

"VILLAGE GREEN APARTMENTS"

40B COMPREHENSIVE PERMIT APPLICATION at 15 Great Road Littleton, Massachusetts

NOTE:

ALL SUPPLEMENTAL DATA SUBMITTED IN CONJUNCTION WITH THIS 40B COMPREHENSIVE PERMIT APPLICATION AS REQUIRED BY THE LITTLETON ZONING BOARD OF APPEALS IS HEREBY INCORPORATED AS PART OF THE PLAN SET. THIS PLAN, ITS SUPPORTING DOCUMENTATION AND FORM WORK ARE SUBMITTED PURSUANT TO THE PROVISIONS OF THE TOWN OF LITTLETON'S ZONING BOARD OF APPEALS MODEL RULES FOR THE ISSUANCE OF A COMPREHENSIVE PERMIT AND MASSACHUSETTS GENERAL LAW, CHAPTER 40B.

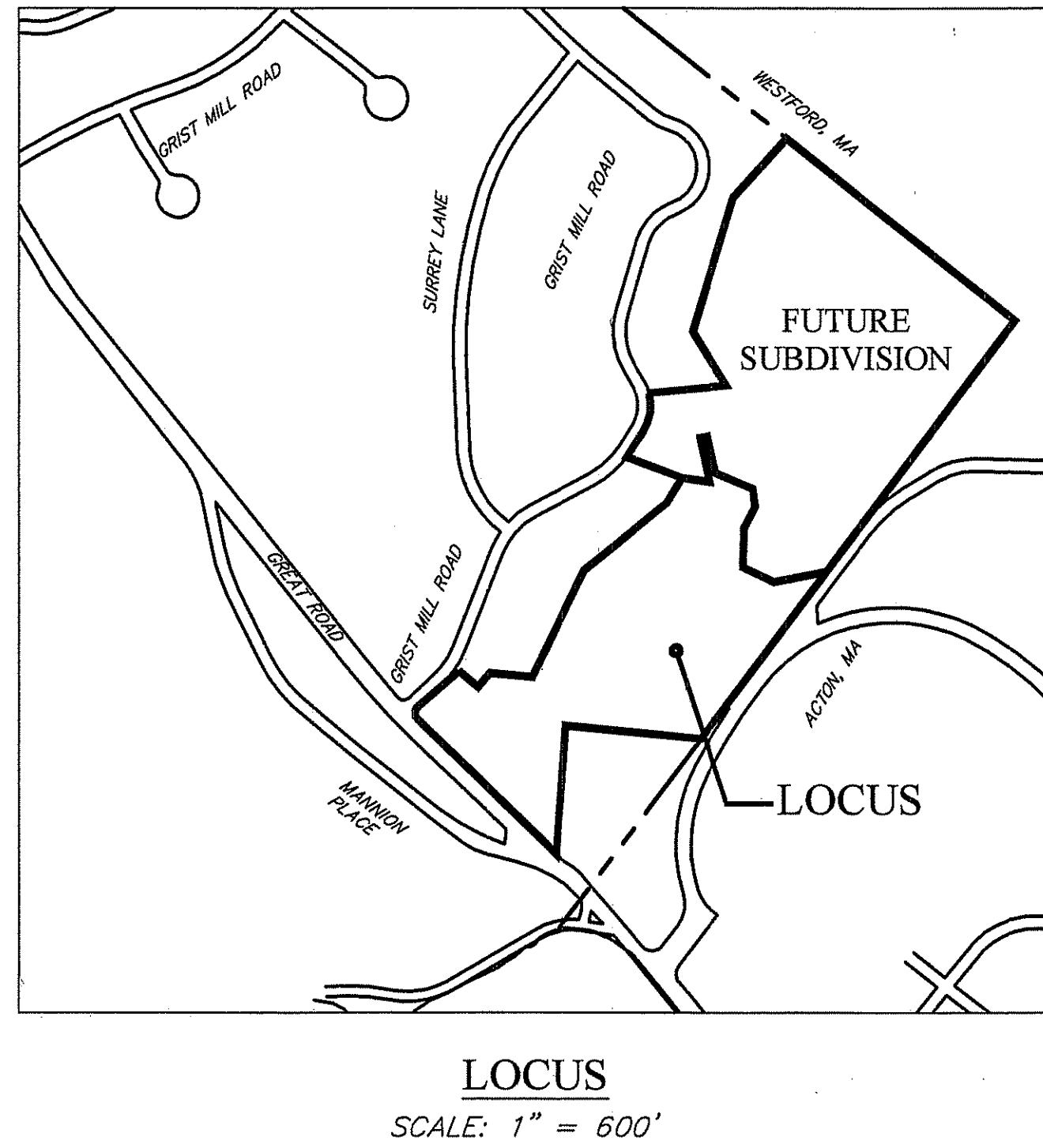
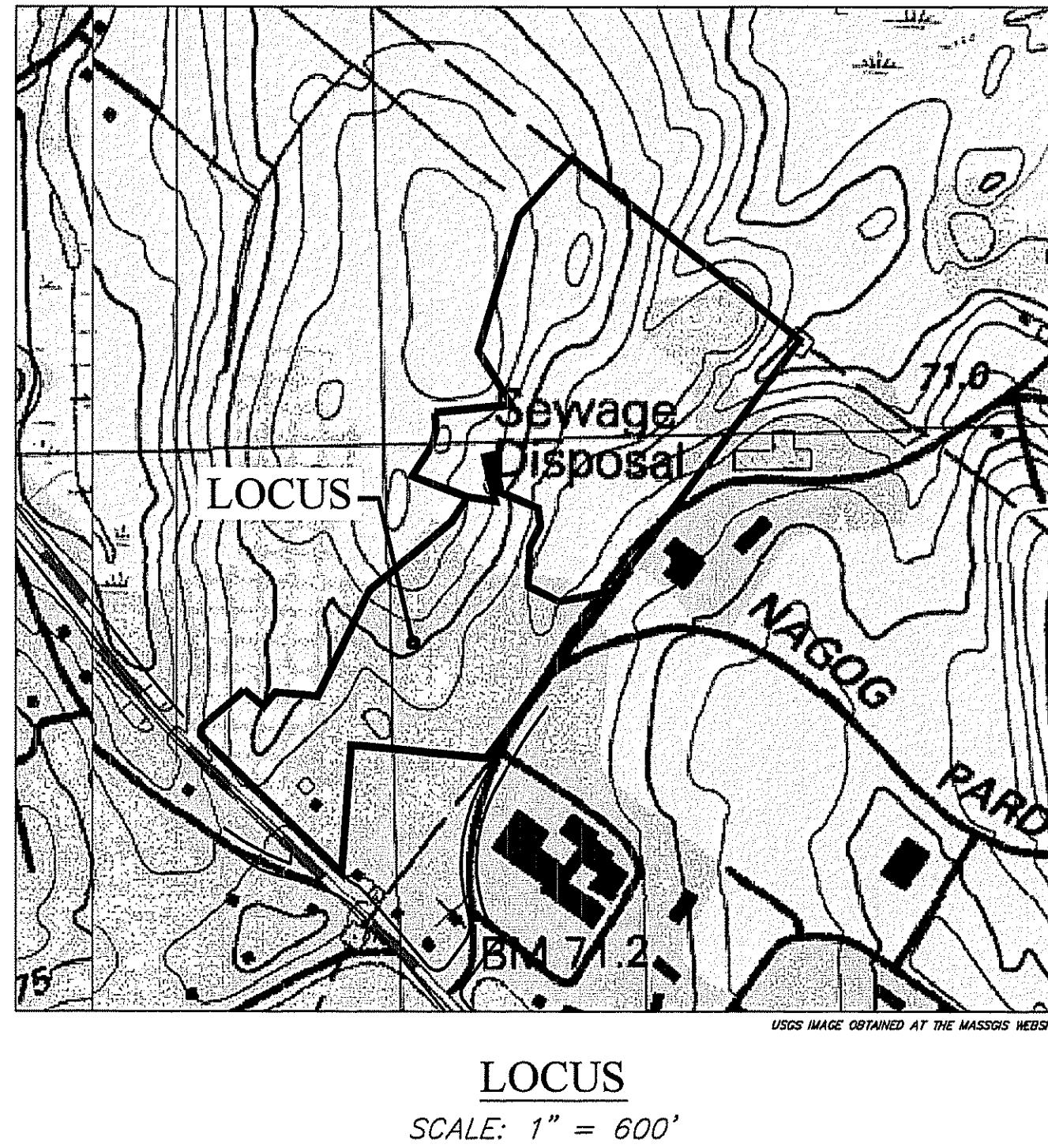
LITTLETON ASSESSOR DATA:
MAP & PARCEL: MAP U01 PARCELS
2-0, 6-0,32-17, 32-18, 32-20,32-27 AND
32-28.

REFERENCES:
MIDDLESEX SOUTH REGISTRY OF DEEDS
BK 44725 PG 484
BK 54533 PG 583
BK 58154 PG 123
BK 58154 PG 126

ZONING
R-RESIDENTIAL

SITE DOES NOT CONTAIN ANY FLOOD HAZARD ZONE PER FLOOD INSURANCE RATE MAP 25017C243E PANEL 243 OF 656 EFFECTIVE JUNE 4, 2010.

SITE IS NOT WITHIN A LITTLETON AQUIFER OR WATERSHED PROTECTION OVERLAY DISTRICT.



