

09/08/99

TIP PROJECT: R-2307B / I-5717

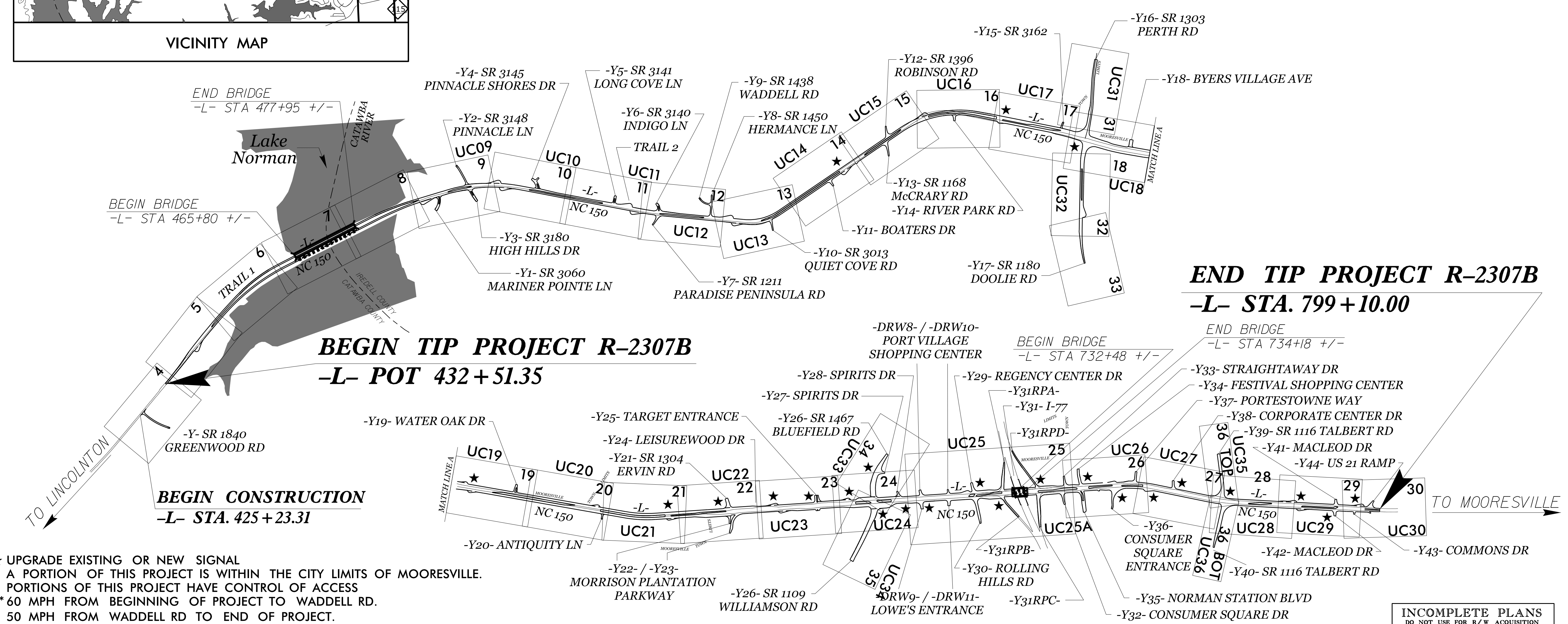
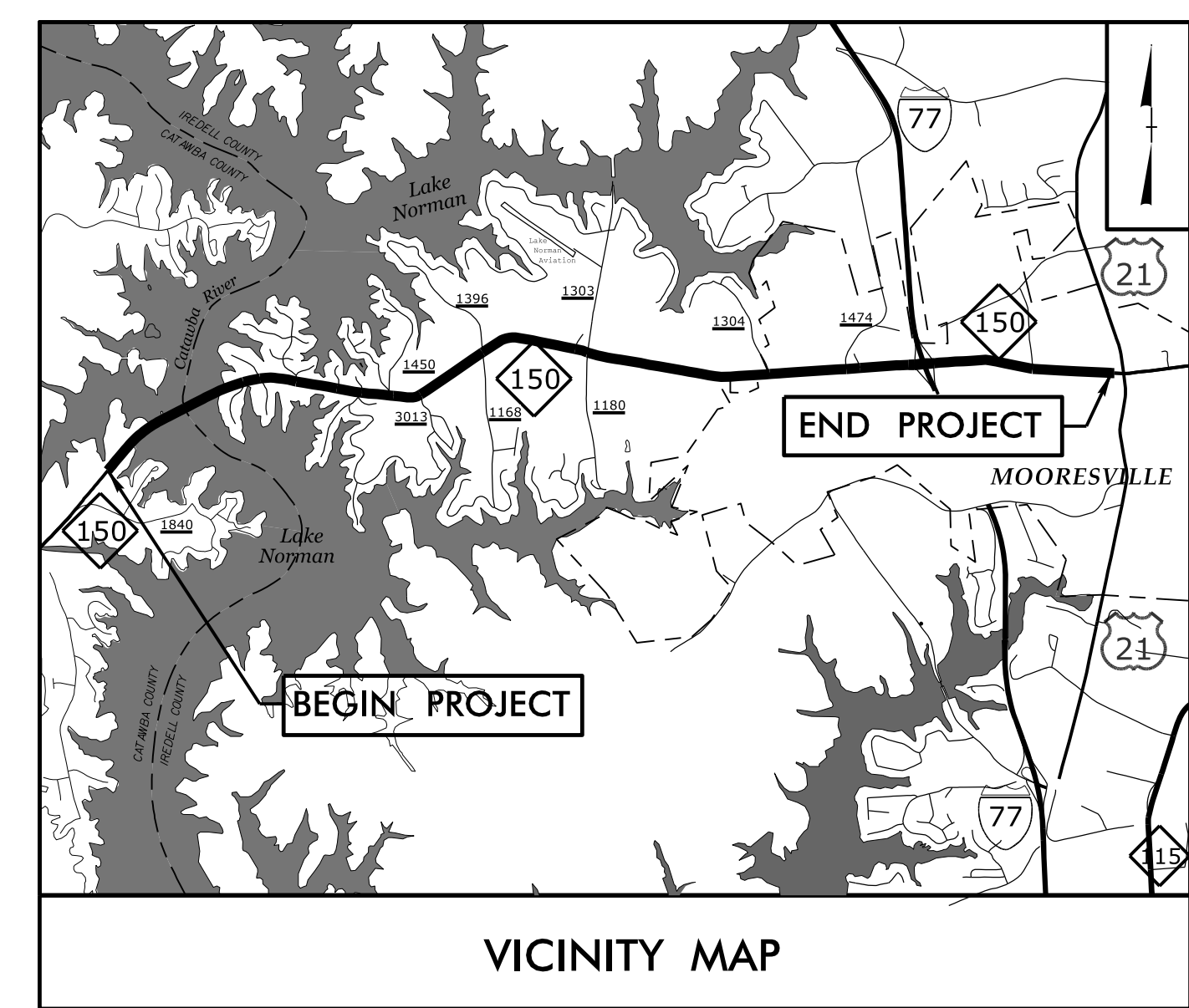
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

| | |
|------------------|-----------|
| T.I.P. NO. | SHEET NO. |
| R-2307B / I-5717 | UC-1 |

CATAWBA & IREDELL COUNTIES

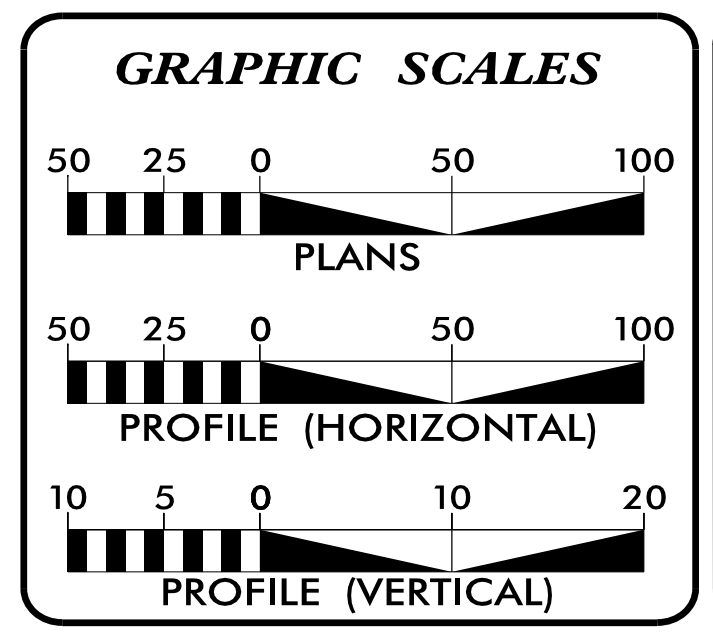
LOCATION: NC 150 FROM SR 1840 (GREENWOOD RD) IN CATAWBA COUNTY TO US 21 IN IREDELL COUNTY

TYPE OF WORK: WATER AND SEWER LINE RELOCATION



★ UPGRADE EXISTING OR NEW SIGNAL
A PORTION OF THIS PROJECT IS WITHIN THE CITY LIMITS OF MOOREVILLE.
PORTIONS OF THIS PROJECT HAVE CONTROL OF ACCESS
** 60 MPH FROM BEGINNING OF PROJECT TO WADDELL RD.
50 MPH FROM WADDELL RD TO END OF PROJECT.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



INDEX OF SHEETS

| SHEET NO.: | DESCRIPTION: |
|----------------|--|
| UC1 | TITLE SHEET |
| UC2 | UTILITY SYMBOLOGY |
| UC3A | NOTES |
| UC3B THRU UC3H | DETAILS |
| UC09 THRU UC36 | UTILITY CONSTRUCTION PLAN & PROFILE SHEETS |

WATER AND SEWER OWNERS ON PROJECT

(A) TOWN OF MOOREVILLE

PREPARED IN THE OFFICE OF

Dewberry 2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
919.881.9939
NCBELS: NO. F-0929

| | |
|------------------|-----------------------|
| JOHN AKERS, PE | CONSULTANT CONTACT #1 |
| PARROTT HOOD, PE | CONSULTANT CONTACT #2 |
| JEFF WING, PE | CONSULTANT CONTACT #3 |

