

APPENDIX A: STANDARD DETAIL DRAWINGS

Streets

Figure S-1: General Notes—Paving

<u>GENERAL NOTES</u>					
1.	All costs associated with testing shall be the responsibility of the developer/contractor.				
2.	Unless otherwise required the following testing schedule for earthwork and subgrade testing shall be followed:				
A.	Soil classification -	1200 sq. Yds. of material or as necessary to determine uniformity of material.			
B.	Standard proctor -	as necessary to provide information for required densities.			
C.	Subgrade density -	a maximum of every 1200 sq. yds. of surface area or as necessary to determine uniformity of compaction.			
D.	Embankment density -	each 8" layer at a maximum of every 1200 sq. yds. of surface area, or as necessary to determine uniformity of compaction.			
E.	Trench under paving -	one (1) subgrade density for every 200 l.F. of trench or any distinct transverse crossing.			
F.	California bearing ratio -	as deemed necessary by the city to ensure subgrade meets specifications.			
G.	Paving Core -	A minimum of three (3), or one (1) for each 6,000 sq. yds. of paving, whichever is greater, to determine paving thickness.			
3.	Advance notification (2 hours minimum) shall be required prior to the taking of any density test. Notification shall be made to the Street Supt. City shall choose testing locations.				
4.	Unless otherwise shown, a minimum of 95% of standard proctor density @ ±2% of optimum moisture is required for each density taken. Two (2) additional tests shall be performed for each failed test on transverse crossings under paving.				
5.	Any device used for supporting dowels shall have sufficient rigidity and be so held in place during concrete placement that dowels will be in true position in the finished pavement. Any device not producing the desired results shall be rejected.				
6.	Cold-drawn steel wire for concrete reinforcement meeting the requirements of AASHTO M32 shall be used for all baskets, spacers, and stakes.				
7.	Dowel bars shall conform to material requirements of AASHTO Section M31, M42 or M53; grade 60. Dowel bars shall be centered on the basket regardless of the width of the basket or the length of the dowel bar.				
8.	The height of the load transfer unit (measured to the center of the dowel bar) shall be 1/2 the thickness of the pavement.				
9.	Dowel bars shall have a shop or field coat of lead or zinc chromate primer for full length of bars, and alternate ends shall have a field coat of mc-70 (or other heavy lubricant adequate for breaking the bond between the steel and concrete) for a minimum of 1/2 the length of the bars.				
10.	The lubricated ends of the dowel bars shall have expansion caps with a minimum 1" and a maximum 2" air space in the end of the expansion caps (expansion joint assemblies).				
11.	City may require proof rolling with a loaded truck min. 50,000 lbs to ensure stability of base.				
12.	Joint sealer shall be ASTM 3405 for paving or ASTM C-920, Type M, Grade NS, Class 25 for vertical face of curb joints.				
13.	Methods and equipment used for joint sealing shall be in accordance with the latest edition of the <i>ODOT Standard Specifications</i> .				
Designed By	Checked	Approved	File Name	Date	Scale
Glenn Sullivan & Associates, Inc	KS	GHS	Standard Details—Street	02/19/07	N.T.S.
GENERAL NOTES — PAVING					
CITY OF NEWCASTLE, OKLAHOMA				S-1	