APPLICANT:
Fifteen Great Road LLC
200 Baker Avenue-Suite 303
Concord, MA 01742

OWNERS:
Nashoba Place Realty Trust (Parcel 2.0)
John R. Keilty, Trustee
Seven Dearborn Rd.r
Peabody, MA 01960

JFM Realty Trust (Parcel 6.0)
Leslie French, Trustee
P.O. Box 1472
Littleton, MA 01460

Littleton Holding Realty Trust
(Parcels 32-17, 32-18, 32-19, 32-20,
32-27, 32-28)
John R. Keilty, Trustee
40 Lowell Ave.
Peabody, MA 01960

PLANNER, LANDSCAPE ARCHITECT, CIVIL
ENGINEER & SURVEYOR:
Places Associates, Inc.
510 King Street, Suite 9
Littleton, MA 01460

ARCHITECT:
Maugel Architects, Inc.
200 Ayer Road
Harvard, MA 01451



COVER SHEET

LOCATION: 15 GREAT ROAD
TOWN: LITTLETON, MASSACHUSETTS
PREPARED FOR:
**FIFTEEN GREAT
ROAD LLC**

SCALE: AS SHOWN DATE: JULY 9, 2012

Places Associates, Inc.
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Civil Engineering, Surveying
510 KING STREET, SUITE 9
LITTLETON, MA 01460
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PROJECT No. 11-6303 PLAN No. CP-1

GENERAL NOTES:

- PRIOR TO THE PREPARATION OF BIDS AND/OR THE INITIATION OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN AND CAREFULLY EXAMINE THIS PLAN SET, RELATED CONSTRUCTION PLAN SETS FROM OTHER PROFESSIONAL DISCIPLINES, CONSTRUCTION SPECIFICATIONS, MANUFACTURERS INFORMATION AND ANY APPLICABLE PERMIT REQUIREMENTS/CONDITIONS OF APPROVAL FOR THE PROJECT.
- THE EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. DIG SAFE AND THE APPROPRIATE UTILITY COMPANIES SHALL BE CONTACTED BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION.
- NOT ALL UTILITIES WERE ABLE TO BE LOCATED BY RECORD INFORMATION, SITE SURVEYS OR UTILITY LOCATOR SERVICES. THE DESIGN ENGINEER AND BASE PLAN SURVEYOR DO NOT ACCEPT ANY RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OR SUBSURFACE STRUCTURES WHICH ARE OMITTED OR INACCURATELY SHOWN. PRIOR TO THE INITIATION OF WORK, THE CONTRACTOR SHALL VERIFY THE LOCATION/ELEVATION OF EXISTING UTILITIES SHOWN ON THE PLAN.
- THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY UPON THE DISCOVERY OF ANY DISCREPANCY BETWEEN THE LOCATION/ELEVATION OF ANY EXISTING UTILITIES SHOWN ON THE PLANS AND THAT WHICH IS FOUND IN THE FIELD.
- THE CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL LAND SURVEYOR TO PROVIDE LAYOUT & CONTROL FOR THE DEVELOPMENT OF THE SITE.
- ALL CONSTRUCTION UNDER AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE CONSTRUCTED TO WITHSTAND A DIRECT H2O DESIGN LOAD. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITY/SITE IMPROVEMENT AREAS UNDER LANDSCAPED/NON-TRAFFIC BEARING AREAS FROM TEMPORARY CONSTRUCTION LOADS DURING CONSTRUCTION.
- THE CONSTRUCTION SHOWN ON THESE PLANS REQUIRES AN ORDER OF CONDITIONS BE ISSUED BY THE LITTLETON CONSERVATION COMMISSION. THE CONTRACTOR SHALL OBTAIN A COPY OF SUCH ORDERS OF CONDITIONS PRIOR TO ANY SITE-RELATED DISTURBANCES AND SHALL COMPLY WITH APPROPRIATE CONDITIONS FOR CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL ADJACENT PROPERTY FROM DAMAGE. ALL DAMAGES BY THE CONTRACTOR OR SUBCONTRACTORS SHALL BE REPAIRED AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING SURVEY MONUMENTS (BOUNDS, PINS, PIPES, DRILL HOLES, ETC.) THROUGHOUT ALL PHASES OF CONSTRUCTION. ANY DISTURBED MONUMENTS SHALL BE REPLACED BY A REGISTERED PROFESSIONAL LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
- THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY UPON THE DISCOVERY OF ANY CONTRADICTORY, INCOMPLETE OR MISLABELED INFORMATION SHOWN ON THE PLANS OR PLANS PREPARED BY OTHERS. THE CONTRACTOR SHALL ALLOW FOR ADEQUATE TIME FOR THE ENGINEER TO RESPOND/PROVIDE DIRECTION FOR THE PLAN DISCREPANCY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SHOP DRAWINGS OF PRODUCTS/MATERIALS TO THE ENGINEER AND/OR THE LOCAL APPROVING AUTHORITY AS REQUIRED IN THE CONSTRUCTION DOCUMENTS OR IF REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION OVER THE PRODUCT. ADEQUATE TIME SHALL BE ALLOWED FOR THE SHOP DRAWINGS TO BE REVIEWED AND RETURNED TO THE CONTRACTOR PRIOR TO ORDERING THE SPECIFIED PRODUCTS/MATERIALS.
- ALL SUPPLEMENTAL DATA SUBMITTED IN CONJUNCTION WITH THIS PRELIMINARY SUBDIVISION AS REQUIRED BY THE SUBDIVISION REGULATIONS IS HEREBY INCORPORATED AS PART OF THE PLAN SET.
- ALL PERMANENT BOUNDARY AND SURVEY MONUMENTS SHALL BE INSTALLED AFTER THE COMPLETION OF ALL HEAVY SITE WORK.
- NO DEBRIS, JUNK, RUBBISH OR OTHER WASTE MATERIALS SHALL BE BURIED, BURNED OR OTHERWISE DISPOSED OF WITHIN THE LIMITS OF THE PROJECT. ALL WASTE, TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS.
- UNLESS OTHERWISE SPECIFIED OR SHOWN, ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM THE STANDARDS DESCRIBED IN THE TOWN OF LITTLETON'S SUBDIVISION CONTROL REGULATIONS. IF NOT SPECIFIED THEREIN, SUCH CONSTRUCTION SHALL THEN CONFORM TO THE REQUIREMENTS OF THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MDOT, FORMERLY MASSHIGHWAY) STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST VERSION.
- THE CONTRACTOR SHALL APPLY FOR AND OBTAIN A PERMIT FROM MASS HIGHWAY TO CONSTRUCT WITHIN A PUBLIC WAY FOR WORK WITHIN GREAT ROAD, STATE ROUTE 2A. CONTROLLED DENSITY FILL SHALL BE USED AS PAVEMENT BASE COURSE WITHIN THE STATE HIGHWAY LAYOUT.
- WETLANDS DELINEATION PERFORMED BY OXBOW ASSOCIATES, INC OF ACTON, MA IN APRIL 2011. LOCATIONS OF FLAGS WERE FIELD-SURVEY LOCATED BY PLACES ASSOCIATES, INC. THE FINAL WETLANDS LIMITS ARE SUBJECT TO REVIEW AND APPROVAL BY THE LITTLETON CONSERVATION COMMISSION.
- TOWN LINES DEPICTED HEREON ARE DERIVED FROM PLAN RECORD INFORMATION AND WILL BE FIELD SURVEY DETERMINED PRIOR TO SUBMITTAL OF A DEFINITIVE PLAN.

SITE WORK NOTES:

- THE LIMITS OF WORK SHALL BE FIELD ESTABLISHED PRIOR TO INITIATION OF ANY CONSTRUCTION, SITE EXPLORATIONS OR EARTHEN DISTURBANCE.
- EROSION CONTROLS SHALL BE IMPLEMENTED PRIOR TO SITE CLEARING OR DISTURBANCE. SEE EROSION AND SEDIMENTATION CONTROL PLAN.
- EXCEPT FOR THE SETUP FOR ENTRY TO THE SITE, NO CONSTRUCTION OR CONTRACTOR'S VEHICLES SHALL BE PARKED ON GRIST MILL ROAD OR GREAT ROAD, UNLESS COORDINATED WITH ADJACENT PROPERTY OWNERS. ALL CONSTRUCTION STAGING, STOCKPILE AND PARKING AREAS SHALL BE ON SITE.
- LOAM SHALL BE STOCKPILED FOR RE-USE ON THE SITE TO THE EXTENT PRACTICAL, SEE EROSION AND SEDIMENTATION CONTROL PLAN.
- NO DEBRIS, JUNK, RUBBISH OR OTHER WASTE MATERIALS SHALL BE BURIED, BURNED OR OTHERWISE DISPOSED OF WITHIN THE LIMITS OF THE PROJECT. ALL WASTE, TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS. THE SITE SHALL BE KEPT IN A NEAT AND ORDERLY FASHION.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TRENCH OPERATIONS PERMIT PURSUANT TO THE REQUIREMENTS OF THE TOWN OF LITTLETON AND 520 CMR 14.00 (AKA "JACKIE'S LAW").

MATERIAL DEFINITIONS:

BITUMINOUS CONCRETE PAVEMENT
ALL SITE PAVING SHALL BE CLASS 1 BITUMINOUS CONCRETE. MIXTURES SHALL BE COMPOSED OF MINERAL AGGREGATE, MINERAL FILLER (IF REQUIRED) AND BITUMINOUS MATERIAL. THE MIXTURE MAY INCLUDE RECLAIMED ASPHALT PAVEMENT AT THE OPTION OF THE CONTRACTOR.

CAST IN PLACE CONCRETE
THE MIXTURE COMPOSITION AND TOLERANCES SHALL MEET THE SPECIFICATIONS FOR BINDER COURSE AND TOP COURSE MIXTURES AS SPECIFIED IN TABLE A OF SSBH M3.11.03. IF RECLAIMED ASPHALT PAVEMENT (RAP) IS USED IN THE MIXTURE, THE PROPORTION OF RAP TO VIRGIN AGGREGATE SHALL BE LIMITED TO A MAXIMUM OF 40% FOR DRUM MIX PLANTS AND 20% FOR MODIFIED BATCH PLANTS.

CONTROLLED DENSITY FILL (CDF)
ALL SITE CAST IN PLACE CONCRETE AND RELATED REINFORCING SHALL MEET THE REQUIREMENTS OF THE MASSACHUSETTS STATE BUILDING CODE, THE AMERICAN CONCRETE INSTITUTE (ACI) AND THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) FOR PRODUCT MATERIALS, FORM WORK, PLACEMENT AND CURING. ALL SITE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI UNLESS OTHERWISE REQUIRED IN THE CONSTRUCTION DOCUMENTS.

CONTROL DENSITY FILL
CONTROL DENSITY FILL SHALL BE A FLOWABLE, SELF-CONSOLIDATING, RIGID SETTING, LOW DENSITY MATERIAL THAT CAN SUBSTITUTE FOR COMPACTED GRAVELS FOR BACKFILLS, FILLS AND STRUCTURAL FILLS. CDF SHALL BE EXCAVATABLE BY HAND TOOLS AND/OR SMALL EQUIPMENT WHEN PLACED AND CURVED. CDF SHALL MEET THE REQUIREMENTS OF SSBH M4.0.0, TYPE 2E, AND SHALL MEET THE FOLLOWING REQUIREMENTS:

A. CDF IS TO BE BATCHED AT A READY MIX PLANT AND IS TO BE USED AT A HIGH OF "VERY HIGH SLUMP FROM 10" TO 12". IT SHALL BE FLOWABLE AND REQUIRE NO VIBRATION AFTER IT HAS BEEN PLACED.