SEAL

8/21/2024

DIVISION OF HIGHWAYS UTILITIES UNIT
1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

| | |
|--------------------|-----------------------------|
| DONALD E. HAMPTON | UTILITIES REGIONAL ENGINEER |
| JONG-TAE YOON, PE | UTILITIES ENGINEER |
| AMY DUPLEE YORK | UTILITIES AREA COORDINATOR |
| STEPHEN C. TREXLER | UTILITIES COORDINATOR |

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DDN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

BOUNDARIES AND PROPERTY:

| | |
|---------------------------------------|-----------|
| State Line | ----- |
| County Line | ----- |
| Township Line | ----- |
| City Line | ----- |
| Reservation Line | ----- |
| Property Line | ----- |
| Existing Iron Pin | ○ EIP |
| Property Corner | ----- |
| Property Monument | □ ECM |
| Parcel/Sequence Number | ⑫③ |
| Existing Fence Line | -x-x-x- |
| Proposed Woven Wire Fence | ○ |
| Proposed Chain Link Fence | □ |
| Proposed Barbed Wire Fence | ◇ |
| Existing Wetland Boundary | ----- NLB |
| Proposed Wetland Boundary | ----- NLB |
| Existing Endangered Animal Boundary | ----- EAB |
| Existing Endangered Plant Boundary | ----- EPB |
| Existing Historic Property Boundary | ----- HPB |
| Known Contamination Area: Soil | ☠ ☠ |
| Potential Contamination Area: Soil | ☠ ☠ |
| Known Contamination Area: Water | ☠ ☠ |
| Potential Contamination Area: Water | ☠ ☠ |
| Contaminated Site: Known or Potential | ☠ ? |

BUILDINGS AND OTHER CULTURE:

| | |
|-------------------------------|-----|
| Gas Pump Vent or U/G Tank Cap | ○ |
| Sign | ○ |
| Well | ○ W |
| Small Mine | ✕ |
| Foundation | □ |
| Area Outline | □ |
| Cemetery | □ |
| Building | □ |
| School | □ |
| Church | □ |
| Dam | □ |

HYDROLOGY:

| | |
|------------------------------------|------------|
| Stream or Body of Water | ----- |
| Hydro, Pool or Reservoir | ----- |
| Jurisdictional Stream | ----- JS |
| Buffer Zone 1 | ----- BZ 1 |
| Buffer Zone 2 | ----- BZ 2 |
| Flow Arrow | ← |
| Disappearing Stream | ----- |
| Spring | ○ |
| Wetland | ----- |
| Proposed Lateral, Tail, Head Ditch | ----- |
| False Sump | ----- |

RAILROADS:

| | |
|--------------------|---------------|
| Standard Gauge | ----- |
| RR Signal Milepost | ○ MILEPOST 35 |
| Switch | □ SWITCH |
| RR Abandoned | ----- |
| RR Dismantled | ----- |

RIGHT OF WAY:

| | |
|--|----------|
| Baseline Control Point | ◆ |
| Existing Right of Way Marker | △ |
| Existing Right of Way Line | ----- |
| Proposed Right of Way Line | ----- RW |
| Proposed Right of Way Line with Iron Pin and Cap Marker | ----- RW |
| Proposed Right of Way Line with Concrete or Granite R/W Marker | ----- RW |
| Proposed Control of Access Line with Concrete CA Marker | ----- CA |

| | |
|--|-----------|
| Existing Control of Access | ----- CA |
| Proposed Control of Access | ----- CA |
| Existing Easement Line | ----- E |
| Proposed Temporary Construction Easement | ----- E |
| Proposed Temporary Drainage Easement | ----- TDE |
| Proposed Permanent Drainage Easement | ----- PDE |
| Proposed Permanent Drainage / Utility Easement | ----- DUE |
| Proposed Permanent Utility Easement | ----- PUE |
| Proposed Temporary Utility Easement | ----- TUE |
| Proposed Aerial Utility Easement | ----- AUE |
| Proposed Permanent Easement with Iron Pin and Cap Marker | ◆ |

ROADS AND RELATED FEATURES:

| | |
|----------------------------|----------|
| Existing Edge of Pavement | ----- |
| Existing Curb | ----- |
| Proposed Slope Stakes Cut | ----- C |
| Proposed Slope Stakes Fill | ----- F |
| Proposed Curb Ramp | ----- CR |
| Existing Metal Guardrail | ----- |
| Proposed Guardrail | ----- |
| Existing Cable Guiderail | ----- |
| Proposed Cable Guiderail | ----- |
| Equality Symbol | ⊕ |
| Pavement Removal | ----- |

VEGETATION:

| | |
|--------------|-------|
| Single Tree | ☼ |
| Single Shrub | ☼ |
| Hedge | ----- |
| Woods Line | ----- |

| | |
|----------|------------|
| Orchard | ☼ ☼ ☼ ☼ |
| Vineyard | □ Vineyard |

EXISTING STRUCTURES:

| | |
|--|---------------|
| MAJOR: | |
| Bridge, Tunnel or Box Culvert | ----- CONC |
| Bridge Wing Wall, Head Wall and End Wall | ----- CONC WW |
| MINOR: | |
| Head and End Wall | ----- CONC HW |
| Pipe Culvert | ----- |
| Footbridge | ----- |
| Drainage Box: Catch Basin, DI or JB | □ CB |
| Paved Ditch Gutter | ----- |
| Storm Sewer Manhole | ○ |
| Storm Sewer | ----- S |

UTILITIES:

| | |
|--------------------------------|---------|
| POWER: | |
| Existing Power Pole | ● |
| Proposed Power Pole | ○ |
| Existing Joint Use Pole | ● |
| Proposed Joint Use Pole | ○ |
| Power Manhole | ⊕ |
| Power Line Tower | ⊠ |
| Power Transformer | ⊠ |
| U/G Power Cable Hand Hole | ○ |
| H-Frame Pole | ● |
| U/G Power Line LOS B (S.U.E.*) | ----- P |
| U/G Power Line LOS C (S.U.E.*) | ----- P |
| U/G Power Line LOS D (S.U.E.*) | ----- P |

TELEPHONE:

| | |
|--|------------|
| Existing Telephone Pole | ● |
| Proposed Telephone Pole | ○ |
| Telephone Manhole | ⊕ |
| Telephone Pedestal | ⊠ |
| Telephone Cell Tower | ⊠ |
| U/G Telephone Cable Hand Hole | ○ |
| U/G Telephone Cable LOS B (S.U.E.*) | ----- T |
| U/G Telephone Cable LOS C (S.U.E.*) | ----- T |
| U/G Telephone Cable LOS D (S.U.E.*) | ----- T |
| U/G Telephone Conduit LOS B (S.U.E.*) | ----- TC |
| U/G Telephone Conduit LOS C (S.U.E.*) | ----- TC |
| U/G Telephone Conduit LOS D (S.U.E.*) | ----- TC |
| U/G Fiber Optics Cable LOS B (S.U.E.*) | ----- T FO |
| U/G Fiber Optics Cable LOS C (S.U.E.*) | ----- T FO |
| U/G Fiber Optics Cable LOS D (S.U.E.*) | ----- T FO |

WATER:

| | |
|--------------------------------|-----------------|
| Water Manhole | ⊕ |
| Water Meter | ○ |
| Water Valve | ⊗ |
| Water Hydrant | ⊕ |
| U/G Water Line LOS B (S.U.E.*) | ----- W |
| U/G Water Line LOS C (S.U.E.*) | ----- W |
| U/G Water Line LOS D (S.U.E.*) | ----- W |
| Above Ground Water Line | ----- A/G Water |

TV:

| | |
|---------------------------------------|-------------|
| TV Pedestal | ⊠ |
| TV Tower | ⊗ |
| U/G TV Cable Hand Hole | ○ |
| U/G TV Cable LOS B (S.U.E.*) | ----- TV |
| U/G TV Cable LOS C (S.U.E.*) | ----- TV |
| U/G TV Cable LOS D (S.U.E.*) | ----- TV |
| U/G Fiber Optic Cable LOS B (S.U.E.*) | ----- TV FO |
| U/G Fiber Optic Cable LOS C (S.U.E.*) | ----- TV FO |
| U/G Fiber Optic Cable LOS D (S.U.E.*) | ----- TV FO |

GAS:

| | |
|------------------------------|---------------|
| Gas Valve | ◇ |
| Gas Meter | ⊕ |
| U/G Gas Line LOS B (S.U.E.*) | ----- G |
| U/G Gas Line LOS C (S.U.E.*) | ----- G |
| U/G Gas Line LOS D (S.U.E.*) | ----- G |
| Above Ground Gas Line | ----- A/G Gas |

SANITARY SEWER:

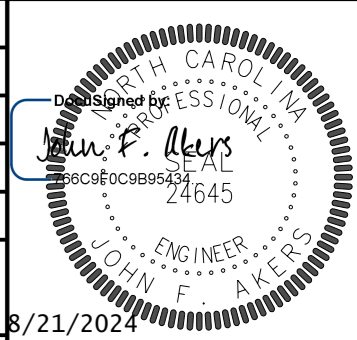
| | |
|-------------------------------------|--------------------------|
| Sanitary Sewer Manhole | ⊕ |
| Sanitary Sewer Cleanout | ⊕ |
| U/G Sanitary Sewer Line | ----- SS |
| Above Ground Sanitary Sewer | ----- A/G Sanitary Sewer |
| SS Forced Main Line LOS B (S.U.E.*) | ----- FSS |
| SS Forced Main Line LOS C (S.U.E.*) | ----- FSS |
| SS Forced Main Line LOS D (S.U.E.*) | ----- FSS |

MISCELLANEOUS:

| | |
|--|-----------|
| Utility Pole | ● |
| Utility Pole with Base | ⊠ |
| Utility Located Object | ○ |
| Utility Traffic Signal Box | ⊠ |
| Utility Unknown U/G Line LOS B (S.U.E.*) | ----- ?UL |
| U/G Tank; Water, Gas, Oil | □ |
| Underground Storage Tank, Approx. Loc. | ⊕ |
| A/G Tank; Water, Gas, Oil | □ |
| Geoenvironmental Boring | ⊕ |
| U/G Test Hole LOS A (S.U.E.*) | ○ |
| Abandoned According to Utility Records | AATUR |
| End of Information | E.O.I. |

5/14/24
8/21/2024

UTILITY CONSTRUCTION

| | |
|--|--|
| PROJECT REFERENCE NO. | SHEET NO. |
| R-2307B/I-5717 | UC-3A |
| DESIGNED BY: JFA |  |
| DRAWN BY: ACB | |
| CHECKED BY: EPH | |
| APPROVED BY: JJW | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | 8/21/2024 UTILITY CONSTRUCTION PLANS ONLY |

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2024, AND ALL PROJECT SPECIAL PROVISIONS.

