

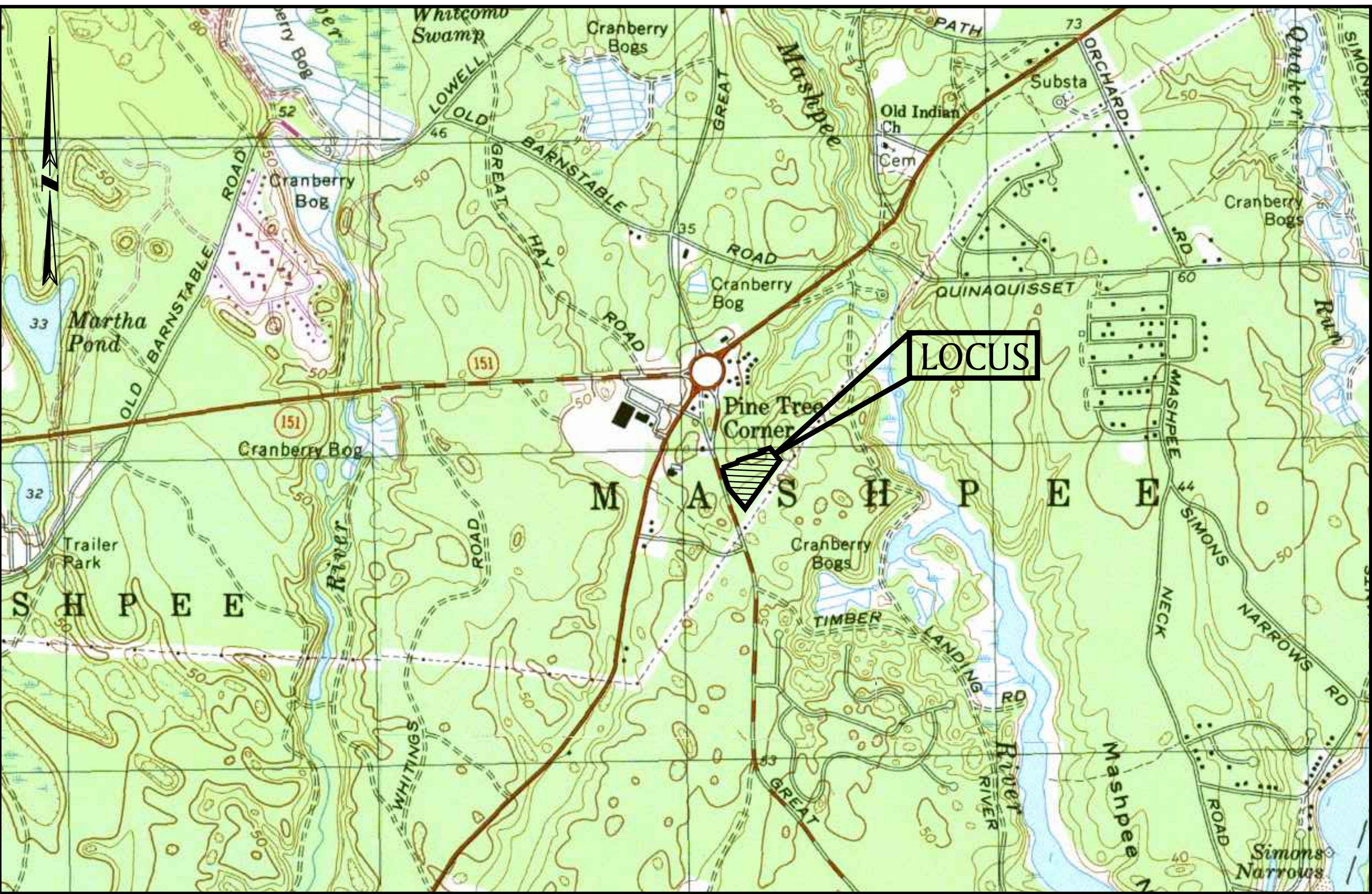
NORTHBRIDGE
MASHPEE COMMONS
58 GREAT NECK ROAD, SOUTH
MASHPEE, MASSACHUSETTS

SEPTEMBER 7, 2015

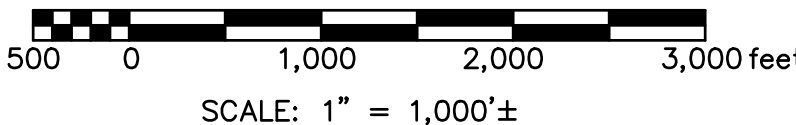
REVISED: NOVEMBER 11, 2015
REVISED: MARCH 9, 2016

LEGEND

- BIT. CONC. BITUMINOUS CONCRETE
CABLE MANHOLE
CATCH BASIN
CONC. CONCRETE
CONCRETE BOUND
CONCRETE BOUND W/DRILL HOLE
CONIFEROUS TREE
DECIDUOUS TREE
DRAIN MANHOLE
ELECTRIC HANDHOLE
ELECTRIC MANHOLE
GAS GATE
GUY ANCHOR
GUY POLE
HANDHOLE
HYDRANT
IRON PIPE
IRON ROD
LIGHT POLE
MAIL BOX
MANHOLE
METAL POST
RECORD INFORMATION
SEWER MANHOLE
SHRUB
SIGN
STAKE/NAIL
STONE BOUND
STONE BOUND W/DRILL HOLE
TELEPHONE MANHOLE
UTILITY ACCESS PANEL
UTILITY POLE
UTILITY POLE W/LIGHT
UTILITY POLE W/TRANSFORMER
WATER GATE
WATER MANHOLE
WATER LINE
TELEPHONE LINE
DRAIN LINE
STEAM LINE
SEWER LINE
GAS LINE
UNDERGROUND ELECTRIC CONDUIT
OVERHEAD WIRE
COMB. ELEC/TELE/CABLE LINE
CABLE TELEVISION CONDUIT
TREELINE
BRUSHLINE
CHAIN LINK FENCE
STOCKADE FENCE
POST AND WIRE FENCE
WOOD GUARDRAIL



LOCUS MAP



PREPARED FOR:

THE NORTHBRIDGE COMPANIES
71 THIRD AVENUE
BURLINGTON, MA 01803

PREPARED BY:

BSC GROUP
349 Route 28, Unit D
W. Yarmouth, Massachusetts
02673
508 778 8919



3/9/16

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

INDEX OF DRAWINGS

G-100	TITLE SHEET
V-100	EXISTING CONDITIONS PLAN
C-100	LAYOUT & MATERIALS PLAN
C-101	GRADING & DRAINAGE PLAN
C-102	UTILITY PLAN
C-103	EROSION & SEDIMENTATION CONTROL PLAN
C-200-203	CONSTRUCTION DETAILS
L-100	LANDSCAPE PLAN
L-101	LANDSCAPE DETAILS

GENERAL NOTES:

- 1.) THIS PLAN WAS PREPARED FROM AN ACTUAL ON-THE-GROUND SURVEY PERFORMED BY THE BSC GROUP, INC. BETWEEN AUGUST 12, 2014 AND AUGUST 14, 2014.
- 2.) THE PROPERTY LINES SHOWN HEREON ARE TAKEN FROM RECORD PLANS AND DEEDS AND ARE BASED ON THE ABOVE MENTIONED FIELD SURVEY. A FURTHER PLAN HAS BEEN SUBMITTED TO THE MASHPEE PLANNING BOARD, DATED JULY 24, 2015 AND ENDORSED BY THE PLANNING BOARD AT A REGULAR SCHEDULED MEETING
- 3.) ELEVATIONS SHOWN ARE BASED ON NAVD 1988 AND DERIVED FROM GPS OBSERVATIONS MADE AT THE TIME OF THIS SURVEY.
TBM SET: SEE PLAN
- 4.) THE LOCUS PROPERTY DOES NOT LIE WITHIN FLOOD HAZARD ZONE AE (BASE FLOOD ELEVATION 10') SEE FEMA FIRM MAP 25001C0751J, EFFECTIVE DATE JULY 16, 2014.

ZONING DISTRICT: C1

ITEM	REQUIRED	PROVIDED
MINIMUM LOT AREA	40,000 S.F.	158,765 S.F. (3.64 AC.)
MINIMUM LOT FRONTAGE	200'	205.07'
FRONT YARD SETBACK	40'	N/A
SIDEYARD SETBACK	20'	N/A
REAR YARD SETBACK	40'	N/A
BUILDING HEIGHT	2 STORIES, 35'MAX.	N/A
MAXIMUM LOT COVERAGE	25%	N/A

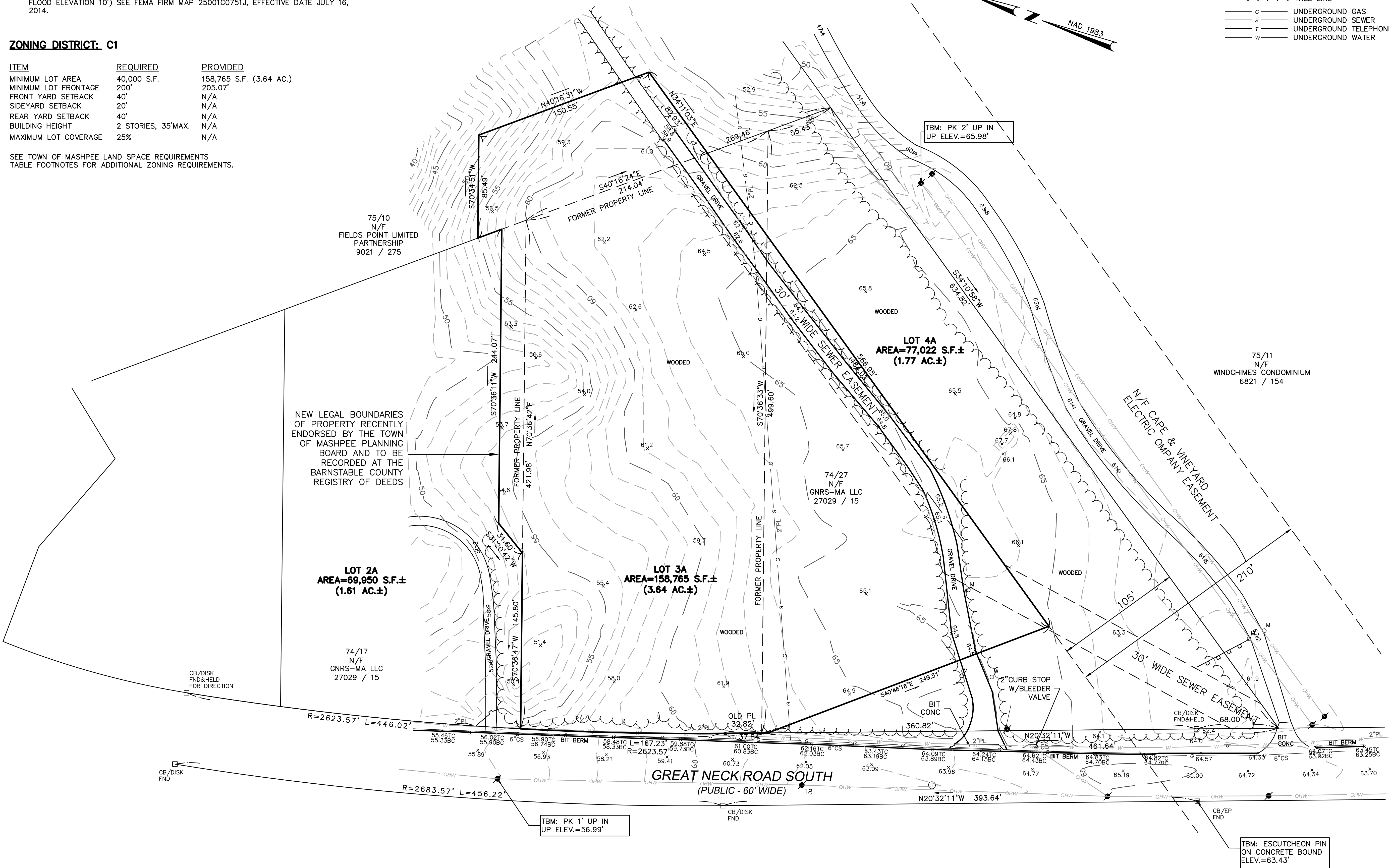
SEE TOWN OF MASHPEE LAND SPACE REQUIREMENTS
TABLE FOOTNOTES FOR ADDITIONAL ZONING REQUIREMENTS.

RESEARCH:

- 1.) RECORDED BARNSTABLE COUNTY REGISTRY OF DEEDS
DEED BOOK 27029, PAGE 15 (LOCUS)
DEED BOOK 9021, PAGE 278 (30' WIDE SEWER & UTILITY EASEMENT)
DEED BOOK 1186, PAGE 210 (210' WIDE CAPE & VINEYARD ELECTRIC COMPANY EASEMENT)
PLAN BOOK 647, PLAN 94 (LOTS 3 & 4)
PLAN BOOK 400, PLAN 40 (PARCEL 1A)
PLAN BOOK 350, PLAN 16 (210' WIDE CAPE & VINEYARD ELECTRIC COMPANY EASEMENT)
UNRECORDED PLAN BY BSS DESIGN, DATED JULY 24, 2015
- 2.) TOWN OF MASHPEE ASSESSORS MAP 74, PARCEL 27.

LEGEND:

- BIT BITUMINOUS
CONC CONCRETE
M METAL POLE
S SEWER MANHOLE
T SIGN
59.41 SPOT GRADE
1 TELEPHONE MANHOLE
TC/BC TOP CURB/BOTTOM CURB
U UTILITY POLE
W WOOD POST
OHW OVERHEAD WIRE
TREE LINE
G UNDERGROUND GAS
S UNDERGROUND SEWER
T UNDERGROUND TELEPHONE
W UNDERGROUND WATER



CRAIG A. FIELD DATE
PROFESSIONAL LAND SURVEYOR

NORTHBRIDGE
MASHPEE COMMONS

GREAT NECK ROAD SOUTH
IN
MASHPEE
MASSACHUSETTS
(BARNSTABLE COUNTY)

EXISTING CONDITIONS
PLAN

SEPTEMBER 7, 2015

REVISIONS:		
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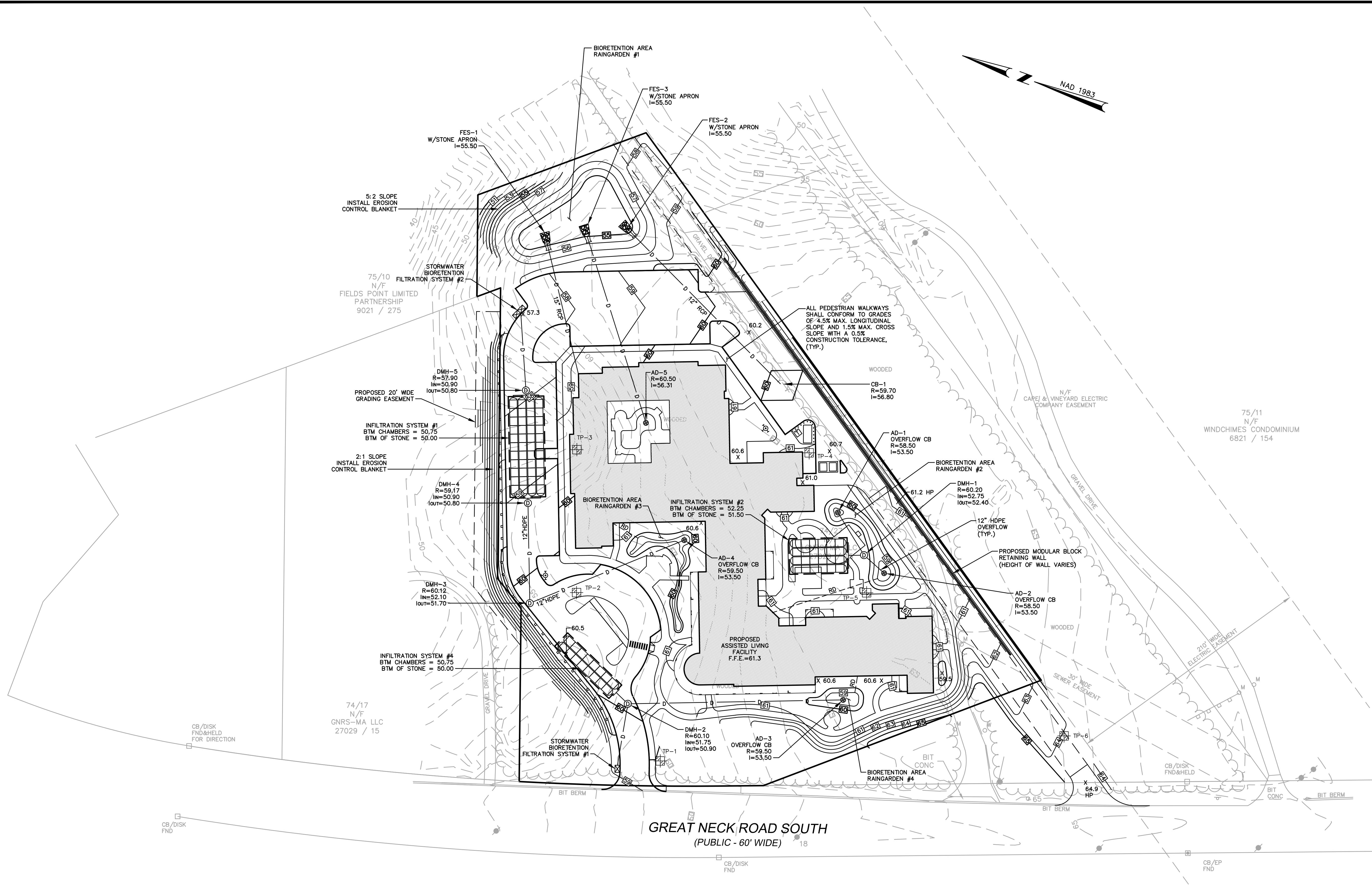
PERMITTING PLANS
NOT FOR CONSTRUCTION

PREPARED FOR:
THE NORTHBRIDGE COMPANIES
71 THIRD AVENUE
BURLINGTON, MA 01803

BSC GROUP
349 Route 28, Unit D
W. Yarmouth, Massachusetts
02673
617 896 4300

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SCALE: 1" = 40'
0 20 40 80 FEET
FILE: \\bsc\bos\2321600\Survey\Drawings\...
DWG. NO:
JOB. NO: 23216.00 SHEET V-100

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3/9/16

BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

NORTHBRIDGE
MASHPEE COMMONS

GREAT NECK ROAD SOUTH
IN
MASHPEE
MASSACHUSETTS
(BARNSTABLE COUNTY)

GRADING &
DRAINAGE PLAN

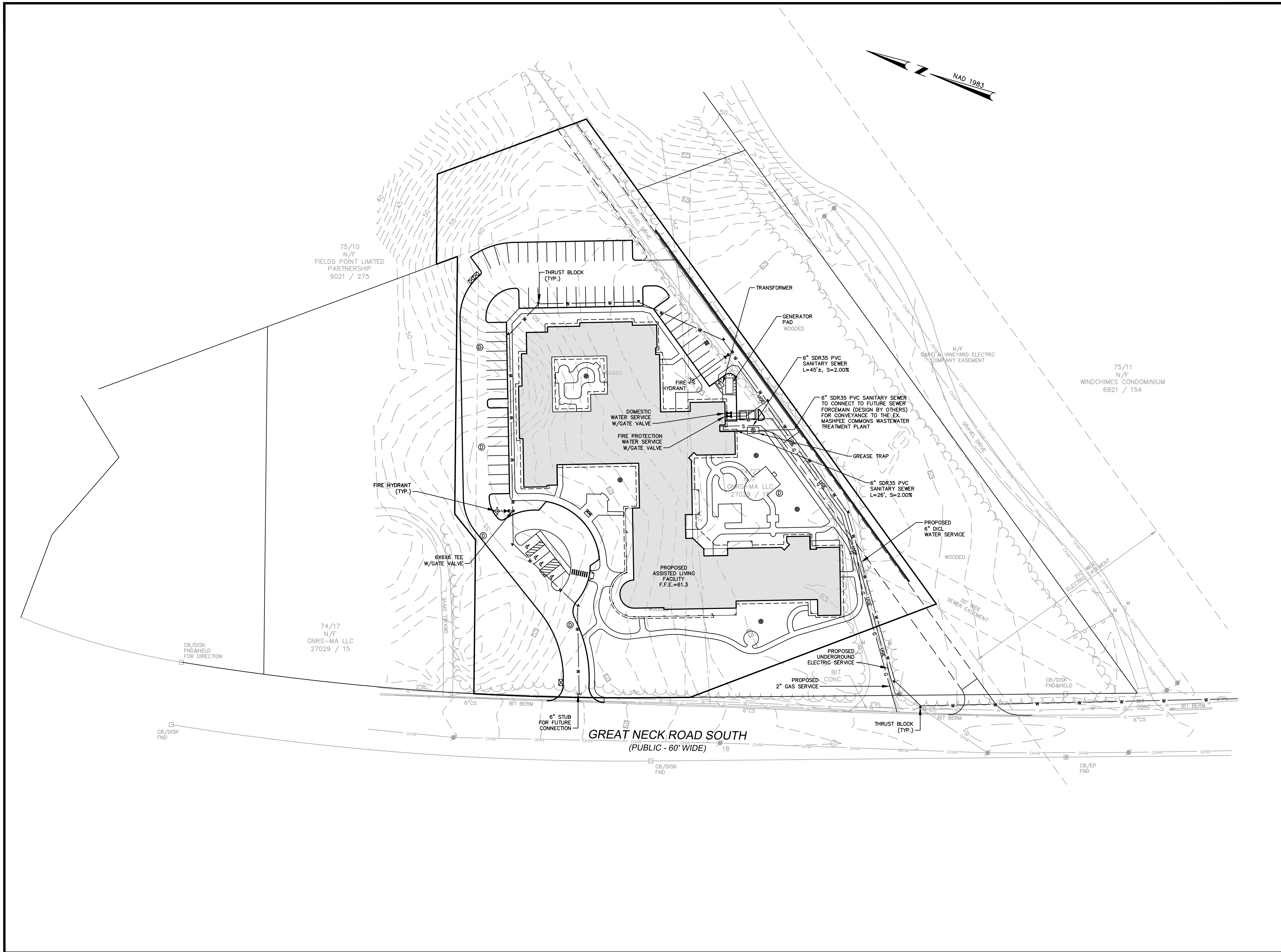
SEPTEMBER 7, 2015

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MASHPEE COMMONS

GREAT NECK ROAD SOUTH
IN
MASHPEE
MASSACHUSETTS
(BARNSTABLE COUNTY)