B. CDF SHALL BE A MIXTURE OF PORTLAND CEMENT, FLYASH, SAND AND WATER DESIGNED TO MEET THE CDF REQUIREMENTS. HIGH AIR ENTRAINMENT MAY BE SUBSTITUTED FOR FLYASH WITH AN ADMIXTURES (25%) ADJUSTMENT IN SAND CONTENT.

C. CDF MUST MEET THE FOLLOWING STRENGTH REQUIREMENTS:
-28 DAY COMPRESSIVE STRENGTH: 30-80 PSI
-90 DAY COMPRESSIVE STRENGTH: 100 PSI MAX

CRUSHED STONE
CRUSHED STONE SHALL BE THE SIZE AS INDICATED ON THE PLANS. THE STONE SHALL BE FROM A STONE QUARRY THAT PRODUCES HARD, ANGULAR DURABLE WASHED STONE FREE FROM DEBRIS AND ORGANIC MATERIALS. THE STONE SHALL MEET THE REQUIREMENTS OF SSBH M2.01.0

DENSE GRADED CRUSHED STONE
DENSE GRADED CRUSHED STONE SHALL CONSIST OF THE COMBINATION OF CRUSHER-RUN, COARSE AGGREGATES (MEETING SSBH M2.01.0) AND FINE AGGREGATES (WATER, DRY, OR WET). THE DENSITY OF THE MATERIAL PREMISED WITH A PREDETERMINED QUANTITY OF WATER. COARSE AGGREGATE SHALL CONSIST OF HARD, DURABLE PARTICLES OF FRAGMENTS OF STONE. MATERIALS THAT BREAK UP WHEN ALTERNATELY FROZEN AND THAWED OR WETTED AND DRIED SHALL NOT BE USED. FINE AGGREGATE SHALL CONSIST OF NATURAL OR CRUSHED SAND. THE GRADATION/MATERIAL SHALL COMPLY WITH THE SPECIFICATIONS OF SSBH M2.01.7

GLACIAL TILL
A. GLACIAL TILL: NATURAL INORGANIC SOLID APPROVED BY THE ENGINEER AND MEETING THE FOLLOWING REQUIREMENTS:

A. IT SHALL BE FREE OF ORGANIC OR OTHER WEAK OR COMPRESSIBLE MATERIALS, FROZEN MATERIALS AND STONES GREATER THAN TWO INCHES IN MAXIMUM DIMENSION.

B. IT SHALL BE A SILT LOAM AS DEFINED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL TEXTURAL CLASSIFICATION.

C. THE SOIL SHALL CONSIST OF GREATER THAN 50% SILT, 12% TO 27% CLAY, OR 30% TO 50% SILT AND LESS THAN 12% CLAY.

GRAVEL BORROW
GRAVEL BORROW SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND COURSE SAND, FREE FROM CLAY, SURFACE COATINGS, ORGANIC AND INORGANIC MATERIAL. ALL GRAVEL BORROW SHALL MEET THE REQUIREMENTS OF SSBH M1.03.0. MAXIMUM STONE SIZE SHALL BE AS FOLLOWS:

TYPE A: 6" LARGEST DIMENSION
TYPE B: 3" LARGEST DIMENSION
TYPE C: 2" LARGEST DIMENSION

LOAM (BORROW)
LOAM SHALL CONSIST OF NATURAL TOPSOIL, FREE FROM SUB-SOIL, OBTAINED FROM AN AREA WHICH HAS NEVER BEEN STRIPPED. LOAM SHALL BE OF UNIFORM QUALITY, FREE FROM HARD CLODS, STIFF CLAY, HARDPAN, SOD, PARTIALLY DISINTEGRATED STONE, LIME, CEMENT, ASHES, SLAG, CONCRETE, TAR RESIDUE, TARRED PAPER, BOARDS, CHIPS OR ANY OTHER UNDESIRABLE MATERIAL.

LOAM SHALL CONTAIN BETWEEN 5.5 AND 7.5 PERCENT ORGANIC MATTER AS DETERMINED BY LOSS ON IGNITION OF A MOISTURE-FREE SAMPLE DRIED IN ACCORDANCE WITH THE CURRENT METHOD OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS.

THE ACIDITY RANGE OF THE LOAM SHALL BE PH 6.5 TO PH 7.5 INCLUSIVE.

THE MECHANICAL ANALYSIS OF THE SOIL SHALL BE AS FOLLOWS:

U.S. SIEVE SIZE & NUMBER	PERCENT PASSING	MINIMUM	MAXIMUM
1 INCH	100%	100%	
1/2 INCH	97%	100%	
NO. 100 (SAND)	45%	50%	
NO. 100 (SILT & CLAY)	40%	50%	

ORDINARY BORROW
ORDINARY BORROW SHALL CONSIST OF MATERIAL NOT SPECIFIED AS ANY OTHER EARTHEN MATERIAL. ORDINARY BORROW SHALL BE WELL GRADED, NATURAL, INORGANIC MATERIAL ACCEPTABLE TO THE ENGINEER FOR THE GENERAL FILLING TO THE SPECIFIED SUB-GRADE. THE MATERIAL SHALL MEET THE FOLLOWING REQUIREMENTS:

A. IT SHALL BE FREE OF ORGANIC OR OTHER WEAK OR COMPRESSIBLE MATERIAL, FROZEN MATERIALS AND OF STONES LARGER THAN 6 INCHES IN MAXIMUM DIMENSION.

B. IT SHALL BE OF SUCH NATURE & CHARACTER THAT IT CAN BE COMPACTED TO THE SPECIFIED DENSITIES IN A REASONABLE AMOUNT OF TIME.

C. IT SHALL BE FREE OF HIGHLY PLASTIC CLAYS, OF ALL MATERIALS SUBJECT TO DECAY, DECOMPOSITION, AND OF CINDER OR OTHER MATERIALS WHICH WILL CORRODE PIPING OR OTHER BURIED MATERIALS.

D. IT SHALL HAVE A MAXIMUM DRY DENSITY OF NOT LESS THAN 100 POUNDS PER CUBIC FOOT AND LESS THAN 40 % OF THE MATERIAL SHALL PASS THE NUMBER 200 SIEVE.

E. EXCAVATED ROCK & BOULDERS SMALLER THAN ONE CUBIC YARD IN SIZE MAY BE USED IN FILL AREAS UNDER LAWNS ONLY, PROVIDED THEY ARE A MINIMUM OF 24 INCHES BELOW THE SUBGRADE, PLACED AND COMPACTED IN LAYERS WITH NO Voids AND ALL INTERSTICES FILLED.

RIP RAP
RIP-RAP STONE SHALL BE SOUND, DURABLE ROCK, ANGULAR IN SHAPE, RIP RAP SHALL NOT EXCEED 100% OF THE DENSITY OF THE SOIL. ROUNDED STONES, BOULDERS, SANDSTONE OR SIMILAR SOFT STONES OR RELATIVELY THIN SLABS WILL NOT BE PERMITTED UNLESS SPECIFICALLY PERMITTED BY THE DESIGN ENGINEER. ALL RIP RAP MATERIALS SHALL MEET THE REQUIREMENTS OF SSBH M2.02.0.

SAND BORROW
SAND BORROW SHALL CONSIST OF CLEAN INERT, HARD, DURABLE GRAINS OF QUARTZ OR OTHER HARD DURABLE ROCK, FREE FROM LOAM OR CLAY, SURFACE COATINGS AND DESTRUCTIVE MATERIALS. THE MAXIMUM AMOUNT OF MATERIAL PASSING A 200 SIEVE, AS DETERMINED BY ASHTO T-11 SHALL NOT EXCEED 10% MASS. ALL SAND BORROW SHALL MEET THE REQUIREMENTS OF SSBH M1.04.0. MAXIMUM STONE SIZE SHALL BE AS DEPICTED IN THE PLANS.

COMPACTATION TESTING
ALL EARTHEN MATERIALS SHALL BE COMPACTED TO THE DRY DENSITY INDICATED IN THE CONSTRUCTION DOCUMENTS AND/OR AS IS REQUIRED BY CODE OR REGULATORY REQUIREMENT. DENSITY SHALL BE DETERMINED FROM A SAMPLE OF THE MATERIAL TO BE USED AND TESTED IN ACCORDANCE WITH THE MODIFIED PROCTOR DRY DENSITY TEST AS DEFINED IN ASTM D1557, METHOD C.

AREAS THAT WERE TESTED AND FOUND TO BE INSUFFICIENTLY COMPACTED SHALL BE RE-TESTED AFTER THE ADDITIONAL COMPACTION HAS BEEN COMPLETED.

ABBREVIATIONS

ABBREVIATION	DEFINITION
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABR	ACCESSIBLE RAMP - TYPE 1
AR-2	ACCESSIBLE RAMP - TYPE 2
AR-3	ACCESSIBLE RAMP - TYPE 3
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS

B&B	BALL & BURLAP
BIT. CONC.	BOTTOM CURB ELEVATION
BLDG.	BUILDING
BM	BENCHMARK
BR	BOTTOM RAMP ELEVATION
CAL	CALENDAR
CB	CONCRETE BOUND
CF	CUBIC FOOT
CI	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CTB	CATCH BASIN
CY	CUBIC YARD
DH	DRILL HOLE
DI	DUCTILE IRON PIPE
DM	DRUM
DMH	DRAIN MAHOLE
ELEV	ELEVATION
EMI	ELECTRIC MANHOLE
EXT.	EXTERIOR
FDN	FOUNDATION
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FIND	FINDING GRADE
FND	FOUND
FSB	FIELD STONE BOUND
FT	FEET - LINEAR MEASURE
GAL	GALLON
GPM	GALLONS PER MINUTE
HP	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HT	HEIGHT
I. PIN	IRON PIN
I. PIPE	IRON PIPE
ID	INSIDE DIAMETER
INV	PIPE INVERT ELEVATION
LP	LOW POINT
MAX	MAXIMUM
MHB	MASS HIGHWAY BOUND
MIN	MINIMUM
MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
OC	ON CENTER
OD	OUTSIDE DIAMETER
OSHA	OCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P&P	PILOTS & PINS
Psi	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE PIPE
RCP	ROUND CONCRETE PIPE
R & S	REMOVED & STORED
RECD	REMOVED
SE	STONE BOUND
SMH	SEWER MANHOLE
SPR	SPREAD
S&S	STAKE & STONE
SSH	STANDARD SPECIFICATIONS OF HIGHWAYS & BRIDGES, THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS

STV	STOPLINE TO VERTICAL CURB TRANSITION
TBM	TEMPORARY BENCH MARK
TC	TOP OF CURB ELEVATOR
TMC	TELEPHONE MANHOLE
TDC	TOP OF CONCRETE FOUNDATION ELEVATION
TR	TOP OF RAMP ELEVATION
TRP	TOPICAL FOR ALL ITEMS SHOWN
UP	UTILITY POLE
VGCIS	VERTICAL GRANITE CURB TRANSITION SEGMENT

CATCHBASIN	FLARED END IN/OUT
</tbl_info

GENERAL REVISION NOTE

PREVIOUS PLAN DATES:
MAY 2011-ORIGINAL SUBMITTAL
FEB 16, 2012-GENERAL REVISION
JULY 9, 2012-COMPREHENSIVE PERMIT SUBMISSION
NOV 1, 2012-PAVEMENT REDUCTION, GENERAL REVISION

NC

1. PLAN IS THE COMPILED OF INFORMATION FROM VARIOUS SOURCES INCLUDING RECORD DEEDS, AERIAL TOPOGRAPHY, WETLANDS DELINEATIONS BY OXBOW ASSOCIATES AND LIMITED ON THE GROUND SURVEY BY PLACES ASSOCIATES INC.
2. REFER TO SHEET CP-2 FOR ADDITIONAL NOTES.