Figure S-2: Local Road Without Curb

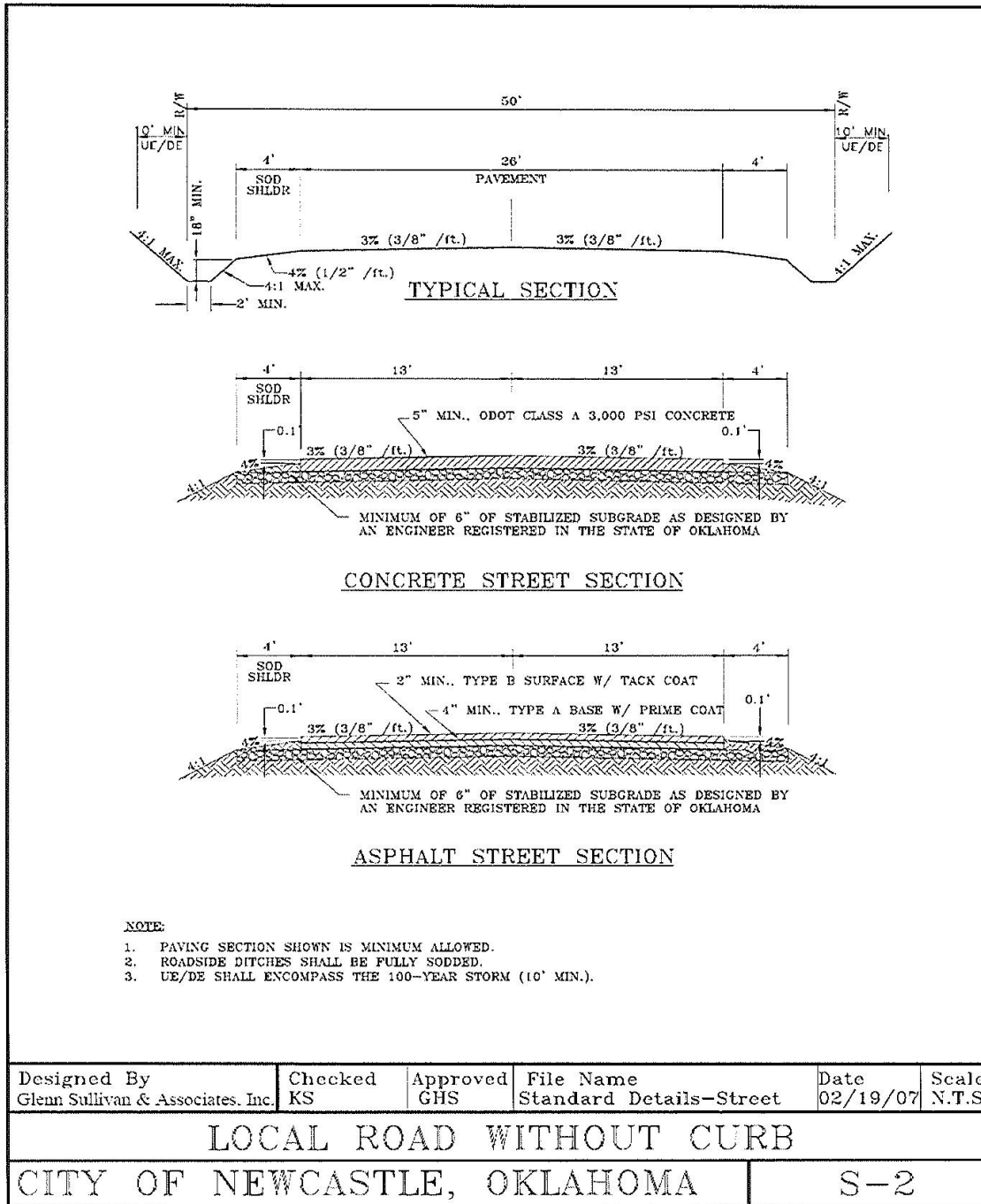
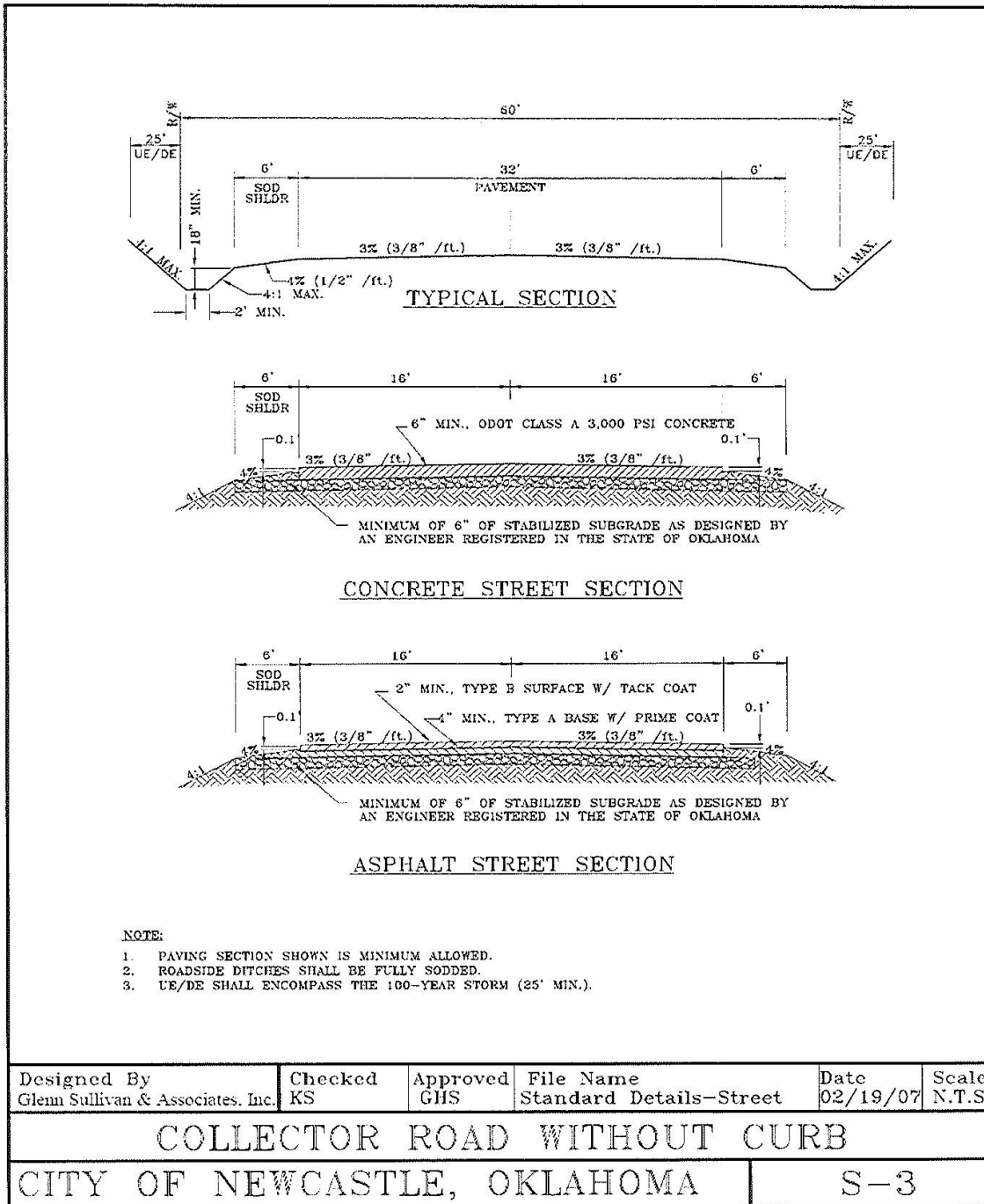


