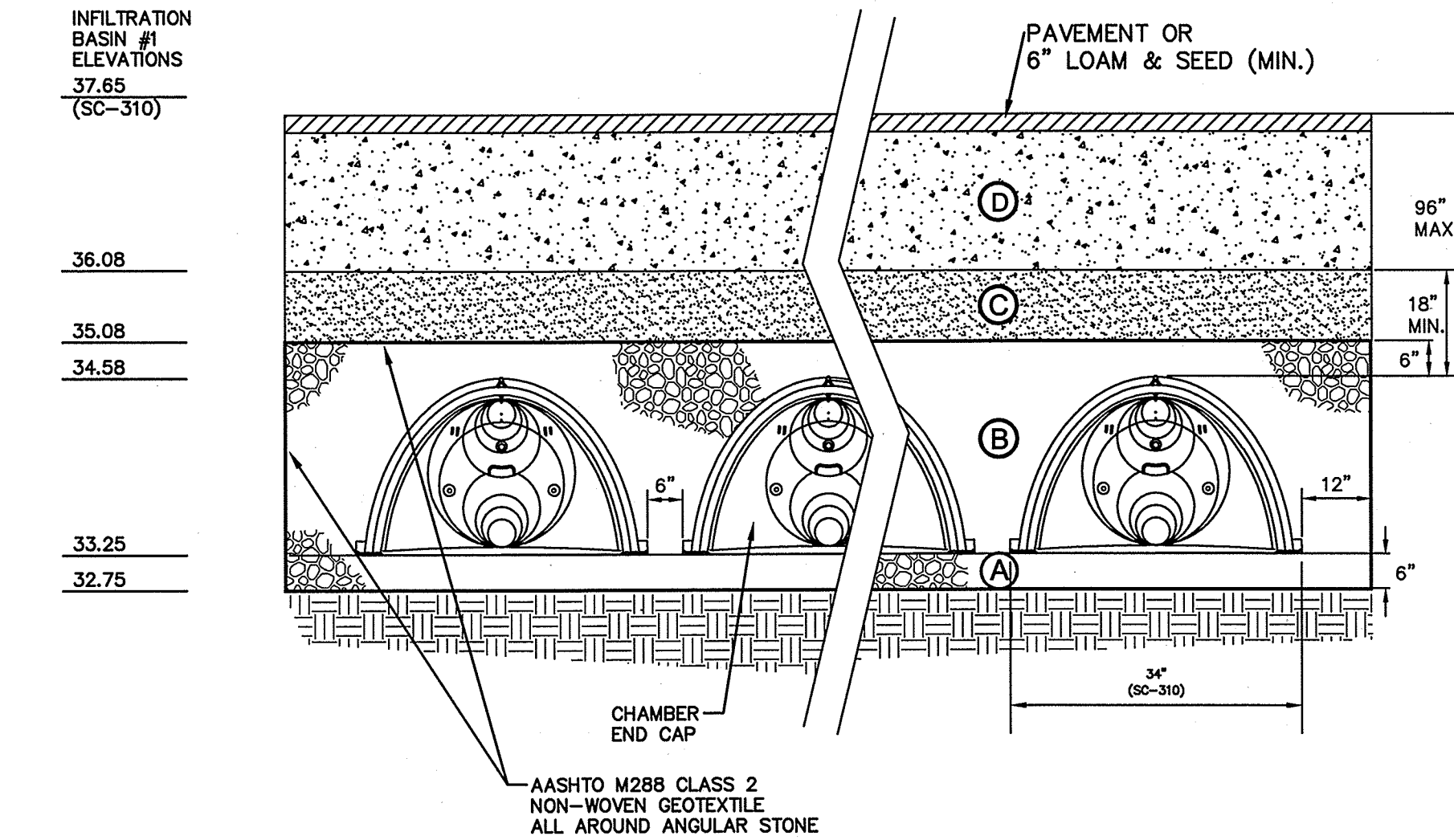
SHEET 7 OF 10
JBE PROJECT NO. 14011

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**ACCEPTABLE FILL MATERIALS
STORMTECH SC-310 AND SC-740 CHAMBER SYSTEMS**