PERMIT SET
NOT FOR CONSTRUCTION

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VILLAGE GREEN APARTMENTS INDEX PLAN

LOCATION: 15 GREAT ROAD
TOWN: WITTINGTON, MASSACHUSETTS

ED FOR:
**FIFTEEN GREAT
ROADS LLC**

SCALE: 1" = 100' DATE: 4/11/12



Places Associates, Inc.

*Planning, Landscape Architecture,
Civil Engineering, Surveying*

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LITTLETON, MA 01460
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PROJECT No.: 11-6303 PLAN No. 6303-CP-3

GREAT ROAD (ROUTE 2A # 119)

N/F
HOWARD E. ALLEN, JR.
PATRICIA J. ALLEN

N/F
DIANNE M. LESSA

N/F
JAMES R. VASH
ANGELA MUÑOZ-AVILA

N/F
JEFFREY A. & LANETTE
M. SUNDQUIST BK.
33,463 PG. 586

N/F
PAUL J. & CYN'
AVELLA
BK. 42,576'

MANNION PLACE

N/F
OTHY M. & HEIDI J.
WILDE

PROPOSED SIGN 2

W

E

PROPOSED SIGN

W

E

PROPOSED SIGN

W

E

N/F
ELAINE M. & JOHN LINDGREN
TRUSTEES OF LINDGREN
GREAT ROAD REALTY TRUST
BK. 45,713 PG. 243

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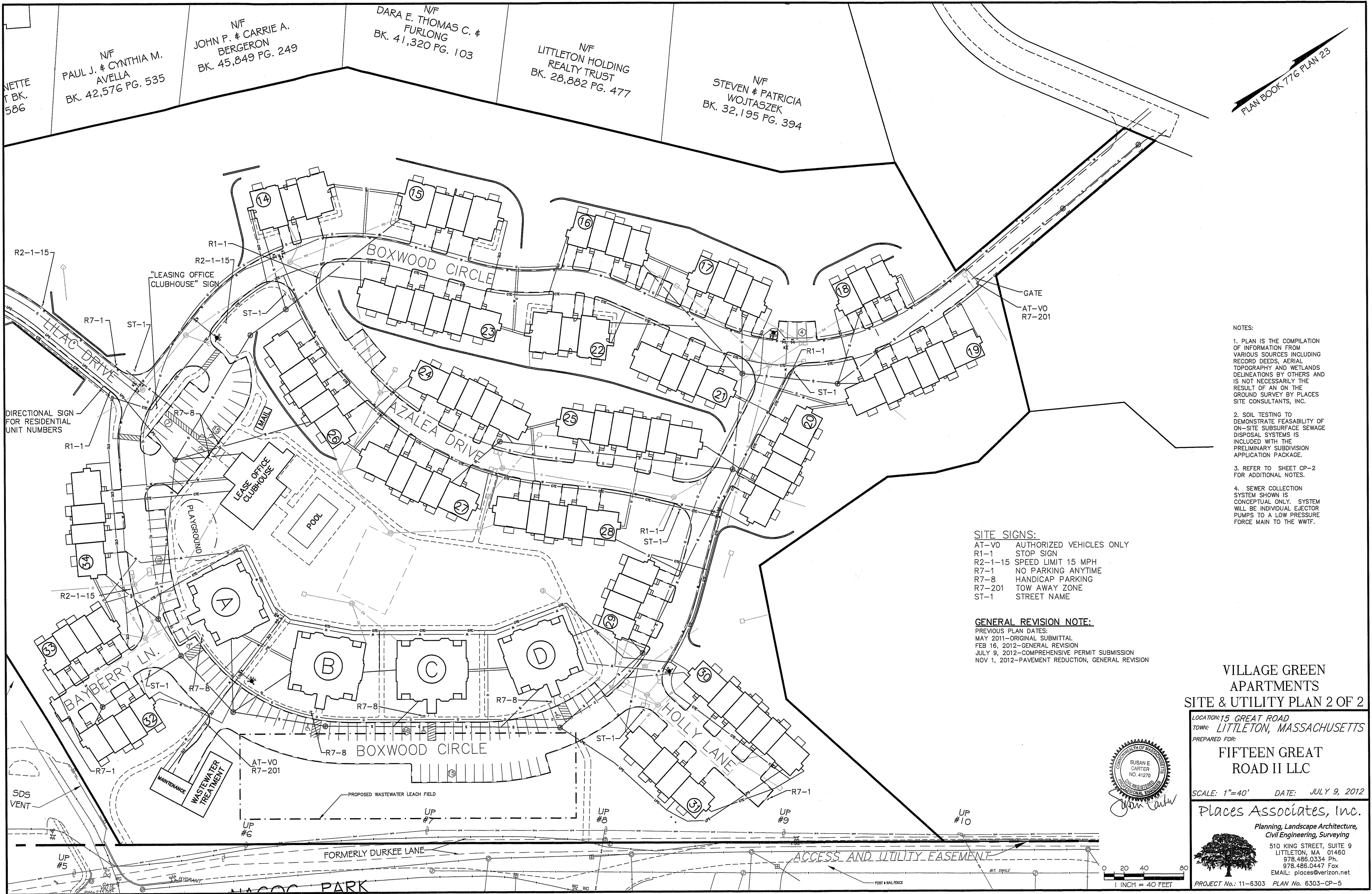
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GREAT ROAD (ROUTE 2A # 119)

N/F
HOWARD E. ALLEN, JR
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N/F
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N/F
JAMES R. VASH
ANGELA MUÑOZ-AVILA



NOTES:

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2. SOIL TESTING TO DEMONSTRATE FEASIBILITY OF ON-SITE SUBSURFACE SEWAGE DISPOSAL SYSTEMS IS INCLUDED WITH THE PRELIMINARY SUBDIVISION APPLICATION PACKAGE.

3. REFER TO SHEET CP-2 FOR ADDITIONAL NOTES.

PERMIT SET
NOT FOR CONSTRUCTION

VILLAGE GREEN APARTMENTS GRADING PLAN 1 OF 2

LOCATION: 15 GREAT ROAD
TOWN: LITTLETON, MASSACHUSETTS
PREPARED FOR:

FIFTEEN GREAT
ROAD II LLC

SCALE: 1"=40' DATE: JULY 9, 2012

Places Associates, Inc.

Planning, Landscape Architecture,
Civil Engineering, Surveying

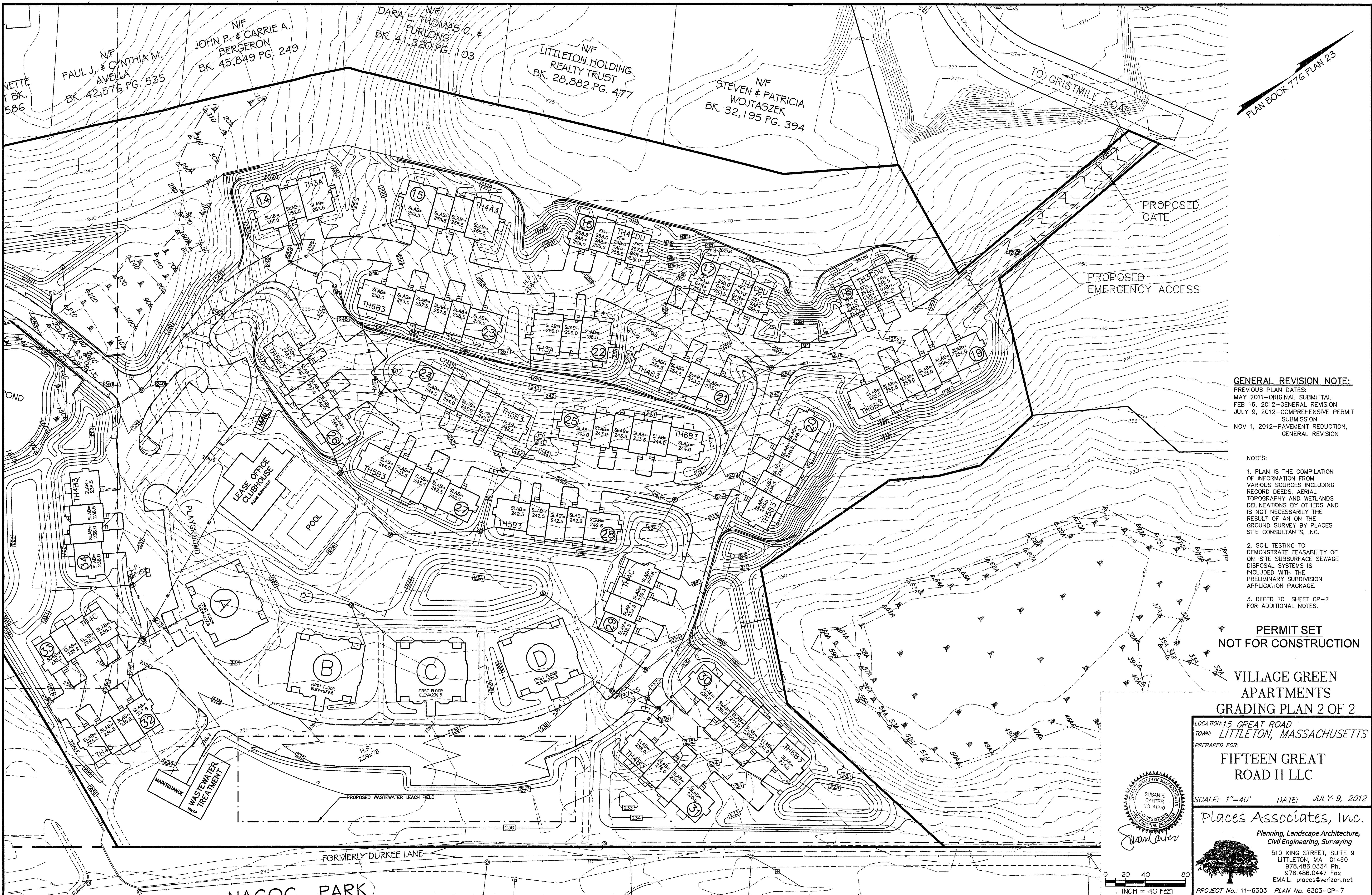
510 KING STREET, SUITE 9
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978.486.0447 Fax
EMAIL: places@verizon.net

