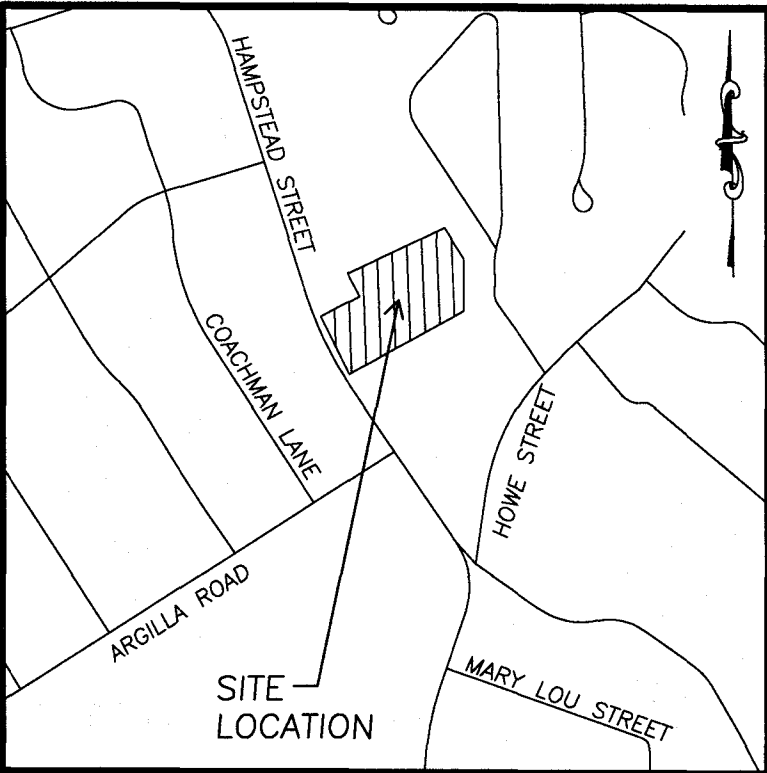


DEFINITIVE SUBDIVISION PLAN
FOR
23 HAMPSTEAD STREET
IN
METHUEN, MA
OCTOBER 2021

METHUEN COMMUNITY DEVELOPMENT BOARD

DATE: _____



LOCUS MAP
SCALE: 1"=800'

PLAN INDEX

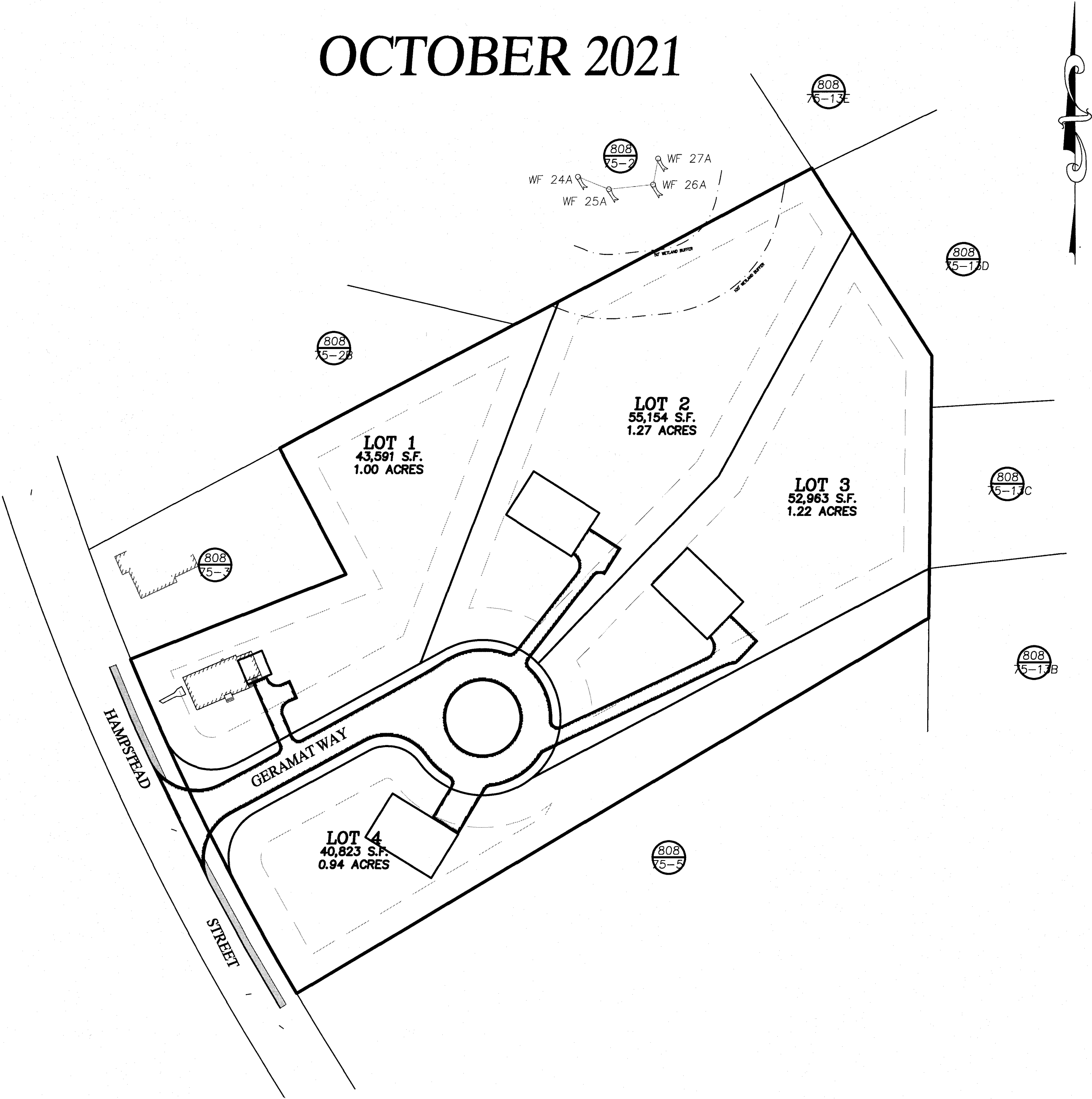
SHEET NO.	TITLE
1	COVER SHEET
2	EXISTING CONDITIONS
3	LOT LAYOUT
4	TYPICAL SECTIONS/LEGEND/GENERAL NOTES
5	GRADING AND DRAINAGE PLAN
6	PLAN AND PROFILE
7	EROSION AND SEDIMENTATION PLAN
8-10	CONSTRUCTION DETAILS

RECORD OWNER/APPLICANT:

JR BUILDERS INC.
16 INDUSTRIAL WAY
SALEM, NH

CIVIL ENGINEER:

MILLENNIUM ENGINEERING, INC.
62 ELM STREET
SALISBURY, MA 01952

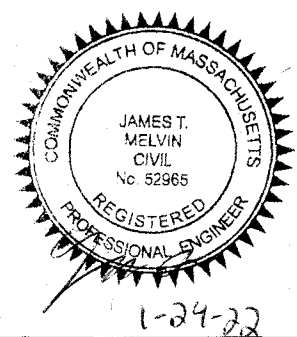
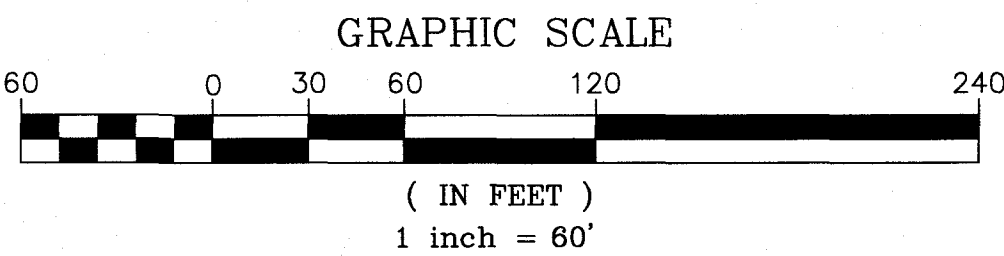


ZONING DISTRICT – RA

LOT AREA:	40,000 S.F.
LOT FRONTAGE:	100 FEET
LOT WIDTH:	100 FEET
FRONT SETBACK:	25 FEET
SIDE SETBACK:	20 FEET
REAR SETBACK:	20 FEET
BLDG COVERAGE:	25%
LOT COVERAGE:	40%
BUILDING HEIGHT:	35 FEET


WAIVER REQUESTS:

- THE FOLLOWING WAIVERS ARE REQUESTED FROM THE CITY OF METHUEN RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND:
- 1) WAIVER FROM SECTION 4.2.2.8 OF THE METHUEN SUBDIVISION REGULATION NOT ALLOWING DEAD END STREETS.
 - 2) WAIVER FROM SECTION 5.7.1 OF THE METHUEN SUBDIVISION REGULATIONS REQUIRING SIDEWALKS ON BOTH SIDES OF THE STREET. NO SIDEWALKS ARE PROPOSED.
 - 3) WAIVER FROM SECTION 5.3.7 OF THE METHUEN SUBDIVISION REGULATIONS REQUIRING SLOPED GRANITE EDGING TO BE INSTALLED ON ALL SECONDARY STREETS. BITUMINOUS CURB IS PROPOSED.
 - 4) WAIVER FROM SECTION 5.3.8 OF THE METHUEN SUBDIVISION REGULATIONS REQUIRING GRANITE CURB INLETS AT ALL CATCH BASIN LOCATIONS. NO GRANITE CURB INLETS ARE PROPOSED.
 - 5) WAIVER FROM SECTION 5.6.1 REQUIRING A LOOPED WATER MAIN.
 - 6) WAIVER FROM SECTION 4.2.2.4 REQUIRING ROADWAY CENTERLINE OFFSETS TO BE A MINIMUM OF 125'. THE PROPOSED ROADWAY OFFSET IS 110'.
 - 7) WAIVER FROM SECTION 5.12 REQUIRING THE INSTALLATION OF STREET LIGHTS. NO STREET LIGHTS ARE PROPOSED, HOWEVER A LAMP POST SHALL BE INSTALLED AT EACH DRIVEWAY ENTRANCE.
 - 8) WAIVER FROM THE TYPICAL SECTION SECONDARY ROAD REQUIRING 26' OF PAVEMENT, 24' OF PAVEMENT IS PROPOSED.



PREPARED FOR
JR BUILDERS, INC.
16 INDUSTRIAL WAY
SALEM, NH 03079

NO.	DATE	DESCRIPTION	BY
2	1/24/22	RESPONSE TO PEER REVIEW	J.T.M.
1	11/23/21	RESPONSE TO PEER REVIEW	J.T.M.

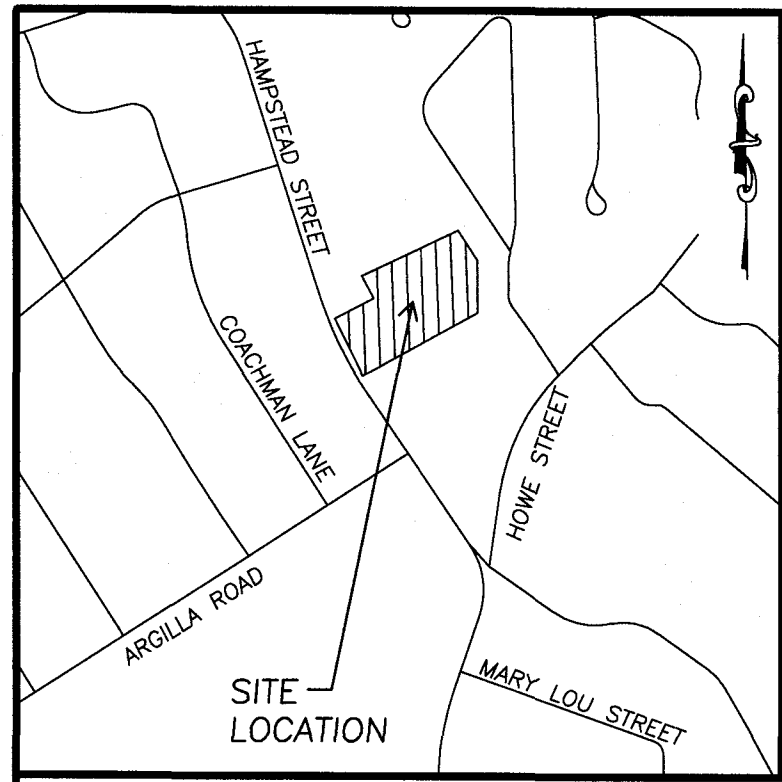


MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=60'	CALC. BY: S.R.C.	PROJECT: M213934
DATE: OCT. 5, 2021	CHKD. BY: J.T.M.	

DEFINITIVE SUBDIVISION PLAN
IN
METHUEN, MA
AT
23 HAMPSTEAD ST

COVER
SHEET



LOCUS MAP
SCALE: 1"=800'

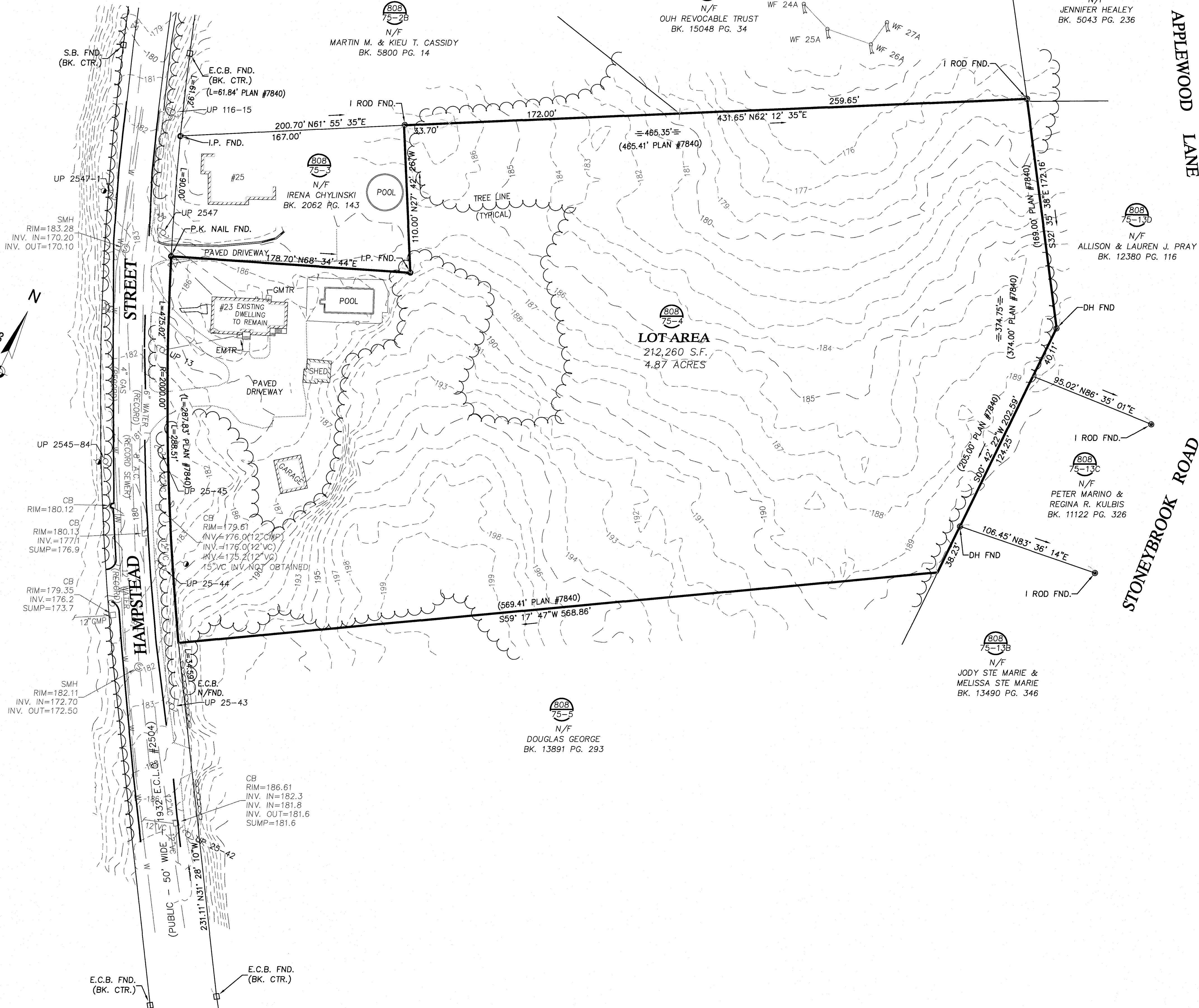
**ZONING DISTRICT - RA
RESIDENTIAL - AGRICULTURAL**

MINIMUM LOT AREA - 40,000 S.F.
MINIMUM FRONTAGE - 100'
MINIMUM LOT WIDTH - 100'

REQUIRED SETBACKS
FRONT 25'
SIDE 20'
REAR 20'

LEGEND

- | | |
|----------|---------------------------|
| □ E.C.B. | ESSEX COUNTY BOUND |
| □ S.B. | STONE BOUND |
| ● D.H. | DRILL HOLE |
| ● PK | MASONRY NAIL |
| ● I.P. | IRON PIPE |
| ● I ROD | IRON ROD |
| ● FND. | FOUND |
| ● N/F | NOW OR FORMERLY |
| ○ UPOLE | |
| — D — | DRAINAGE |
| — W — | WATER |
| — S — | SEWER |
| — G — | GAS |
| — OHW — | OVERHEAD WIRE |
| □ CB | CATCH BASIN |
| ⊙ DMH | DRAIN MANHOLE |
| ⊙ SMH | SEWER MANHOLE |
| ⊗ | HYDRANT |
| ⊗ | GAS VALVE |
| ⊗ | GAS SHUT OFF |
| ⊗ | WATER SHUT OFF |
| ⊗ | WATER VALVE |
| ○ 00 | ASSESSORS MAP#
PARCEL# |



APPLEWOOD LANE

STONEBROOK ROAD

FOR REGISTRY USE

METHUEN COMMUNITY DEVELOPMENT BOARD

BASIS OF BEARINGS

MASS STATE PLANE COORDINATE SYSTEM
NAD-83

OWNER OF RECORD

JR BUILDERS INC.
BK. 17057 PG. 201

PLAN REFERENCES

PLAN #7840
PLAN #4361
PLAN #13744
PLAN #15516
PLAN #18064
ESSEX COUNTY LAYOUT #2504

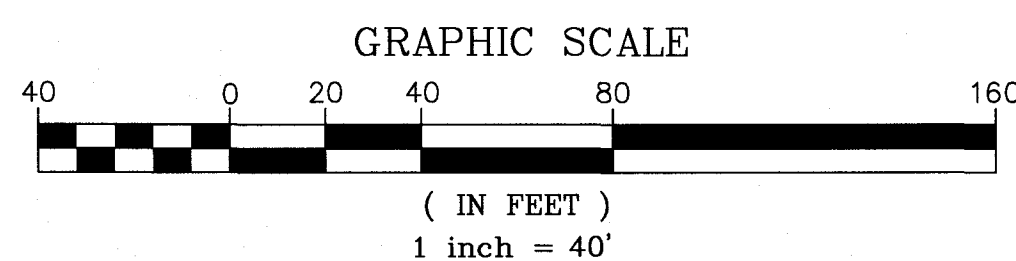
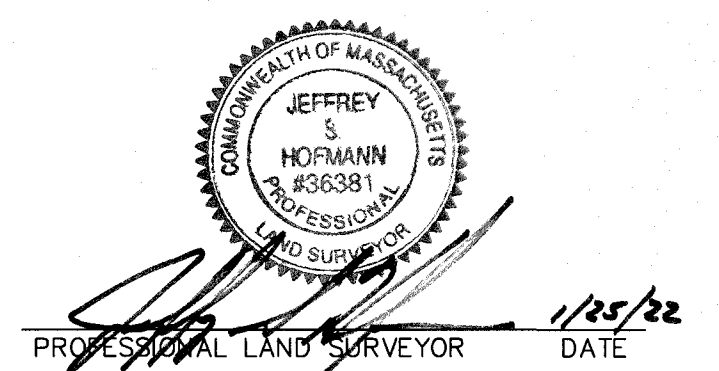
NOTES:

THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT, VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.