2. THE EXISTING UTILITIES BELONG TO THE TOWN OF MOORESVILLE.

3. ALL WATER LINES SHALL BE INSTALLED IN COMPLIANCE WITH THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES SHALL BE INSTALLED WITHIN COMPLIANCE WITH THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

UTILITY CONSTRUCTION

5/14/99
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NOTE:
DETAIL SHEETS G-1.0 - G-3.0 ARE INTENDED FOR PUBLIC AND PRIVATE INFRASTRUCTURE REQUIRED TO BE BUILT TO TOWN STANDARDS. THESE NOTES DO NOT NECESSARILY APPLY TO DRIVEWAYS, PARKING LOTS, OR PRIVATE WATER AND SEWER.

General Notes:

- Contractor is responsible for locating all existing utilities prior to start of construction.
- All erosion control devices shall be constructed and maintained in accordance with the most current standards of the Land Quality Section of NCDENR.
- Stabilization stone is required under piping when conditions warrant or as required by the Town Inspector.
- As a minimum requirement, all graded areas not under pavement and within the right-of-way and/or easements shall be prepared, fertilized and limed, seeded, and mulched immediately upon completion of construction as follows (Application rate PER 1,000 SQUARE FEET):
Type I Seeding (Lawns, shoulder, or other maintained areas):
100 lbs. of lime
15 lbs. of 19-23-12
4 lbs. of tall fescue, containing a blend of 2 or more tall fescues
1 lb. of sericea lespedeza (use unscarified seed August 15 to February 1)
¼ lb. of German millet (May 1 to August 15)
1 lb. of rye grain (prior to May 1 or after August 15)

Seeding mixtures other than those listed above shall be approved by the Town Inspector prior to seeding.

- Prior to final acceptance by the Town, the Developer or his agent shall ultimately be responsible for administering the correction of all problems associated with the project.
- The Contractor must have a copy of the approved NCDOT three-party encroachment agreement on the job site prior to beginning any work within NCDOT right-of-way.
- All backfill shall be non-plastic in nature, free from roots, vegetative matter, waste, construction material or other objectionable material. Said material shall be capable of being compacted by mechanical means and shall have no tendency to flow or behave in a plastic manner under the tamping blows or proof rolling.
- Materials unsuitable for backfill purposes or as required by the Town Inspector shall be removed and replaced with select backfill material.

| | | | |
|---|---|----------------------------|---------|
| TOWN OF MOORESVILLE STANDARD DETAIL | GENERAL NOTES GENERAL NOTES Required On All Plans | January 2009 Revision 1 | |
| | | NTS | G - 1.0 |

Water and/or Sanitary Sewer Notes:

- The most current edition of the Town of Mooresville Land Development Design Standards will govern all water and sanitary sewer construction.
- Water meters, and sewer cleanouts shall be located at the right-of-way line.
- Water and sewer connections shall be beside each other at the center of each lot. Connections are to be spaced not more than 30" center to center and have 2" x 2" stakes placed on each side. Stakes shall be flagged or painted for visibility.
- Hydrants shall be placed preferably at lot lines a minimum of one foot behind the curb, within the planting strip.
- Field construction materials tests by an independent testing lab are to be made as directed by the Town Inspector at no expense to the Town.

| | | | |
|---|--|----------------------------|---------|
| TOWN OF MOORESVILLE STANDARD DETAIL | GENERAL NOTES WATER & SEWER Required On All Plans If Applicable | January 2009 Revision 1 | |
| | | NTS | G - 4.0 |

NOTES:

- There shall be an 18" VERTICAL SEPARATION BETWEEN ALL UTILITIES.
- WATER AND/OR SANITARY SEWER LINES SHALL BE A MINIMUM OF TWO (2) FEET FROM THE EDGE OF THE ROADWAY.
- WATER LINES SHALL BE LOCATED SUCH THAT VALVE BOX LIDS ARE EITHER COMPLETELY IN OR COMPLETELY OUT OF THE SIDEWALK AND/OR DRIVEWAY.

| | | | |
|---|--------------------------------------|------------|---------|
| TOWN OF MOORESVILLE STANDARD DETAIL | GENERAL TYPICAL UTILITY PLACEMENT | March 2013 | |
| | | NTS | G - 5.0 |

| | |
|---|---------------------------|
| PROJECT REFERENCE NO. R-2307B/I-5717 | SHEET NO. UC-3B |
| DESIGNED BY: JFA | |
| DRAWN BY: ACB | |
| CHECKED BY: EPH | |
| APPROVED BY: JJW | |
| REVISED: | 8/21/2024 |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION

NOTES:

- ALL WORK AND MATERIALS TO BE ACCORDANCE WITH T.O.M STANDARD SPECIFICATIONS AND DETAILS.
- DETAIL S-35.0A DEPICTS EXISTING BRICK MANHOLE WITH TYPICAL CHIMNEY SECTION. SOME MANHOLES MAY BE PRECAST CONCRETE WITH CONE SECTIONS.
- CONTRACTORS TO MEASURE THE INSIDE DIAMETER OF EXISTING MANHOLE TO SELECT APPROPRIATE DIAMETER OF NEW RISERS.
- CONTRACTOR TO REMOVE EXISTING WALLS TO SOLID STRUCTURE (TO AT LEAST BELOW THE CONE OR CHIMNEY SECTION) OR TO THE SPECIFIED LOCATION. THE LIMITS OF REMOVAL SHALL BE APPROVED BY THE ENGINEER IN THE FIELD. THE CONTRACTOR IS TO REMOVE EXISTING FRAMES AND COVERS, VENT PIPES, AND ALL APPURTENANCES, STEPS, ETC. CONTRACTOR TO DISPOSE OF ALL MATERIALS OFF-SITE.

NO DEBRIS SHALL BE DROPPED INTO THE SEWER. IF DEBRIS ENTERS THE SEWER, THE CONTRACTOR WILL BE REQUIRED TO CLEAN THE SEWER AT NO ADDITIONAL COST TO THE OWNER.

- CONTRACTOR TO INSTALL NEW RISER AND CONE SECTIONS AS NECESSARY TO EXTEND THE MANHOLE TO THE SPECIFIED/APPROVED ELEVATION. THE FINAL ELEVATION MAY BE HIGHER THAN, LOWER THAN OR EQUAL TO THE EXISTING ELEVATION. DETAIL S-35.0A ILLUSTRATES A HIGHER ELEVATION. THE CONTRACTOR SHALL DETERMINE THE REQUIRED RISER AND CONE HEIGHTS TO MEET THE SPECIFIED ELEVATION. ENGINEER SHALL APPROVE FINAL ELEVATIONS IN THE FIELD. BOTTOM RISER TO PROVIDED WITH A FLAT JOINT UNLESS OTHERWISE APPROVED.
- CONTRACTOR TO SEAL NEW RISER SECTION/EXISTING WALL JOINT TO PROVIDE A LEAK-TIGHT JOINT. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO PROVIDE A LEAK-TIGHT SEAL. WHERE POSSIBLE, BUTYL RUBBER SEALANT SHALL BE PROVIDED UNDER THE NEW RISER SECTION. IN ALL CASES, A CONCRETE COLLAR SHALL BE POURED AROUND THE JOINT. COLLAR TO BE MINIMUM 6" WIDE AND 12" INCHES HIGH CENTERED ON JOINT ALL AROUND.

ON THE INSIDE OF THE JOINT, CONTRACTOR TO SEAL JOINT WITH NON-SHRINK GROUT. GROUT TO COMPLETELY FILL JOINT AND SHALL EXTEND AT LEAST 6" INCHES EACH SIDE OF JOINT ALL AROUND. GROUT TO BE TAPERED TO THE EXISTING WALL SECTION BELOW THE JOINT. GROUT TO BE RESISTANT TO HYDROGEN-SULFIDE.

- NEW CONE SECTIONS TO BE INSTALLED ON TOP OF NEW RISER SECTIONS UNLESS SPECIFIED OTHERWISE. FRAMES TO BE BOLTED ONTO CONE SECTIONS PER TOWN STANDARD DETAILS. REFER TO DETAIL S-1.0 FOR ALL WORK IN PAVED AREAS. SEE NOTE 8.
- COVERS SHALL BE CAM LOCK WATER-TIGHT COVERS OR SOLID COVERS AS DIRECTED BY THE ENGINEER. CAM-LOCK WATER-TIGHT FRAMES/COVERS SHALL BE INSTALLED PER DETAIL S-3.0A OF THE TOWN STANDARD DETAILS.