PROJECT No.: 11-6303 PLAN No. 6303-CP-6

GENERAL REVISION NOTE:

PREVIOUS PLAN DATES:
MAY 2011—ORIGINAL SUBMITTAL
FEB 16, 2012—GENERAL REVISION
JULY 9, 2012—COMPREHENSIVE PERMIT SUBMISSION
NOV 1, 2012—PAVEMENT REDUCTION, GENERAL REVISION





GREAT ROAD (ROUTE 2A #119)

N/F
HOWARD E. ALLEN, JR.
PATRICIA J. ALLEN

N/F
DIANNE M. LESSA

N/F
JAMES R. VASH
ANGELA MUÑOZ-AVILA

ELAINE M. N/F
TRUSTEES OF JOHN LINDGREN
GREAT ROAD REALTY TRUST
BK. 45,713 PG. 243

JEFFREY A. & LANETTE
M. SUNDQUIST BK.
33,463 PG. 586

N/F
PAUL J. & CYN
AVELLE
BK. 42,576

PLAN BOOK 776 PLAN 23

NOTES:
1. PLAN IS THE COMPILED
OF INFORMATION FROM
VARIOUS SOURCES INCLUDING
RECORD DEEDS, AERIAL
TOPOGRAPHY AND WETLANDS
DELINEATIONS BY OTHERS AND
IS NOT NECESSARILY THE
RESULT OF AN ON THE
GROUND SURVEY BY PLACES
SITE CONSULTANTS, INC.

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PERMIT SET
NOT FOR CONSTRUCTION

VILLAGE GREEN
APARTMENTS
DRAINAGE PLAN 1 OF 2

LOCATION: 15 GREAT ROAD
TOWN: LITTLETON, MASSACHUSETTS
PREPARED FOR:

FIFTEEN GREAT
ROAD II LLC

SCALE: 1"=40' DATE: JULY 9, 2012

Places Associates, Inc.

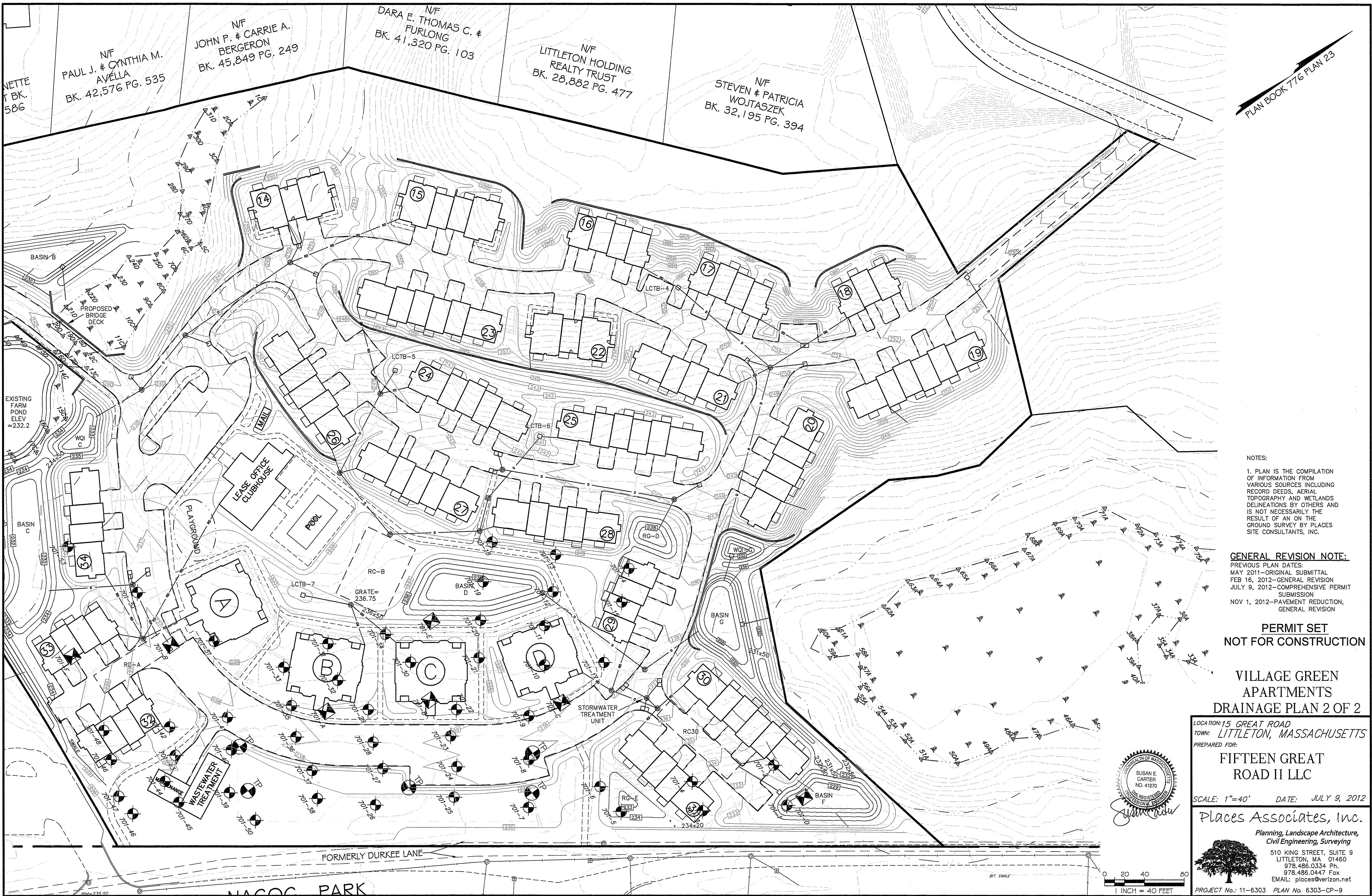
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Civil Engineering, Surveying
510 KING STREET, SUITE 9
LITTLETON, MA 01460
978.486.0334 Ph.
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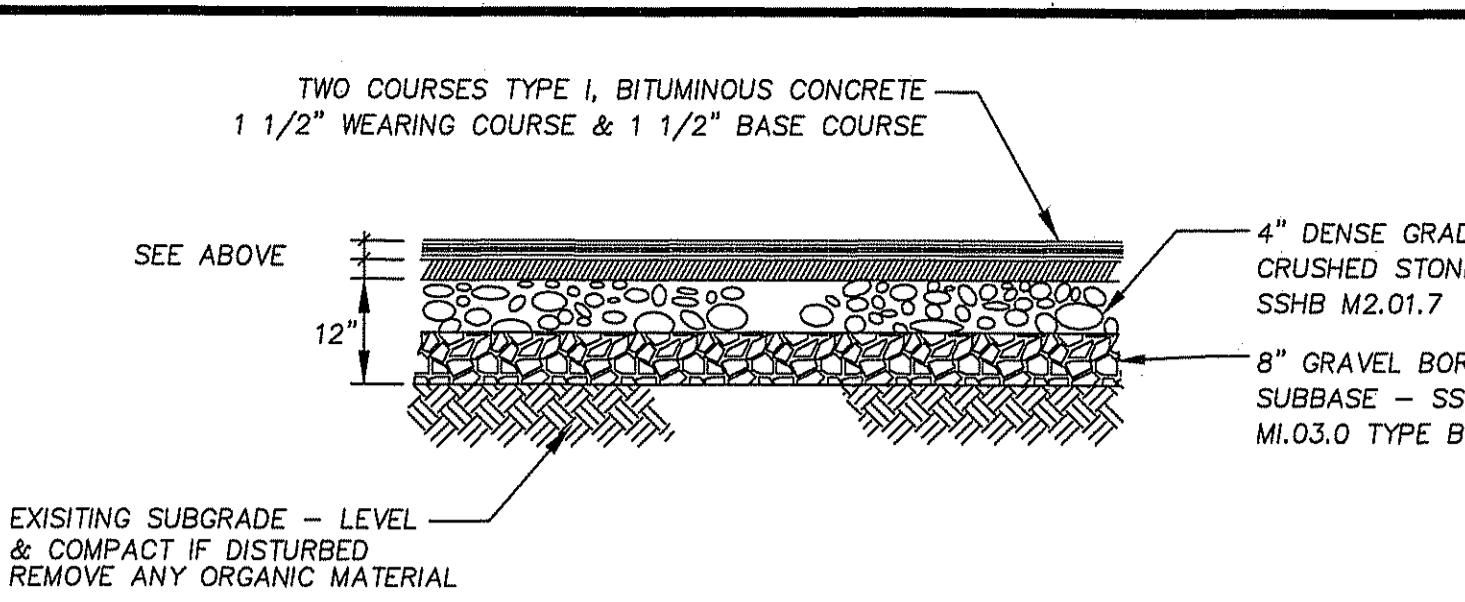


