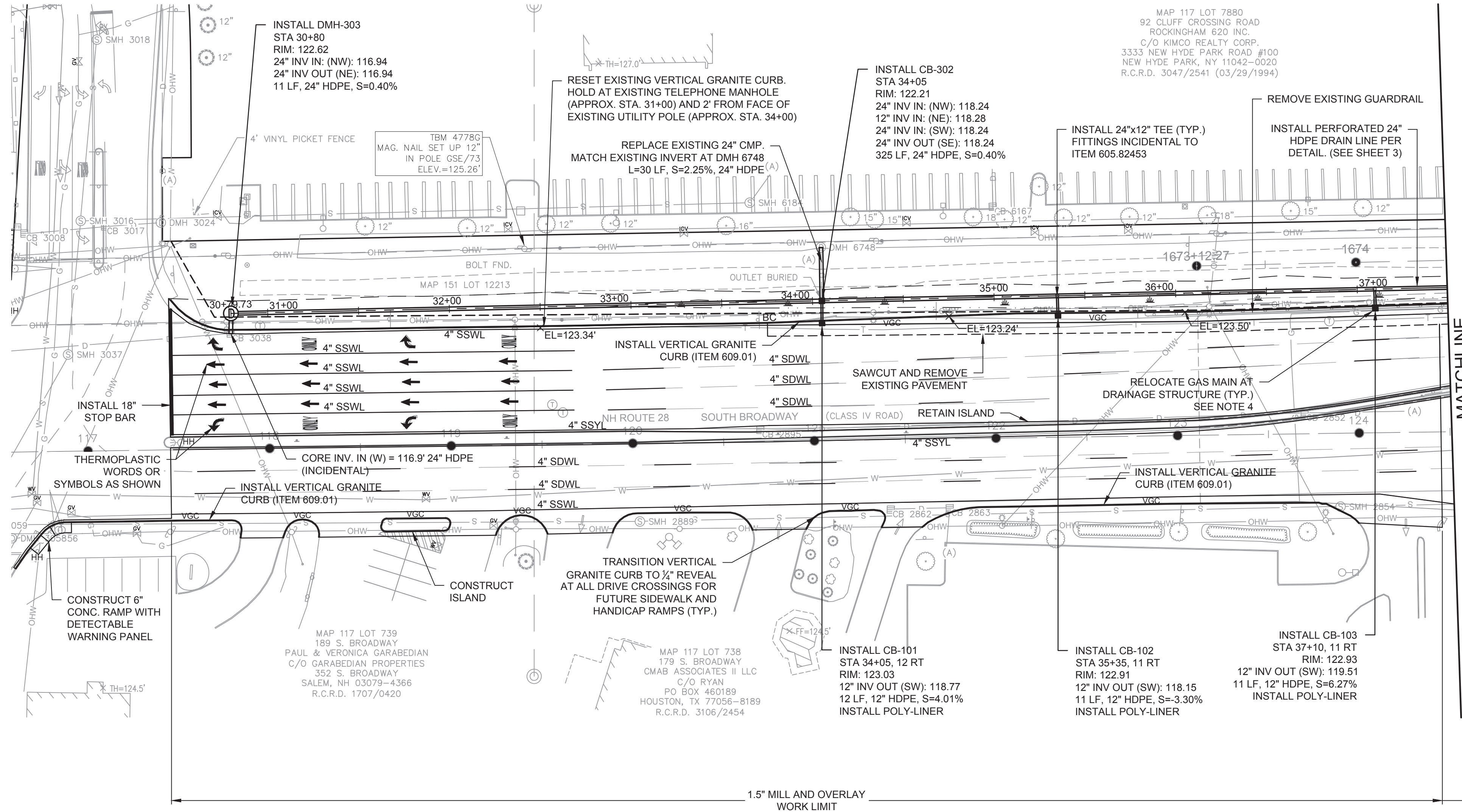
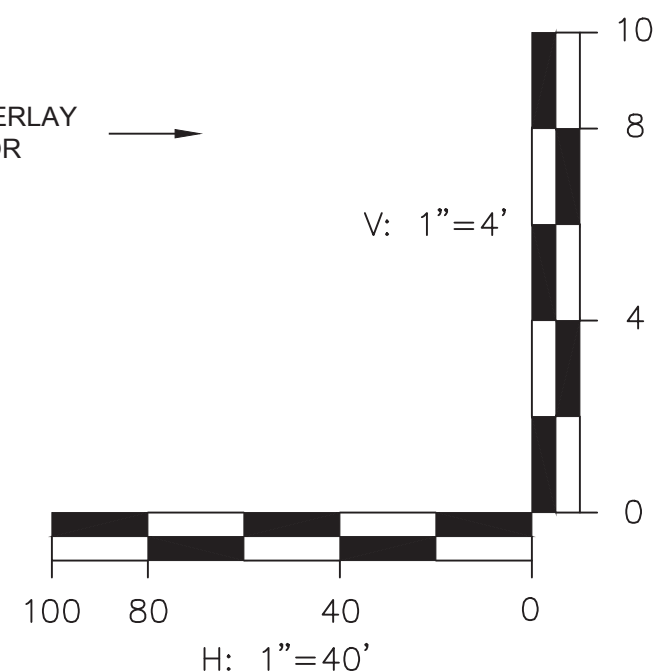




(STANDARD LEGEND - ALL SYMBOLS SHOWN DO NOT
NECESSARILY APPEAR IN THE PLAN SET)

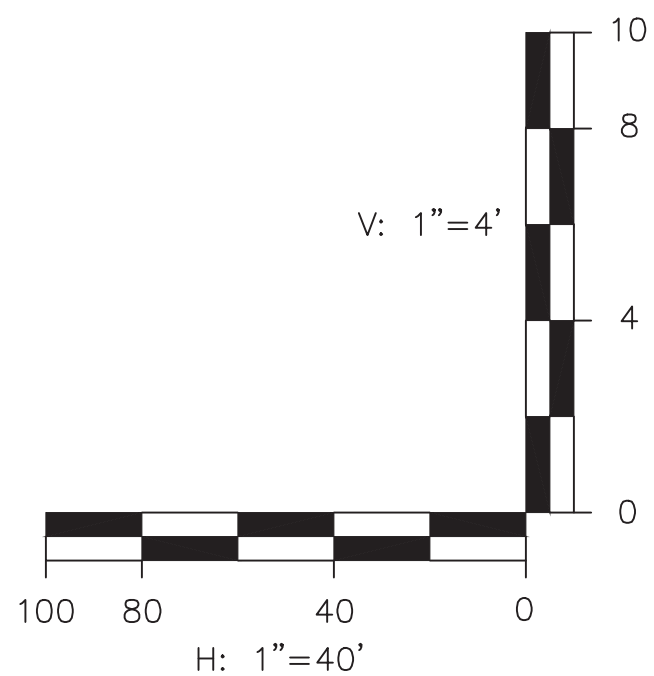
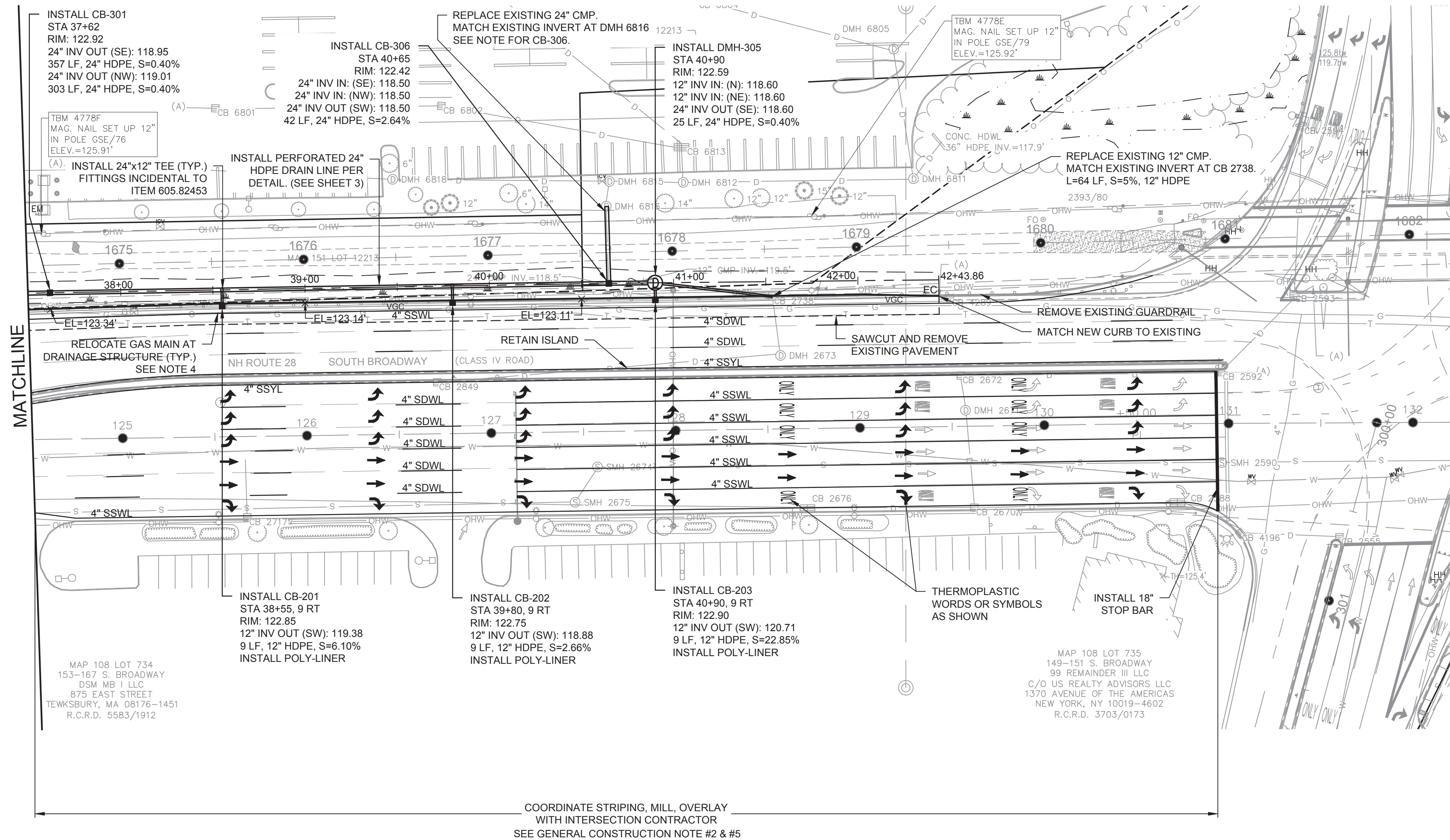
| | EXISTING | PROPOSED |
|---|---------------|-------------------|
| 2' CONTOUR | --- -148 --- | _____148 |
| 10' CONTOUR | --- -150 --- | _____150 |
| EDGE OF PAVEMENT | _____ | _____ |
| DRAIN LINE | _____D_____ | _____ |
| SEWER LINE | _____S_____ | _____S_____ |
| UNDERGROUND UTILITIES | _____UGU_____ | _____UGU_____ |
| TELEPHONE LINE | _____T_____ | _____T_____ |
| GAS LINE | _____GAS_____ | _____GAS_____ |
| WATER LINE | _____W_____ | _____W_____ |
| OVERHEAD UTILITIES | _____OHW_____ | _____OHW_____ |
| VERTICAL GRANITE CURB | _____ | _____VGC_____ |
| SLOPED GRANITE CURB | _____ | _____SGC_____ |
| BITUMINOUS CURB | _____ | _____BB_____ |
| BEGIN CURB / END CURB | _____ | _____BC / EC_____ |
| CHAIN LINK FENCE | _____ | _____ |
| GUARD RAIL | _____ | _____ |
| TREE LINE | _____ | _____ |
| SPOT GRADE | | X P200.0 |
| SEWER MANHOLE | ⊙ | ⊙ |
| CATCH BASIN | ⊠ | ⊠ |
| DRAIN MANHOLE | ⊙ | ⊙ |
| FIRE HYDRANT | ⊙ | ⊙ |
| GAS GATE | ⊗ | ⊗ |
| WATER VALVE | ⊗ | ⊗ |
| ELECTRIC MANHOLE | ⊙ | ⊙ |
| TELEPHONE MANHOLE | ⊙ | ⊙ |
| HEADWALL | _____ | _____ |
| FLARED END SECTION | ◀ | ◀ |
| STREET SIGN | — | — |
| TRANSFORMER | ⊕ | |
| UTILITY BOX | ⊕ | |
| CABLE BOX | ⊕ | |
| LIGHT POLE | ⊕ | ⊕ |
| UTILITY POLE | ⊕ | ⊕ |
| GUY WIRE | ⊗ | ⊗ |
| IRON PIN, DRILL HOLE, BOUND | ● ○ □ | |
| MAILBOX | □ MB | □ MB |
| DECIDUOUS TREE | ⊙ | |
| CONIFER TREE | ⊙ | |
| TRAFFIC FLOW ARROWS, WORDS, AND SYMBOLS | → | → |
| STONE WALL | _____ | _____ |
| EDGE OF WETLANDS | _____ | _____ |
| PROPERTY LINE | _____ | _____ |
| SILT FENCE | _____ | _____SF_____ |
| HAY BALES | | _____ |
| 4" SINGLE SOLID WHITE LINE | | 4" SSWL |
| 4" SINGLE DASHED WHITE LINE | | 4" SDWL |
| 4" DOUBLE SOLID YELLOW LINE | | 4" DSYL |

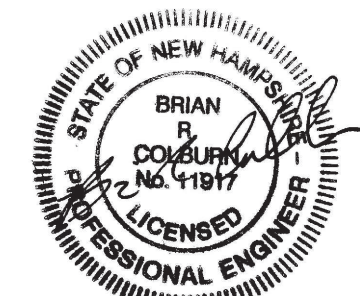


1. THE INTENT OF THIS PROJECT IS TO CONSTRUCT AN INFILTRATION TRENCH, AND TO PROVIDE GRANITE CURB WITH SUPPLEMENTAL DRAINAGE ALONG THE WEST SIDE OF SOUTH BROADWAY BETWEEN ROCKINGHAM BOULEVARD AND CLUFF CROSSING ROAD. WORK SHALL ALSO INCLUDE A COORDINATED MILL & OVERLAY WITH THE CONTRACTOR FOR THE ADJACENT INTERSECTION PROJECT.
2. Paving Intent: It is the intent of this plan to sequence wearing course with the adjacent intersection reconstruction. The Contractor shall coordinate work with the intersection contractor such that a single paving mobilization paves the full segment of road between Rockingham Blvd and Cluff Crossing Rd without transverse joints.
3. TEST PIT AT GAS AND TELCO DUCT BANK CROSSINGS AND WHERE DIRECTED.
4. GAS LINE RELOCATION NOTE: CONTRACTOR SHALL PROVIDE TEST PIT INFORMATION TO ENGINEER. WHERE RELOCATION IS NECESSARY THE CONTRACTOR SHALL COORDINATE HIS WORK SCHEDULE AROUND SUCH RELOCATION SO THAT NO STOPPAGE ON WORK OCCURS.
5. Striping Intent: It is the intent of this plan to sequence striping with the adjacent intersection reconstruction. The Contractor shall coordinate work with the intersection contractor such all striping for the full segment of road between Rockingham Blvd and Cluff Crossing Rd is completed at the same time.
6. RIGHT OF WAY SHOWN IS APPROXIMATE. NO FORMAL RIGHT OF WAY SURVEY WAS CONDUCTED FOR THIS PROJECT.
7. STRIPING NOTE: COORDINATE STRIPING LAYOUT AND APPLICATION WITH ENGINEER. IN GENERAL, LANE STRIPING (SOLID OR DASHED) SHALL BE 4" RETROREFLECTIVE, PER NHDOT ITEM NUMBERS. STOP BARS, LANE APPROACHES, WORDS, AND SYMBOLS SHALL BE THERMOPLASTIC. LANE APPROACHES, STOP BARS, CROSSWALKS, ETC. SHALL VARY IN WIDTH AS DIRECTED BUT SHALL BE IN CONFORMANCE TO MUTCD STANDARDS.
8. CURB LAYOUT NOTE: COORDINATE CURB LAYOUT WITH ENGINEER. IN GENERAL, CURB ON EAST SIDE OF ROAD SHALL MAINTAIN EXISTING LAYOUT. NEW CURB ON WEST SIDE OF ROAD SHALL PROVIDE 4' SHOULDER BUT NOT LESS THAN 1.5' FACE OF CURB TO FACE OF UTILITY POLE. ALL EXCESS CURBING SHALL BE SALVAGED TO OWNER AT SHANNON ROAD TRANSFER STATION (SUBSIDIARY).