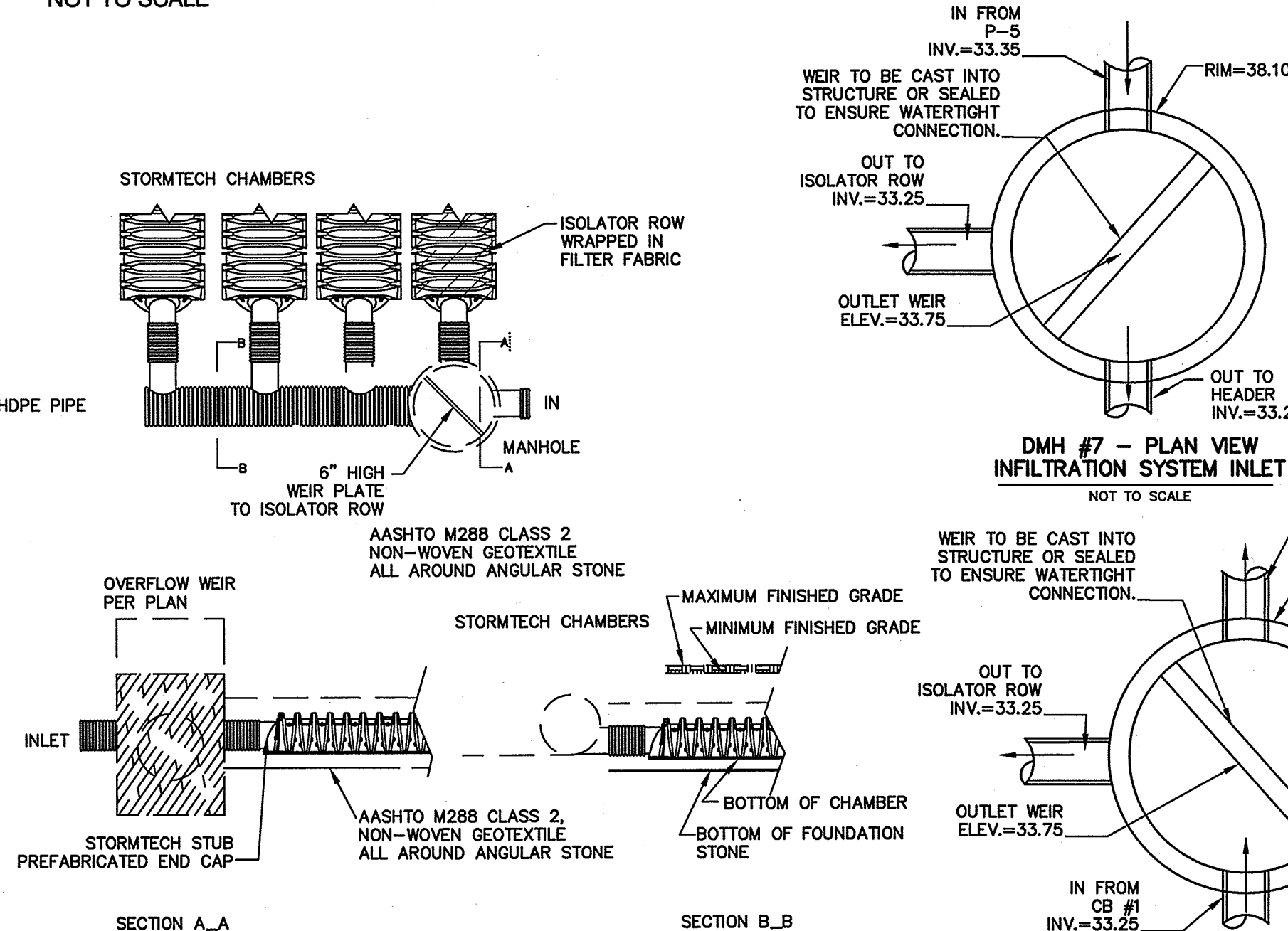
MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION	AASHTO M145 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
(D) PAVEMENT SUBGRADE, DEPTHS PER SPECIFICATIONS	PAVEMENT SUBGRADE, MATERIALS PER SPECIFICATIONS	N/A	N/A	PREPARE PER SPECIFICATIONS AND PLANS. PAVED INSTALLATIONS HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
(C) FILL MATERIAL FROM 6" ABOVE CHAMBERS TO BOTTOM OF PAVEMENT SUBGRADE	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 88, 9, 10	A-1 A-2 A-3	COMPACT IN 6" LIFTS TO A MINIMUM 95% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 LBS.
(B) EMBEDMENT STONE SURROUNDING AND TO A 6" ELEVATION ABOVE CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	NO COMPACTION REQUIRED
(A) 6" FOUNDATION STONE BELOW CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY

PLEASE NOTE: THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE WASHED CRUSHED ANGULAR. FOR EXAMPLE, THE STONE MUST BE SPECIFIED AS WASHED, CRUSHED, ANGULAR NO. 4 STONE.



STORMTECH CHAMBER DETAIL

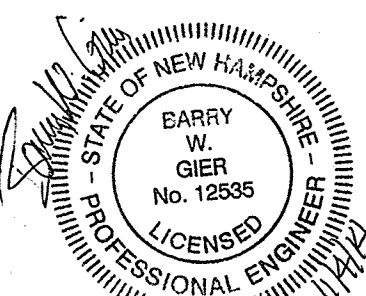
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STORMTECH DETAIL FOR CHAMBERS

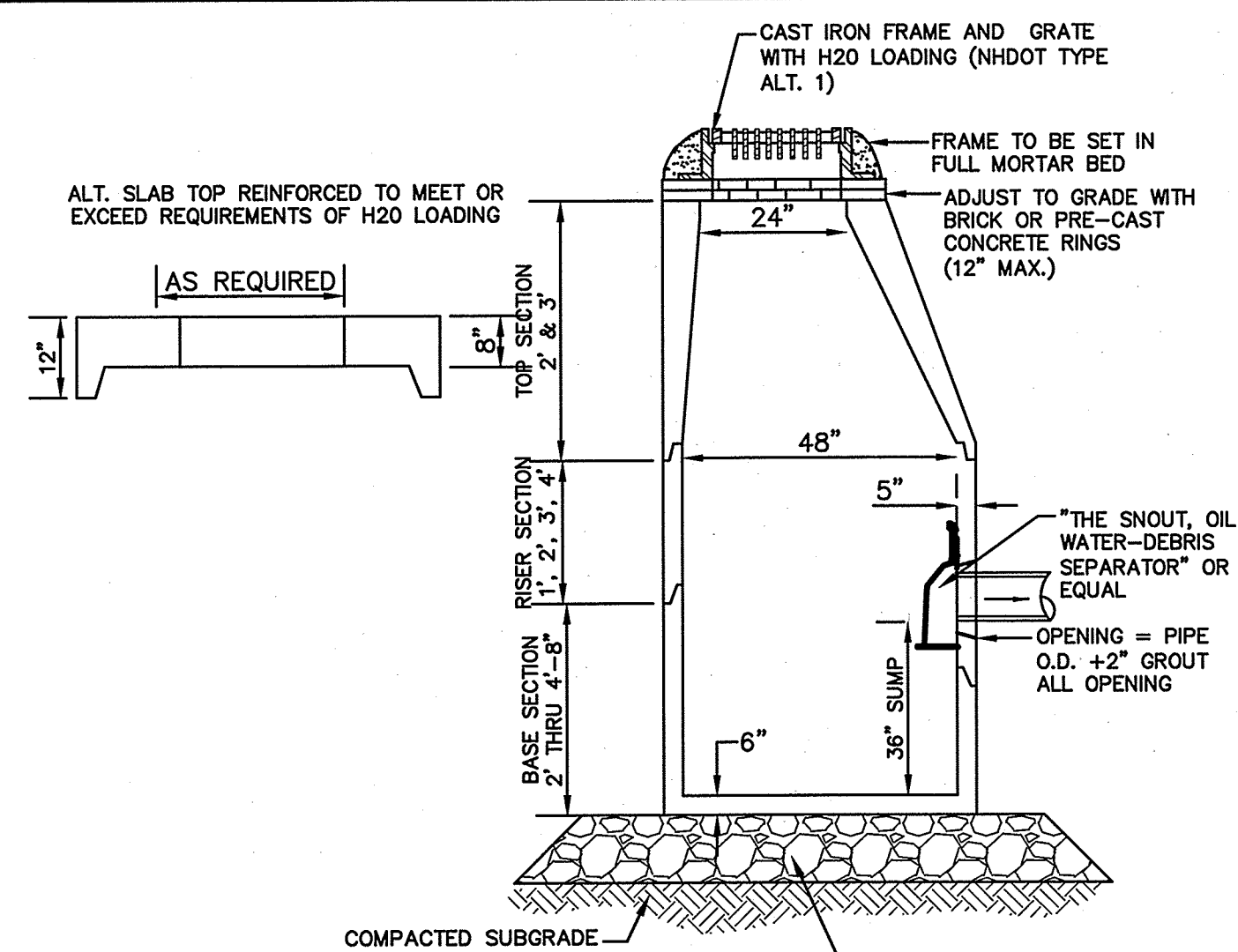
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STORMTECH GENERAL NOTES

- STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
- STORMTECH OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICE DEPARTMENT OR LOCAL STORMTECH REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL 860-529-8188 TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
- STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 24 INCHES NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 6.5 FEET INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 6.5 FEET.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
- THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
- STORMTECH PRODUCT WARRANTY IS LIMITED. CONTACT STORMTECH FOR WARRANTY INFORMATION.

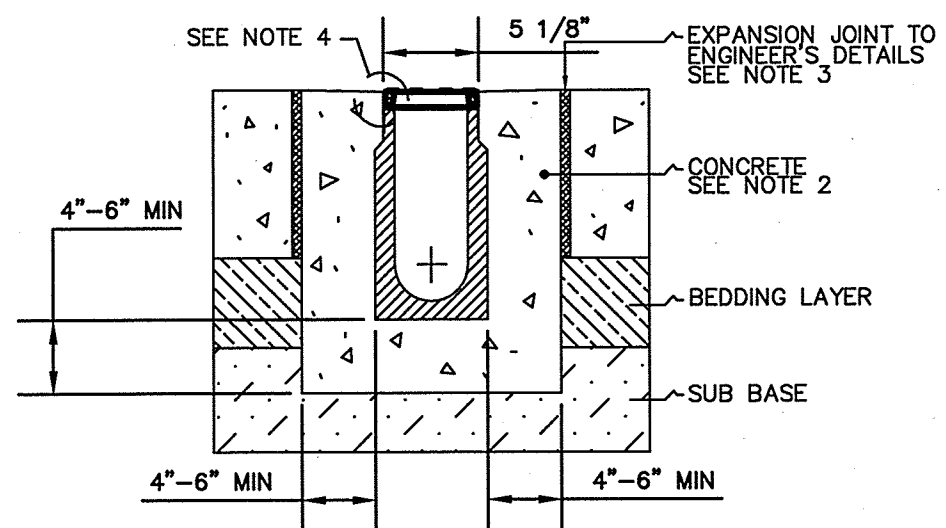


NOTES:

- BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
- ALL SECTIONS SHALL BE DESIGNED FOR H2O LOADING.
- CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
- FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H2O LOADING.
- PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
- JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
- ALL CATCH BASIN FRAMES AND GRATES SHALL BE NHDOT CATCH BASIN TYPE ALTERNATE 1 OR NEENAH R-3570 OR APPROVED EQUAL (24"x24" TYPICAL).
- STANDARD CATCH BASIN FRAME AND GRATE(S) SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE 'DONUTS'.
- ALL CATCH BASINS ARE TO BE FITTED WITH GREASE HOODS.

CATCH BASIN WITH GREASE HOOD

NOT TO SCALE



NOTES:

- IT IS NECESSARY TO ENSURE THE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR THE EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE REQUIRED.
 - A MINIMUM CONCRETE STRENGTH OF 3000 PSI IS RECOMMENDED. THE CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
 - EXPANSION AND CRACK CONTROL JOINTS ARE RECOMMENDED TO PROTECT THE CHANNEL AND THE CONCRETE SURROUND.
 - ENGINEERING ADVICE MAY BE REQUIRED.
 - THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" ABOVE THE TOP OF THE CHANNEL EDGE.
 - REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR COMPLETE DETAILS.
- THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K100S CHANNEL SYSTEM WITH GALVANIZED STEEL OR STAINLESS STEEL K-RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC., CHARDON, OH.
- CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL OR STAINLESS STEEL EDGE RAIL.
- THE SYSTEM SHALL BE 4 INCHES (100MM) NOMINAL INSIDE WIDTH WITH A 6.1 IN. (155MM) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.6%.
- ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT. EACH CHANNEL SHALL HAVE PREFORMED 4 IN. (100MM) ROUND AND 6 IN. (150MM) OVAL DRILL OUTS ON THE BOTTOM FOR VERTICAL CONNECTION WITH UNDERGROUND PIPING.
- THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.
- CHANNEL SHALL WITHSTAND LOADING TO LOAD CLASS E *(DIN 19 580). GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED BY MEANS OF EITHER A BOLTLESS LOCKING "QUICKLOK" DEVICE OR LOCKING BOLT AND BAR. CHANNEL AND GRATE SHALL BE INDEPENDENTLY CERTIFIED TO MEET THE SPECIFIED DIN 19580 LOAD CLASS.
- POLYMER CONCRETE SHALL HAVE MATERIAL PROPERTIES OF: COMPRESSIVE STRENGTH RANGE BETWEEN 14,000-14,500 PSI; FLEXURAL STRENGTH BETWEEN 3600-4500 PSI; TENSILE STRENGTH OF 1500 PSI. THE MATERIAL WATER ABSORPTION RATE SHALL NOT EXCEED 0.1% BY WEIGHT AND SHALL BE RESISTANT TO PROLONGED SALT EXPOSURE, REPETITIVE FROST CYCLES AND CHEMICALLY RESISTANT TO DILUTE ACIDS AND ALKALIS.
- THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. *FILL IN AS REQUIRED.