UTILITIES PLAN

SEPTEMBER 7, 2015

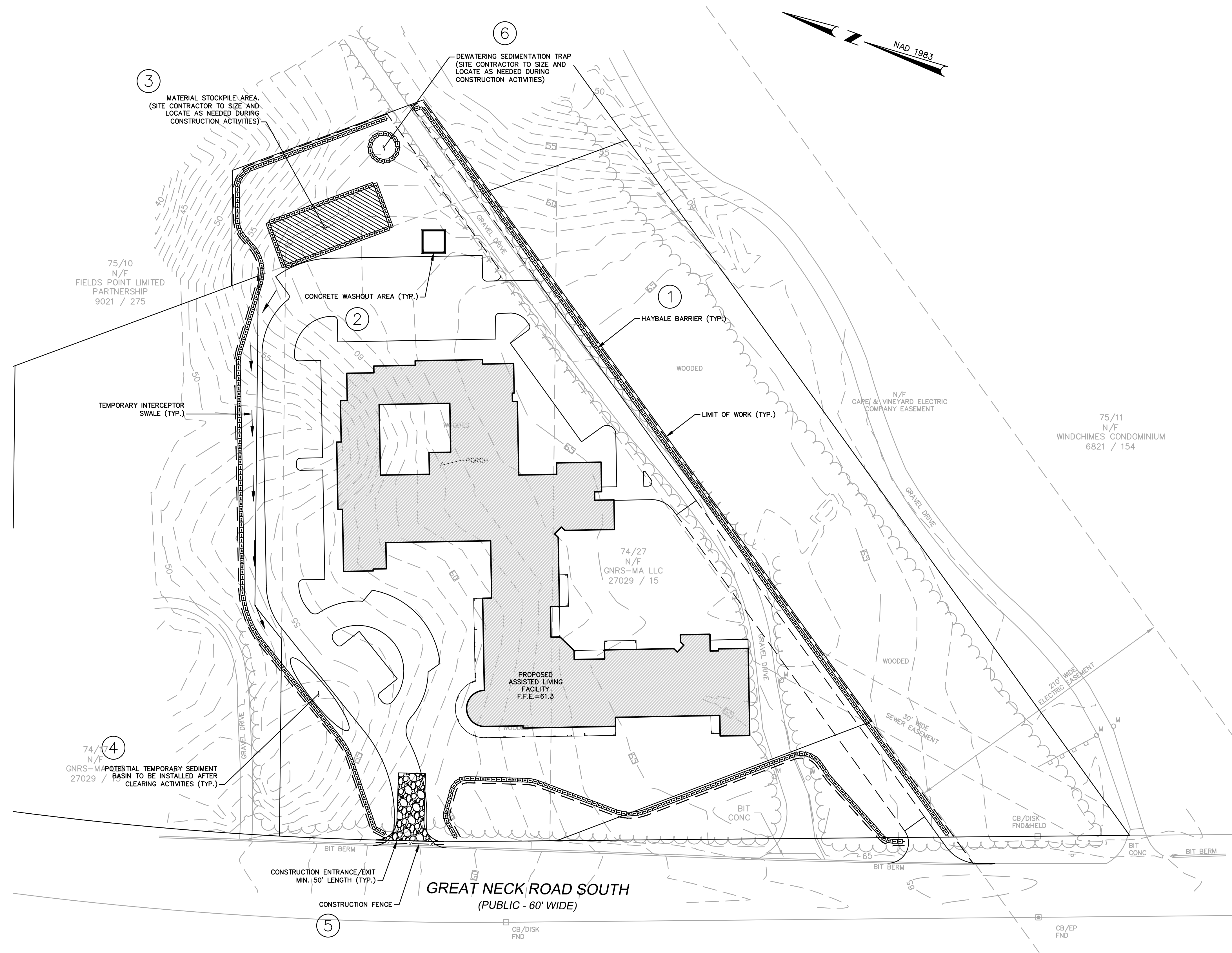
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349 Route 28, Unit D
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02673
617 896 4300

1. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SOIL DISTURBANCE. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA.
2. MINIMIZE TOTAL AREA OF DISTURBANCE AND PROTECT NATURAL FEATURES AND SOIL.
3. THE CONTRACTOR SHALL SEQUENCE ALL ACTIVITIES TO MINIMIZE SIMULTANEOUS AREAS OF DISTURBANCE. MASS CLEARING AND GRADING OF THE ENTIRE SITE SHALL BE AVOIDED.
4. MINIMIZE SOIL EROSION AND CONTROL SEDIMENTATION DURING CONSTRUCTION.
5. DIVERT UNCONTAMINATED WATER AROUND DISTURBED AREAS.
6. INSTALL AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES OR IN ACCORDANCE WITH THE 2012 EPA CONSTRUCTION GENERAL PERMIT.
7. PROTECT AND MANAGE ON AND OFF-SITE MATERIAL STORAGE AREAS (OVERBURDEN AND STOCKPILES OF DIRT, BORROW AREAS, OR OTHER AREAS USED SOLELY BY THE PERMITTED PROJECT ARE CONSIDERED A PART OF THE PROJECT).
8. COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS INCLUDING WASTE DISPOSAL, SANITARY OR SEWER REGULATIONS, AND AIR QUALITY REQUIREMENTS, INCLUDING DUST CONTROL.
9. SEDIMENT SHALL BE REMOVED ONCE THE VOLUME REACHES HALF THE HEIGHT OF THE EROSION CONTROL DEVICE. SEDIMENT SHALL BE REMOVED BELOW PRIOR TO REACHING THE LOAD-BEARING CAPACITY OF THE SILT FENCE WHICH MAY BE LOWER THAN HALF THE HEIGHT.
10. SOIL STOCKPILE SIDE SLOPES SHALL NOT BE GREATER THAN 2H:IV. ALL STOCKPILES SHALL BE SURROUNDED BY SEDIMENT CONTROLS.
11. A TRACKING PAD OR OTHER APPROVED STABILIZATION METHOD SHALL BE CONSTRUCTED AT ALL CONSTRUCTION ENTRANCE/EXIT POINTS OF THE SITE TO REDUCE THE AMOUNT OF SOIL CARRIED ONTO ROADWAYS AND OFF THE SITE.
12. PERMANENT SEEDING SHALL BE UNDERTAKEN IN THE SPRING FROM MARCH THROUGH MAY, AND IN LATE SUMMER AND EARLY FALL FROM AUGUST TO OCTOBER 15. DURING THE PEAK SUMMER MONTHS AND IN THE FALL AFTER OCTOBER 15, WHEN SEEDING IS FOUND TO BE IMPRACTICAL, APPROPRIATE TEMPORARY STABILIZATION SHALL BE APPLIED. PERMANENT SEEDING MAY BE UNDERTAKEN DURING THE SUMMER IF PLANS PROVIDE FOR ADEQUATE MULCHING AND WATERING.
13. TEMPORARY SEDIMENT TRAPPING DEVICES MUST NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED IN ALL CONTRIBUTORY DRAINAGE AREAS.
14. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS OF REMOVAL.
15. DUST SHALL BE CONTROLLED AT THE SITE.
16. ALL PREVIOUSLY DISTURBED LAND SHALL BE STABILIZED BY APPROVED METHODS AFTER 14 DAYS IF LEFT UNDISTURBED. THIS INCLUDES STOCKPILES, CONSTRUCTION ENTRANCES, GRADED AREAS AND OTHER CONSTRUCTION ACTIVITY RELATED CLEARING.
17. IF WORK IS HALTED OVER WINTER MONTHS THE CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZING THE AREA THROUGH GROUND COVER PRACTICES.



- 1 HAYBALES
- 2 CONCRETE WASH OUT AREA
- 3 MATERIAL STOCKPILE AREA
- 4 TEMPORARY SEDIMENT BASIN WITH INTERCEPTOR SWALES
- 5 CONSTRUCTION ENTRANCE/EXIT
- 6 DEWATERING SEDIMENTATION TRAP

 LIMIT OF WORK
 EROSION CONTROLS CONSISTING OF HAYBALES
 CONSTRUCTION FENCING (CHAIN LINK, TYP.)

3/9/16

BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

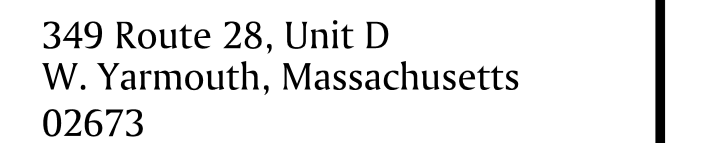
GREAT NECK ROAD SOUTH
IN
MASHPEE
MASSACHUSETTS
(BARNSTABLE COUNTY)

SEPTEMBER 7, 2015

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71 THIRD AVENUE
BURLINGTON, MA 01803



17 896 4300

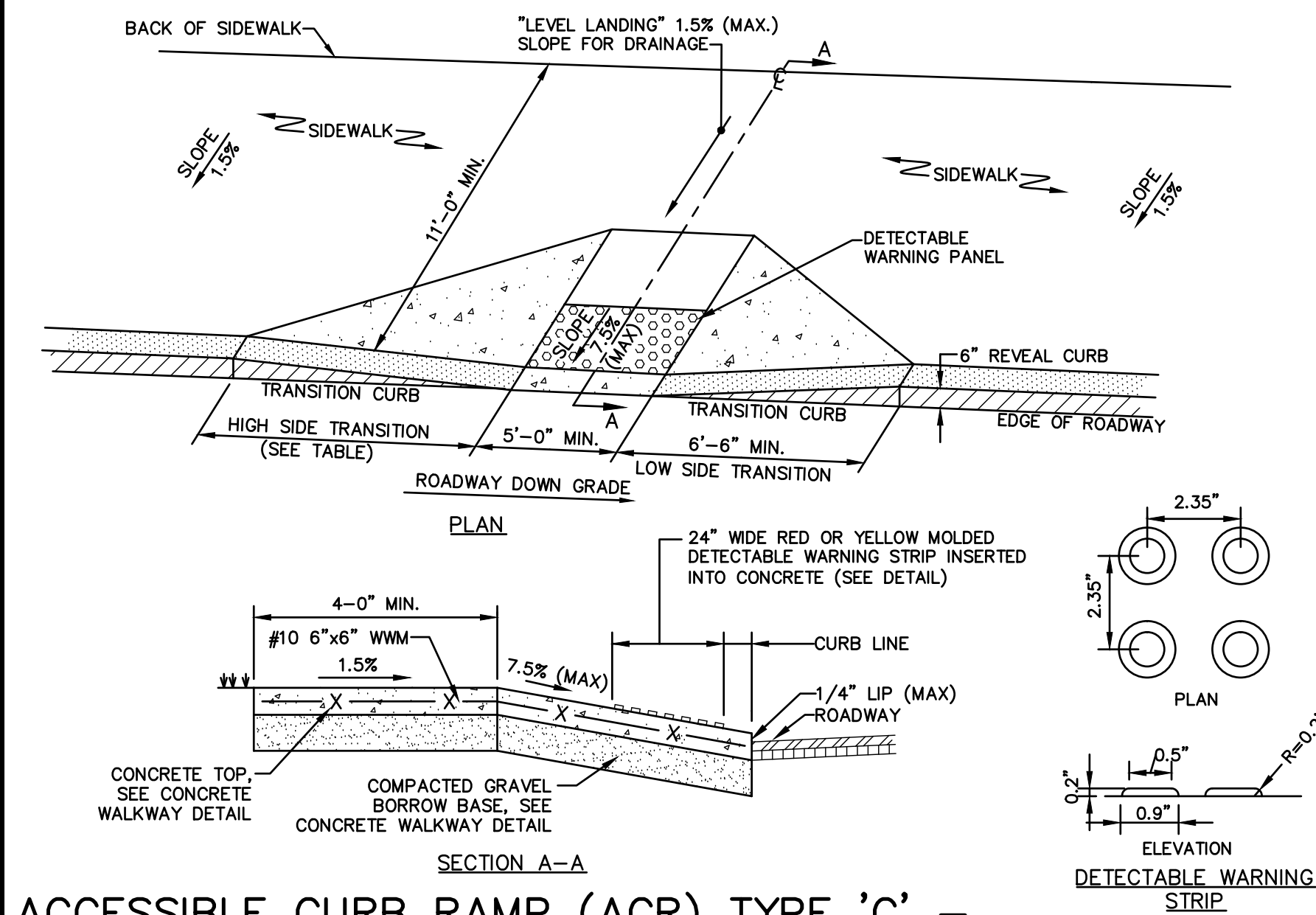
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SCALE: 1" = 40'

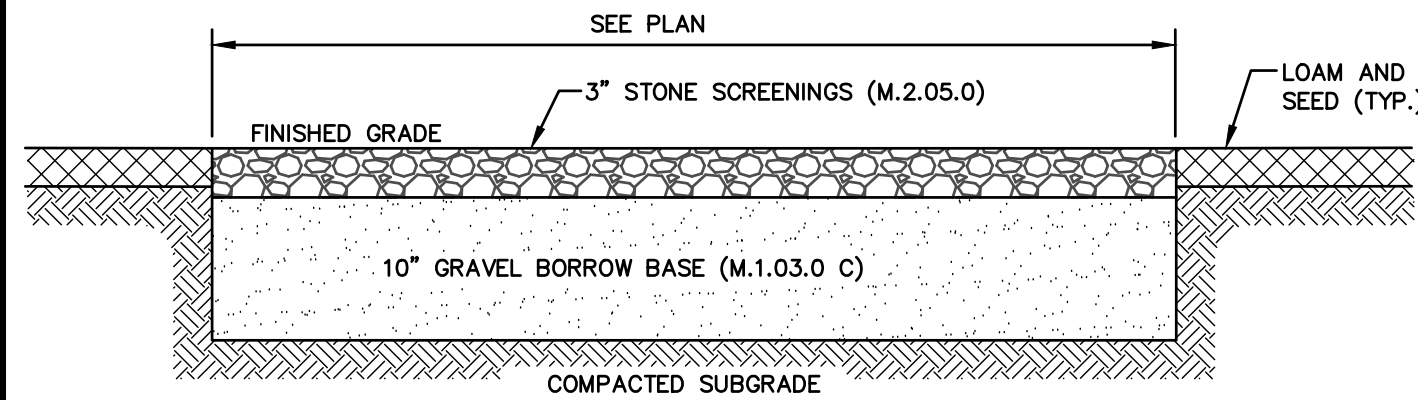


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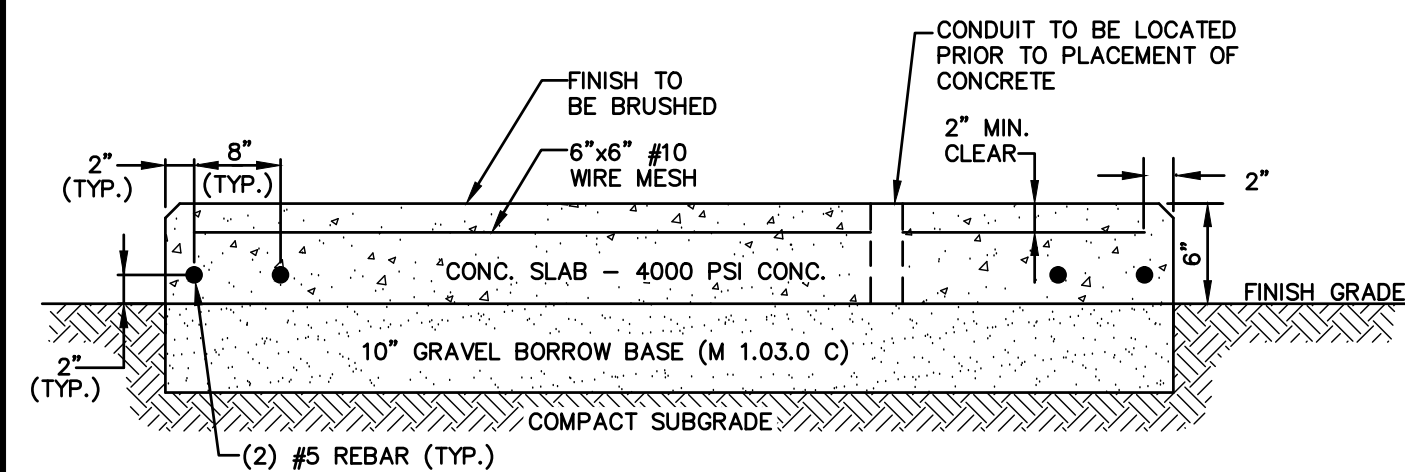
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JOB. NO: 23216.00	



ACCESSIBLE CURB RAMP (ACR) TYPE 'C' – PERPENDICULAR RAMP FOR WIDE SIDEWALKS
SCALE: NONE



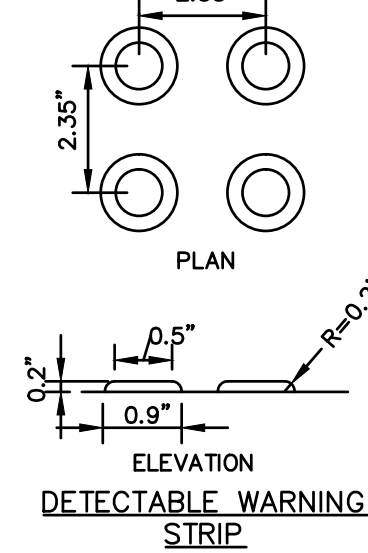
GRAVEL DRIVEWAY
SCALE: NONE



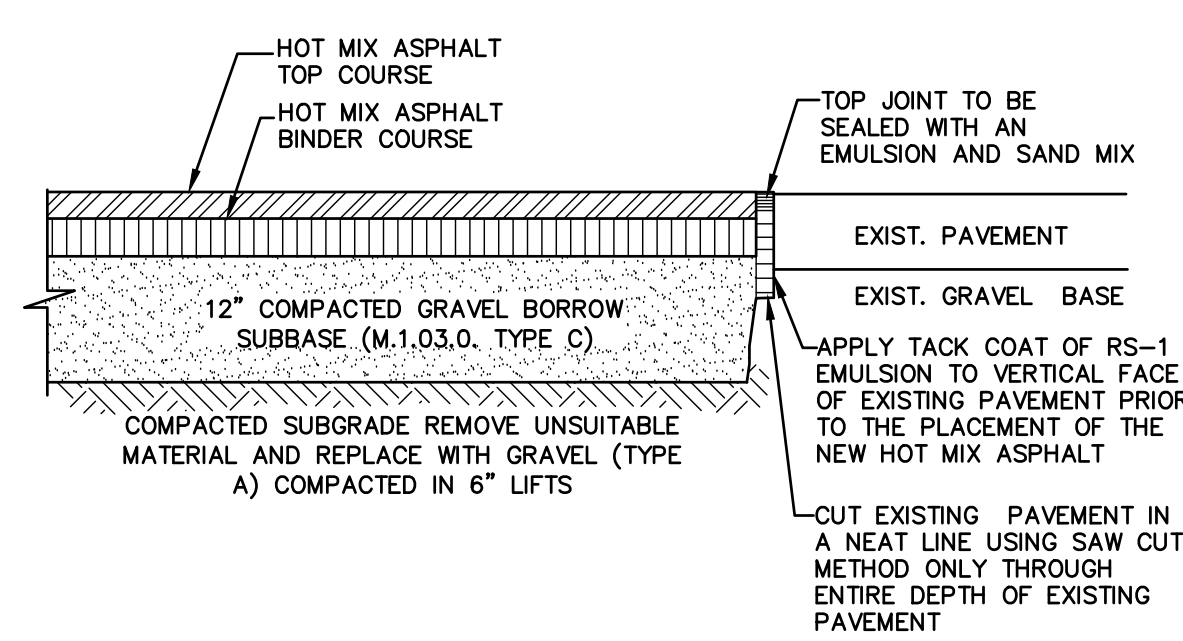
TRANSFORMER PAD
SCALE: NONE

CURB TRANSITION LENGTH FOR WHEELCHAIR RAMPS	
ROADWAY PROFILE GRADE (%)	HIGH SIDE TRANSITION LENGTH ROUNDED TO THE NEAREST 4"
0 OR LOW SIDE	6'-6"
>0 - 1	7'-8"
>1 - 2	9'-0"
>2 - 3	11'-0"
>3 - 4	14'-0"
>4	15'-0" (MAX)

- NOTES:**
1. SLOPE TOLERANCE FOR RAMP AND SIDEWALK CONSTRUCTION = $\pm 0.50\%$
 2. THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
 3. THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 7.5%.
 4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E. HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
 5. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.