Figure S-3: Collector Road Without Curb



Newcastle - Land Usage

Figure S-4: Arterial Road Without Curb

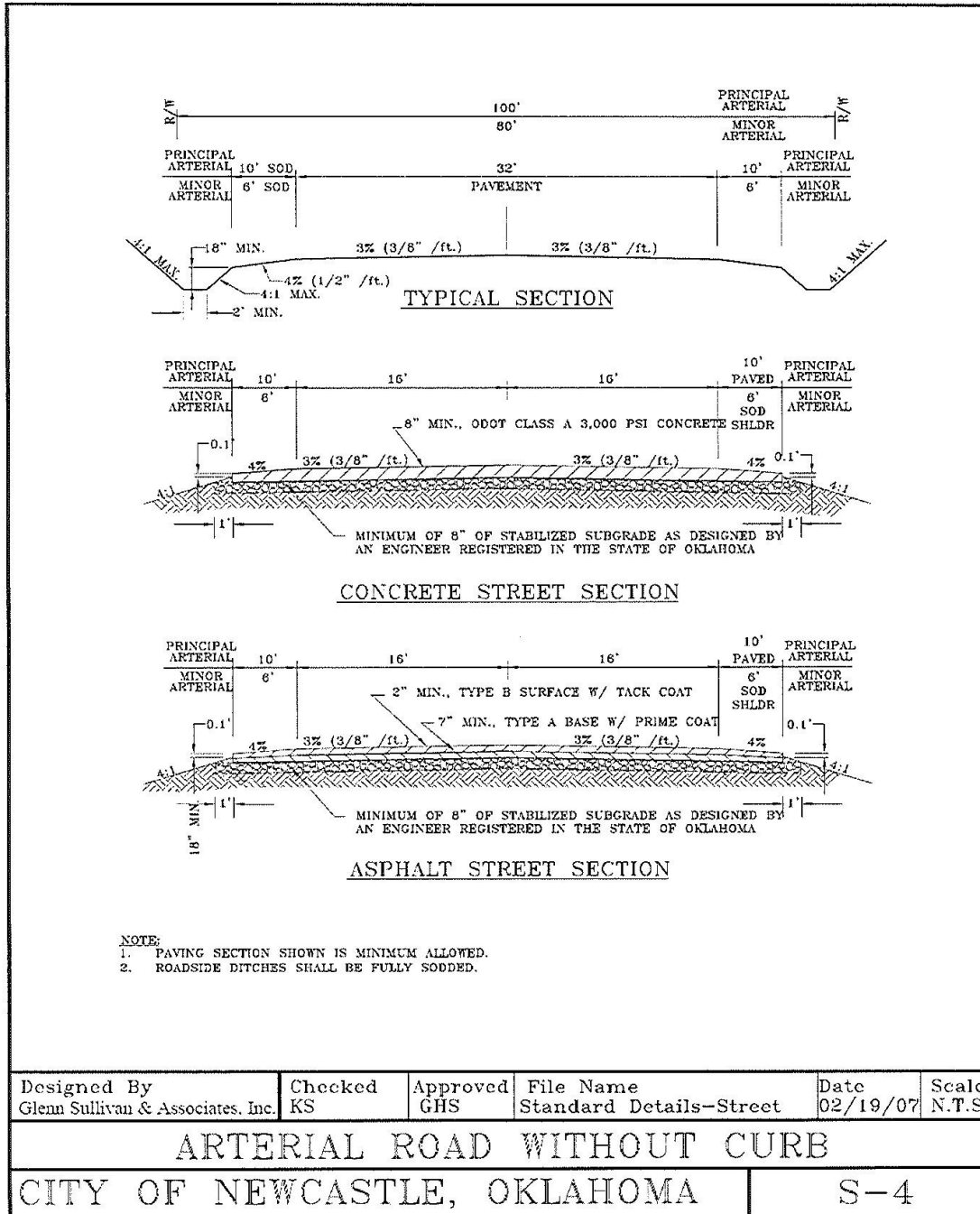


Figure S-5: Local Street With Curb & Gutter

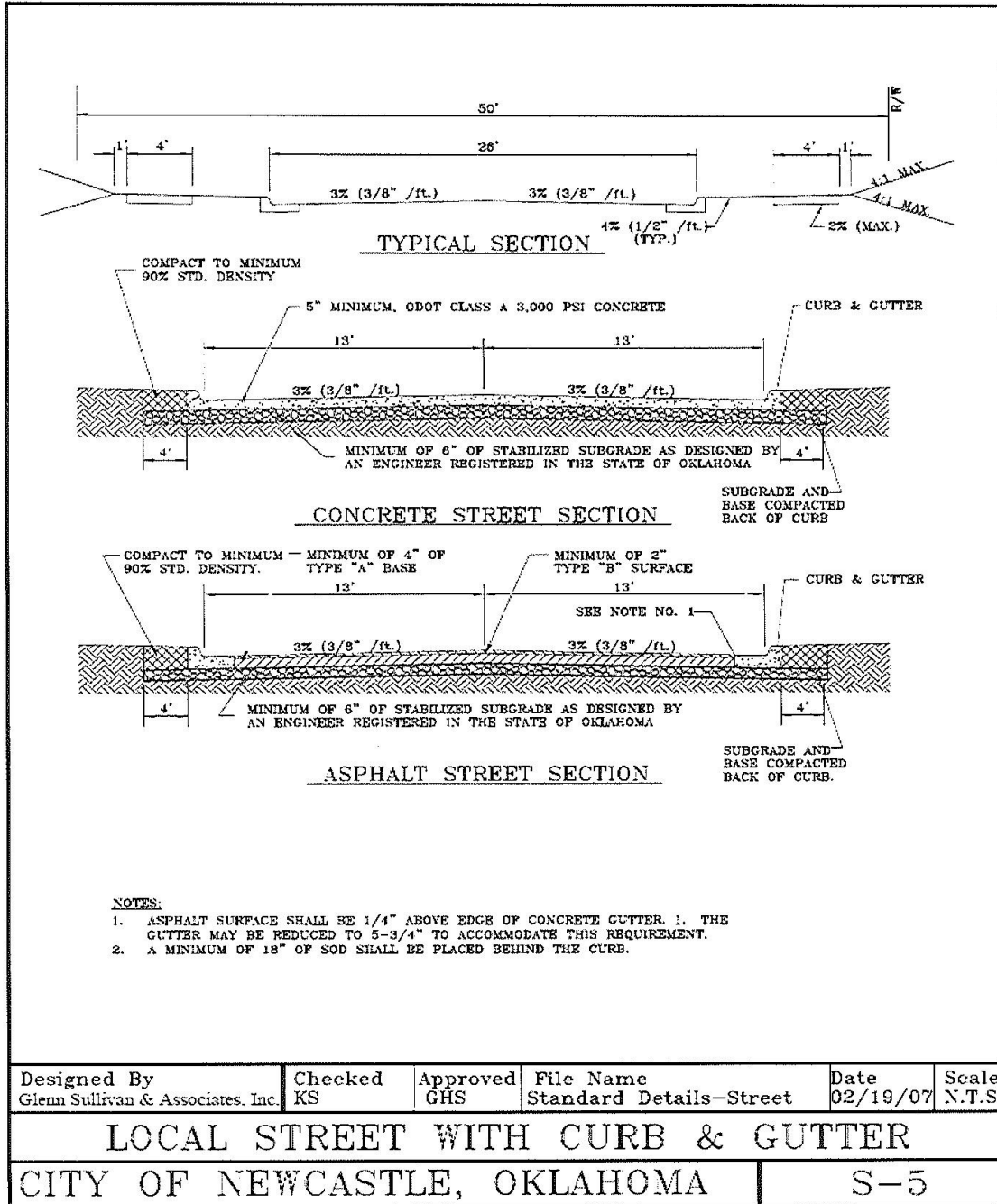