THE CERTIFICATIONS SHOWN HEREON ARE NOT INTENDED AS CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE LOCATED AS SHOWN TO THE BEST OF MY ABILITY AND BELIEF.

I CERTIFY:
THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN JUNE 11, 2021, AND JULY 22, 2021, AND THAT THE STRUCTURES AND PHYSICAL FEATURES ARE LOCATED AS SHOWN TO THE BEST OF MY ABILITY AND BELIEF.

THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTRY OF DEEDS.

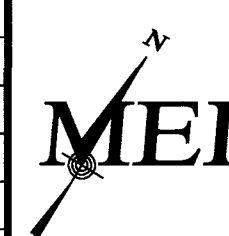


PREPARED FOR

JR BUILDERS

599 CANAL STREET
LAWRENCE, MA 01830

NO.	DATE	DESCRIPTION	BY
2	1/24/22	RESPONSE TO PEER REVIEW	J.T.M.
1	11/23/21	RESPONSE TO PEER REVIEW	J.T.M.



MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'

DATE: OCT. 5, 2021

CALC. BY: P.D.B.

CHKD. BY: J.S.H.

PROJECT: M213934

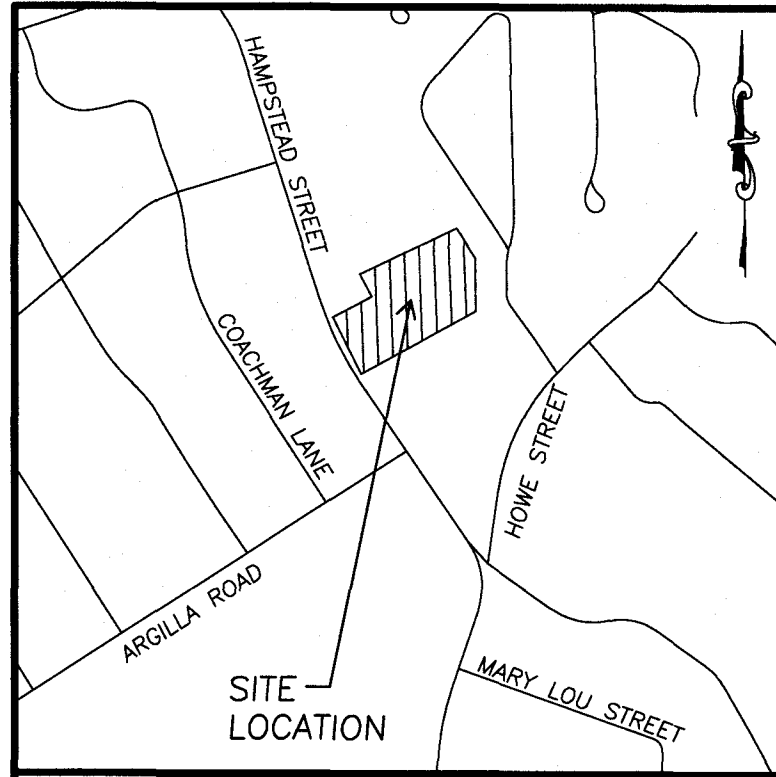
DEFINITIVE SUBDIVISION PLAN

IN
METHUEN, MA

AT
23 HAMPSTEAD ST

**EXISTING
CONDITIONS**

SHEET: 2 OF 10



LOCUS MAP
SCALE: 1"=800'

**ZONING DISTRICT - RA
RESIDENTIAL - AGRICULTURAL**

MINIMUM LOT AREA - 40,000 S.F.
MINIMUM FRONTAGE - 100'
MINIMUM LOT WIDTH - 100'
FRONT SETBACK - 25'
SIDE SETBACK - 20'
REAR SETBACK - 20'
MAX. LOT COVERAGE - 25%
OPEN SPACE - 40%



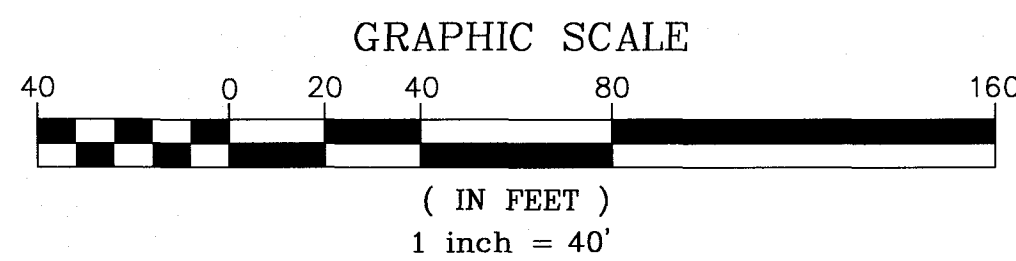
HAMPSTEAD
STREET

GERAMAT WAY

STREET

LEGEND

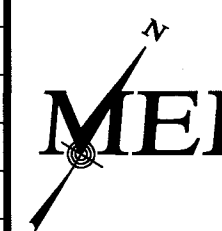
- D.H.S.B. DRILL HOLE STONE BOUND TO BE SET
- I ROD IRON ROD TO BE SET
- D.H. DRILL HOLE
- I.P. IRON PIPE
- I ROD IRON ROD
- FND. FOUND
- N/F NOW OR FORMERLY
- 00 ASSESSORS MAP# PARCEL#



PREPARED FOR

JR BUILDERS, INC.
16 INDUSTRIAL WAY
SALEM, NH 03079

NO.	DATE	DESCRIPTION	BY
2	1/24/22	RESPONSE TO PEER REVIEW	P.D.B.
1	11/23/21	RESPONSE TO PEER REVIEW	P.D.B.



MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM. ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'

CALC. BY: P.D.B.
CHKD. BY: J.S.H.

PROJECT: M213934

DEFINITIVE SUBDIVISION PLAN
IN
METHUEN, MA
AT
23 HAMPSTEAD ST

**LOT
LAYOUT**

SHEET: 3 OF 10

BASIS OF BEARINGS
MASS STATE PLANE COORDINATE SYSTEM
NAD-83
OWNER OF RECORD
JR BUILDERS INC.
BK. 17057 PG. 201
PLAN REFERENCES
PLAN #7840
PLAN #4361
PLAN #13744
PLAN #15516
PLAN #18064
ESSEX COUNTY LAYOUT #2504

FOR REGISTRY USE

METHUEN COMMUNITY DEVELOPMENT BOARD

DATE: _____

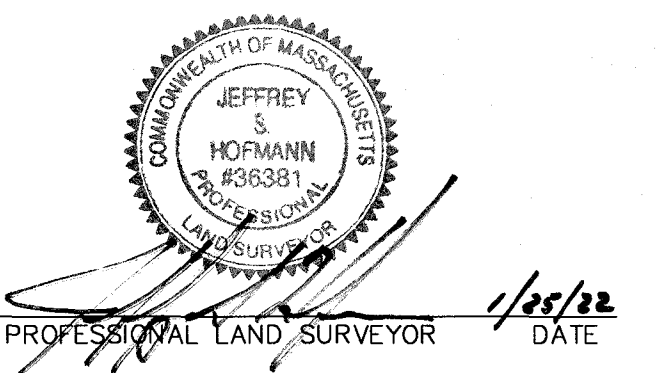
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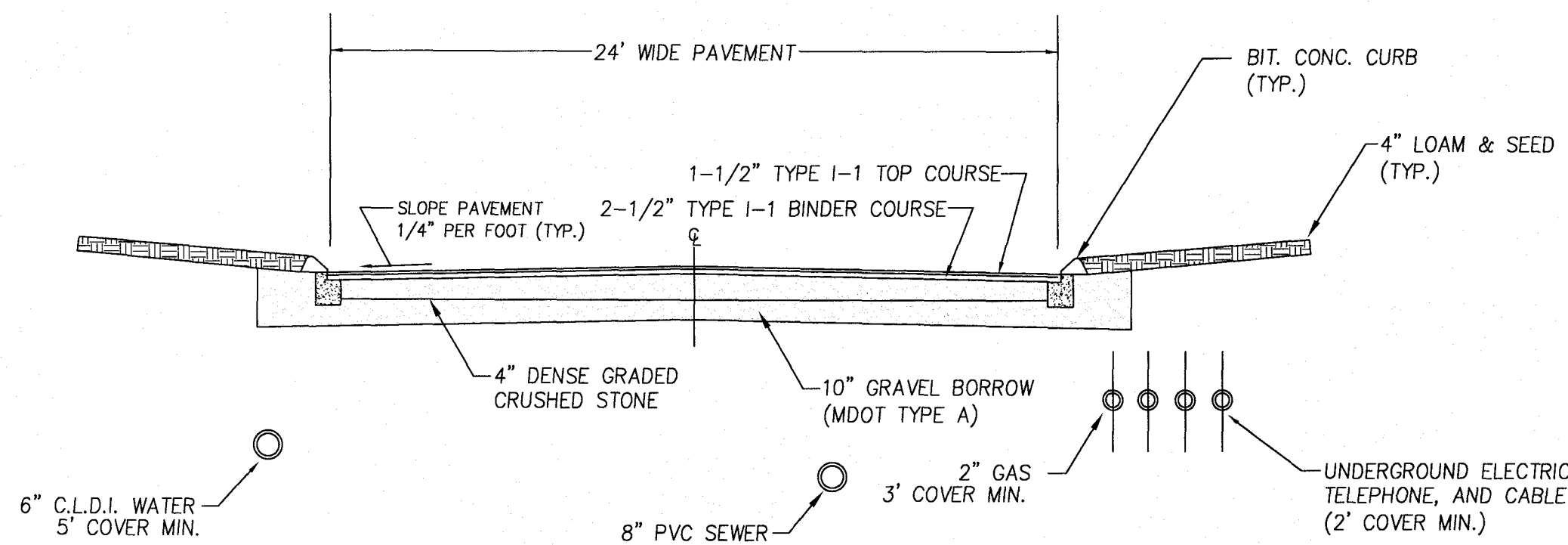
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THE CERTIFICATIONS SHOWN HEREON ARE NOT INTENDED AS CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT CITY OF HAVERHILL ASSESSORS RECORDS.

I CERTIFY:
THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN JUNE 11, 2021, AND JULY 22, 2021, AND THAT THE STRUCTURES AND PHYSICAL FEATURES ARE LOCATED AS SHOWN TO THE BEST OF MY ABILITY AND BELIEF.

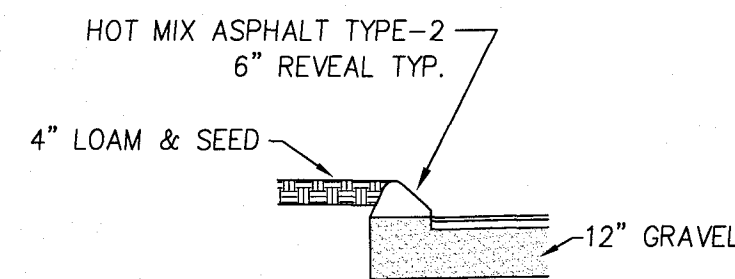
THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTRY OF DEEDS.





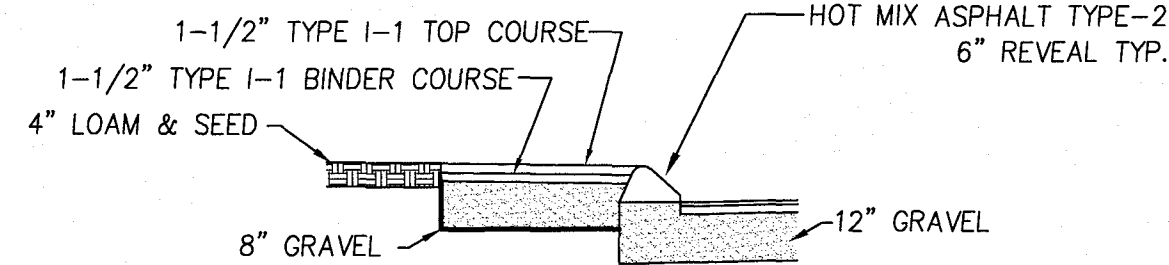
ROADWAY CROSS-SECTION (TYPICAL)

N.T.S.



TYPICAL BIT. CONC. CURB
INSTALLATION DETAIL

N.T.S.



BIT. CONC. CURB AND SIDEWALK
INSTALLATION DETAIL

N.T.S.

DATE: _____

LEGEND

EXISTING PROPOSED

		CB	CATCH BASIN (OR GUTTER INLET, OR LEACHING BASIN)
		CB CI (OR GCI)	CATCH BASIN (OR GUTTER INLET) WITH CURB INLET
			EDGE OF ROAD
		162	CONTOUR
			SEWER MANHOLE
			DRAINAGE MANHOLE
			GAS GATE
			WATER GATE
			HYDRANT
		FA	FIRE ALARM BOX
			POST MOUNTED PEDESTRIAN LIGHT
			UTILITY POLE
		D	DRAIN PIPE
		S	SEWER MAIN
		FM	SEWER FORCE MAIN
		UD	UNDERDRAIN
		W	WATER MAIN
		E/T	ELECTRIC/TELEPHONE DUCT
		MB	MAIL BOX
			HIGHWAY GUARD (TYPE NOTED)
			FENCE (SIZE AND TYPE NOTED)
			EASEMENT LINE
			PROPERTY LINE
			100 FT BUFFER ZONE
			TEST PIT
		SF	SILTATION BARRIER/LIMIT OF WORK
			WETLAND

SURVEY

120	WETLAND DELINEATION FLAG
CB	CONCRETE BOUND
SB	STONE BOUND
D.H.	DRILL HOLE
PK	MASONRY NAIL
I.P.	IRON PIPE
I ROD	IRON ROD
FND.	FOUND
N/FND.	NOT FOUND
0/00	ASSESSORS MAP AND PARCEL

GENERAL NOTES

- THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER ANY SIGNIFICANT VARIATIONS IN EXISTING SITE CONDITIONS. ANY PROPOSED REVISIONS TO THE WORK SHALL NOT BE UNDERTAKEN UNTIL REVIEWED AND APPROVED BY THE OWNER AND REGULATING CITY AND/OR STATE AGENCIES.
- THE CONTRACTOR SHALL INSTALL ALL SYSTEM COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND ALL APPLICABLE ELECTRICAL, PLUMBING, AND SANITARY CODES.
- ALL WORK SHALL CONFORM TO: THE METHUEN SUBDIVISION RULES AND REGULATIONS, THE CITY OF METHUEN CONSTRUCTION STANDARDS AND DETAILS, THE WETLANDS PROTECTION ACT (310 CMR 10.00), THE ORDER OF CONDITIONS ISSUED BY THE METHUEN CONSERVATION COMMISSION; NPDES CONSTRUCTION GENERAL PERMIT; AND THESE PLANS.
- THE LOCATION OF ALL UTILITIES, AS SHOWN ON THESE PLANS, ARE BASED UPON PLANS AND RECORD INFORMATION PROVIDED BY MUNICIPAL AND PRIVATE UTILITY COMPANIES AND ARE CONSIDERED APPROXIMATE BOTH AS TO SIZE AND LOCATION. NO WARRANTY IS MADE AS TO THE ACCURACY OF THESE LOCATIONS OR THAT ALL UTILITIES ARE SHOWN. THE CONTRACTOR SHALL NOT RELY ON THESE PLANS FOR SUCH INFORMATION AND SHALL MAKE EXAMINATIONS IN THE FIELD BY VARIOUS AVAILABLE RECORDS, UTILITY COMPANIES AND INDIVIDUALS, AS TO THE LOCATION OF ALL SUBSURFACE STRUCTURES.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES BY CONTACTING "DIG-SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION. DIG-SAFE TELEPHONE NUMBER: 1-888-344-7233.
- THE CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE NEW WORK. HE/SHE SHALL EXCAVATE TO VERIFY PERTINENT DRAINAGE INVERTS AND POTENTIAL UTILITY CONFLICTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER IMMEDIATELY.
- ALL EXISTING STRUCTURES AND SURFACES, UNLESS OTHERWISE SHOWN, SHALL BE COMPLETELY REMOVED FROM THE AREAS OF WORK. ALL TREES SCHEDULED FOR REMOVAL SHALL BE FIELD MARKED AND APPROVED FOR REMOVAL BY THE OWNER PRIOR TO CUTTING OPERATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF THE PUBLIC, EMPLOYEES, AND ALL OTHER PERSONS ASSOCIATED WITH THE PROJECT. HE/SHE SHALL COORDINATE AND BE RESPONSIBLE FOR ALL SAFETY SIGNING, BARRIERS AND TEMPORARY PAVEMENT MARKINGS NECESSARY TO PROVIDE A SMOOTH AND PROPER TRANSITION FOR TRAFFIC FLOW.
- IF REQUIRED BY THE CONTRACTOR, OVERHEAD LINES SHALL BE RELOCATED BY THE UTILITY COMPANY AT THE CONTRACTORS EXPENSE.
- AREAS OUTSIDE THE LIMITS OF WORK (EROSION CONTROL/SILT FENCE LOCATIONS) DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE EXPENSE OF THE CONTRACTOR.
- ALL SEWER MAINS SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY FROM PROPOSED WATER MAINS AND SHALL MAINTAIN 5 FEET OF COVER OVER THE TOP OF THE PIPING, UNLESS OTHERWISE SHOWN OR APPROVED.
- ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 5 FEET OF COVER OVER THE TOP OF THE PIPE, UNLESS OTHERWISE SHOWN OR APPROVED.
- WHENEVER SEWER MAINS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS; 6" THICK CONCRETE ENCASEMENTS EXTENDING 10' EITHER SIDE OF THE CROSSING.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EROSION AND/OR SEDIMENT CONTROLS DURING CONSTRUCTION. HE/SHE SHALL INSPECT CONTROLS WEEKLY AND AFTER ALL STORM EVENTS. REPAIRS, IF REQUIRED, SHALL BE MADE IMMEDIATELY.
- 14 DAYS PRIOR TO COMMENCING CONSTRUCTION, THE OWNER/DEVELOPER SHALL PRESENT A CONSTRUCTION SCHEDULE TO THE ROAD AGENT AND/OR THE CITY OF METHUEN PLANNING BOARD.
- TWO HARD COPIES OF AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE ROAD AGENT AND/OR THE CITY OF METHUEN PLANNING BOARD UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL INCLUDE ALL LANDBASE AND UTILITIES INFORMATION.
- ONSITE BURIAL OF STUMPS OR ANY OTHER DEBRIS IS PROHIBITED.
- ELEVATIONS ARE BASED UPON 1988 NAVD DATUM.