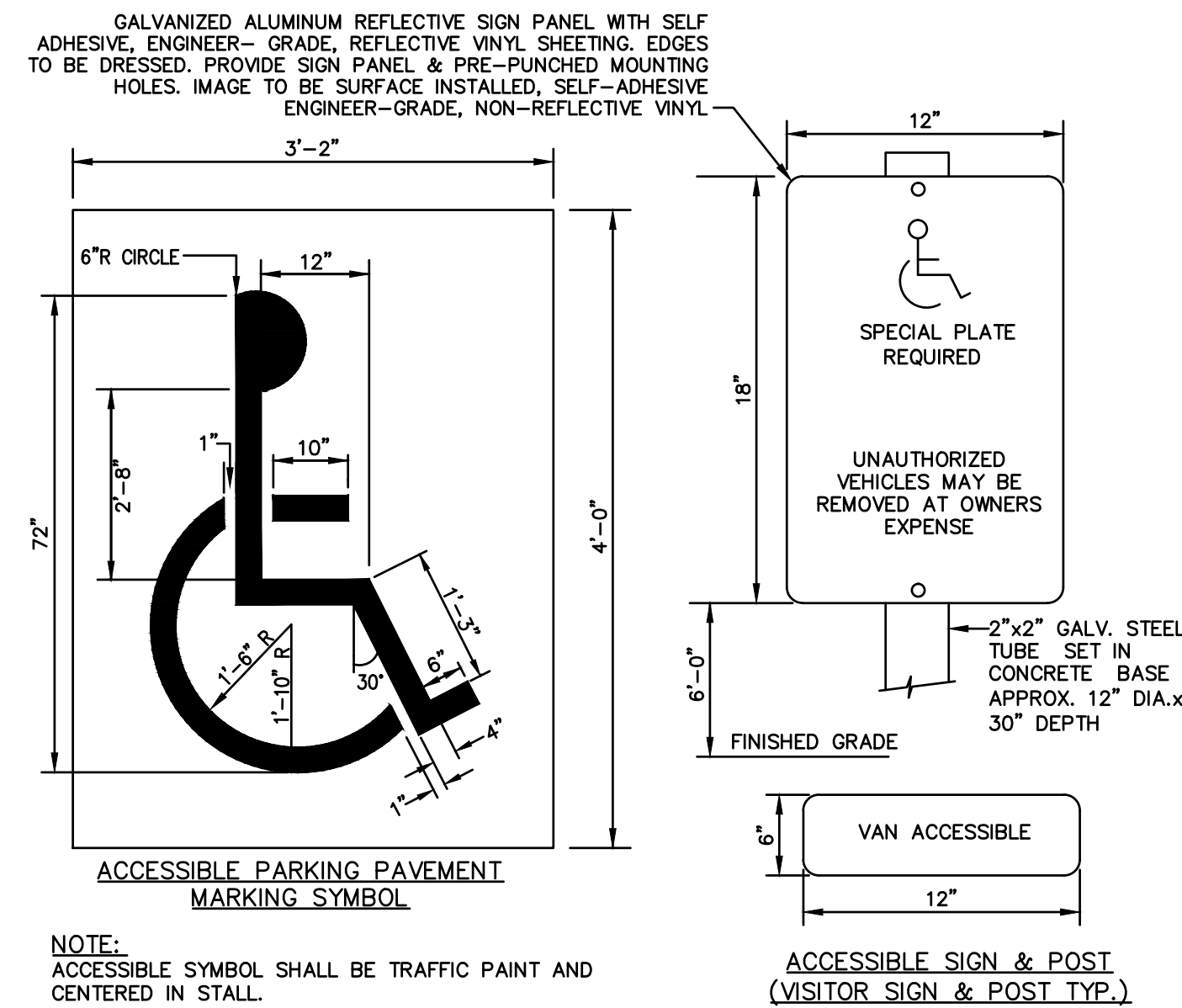


HOT MIX ASPHALT PAVEMENT JOINTS
SCALE: NONE

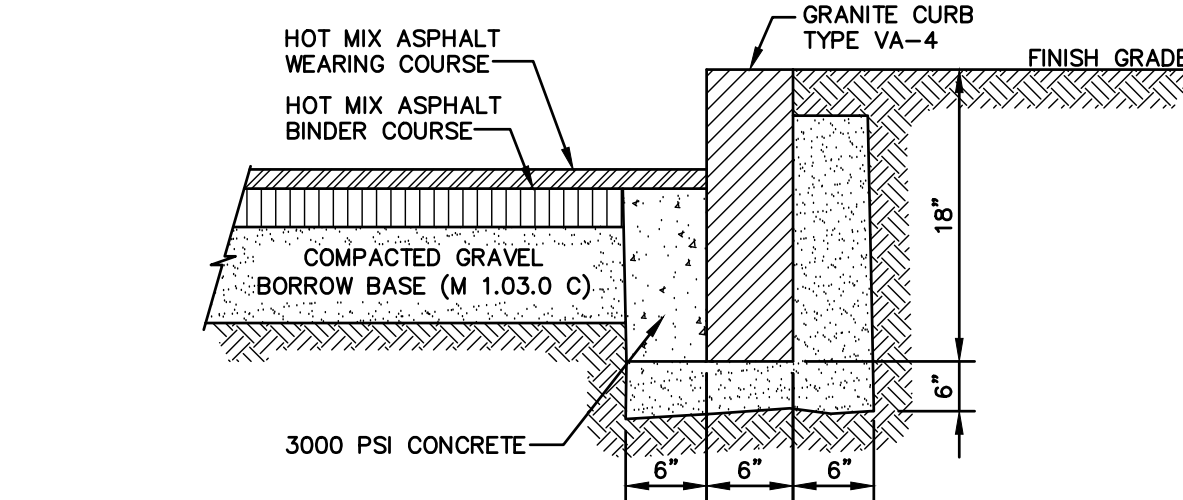


NOTE:
PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF GEOTECHNICAL INVESTIGATIONS

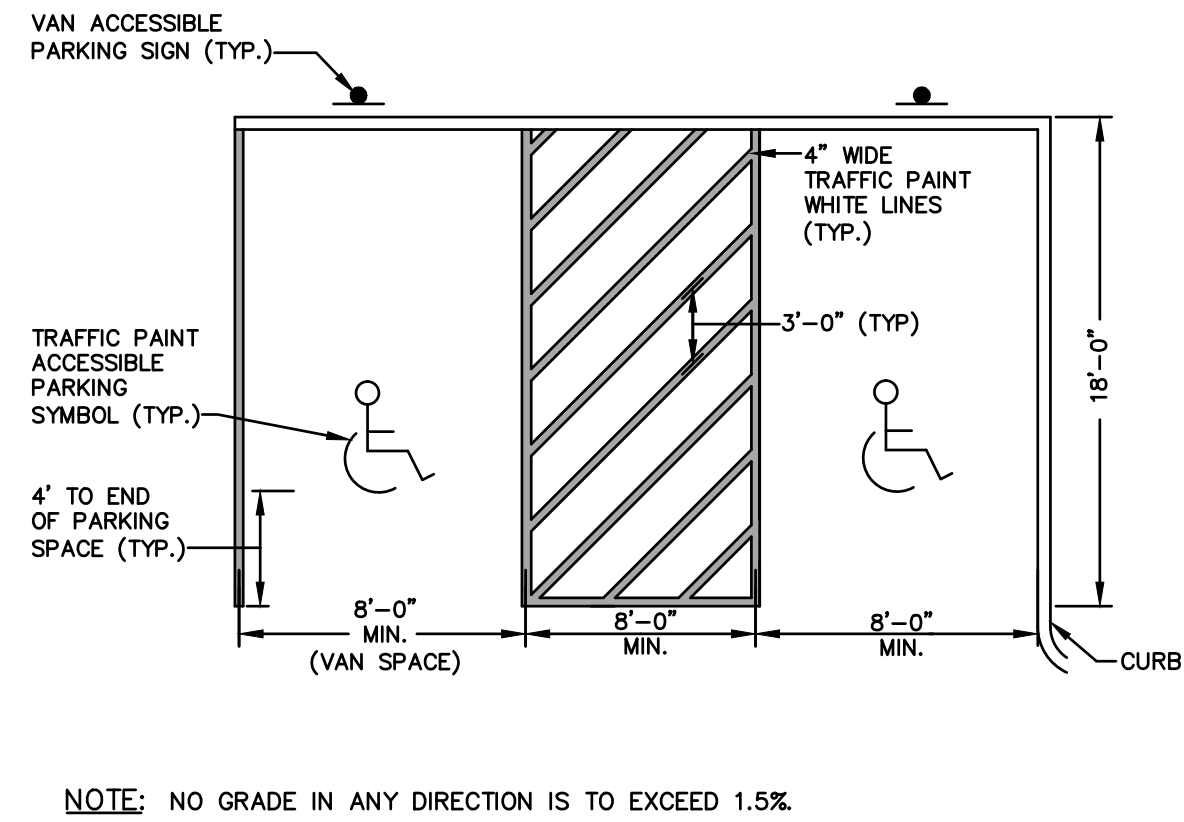
HOT MIX ASPHALT PAVEMENT SECTION
SCALE: NONE



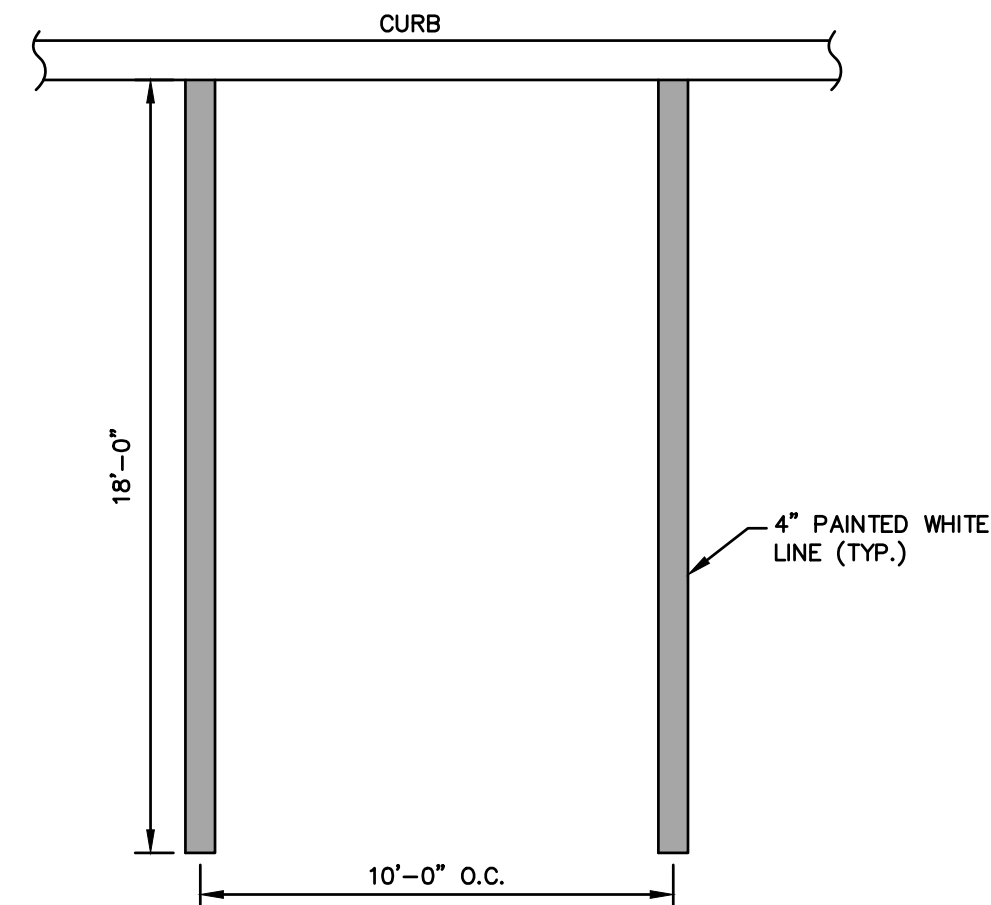
PAINTED PAVEMENT MARKINGS ACCESSIBLE PARKING SYMBOL & ACCESSIBLE PARKING SIGN
SCALE: NONE



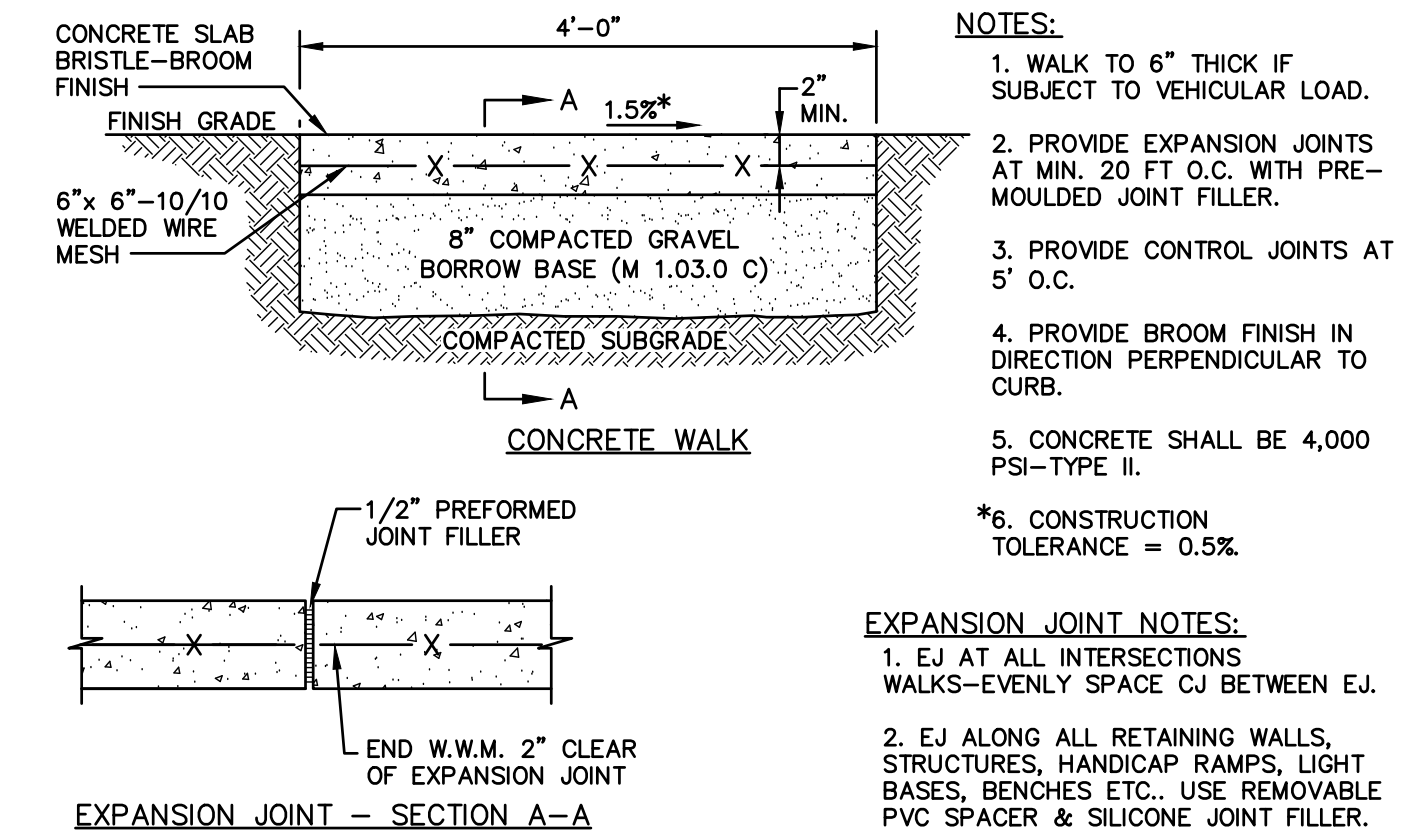
VERTICAL GRANITE CURB
SCALE: NONE



PAINTED PAVEMENT MARKINGS ACCESSIBLE PARKING SPACE
SCALE: NONE



STANDARD PAINTED PARKING MARKINGS
SCALE: NONE



EXPANSION JOINT NOTES:

1. WALK TO 6" THICK IF SUBJECT TO VEHICULAR LOAD.
2. PROVIDE EXPANSION JOINTS AT MIN. 20 FT O.C. WITH PRE-MOULDED JOINT FILLER.
3. PROVIDE CONTROL JOINTS AT 5' O.C.
4. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.
5. CONCRETE SHALL BE 4,000 PSI-TYPE II.
- *6. CONSTRUCTION TOLERANCE = 0.5%.

EXPANSION JOINT - SECTION A-A

CONTROL/EXPANSION JOINT SPACING

WIDTH	CJ	EJ
4'	5'	25'
5'	5'	25'
6'	6'	24'
7'	5'	28'
8'	4'x4'	24'
9'	4.5'x4.5'	27'
10'	5'x5'	30'

CJ= CONTROL JOINT
EJ= EXPANSION JOINT

CONCRETE WALKWAY
SCALE: NONE



BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

NORTHBRIDGE MASHPEE COMMONS

GREAT NECK ROAD SOUTH
IN
MASHPEE
MASSACHUSETTS
(BARNSTABLE COUNTY)

CONSTRUCTION DETAILS 1 OF 4

SEPTEMBER 7, 2015

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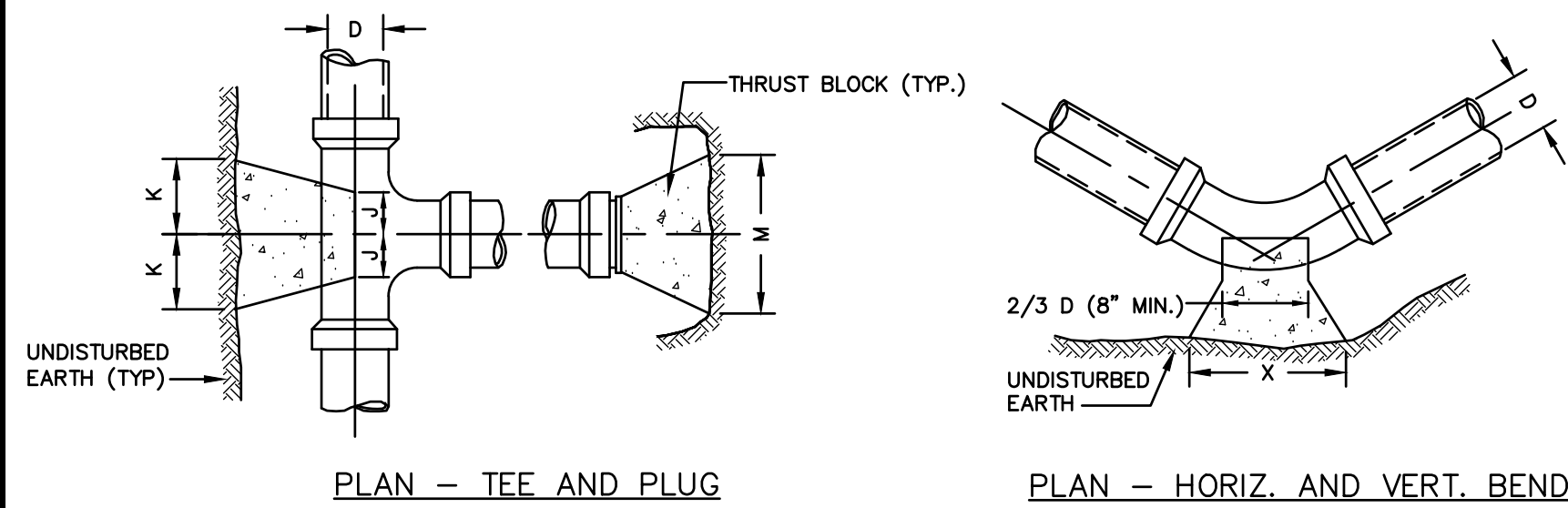
PERMITTING PLANS NOT FOR CONSTRUCTION

PREPARED FOR:
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71 THIRD AVENUE
BURLINGTON, MA 01803