Figure S-6: Collector Street With Curb & Gutter

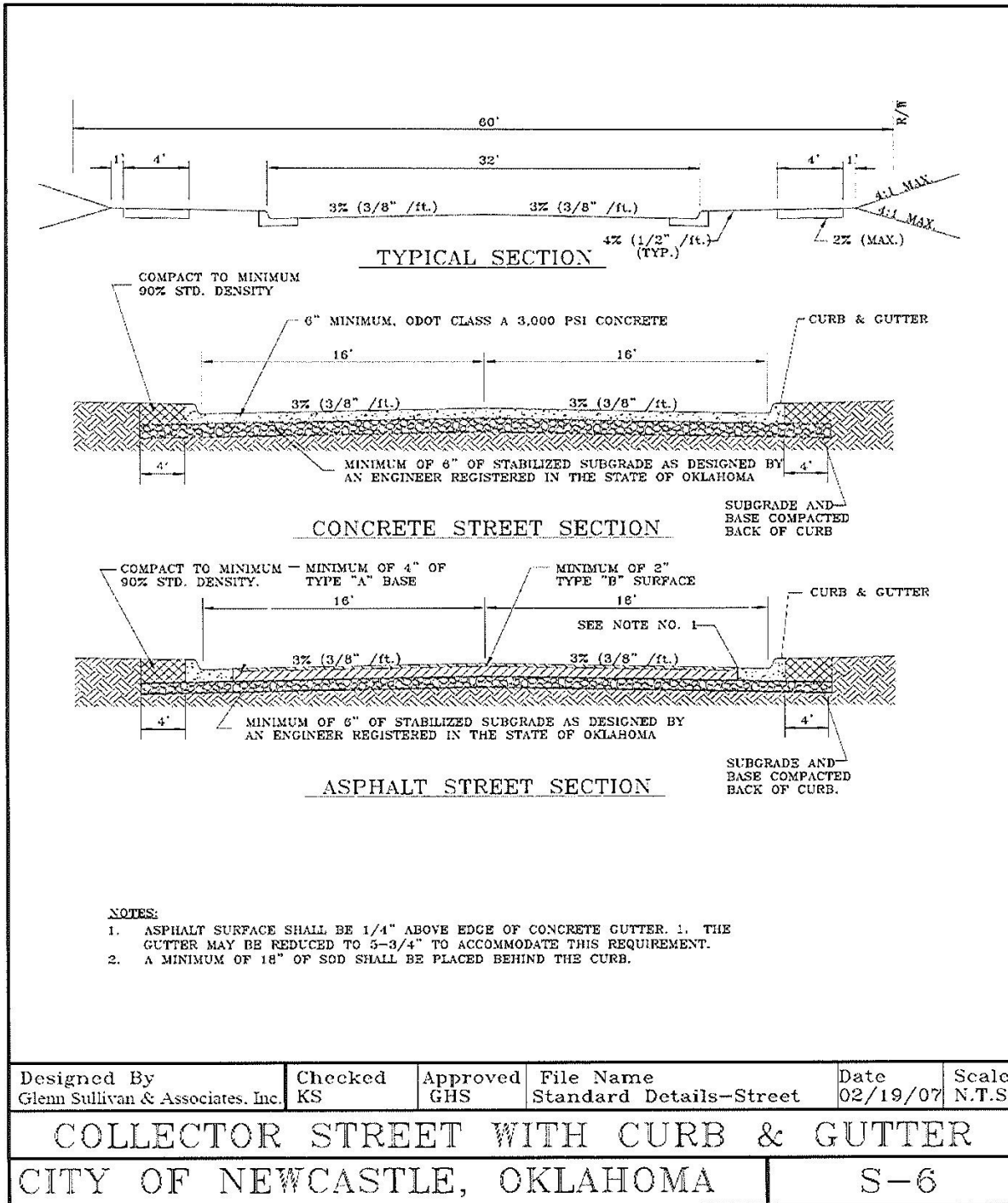