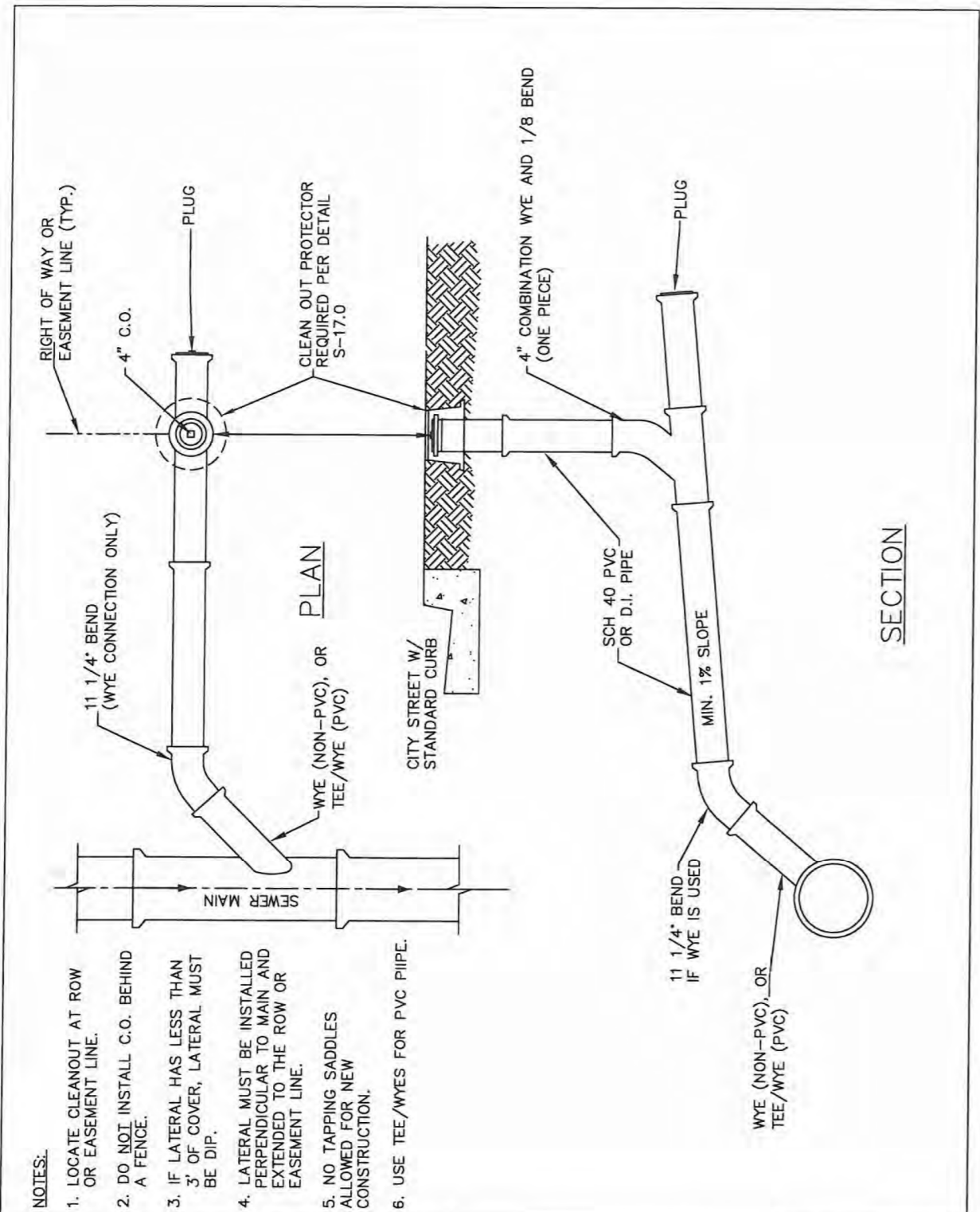
| | | | |
|---|--|--------------|-----------|
| TOWN OF MOORESVILLE STANDARD DETAIL | SEWER SYSTEMS REHABILITATION OF MANHOLE AND TOP SECTION (WITH CONE SECTION) | January 2014 | |
| | | NTS | S - 35.0A |


NOTES:

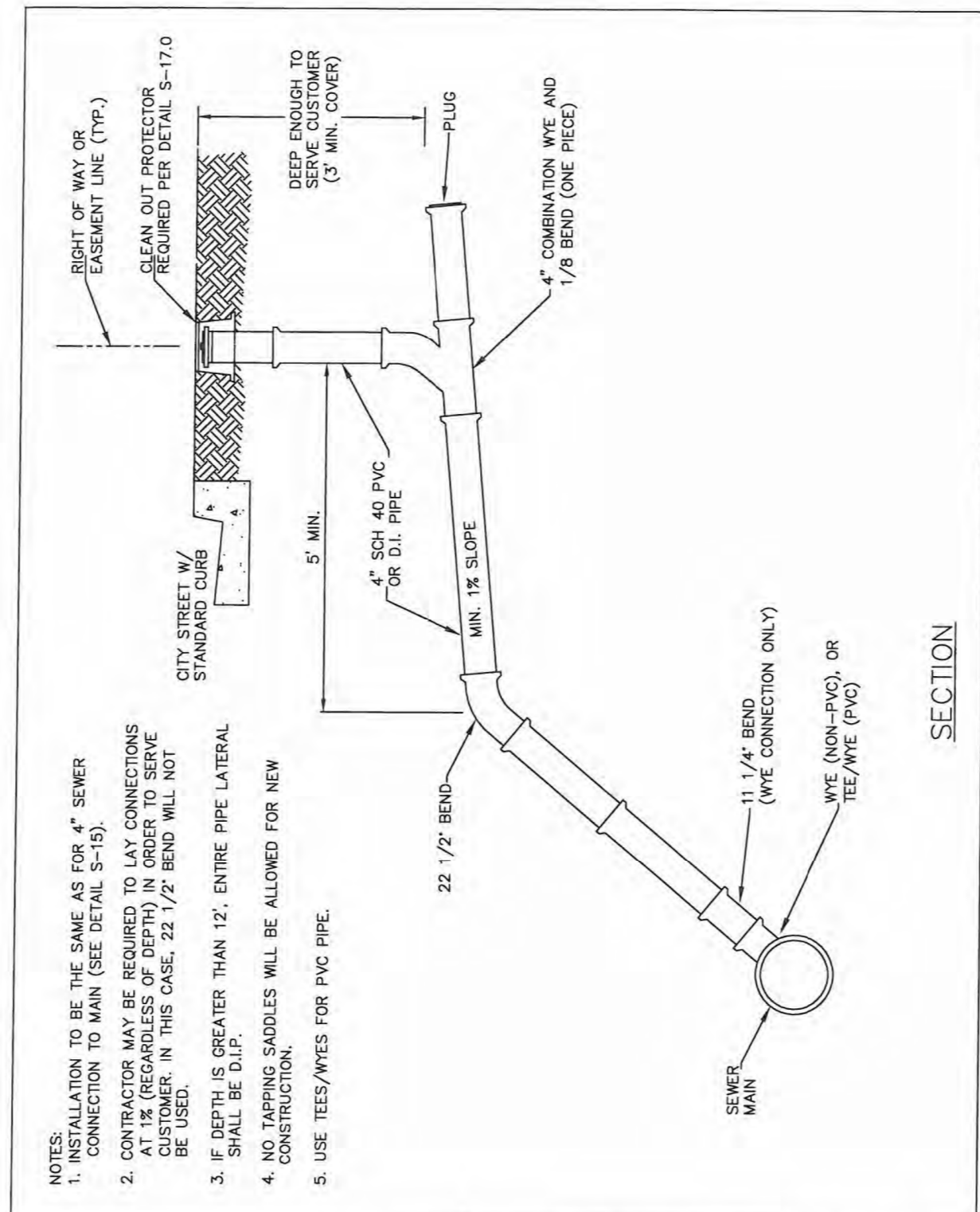
- REFER TO THIS DETAIL TO CONNECT NEW SERVICE LATERALS AFTER THE SEWERS HAVE BEEN LINED WITH CIPP. THIS DETAIL SHALL ALSO BE USED WHEN RECONNECTING SERVICES FOLLOWING PIPE BURSTING. IN THAT SITUATION, ALL REFERENCES TO CIPP IN THIS DETAIL SHALL BE HDPE.
- NEATLY CUT THE EXISTING SEWER WITH A CUTTER SPECIFICALLY DESIGNED FOR CUTTING THAT SPECIFIC PIPE MATERIAL TO EXPOSE THE CIPP. FOR VCP AND CONCRETE SEWERS, USE A CHAIN CUTTER TO NEATLY SCORE THE PIPE AND THEN BREAK THE PIPE AWAY. REGARDLESS OF THE CUTTER USED, USE EXTREME CAUTION TO PREVENT DAMAGE TO THE CIPP. REPAIR ANY DAMAGE AS APPROVED BY THE ENGINEER.
- STRAP-ON SADDLE SHALL BE A ROMAC "CB" SADDLE AS MANUFACTURED BY ROMAC INDUSTRIES, INC. OR APPROVED EQUAL. ANY PROPOSED EQUAL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. SADDLE SHALL BE PROVIDED FOR THE SPECIFIC TYPE OF LATERAL PIPE BEING INSTALLED. CAREFULLY REMOVE THE EXISTING LATERAL TO LIMIT DAMAGE TO THE CIPP. INCREASE THE OPENING IN THE CIPP AS NECESSARY AND TO PROVIDE A CIRCULAR OPENING. BRUSH THE CIPP IN THE OPENING SMOOTH TO REMOVE ALL BURRS. INSTALL STRAP-ON SADDLE AND REPLACE LATERAL TO THE SPECIFIED LIMITS. WHERE POSSIBLE, IMPROVE THE CONFIGURATION OF THE CONNECTION.
- IF THE CIPP IS DAMAGED FROM OVERCUTTING THE NEW SERVICE CONNECTION, THEN THE NEXT LARGER SIZE HOLE SHALL BE CUT AND A SERVICE SADDLE WITH A BELL REDUCER SHALL BE INSTALLED FOR CONNECTING BACK TO THE SERVICE DIAMETER.
- SUPPORT THE EXISTING SEWER DURING THIS WORK AS NECESSARY.
- DEFECTS IDENTIFIED FROM THE POST-CIPP CCTV INSPECTIONS SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.