BSC GROUP
349 Route 28, Unit D
W. Yarmouth, Massachusetts
02673
617 896 4300

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SCALE: AS SHOWN

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SIZE OF BRANCH	J	K	L	M	N	O
4" THRU 8"	10"	10"	1'-0"	2'-0"	1'-6"	10"
10" THRU 16"	1'-0"	1'-6"	1'-8"	3'-10"	2'-10"	1'-6"
24"	1'-4"	2'-0"	2'-6"	5'-0"	3'-6"	1'-8"

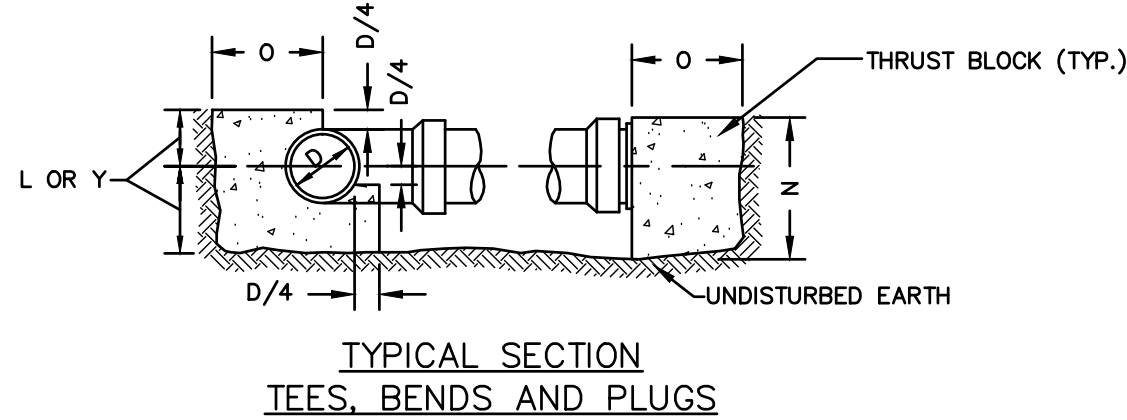
TEES AND PLUGS

	90 & 45 BENDS	22 1/2 & 11 1/4
D	4" TO 8"	10" TO 16"
X	1'-8"	3'-4"
Y	1'-2"	1'-8"

BENDS

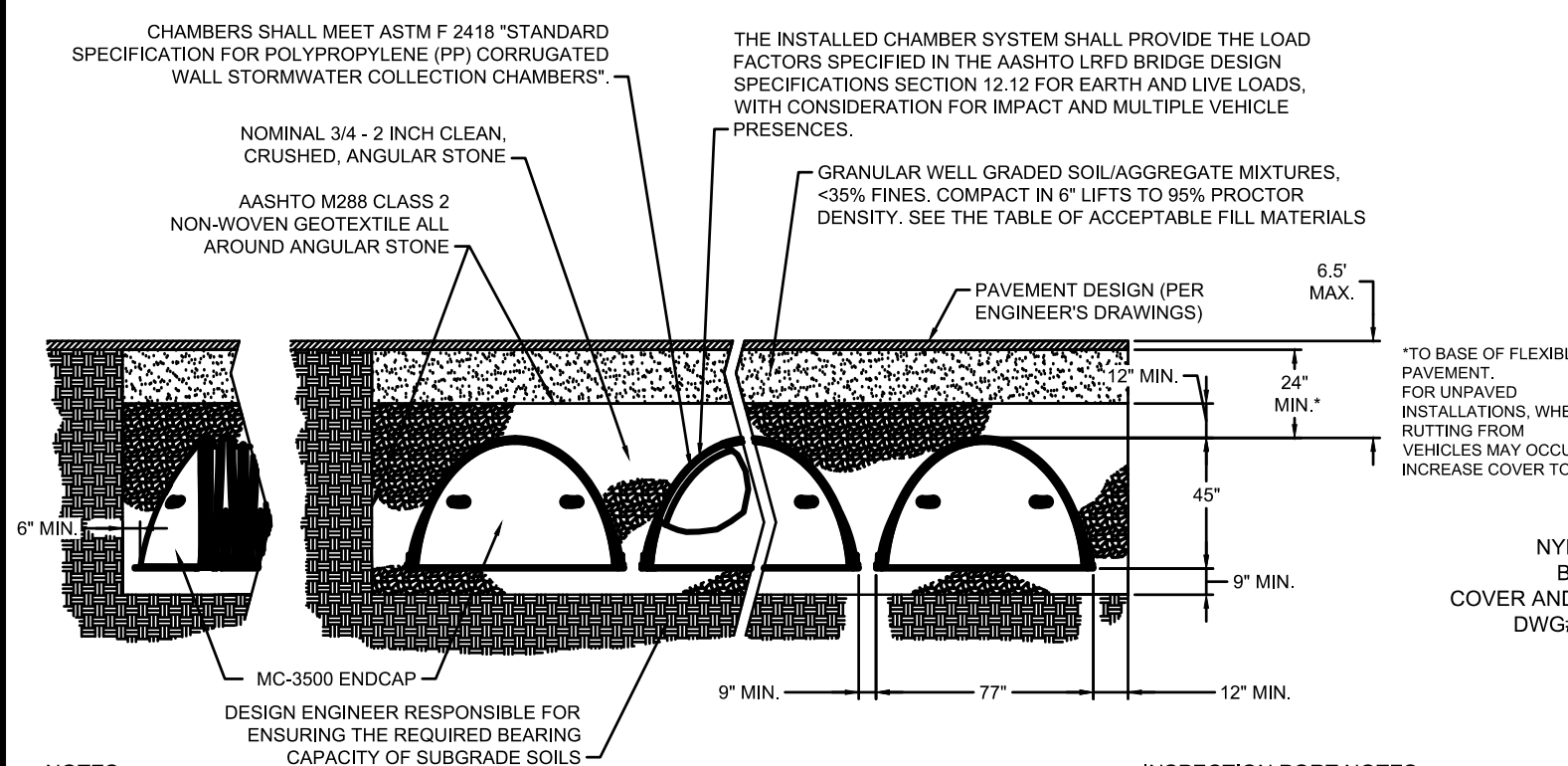
NOTES:

1. PROVIDE 3000 psi CONCRETE THRUST BLOCKS AT ALL BENDS, DEAD ENDS, & TEES UNLESS OTHERWISE DIRECTED. CONCRETE FOR ALL THRUST BLOCKS TO BE PLACED AGAINST FIRM, UNDISTURBED SOIL. PROVIDE APPROVED ANCHOR HARNESS RODS & SOCKET CLAMPS AS SPECIFIED & IN ACCORDANCE WITH PIPE MANUFACTURERS RECOMMENDATIONS WHERE SOIL HAS BEEN DISTURBED OR THRUST BLOCKS CANNOT BE USED, AS DIRECTED BY THE ENGINEER.
2. ALL SOCKET CLAMP METAL SHALL BE COATED WITH BLACK ASPHALTUM OR OTHER WATER DEPARTMENT APPROVED COATINGS.
3. CONCRETE THRUST BLOCKS POURED BEHIND 3-WAY TEE & HYDRANT SHOE TO BE USED WITH SOCKET CLAMPS.
4. NO CONCRETE SHALL COVER PIPE JOINTS, FITTING JOINTS, BOLTS OR HYDRANT DRAINS.



CONCRETE THRUST BLOCK FOR PRESSURE PIPE

SCALE: NONE

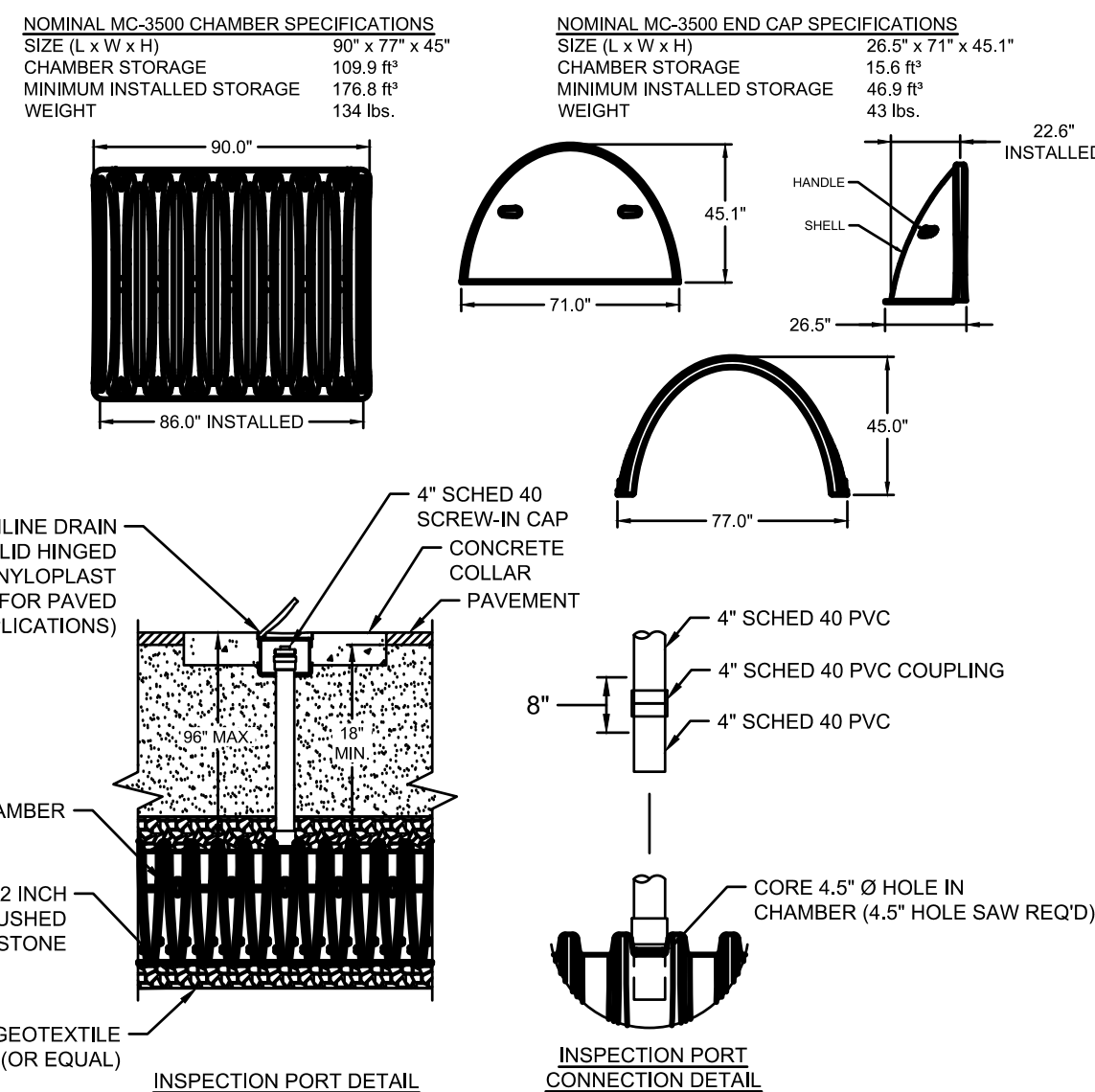


NOTES:

1. ALL DESIGN SPECIFICATIONS FOR STORMTECH MC-3500 CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH MC-3500 DESIGN MANUAL
2. THE INSTALLATION OF STORMTECH MC-3500 CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH MC-3500 INSTALLATION INSTRUCTIONS
3. THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1-888-892-2694 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH MC-3500 INSTALLATION INSTRUCTIONS
4. CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
5. PERIMETER STONE MUST ALWAYS BE BROUGHT UP EVENLY WITH BACKFILL OF BED. PERIMETER STONE MUST EXTEND HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH STRAIGHT OR SLOPED SIDEWALLS.

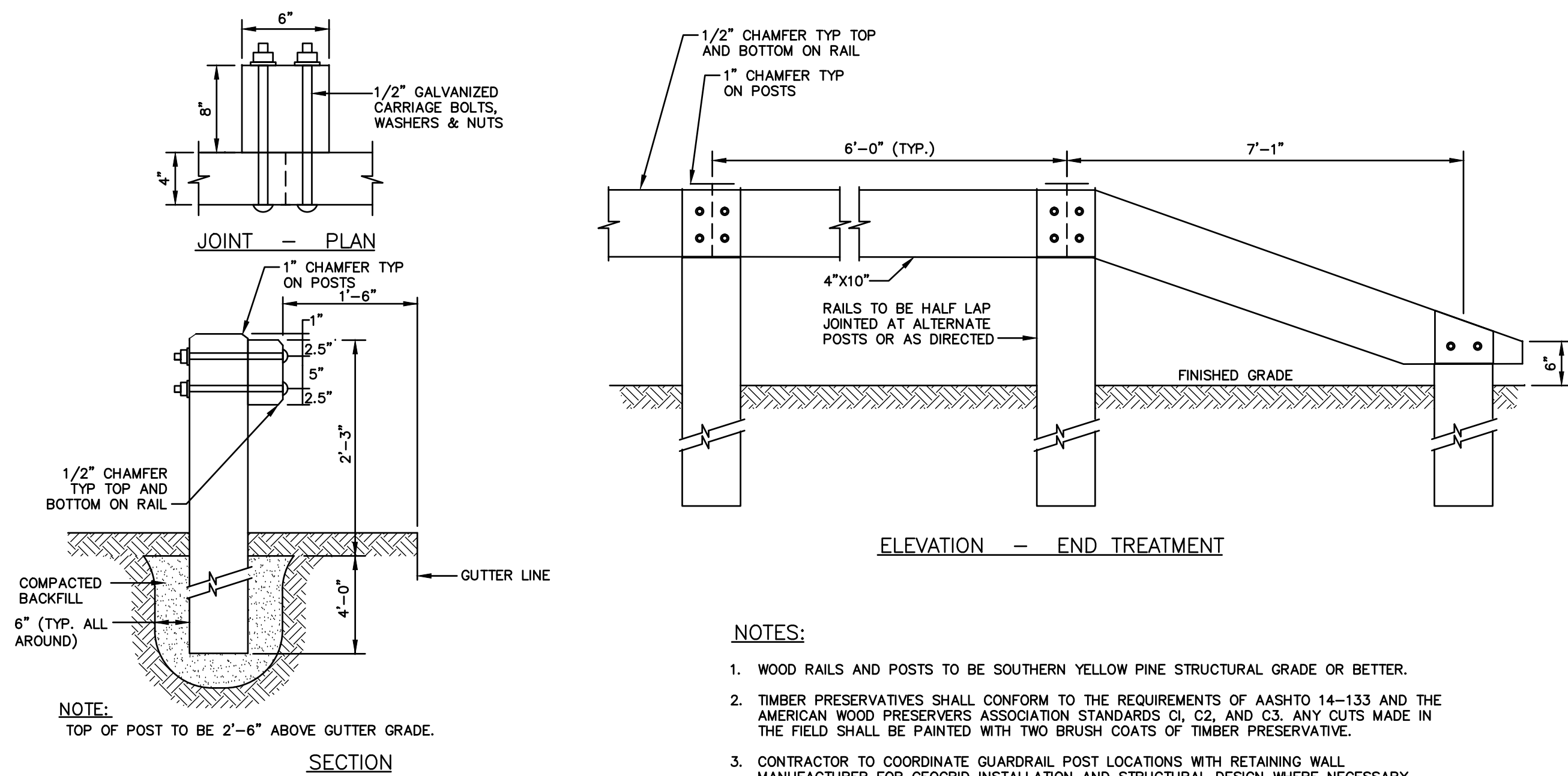
INSPECTION PORT NOTES:

1. INSPECTION PORT MUST BE CONNECTED THROUGH KNOCK-OUT LOCATED AT CENTER OF CHAMBER.
2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED.