Figure S-7: Arterial Street With Curb & Gutter

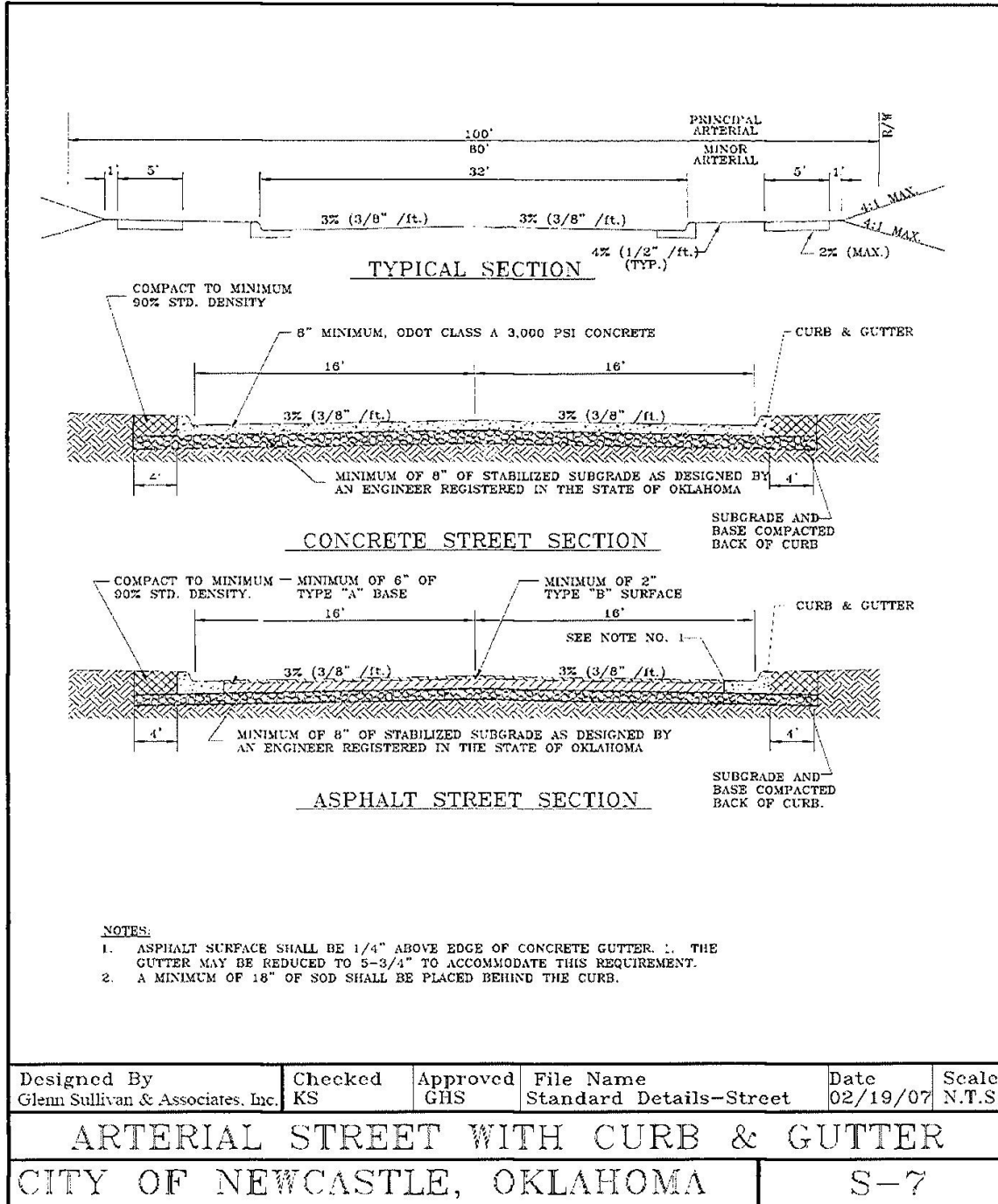


Figure S-8: Residential Cul-de-Sac