| | | | | | | | | | | | |
|---|---------------------|----------|-------------|--|--|-------------|--------|------------|-------------------|--------------|---------------------|
|  | | | | | <p align="center">TOWN OF SALEM SALEM, NEW HAMPSHIRE 2021 ROADWAY IMPROVEMENT PROJECT</p> <p align="center">SOUTH BROADWAY INFILTRATION TRENCH PLAN (SHEET 1 OF 2)</p> | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | 1 | 01.14.21 | ADDENDUM #1 | | | | | | | | |
| | REV | DATE | DESCRIPTION | BY | | | | | | | |
|  <p align="center">McFarland Johnson 53 REGIONAL DRIVE CONCORD, NEW HAMPSHIRE 03301</p> | | | | <table border="1"> <tr> <td>SCALE: AS SHOWN</td> <td>DESIGN: MKM</td> <td rowspan="3">1 OF 3</td> </tr> <tr> <td>DRAWN: MKM</td> <td>PROJECT: 18587.06</td> </tr> <tr> <td>CHECKED: BRC</td> <td>DATE: DECEMBER 2020</td> </tr> </table> | SCALE: AS SHOWN | DESIGN: MKM | 1 OF 3 | DRAWN: MKM | PROJECT: 18587.06 | CHECKED: BRC | DATE: DECEMBER 2020 |
| SCALE: AS SHOWN | DESIGN: MKM | 1 OF 3 | | | | | | | | | |
| DRAWN: MKM | PROJECT: 18587.06 | | | | | | | | | | |
| CHECKED: BRC | DATE: DECEMBER 2020 | | | | | | | | | | |

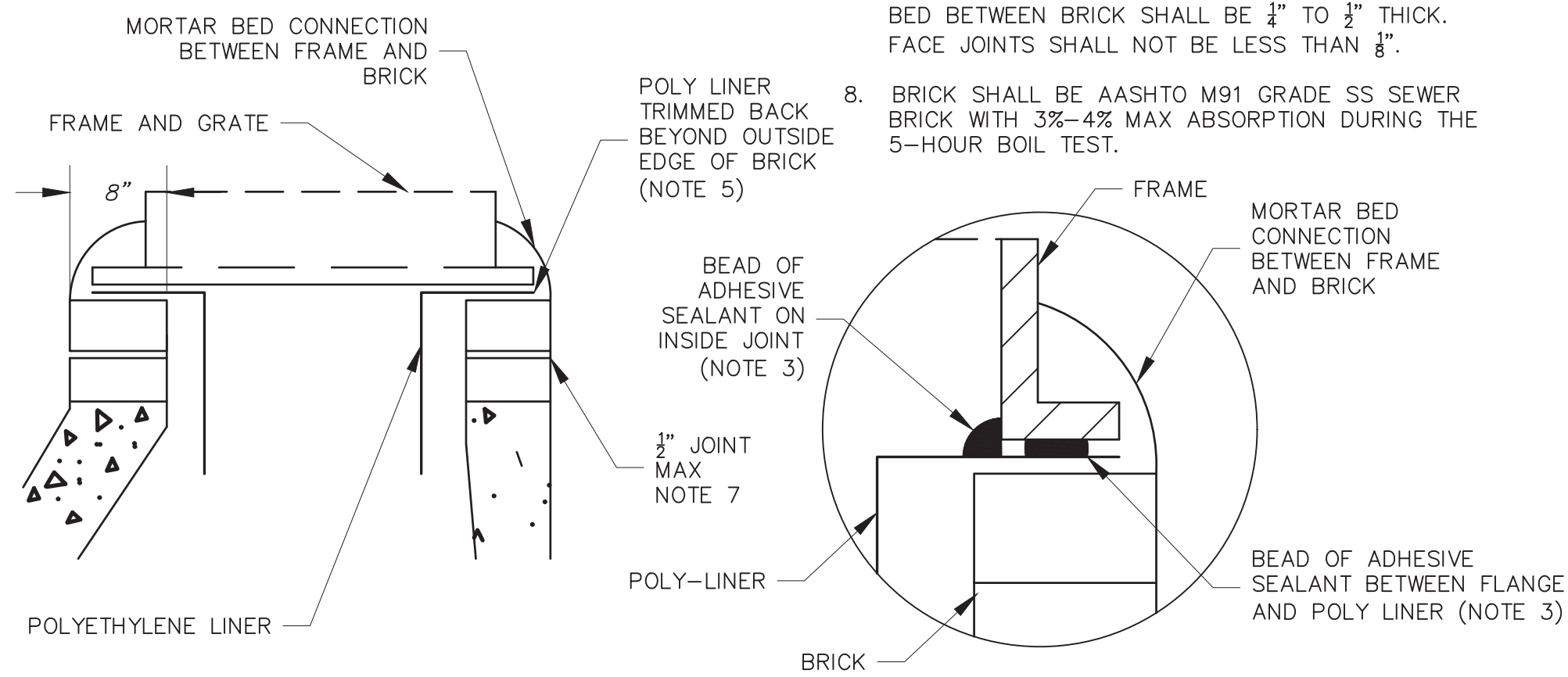


| | | | |
|---|--|---------------------|--------|
|  | TOWN OF SALEM SALEM, NEW HAMPSHIRE 2021 ROADWAY IMPROVEMENT PROJECT | | |
| | SOUTH BROADWAY INFILTRATION TRENCH PLAN (SHEET 2 OF 2) | | |
| | SCALE: AS SHOWN | DESIGN: MKM | 2 OF 3 |
| | DRAWN: MKM | PROJECT: 18587.06 | |
| CHECKED: BRC | | DATE: DECEMBER 2020 | |

| REV | DATE | DESCRIPTION | BY |
|-----|----------|-------------|----|
| 1 | 01.14.21 | ADDENDUM #1 | |

**McFarland Johnson**
53 REGIONAL DRIVE
CONCORD, NEW HAMPSHIRE 03301

1. ALL CATCH BASINS SHALL BE OUTFITTED WITH A POLYETHYLENE LINER DOWNSPOUT.
2. POLYETHYLENE LINER SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
3. PLACE A CONTINUOUS BEAD OF AN APPROVED BONDING ADHESIVE SEALANT BETWEEN FRAME AND POLYETHYLENE SHEET AND AT THE INSIDE JOINT AFTER ASSEMBLY IS COMPLETE.
4. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).
5. TRIM POLYETHYLENE BEYOND THE OUTSIDE EDGE OF BRICK TO PROVIDE A MORTAR CONNECTION BETWEEN THE FRAME AND BRICK. ALTERNATE TRIMMING METHODS MAY/SHALL BE REQUIRED BY THE OWNER WHEN USED WITH CURBING AND GUTTER INLETS.
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 1" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.



12" MIN.

4" COMPACTED LOAM & SEED

CROSS COUNTRY

PAVED AREA

2.0' CUTBACK

NOTE #5

4" PAVEMENT

SUITABLE BACKFILL COMPACTED IN 6" LIFTS

WHERE ORDERED. WRAP STONE WITH GEO-TEXTILE FABRIC OVERLAP ENDS 1' MIN. MIRAFI 140N OR EQUAL SEE NOTE 14

2' MIN

12" MIN

8" RECLAIM COMPACTED AS SPECIFIED MEETING MATERIAL SPEC OF NHDOT ITEM 306

WHERE ORDERED. 12" BANK RUN GRAVEL COMPACTED AS SPECIFIED MEETING MATERIAL SPEC OF NHDOT ITEM 304.2

3/4" CRUSHED STONE 12" ABOVE PIPE FOR HDPE PIPE ITEM 304.4

UNDESIRABLE MATERIAL AS DETERMINED BY THE ENGINEER. SEE NOTE #9

UNDISTURBED SOIL SEE NOTE #13

PAY LIMIT 3.0' MIN O.D. + 2'

3/4" CRUSHED STONE FOR FULL WIDTH OF THE TRENCH TO TOP OF PIPE FOR RCP AND D.I.. MEET MATERIAL SPEC OF NHDOT ITEM 304.4

TRENCH BOTTOM PAY LIMIT

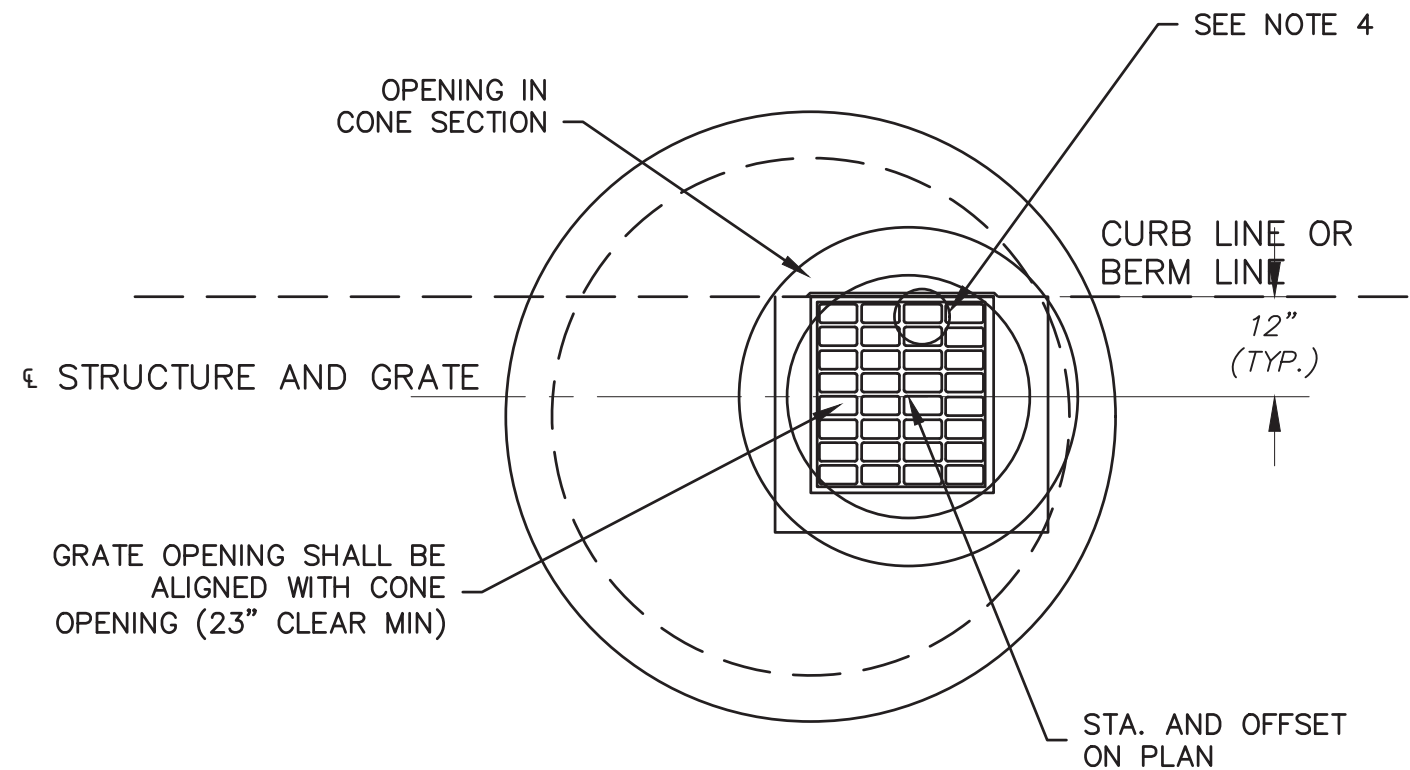
-- 12" BELOW PIPE IN EARTH

-- 15" BELOW PIPE IN LEDGE

ROCK

| PAY LIMITS | |
|--------------|------------|
| TRENCH WIDTH | I.D. |
| 36" | UP TO 12" |
| I.D. + 24" | 12" TO 24" |
| 2 x I.D. | OVER 24" |

1. IF SITE CONDITIONS DO NOT ALLOW FOR SETTING CATCH BASINS AS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO SETTING STRUCTURE.
2. CONTRACTOR SHALL VERIFY ALL STRUCTURE LOCATIONS PRIOR TO LAYING PIPE.
3. ALL CB RIMS (SINGLE AND DOUBLE) AGAINST GRANITE CURBING SHALL BE 3-FLANGED. ALL CB RIMS NOT AGAINST GRANITE CURBING SHALL BE 4-FLANGED.
4. CATCH BASIN GRATES SHALL BE ROTATED SUCH THAT HOLES IN GRATE ARE PARALLEL TO CUTTER ON LONG SIDE.



1. REFERENCE TOWN OF SALEM STANDARD SPECIFICATIONS FOR METHOD OF MEASUREMENT AND PAYMENT.
2. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
3. ALL LOCAL STATE AND FEDERAL SAFETY STANDARDS SHALL BE STRICTLY ADHERED TO.
4. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO TOWN OF SALEM SUBDIVISION REQUIREMENTS
5. TRENCH PATCH: AFTER THE BASE COURSE HAS BEEN ROLLED TO THE REQUIRED GRADE, ANY BROKEN OR IRREGULAR EDGES OF THE EXISTING PAVEMENT SHALL BE SAW CUT IN STRAIGHT LINES LEAVING A SOUND VERTICAL FACE 24-INCHES BACK FROM THE EDGE OF THE TRENCH OR OTHER EXCAVATIONS TO ACCEPT PLACEMENT OF A 24-INCH MINIMUM OVERLAP OF BITUMINOUS BASE COURSE PAVEMENT ON UNDISTURBED MATERIAL.
6. BITUMINOUS PAVEMENT, DEPTH EQUAL TO EXISTING PAVEMENT WITH 4" MIN. (1.5" OF $\frac{3}{4}$ " WEARING, 2.5" OF $\frac{3}{4}$ " BINDER). PAVEMENT SHALL CONFORM TO NHDOT STANDARD SPECIFICATION 403.
7. DAMAGED OR OTHERWISE DEFICIENT PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE
8. INSPECTION: FOLLOWING INSTALLATION DRAIN LINES SHALL BE CLEANED AND VISUALLY INSPECTED. PIPES SHALL BE TRUE TO LINE AND GRADE PRIOR TO ACCEPTANCE AND USE.
9. UNSUITABLE MATERIAL & OVER EXCAVATION: ANY EXCAVATION OUTSIDE OF DEFINED PAY LIMIT SHALL BE STRICTLY COORDINATED AND MEASURED WITH THE ENGINEER FOR PAYMENT. ANY MATERIAL REMOVED WITHOUT PRIOR AUTHORIZATION SHALL NOT BE PAID. EXCAVATION AREAS SHALL BE BACKFILLED WITH APPROPRIATE BEDDING MATERIALS. UNSUITABLES WITHIN TRENCH PAY LIMITS ARE SUBSIDIARY.
10. MATERIAL SHALL BE REPLACED IN KIND WHENEVER POSSIBLE.

11. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER SIX INCHES IN THE LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE TOWN OF SALEM DEPARTMENT OF ENGINEERING, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED.

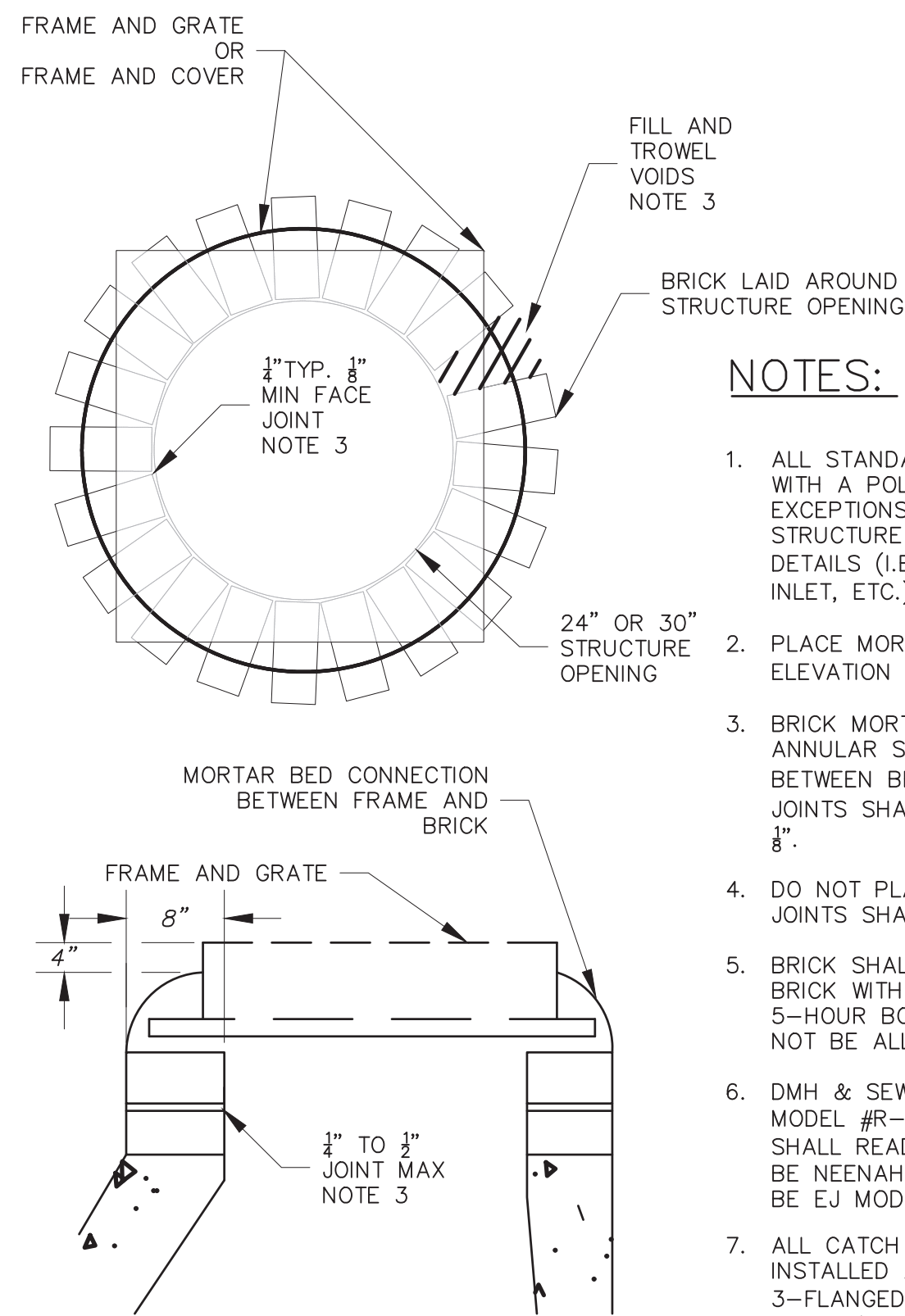
12. COMPACTION: BACKFILL OF THE TRENCHES SHALL BE COMPACTED TO 95% MAX. DRY DENSITY UNDER ALL PAVED AREAS AND 92% MAX. DRY DENSITY UNDER OTHER AREAS IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS - SECTION 304.

13. IF TRENCH BOTTOM IS DISTURBED THEN CONTRACTOR SHALL COMPACT AS APPROPRIATE.

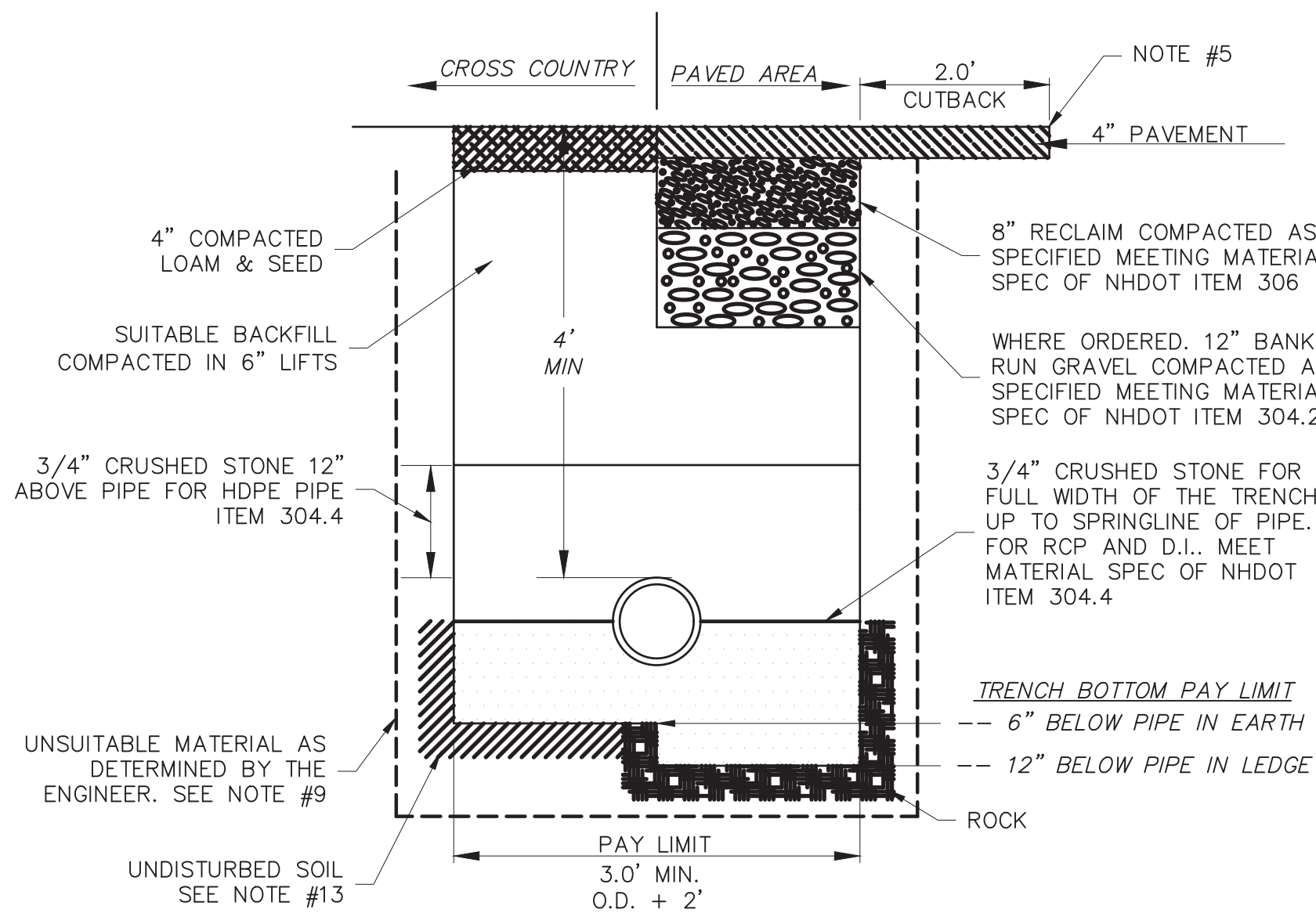
14. ENGINEER SHALL DETERMINE AT THE TIME OF CONSTRUCTION IF STONE IN SHALLOW TRENCHES SHALL BE WRAPPED IN FABRIC WHERE FIELD CONDITIONS DICTATE. FABRIC IS SUBSIDIARY TO PIPE ITEM NUMBER.

15. WHERE ROCK IS ENCOUNTERED IN TRENCH EXCAVATION, ALLOWABLE PAY LIMIT SHALL BE AS DEFINED IN THE CHART SHOWN IN THIS DETAIL TO 12-INCHES BELOW PIPE.

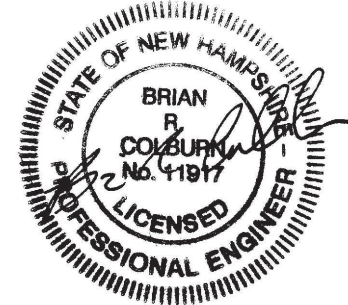
16. CORES: WHERE IT IS NECESSARY TO CORE AN EXISTING STRUCTURE THE CORE SHALL BE COMPLETED WITH A CIRCULAR HOLE SAW AND SHALL BE LARGE ENOUGH TO RECEIVE THE PIPE AND NEOPRENE BOOT. CRUDE METHODS WITH A PIPE SAW, SLEDGE HAMMER OR OTHER TOOLS ARE UNACCEPTABLE. CORES INTO STRUCTURES SHALL BE INCIDENTAL TO THE PROJECT EXCEPT WHERE SPECIFICALLY CALLED AS A PAY ITEM ON THE PLAN.



1. ALL STANDARD CATCH BASINS SHALL BE OUTFITTED WITH A POLYETHYLENE LINER DOWNSPOUT. EXCEPTIONS MAY APPLY. REFER TO SPECIFIC STRUCTURE TYPE AND CORRESPONDING CONSTRUCTION DETAILS (I.E. DOUBLE GRATE CB, "C-TOP" CB, DROP INLET, ETC.).
2. PLACE MORTAR TO 4" BELOW THE TOP OF GRATE ELEVATION (SUBSIDIARY TO STRUCTURE ITEM).
3. BRICK MORTAR: COMPLETELY FILL AND TROWEL ANNULAR SPACE BETWEEN ALL BRICKS. MORTAR BED BETWEEN BRICK SHALL BE $\frac{1}{2}$ " TO $\frac{1}{2}$ " THICK. FACE JOINTS SHALL AVERAGE $\frac{1}{8}$ " BUT NOT BE LESS THAN $\frac{1}{8}$ ".
4. DO NOT PLASTER OR MORTAR OVER BRICK WORK. ALL JOINTS SHALL BE CLEAN AND PROPERLY POINTED.
5. BRICK SHALL BE AASHTO M91 GRADE SS SEWER BRICK WITH 3%-4% MAX ABSORPTION DURING THE 5-HOUR BLOW TEST. CONCRETE GRADE RINGS SHALL NOT BE ALLOWED.
6. DMH & SEWER FRAME AND COVER SHALL BE NEENAH MODEL #R-1743. DMH SHALL READ "DRAIN". SMH SHALL READ "SEWER". CB FRAME AND GRATE SHALL BE NEENAH MODEL #R-3570. DOUBLE GRATES SHALL BE EJ MODEL #0MA552000066.
7. ALL CATCH BASIN FRAMES (SINGLE AND DOUBLE) INSTALLED AT GRANITE CURBING LOCATIONS SHALL BE 3-FLANGED. ALL CATCH BASIN FRAMES (SINGLE AND DOUBLE) INSTALLED WITH NO CURBING SHALL BE 4-FLANGED.



| PAY LIMITS | |
|-------------------------------|-------------------------------------|
| TRENCH WIDTH | I.D. |
| 36" I.D. + 24" 2 x I.D. | UP TO 12" 12" TO 24" OVER 24" |