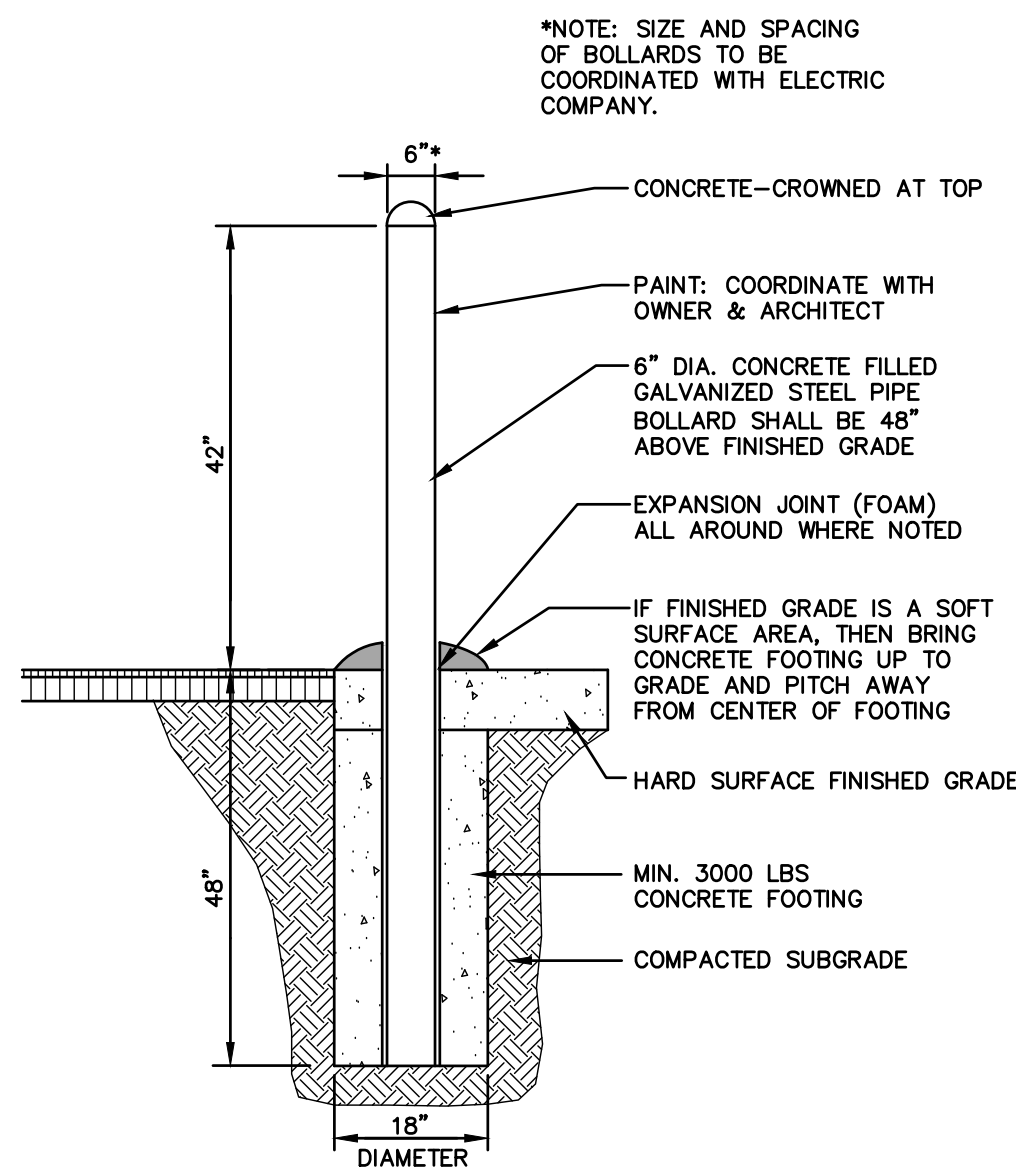
STORMTECH MC-3500 CHAMBER SYSTEM

SCALE: NONE



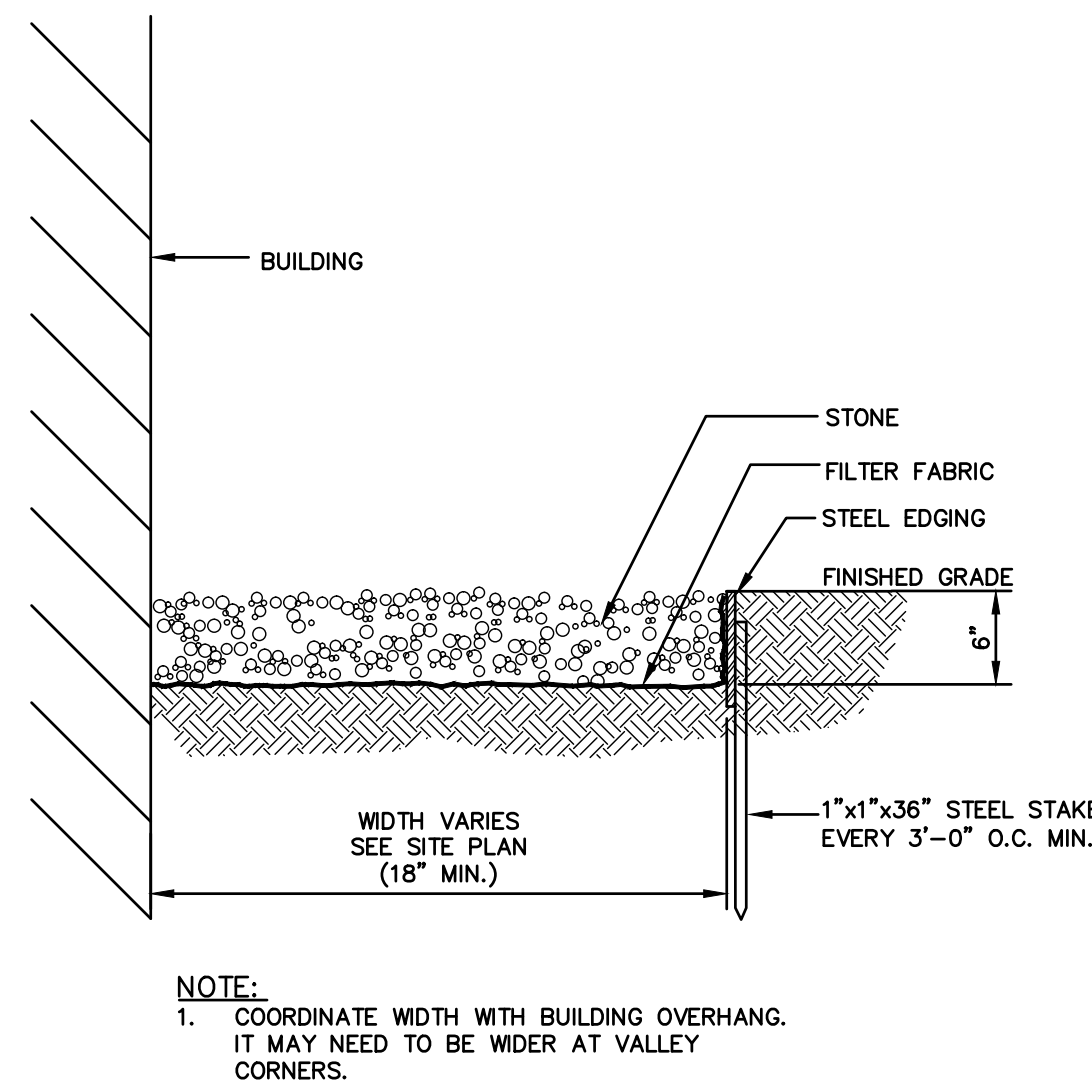
SINGLE FACE WOOD GUARD RAIL

SCALE: NONE



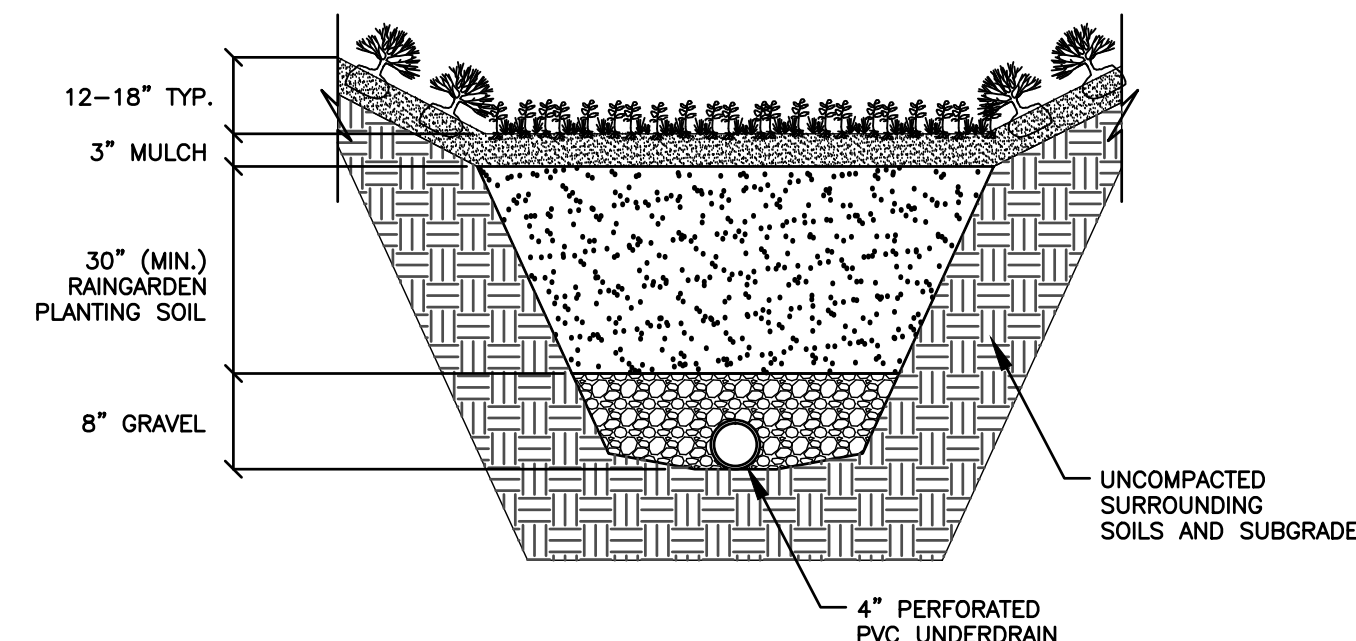
CONCRETE FILLED STEEL BOLLARD

SCALE: NONE



DRIP STRIP

SCALE: NONE

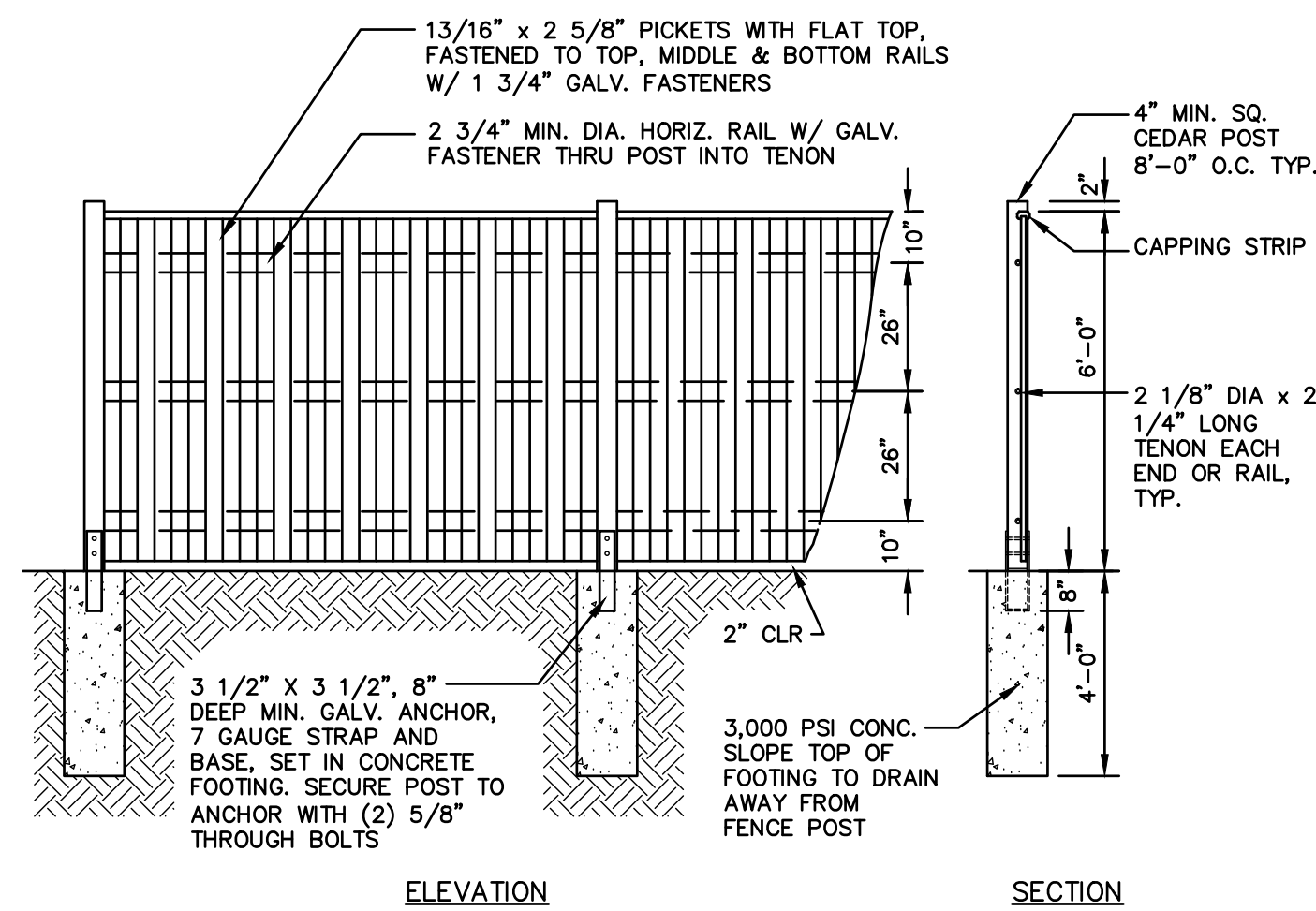


RAINGARDEN/BIORETENTION AREA

SCALE: NONE

MODULAR BLOCK RETAINING WALL VERSALOK OR APPROVED EQUAL

SCALE: NONE



NOTES:

1. ALL FENCING MATERIAL SHALL BE NORTHERN WHITE CEDAR, TO THE DIMENSIONS SHOWN ON THE DRAWING.
2. LINE FENCE TOP AND BOTTOM SHALL BE INSTALLED STRAIGHT AND TRUE. ALL POSTS AND FACING BOARDS OR SLATS SHALL BE INSTALLED PARALLEL AND PLUMB. ALL RAILS SHALL BE INSTALLED PARALLEL AND TRUE.
3. ALL GATE HARDWARE SHALL BE DOUBLE DIP HOT GALVANIZED. THE CONTRACTOR SHALL SUBMIT GATE AND FENCE SHOP DRAWINGS TO THE ENGINEER FOR REVIEW.

6' SINGLE SIDED WOOD FENCE

SCALE: NONE



BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

DATE

NORTHBRIDGE MASHPEE COMMONS

GREAT NECK ROAD SOUTH
IN
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MASSACHUSETTS
(BARNSTABLE COUNTY)

CONSTRUCTION DETAILS 2 OF 4

SEPTEMBER 7, 2015

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2	03/09/16	BUILDING FOOTPRINT

PERMITTING PLANS NOT FOR CONSTRUCTION

PREPARED FOR:
THE NORTHBRIDGE COMPANIES
71 THIRD AVENUE
BURLINGTON, MA 01803



349 Route 28, Unit D
W. Yarmouth, Massachusetts
02673

617 896 4300

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SCALE: AS SHOWN

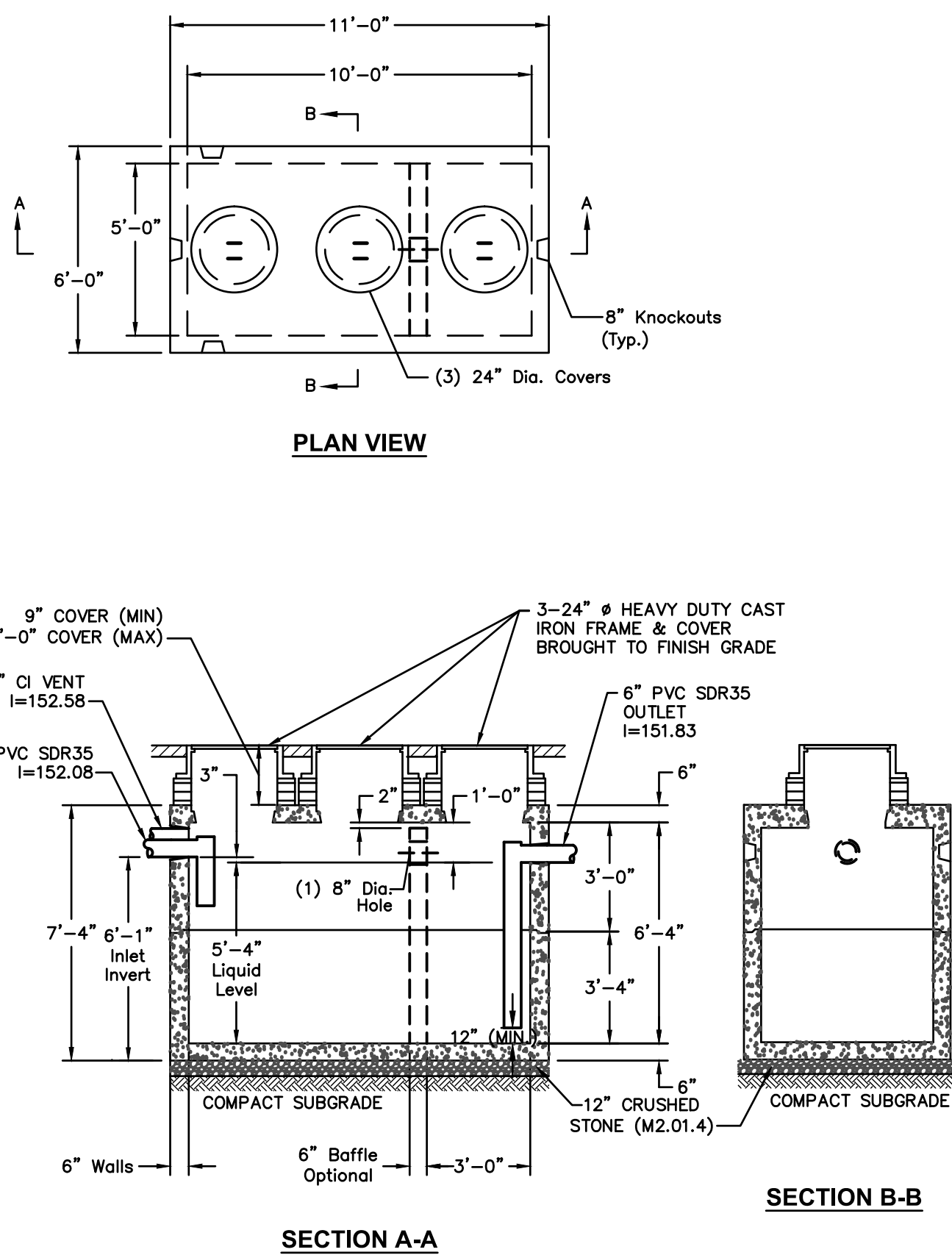
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DWG. NO: SHEET C-201

JOB. NO: 23216.00

SANITARY SEWER MANHOLE

SCALE: NONE



NOTES:

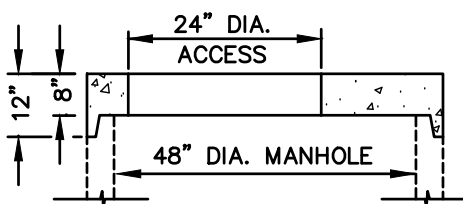
- TANK TO BE OLDCASTLE PRECAST GT-2000 TANK OR APPROVED EQUAL. GREASE TRAP TO BE DESIGNED TO MEET THE ABOVE DIMENSIONS.
- CONCRETE: 5,000 P.S.I. MINIMUM STRENGTH @ 28 DAYS.
- STEEL REINFORCEMENT: ASTM A-615, GRADE 60.
- COVER TO STEEL-1" MINIMUM.
- TANKS ARE DESIGNED TO MEET ASTM C858 AND ACI 318 WITH AASHTO HS-20 LOADING.
- EARTH COVER-0 TO 5 FEET MAX.
- CONSTRUCTION JOINT-SEALED WITH 1" DIA. BUTYL RUBBER OR EQUIVALENT.
- ALL PIPE CONNECTIONS AND CONCRETE CONSTRUCTION SHALL BE WATERTIGHT.
- RAISE COVERS TO FINISHED GRADE WITH BRICK AND MORTAR. FULL OUTER MORTAR PARGE TO PROVIDE WATERTIGHT DEAL.
- PVC VENT PIPE TO DRAIN BACK TO PUMP CHAMBER (MIN. 0.5% SLOPE).
- APPROX. WTS: TOP SECTION=6.1 TONS. BOTTOM SECTION=6.5 TONS

2,000 GALLON GREASE TRAP

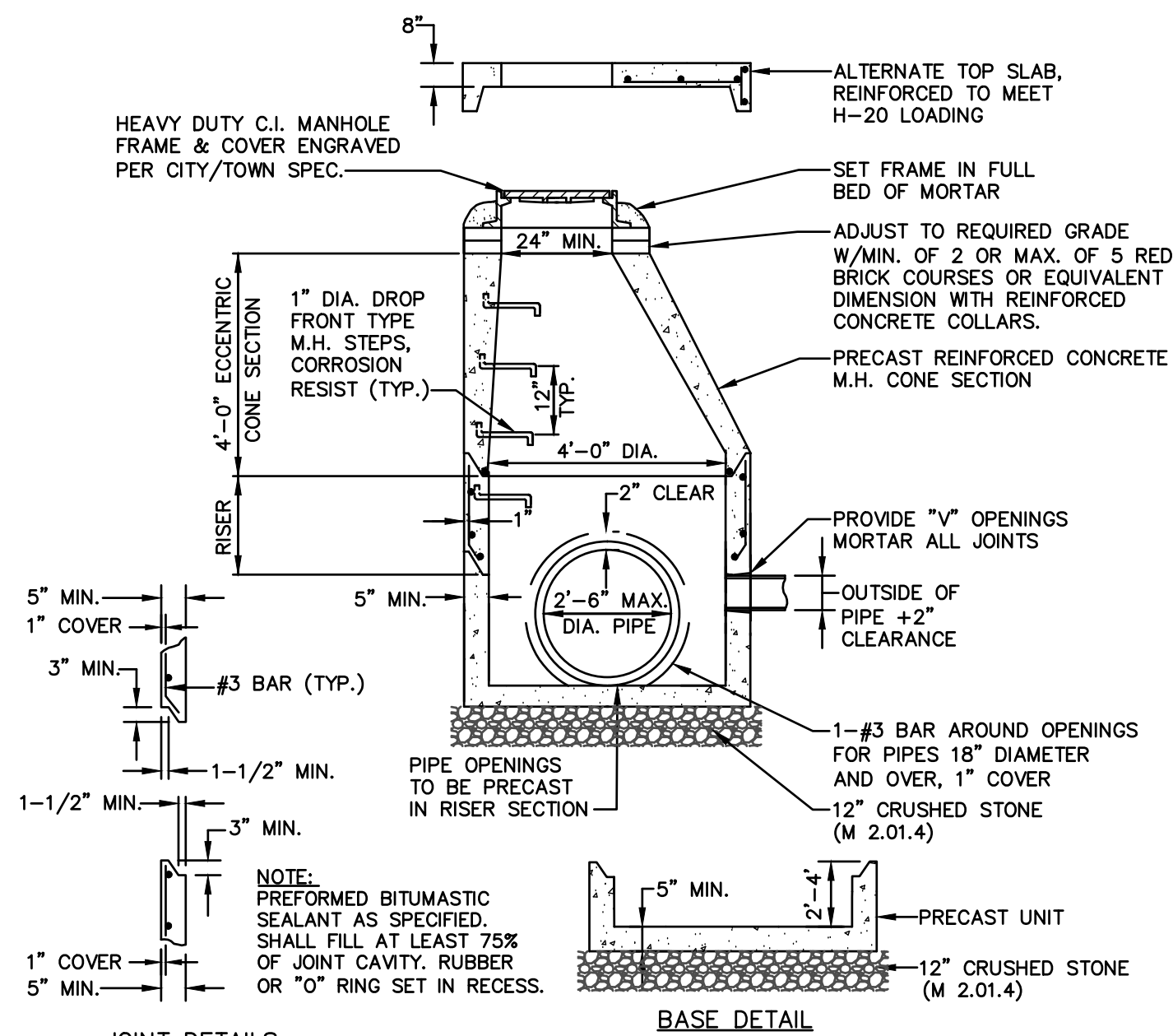
SCALE: NONE

NOTES:

- ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
- COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
- ALL EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
- JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
- MUNICIPAL STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYP., 5 BRICK COURSES MAX.)
- 5'-0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN ORDERED BY THE ENGINEER OR FOR INTERIOR DROP CONNECTIONS AND ALL FORCE MAIN CONNECTION MANHOLES.
- 6" MINIMUM WALL THICKNESS AND 7" MINIMUM BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES.
- 4" TO 6" VERTICAL SURFACE AT THE TOP OF THE TRANSITION OR CONE SECTION REQUIRED TO ALLOW AIR-VACUUM TESTING OF THE MANHOLE DURING INSTALLATION.
- MAXIMUM FIRST PIPE LENGTH FROM MANHOLE 3'-0".