PAVEMENT NOTES:

FINISH COURSE: 1-1/2" BIT. CONC. TOP COURSE TYPE I-1
BINDER COURSE: 2-1/2" BIT. CONC. BASE COURSE TYPE I-1
GRAVEL BASE: 4" PROCESSED GRAVEL (MDOT M1.03.1) OVER 10" OF GRAVEL BORROW (MDOT M1.03.0 TYPE B)

ROADWAY NOTES

- ALL STUMPS, ROCKS AND LEDGE WITHIN THE LIMITS OF THE PROPOSED PAVED WAY SHALL BE REMOVED. ALL LEDGE SHALL BE REMOVED TO A MINIMUM DEPTH OF 2' BELOW FINISHED PAVEMENT GRADE.
- ROADWAY SHALL NOT BE CONSTRUCTED DURING FREEZING WEATHER OR ON WET OR FROZEN SUBGRADE.
- GRADING AND ROLLING SHALL BE REQUIRED TO PROVIDE A SMOOTH, EVEN, AND UNIFORM COMPACTED BASE WHICH IS COMPACTED TO A MINIMUM DRY DENSITY OF 95 PERCENT.
- THE MINIMUM SLOPE FROM THE CROWN OF FINISHED BASE COURSE SHALL BE 1/4" PER FOOT UNLESS OTHERWISE SHOWN.
- ALL UNSUITABLE MATERIAL SHALL BE EXCAVATED AND REPLACED WITH SATISFACTORY MATERIAL AND BROUGHT UP TO GRADE WITH GRAVEL BORROW CONTAINING NO STONES GREATER THAN 6" DIAMETER.
- AT ALL TIMES DURING CONSTRUCTION, THE SUB-GRADE AND ALL DITCHES SHALL BE CONSTRUCTED AND MAINTAINED SO THAT THE ROADWAY WILL EFFECTIVELY BE DRAINED.
- THE CONTRACTOR SHALL REFER TO THE CITY OF METHUEN SUBDIVISION RULES AND REGULATIONS.

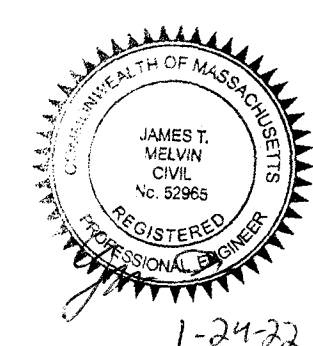
MATERIAL NOTES

ALL MATERIALS AND CONSTRUCTION METHODS OF ALL THE ELEMENTS IN THE SUBDIVISION MUST CONFORM TO THE FOLLOWING STANDARDS, UNLESS OTHERWISE SHOWN AND APPROVED:

- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- AMERICAN WATER WORKS ASSOCIATION (AWWA)
- COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES (LATEST EDITION)
- 521 CMR RULES AND REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD (AAB) AND THE AMERICANS WITH DISABILITIES ACT (ADA)
- SPECIFICATIONS BY THE CITY OF METHUEN AS SET FORTH BY SECTIONS I - VI IN THE SUBDIVISION RULES AND REGULATIONS, (LATEST EDITION)

PREPARED FOR

JR BUILDERS, INC.
16 INDUSTRIAL WAY
SALEM, NH 03079



2	1/24/22	RESPONSE TO PEER REVIEW	J.T.M.		
1	11/23/21	RESPONSE TO PEER REVIEW	J.T.M.		
NO.	DATE	DESCRIPTION	BY		



MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

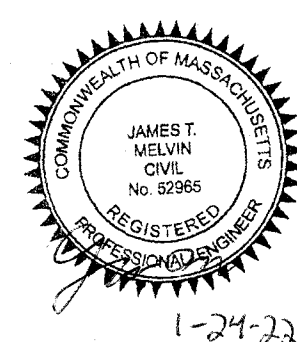
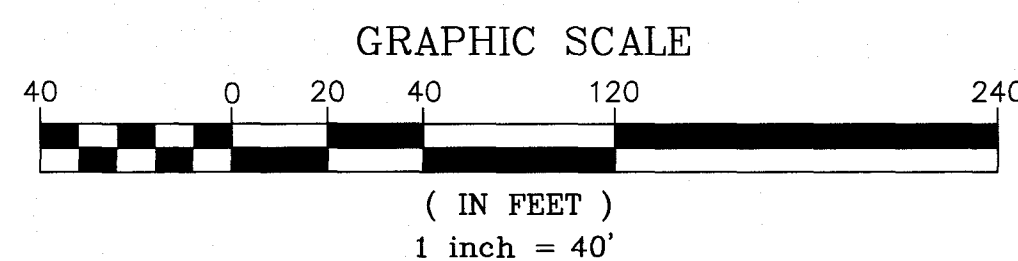
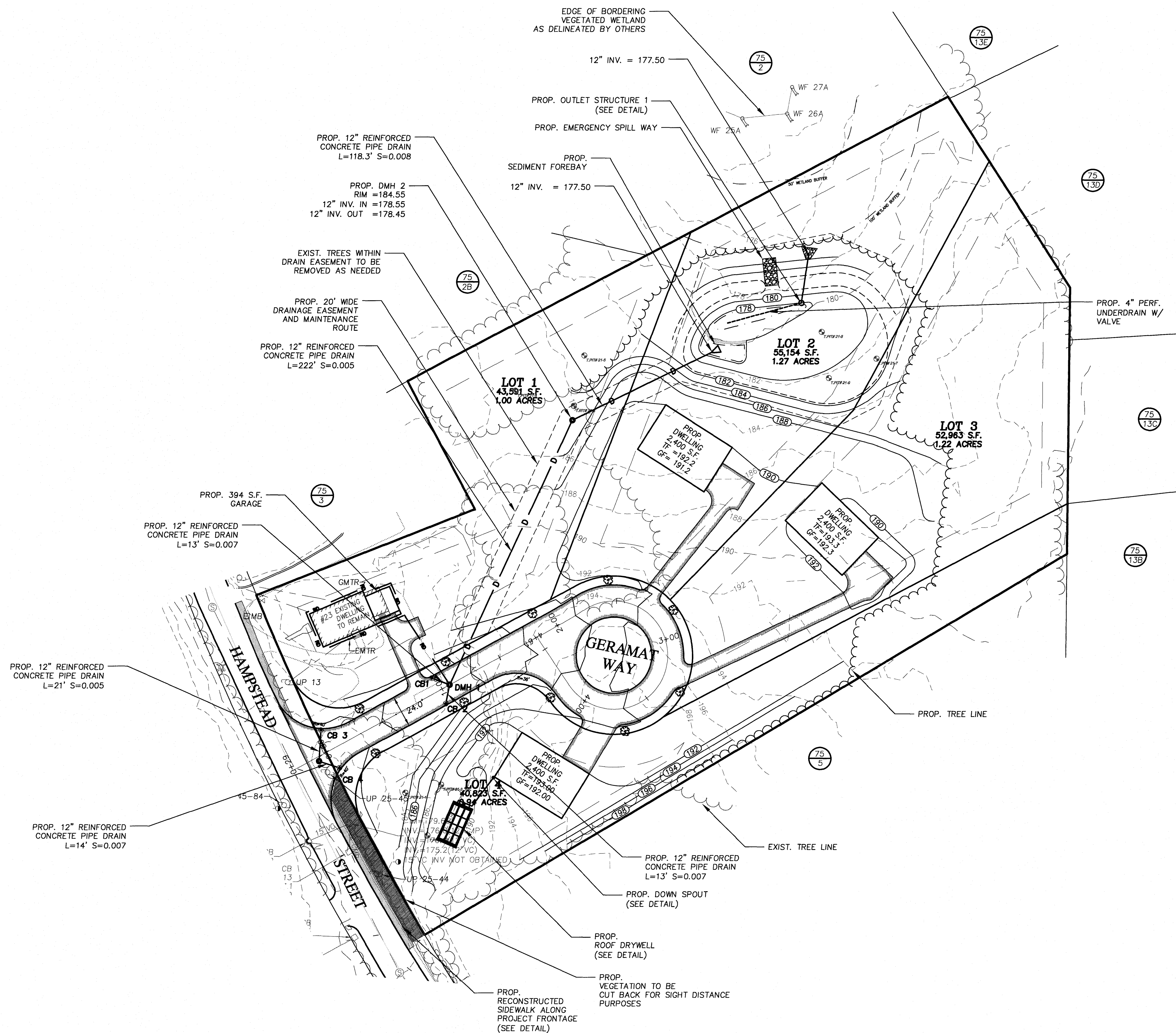
SCALE: AS NOTED	CALC. BY: S.R.C.	PROJECT: M213934
DATE: OCT. 5, 2021	CHKD. BY: J.T.M.	

DEFINITIVE SUBDIVISION PLAN
IN
METHUEN, MA
AT
23 HAMPSTEAD ST

TYPICAL
SECTIONS
&
GENERAL
NOTES

SHEET: 4 OF 10

DATE: _____



PREPARED FOR

JR BUILDERS, INC.

16 INDUSTRIAL WAY
SALEM, NH 03079

NO.	DATE	DESCRIPTION	BY
2	1/24/22	RESPONSE TO PEER REVIEW	J.T.M.
1	11/23/21	RESPONSE TO PEER REVIEW	J.T.M.

MEI **MILLENNIUM ENGINEERING, INC.**
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'

DATE: OCT. 5, 2021

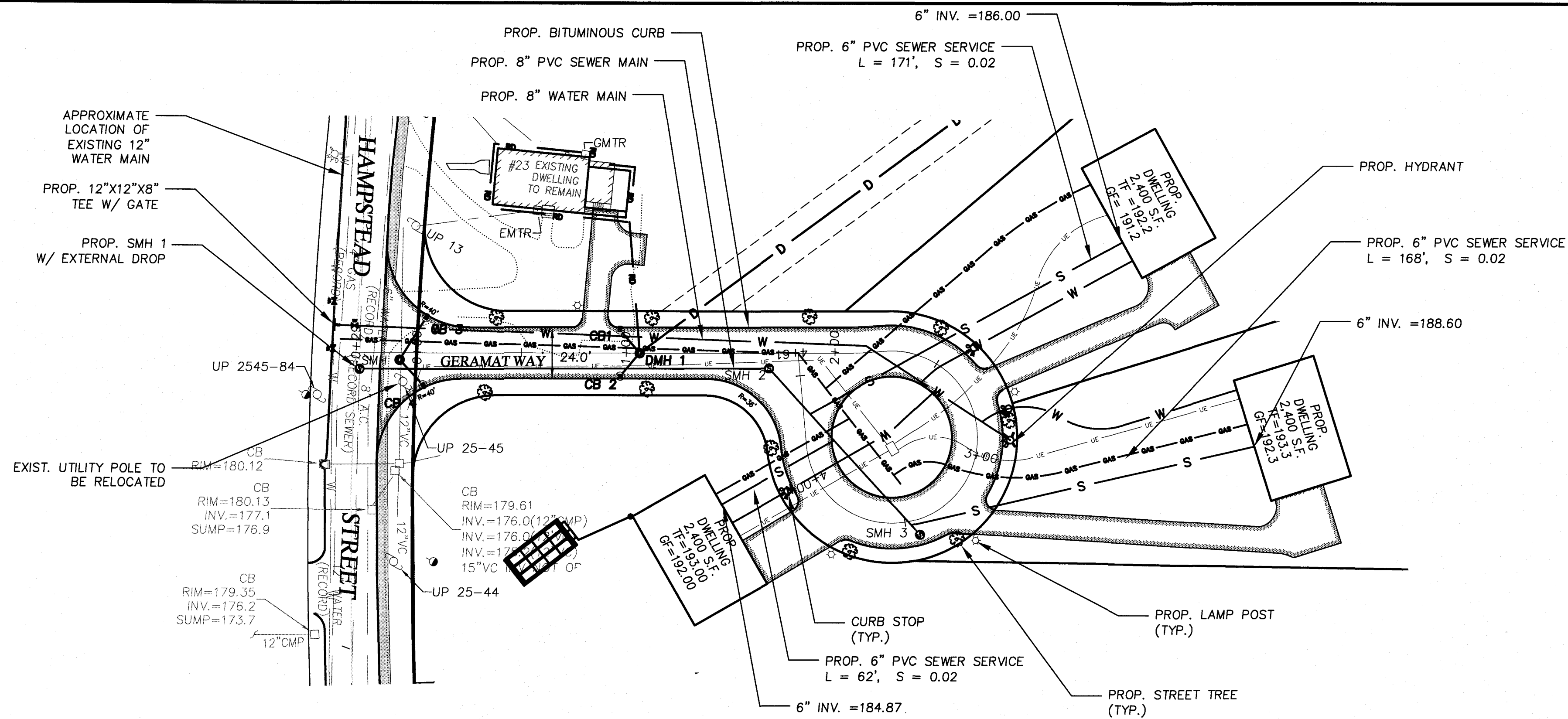
CALC. BY: S.R.C.
CHKD. BY: J.T.M.

PROJECT: M213934

DEFINITIVE SUBDIVISION PLAN
IN
METHUEN, MA
AT
23 HAMPSTEAD ST

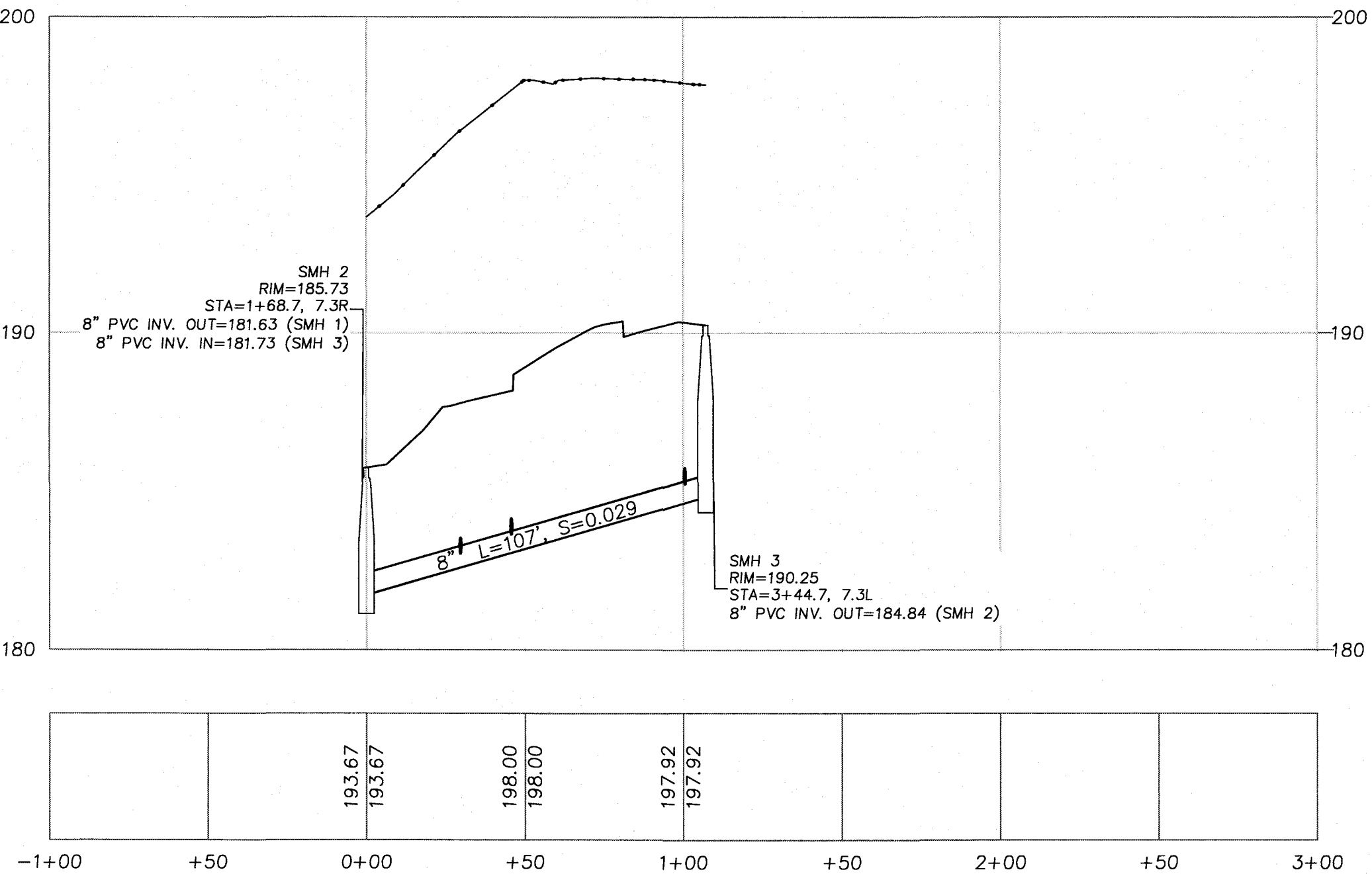
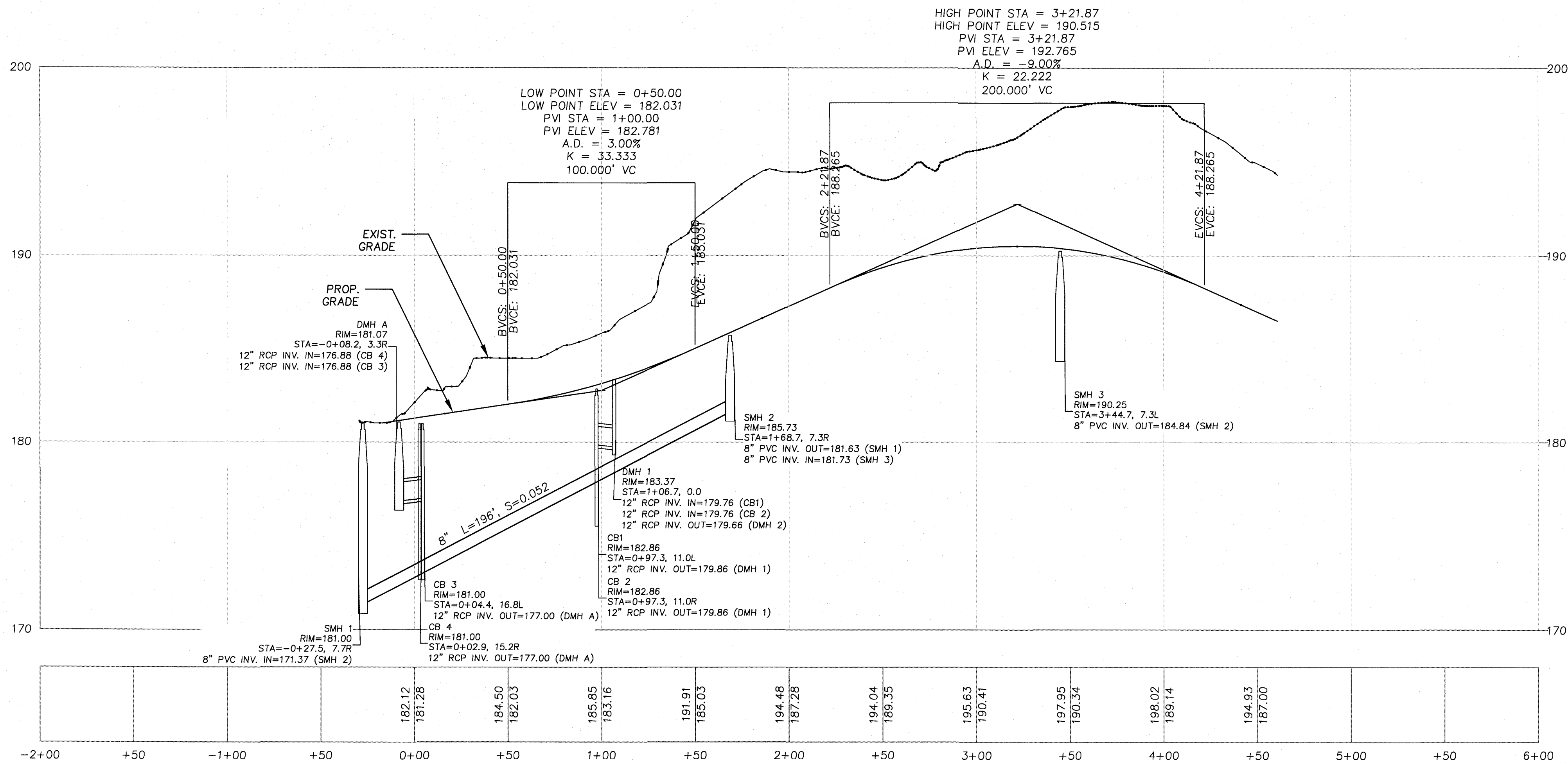
**GRADING
AND
DRAINAGE
PLAN**