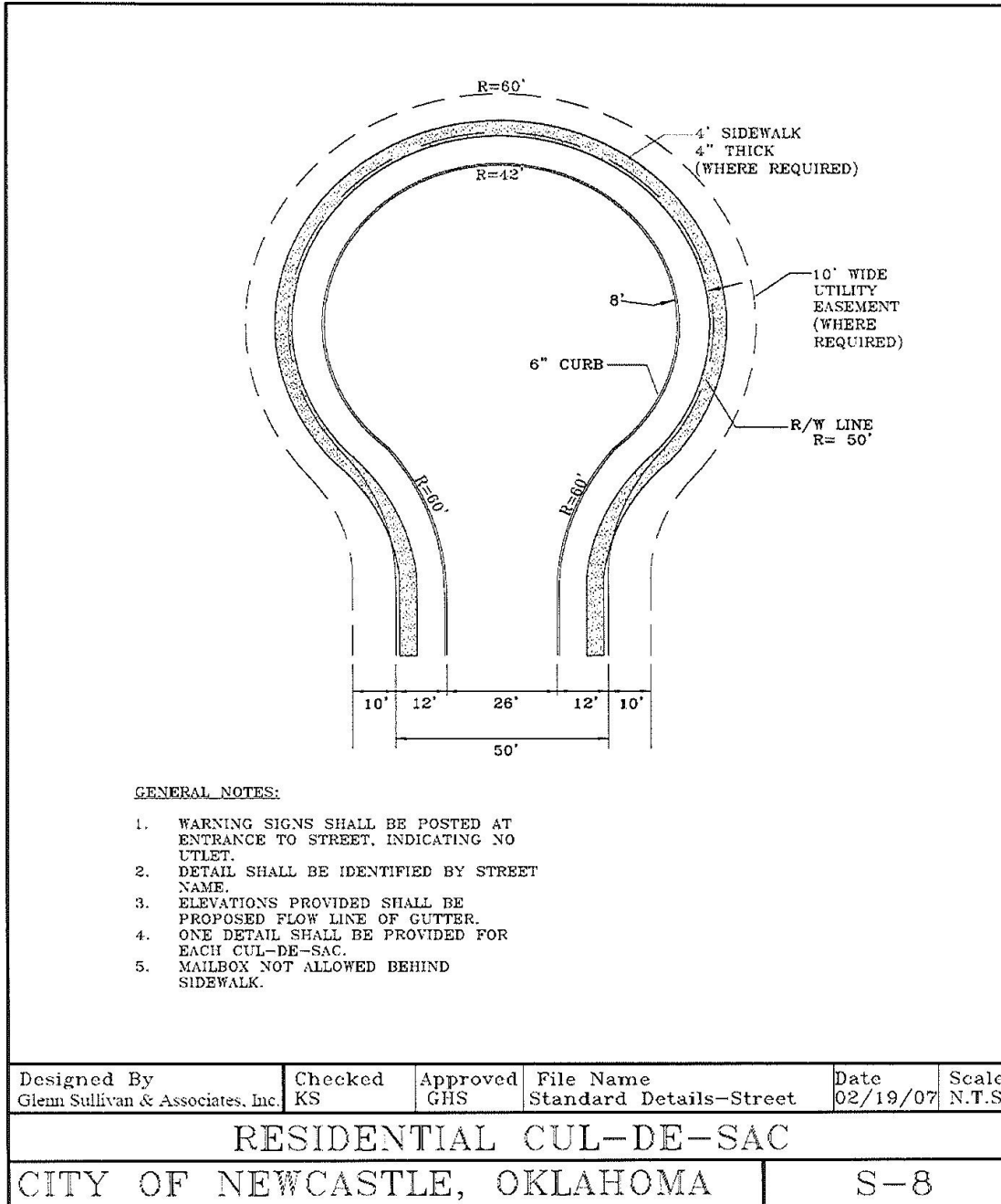


Figure S-9: Non-Residential Cul-de-Sac

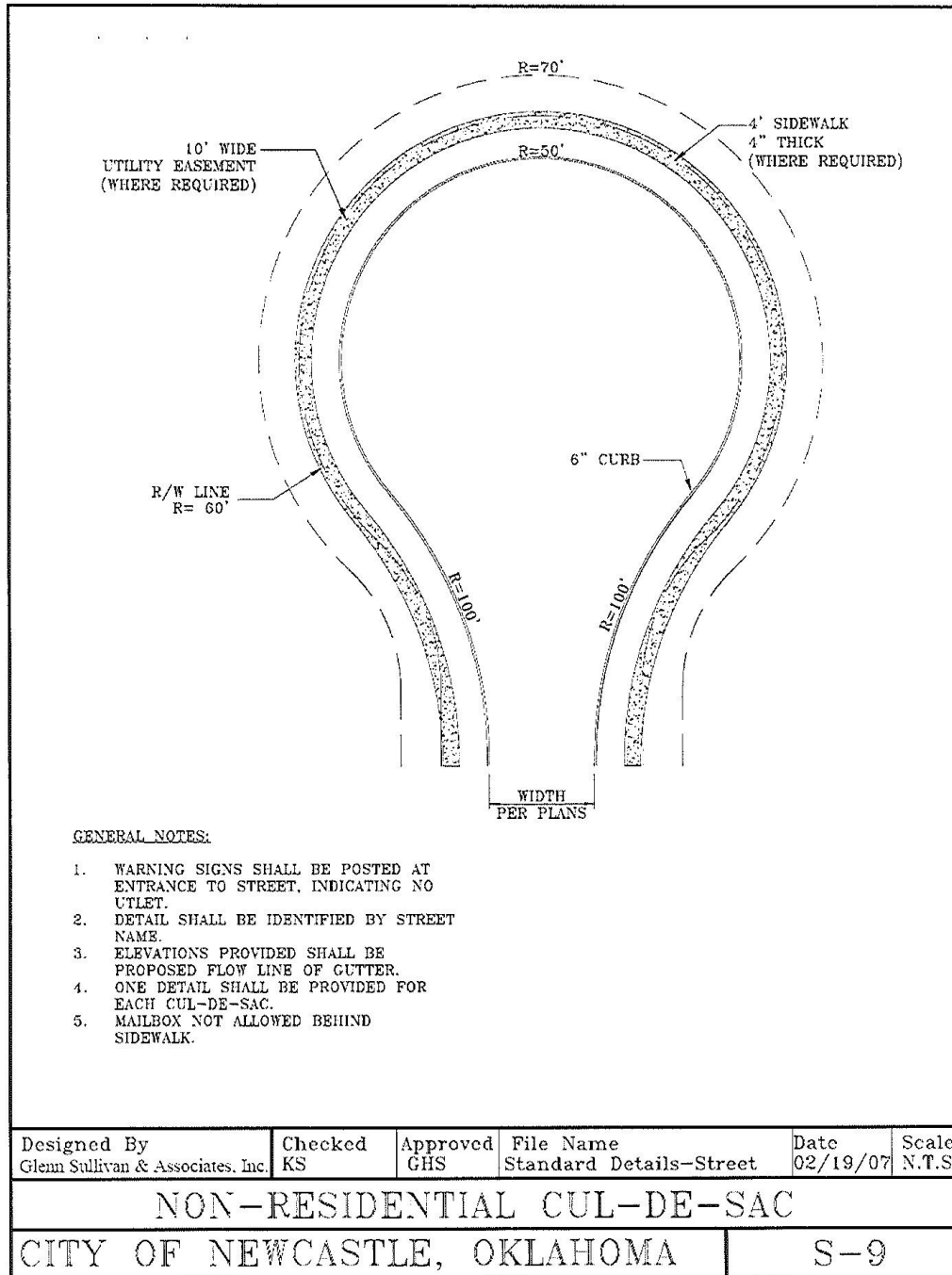