TRENCH DRAIN SYSTEM

NOT TO SCALE

REV.	DATE	REVISION	BY
1	11/04/14	REVISED PER TRC COMMENTS	BWG
0	08/27/14	ISSUED FOR REVIEW	GPC

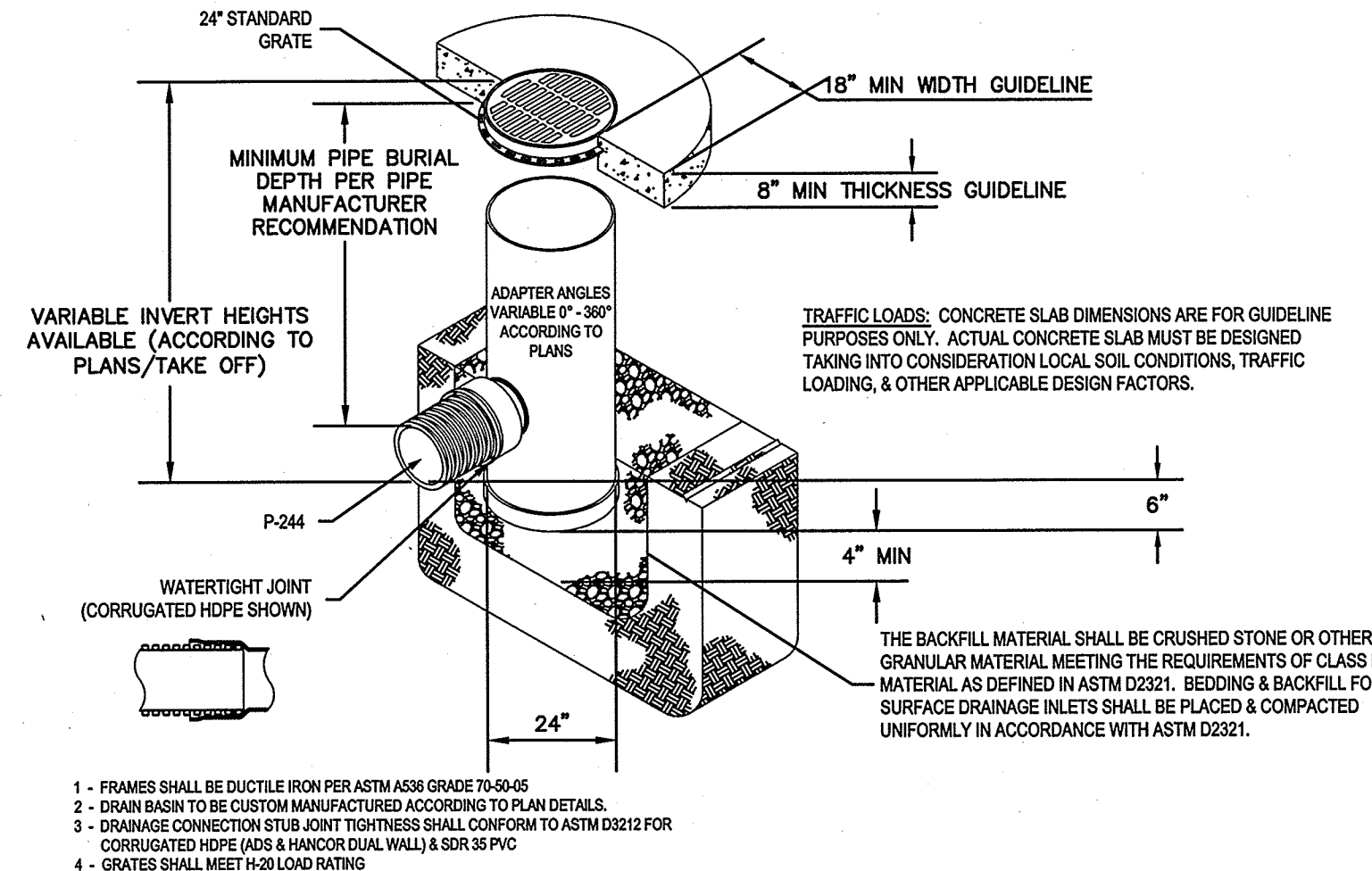
Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