McFarland Johnson
53 REGIONAL DRIVE
CONCORD, NEW HAMPSHIRE 03301

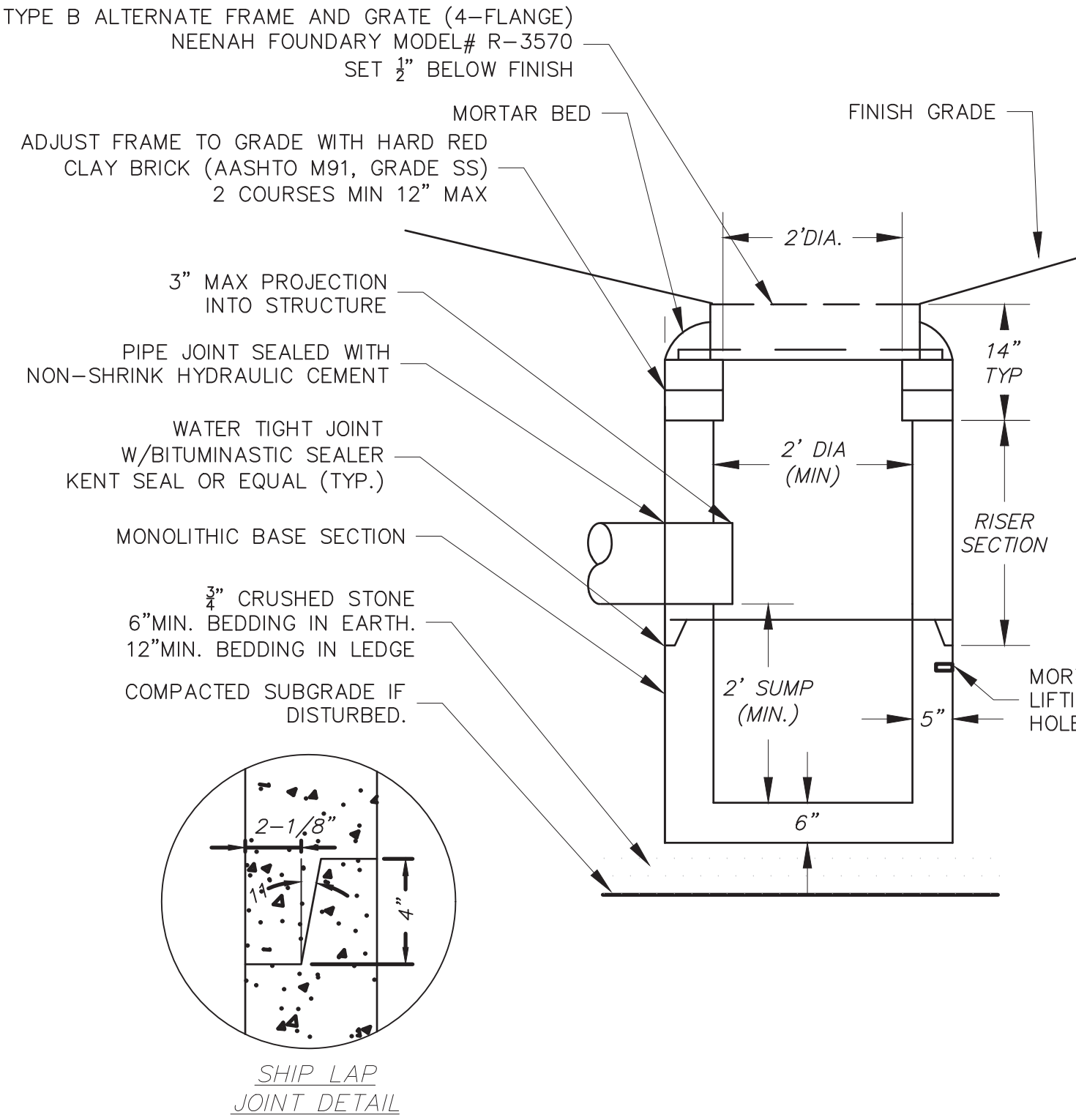
TOWN OF SALEM
SALEM, NEW HAMPSHIRE
2021 ROADWAY IMPROVEMENT
PROJECT

CIVIL DETAILS 3

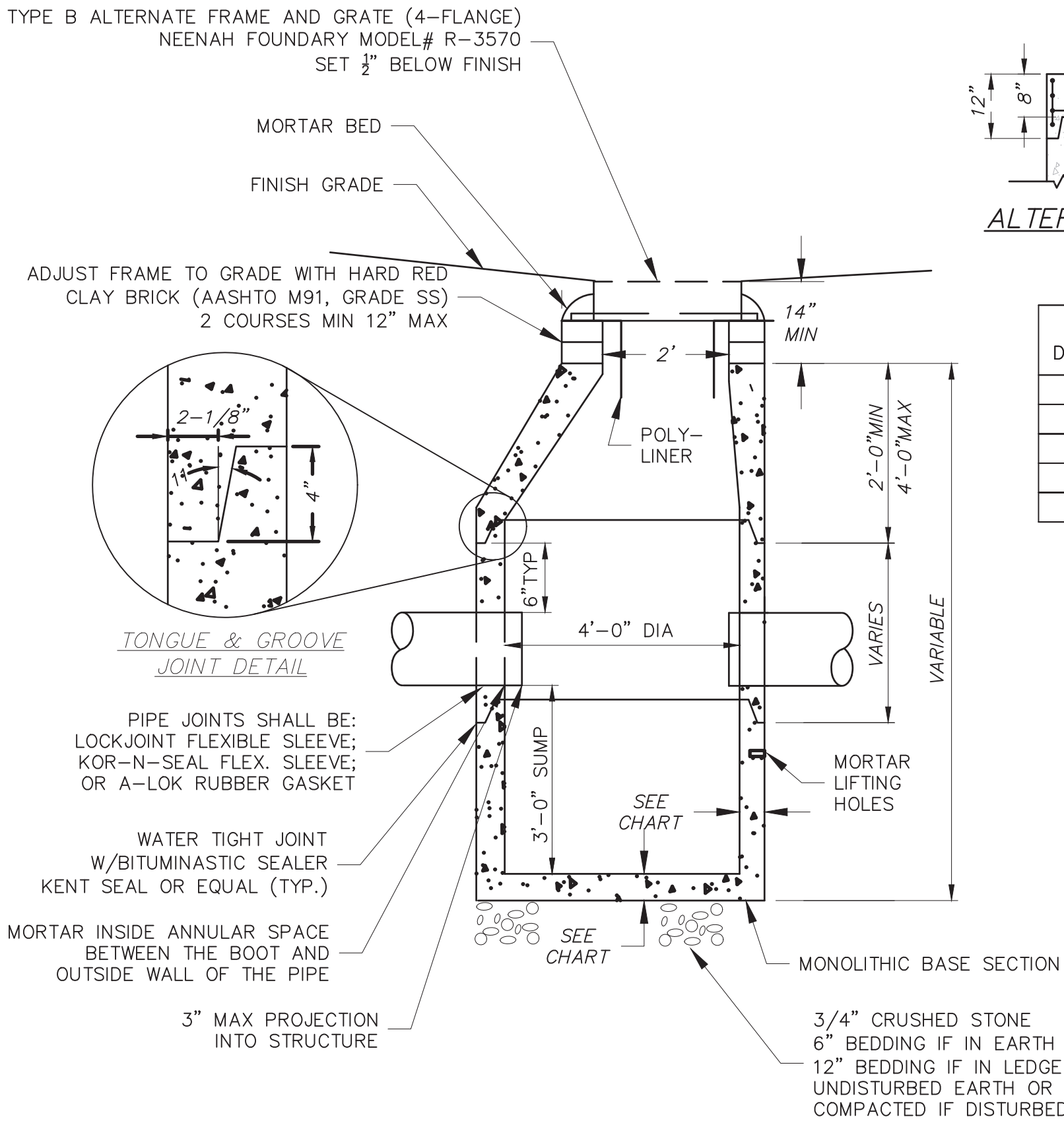
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| SCALE: N.T.S. | DESIGN: BEP |
| DRAWN: MRV | PROJECT: 18587.06 |
| CHECKED: BRC | DATE: DECEMBER 2020 |

GENERAL DRAIN STRUCTURE NOTES:

1. REFERENCE NHDOT SECTION 604 AND TOWN OF SALEM SUPPLEMENTAL SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
2. SEPARATE CONSTRUCTION SPECIFICATIONS ARE ATTACHED OR INCLUDED IN THE CONTRACT DOCUMENTS. THESE STANDARD DRAWINGS ARE NOT COMPLETE WITHOUT SPECIFICATIONS.
3. ALL STRUCTURE COMPONENTS INCLUDING CASTING ASSEMBLIES WILL BE INSPECTED FOR ACCEPTABILITY. REJECTED MATERIALS SHALL BE REMOVED FROM THE SITE.
4. FLAT TOP OPTION: FOR STRUCTURES WITH A DIAMETER GREATER THAN 4 FEET THE DIAMETER MAY BE CONSTANT FROM TOP TO BOTTOM WITH A FLAT TOP LID OR A RISER SECTION THAT REDUCES FROM THE LARGER DIAMETER TO THE STANDARD 4' ECCENTRIC CONE SECTION.
5. ADJUSTMENT BRICK SHALL CONFORM TO AASHTO M32, GRADE SS SEWER BRICK. MAX ABSORPTION SHALL BE 3%-4% DURING THE 5-HOUR BOIL TEST.
6. BRICK FACE WORK SHALL BE LAID CLOSE WITH JOINTS NOT EXCEEDING 1/4". JOINTS SHALL BE FILLED AND POINTED. CONCRETE COLLARS ARE NOT ALLOWED.
7. CB AND DI GRATES IN PAVED AREAS SHALL BE SET ACCORDING TO THE STANDARD SALEM PAVEMENT DEPRESSION DETAIL.
8. INVERTS SHALL BE CONSTRUCTED USING GRADE SS SEWER BRICK (SEE ADJUSTMENT BRICK ABOVE). POURED AND SHAPED CONCRETE INVERTS SHALL NOT BE ALLOWED.
9. DOUBLE GRATES: WHERE DOUBLE GRATES ARE NEEDED A 5-FOOT MIN. DIAMETER STRUCTURE WITH FLAT TOP LID SHALL BE USED. DOUBLE GRATE SHALL BE *EJ MODEL #0MA552000066*.
10. BEDDING 3/4" CRUSHED STONE CONFORMING TO NHDOT ITEM 304.4 SHALL BE USED FOR BEDDING. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE ADDITIONAL SCREENED GRAVEL OR CRUSHED STONE 1/2 TO 1-1/2 INCH SHALL BE USED.
11. PIPE TO MANHOLE JOINTS SHALL BE ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND OPENING SURFACES; OR CAST INTO THE WALL AND SECURED WITH STAINLESS STEEL CLAMPS. ELASTOMERIC SEALING RING SHALL FORM A WATER TIGHT SEAL ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING. NON-SHRINK GROUT SHALL BE PLACED IN THE ANNULAR SPACE BETWEEN THE SEALING BOOT AND PIPE.
12. CORE SPACING: ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF OUTSIDE SURFACE BETWEEN CORE HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE CORE HOLES AND CORE HOLES SHOULD BE 6" TYPICAL FROM JOINTS BUT IN NO CASE CLOSER THAN 3" AS APPROVED.
13. THE CORE HOLE SHALL NOT BE CLOSER THAN 3" TO JOINTS WITH USE OF AN ELASTOMERIC BOOT CONNECTOR. ELASTOMERIC BOOT CONNECTORS FOR INVERTS SHALL NOT BE ALLOWED IN SHALLOW TRENCHES (LESS THAN 3.5 FEET RIM TO INVERT)
14. CORES: WHERE IT IS NECESSARY TO CORE AN EXISTING STRUCTURE THE CORE SHALL BE COMPLETED WITH A CIRCULAR HOLE SAW AND SHALL BE LARGE ENOUGH TO RECEIVE THE PIPE AND NEOPRENE BOOT. CRUDE METHODS WITH A PIPE SAW, SLEDGE HAMMER OR OTHER TOOLS ARE UNACCEPTABLE. FIELD CORES SHALL BE INCIDENTAL UNLESS SPECIFICALLY PROVIDED FOR.
15. OUTSIDE EDGES OF THE OUTLET PIPE SHALL PROJECT NO MORE THAN 3" BEYOND THE INSIDE WALL OF THE STRUCTURE.
16. LIFTING HOLES SHALL BE FILLED WITH MORTAR.
17. UNSUITABLE MATERIAL & OVER EXCAVATION: PAY LIMITS FOR STRUCTURE INSTALLATION SHALL BE COMPLETE IN PLACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF STRUCTURE INSTALLATION. CLAIMS FOR OVER EXCAVATION SHALL NOT BE GRANTED. EXCAVATION AREAS SHALL BE BACKFILLED WITH APPROPRIATE BEDDING MATERIALS. REMOVAL OF UNSUITABLES AND REPLACEMENT WITH SUITABLE GRANULAR FILL ARE SUBSIDIARY.
18. BACKFILL WITHIN 1-FOOT OF THE STRUCTURE WALL SHALL BE SAND CONFORMING TO NHDOT MATERIAL SPEC ITEM 304.1. REMAINING BACKFILL SHALL CONFORM TO SALEM TYPICAL TRENCH REQUIREMENTS. BACKFILL SHALL BE COMPACTED IN 6" LIFTS.
19. STEPS ARE NOT ALLOWED.
20. CASTINGS CASTINGS SHALL BE EVEN-GRAINED CAST IRON, SMOOTH AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS. CONTACT SURFACES OF FRAMES AND GRATES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION. ALL CATCH BASIN FRAMES (SINGLE AND DOUBLE) INSTALLED AT GRANITE CURBING LOCATIONS SHALL BE 3-FLANGED. ALL CATCH BASIN FRAMES (SINGLE AND DOUBLE) INSTALLED WITH BITUMINOUS CURB OR NO CURBING SHALL BE 4-FLANGED.
21. ALL STRUCTURES SHALL BE H20 LOAD RATED.
22. ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478. ALL REINFORCING STEEL SHALL CONFORM TO ASSHTO M31 (ASTM A615) GRADE 60, AND SHALL MEET THE REQUIREMENTS OF SECTION 544 REINFORCING STEEL OF THE NHDOT STANDARD SPECS.
23. CONE SECTIONS SHALL BE ECCENTRIC. WHERE PIPE CORE WOULD OTHERWISE ENTER INTO THE CONE SECTION AN H-20 LOAD RATED FLAT TOP ECCENTRIC LID MAY BE USED.
24. CIRCUMFERENTIAL REINFORCEMENT REQUIREMENTS SHALL CONFORM TO THE LATEST ASTM A185 SPECIFICATIONS.
25. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI).
26. CIRCUMFERENTIAL REINFORCEMENT SHALL BE PLACED IN THE CENTER THIRD OF THE WALL
27. EACH COMPONENT OF THE SHIP LAP JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.



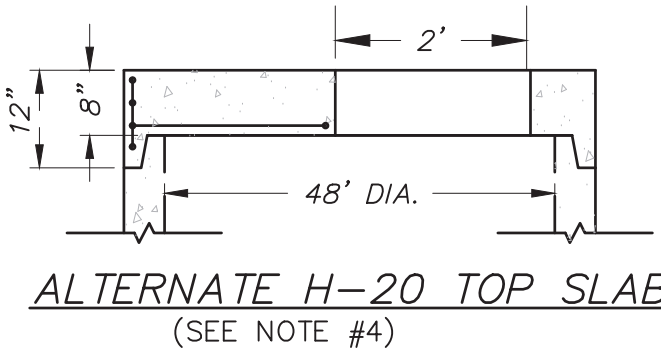
Precast Reinforced Drop Inlet (Square or Round)
NO SCALE



Precast Reinforced Catch Basin
NO SCALE

DROP INLET:

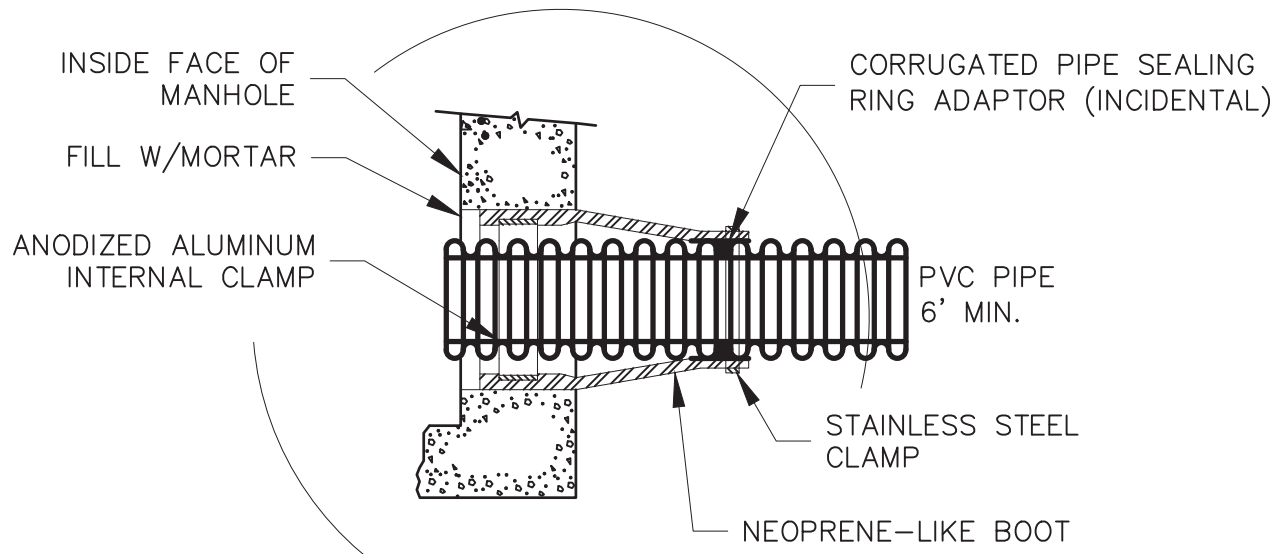
1. REFERENCE GENERAL DRAIN STRUCTURE NOTES, NHDOT SECTION 604, AND TOWN OF SALEM SUPPLEMENTAL SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
2. SEPARATE CONSTRUCTION SPECIFICATIONS ARE ATTACHED OR INCLUDED IN THE CONTRACT DOCUMENTS. THESE STANDARD DRAWINGS ARE NOT COMPLETE WITHOUT SPECIFICATIONS.
3. USE OF A DROP INLET IN THE PUBLIC INFRASTRUCTURE SHALL BE SOLELY GOVERNED BY THE SALEM ENGINEERING DEPARTMENT AND SHALL BE ON A CASE BY CASE BASIS. NORMAL ENGINEERING PRACTICE IN SALEM SHALL NOT PERMIT THE USE OF A DROP INLET.
4. IF/WHERE A DROP INLET IS ALLOWED THERE SHALL NOT BE ANY STRUCTURE OR INLET UPSTREAM OF IT.
5. BOOT CONNECTORS ARE GENERALLY NOT USED IN TRENCHES LESS THAN 3.5 FEET. USE OF A BOOT CONNECTOR ON A DROP INLET SHALL BE DETERMINED AT THE TIME OF SHOP DRAWING SUBMITTAL.
6. USE OF POLY-LINER ON DROP INLETS SHALL BE SITE SPECIFIC BASED ON INVERT DEPTHS. TRIMMING MAY BE REQUIRED TO PREVENT BLOCKAGE OF THE INVERTS.