| | | | |
|---|--|---------------|----------|
| TOWN OF MOORESVILLE STANDARD DETAIL | SEWER SYSTEMS SERVICE LATERAL CONNECTING TO CURED-IN-PLACE PIPE LINING (CIPP) | February 2014 | |
| | | NTS | S - 37.0 |

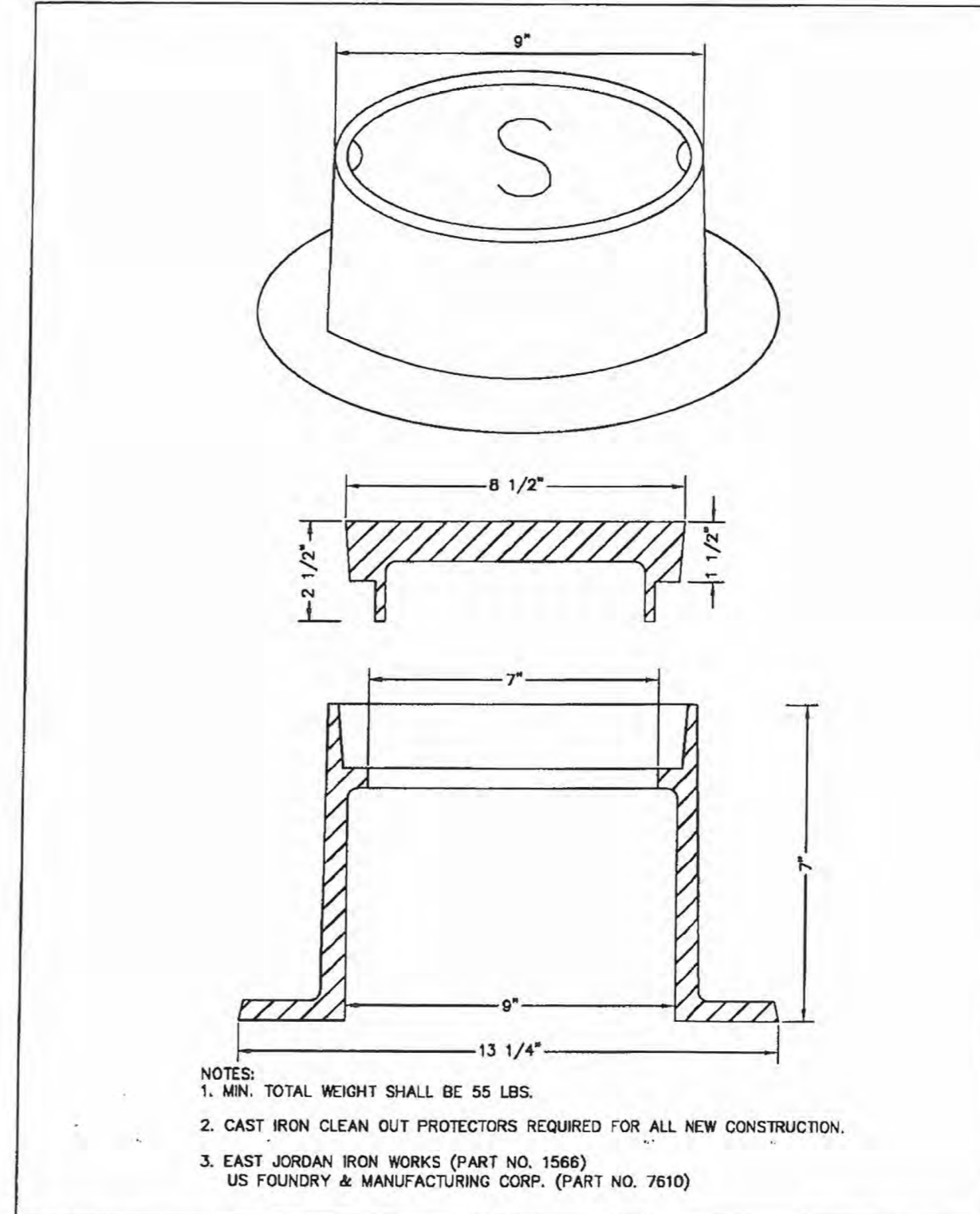
UTILITY CONSTRUCTION




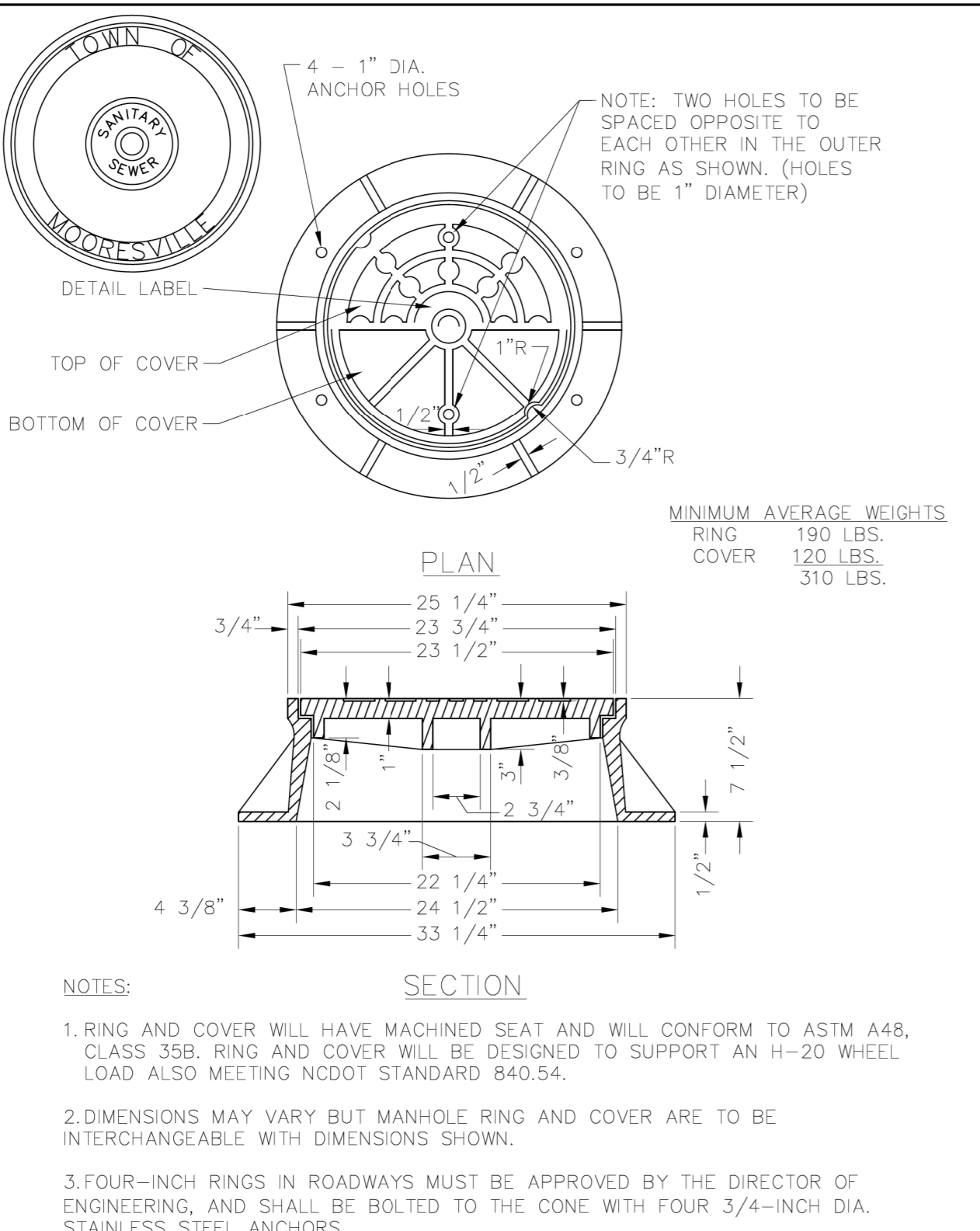
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|  TOWN OF MOORESVILLE STANDARD DETAIL | SEWER SYSTEMS | January 2009 |
| | 4" SEWER LATERAL TO MAIN | Revision 1 |
| NTS | S- 15.0 | |