Civil Engineering Services

603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

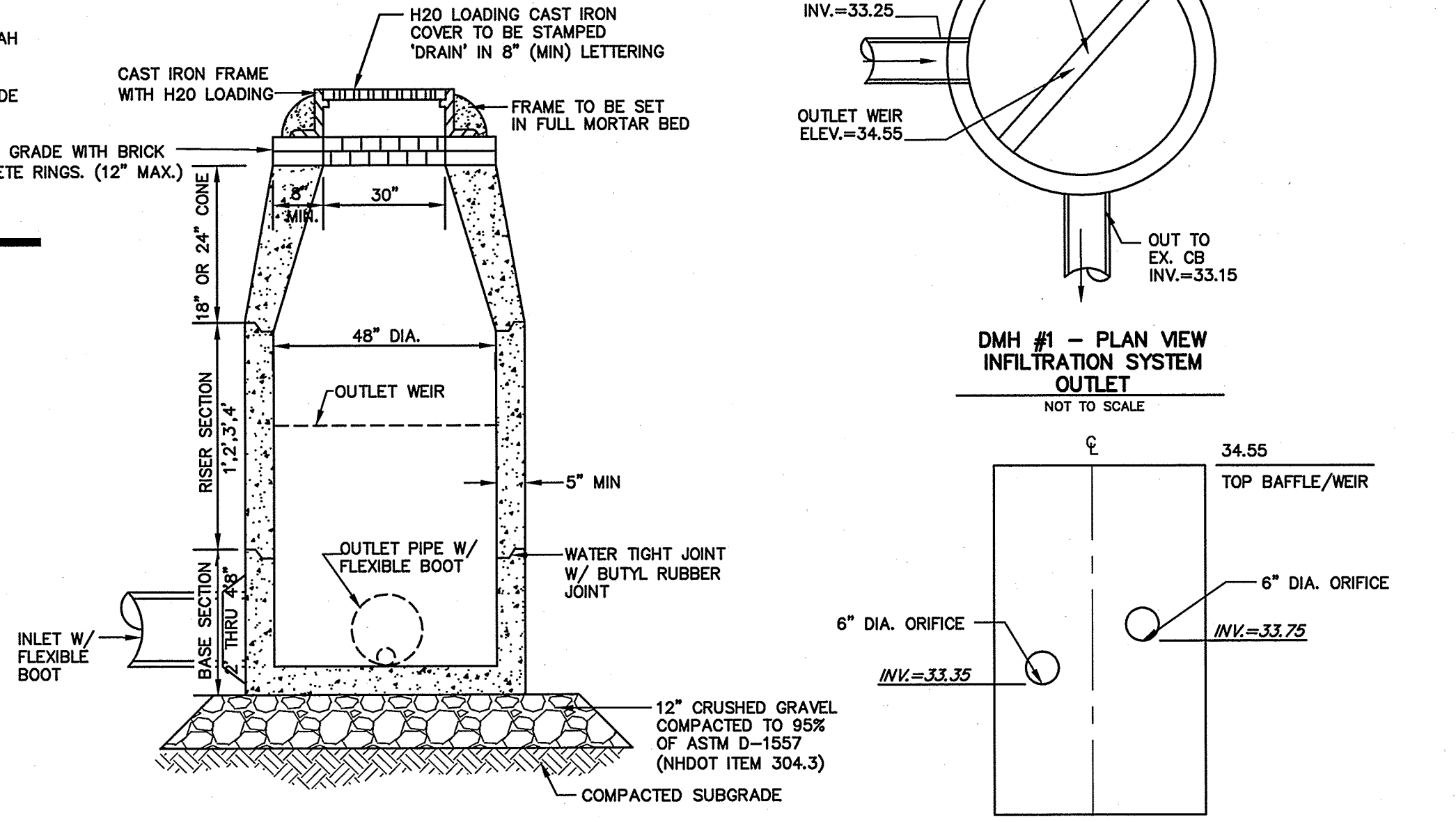


NYLOPLAST DRAIN BASIN (DB #1)

NOT TO SCALE

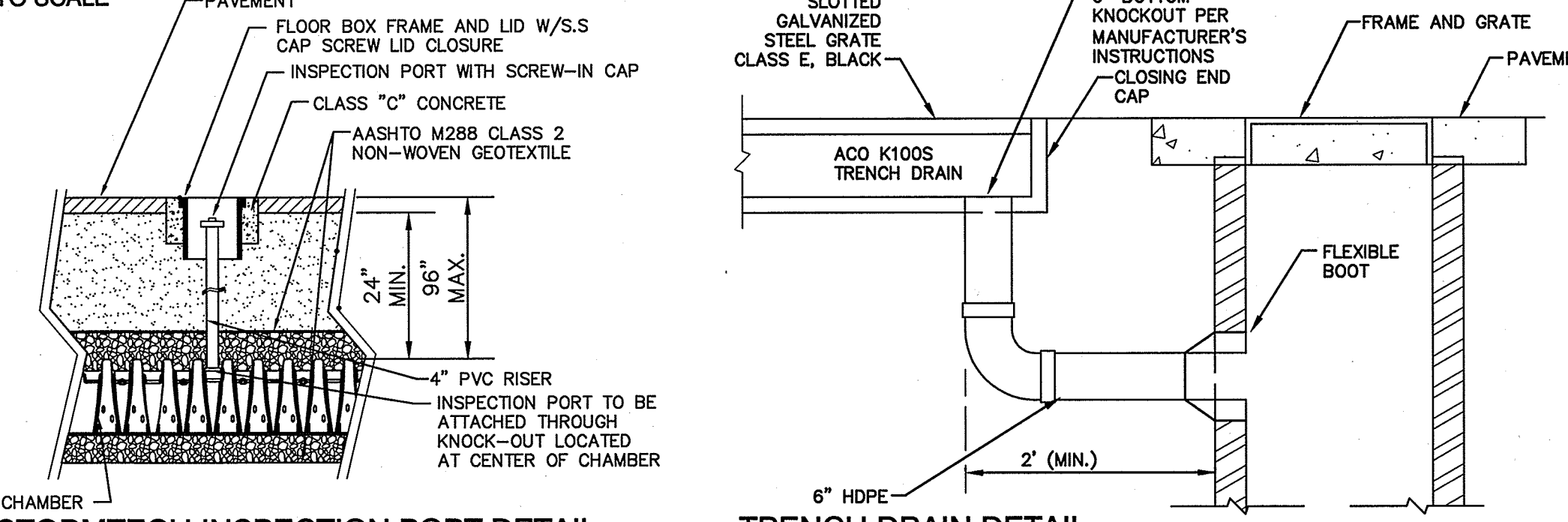
NOTES:

- OUTLET WEIRS TO BE KEVED INTO SIDES AND BOTTOM OF DRAIN MANHOLE AND MADE WATERTIGHT.
- WEIRS TO BE WATERTIGHT AND CONSTRUCTED WITH 2" THICK PLASTIC PLATE (OR APPROVED EQUAL).