| DIAMETER | WALL THICKNESS MIN. | FLOOR THICKNESS MIN. |
|----------|---------------------|----------------------|
| 4' | 5" | 6" |
| 5' | 6" | 8" |
| 6' | 7" | 8" |
| 7' | 8" | 10" |
| 8' | 9" | 10" |

CB NOTES:

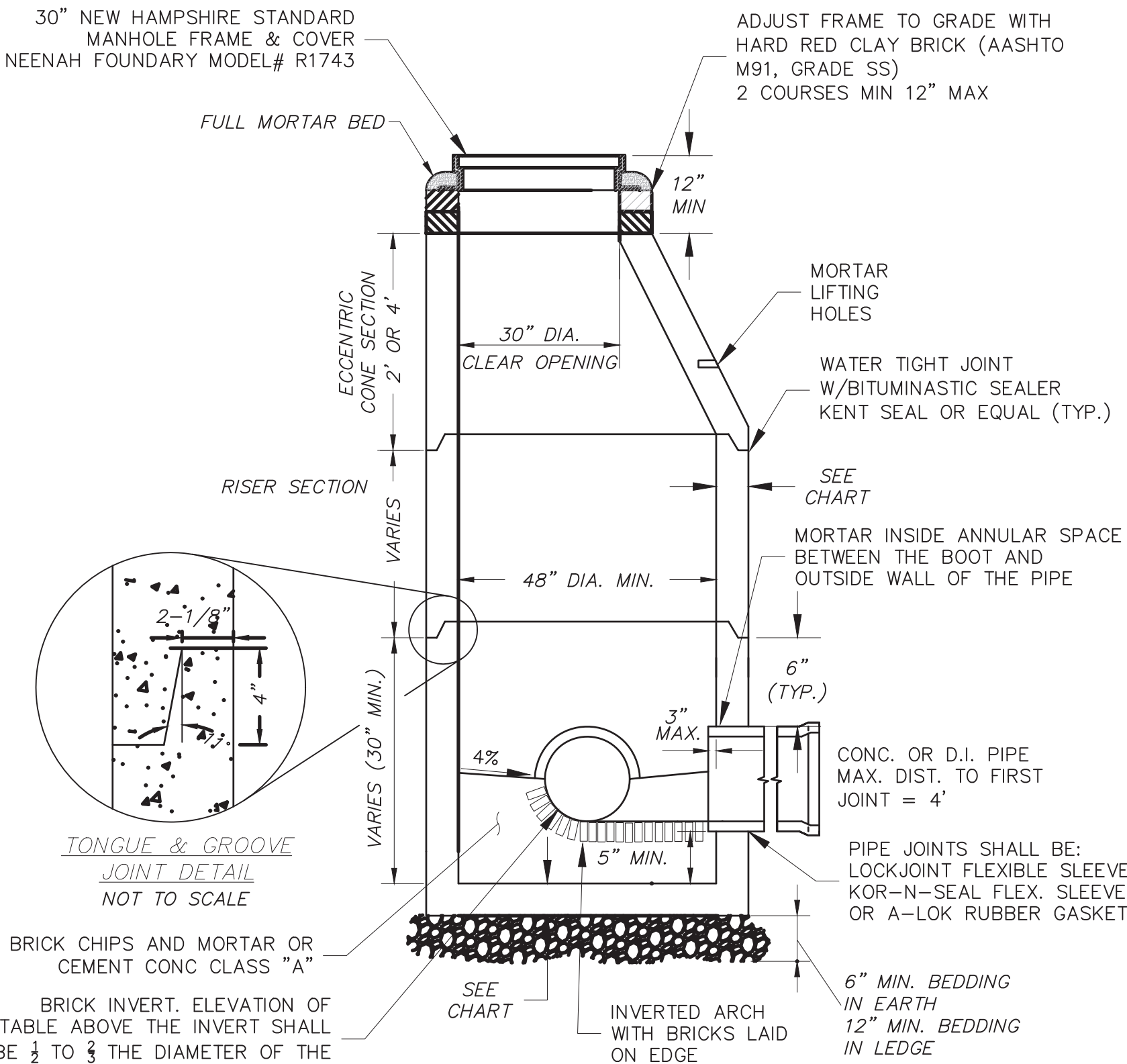
1. REFERENCE GENERAL DRAIN STRUCTURE NOTES, NHDOT SECTION 604, AND TOWN OF SALEM SUPPLEMENTAL SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
2. SEPARATE CONSTRUCTION SPECIFICATIONS ARE ATTACHED OR INCLUDED IN THE CONTRACT DOCUMENTS. THESE STANDARD DRAWINGS ARE NOT COMPLETE WITHOUT SPECIFICATIONS.



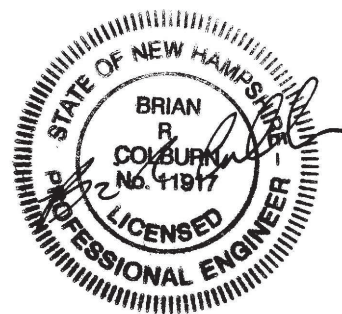
Corrugated Pipe/Boot Connection Detail
NO SCALE

DMH NOTES:

1. REFERENCE GENERAL DRAIN STRUCTURE NOTES, NHDOT SECTION 604, AND TOWN OF SALEM SUPPLEMENTAL SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
2. MANHOLE FRAMES AND COVERS SHALL PROVIDE A THIRTY INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "DRAIN" SHALL BE CAST INTO THE TOP SURFACE.
3. SEPARATE CONSTRUCTION SPECIFICATIONS ARE ATTACHED OR INCLUDED IN THE CONTRACT DOCUMENTS. THESE STANDARD DRAWINGS ARE NOT COMPLETE WITHOUT SPECIFICATIONS.



Pre-cast Reinforced Concrete Drain Manhole
NO SCALE



REV

DATE

DESCRIPTION

BY



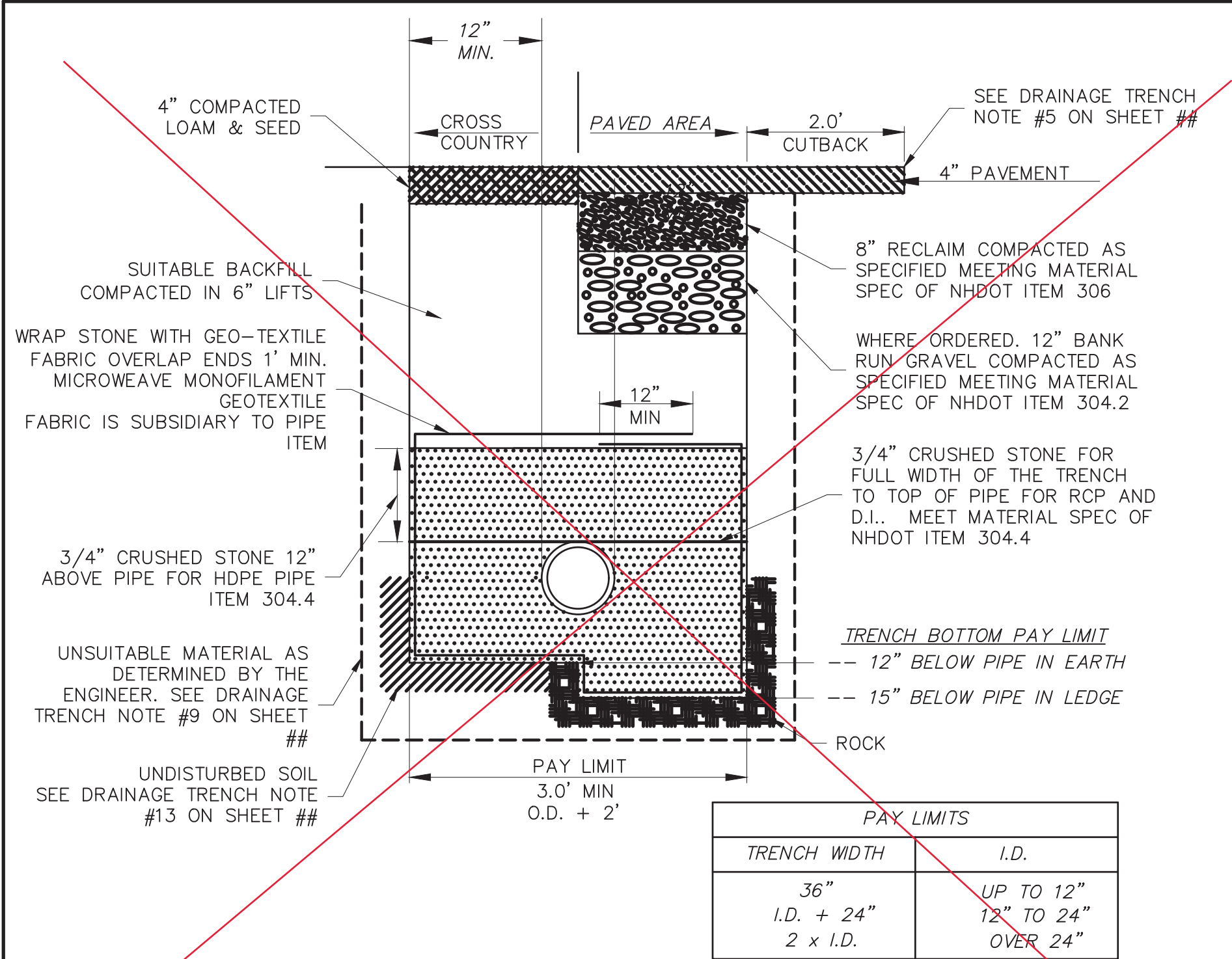
McFarland Johnson

53 REGIONAL DRIVE
CONCORD, NEW HAMPSHIRE 03301

**TOWN OF SALEM
SALEM, NEW HAMPSHIRE
2021 ROADWAY IMPROVEMENT
PROJECT**

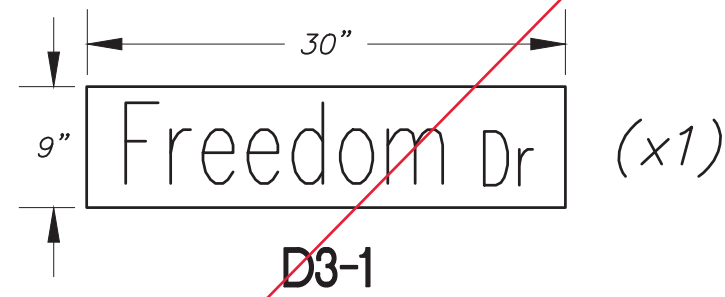
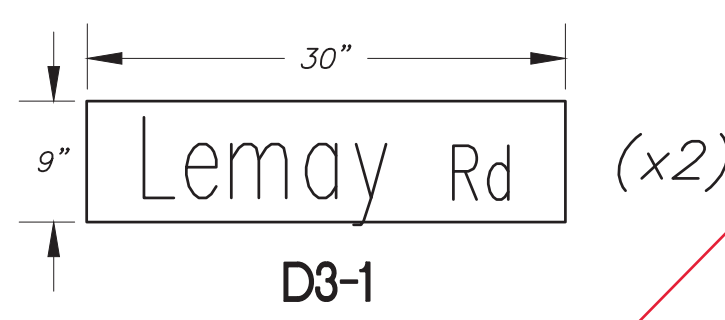
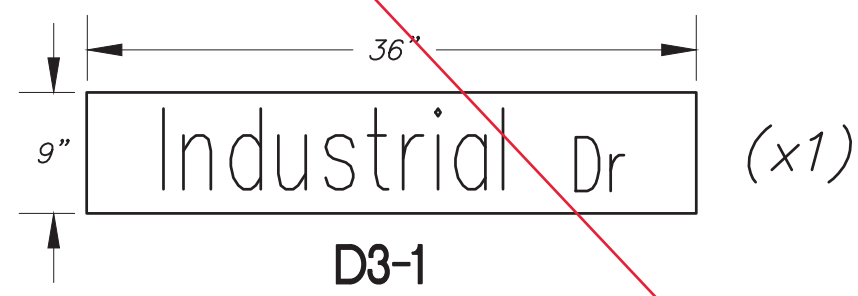
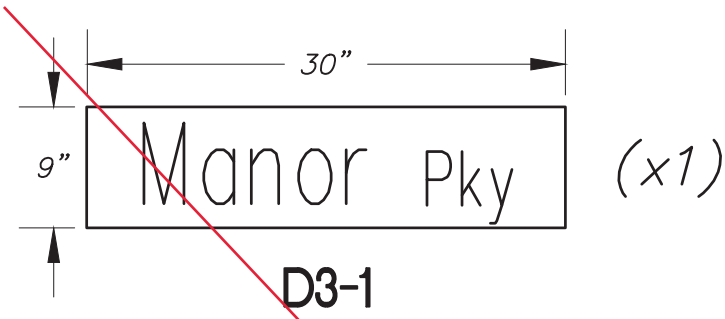
CIVIL DETAILS 4

| | | | |
|----------|--------|----------|---------------|
| SCALE: | N.T.S. | DESIGN: | BEP |
| DRAWN: | MRV | PROJECT: | 18587.06 |
| CHECKED: | BRC | DATE: | DECEMBER 2020 |