DATE: _____

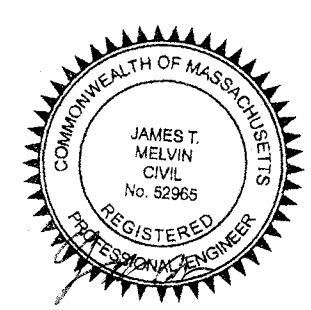
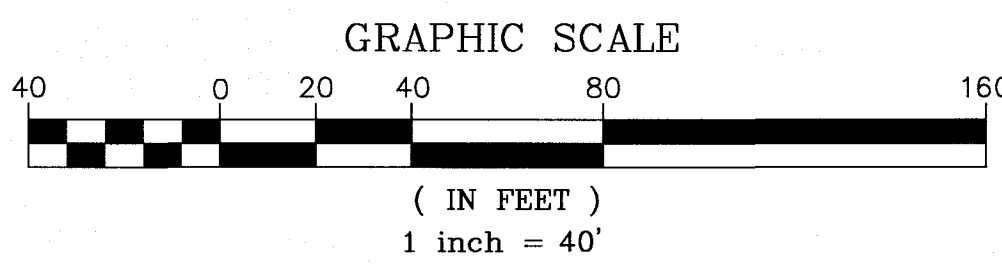


NOTES:

1. WATER AND SEWER FOR EXISTING DWELLING TO REMAIN
2. SUBDRAINS ARE TO BE INSTALLED AT A MINIMUM STARTING AT STA 1+25 AND WHERE THE SITE CONTRACTOR DEEMS NECESSARY.
3. GAS AND ELECTRIC SERVICES SHOWN ARE APPROXIMATE. FINAL LOCATIONS TO BE PROVIDED BY THE UTILITY COMPANIES.



PROFILE FROM
SMH 2 TO SMH 3



PREPARED FOR
JR BUILDERS, INC.
16 INDUSTRIAL WAY
SALEM, NH 03079

NO.	DATE	DESCRIPTION	BY
2	1/24/22	RESPONSE TO PEER REVIEW	J.T.M.
1	11/23/21	RESPONSE TO PEER REVIEW	J.T.M.

MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'
DATE: OCT. 5, 2021
PROJECT: M213934

DEFINITIVE SUBDIVISION PLAN
IN
METHUEN, MA
AT
23 HAMPSHAD ST

**PLAN
&
PROFILE**

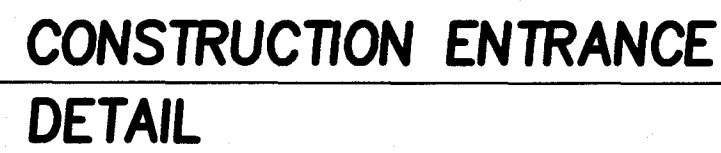


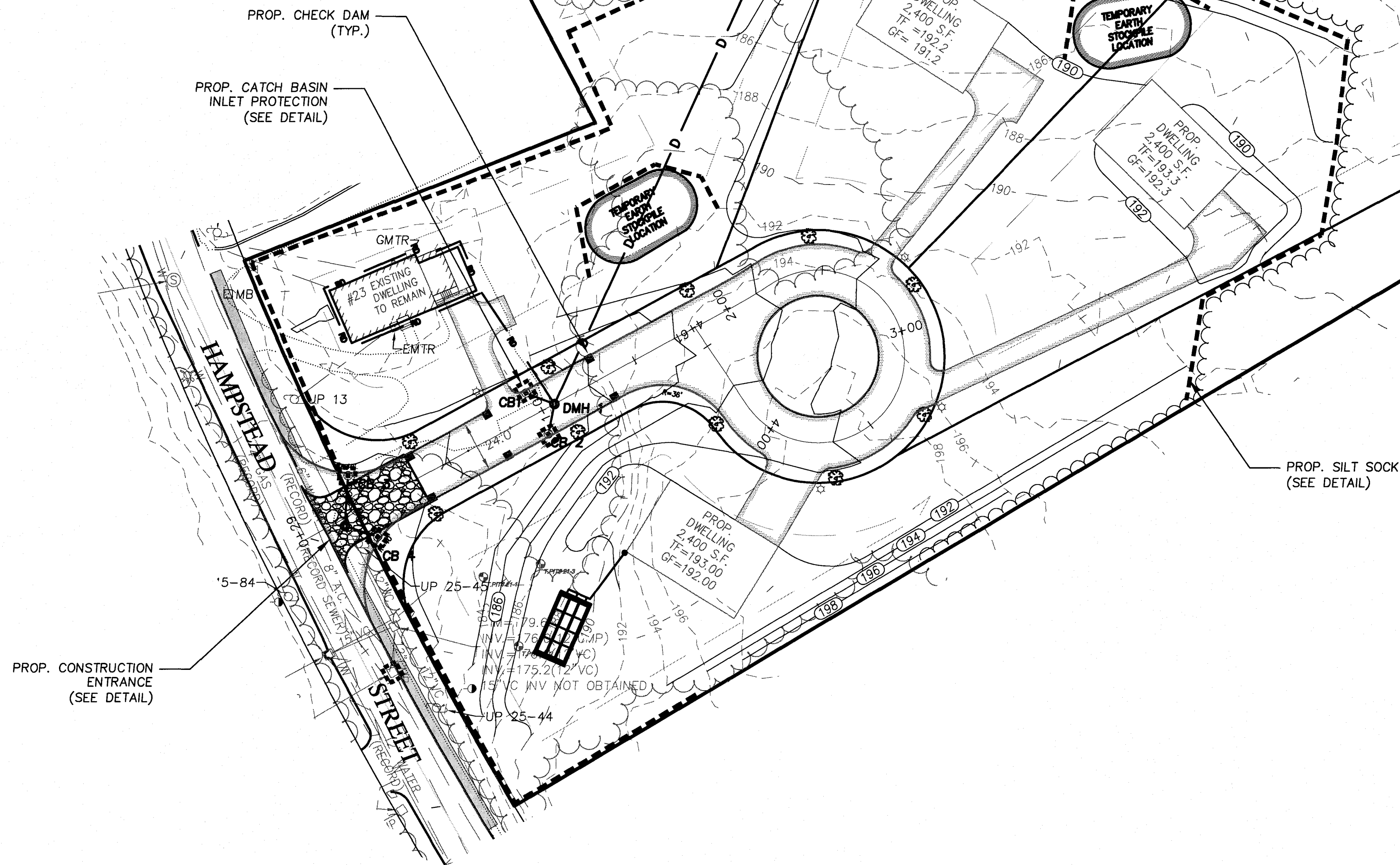
Diagram illustrating the installation of a silt sock for erosion control:

- 2" MIN OVERLAP:** Indicated for the top edge of the silt sock where it meets the existing ground or another sock.
- PROTECTED AREA:** The area behind the silt sock, where runoff is directed.
- SILT SOCK (12" TYPICAL):** The main body of the erosion control structure.
- 2"x2"x3' WOODEN STAKE (10' O.C.):** Stakes are driven into the ground to secure the silt sock.
- DRIVE WOODEN STAKE MIN. 12" INTO GROUND:** Instruction for the depth of stake installation.
- RUNOFF:** Indicated by an arrow showing the direction of water flow over the silt sock.

1. ALL MATERIAL SHALL MEET SPECIFICATIONS BY FILTREX OR APPROVED EQUAL.
2. SILT SOCK SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
3. THE CONTRACTOR SHALL REMOVE SEDIMENT AT THE BASE OF THE UPSLOPE SIDE OF THE SILT SOCK WHEN ACCUMULATION HAS REACHED 1/2 OF THE EFFECTIVE HEIGHT OF THE SILT SOCK.
4. SILT SOCK SHALL BE MAINTAINED UNTIL DISTURBED AREA ABOVE THE DEVICE HAS BEEN PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.
5. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE SOCK HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.
6. SILT SOCK SHALL BE INSPECTED DAILY BY THE GENERAL CONTRACTOR.

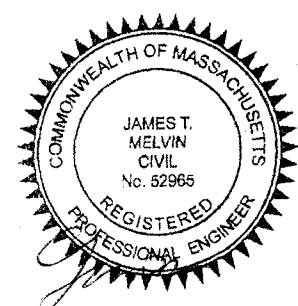
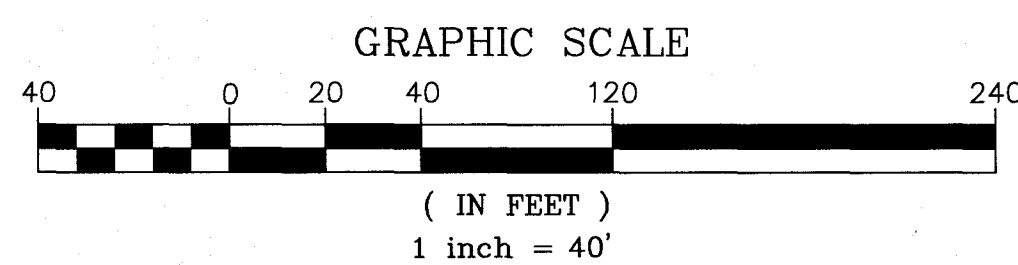
N.T.S.

1. ALL SILT FENCE SHALL BE INSTALLED BEFORE THE START OF CONSTRUCTION. SILT FENCE SHALL BE REMOVED UPON COMPLETION OF THE PROJECT AND STABILIZATION OF ALL SOIL.
2. ALL FILL SHALL BE FREE OF STUMPS AND LARGE STONES.
3. ANY STANDING BODIES OF WATER CREATED DURING EXCAVATION SHALL BE ELIMINATED.
4. EROSION CONTROL BARRIERS SHALL BE INSPECTED WEEKLY AND AFTER EVERY 0.5" OF RAINFALL AND PROMPTLY REPAIRED OR REPLACED AS NECESSARY.
5. ACCUMULATED SEDIMENT DEPOSITS UPSTREAM OF BARRIERS SHALL BE PROPERLY DISPOSED OF ON A REGULAR BASIS.
6. AREAS OUTSIDE THE LIMITS OF WORK (EROSION CONTROL/SILT FENCE LOCATIONS) DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE EXPENSE OF THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EROSION AND/OR SEDIMENT CONTROLS DURING CONSTRUCTION. HE/SHE SHALL INSPECT CONTROLS WEEKLY AND AFTER ALL STORM EVENTS, REPAIRS, IF REQUIRED, SHALL BE MADE IMMEDIATELY.
8. TEMPORARY GROUND COVER SHALL BE ESTABLISHED IN AREAS OF CONSTRUCTION WHERE REQUIRED BY THE MERRIMAC PLANNING BOARD AND CONSERVATION COMMISSION.
9. ANY DISTURBED AREAS OF THE SITE NOT USED FOR ROADWAY OR UTILITY CONSTRUCTION SHALL BE STABILIZED WITH LOAM AND SEED UNTIL FURTHER DISTURBANCE IS REQUIRED FOR BUILDING CONSTRUCTION.
10. THE CONTRACTOR SHALL IDENTIFY TO THE TOWN HIS/HER TOPSOIL STOCKPILING OPERATIONS AND LOCATIONS.
11. PROVIDE GRAVEL AND WIRE MESH SEDIMENT FILTER AT ALL CATCH BASINS.
12. A MINIMUM OF 6" OF LOAM SHALL BE INSTALLED ON ALL DISTURBED UNPAVED SURFACES.
13. SEED MIX SHALL BE NO LESS THAN 4 LBS./1000 S.F. OF LAND AREA. SEED SHALL CONSIST OF A MAXIMUM OF 10% RYE GRASS AND A MINIMUM OF 90% PERMANENT BLUEGRASS AND/OR FESCUE. LIME SHALL BE APPLIED AT A RATE OF 2 TONS/ACRE.
14. NO MORE THAN 3 ACRES SHALL BE DISTURBED AT ONE TIME. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
15. WHERE PLACEMENT IS REQUIRED FOR STORAGE OF WATER CONTROL, FILL SHALL BE PLACED IN AN UNFROZEN STATE UPON UNFROZEN GROUND. UNDER NO CIRCUMSTANCES SHALL FILL BE PLACED FROM NOVEMBER THROUGH JANUARY.
16. SILT SACKS SHALL BE INSTALLED IN ALL PROPOSED CATCH BASINS AND IN DOWNSTREAM CATCH BASINS IN BOSTON ROAD AS SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN.



1. TO INSTALL SILTSACK IN THE CATCH BASIN, REMOVE THE GRATE AND PLACE THE SACK IN THE OPENING. HOLD APPROXIMATELY SIX INCHES OF THE SACK OUTSIDE THE FRAME. THIS IS THE AREA OF THE LIFTING STRAPS. REPLACE THE GRATE TO HOLD THE SACK IN PLACE.
2. WHEN THE RESTRAINT CORD IS NO LONGER VISIBLE, SILTSACK IS FULL AND SHOULD BE EMPTIED.
3. TO REMOVE SILTSACK FROM THE CATCH BASIN, GRAB THE REBAR AND PLACE THROUGH THE LIFTING LOOPS ON EACH SIDE OF THE SACK TO FACILITATE THE LIFTING OF SILTSACK.
4. TO EMPTY SILTSACK, PLACE UNIT WHERE THE CONTENTS WILL BE COLLECTED. PLACE THE REBAR THROUGH THE LIFT STRAPS (CONNECTED TO THE BOTTOM OF THE SACK) AND LIFT. THIS WILL LIFT SILTSACK FROM THE BOTTOM AND EMPTY THE CONTENTS. CLEAN OUT AND RINSE. RETURN SILTSACK TO ITS ORIGINAL POSITION AND PLACE BACK IN THE BASIN.
5. SILTSACK IS REUSABLE. ONCE THE CONSTRUCTION CYCLE IS COMPLETE, REMOVE SILTSACK FROM THE BASIN AND CLEAN. SILTSACK SHOULD BE STORED OUT OF SUNLIGHT UNTIL NEXT USE.

N.T.S.



JR BUILDERS, INC.
16 INDUSTRIAL WAY
SALEM, NH 03079

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1	11/23/21	RESPONSE TO PEER REVIEW	J.T.M.
NO.	DATE	DESCRIPTION	BY

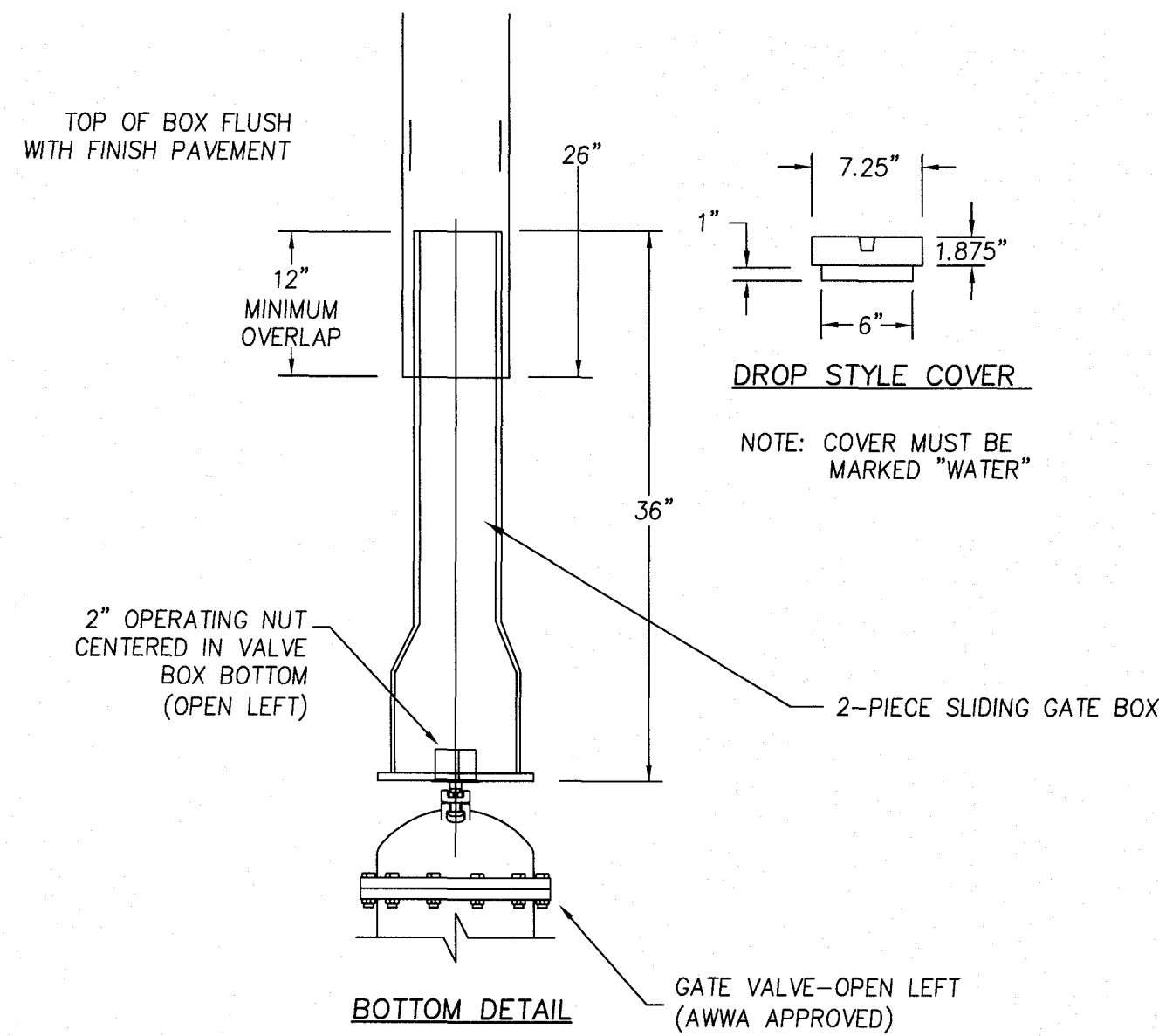


MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: 1"=40'	CALC. BY: S.R.C.	PROJECT: M213934
DATE: OCT. 5, 2021	CHKD. BY: J.T.M.	