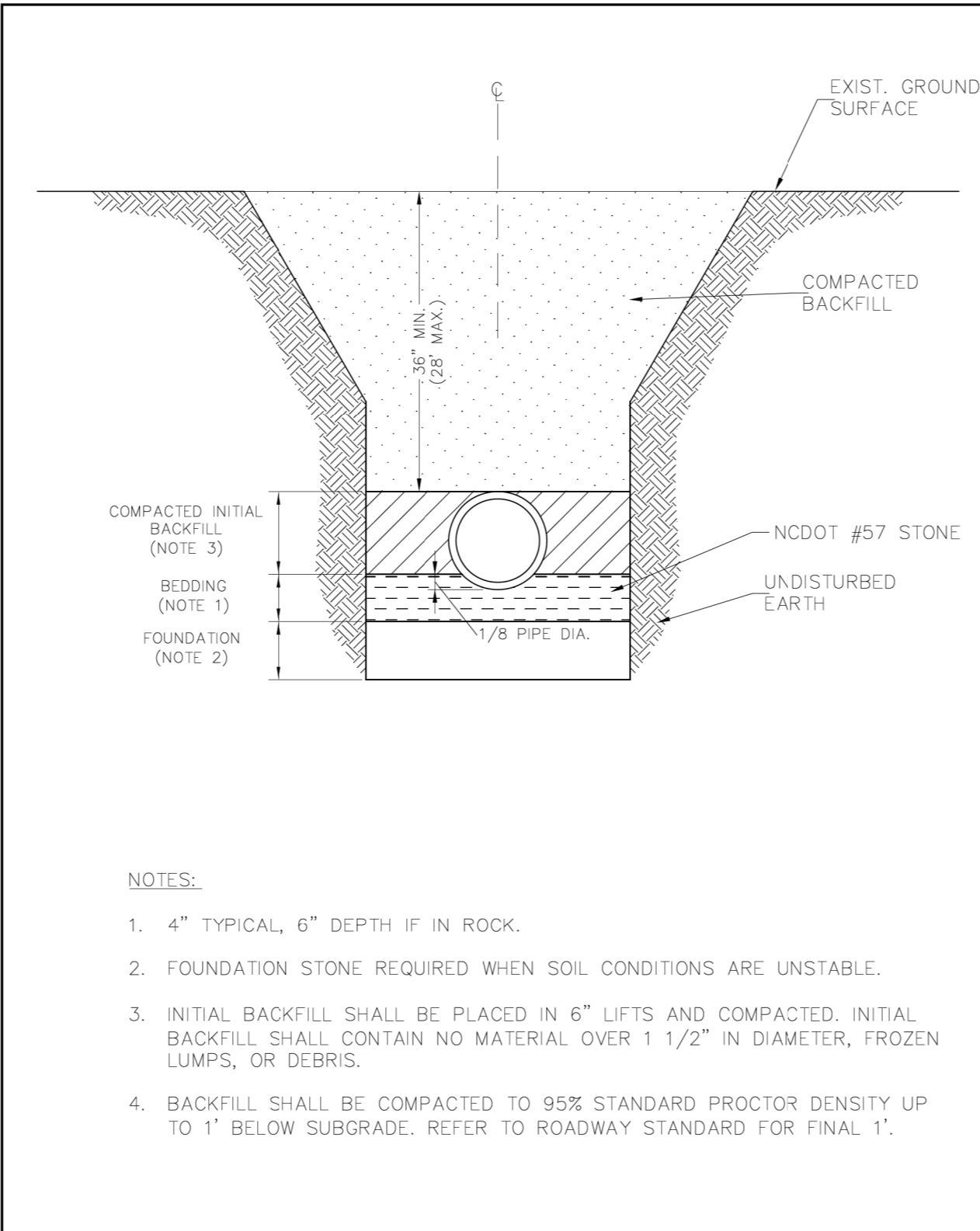
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|  TOWN OF MOORESVILLE STANDARD DETAIL | SEWER SYSTEMS | January 2009 |
| | DEEP 4" SEWER LATERAL | Revision 1 |
| NTS | S- 16.0 | |




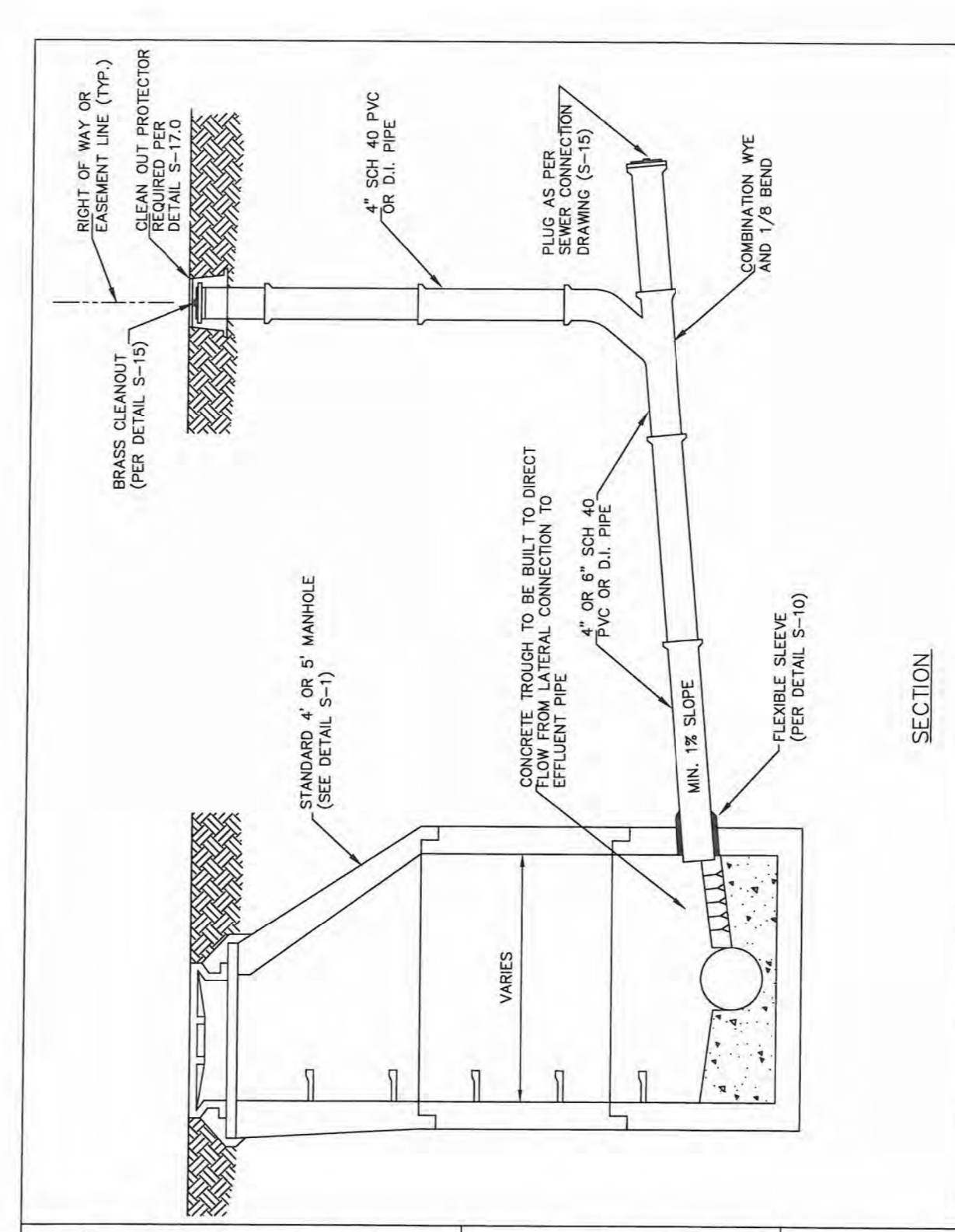
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|  TOWN OF MOORESVILLE STANDARD DETAIL | SEWER SYSTEMS | January 2009 |
| | CLEAN OUT PROTECTOR | Revision 1 |
| NTS | S- 17.0 | |




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|  TOWN OF MOORESVILLE STANDARD DETAIL | SEWER SYSTEMS | January 2014 |
| | STANDARD RING & COVER | Revision 2 |
| NTS | S-2.0 | |