Typical Perforated Drain Trench Detail

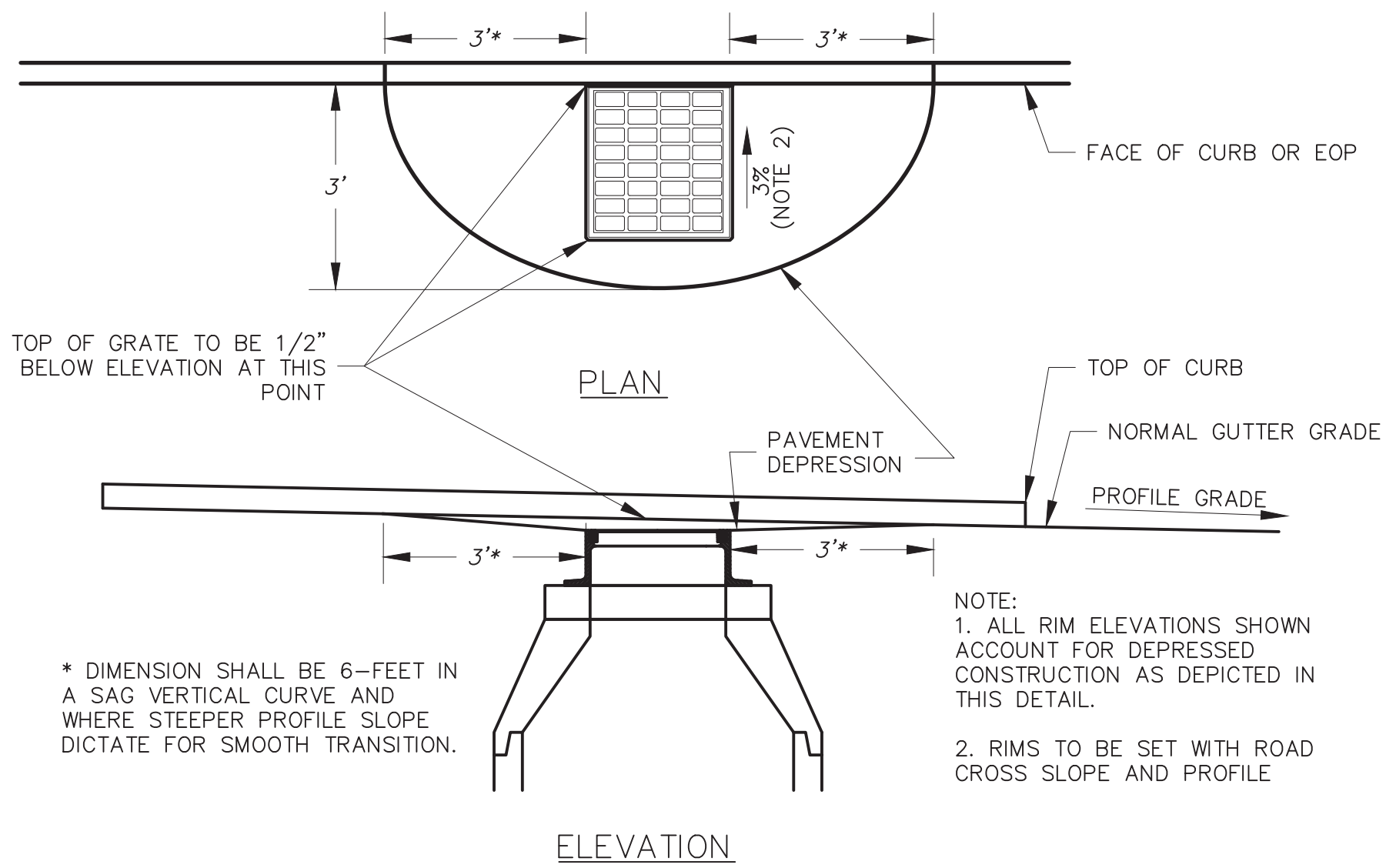
NO SCALE



Street Name Signs

NO SCALE

- NOTES:
1. SIGNS SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
 2. SIGNS SHALL BE GREEN WITH WHITE LETTERS. NO BORDER.
 3. THE FIRST LETTER OF THE NAME SHALL BE 6" UPPER CASE. THE REMAINING LETTERS SHALL BE 4.5" LOWER CASE.
 4. THE FIRST LETTER OF ROAD INDICATORS (AVE, ST, RD) SHALL BE 4". THE REMAINING LETTERS SHALL BE 3.5"
 5. TOP AND BOTTOM EDGES OF THE SIGN SHALL BE EXTRUDED CONSTRUCTION.



Standard Salem Pavement Depression Detail

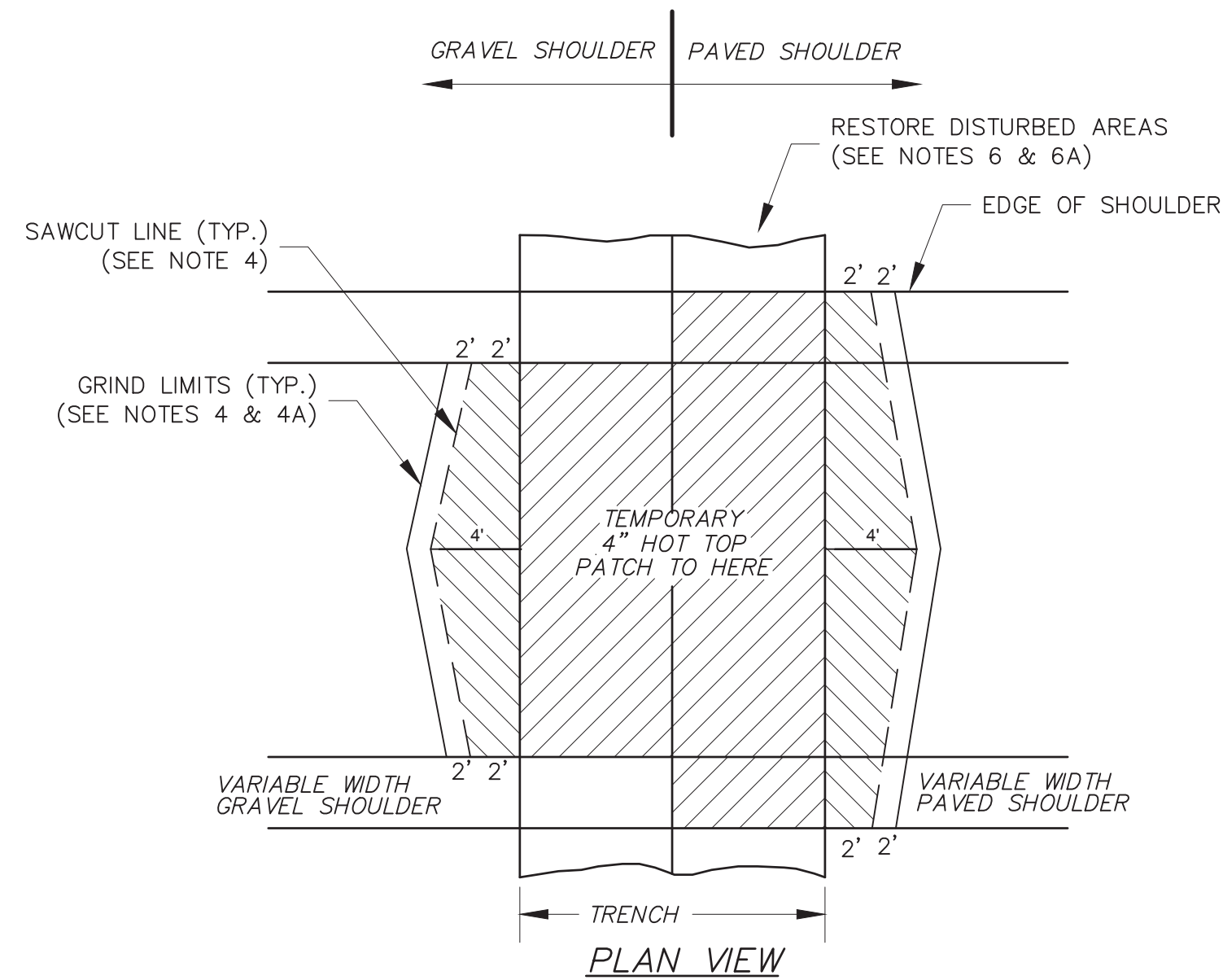
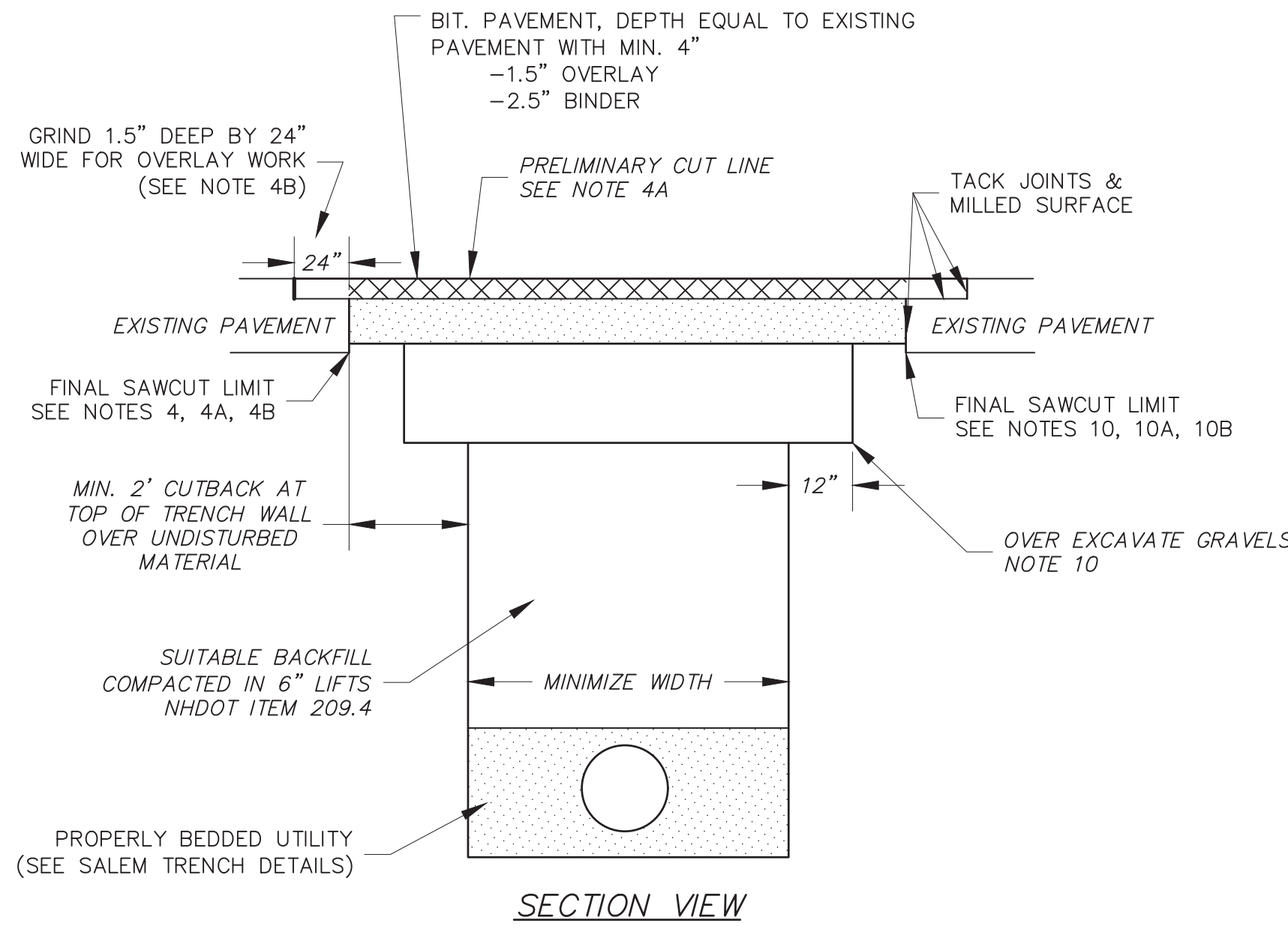
NO SCALE

NOTES:

1. EXACT TRENCH PATCH METHODS SHALL BE DETERMINED BY THE ENGINEER BASED ON SITE SPECIFIC CONDITIONS. REFERENCE APPLICABLE TOWN OF SALEM TRENCH SECTION DETAILS FOR PROPER BEDDING REQUIREMENTS.
2. REFERENCE TOWN OF SALEM STREET EXCAVATION REQUIREMENTS FOR ADDITIONAL REQUIREMENTS AND INFORMATION. THIS DETAIL IS NOT COMPLETE WITHOUT ALL REFERENCED ITEMS.
3. **TEMPORARY PATCHING:** AN APPROVED BITUMINOUS PLANT MIX MATERIAL SHALL BE PLACED AND CAREFULLY GRADED AND ROLLED TO THE ADJACENT PAVEMENT GRADE AS A TEMPORARY PATCH. JUST BEFORE COMPLETION OF THE PROJECT AND AFTER SUITABLE EXPOSURE OF THE TEMPORARY PATCHES TO TRAFFIC COMPACTION, THE PAVEMENT SHALL BE SAWCUT, REMOVED AND REPAVED AS SHOWN.
4. TWO FOOT MINIMUM OVERLAP ON UNDISTURBED MATERIAL SHALL BE SAWCUT IN A DIAMOND SHAPE PATTERN THAT WILL PERMIT ONLY ONE WHEEL OF A VEHICLE AT A TIME TO STRIKE THE PATCH AREA. ON WIDER ROADS THE 4-FOOT DIMENSION AT THE CENTER OF THE ROAD MAY NEED TO BE EXTENDED TO MEET THIS INTENT. ALL SAW CUTS FOR THE FINAL PATCH SHALL BE AS DIRECTED BY THE PERMITTING AUTHORITY.
- 4A. INITIAL CUT LINE IN PAVEMENT SHALL BE ESTABLISHED DIRECTLY OVER TRENCH WALLS. FINAL CUT LIMITS SHALL NOT BE DONE UNTIL AFTER ALL EXCAVATION AND BACK FILL ACTIVITIES HAVE BEEN COMPLETED.
- 4B. CUT AND GRIND LIMITS SHALL BE EXTENDED FOR LARGER TRENCHES. SPECIFIC GRIND LIMITS SHALL BE DETERMINED BY THE PERMITTING AUTHORITY AT THE TIME OF CONSTRUCTION. ADDITIONAL CUT/GRIND LIMITS SHALL BE FIELD DETERMINED BASED ON DAMAGE TO THE SURROUNDING PAVEMENT.
5. SHOULDERS, OTHER THAN PAVED, DISTURBED DURING CONSTRUCTION, SHALL BE RESTORED BY EXCAVATING TO A DEPTH SUFFICIENT TO RECEIVE 6" CRUSHED BANK RUN GRAVEL WHICH SHALL BE GRADED AND COMPACTED ON A SLOPE OF 5% AWAY FROM THE PAVEMENT OR AS ORDERED BY THE TOWN. PAVED SHOULDER SHALL BE RECONSTRUCTED WITH IN-KIND GEOMETRY AND ACCORDING TO THE PAVEMENT SECTION DESCRIBED ON THIS TYPICAL.
6. OTHER HIGHWAY SLOPES AND SHOULDERS DISTURBED SHALL BE RESTORED IN-KIND WITH APPROPRIATE SLOPE AND EROSION PROTECTION MEASURES OR INSTRUCTIONS ISSUED BY THE TOWN.
- 6A. ALL OTHER DISTURBED AREAS (CURB, SIDEWALK, GRASSED AREAS, WALLS, ETC.) SHALL BE RESTORED IN-KIND AND/OR AS DIRECTED BY THE TOWN ACCORDING TO ACCEPTED CONSTRUCTION PRACTICES.
7. TRAFFIC SHALL BE MAINTAINED, CONTROLLED AND PROTECTED BY SUITABLE WARNING AND/OR CHANNELIZING DEVICES, ADVANCE WARNING SIGNS AND FLAGS DURING THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE TOWN REQUIREMENTS AND ACCEPTED CONSTRUCTION PRACTICES.
8. THE CONTRACTOR SHALL MARK ALL HAZARDS WITHIN THE LIMITS OF THE PROJECT AND CONNECTING ROADS. THESE DEVICES SHALL BE MOVED, SUPPLEMENTED, CHANGED OR REMOVED DURING THE PROGRESS OF THE CONSTRUCTION. UNIFORMED TRAFFIC CONTROL OFFICERS SHALL BE PROVIDED FOR THE PROTECTION OF THE PUBLIC WHILE WORKING WITHIN A TOWN RIGHT-OF-WAY.
9. IN ALL CASES, TRENCH SHALL BE PAVED FLUSH WITH EXISTING PAVEMENT AT THE END OF THE WORK DAY EXCEPT AS ALLOWED BY PERMITTING AUTHORITY.
10. UPON COMPLETION OF BACK FILL OPERATIONS THE EXISTING ROAD GRAVELS SHALL BE OVER EXCAVATED 12" BEYOND THE TRENCH WALL. THIS WORK SHALL NOT BE COMPLETED PRIOR TO COMPLETING BACKFILL AND COMPACTION.