DRAIN MANHOLE WITH OUTLET WEIR

NOT TO SCALE



STORMTECH INSPECTION PORT DETAIL

NOT TO SCALE

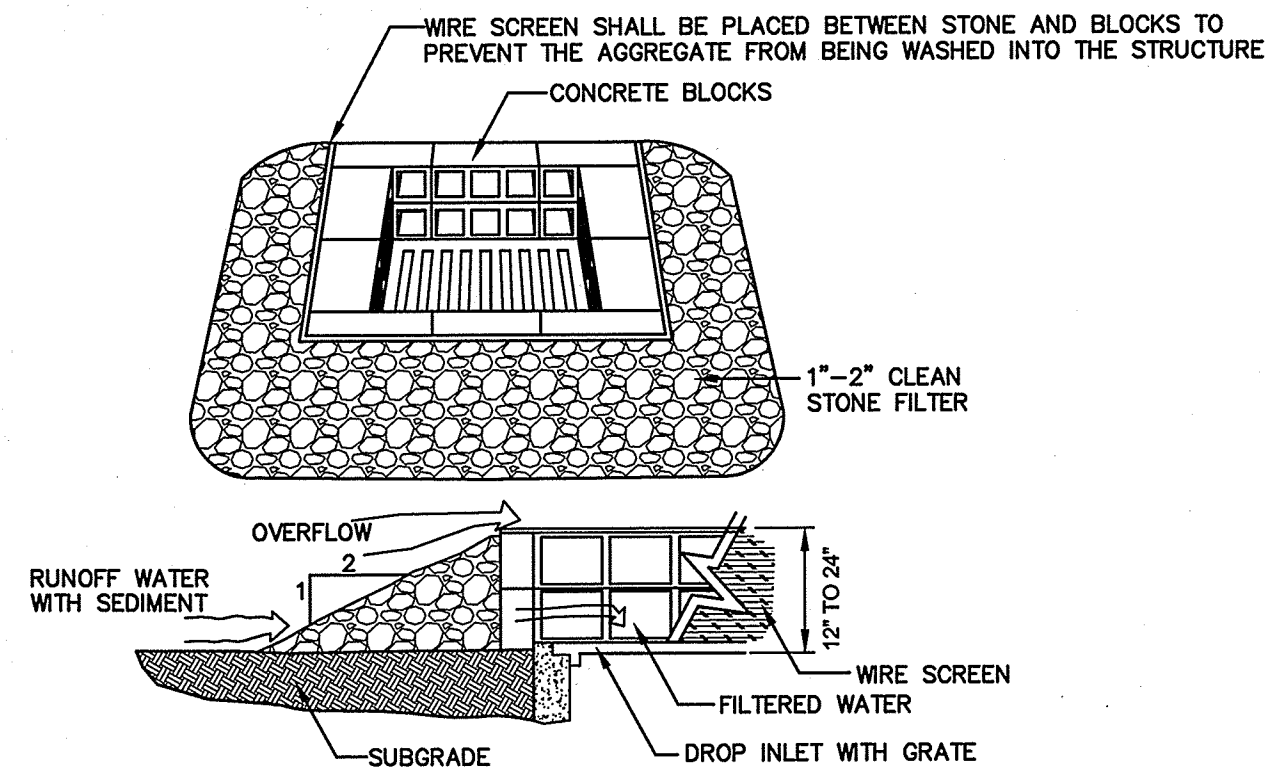
TRENCH DRAIN DETAIL

NOT TO SCALE

Plan Name:	DETAIL SHEET
Project:	4-BAY CAR SERVICE 3 DOVER ROAD, ROUTE 108, DURHAM, NH
Applicant:	TROPIC STAR DEVELOPMENT, LLC 321D LAFAYETTE ROAD, HAMPTON, NH 03842

DRAWING No.	D2
SHEET 8 OF 10	JBE PROJECT NO. 14011

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MAINTENANCE NOTE:

- ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAINFALL AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED IN A SUITABLE UPLAND AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURE OR VEGETATIVE MEANS. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.

TEMPORARY CATCH BASIN INLET PROTECTION (Block and Gravel Drop Inlet Sediment Filter)

NOT TO SCALE

SEEDING SPECIFICATIONS

- GRADING AND SHAPING**
 - SLOPES SHALL NOT BE STEEPER THAN 2:1 WITHOUT APPROPRIATE EROSION CONTROL MEASURES AS SPECIFIED ON THE PLANS (3:1 SLOPES OR FLATTER ARE PREFERRED).
 - WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
- SEEDBED PREPARATION**
 - SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND FERTILIZER AND LIME MIXED INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
- ESTABLISHING A STAND**
 - LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. TYPES AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN 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 100 LBS. PER 1,000 SQ.FT.
 NITROGEN(N), 50 LBS. PER ACRE OR 1.1 LBS. PER 1,000 SQ.FT.
 PHOSPHATE(P2O5), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
 POTASH(K2O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 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).
 - 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 .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
 - REFER TO THE "SEEDING GUIDE" AND "SEEDING RATES" TABLES ON THIS SHEET FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING. ALL LEGUMES (CROWN VETCH, BIRDSFOOT, TREFLOIL AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT PRIOR TO THEIR INTRODUCTION TO THE SITE.
 - WHEN SEEDING AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDING AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20th OR FROM AUGUST 10th TO SEPTEMBER 1st.
- MULCH**
 - HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 S.F.
- MAINTENANCE TO ESTABLISH A STAND**
 - PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
 - FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED.
 - IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, ANNUAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	EXCELLENT	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR	EXCELLENT	EXCELLENT	2/
	F	FAIR	EXCELLENT	EXCELLENT	2/
GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.					
1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE BELOW.					
2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.					

NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCTOBER 15th, IF PERMANENT SEEDING NOT YET COMPLETE.

SEEDING GUIDE

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH OR FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDS FOOT TREFLOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