0 20 40 80
1 INCH = 40 FEET

N/F
OTHY M. & HEIDI J.
WILLIAMS

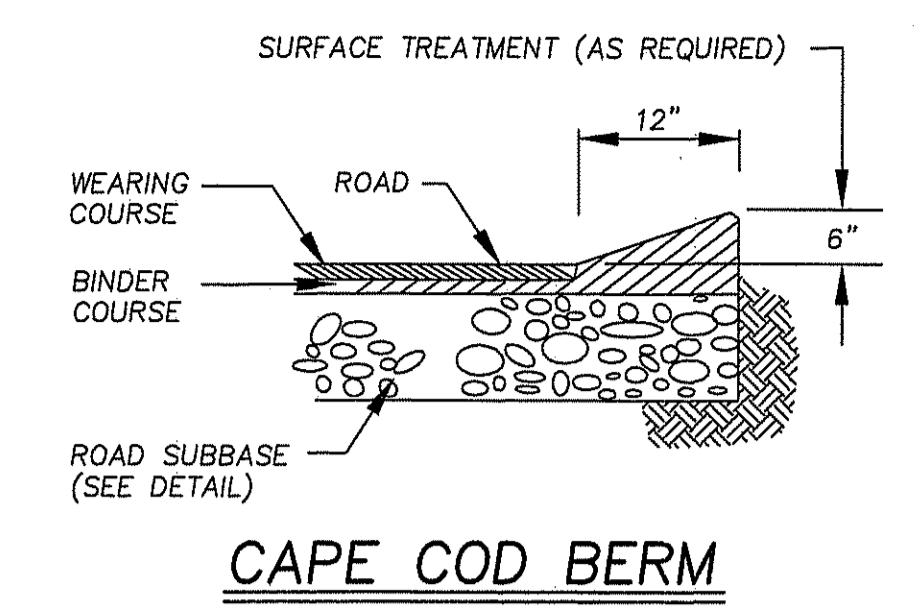
PROJECT No. 11-6303 PLAN No. 6303-CP-8





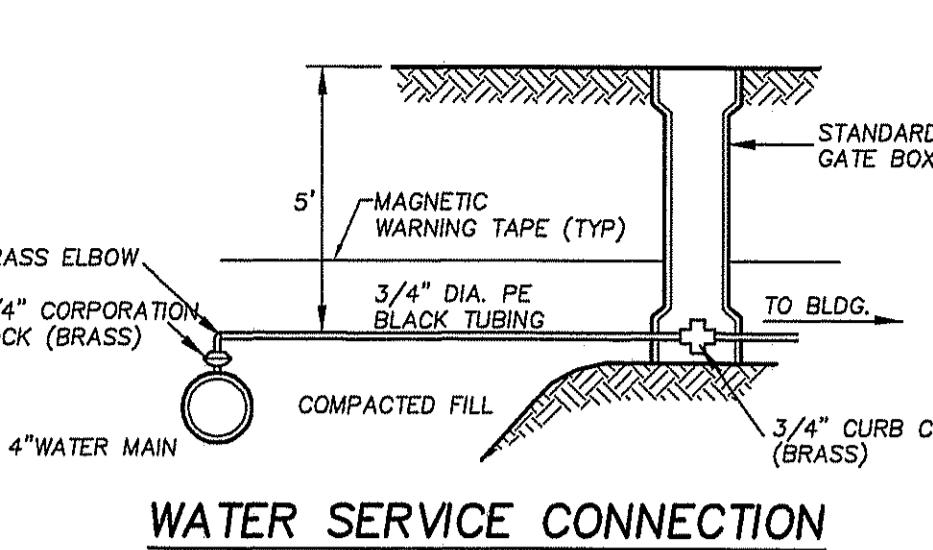
BITUMINOUS CONC. WALKWAY, DRIVE & PARKING

NOT TO SCALE



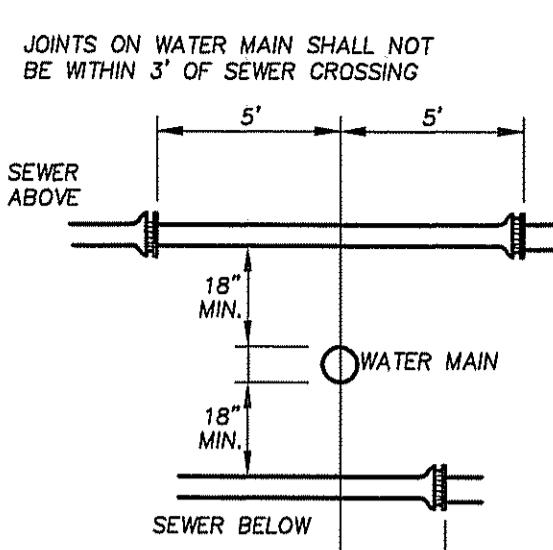
CAPE COD BERM

NOT TO SCALE



WATER SERVICE CONNECTION

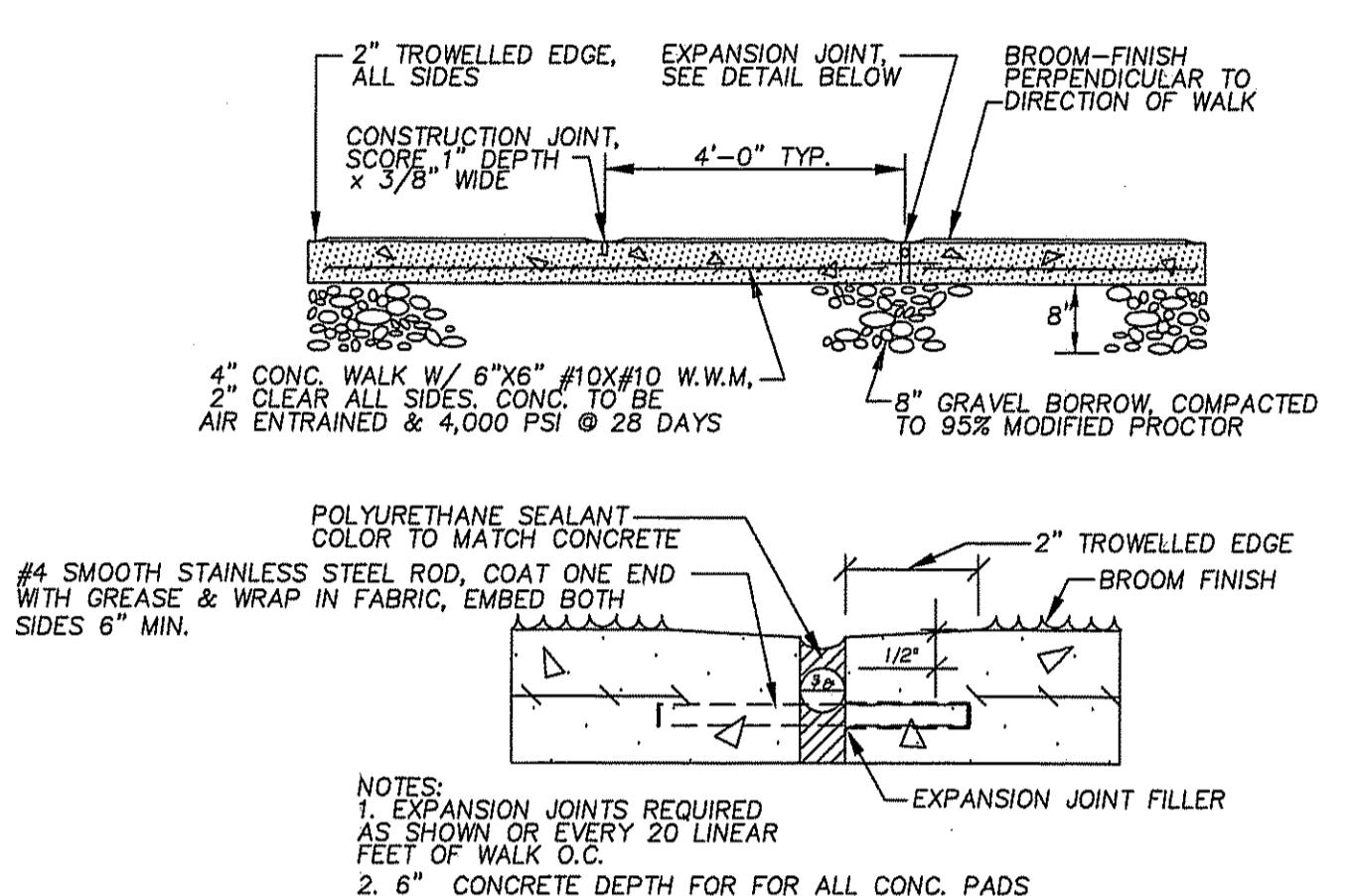
NOT TO SCALE



NOTES
THE SEPARATION OF WATER MAINS AND SEWERS SHALL COMPLY WITH THE FOLLOWING GENERAL REQUIREMENTS.
A. PARALLEL INSTALLATION:
1. NORMAL CONDITIONS: THE INSIDE EDGE OF A WATER MAIN SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM THE INSIDE EDGE OF ANY SANITARY SEWER, STORM SEWER OR SEWER MANHOLE.
2. WHEN LOCAL CONDITIONS PREVENT A HORIZONTAL SEPARATION OF 10 FEET, ONE OF TWO ALTERNATIVE CONDITIONS MUST BE MET: (A) THE INSIDE EDGE OF THE WATER MAIN MUST BE AT LEAST 18" ABOVE THE CROWN OF THE SEWER LINE.
(B) LAY WATER AND SEWER IN SEPARATE TRENCHES
(C) LAY THE WATER AND SEWER IN THE SAME TRENCH WITH THE WATER MAIN AT ONE SIDE OF THE BENCH OF UNDISTURBED EARTH WITH A MINIMUM HORIZONTAL SEPARATION FROM INSIDE PIPE OF 36".
B. CROSSINGS:
1. WHEN SEWER MUST CROSS UNDER WATER MAIN, THE SEWER LAY SUCH THAT THE INVERT OF THE WATER LINE IS AT LEAST 18 INCHES ABOVE THE CROWN OF THE SEWER LINE.
2. WHEN THE SEWER ELEVATION CANNOT BE VARIED TO MEET THE REQUIREMENT, THE WATER MAIN MUST BE LAID IN A TRENCH WITH THE SEWER, AND THE WATER MAIN MUST BE LINED DUCTILE IRON PIPE FOR A DISTANCE OF 10 FT ON EACH SIDE OF THE SEWER.
3. WHEN IT IS IMPOSSIBLE TO OBTAIN EITHER OR BOTH OF THE ABOVE REQUIREMENTS, BOTH THE WATER AND SEWER LINES SHALL BE CONSTRUCTED OF MECHANICAL JOINT CEMENT LINED DUCTILE IRON PIPE. THE WATER MAIN AND SEWER LINES SHALL BE HYDRAULICALLY PRESSURE TESTED BY AN APPROVED METHOD TO ASSURE WATER TIGHTNESS OR BOTH PIPES SHALL BE ENCASED IN CONCRETE.