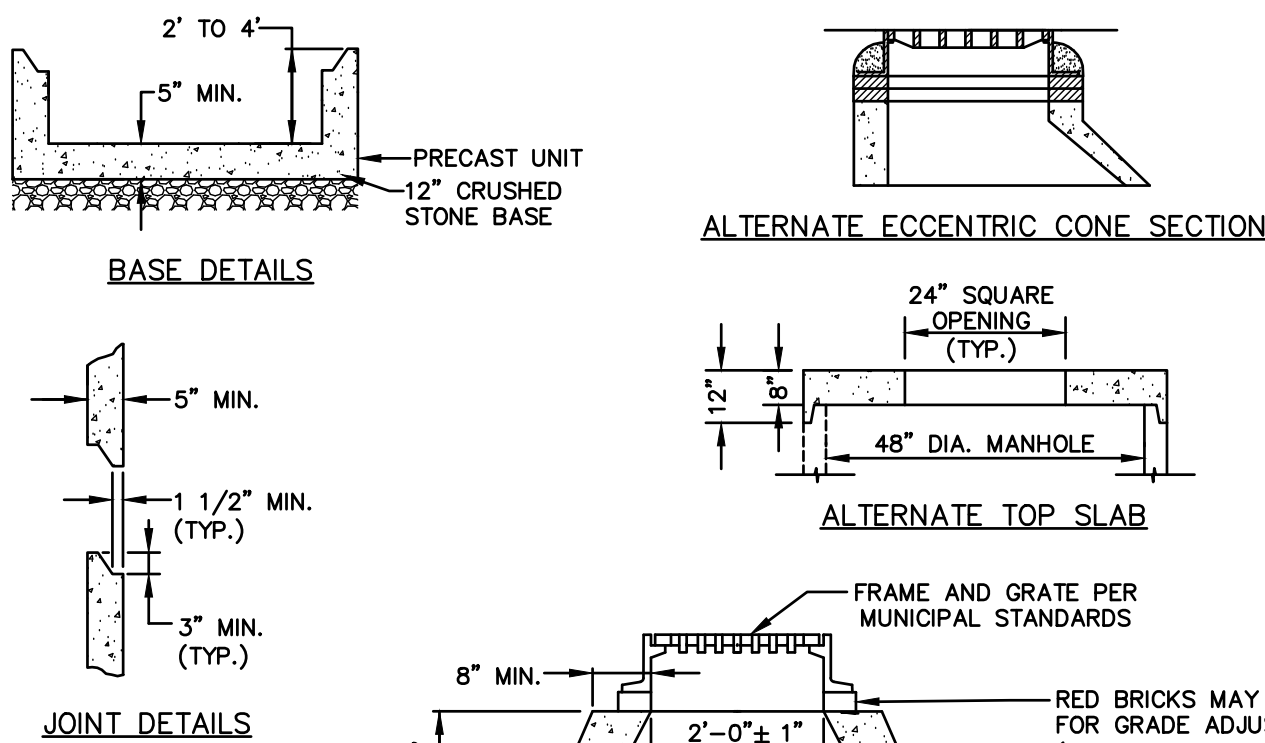


ALTERNATE TOP SLAB
(STEEL REINFORCED FOR HS-20 LOADING)



PRECAST CONCRETE DMH

SCALE: NONE



NOTES:

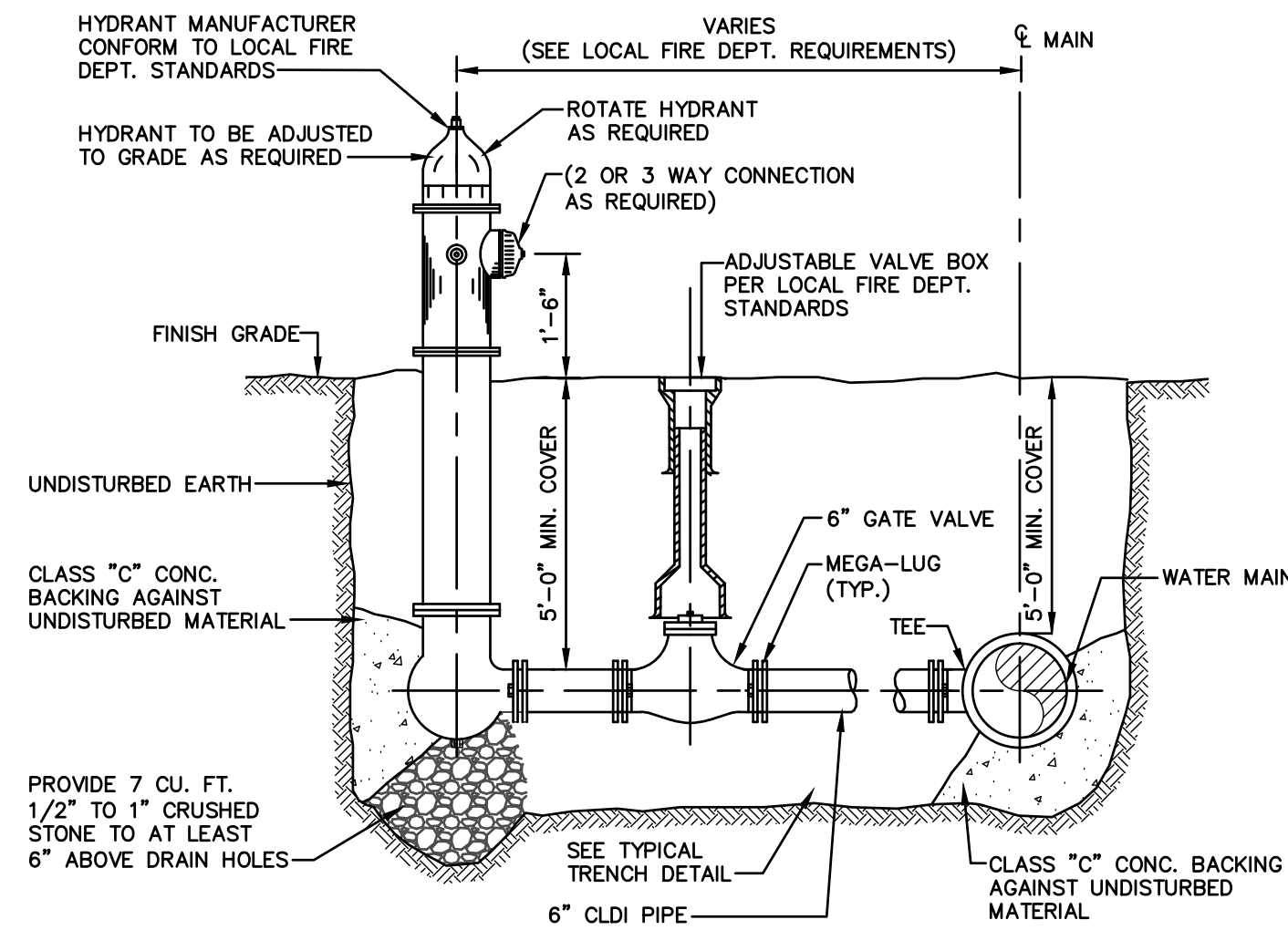
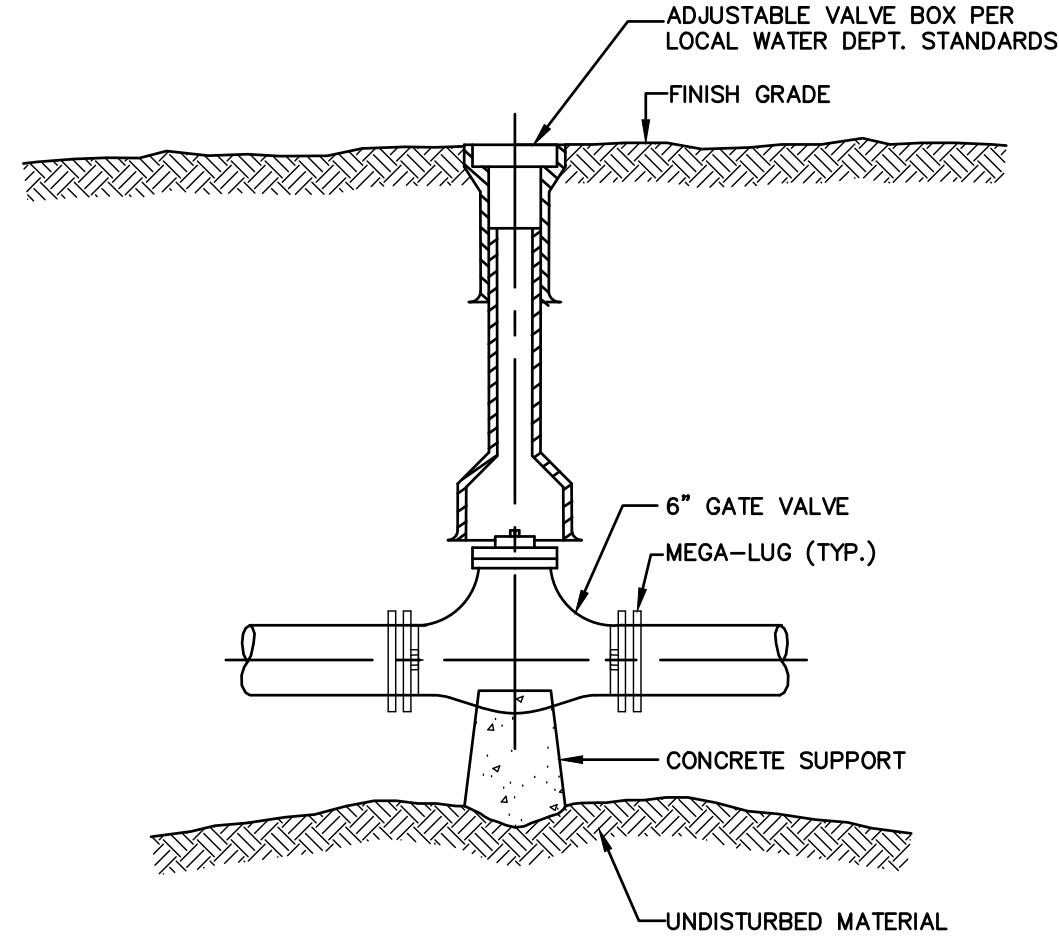
- ALL PRECAST JOINTS TO BE SEALED WITH BUTYL RUBBER.
- DESIGN TO CONFORM TO H-20 LOADING.
- CONTRACTOR HAS THE OPTION TO USE ALTERNATE TOP SLAB.
- ALL ON-SITE CATCH BASINS TO BE EQUIPPED WITH OIL ABSORBENT PILLOWS.

PRECAST CONCRETE CATCH BASIN

SCALE: NONE

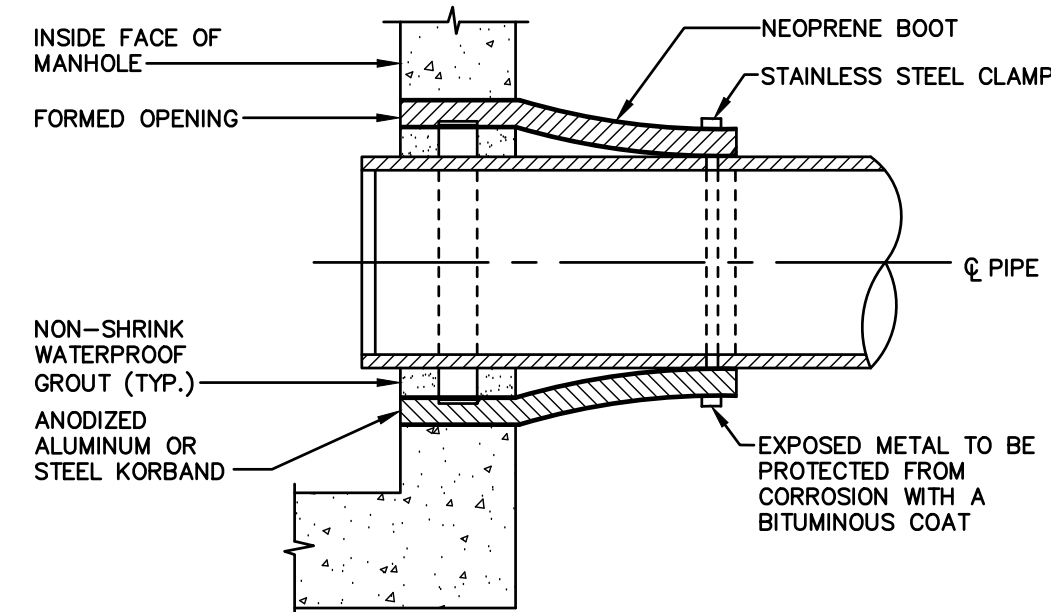
GATE VALVE

SCALE: NONE



FIRE HYDRANT & VALVE

SCALE: NONE

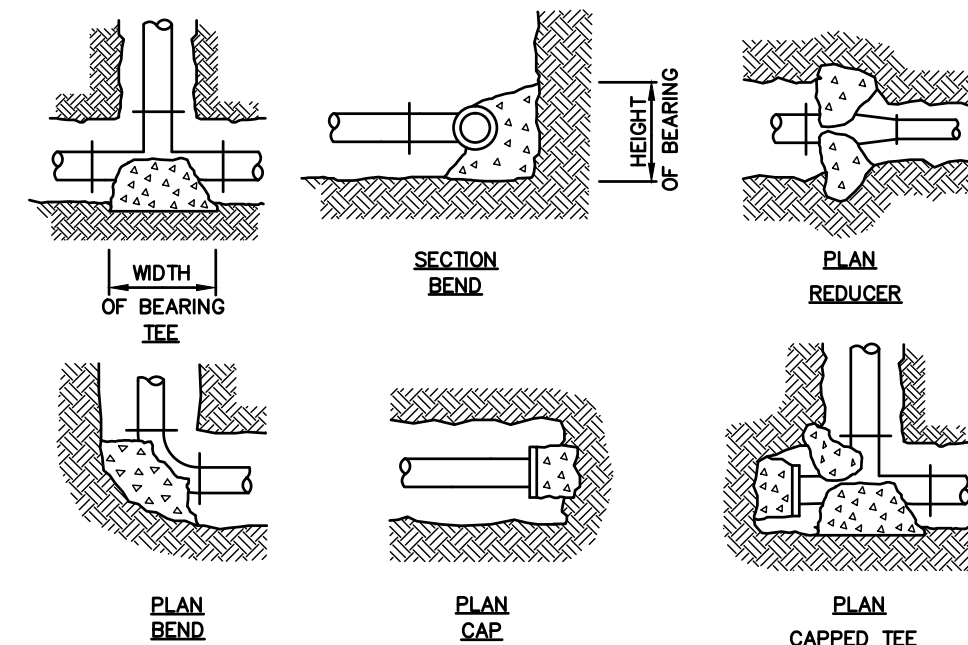


FLEXIBLE PIPE TO MANHOLE CONNECTION (NEOPRENE BOOT)

SCALE: NONE

THRUST BLCOKS - WATER

SCALE: NONE

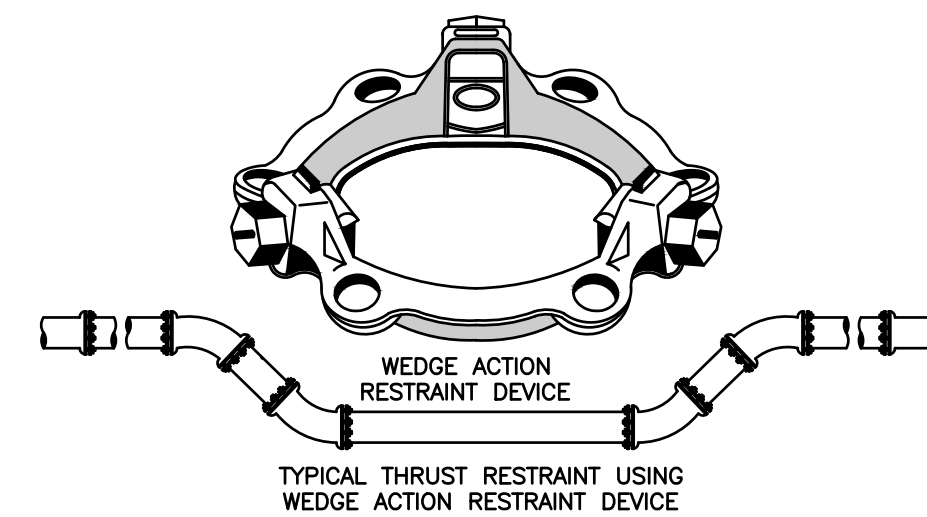


FITTINGS PIPE SZ.	BENDS				CAPS & TEES	VALVES	REDUC.
	90°	45°	22-1/2°	11-1/4°			
4" & 6"	4	2	2	2	3	3	3
8"	6	3	3	3	5	5	5

NOTE:

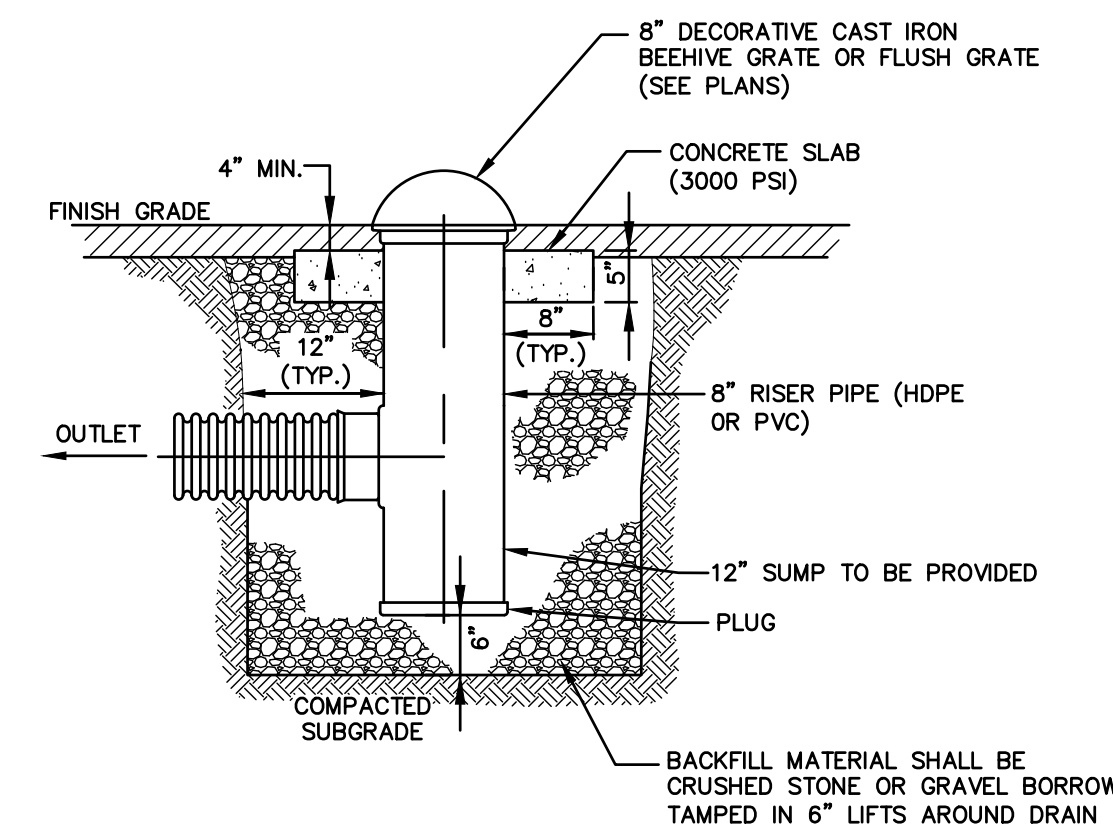
- WIDTH & HEIGHT OF BEARING AREAS SHALL BE APPROX. THE SAME.
- BEARING SHALL BE ON UNDISTURBED SOIL.
- REQUIRED AT ALL FITTINGS AND BENDS.

- REQUIRED AT ALL FITTINGS AND BENDS.
- DEVICES NEED TO BE PLACED BEYOND THE AREA OF RESTRAINT IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.



MEGA-LUG RESTRAINT JOINTS

SCALE: NONE



NOTES:

- CAST IRON GRATE TO BE BEEHIVE GRATE STYLE UNLESS OTHERWISE NOTED.
- CONTRACTOR TO COORDINATE CAST IRON GRATE WITH ENGINEER AND LANDSCAPE ARCHITECT PRIOR TO ORDERING.