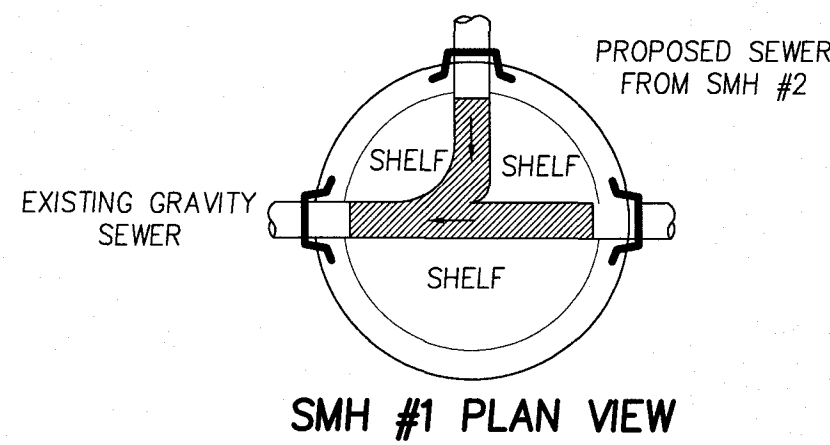
DEFINITIVE SUBDIVISION PLAN
IN
METHUEN, MA
AT
23 HAMPSTEAD ST

EROSION AND SEDIMENTATION CONTROL PLAN

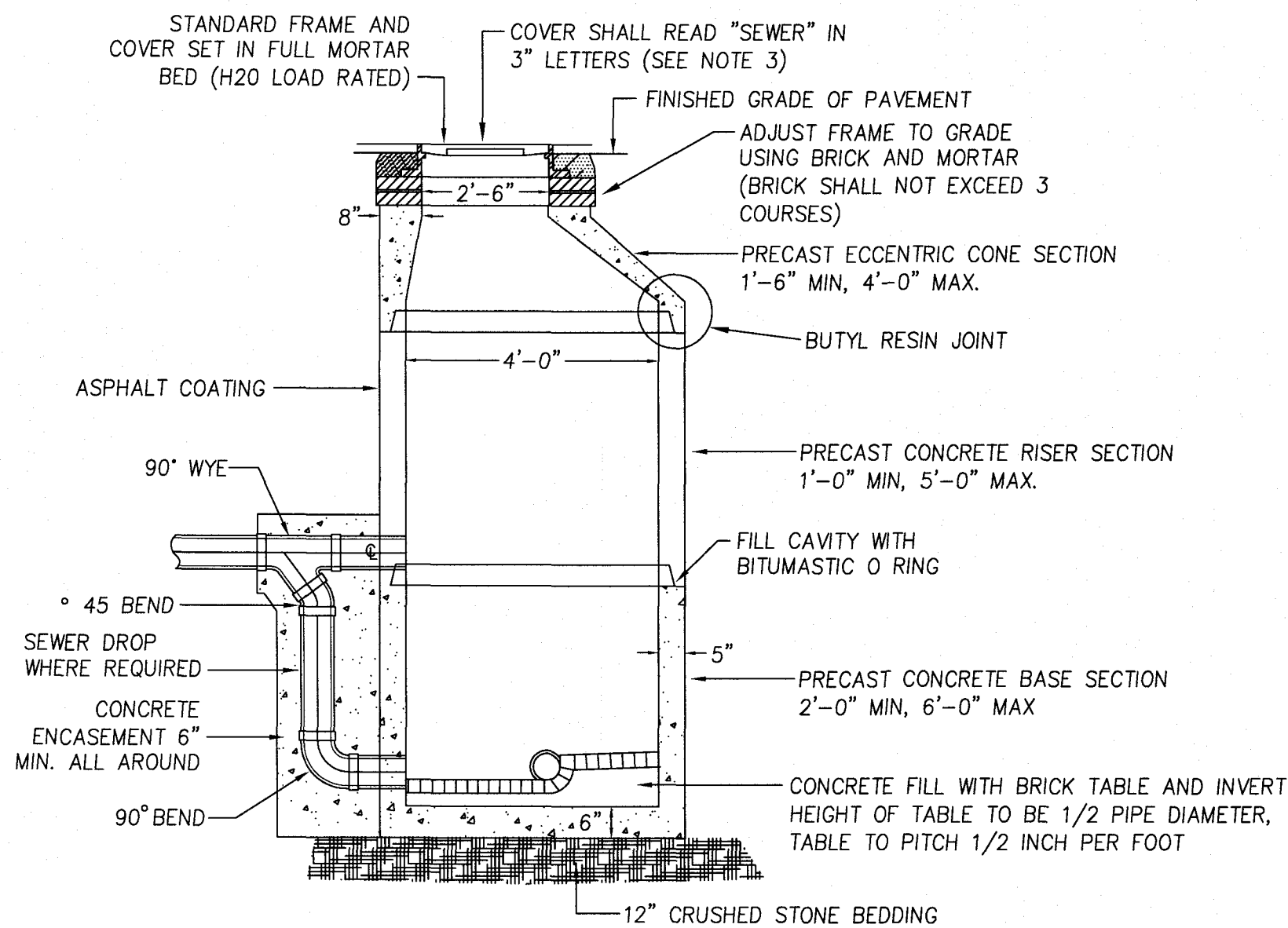


TYPICAL GATE VALVE
BOX DETAIL

N.T.S.



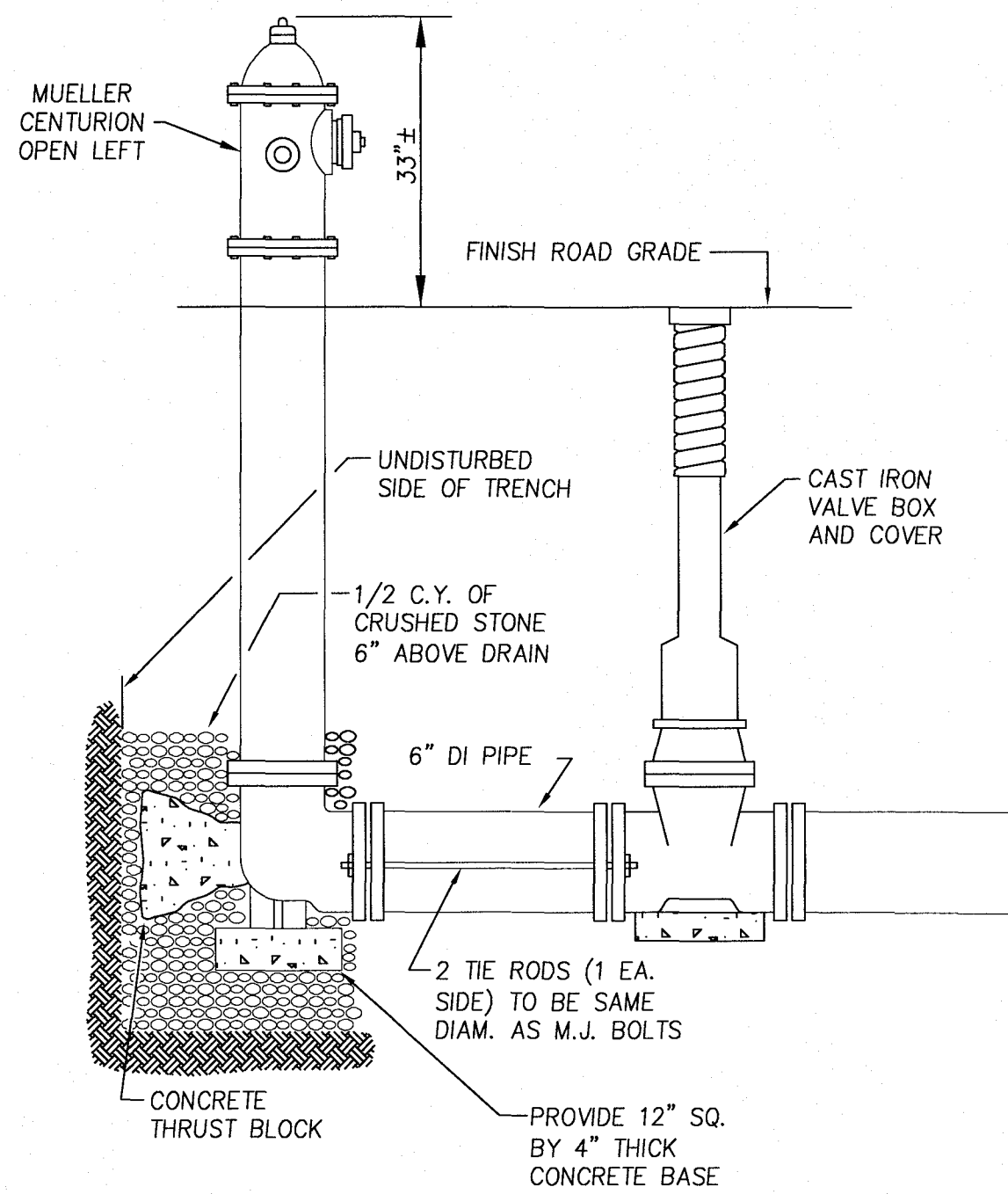
SMH #1 PLAN VIEW



- NOTES: 1) SEWER MANHOLES SHALL CONFORM TO ASTM C478 AND ASTM C185
2) STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEPS SHALL CONFORM TO LATEST ASTM C478 SPEC.
3) COVER SHALL BE LEBARON FOUNDRY (MODEL NO. LA246), MECHANICS IRON FOUNDRY, NEEHAN FOUNDRY, OR EQUAL.
4) ALL PENETRATIONS IN THE MANHOLE FOR INSERTION OF PIPING SHALL BE SEALED WITH KOR-N-SEAL FLEXIBLE PIPE CONNECTION.
5) FLAT TOP STRUCTURES SHALL BE PRECAST SECTIONS AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI REINFORCED FOR AASHTO H-20 LOADING.
6) CONICAL SECTIONS MAY BE SUBSTITUTED FOR FLAT-TOP STRUCTURES IN AREAS WHERE MORE THAN 4 FEET OF COVER IS PROVIDED FOR DRAIN PIPE.

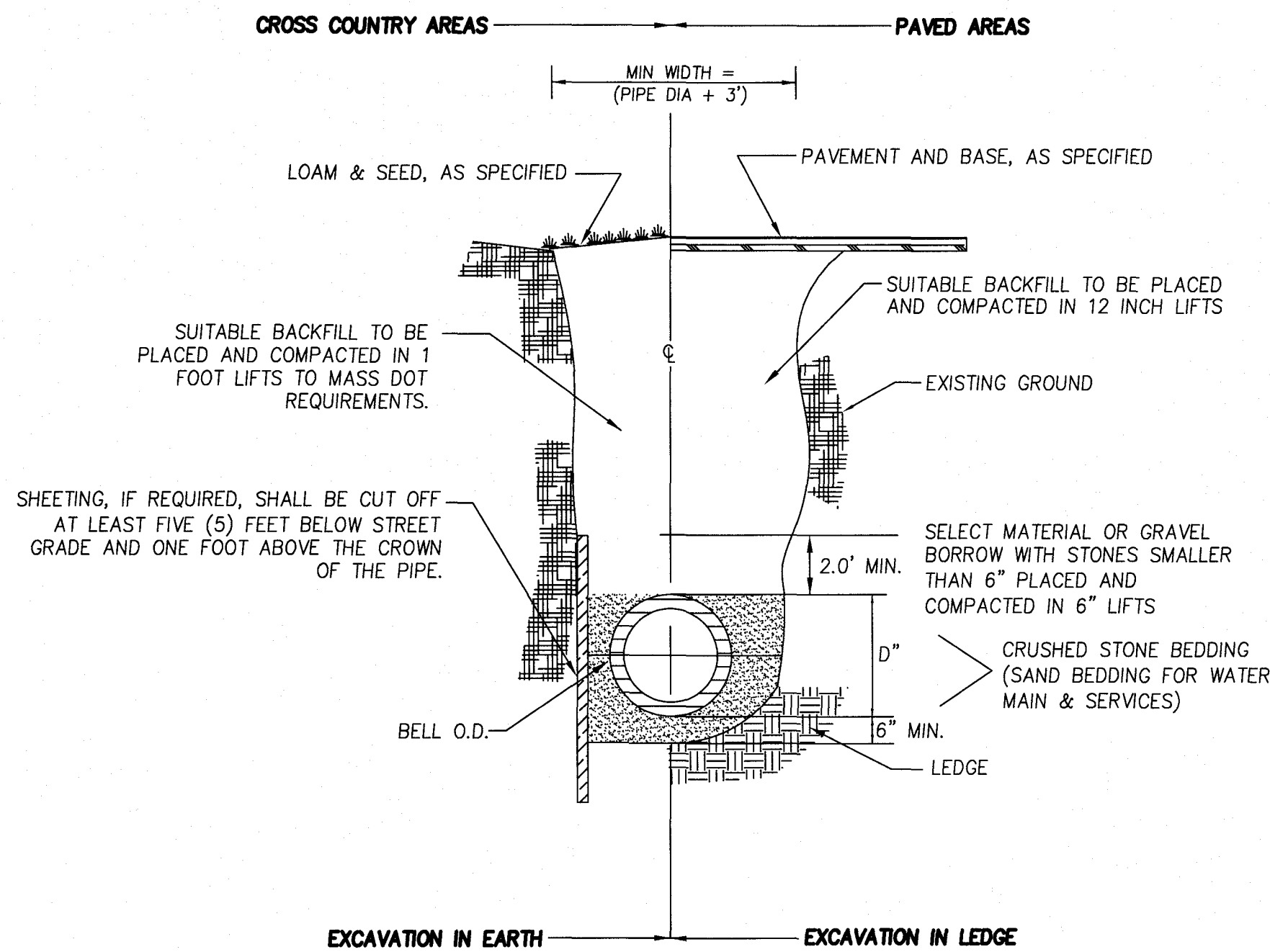
PRECAST SEWER
MANHOLE DETAIL

N.T.S.



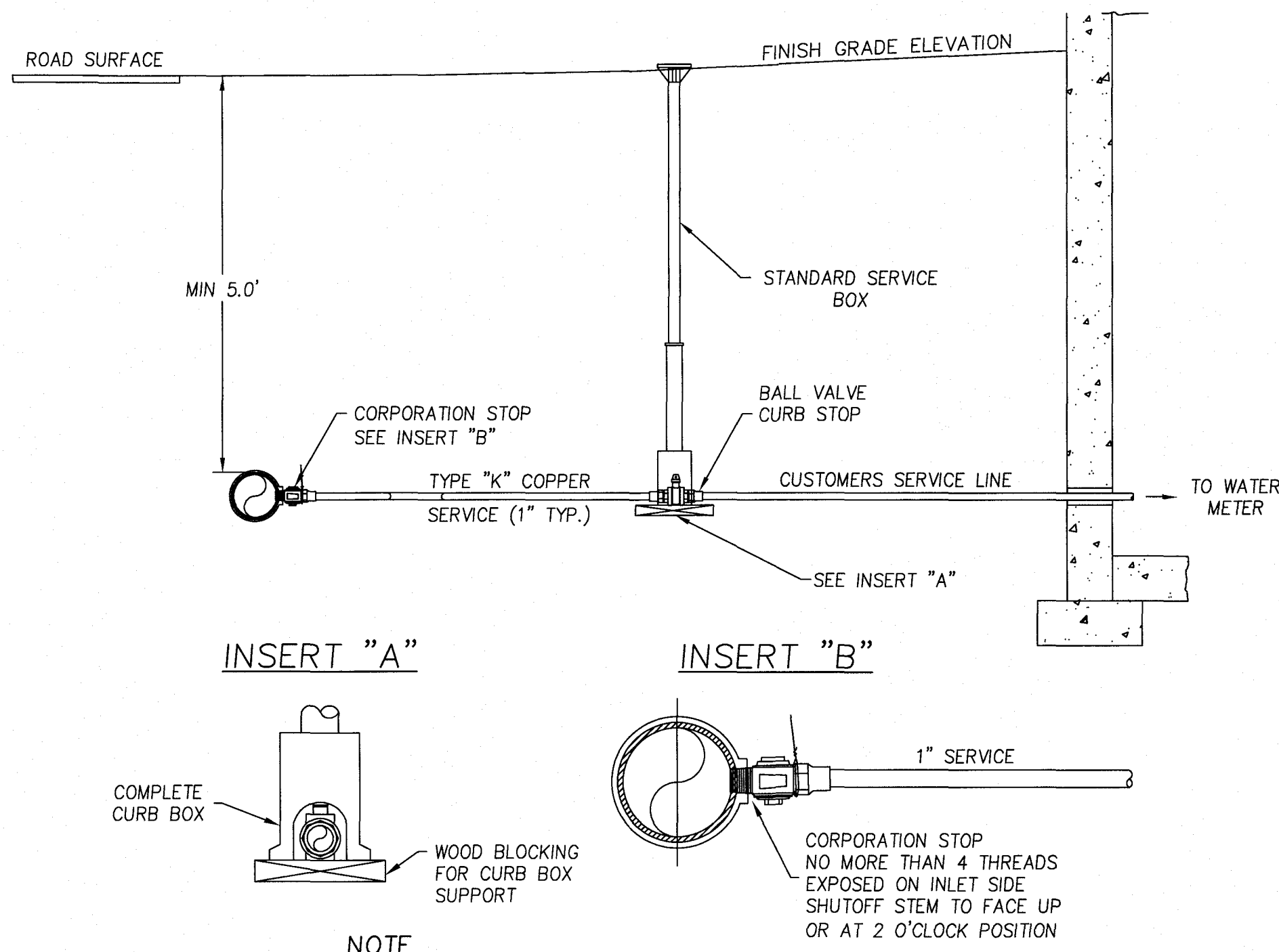
TYPICAL FIRE
HYDRANT INSTALLATION

N.T.S.



TYPICAL TRENCH
DETAIL

N.T.S.