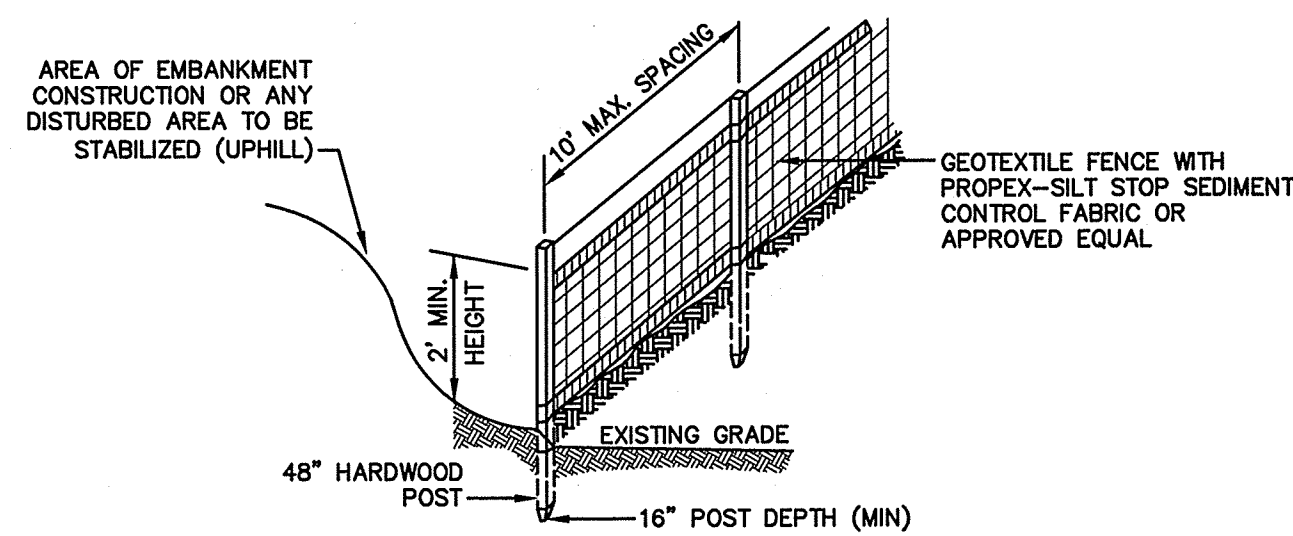
SEEDING RATES

TEMPORARY EROSION CONTROL NOTES

- THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. AT NO TIME SHALL AN AREA IN EXCESS OF THAT REQUIRED FOR CONSTRUCTION BE EXPOSED.
- EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER.
- ALL DISTURBED AREAS (INCLUDING POND AREAS BELOW THE PROPOSED WATERLINE) SHALL BE RETURNED TO PROPOSED GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 6" OF SCREENED ORGANIC LOAM AND SEEDED WITH SEED MIXTURE 'C' AT A RATE NOT LESS THAN 1.10 POUNDS OF SEED PER 1,000 S.F. OF AREA (48 LBS. / ACRE).
- SILT FENCES AND OTHER BARRIERS SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5" OR GREATER. ALL DAMAGED AREAS SHALL BE REPAIRED, AND SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED.
- AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
- AREAS MUST BE SEEDDED AND MULCHED OR OTHERWISE PERMANENTLY STABILIZED WITHIN 3 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 14 DAYS OF THE INITIAL DISTURBANCE OF SOIL.
- ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER) 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.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER NOVEMBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT 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% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED; OR
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- IN ORDER TO ENSURE THE STABILITY OF THE SITE AND EFFECTIVE IMPLEMENTATION OF THE SEDIMENT AND EROSION CONTROL MEASURES SPECIFIED IN THE PLANS FOR THE DURATION OF CONSTRUCTION, THE CONTRACTOR SHALL BE IN STRICT COMPLIANCE WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS IN ADDITION TO THOSE CALLED FOR IN THE SWPPP:
 - A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL OR A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE ("MONITOR") SHALL BE EMPLOYED TO INSPECT THE SITE FROM THE START OF ALTERATION OF TERRAIN ACTIVITIES UNTIL THE SITE IS IN FULL COMPLIANCE WITH THE ALTERATION OF TERRAIN PERMIT ("PERMIT").
 - DURING THIS PERIOD, THE MONITOR SHALL INSPECT THE SUBJECT SITE AT LEAST ONCE A WEEK, AND IF POSSIBLE, DURING ANY 1/2 INCH OR GREATER RAIN EVENT (I.E. 1/2 INCH OF PRECIPITATION OR MORE WITHIN A 24 HOUR PERIOD). IF UNABLE TO BE PRESENT DURING SUCH A STORM, THE MONITOR SHALL INSPECT THE SITE WITHIN 24 HOURS OF THIS EVENT.
 - THE MONITOR SHALL PROVIDE TECHNICAL ASSISTANCE AND RECOMMENDATIONS TO THE CONTRACTOR ON THE APPROPRIATE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROLS REQUIRED TO MEET THE REQUIREMENTS OF RSA 485 A:17 AND ALL APPLICABLE DES PERMIT CONDITIONS.
 - WITHIN 24 HOURS OF EACH INSPECTION, THE MONITOR SHALL SUBMIT A REPORT TO DES VIA EMAIL (RIDGELY MAUCK AT: RIDGELY.MAUCK@DES.NH.GOV).
 - THE MONITOR SHALL MEET WITH DES TO DECIDE UPON A REPORT FORMAT. THE REPORT FORMAT SHALL BE REVIEWED AND APPROVED BY DES PRIOR TO THE START OF CONSTRUCTION.
 - PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR'S NAME, ADDRESS, AND PHONE NUMBER SHALL BE SUBMITTED TO DES VIA EMAIL (SEE ABOVE).
 - PRIOR TO CONSTRUCTION, A PHASING PLAN THAT DELINEATES EACH PHASE OF THE PROJECT SHALL BE SUBMITTED. ALL TEMPORARY SEDIMENT BASINS THAT WILL BE NEEDED FOR DEWATERING WORK AREAS SHALL BE LOCATED AND IDENTIFIED ON THIS PLAN.