AREA DRAIN (HDPE OR PVC)

SCALE: NONE



BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

DATE

NORTHBRIDGE MASHPEE COMMONS

GREAT NECK ROAD SOUTH

IN

MASHPEE
MASSACHUSETTS
(BARNSTABLE COUNTY)

CONSTRUCTION DETAILS 3 OF 4

SEPTEMBER 7, 2015

REVISIONS:

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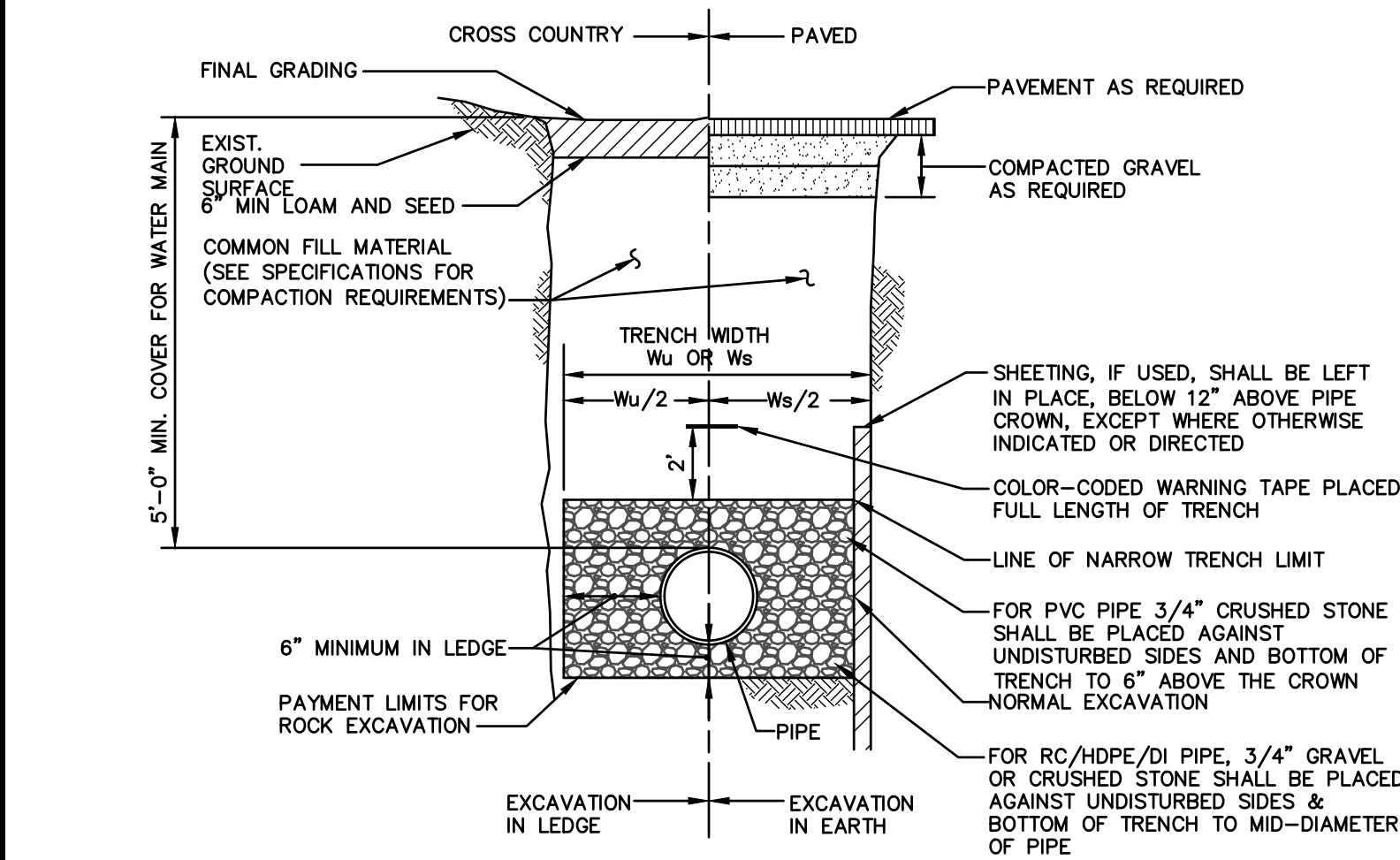
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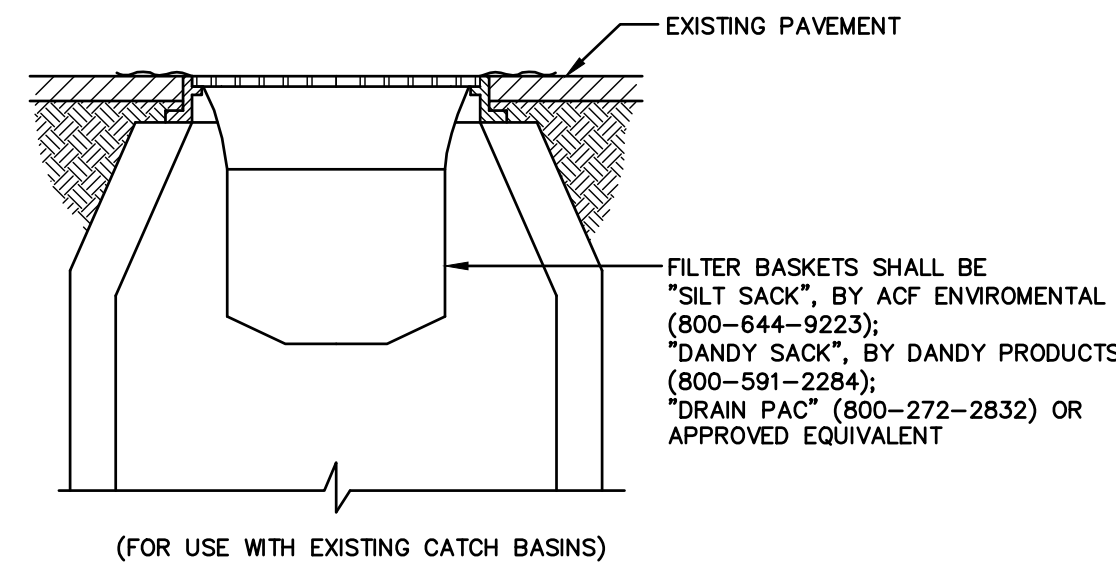
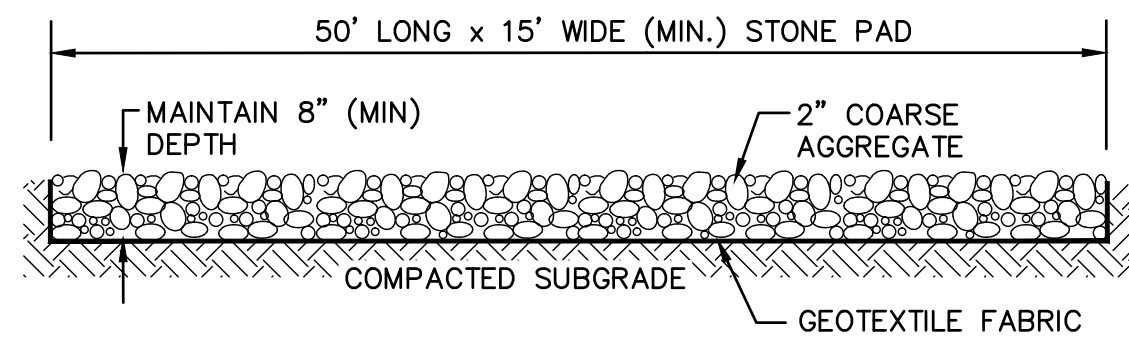
JOB. NO: 23216.00

SHEET C-202



TRENCH WIDTH, Ws OR Wu		
D DIAMETER OF PIPE	Wu UNSHEETED	Ws SHEETED
12" AND SMALLER	3'-0"	4'-2"
15"	3'-2"	4'-4"
18"	3'-6"	4'-8"
21"	3'-10"	5'-0"
24"	4'-2"	5'-4"
27"	4'-6"	5'-8"
30"	4'-10"	6'-0"
36"	5'-6"	6'-8"
42"	6'-2"	7'-4"
48"	6'-10"	8'-0"

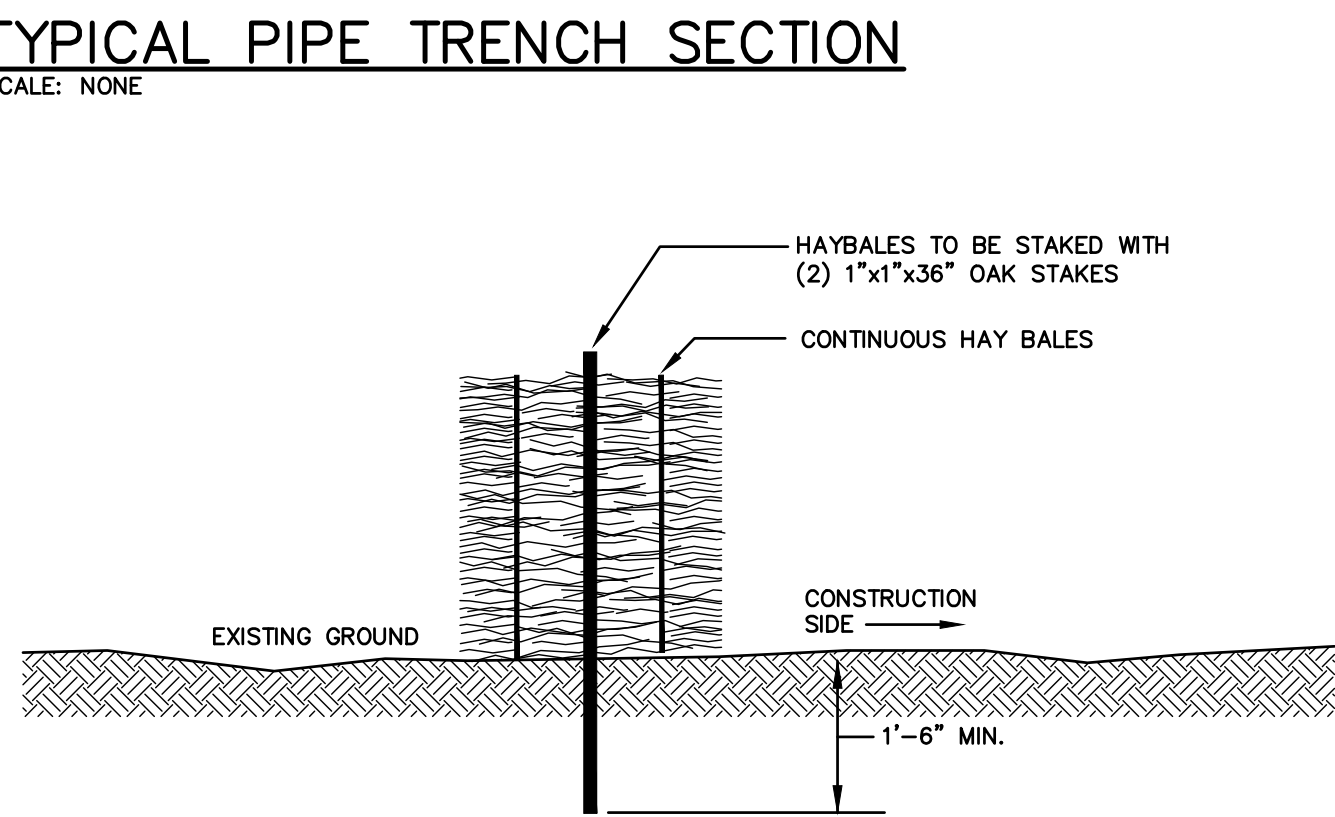
TRENCH WIDTH DATA



NOTE:
FILTER BASKETS TO BE PLACED IN ALL CATCH BASINS IN THE VICINITY OF NEW CONSTRUCTION. CATCH BASINS ARE TO BE PROTECTED AS SHOWN, WITH MINIMUM WEEKLY MAINTENANCE, OR AS REQUIRED AND REPLACED IF NECESSARY.

TYPICAL PIPE TRENCH SECTION

SCALE: NONE

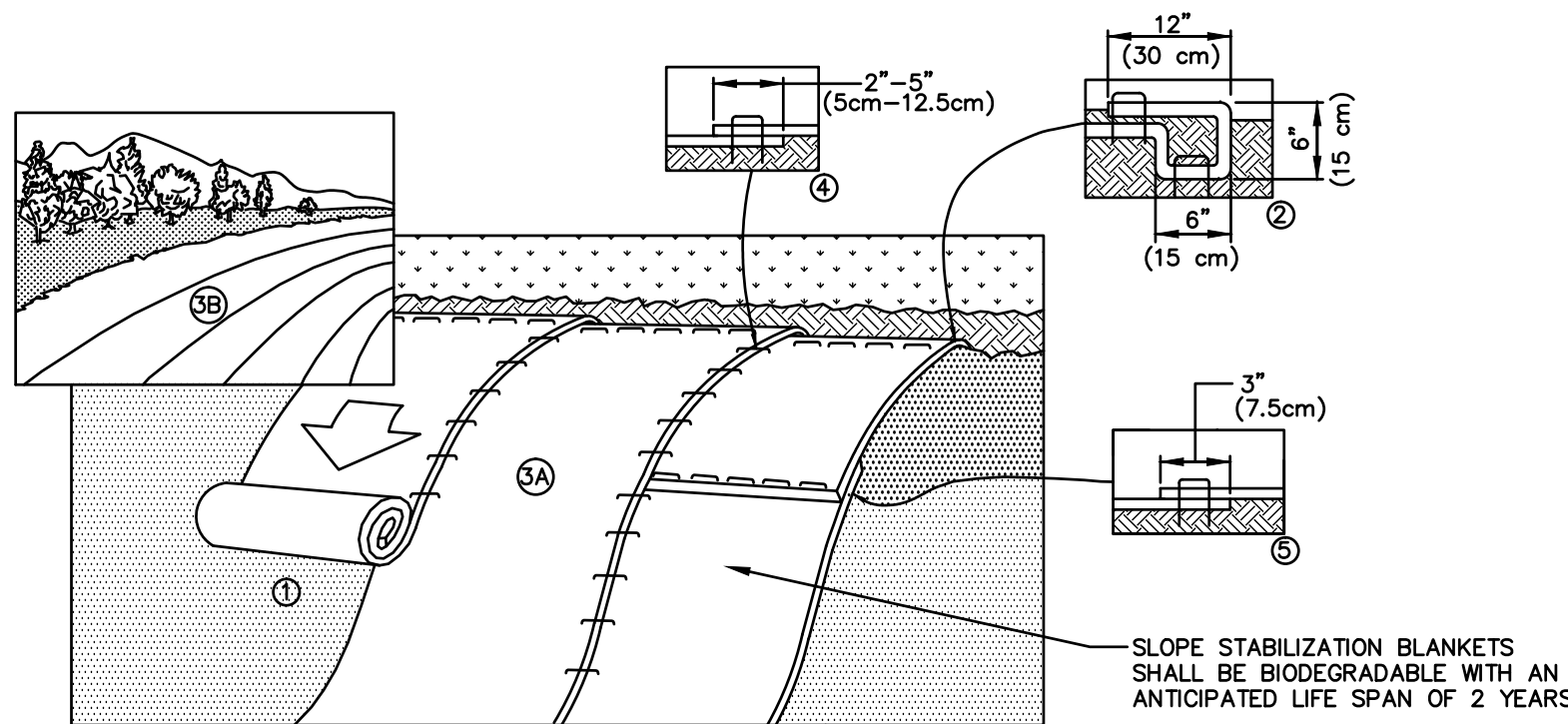


NOTES:

- BALES SHALL BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY 1"x1"x36" WOODEN STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED AND REPLACED WHEN THEY BECOME FILLED WITH SEDIMENT AND BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
- BALES SHALL BE REMOVED WHEN THE EMBANKMENTS STABILIZE.
- BALES TO BE TWINE BOUND.

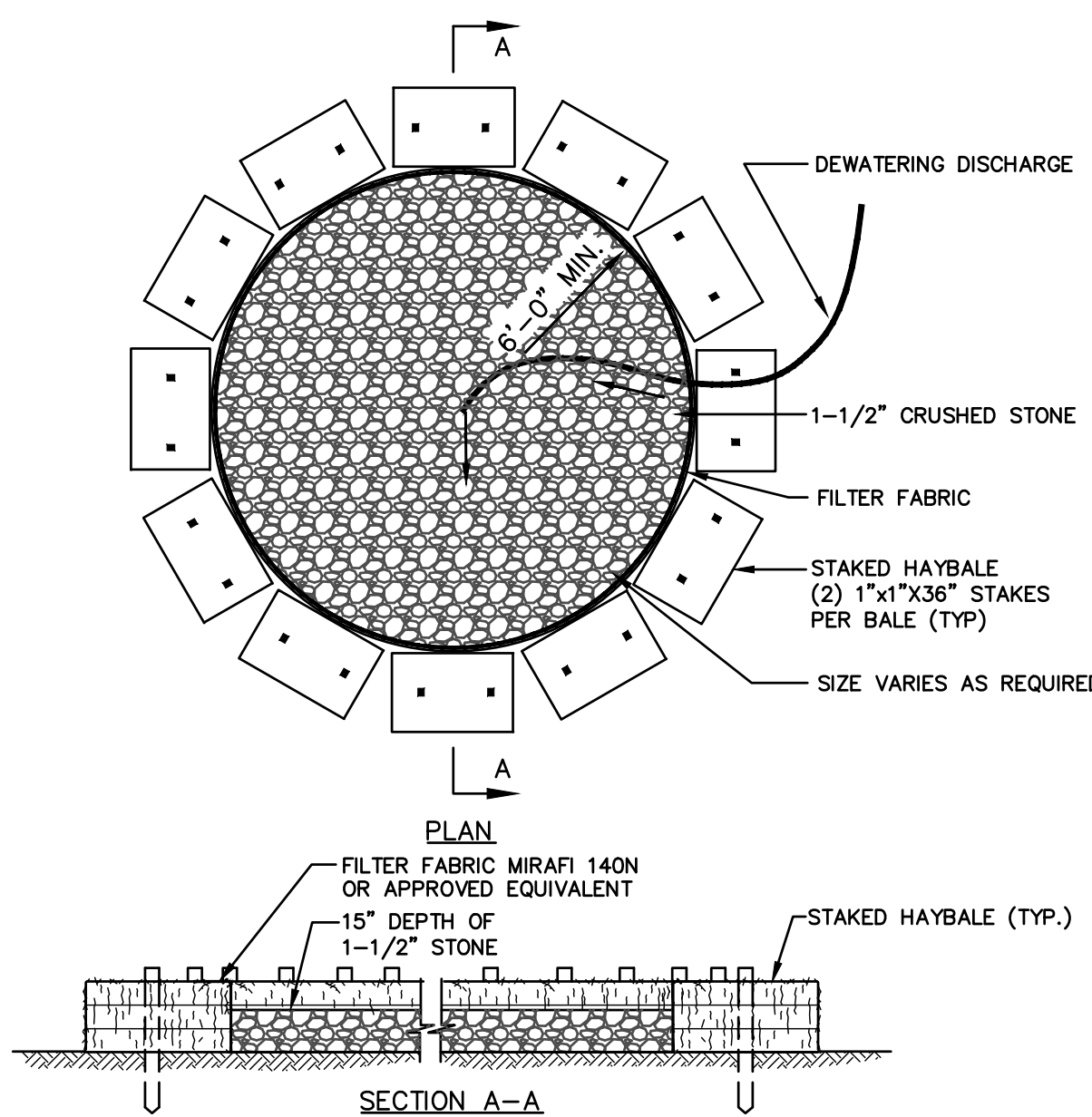
SINGLE ROW HAYBALE

SCALE: NONE



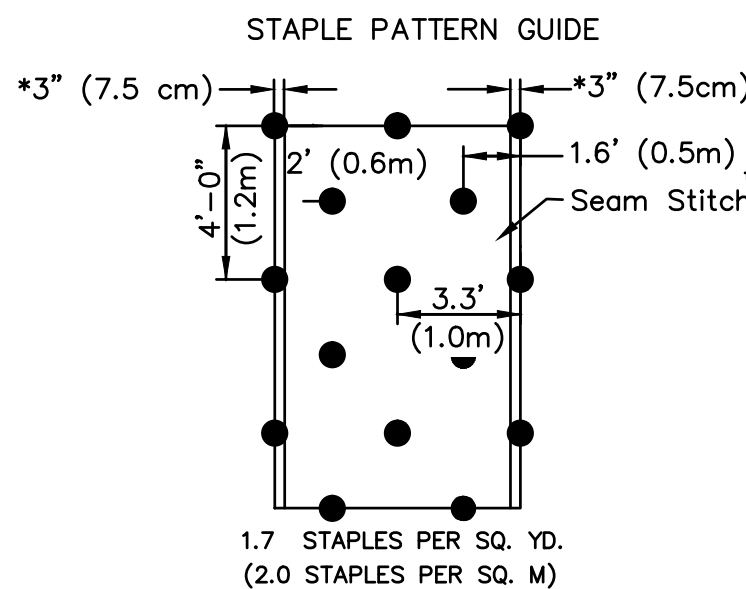
CONSTRUCTION NOTES:

- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. HYDROSEED SIDE SLOPES BEFORE INSTALLATION OF BLANKETS.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2'-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
- CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.



DEWATERING SEDIMENT TRAP (OR APPROVED EQUAL)

SCALE: NONE



BLANKETS WITH THE OPTIONAL NORTH AMERICAN GREEN DOT SYSTEM PLACE STAPLES/STAKES THROUGH EACH OF THE GREEN COLORED DOTS.