Permanent Pavement Repair Detail

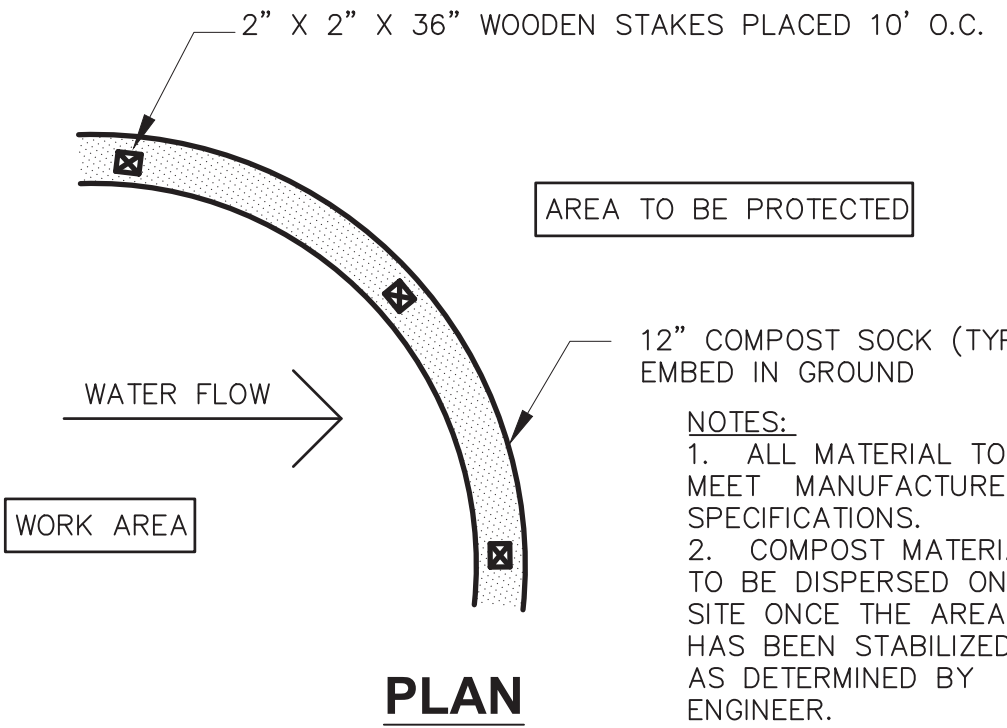
NO SCALE



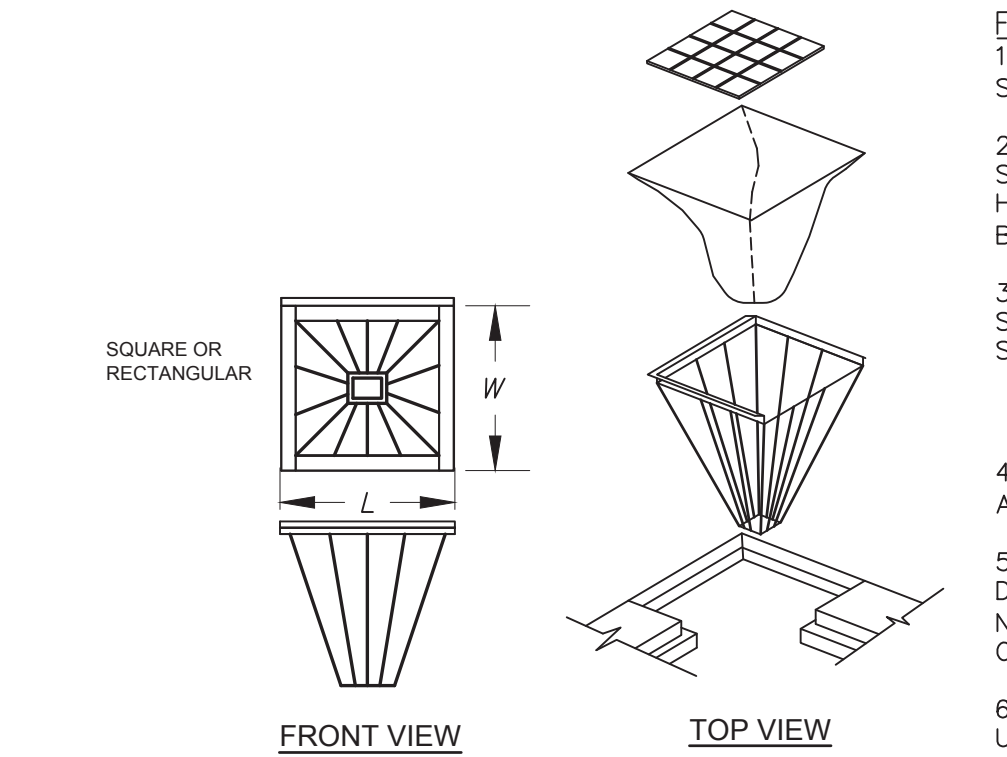
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|---|-----|------|-------------|----|--|--|--------|---------------------|
| | | | | | | TOWN OF SALEM SALEM, NEW HAMPSHIRE 2021 ROADWAY IMPROVEMENT PROJECT | | |
| | | | | | | CIVIL DETAILS 5 | | |
| | REV | DATE | DESCRIPTION | BY | | SCALE: | N.T.S. | DESIGN: BEP |
| | | | | | | DRAWN: | MRV | PROJECT:18587.06 |
| McFarland Johnson 53 REGIONAL DRIVE CONCORD, NEW HAMPSHIRE 03301 | | | | | | CHECKED: | BRC | DATE: DECEMBER 2020 |
| | | | | | | 13 OF 16 | | |

GENERAL NOTES:

1. CONSTRUCTION BASELINE: ELECTRONIC AUTOCAD DRAWINGS ARE AVAILABLE FOR CONSTRUCTION PURPOSES. THE CONTRACTOR SHALL LAY OUT BASE LINE TO BE APPROVED BY THE OWNER PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. MINOR ADJUSTMENTS IN ALIGNMENT MAY BE NECESSARY BASED ON FIELD CONDITIONS IN AN EFFORT TO CREATE A 'BEST FIT' ROADWAY AND MINIMIZE ADJACENT IMPACTS.
2. EXISTING CONDITIONS INFORMATION DEPICTED HEREON IS A COMPOSITE BASED ON RECORD PLANS AND TOPOGRAPHIC SURVEY. TOPOGRAPHIC FIELD SURVEY CONDUCTED BY SAH LAND SERVICES IN AUGUST AND DECEMBER 2020.
3. THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND EXISTING AND PROPOSED CONDITIONS SURROUNDING IT. IF ANY ERROR OR OMISSION IN THESE PLANS IS DISCOVERED BY THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE ENGINEER AND OWNER IMMEDIATELY IN WRITING FOR DIRECTION ON HOW TO PROCEED. THE CONTRACTOR SHALL DISCONTINUE WORK IN THE AFFECTED PROJECT AREA UNTIL DIRECTION HAS BEEN PROVIDED BY THE TOWN OF SALEM ON CORRECTIVE ACTION.
5. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS, IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
6. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
7. THE CONTRACTOR SHALL SUBMIT HIS/HER PROPOSED CONSTRUCTION SCHEDULE TO THE SALEM ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL IN ACCORDANCE TO BID SPECIFICATION DOCUMENTS PRIOR TO CONSTRUCTION. NO WORK SHALL BE CONDUCTED WITHOUT AN APPROVED SCHEDULE.
8. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF HIS INTENT OF THE START OF WORK IN ACCORDANCE TO THE BID SPECIFICATION DOCUMENTS.
9. ALL WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT NEW HAMPSHIRE DIG SAFE, AT 1-888-DIG-SAFE, AT LEAST 72 HOURS BEFORE DIGGING.
11. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THE EXACT LOCATION SHOULD BE ESTABLISHED IN THE FIELD BY THE UTILITY COMPANY PRIOR TO ANY EXCAVATION OR POST DRIVING. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO UTILITIES AND FACILITIES PUBLIC OR PRIVATE.
12. THE CONTRACTOR SHALL COORDINATE UTILITY WORK, MATERIALS, AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.
13. ALL WORK SHALL CONFORM TO TOWN OF SALEM STANDARD SPECIFICATIONS AND SHALL BE SUBJECT TO FINAL INSPECTION BY THE SALEM ENGINEERING DIVISION.
14. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES. THE CONTRACTOR MUST CONTACT THE SALEM FIRE AND POLICE DEPARTMENTS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL SIGNAGE, BARRICADES, POLICE DETAILS AS REQUIRED FOR TRAFFIC CONTROL AND COORDINATION WITH OTHER CONSTRUCTION OPERATIONS ON ADJACENT STREETS.
15. ALL PERMANENT CONSTRUCTION WARNING SIGNS MUST BE ERECTED PRIOR TO BEGINNING CONSTRUCTION. ALL CONSTRUCTION SIGNAGE DESIGN, PLACEMENT, AND METHOD (PERMANENT OR TEMPORARY) SHALL MEET THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
16. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN IN THE PLANS THROUGHOUT THE DURATION OF THE PROJECT IN ACCORDANCE WITH APPLICABLE NHDES AND TOWN OF SALEM STANDARDS AND SPECIFICATIONS. THE DETAILS PROVIDED SERVE AS A GUIDE ONLY. ALL EROSION CONTROL SHALL BE MAINTAINED AND/OR REPLACED IF DAMAGED. EROSION CONTROL PRACTICES SHOWN HEREIN SHALL BE CONSIDERED A MINIMUM STANDARD. THE CONTRACTOR SHALL IMPLEMENT ANY EROSION CONTROL MEASURE DEEMED NECESSARY AND APPROPRIATE AS FIELD CONDITIONS DICTATE OR AS DIRECTED. BY MENTION, THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE" IS HEREBY INCORPORATED INTO THE DESIGN PLANS.
18. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RETAIN ALL RESPONSIBILITY FOR ERRORS AND REMEDIAL WORK NECESSARY AS A RESULT BENCHMARK ERRORS.
19. ALL ELEVATIONS AND LOCATIONS OF DRAINAGE STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO UTILIZATION OF THE DESIGN ELEVATIONS SHOWN ON THE PLAN.
20. ALL MATERIAL MUST MEET OR EXCEED SPECIFICATIONS.
21. ALL NEW MANHOLES IN PAVEMENT SHALL HAVE RIMS SET TO FINISH GRADE REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN. ALL NEW CATCH BASINS IN PAVEMENT SHALL HAVE RIMS SET 1/2" BELOW FINISH REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN.
22. ALL EXISTING MANHOLES, WATER GATE RISERS, GAS GATE RISERS, AND OTHER STRUCTURES LOCATED WITHIN THE LIMITS OF THE PROJECT SHALL BE ADJUSTED TO FINISHED GRADE BY THE CONTRACTOR UNLESS INDICATED OTHERWISE BY THESE PLANS. EXISTING CATCH BASINS SHALL BE ADJUSTED 1/2" BELOW FINISH GRADE.
23. ALL CATCH BASINS SHALL BE TYPE B UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.
24. CATCH BASIN POLYETHYLENE LINERS : POLY-LINERS (ITEM 604.0007) SHALL BE INSTALLED ON ALL CATCH BASINS (NEW AND EXISTING) WITHIN THE PROJECT.
25. IN GENERAL ALL DRIVEWAYS SHALL RECEIVE GUTTER LINE TRANSITIONS OF 1 – 2 INCHES FOR 2- FEET AT THE EDGE OF PAVEMENT OR AS DIRECTED BY THE ENGINEER. ALL WORK AND MATERIAL TO CONSTRUCT GUTTER TRANSITIONS SHALL BE SUBSIDIARY TO THE DRIVEWAY APRON UNIT ITEMS.
26. THE SUBGRADE SHALL BE SCARIFIED TO ASSURE THAT ALL BOULDERS AND COBBLES OVER 6 INCHES ARE REMOVED.
27. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION AND REPLACEMENT.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF TRAFFIC DURING CONSTRUCTION AND UNTIL SUCH TIME AS ALL IMPROVEMENTS HAVE BEEN APPROVED BY THE TOWN OF SALEM. ALL MAINTENANCE OF TRAFFIC SHALL CONFORM TO THE STANDARDS SET FORTH IN THE LATEST EDITION OF THE "FEDERAL HIGHWAY ADMINISTRATION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR THE STREETS AND HIGHWAYS". ALL TEMPORARY SIGNING, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE ABOVE, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
29. THE CONTRACTOR SHALL ENSURE THAT POSTAL SERVICE IS UNINTERRUPTED FOR THE DURATION OF THE PROJECT. CONTRACTOR SHALL COORDINATE WITH USPS FOR ANY ADDITIONAL REQUIREMENTS.
30. MAILBOX NOTE: NOT ALL MAILBOXES WILL BE RELOCATED. MAILBOXES THAT DO NOT MEET MINIMUM DISTANCES SHALL BE RESET OR AS DIRECTED BY THE ENGINEER.
31. TREE REMOVAL: COORDINATE TREE REMOVAL WITH THE ENGINEER PRIOR TO THE START OF WORK.
32. GRUBBING NOTE: IN GENERAL, GRUBBING THE SHOULDERS AS SHOWN ON THE PLAN SHALL BE INCLUSIVE OF SMALL TREE REMOVAL. NOT ALL SHOULDER WORK SHALL BE CONSIDERED GRUB. ONLY THOSE AREAS SPECIFICALLY IDENTIFIED AS GRUB SHALL BE PAID.
33. NPDES NOTE: THE 2021 ROADWAY RECONSTRUCTION PROJECT IS LARGELY A RECLAIM IN-PLACE OPERATION WHICH IS CONSIDERED STABLE UPON COMPLETION OF RECLAIM ACTIVITIES. EACH ROAD CONTAINS LESS THAN 1-ACRE OF DISTURBANCE OUTSIDE OF RECLAIM AREAS. THEREFORE A NOTICE OF INTENT IS NOT REQUIRED FOR THIS PROJECT.