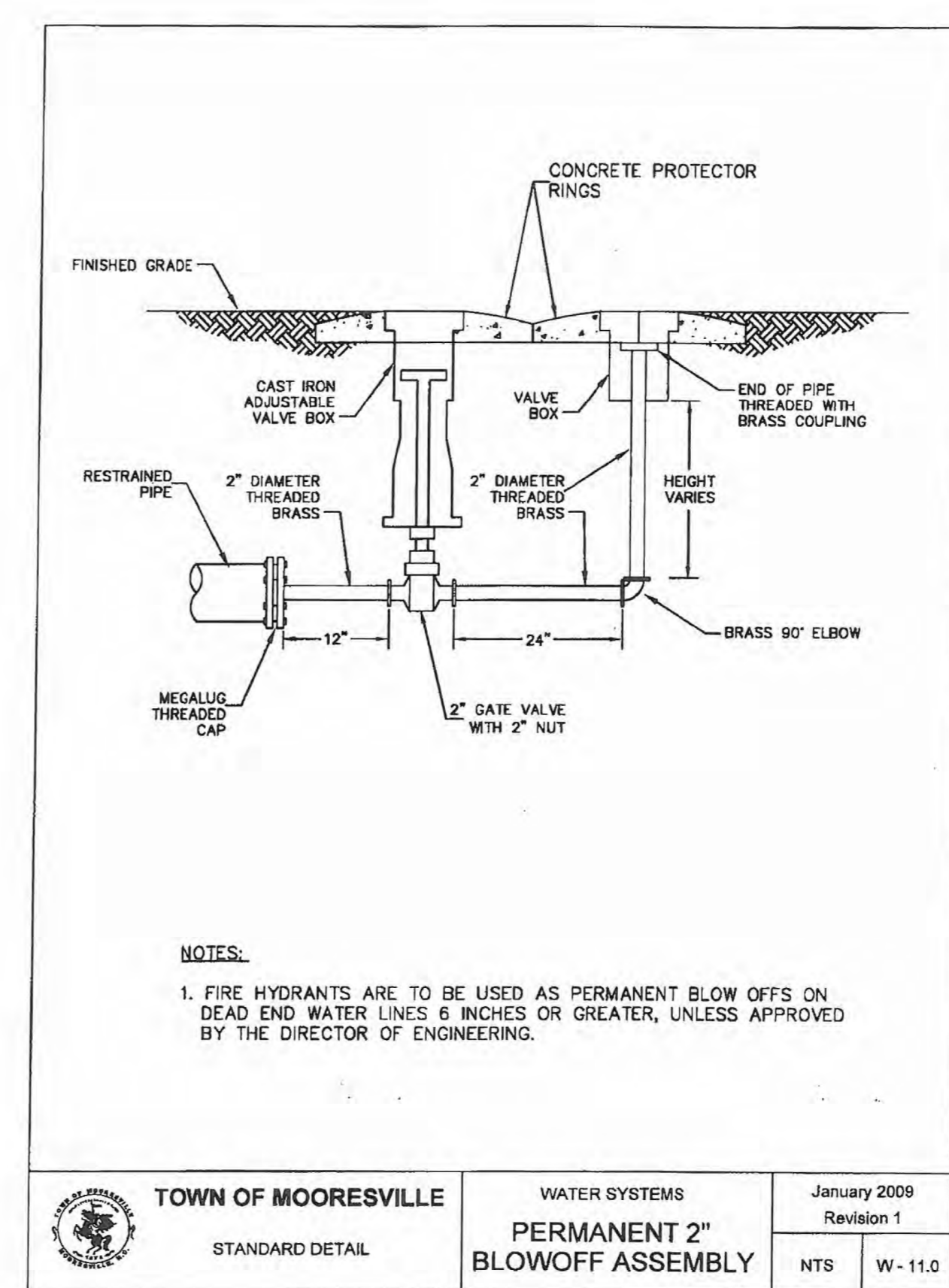
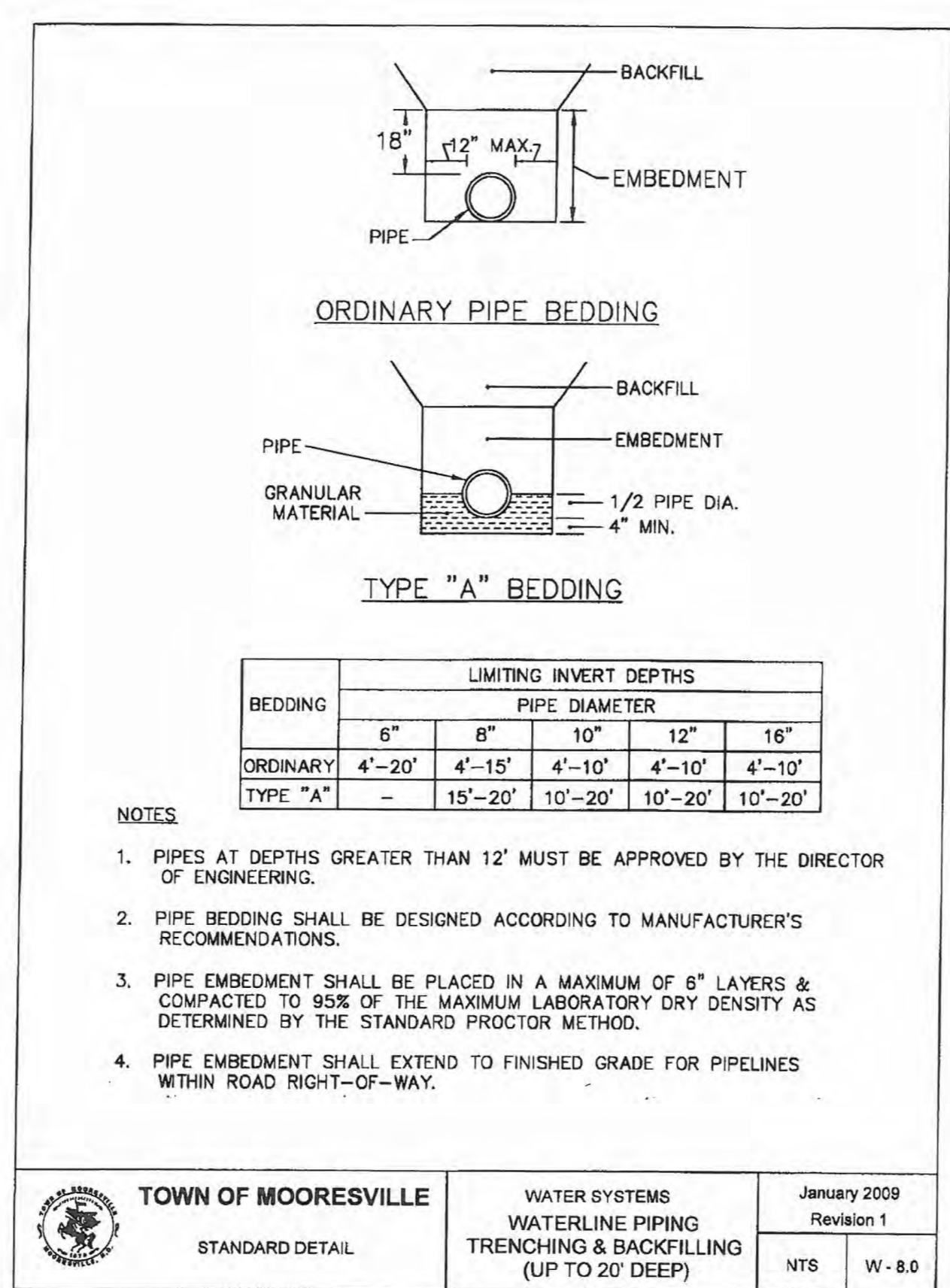
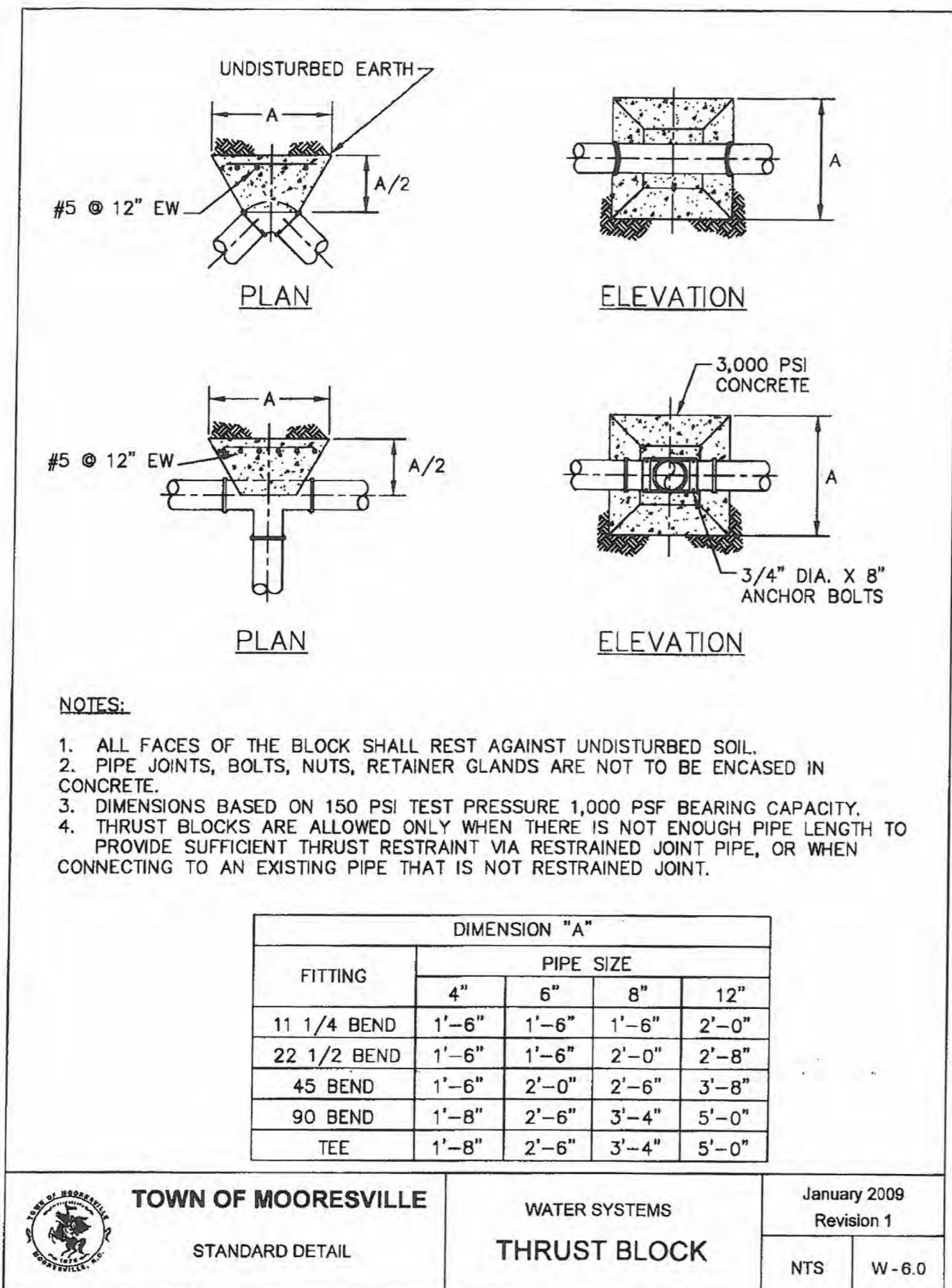
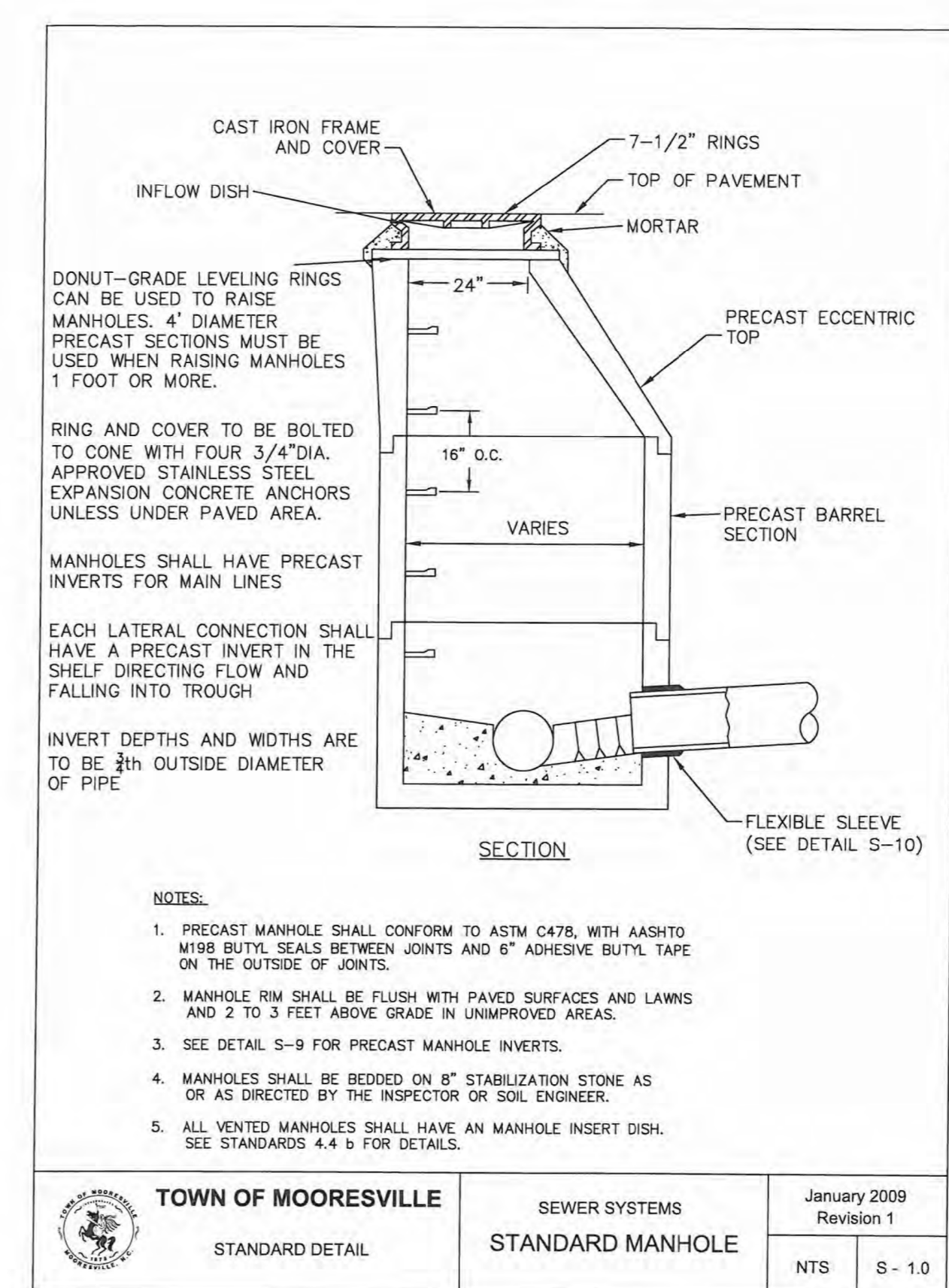
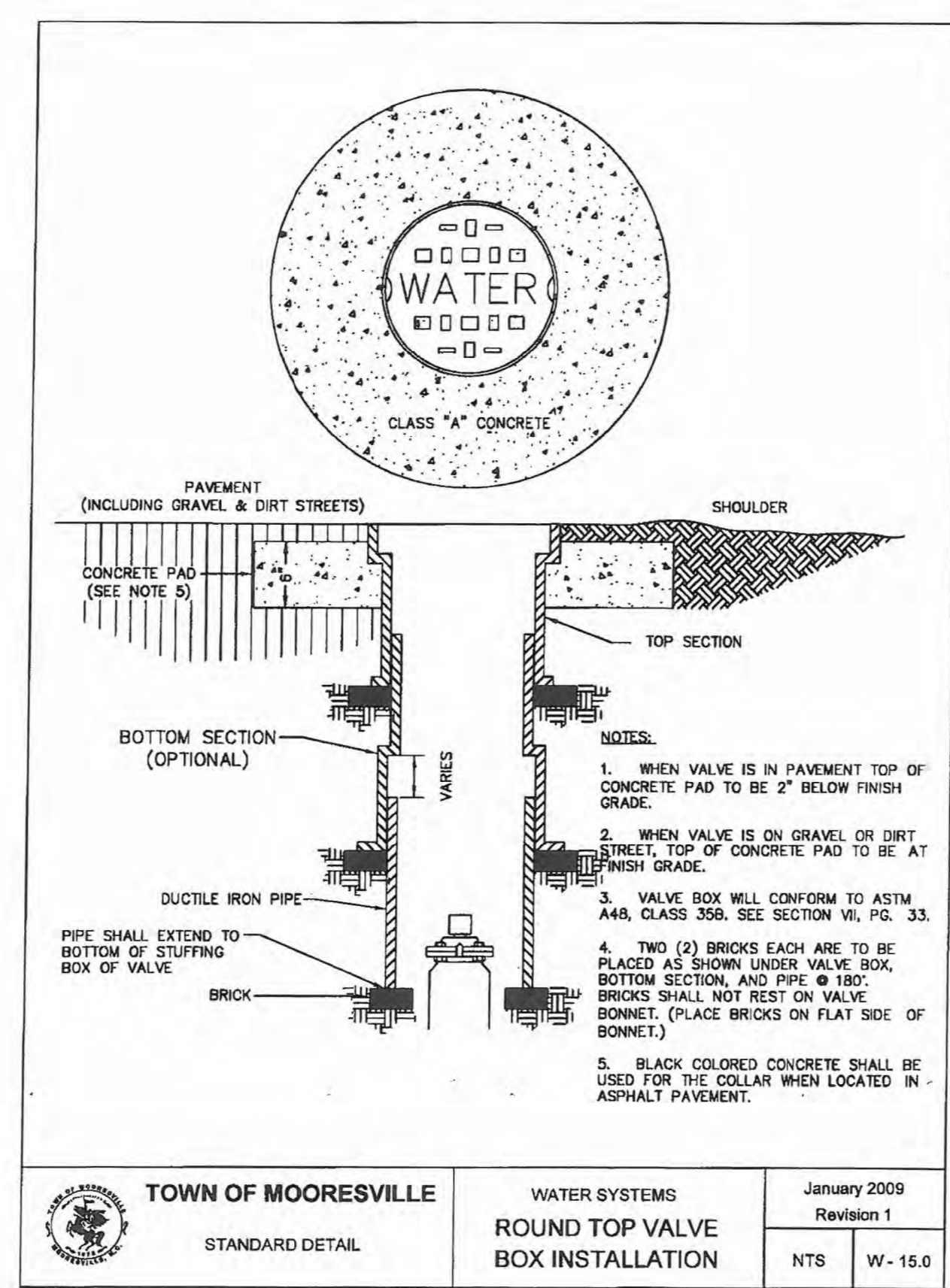
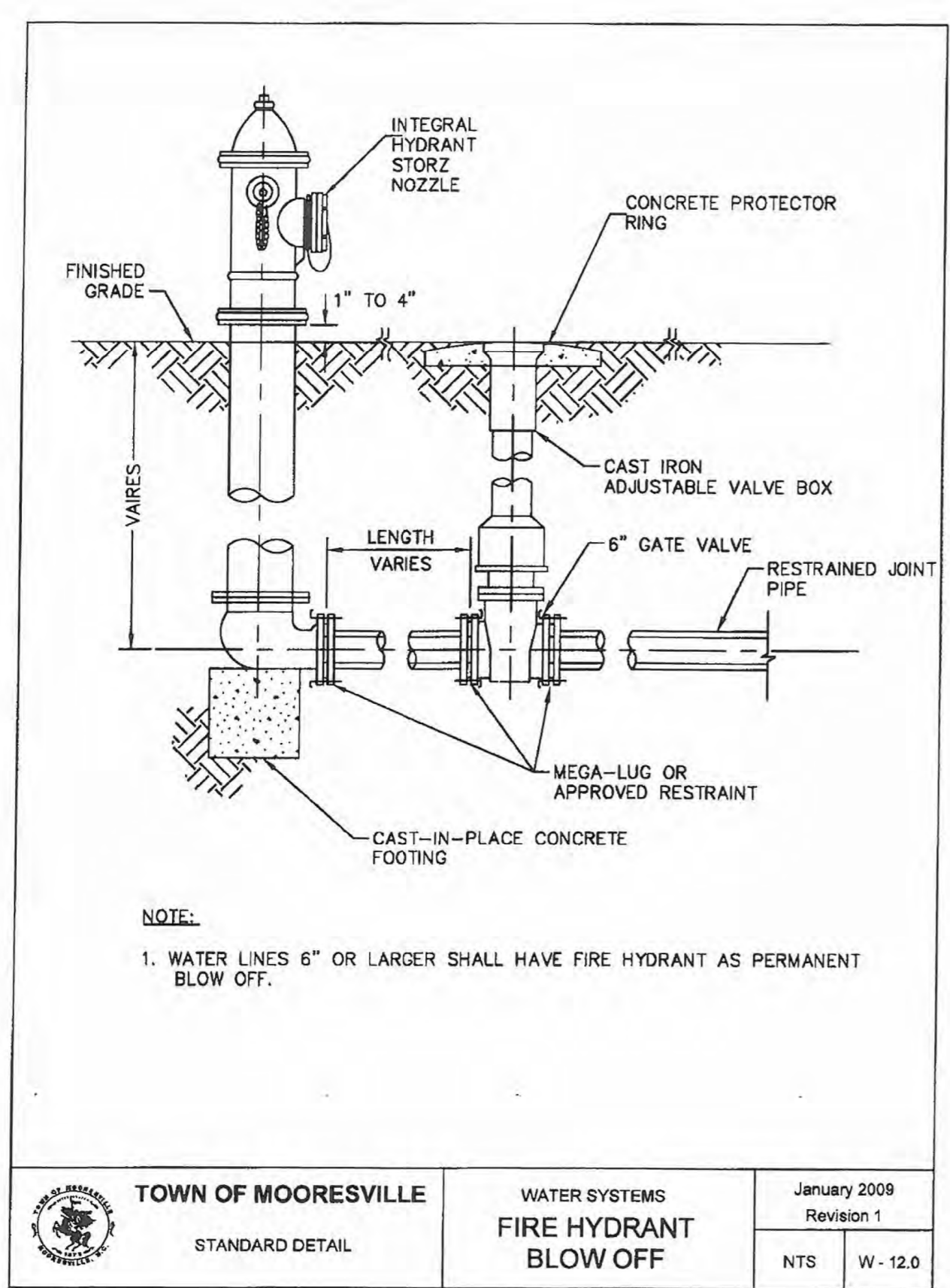
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|  TOWN OF MOORESVILLE STANDARD DETAIL | SEWER SYSTEMS | January 2014 |
| | DUCTILE IRON PIPE SEWER BEDDING (UP TO 12" DIAMETER) | Revision 2 |
| NTS | S- 12.0 | |



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|  TOWN OF MOORESVILLE STANDARD DETAIL | SEWER SYSTEMS | January 2009 |
| | SEWER LATERAL TO MANHOLE | Revision 1 |
| NTS | S- 14.0 | |

5/14/09
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5/14/09