NOTES:

*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

CRITICAL POINTS

- OVERLAPS AND SEAMS
- PROJECTED WATER LINE
- CHANNEL BOTTOM/SIDE SLOPE VERTICES

* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS IN EXCESS OF 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

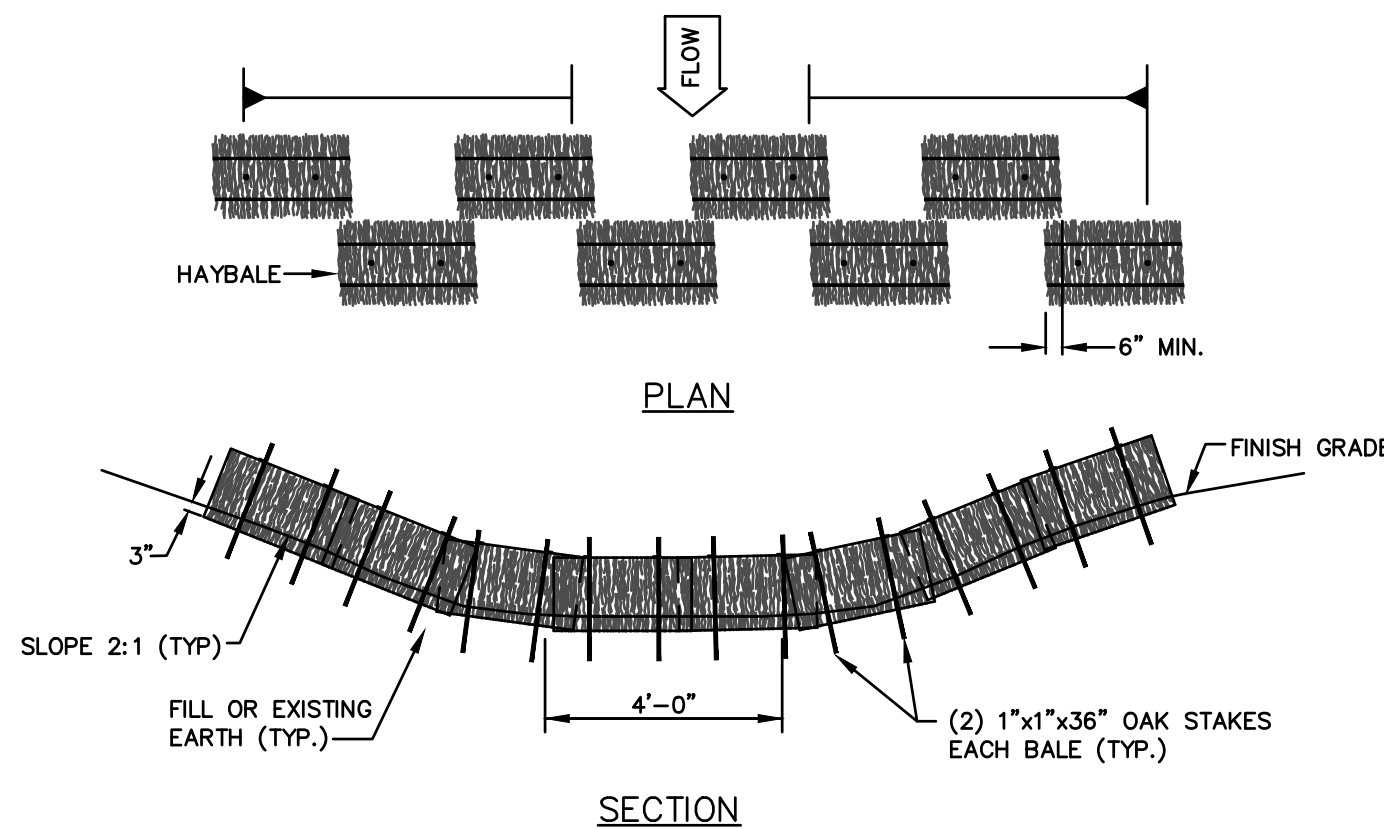
*LOCATION OF SEAM STITCH WILL VARY DEPENDING ON NORTH AMERICAN GREEN PRODUCT TYPE: -APPROX. 5" SEAM OVERLAP FOR BIONET EROSION CONTROL BLANKETS

SLOPE STABILIZATION INSTALLATION

SCALE: NONE

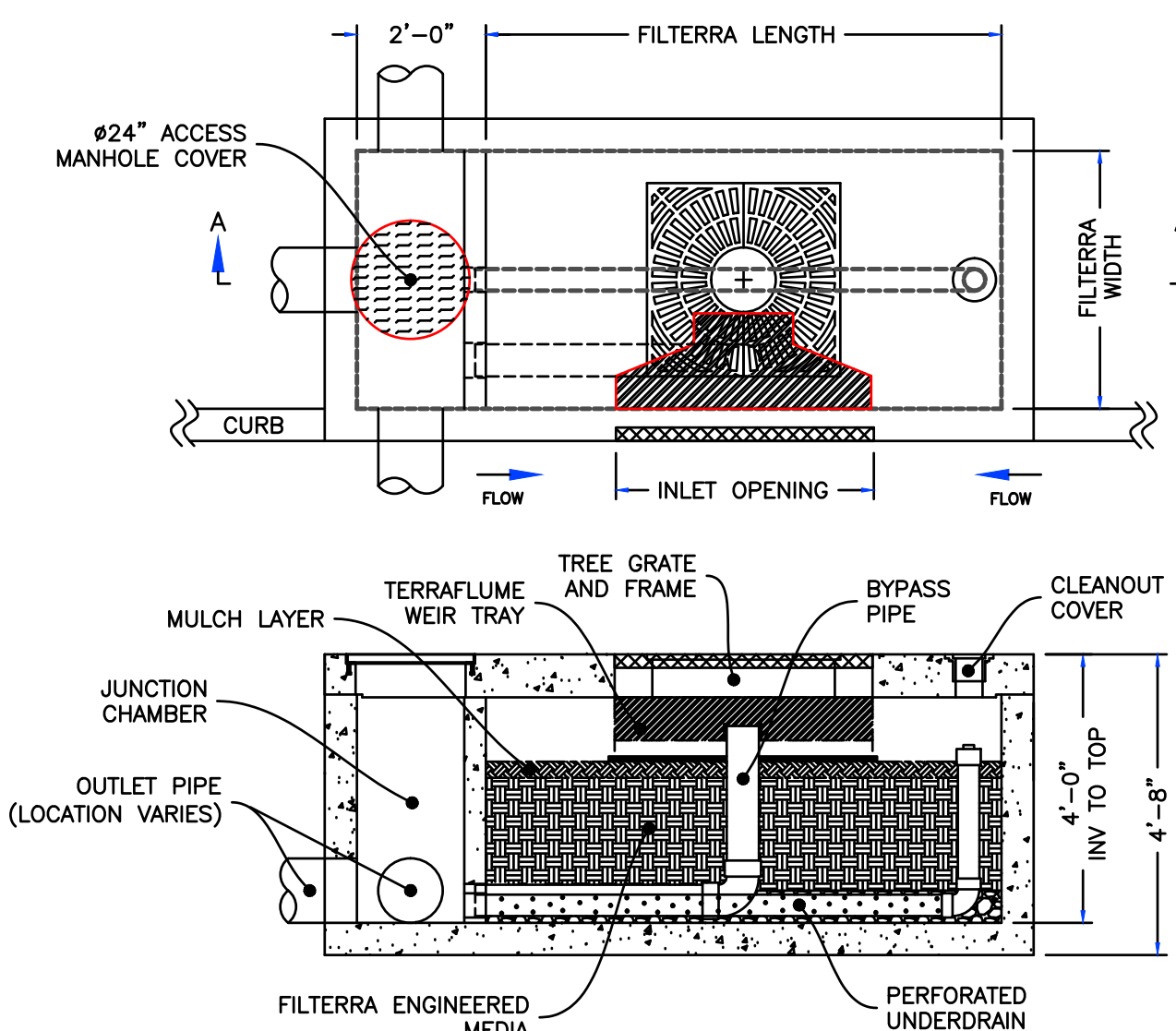
TEMPORARY CONSTRUCTION ENTRANCE

SCALE: NONE



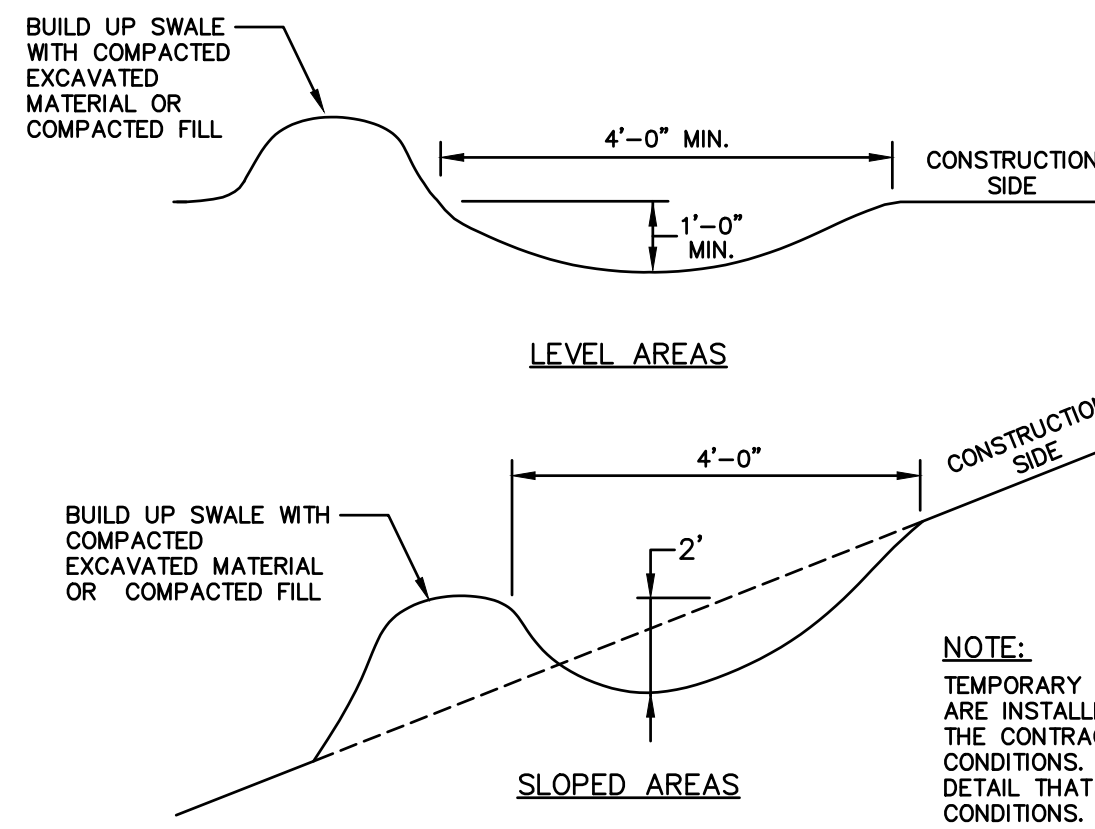
TEMPORARY DRAINAGE SWALE W/ HAYBALE EROSION CHECK

SCALE: NONE



SEDIMENT FILTER INLET PROTECTION

SCALE: NONE



NOTE:
TEMPORARY DIVERSION SWALES ARE INSTALLED AS REQUIRED BY THE CONTRACTOR TO FIT SITE CONDITIONS. THERE IS NO ONE DETAIL THAT FITS ALL CONDITIONS. THE TWO DETAILS SHOWN ABOVE ARE THE MINIMUM THAT CAN BE USED TO CHANNEL WATER FROM DISTURBED AREAS TO TEMPORARY SEDIMENT BASINS.

TEMPORARY DIVERSION SWALE

SCALE: NONE

UNIT TO BE SET PLUMB AND LEVEL

DESIGNATION (LENGTH x WIDTH)	INLET OPENING	MAX BYPASS PIPE SIZE	MAX BYPASS FLOW (CFS)	MAX OUTLET PIPE SIZE
4x4	4'-0"	6" PVC	1.42	6" PVC
4x6 OR 6x4	4'-0" *	8" PVC	1.89	8" PVC
4x8 OR 8x4	4'-0" *	8" PVC	1.89	8" PVC
6x6	4'-0" *	8" PVC	1.89	8" PVC
6x8 OR 8x6	4'-0" *	8" PVC	1.89	8" PVC
6x10 OR 10x6	4'-0" *	8" PVC	1.89	8" PVC
6x12 OR 12x6	4'-0" *	10" PVC	2.37	10" PVC
7x13 OR 13x7	4'-0" *	10" PVC	2.37	10" PVC

* CONTACT FILTERRA FOR LARGER INLET OPENINGS OR DIFFERENT AVAILABLE CONFIGURATIONS



BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

DATE

NORTHBRIDGE MASHPEE COMMONS

GREAT NECK ROAD SOUTH

IN

MASHPEE
MASSACHUSETTS
(BARNSTABLE COUNTY)

CONSTRUCTION DETAILS 4 OF 4

SEPTEMBER 7, 2015

REVISIONS:

NO.	DATE	DESC.
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PERMITTING PLANS NOT FOR CONSTRUCTION

PREPARED FOR:
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71 THIRD AVENUE
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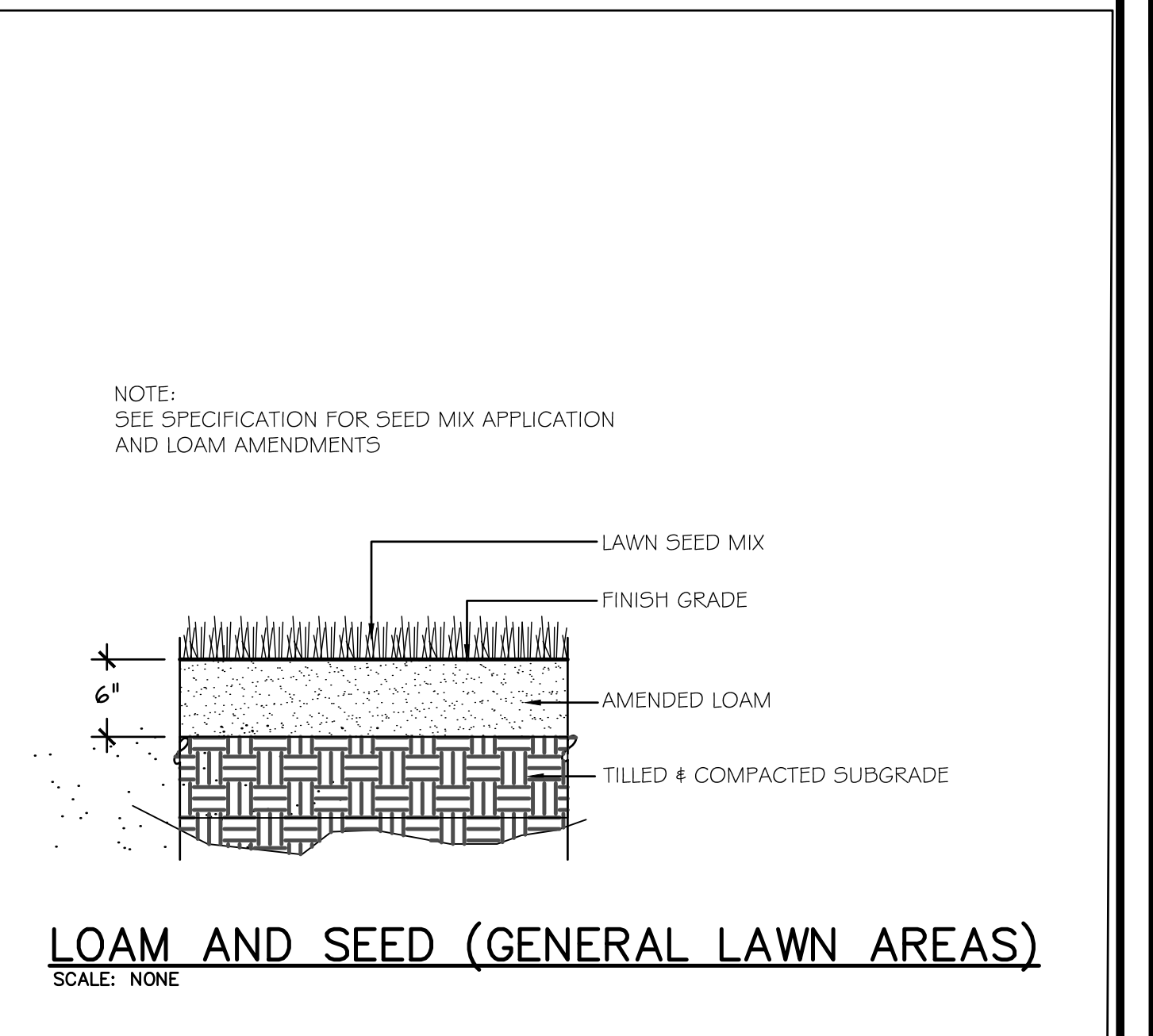
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DWG. NO:



JOB. NO: 23216.00

SHEET C-203



NAME / COMMON NAME	CONT	HT.
ENDSII 'FIRE DANCE' / FALSE SPIRAEA	2 GAL	
ENDSII 'RHEINLAND' / RHINELAND FALSE SPIRAEA	2 GAL	
ENDSII 'WHITE GLORIA' / FALSE SPIRAEA	2 GAL	
FOFOLIA 'SIXTEEN CANDLES' / SUMMERSWEET CLETHRA	15"-18" HT	
IRGINIANA / COMMON WITCH HAZEL	5 GAL	
RIOT' / PATRIOT HOSTA	5 GAL	
YMA 'SNOW QUEEN' / BEE BALM	3 GAL	
YMA 'VIOLET QUEEN' / BEE BALM	3 GAL	
E' / FLAME WILLOW	5 GAL	
NAME / COMMON NAME	CONT	HT.
IFOLIA 'BRILLIANTISSIMA' / BRILLIANT RED CHOKEBERRY/RED CHOKEBERRY	3-4' HT	
EA 'ELEGANTISSIMA' / VARIEGATED REDTNG DOGWOOD	3-4' HT	
RBORESCENS 'INCREDIBALL' / INCREDIBALL WHITE HYDRANGEA	5 GAL	
ACROPHYLLA 'BLUE WAVE' / BLUE WAVE LACECAP HYDRANGEA	5 GAL	
ONDOSUM 'SUNBURST' / SUNBURST HYPERICUM	3 GAL	
IBOLJUM / IBOLJUM PRIVET	B & B	3-4'
'LVANICA 'MORTON' / SILVER SPRITE BAYBERRY	3-4' HT	
'JAZZ' / KNOCK OUT SHRUB ROSE	3 GAL	
ARIS 'CHARLES JOLY' / CHARLES JOLY LILAC	5 GAL	
RYMBOSUM 'PATRIOT' / PATRIOT BLUEBERRY	5 GAL	
CATUM 'POPCORN' / POPCORN JAPANESE SNOWBALL	24-30" HT.	
NAME / COMMON NAME	CONT	HT.
NO CRIMSON' HINO CRIMSON AZALEA	15-18" HT	

PHYLLODA KOREANA 'WINTERGREEN' / KOREAN BOXWOOD	15-18" HT.
'COMPACTA' / COMPACT INKBERRY	18-24" HT.
'VEAE 'CHINA GIRL' TM / CHINA GIRL HOLLY	3-4" HT
'ALIA 'CAROSEL' / CAROSEL MOUNTAIN LAUREL	24-30" HT.
'ALIA 'LITTLE LINDA' / MINIATURE PINK MOUNTAIN LAUREL	15-18" HT
'CA 'MOUNTAIN FIRE' / MOUNTAIN FIRE PIERIS	24-30" HT.
'IN PJM LANDMARK / LANDMARK RHODODENDRON	30-36" HT.
'A 'HATFIELD' / HATFIELD YEW	B & B
<u>NAME / COMMON NAME</u>	<u>CONT.</u>
'IS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	2 GAL
'INENSIS 'MORNING LIGHT' / EULALIA GRASS	3 GAL
'LOPECOUROIDES 'BURGUNDY BUNNY' / BURGUNDY BUNNY DWARF FOUNTAIN GRASS	2 GAL
<u>NAME / COMMON NAME</u>	<u>CONT.</u>
'X 'BARBARA MITCHELL' / DAYLILY	2 GAL
'X 'BERTIE FERRIS' / DAYLILY	2 GAL
'UMN JOY' / AUTUMN JOY SEDUM	2 GAL
<u>NAME / COMMON NAME</u>	<u>CONT.</u>
'LOS UVA-URSI 'MASSACHUSETTS' / MASSACHUSETTS MANZANITA	2 QT
'REGRINA / SWEET FERN	3 GAL
'ECUSSATA 'CELTIC PRIDE' TM / SIBERIAN CARPET CYPRESS	2 GAL
'GUSTIFOLIUM 'BRUNSWICK' / LOWBUSH GROUNDCOVER BLUEBERRY	1 GAL

		
LESLIE D. FANGER, RLA		DATE
<h2>NORTHBRIDGE MASHPEE COMMONS</h2> <p>GREAT NECK ROAD SOUTH IN MASHPEE MASSACHUSETTS (BARNSTABLE COUNTY)</p> <h2>LANDSCAPE DETAILS</h2> <p>SEPTEMBER 7, 2015</p>		
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<h3>PERMITTING PLANS NOT FOR CONSTRUCTION</h3>		
PREPARED FOR: THE NORTHBRIDGE COMPANIES 71 THIRD AVENUE BURLINGTON, MA 01803		
 BSC GROUP 349 Route 28, Unit D W. Yarmouth, Massachusetts 02673 618 896 4300		
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