CONSTRUCTION SEQUENCE

- PRIOR TO THE START OF ANY ACTIVITY, IT IS THE RESPONSIBILITY OF THE SITE'S DEVELOPER (OR OWNER) TO FILE A NOTICE OF INTENT (NOI) FORM WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) IN ORDER TO GAIN COVERAGE UNDER THE NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. A PRE CONSTRUCTION MEETING IS TO BE HELD WITH ALL DEPARTMENT HEADS PRIOR TO THE START OF CONSTRUCTION.
- WETLAND BOUNDARIES ARE TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION. AT LEAST A TEMPORARY CULVERT OR ROADBED TO BE IN PLACE PRIOR TO THE START OF CONSTRUCTION.
- CUT AND REMOVE TREES IN CONSTRUCTION AREA AS REQUIRED OR DIRECTED.
- INSTALL SILT FENCING, HAY BALES AND CONSTRUCTION ENTRANCES PRIOR TO THE START OF CONSTRUCTION. THESE ARE TO BE MAINTAINED UNTIL THE FINAL PAVEMENT SURFACING AND LANDSCAPING AREAS ARE ESTABLISHED.
- CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. THIS INCLUDES ANY REQUIRED DEMOLITION OF EXISTING STRUCTURES, UTILITIES, ETC.
- CONSTRUCT AND/OR INSTALL TEMPORARY OR PERMANENT SEDIMENT AND/OR DETENTION BASIN(S) AS REQUIRED. THESE FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING RUN-OFF TO THEM.
- STRIP LOAM AND PAVEMENT, OR RECLAIM EXISTING PAVEMENT WITHIN LIMITS OF WORK PER THE RECOMMENDATIONS OF THE PROJECT ENGINEER AND STOCKPILE EXCESS MATERIAL. STABILIZE STOCKPILE AS NECESSARY.
- PERFORM PRELIMINARY SITE GRADING IN ACCORDANCE WITH THE PLANS, INCLUDING THE CONSTRUCTION OF ANY RETAINING WALLS AND SOUND WALLS.
- PREPARE BUILDING PAD(S) TO ENABLE BUILDING CONSTRUCTION TO BEGIN.
- INSTALL THE SEWER AND DRAINAGE SYSTEMS FIRST, THEN ANY OTHER UTILITIES IN ACCORDANCE WITH THE PLAN AND DETAILS. ANY CONFLICTS BETWEEN UTILITIES ARE TO BE RESOLVED WITH THE INVOLVEMENT AND APPROVAL OF THE ENGINEER.
- INSTALL INLET PROTECTION AT ALL CATCH BASINS AS THEY ARE CONSTRUCTED IN ACCORDANCE WITH DETAILS.
- ALL SWALES AND DRAINAGE STRUCTURES ARE TO BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUN-OFF DIRECTED TO THEM.
- DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE DITCHES, CHECK DAMS, SEDIMENT TRAPS, ETC., TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ADJUTING WATERS AND/OR PROPERTY.
- PERFORM FINAL FINE GRADING, INCLUDING PLACEMENT OF "SELECT" SUBGRADE MATERIALS.
- PAVE ALL PARKING LOTS AND ROADWAYS WITH INITIAL 'BASE COURSE'.
- PERFORM ALL REMAINING SITE CONSTRUCTION (I.E. BUILDING, CURBING, UTILITY CONNECTIONS, ETC.).
- LOAM AND SEED ALL DISTURBED AREAS AND INSTALL ANY REQUIRED SEDIMENT AND EROSION CONTROL FACILITIES (I.E. RIP RAP, EROSION CONTROL BLANKETS, ETC.).
- FINISH PAVING ALL ROADWAYS AND PARKING AREAS WITH 'FINISH' COURSE.
- ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- ALL CUT AND FILL SLOPES SHALL BE SEEDDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE BEEN 75%-85% ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
- CLEAN SITE AND ALL DRAINAGE STRUCTURES, PIPES AND SUMPS OF ALL SILT AND DEBRIS.
- INSTALL ALL PAINTED PAVEMENT MARKINGS AND SIGNAGE PER THE PLANS AND DETAILS.
- ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
- UPON COMPLETION OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ANY RELEVANT PERMITTING AGENCIES THAT THE CONSTRUCTION HAS BEEN FINISHED IN A SATISFACTORY MANNER.

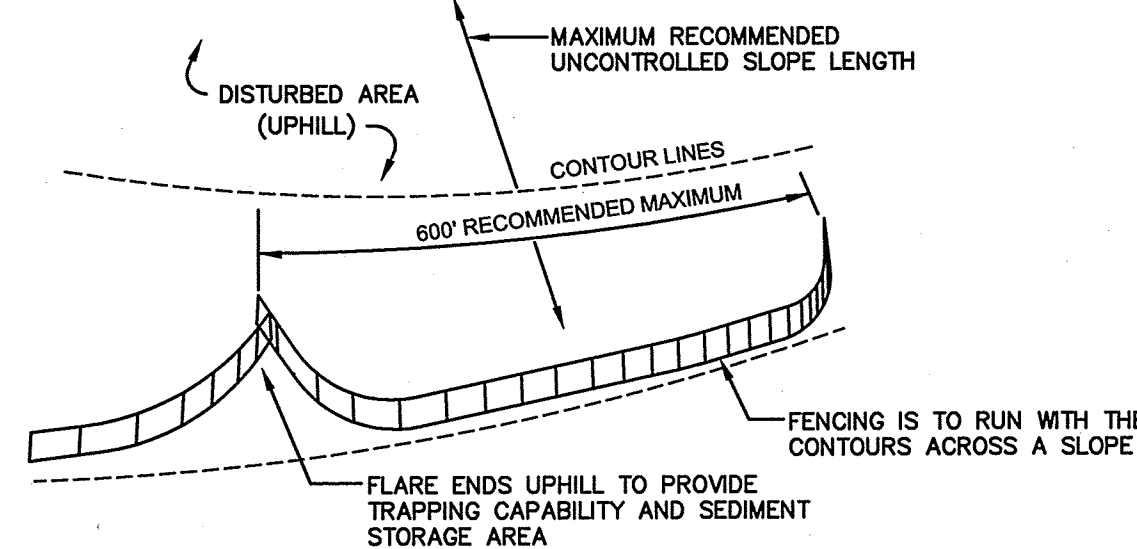


CONSTRUCTION SPECIFICATIONS:

- WOVEN FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP, MID AND BOTTOM AND EMBEDDED IN THE GROUND A MINIMUM OF 8" AND THEN COVERED WITH SOIL.
- THE FENCE POSTS SHALL BE A MINIMUM OF 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 6", FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED AND PROPERLY DISPOSED OF WHEN IT IS 6" DEEP OR VISIBLE 'BULGES' DEVELOP IN THE SILT FENCE.
- PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
- SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.

SILT FENCE

NOT TO SCALE



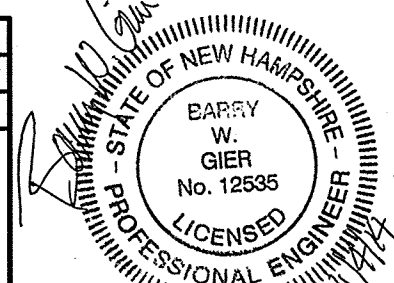
- SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND REVEGETATED.

MAINTENANCE:

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

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Design: BWG	Draft: GPC	Date: 05/30/14
Checked: WGM	Scale: AS NOTED	Project No.: 14011
Drawing Name: 14011-PLAN.dwg		
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.		



REV.	DATE	REVISION	BY
1	11/04/14	REVISED PER TRC COMMENTS	BWG
0	08/27/14	ISSUED FOR REVIEW	GPC

Designed and Produced in NH

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Plan Name:	EROSION AND SEDIMENT CONTROL DETAILS
Project:	4-BAY CAR SERVICE 3 DOVER ROAD, ROUTE 108, DURHAM, NH
Applicant:	TROPIC STAR DEVELOPMENT, LLC 321D LAFAYETTE ROAD, HAMPTON, NH 03842

DRAWING No.	E1
SHEET 9 OF 10	JBE PROJECT NO. 14011