Compost Sock Detail



Siltsack Inlet Filter Basket

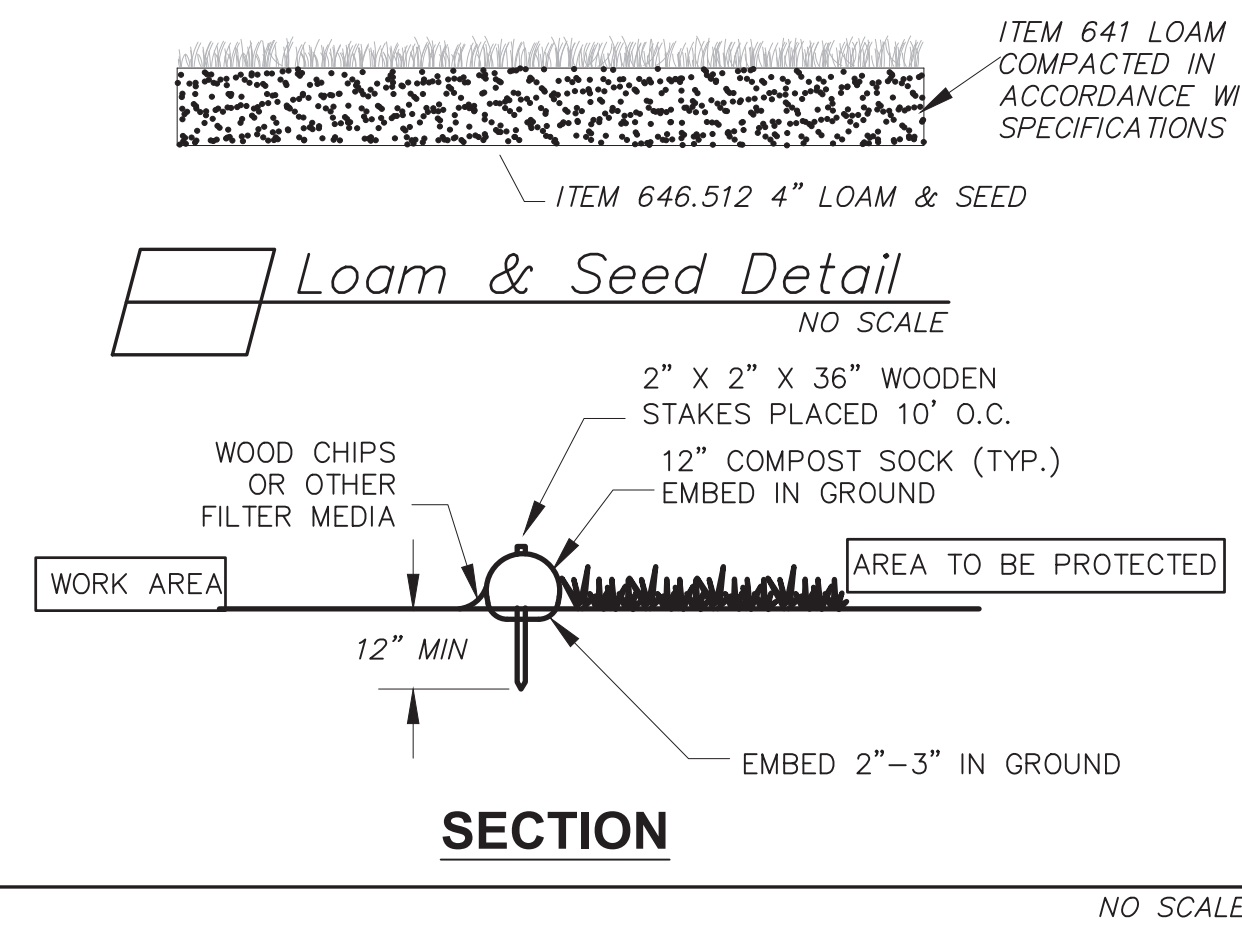


CONSTRUCTION SPECIFICATIONS:

1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 10 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES WHERE NOTED OR AS DIRECTED BY DESIGN ENGINEER.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MIDSECTION AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 10 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

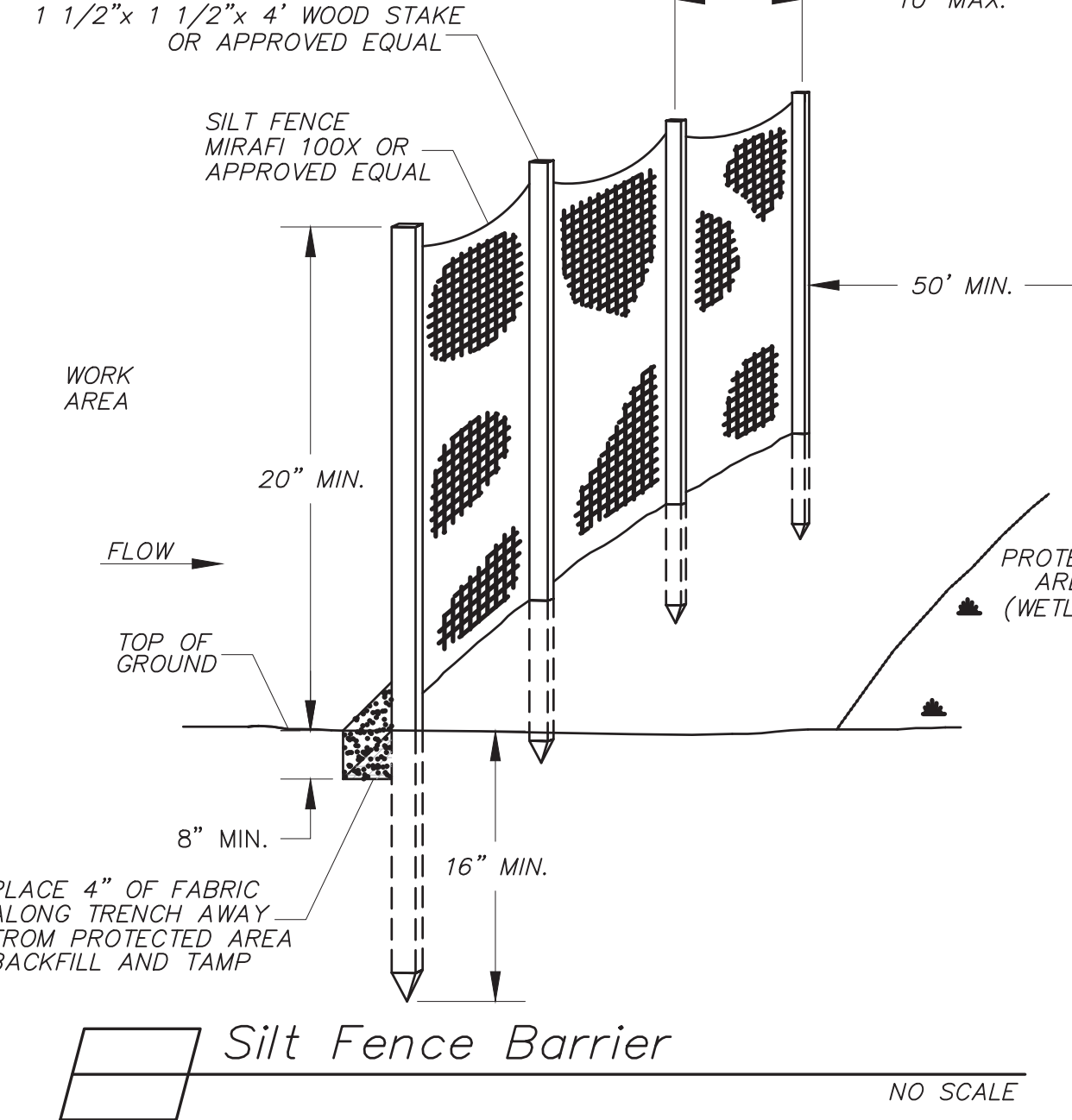
MAINTENANCE:

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



FILTER BASKET NOTES:

1. INLET BASKETS SHALL BE USED ON ALL CATCH BASINS DURING CONSTRUCTION. INLET BASKETS SHALL BE "METAL-ERA" OR APPROVED EQUAL.
2. FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET OF FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND EXTEND AT LEAST 6 INCHES PAST THE FRAME. THE INLET GRATE SHALL BE PLACED OVER THE BASKET/FRAME AND WILL SERVE AS THE FABRIC ANCHOR.
3. THE FILTER FABRIC SHALL BE A GEO-TEXTILE FABRIC: POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE OR POLYVINYL CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:
GRAB STRENGTH: 45 lb. MINIMUM IN ANY PRINCIPAL DIRECTION (ASTM D1682).
MULLEN BURST STRENGTH: MINIMUM 60 psi (ASTM D774).
4. THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND MINIMUM PERMEABILITY OF 120 gpm/sq. ft.
5. THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM ENTERING THE DRAINAGE PIPING SYSTEM AND/OR CAUSING SURFACE FLOODING.
6. INLET BASKET SHALL BE MAINTAINED IN PLACE UNTIL ALL PAVING IS COMPLETED AND ALL UNPAVED AREAS HAVE BEEN STABILIZED WITH VEGETATION.



Silt Fence Barrier

EROSION CONTROL:

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. ALL EROSION CONTROL MEASURES SHOWN, DESCRIBED AND NOTED SHALL BE CONSIDERED A MINIMUM STANDARD. THE CONTRACTOR SHALL IMPLEMENT ALL NECESSARY EROSION CONTROL PRACTICES AS NEEDED, AS FIELD CONDITIONS DICTATE, OR AS ORDERED TO MAINTAIN PROPER EROSION PROTECTION.

1. EXISTING VEGETATION SHALL BE LEFT UNDISTURBED WHEREVER POSSIBLE.
2. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS.
3. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE KEPT CLEAN AND REMOVED ONCE VEGETATIVE COVER HAS BEEN FULLY ESTABLISHED. INSPECT WEEKLY AND WITHIN 24 HOURS AFTER 0.5" OF RAINFALL OR MORE.
4. THE CONTRACTOR SHALL MAINTAIN RESPONSIBILITY OF ALL EROSION CONTROL, TURF ESTABLISHMENT MEASURES, AND LANDSCAPE THROUGHOUT CONSTRUCTION AND AFTER PROJECT COMPLETION UNTIL SUCH TIME AS VEGETATIVE COVER HAS BEEN FULLY ESTABLISHED.
5. INSTALLATION OF HAY BALE BARRIERS AND SILTATION FENCES SHALL BE COMPLETED PRIOR TO THE START OF SITE WORK IN ANY GIVEN AREA. PREFABRICATED SILTATION FENCES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
6. ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4" OF LOAM. INSTALLED WITH NOT LESS THAN INDICATED SEED MIX PER 1,000 SQ. FT. GROUND COVER WILL BE ESTABLISHED BY HYDRO SEEDING. SEED MIXTURE SHALL BE:
PERMANENT (PARK SEED MIX)
PERENNIAL RYEGRASS – 1.15 LBS.
CREEPING RED FESCUE – 0.92 LBS.
KENTUCKY BLUEGRASS – 0.57 LBS.
RED TOP – 0.11 LBS.
2.74 LBS./1000 S.F.
PERMANENT (OTHER THAN LAWN AREAS)
PERENNIAL RYEGRASS – 0.69 LBS.
CREEPING RED FESCUE – 0.80 LBS.
BIRDSFOOT TREFOIL – 0.11 LBS.
RED TOP – 0.11 LBS.
ALSIKE CLOVER – 0.11 LBS.
1.82 LBS./1000 S.F.
TEMPORARY
ANNUAL RYEGRASS – 1.1 LBS./1000 S.F.

USE ABOVE SEED MIXES UNLESS OTHERWISE SPECIFIED.

7. LIME AND FERTILIZER OF PROPER PROPORTIONS SHALL BE INCORPORATED INTO THE SOIL PRIOR TO SEEDING IN ACCORDANCE WITH NHDOT ITEMS 642 & 643. SEEDING PRACTICES SHALL COMPLY WITH LOCAL USDA SOIL CONSERVATION SERVICES RECOMMENDATION.
8. HAY MULCH OR JUTE MATTING SHALL BE USED WHERE INDICATED ON THE PLANS. A MINIMUM OF 1.5 TONS OF MULCH PER ACRE SHALL BE APPLIED. MULCH SHALL BE ANCHORED IN PLACE WHERE NECESSARY. JUTE MATTING SHALL BE LAID IN THE DIRECTION OF RUNOFF FLOW AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
9. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS, PLANT ANNUAL RYEGRASS PRIOR TO OCTOBER 15TH.
10. IN THE EVENT THAT, DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL STABILIZE ALL INCOMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF IN ORDER TO ELIMINATE SHEET FLOW ACROSS FROZEN SURFACES.
11. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
12. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD. WATER IS SUBSIDIARY.
13. SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE".
14. USE OF STONE TO STABILIZE A TRENCH, ROAD OR DITCH (SWALE) SHALL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC (ITEM 619.1) REGARDLESS OF WHETHER ITS USE IS DIRECTED.

CONSTRUCTION SEQUENCE:

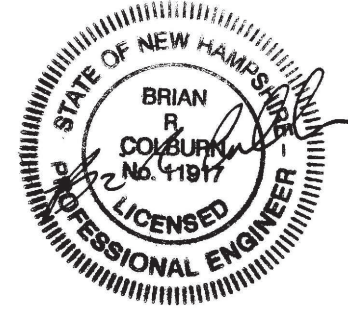
CONSTRUCTION SEQUENCE NOTES ARE PROVIDED AS A GENERAL GUIDELINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING AND SUBMITTING A DETAILED CONSTRUCTION SEQUENCE PRIOR TO THE START OF CONSTRUCTION.

1. INSTALL CONSTRUCTION SIGNS.
2. INSTALL EROSION CONTROL MEASURES. INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A DAILY BASIS. IMPLEMENT NECESSARY MEASURES PER NHDES BEST MANAGEMENT PRACTICES TO MAINTAIN A STABLE WORK AREA.
3. ESTABLISH HORIZONTAL ALIGNMENT LAYOUT AND VERTICAL CONTROL. VERIFY BENCH MARKS AND EXISTING ELEVATIONS.
4. REMOVE TREES AND STUMP. DISPOSE OF DEBRIS. IF TOPSOIL IS STRIPPED THEN IT SHALL BE STOCKPILED AND STABILIZED.
5. CONDUCT TEST PITTING OPERATIONS.
6. INSTALL PROPOSED DRAINAGE CATCH BASINS, CULVERTS, ETC.
7. COMMENCE PAVEMENT RECLAMATION ACTIVITIES.
8. COMMENCE GRADING ACTIVITIES TO ACHIEVE PROPER SUBBASE ELEVATIONS.
9. PLACE, COMPACT, AND FINE GRADE RECLAIMED GRAVEL/ PAVEMENT MATERIALS.
10. INSTALL CURBING AS SHOWN OR IF SHOWN ON DESIGN PLANS.
11. REPLANT DISTURBED LANDSCAPE AREAS.
12. PLACE LOAM, SEED, AND MULCH AS SHOWN AND AS NECESSARY TO STABILIZE AND VEGETATE DISTURBED AREAS. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED.
13. INSTALL SIGNS WHERE SHOWN.
14. PLACE PAVEMENT WEARING COURSE.
15. CLEAN ROADWAY AND DRAIN STRUCTURES.
16. PLACE PAVEMENT MARKINGS.
17. DUST SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION WITH ADEQUATE USE OF WATER AND OTHER MEANS NECESSARY TO AVOID A PUBLIC NUISANCE.

TOWN OF SALEM
SALEM, NEW HAMPSHIRE
2021 ROADWAY IMPROVEMENT
PROJECT

CIVIL DETAILS 8

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|----------|--------|----------|---------------|----------|
| SCALE: | N.T.S. | DESIGN: | BEP | 18 OF 16 |
| DRAWN: | MRV | PROJECT: | 18587.06 | |
| CHECKED: | BRC | DATE: | DECEMBER 2020 | |



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CONCORD, NEW HAMPSHIRE 03301