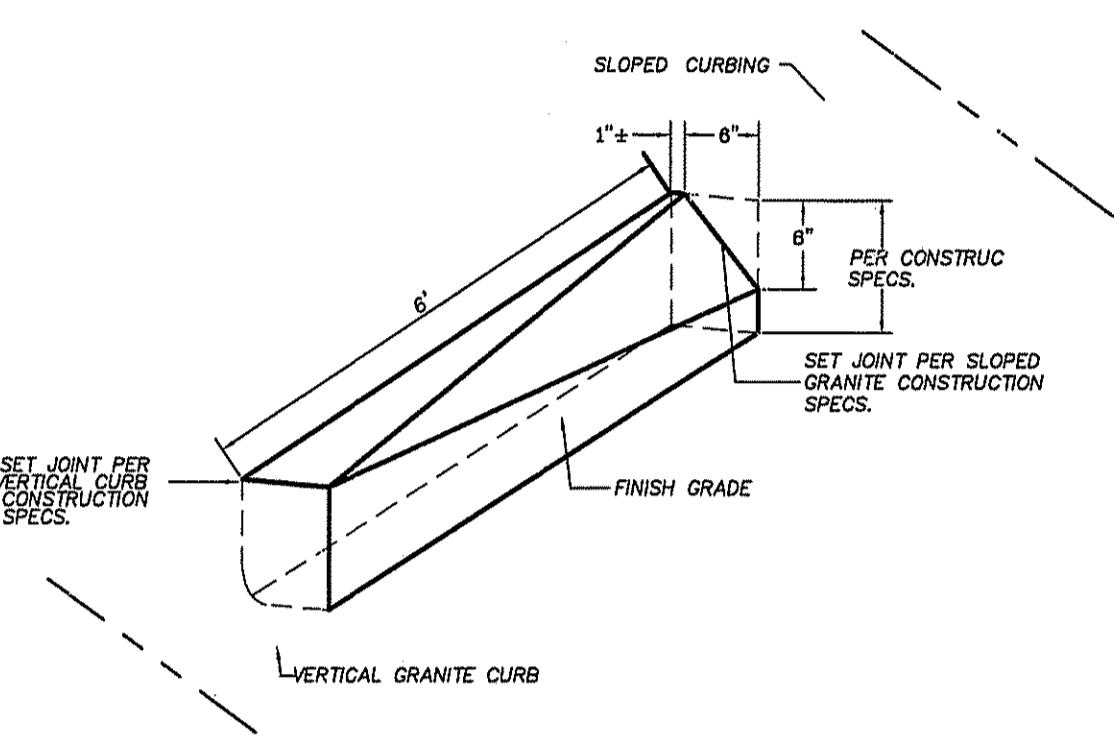
SEWER LINE CROSSING- WATER LINE

NOT TO SCALE



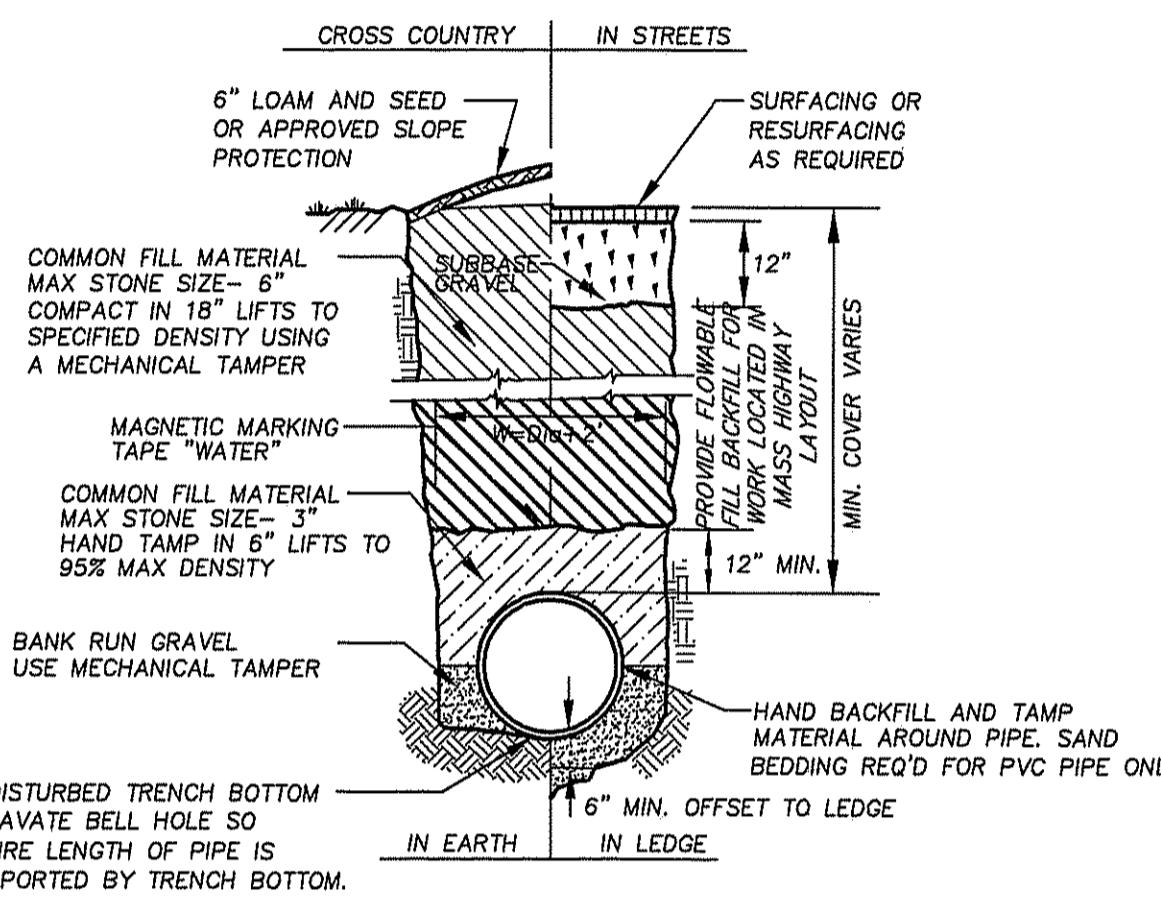
CONCRETE PADS

NOT TO SCALE



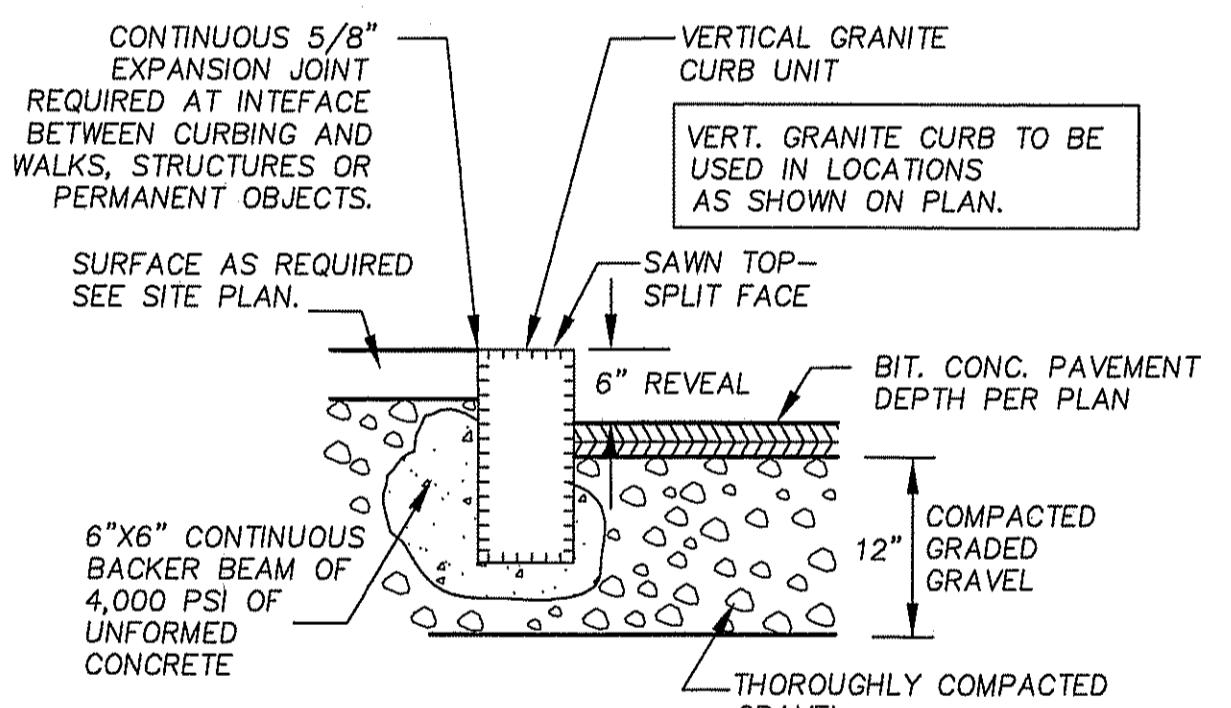
SLOPED TO VERTICAL TRANSITION CURBING

NOT TO SCALE



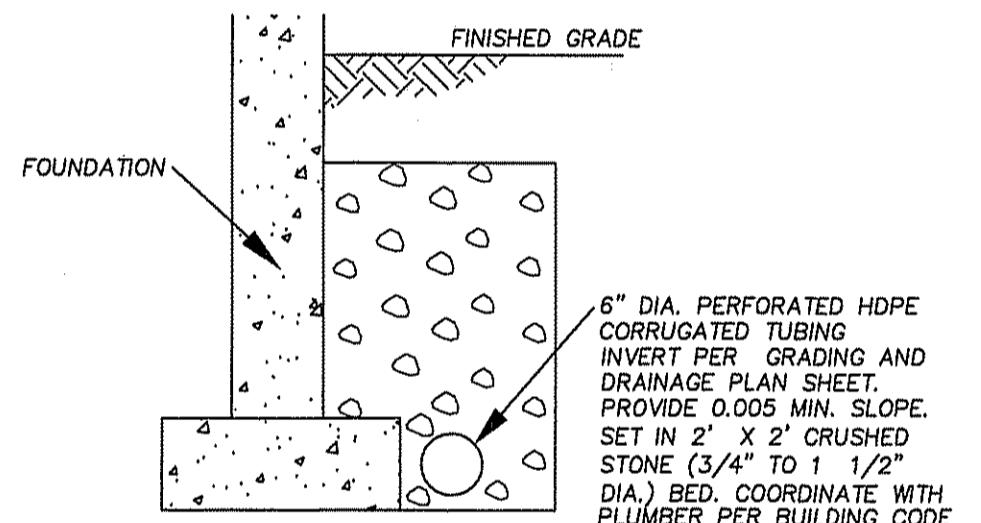
TYPICAL WATER MAIN TRENCH

NOT TO SCALE



VERTICAL GRANITE CURB

NOT TO SCALE

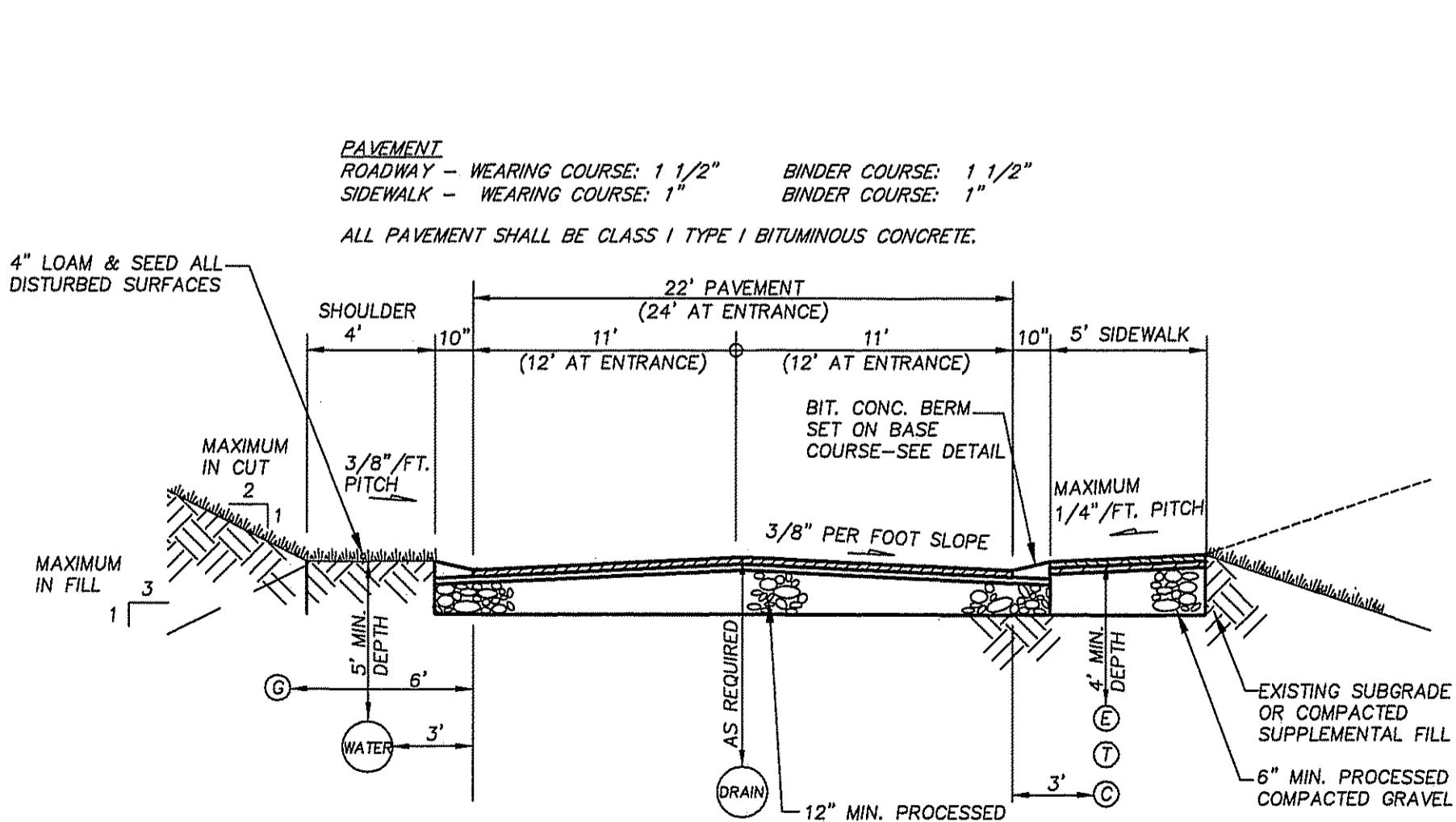


FOUNDATION DRAIN

NOT TO SCALE

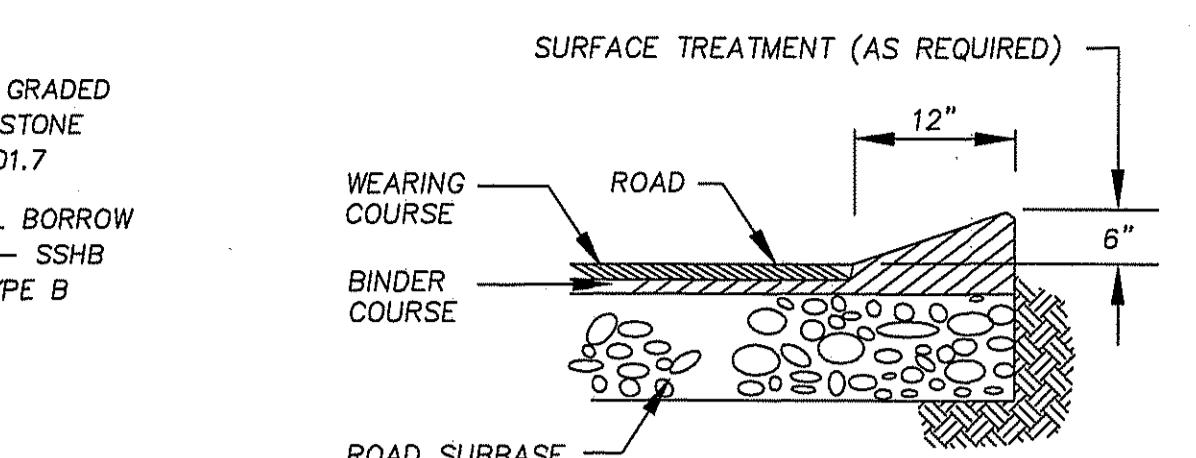
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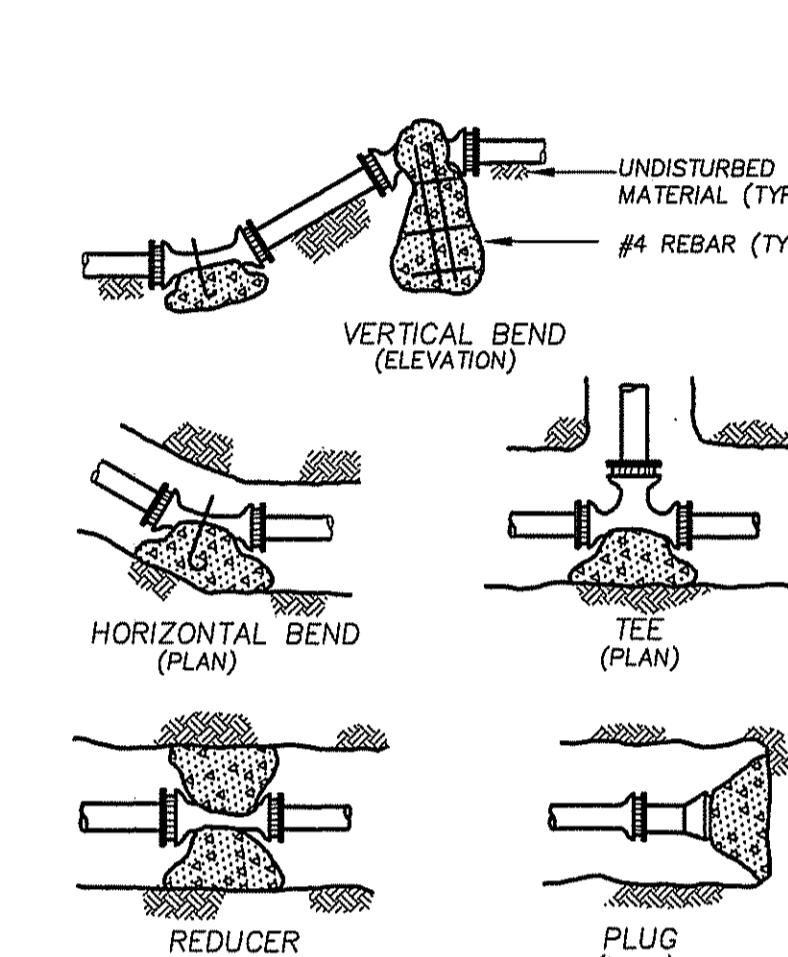
TYPICAL ROAD CROSS SECTION

NOT TO SCALE



WATER MAIN TRENCH

NOT TO SCALE



THRUST BLOCK DETAILS

NOT TO SCALE

AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS IN SQUARE FEET BASED ON 250 P.S.I. & 1.5 TONS/S.F. ALLOWABLE SOIL BEARING CAPACITY				