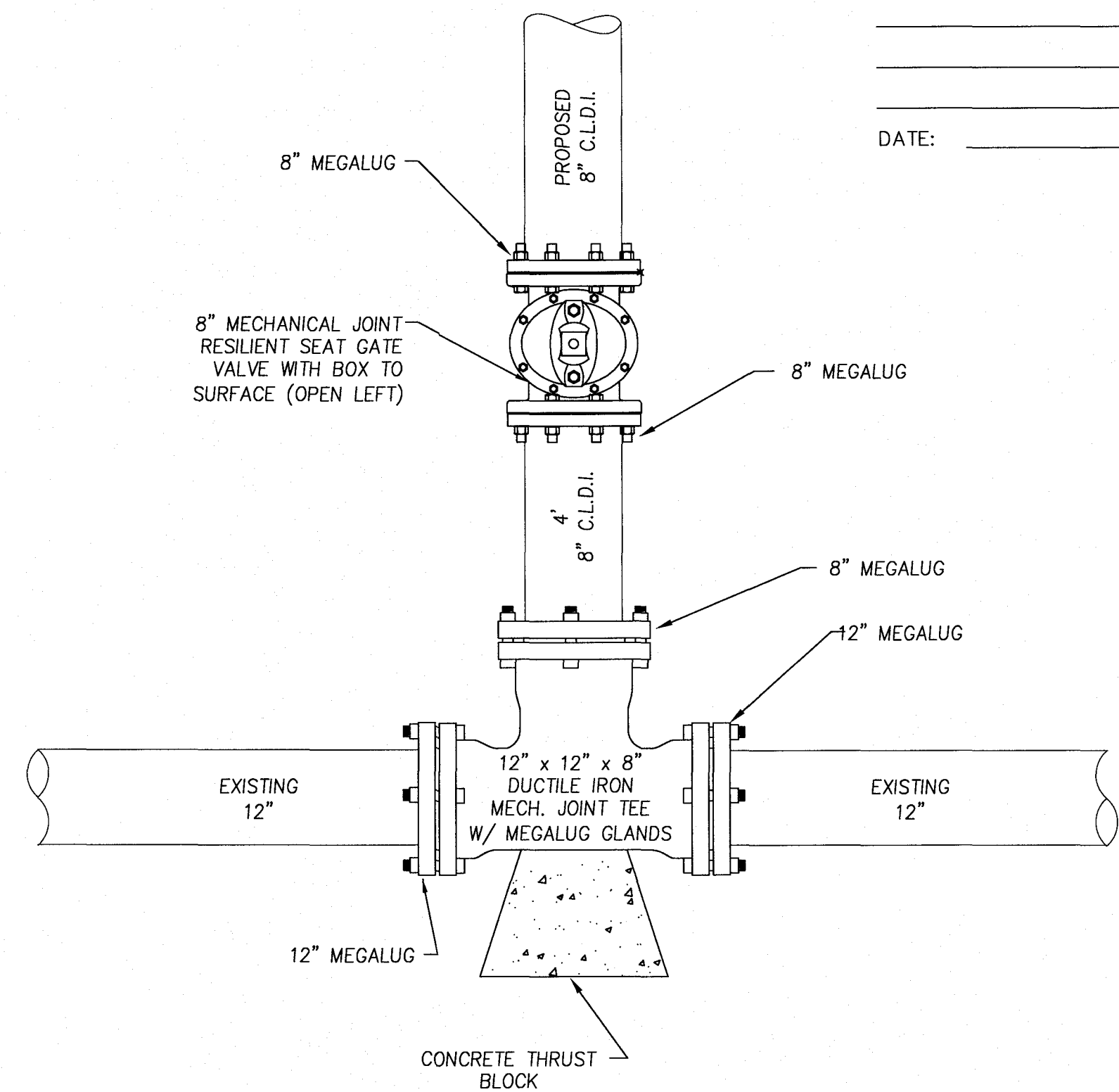


NOTE

1. SERVICE CONNECTIONS FOR THE VARIOUS LOTS SHALL BE SIZED TO MEET THE REQUIREMENTS OF THE SPECIFIED USE. CONNECTIONS TO THE PROJECT WATER MAIN SHALL BE MADE WITH TAPPING SLEEVES AND VALVES.

TYPICAL COPPER
SERVICE CONNECTION

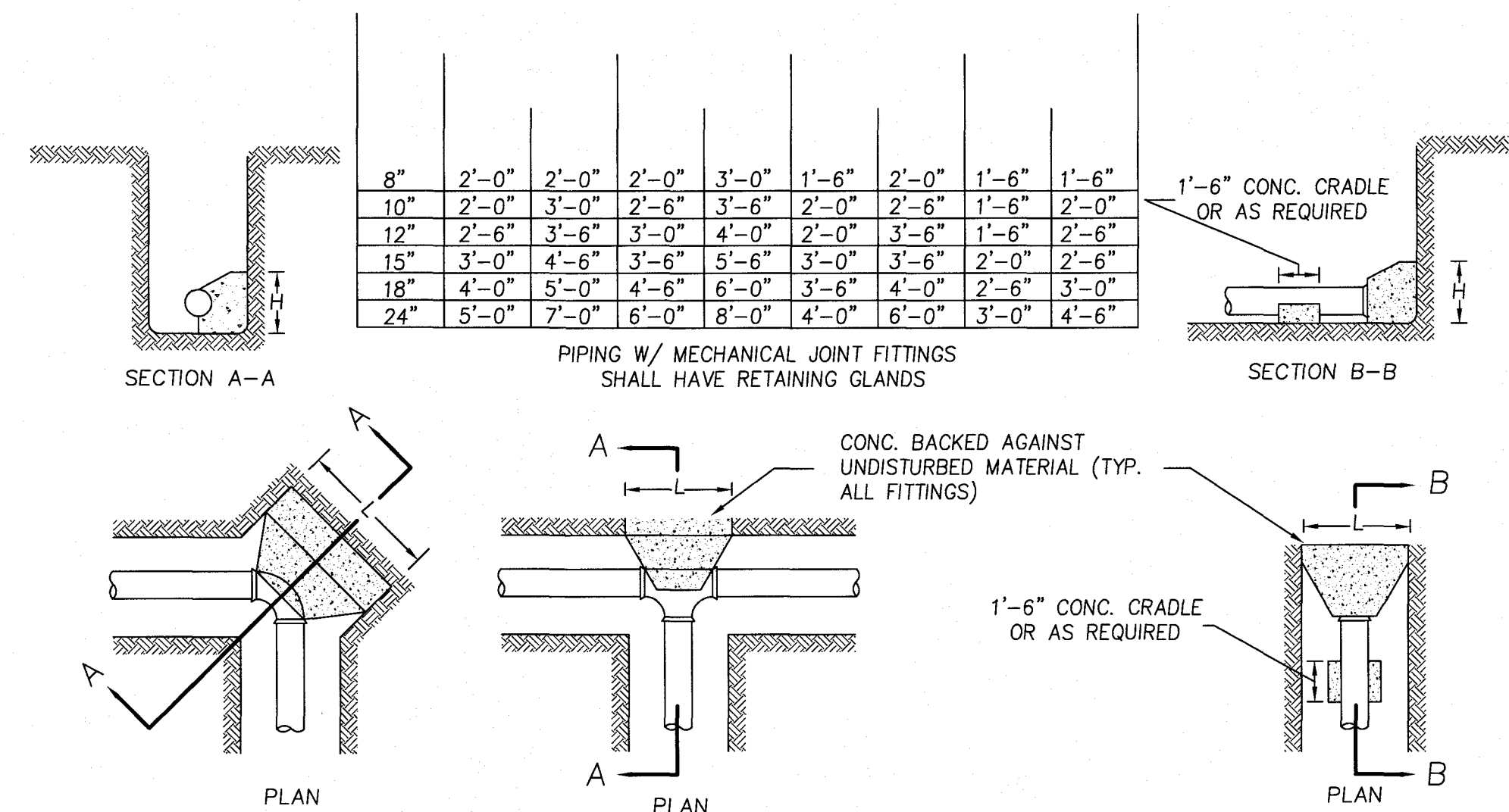
N.T.S.



- NOTES: 1) TIE IN SHALL BE COORDINATED WITH THE WATER DEPARTMENT.
2) THE CONTRACTOR IS RESPONSIBLE FOR ALL OFF-SITE NOTIFICATIONS TO IMPACTED PROPERTIES.

WATER MAIN
CONNECTION DETAIL

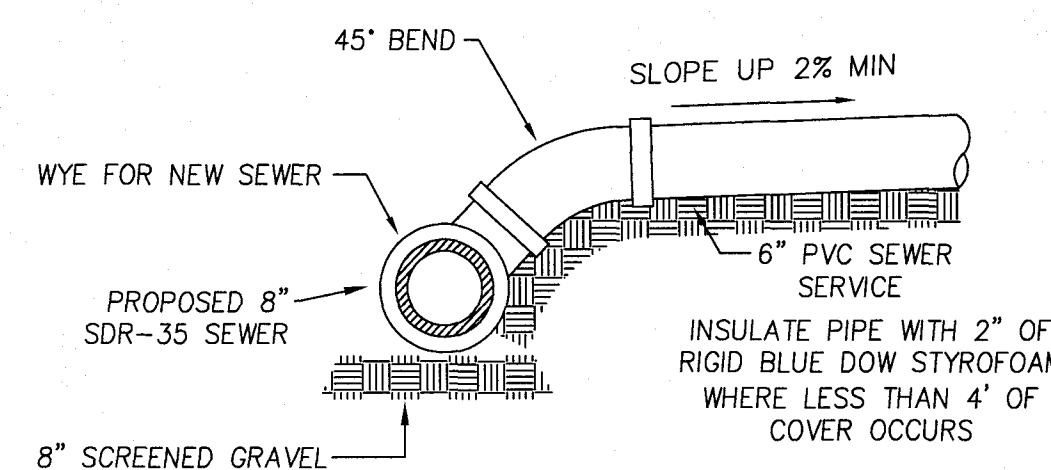
N.T.S.



NOTES

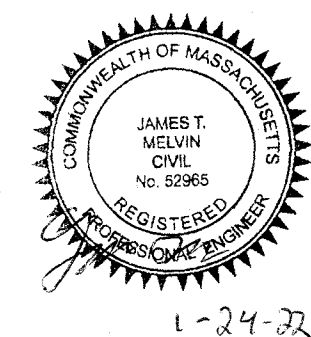
1. VALUES SHOWN ARE FOR TEST PRESSURE OF 150 PSI WITH A 100 PSI SURGE ALLOWANCE.
2. THRUST BLOCKS SHALL NOT BE PLACED AGAINST THE FOLLOWING SOILS: PEAT, ORGANIC SILT AND ORGANIC SOILS, SOFT CLAY, RUBBISH FILL AND OTHER UNSUITABLE ARTIFICIAL FILL, SHATTERED SHALE, INORGANIC SILT AND VERY FINE SANDS.
3. POURED CONCRETE THRUST BLOCKS SHALL NOT COVER ANY JOINTS, CLAMPS, NUTS, BOLTS, ETC.

THRUST BLOCK
DETAILS



SEWER SERVICE
DETAIL

N.T.S.



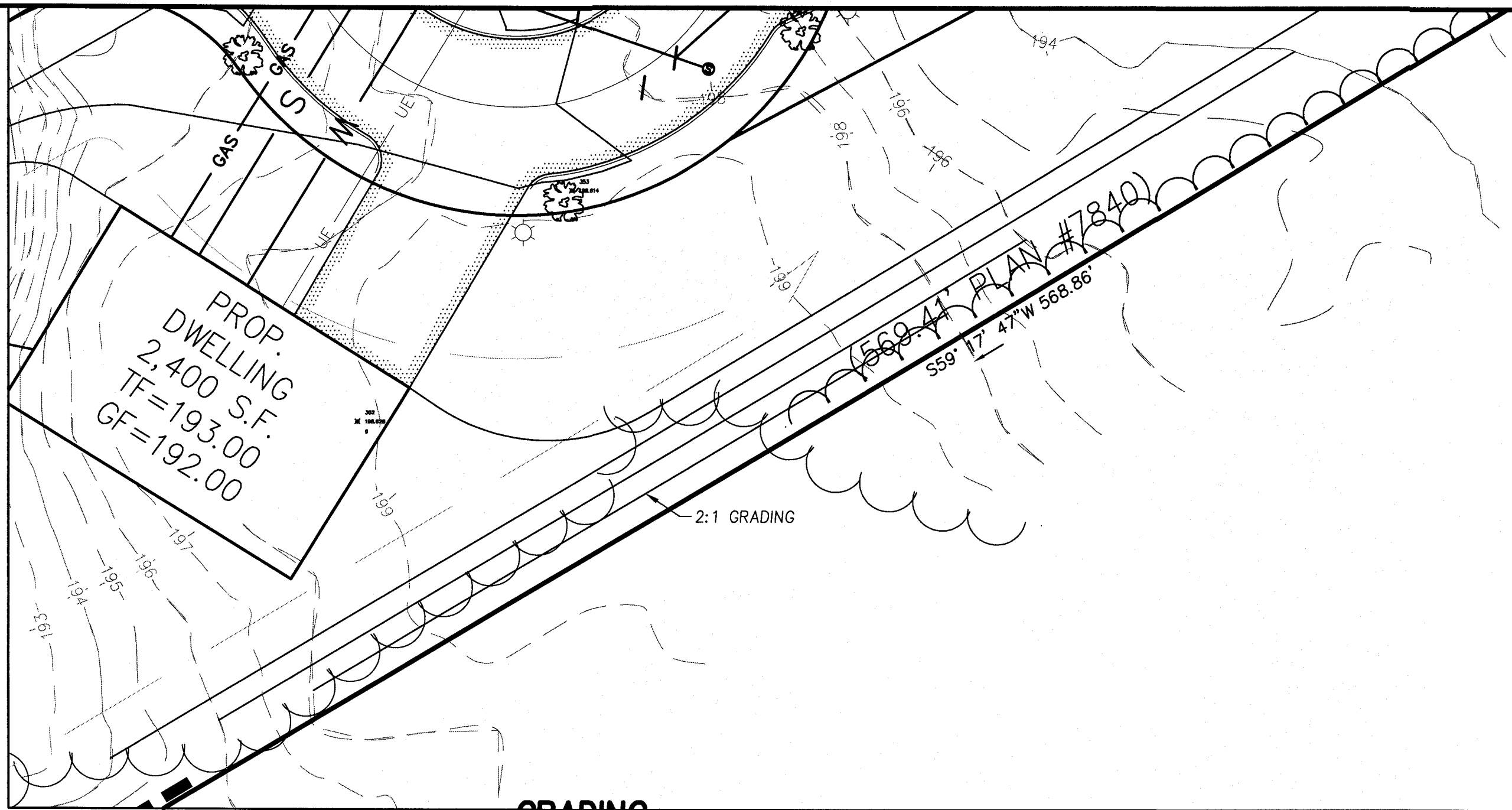
PREPARED FOR
JR BUILDERS, INC.
16 INDUSTRIAL WAY
SALEM, NH 03079

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1	11/23/21	RESPONSE TO PEER REVIEW	J.T.M.

MILLENNIUM ENGINEERING, INC. ENGINEERING AND LAND SURVEYING 62 ELM ST. SALISBURY, MA 01952 (978) 463-8980 13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528		
SCALE: AS NOTED	CALC. BY: S.R.C.	PROJECT: M213934
DATE: OCT 5, 2021	CHKD. BY: J.T.M.	

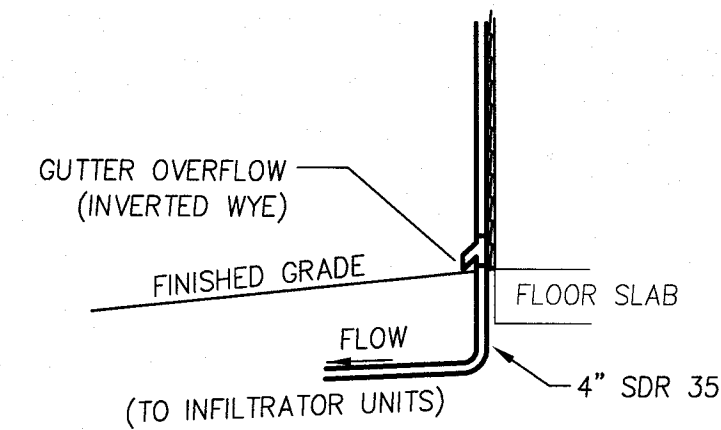
DEFINITIVE SUBDIVISION PLAN
IN
METHUEN, MA
AT
23 HAMPSTEAD ST

**CONSTRUCTION
DETAILS I**



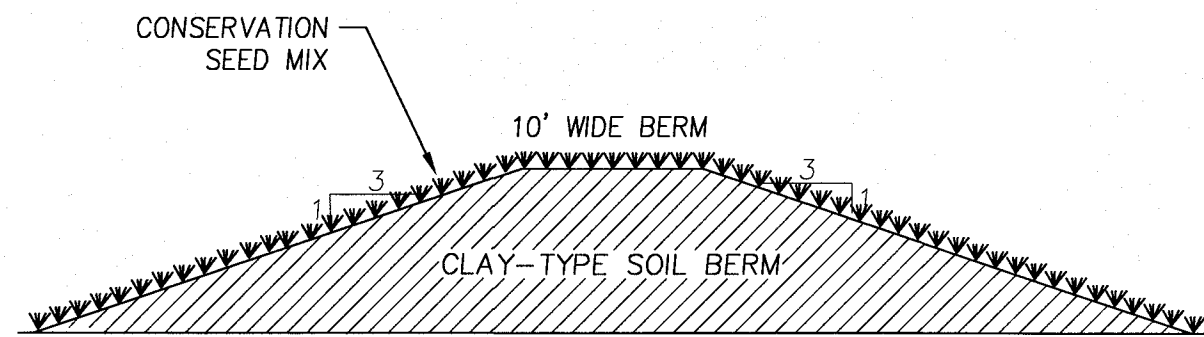
GRADING
DETAIL

SCALE: 1"=20'



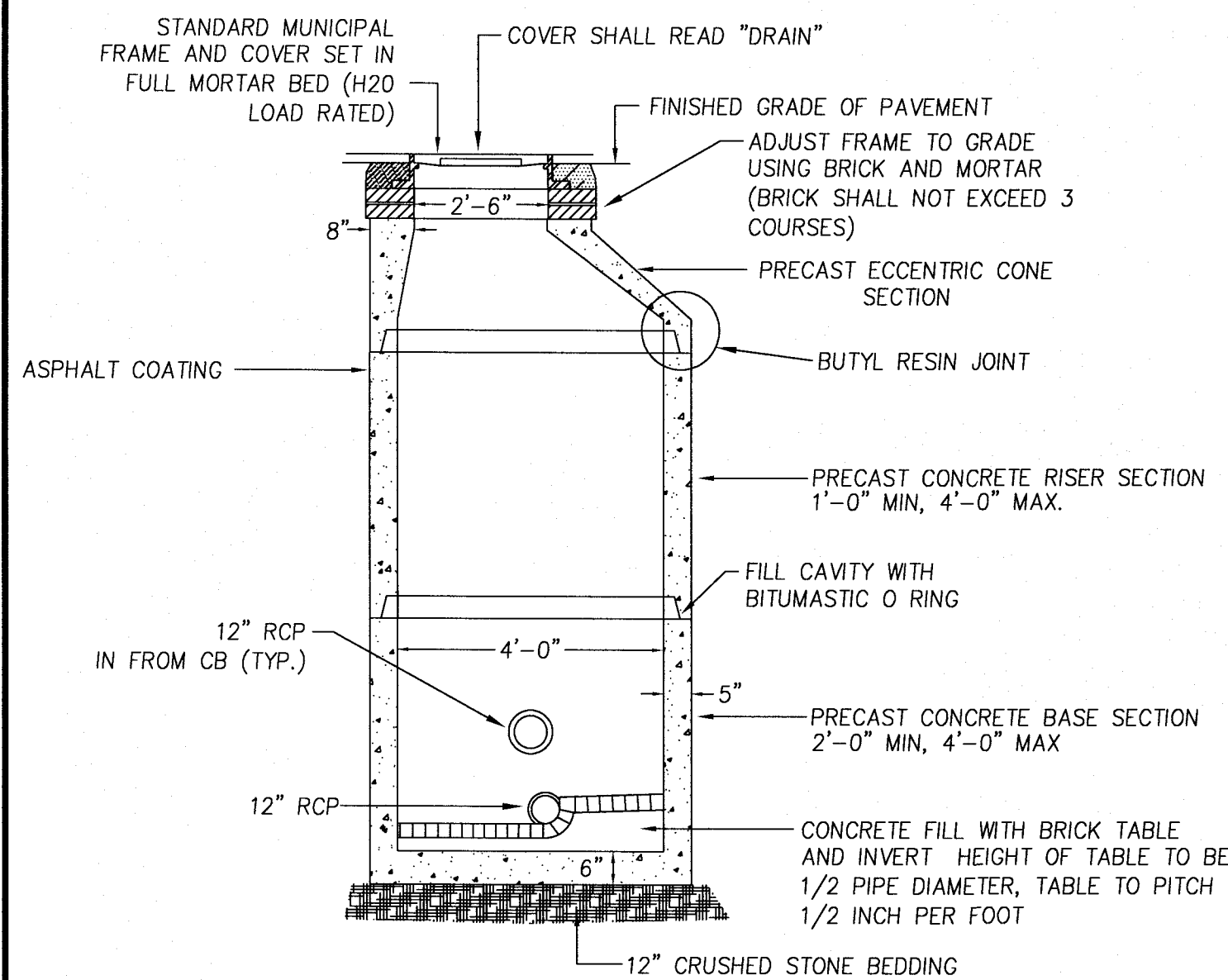
GUTTER DOWN
SPOUT DETAIL

N.T.S.