PIPE SIZE (M.)	1/4 BEND	1/8 BEND	1/16 BEND	PLUG & TEES
4,6,8	6.0	2.9	2.3	4.5
10	9.6	5.2	2.3	6.7
12	13.3	6.7	3.7	9.6
16	24.0	11.8	3.7	17.0

BEARING AREA - SQ. FT.				
NORMAL FITTING DIAMETER	90° BEND	45° BEND	BETWEEN BRANCH	DEAD END
6"	4	2	2	4
8"	7	4	3	5

1. ALL BENDS, TEES, WYES, HYDRANTS AND DEAD ENDS SHALL BE BRACED WITH CONCRETE THRUST BLOCKS.
2. BEARING AREA (H X L) IS AREA OF CONE IN CONTACT WITH WALL OF TRENCH.
3. HEIGHT (H) & LENGTH (L) AS REQUIRED TO OBTAIN BEARING AREA IN TABLE.
4. BOULDERS ARE NOT TO BE USED AS THRUST BLOCKS.

VILLAGE GREEN APARTMENTS CONSTRUCTION DETAILS

LOCATION: 15 GREAT ROAD
TOWN: LITTLETON, MASSACHUSETTS
PREPARED FOR:

FIFTEEN GREAT ROAD II LLC

SCALE: AS NOTED DATE: JULY 9, 2012

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PROJECT No. 11-6303 PLAN No. 6306-CP-10