INFILTRATION BASIN
BERM DETAIL

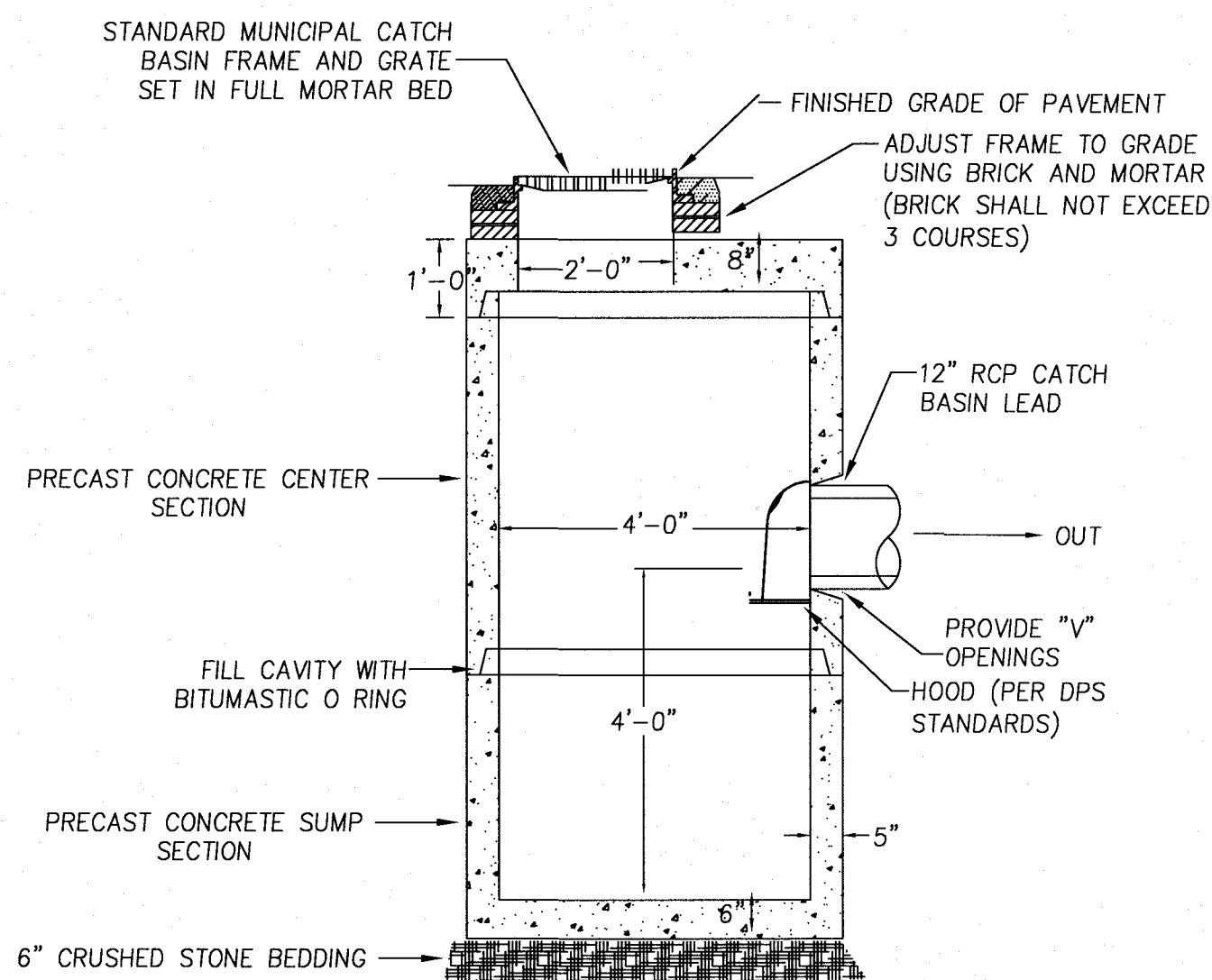
N.T.S.



- NOTES: 1) DRAIN MANHOLES SHALL CONFORM TO ASTM C478 AND ASTM C185
2) FLAT TOP STRUCTURES SHALL BE PRECAST SECTIONS AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI REINFORCED FOR AASHTO H-20 LOADING.
3) CONICAL SECTIONS MAY BE SUBSTITUTED FOR FLAT-TOP STRUCTURES IN AREAS WHERE MORE THAN 4 FEET OF COVER IS PROVIDED FOR DRAIN PIPE.

PRECAST DRAIN
MANHOLE DETAIL

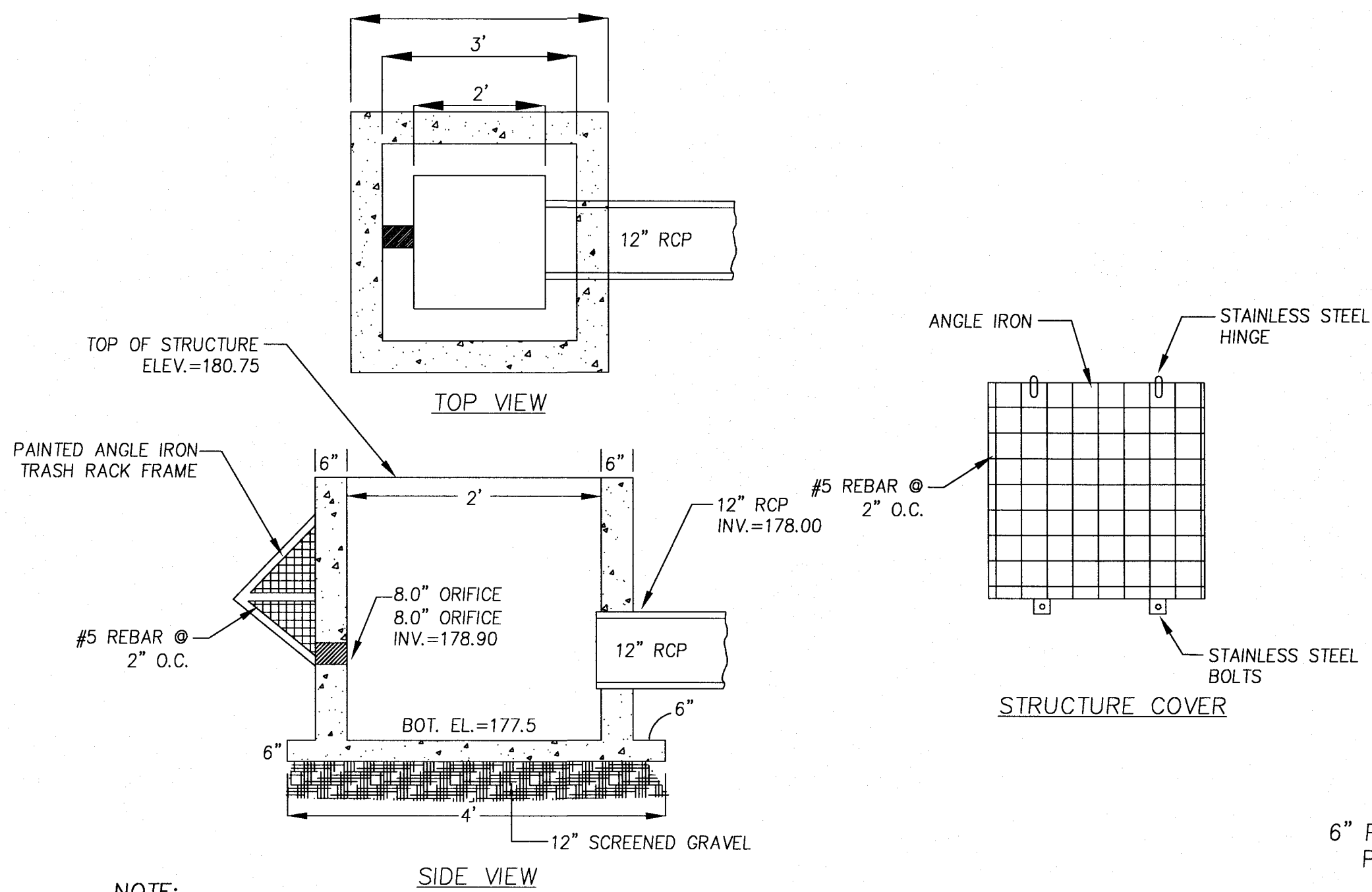
N.T.S.



- NOTES: 1) CATCH BASINS SHALL CONFORM TO ASTM C478 AND ASTM C185
2) FLAT TOP STRUCTURES SHALL BE PRECAST SECTIONS AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI REINFORCED FOR AASHTO H-20 LOADING.
3) CONICAL SECTIONS MAY BE SUBSTITUTED FOR FLAT-TOP STRUCTURES IN AREAS WHERE MORE THAN 4 FEET OF COVER IS PROVIDED FOR DRAIN PIPE.

PRECAST CATCH
BASIN DETAIL

N.T.S.

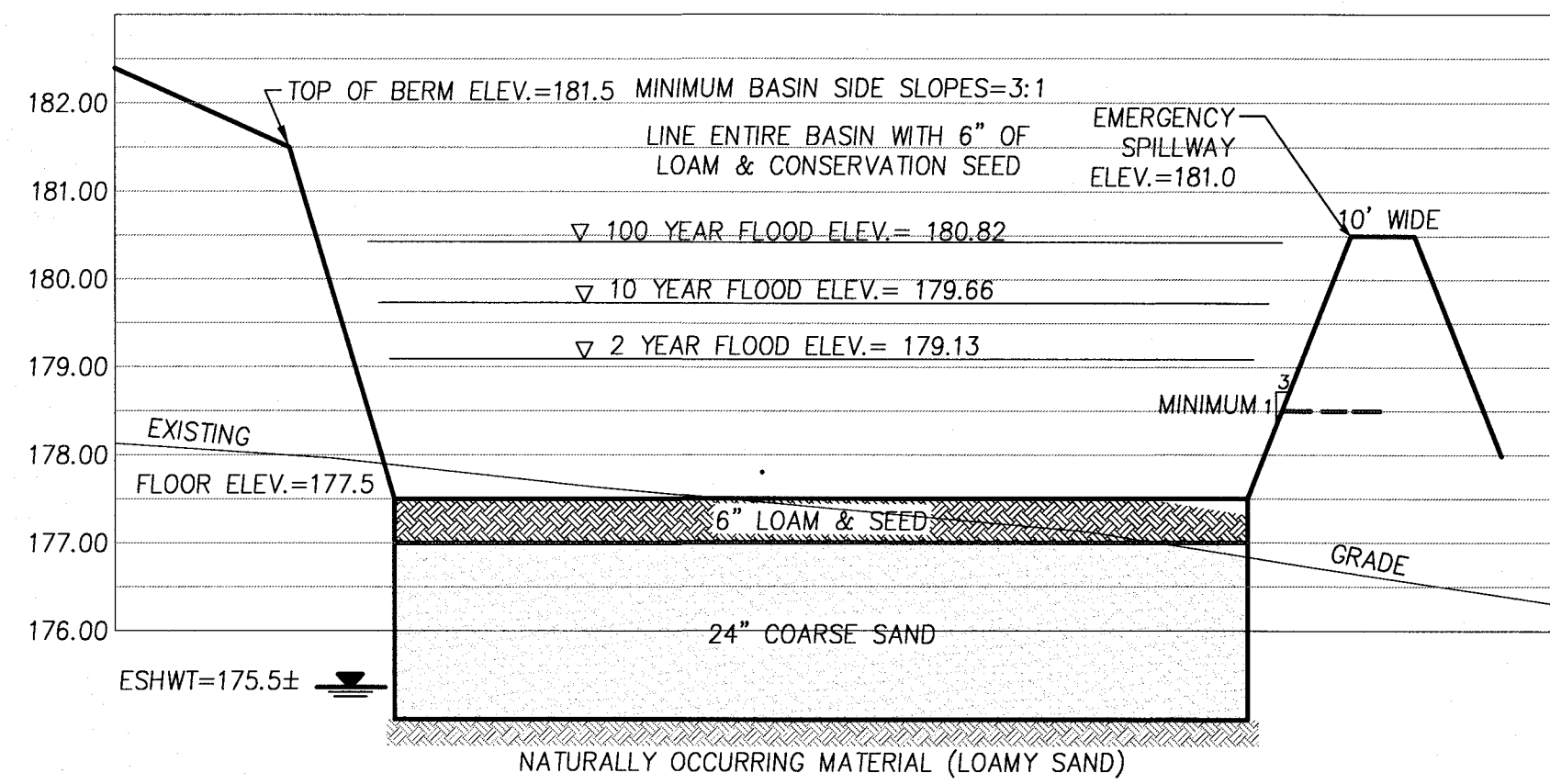


NOTE:

1. ANY EXPOSED REBAR SHALL BE COATED WITH A RUST-RESISTANT PAINT.

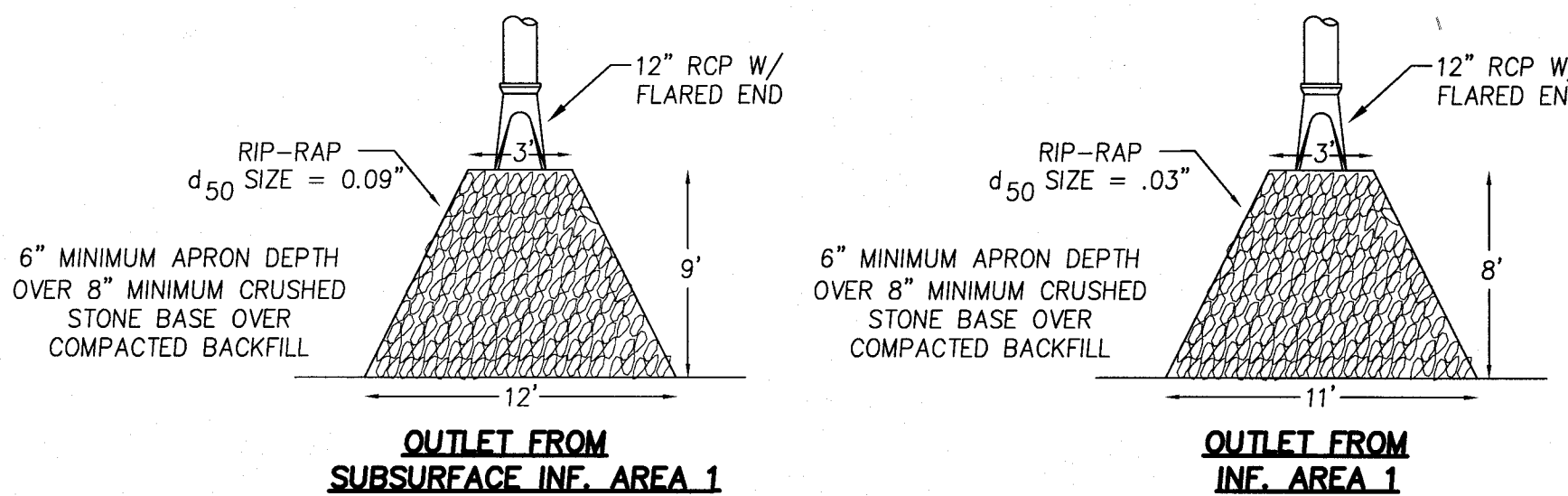
OUTLET STRUCTURE (INFILTRATION BASIN)
DETAIL

N.T.S.



INFILTRATION BASIN
TYP. CROSS-SECTION

HORIZ. SCALE: N.T.S.
VERT. SCALE: 1"=2'



OUTLET FROM
SUBSURFACE INF. AREA 1

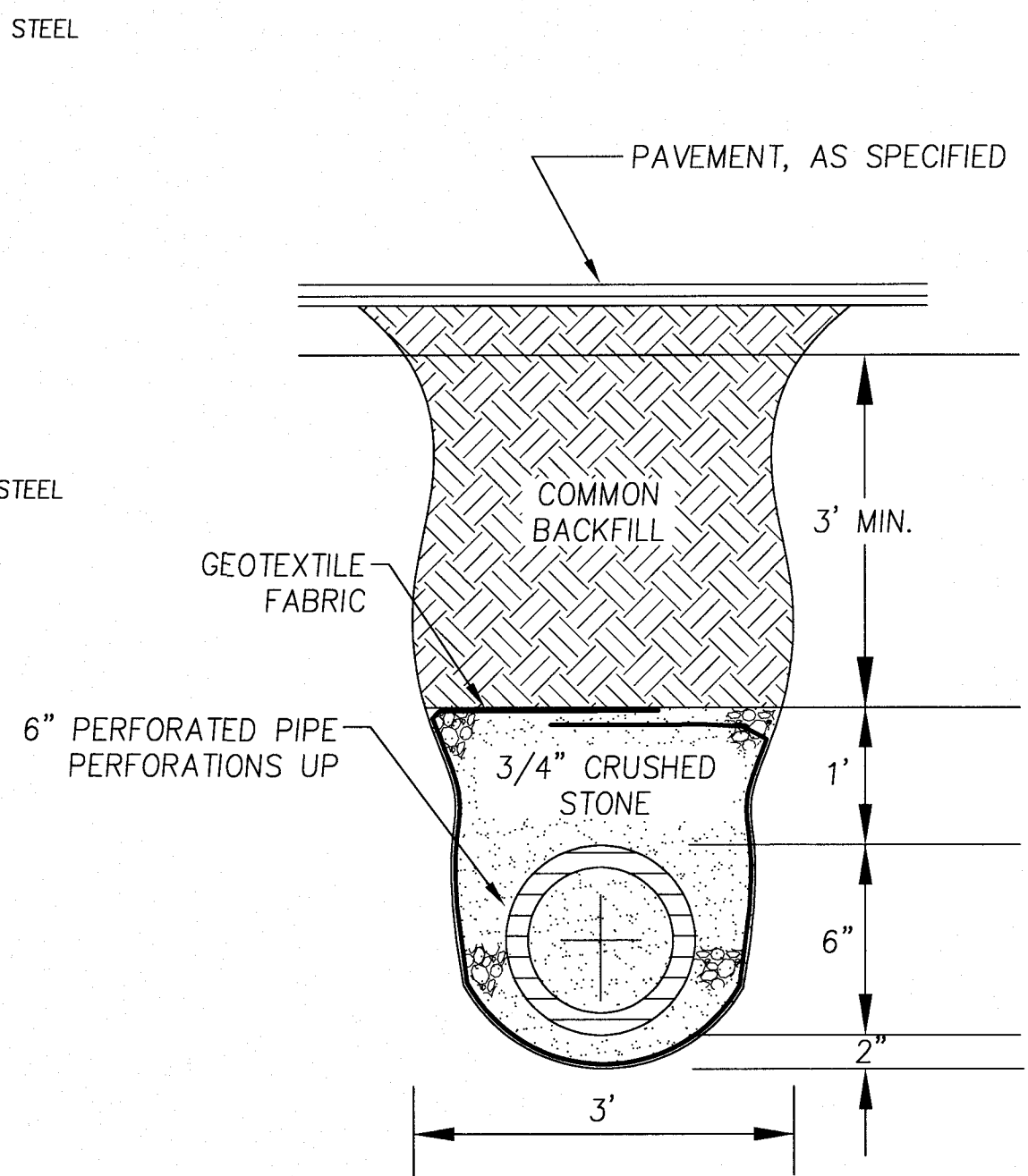
OUTLET FROM
INF. AREA 1

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
	FROM	TO
100	1.6	2.1
85	1.4	1.9
50	1.1	1.6
15	0.3	0.5

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
	FROM	TO
100	0.6	0.8
85	0.5	0.7
50	0.4	0.6
15	0.1	0.2

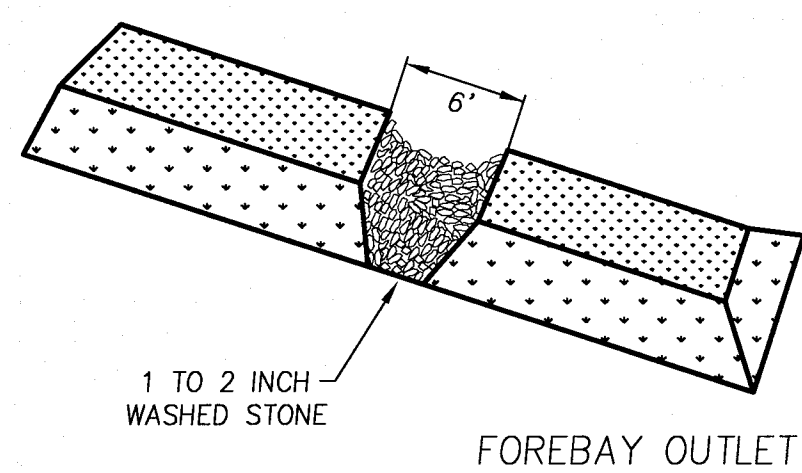
RIP RAP
OUTLET DETAIL

N.T.S.

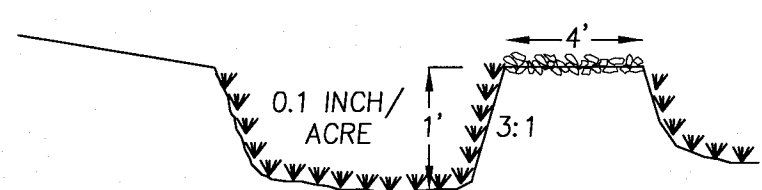


UNDERDRAIN
DETAIL

N.T.S.



CROSS-SECTION

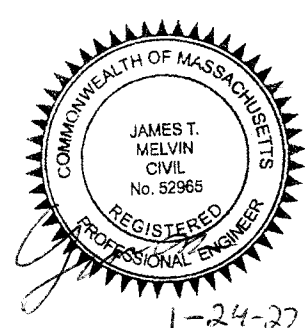


VOLUME OF SEDIMENT FOREBAY

	DRAINAGE AREA (ACRES)	VOLUME (CU. YD)	VOLUME (CU. FT)	DIMENSIONS (L x W x H)	OUTLET LENGTH
FOREBAY #1A	0.20	2.7	74	9'x9'x1.0'	6.0'
FOREBAY #1B	0.17	2.3	63	8'x8'x1.0'	6.0'
FOREBAY #2	1.91	25.7	693	27'x27'x1.0'	6.0'
FOREBAY #3	1.63	22.0	593	25'x25'x1.0'	6.0'

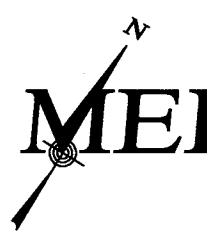
SEDIMENT FOREBAY
DETAIL

N.T.S.



PREPARED FOR
JR BUILDERS, INC.
16 INDUSTRIAL WAY
SALEM, NH 03079

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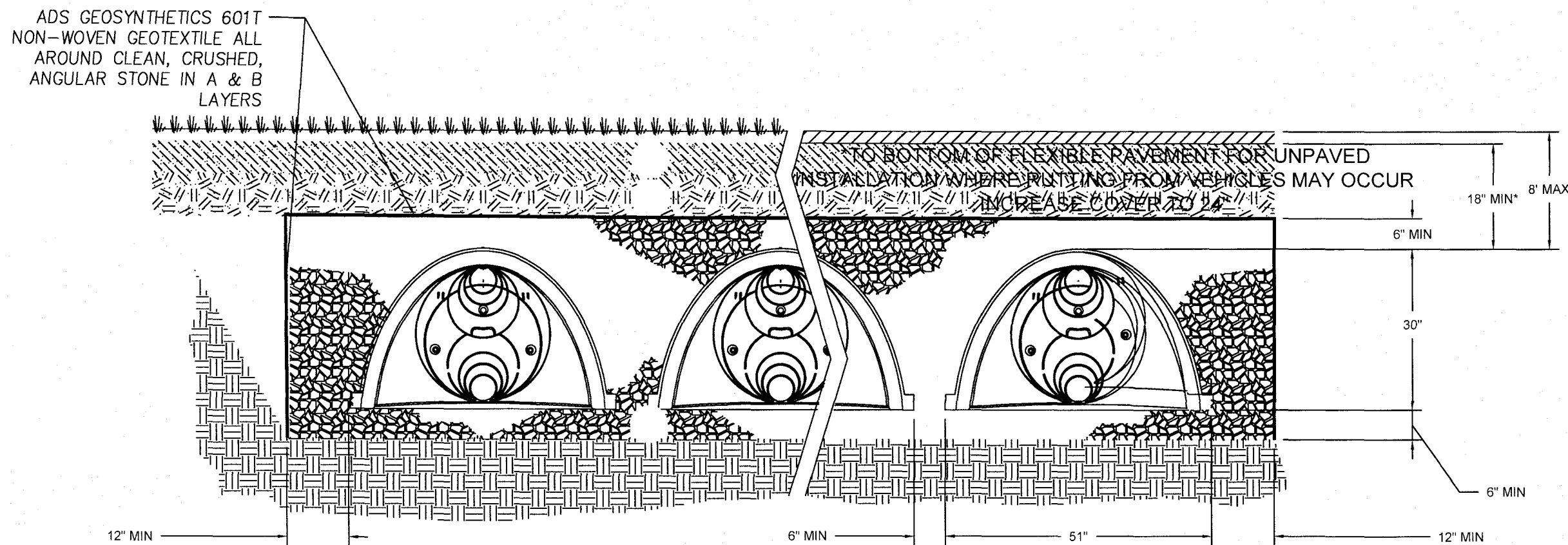
SCALE: AS NOTED	CALC. BY: S.R.C.	PROJECT: M213934
DATE: OCT. 5, 2021	CHKD. BY: J.T.M.	

DEFINITIVE SUBDIVISION PLAN
IN
METHUEN, MA
AT
23 HAMPSTEAD ST

**CONSTRUCTION
DETAILS II**

SHEET: 9 OF 10

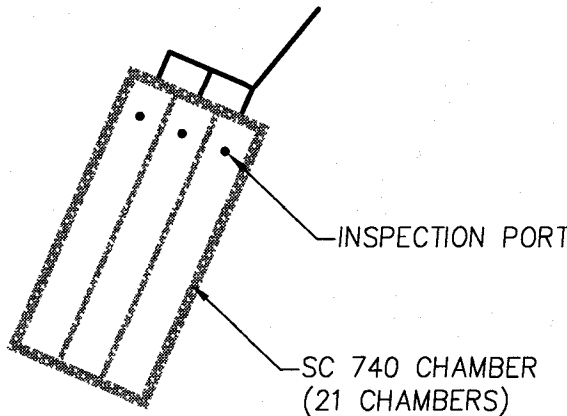
DATE: _____



SUBSURFACE AREA	BOT. STONE ELEV.	BOT. CHAMBER ELEV.	TOP CHAMBER ELEV.	TOP STONE ELEV.	100 YR STORM ELEV.
ROOF DRYWELL	182.50	183.00	185.50	187.00	184.83

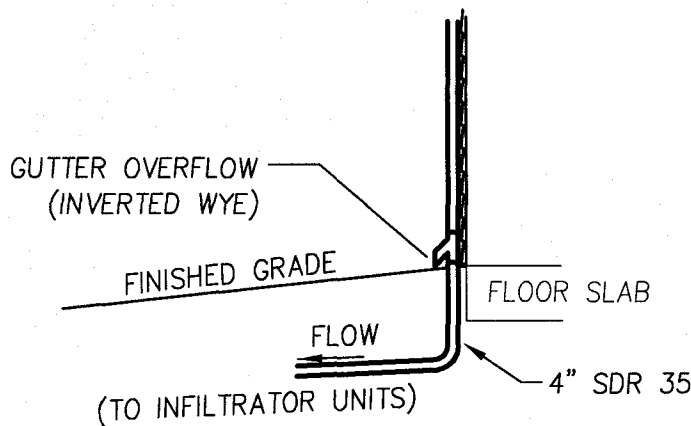
SUBSURFACE
INFILTRATION AREA

N.T.S.



ROOF DRYWELL
DETAIL

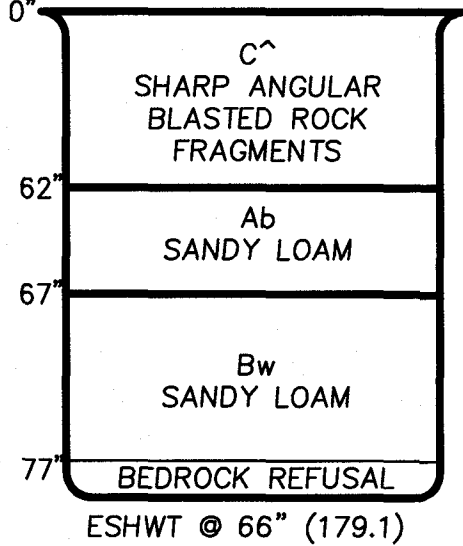
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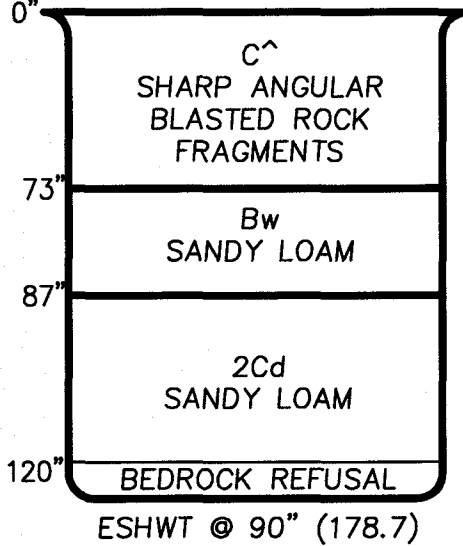
GUTTER DOWN
SPOUT DETAIL

N.T.S.

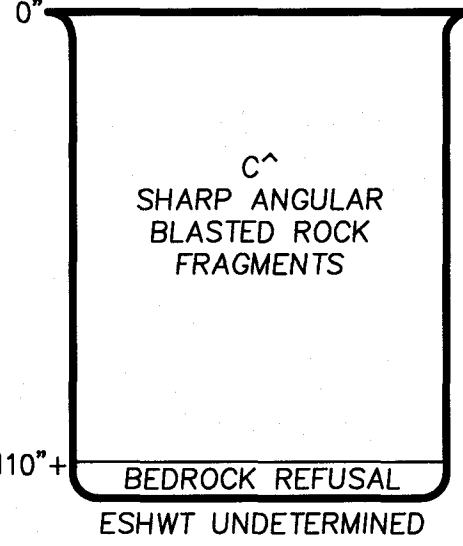
TEST PIT #21-1
ELEV. = 184.6



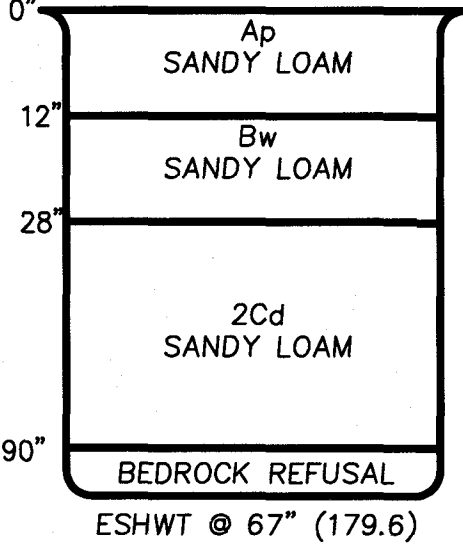
TEST PIT #21-2
ELEV. = 186.2



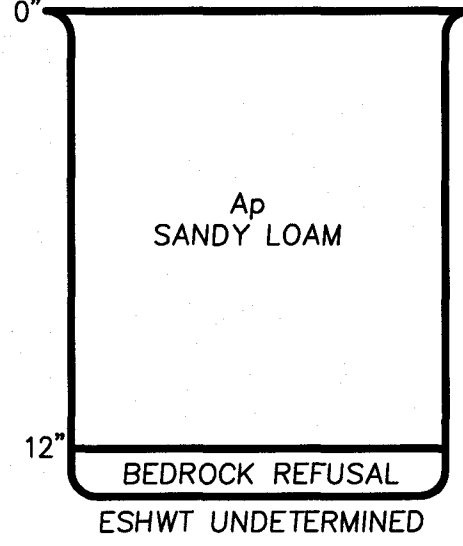
TEST PIT #21-3
ELEV. = 186.4



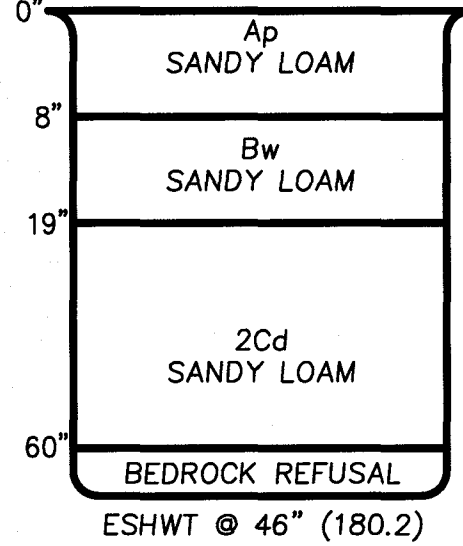
TEST PIT #21-4
ELEV. = 185.2



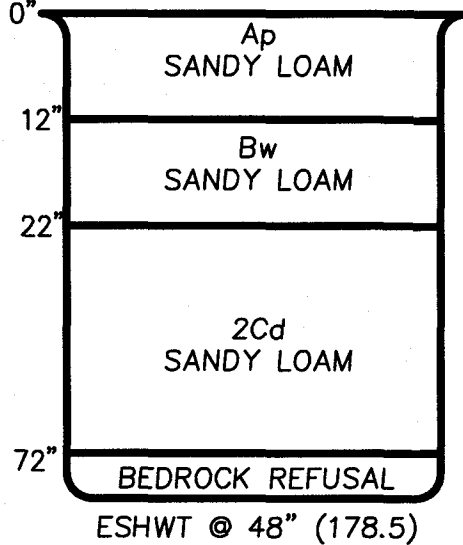
TEST PIT #21-5
ELEV. = 183.3



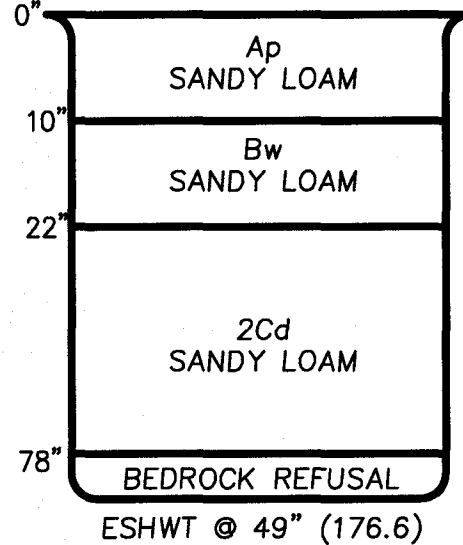
TEST PIT #21-6
ELEV. = 184.0



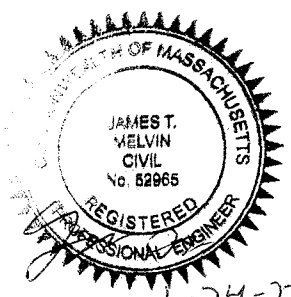
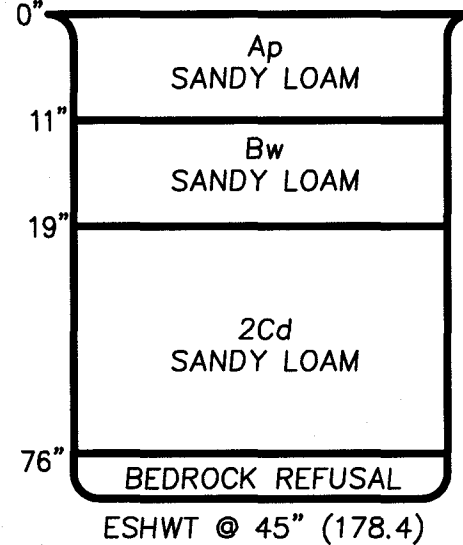
TEST PIT #21-7
ELEV. = 182.5



TEST PIT #21-8
ELEV. = 180.7

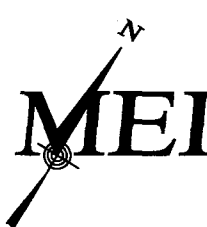


TEST PIT #21-9
ELEV. = 182.2



PREPARED FOR
JR BUILDERS, INC.
16 INDUSTRIAL WAY
SALEM, NH 03079

NO.	DATE	DESCRIPTION	BY
2	1/24/22	RESPONSE TO PEER REVIEW	J.T.M.
1	11/23/21	RESPONSE TO PEER REVIEW	J.T.M.



MILLENNIUM ENGINEERING, INC.
ENGINEERING AND LAND SURVEYING
62 ELM. ST. SALISBURY, MA 01952 (978) 463-8980
13 HAMPTON RD. EXETER, NH 03833 (603) 778-0528

SCALE: AS NOTED	CALC. BY: S.R.C.	PROJECT: M213934
DATE: OCT. 5, 2021	CHKD. BY: J.T.M.	

DEFINITIVE SUBDIVISION PLAN
IN
METHUEN, MA
AT
23 HAMPSTEAD ST

**CONSTRUCTION
DETAILS III**