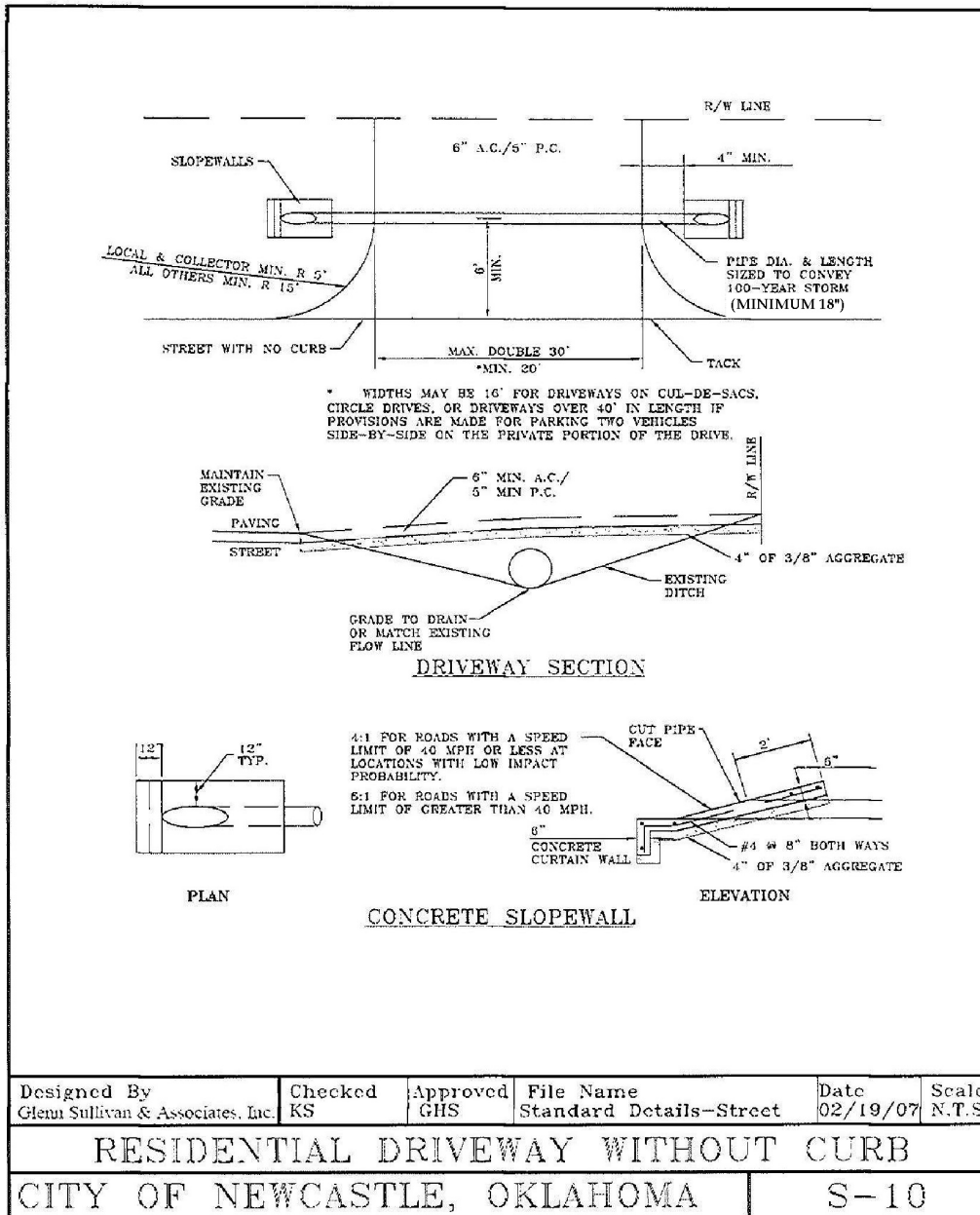


Figure S-10: Residential Driveway Without Curb



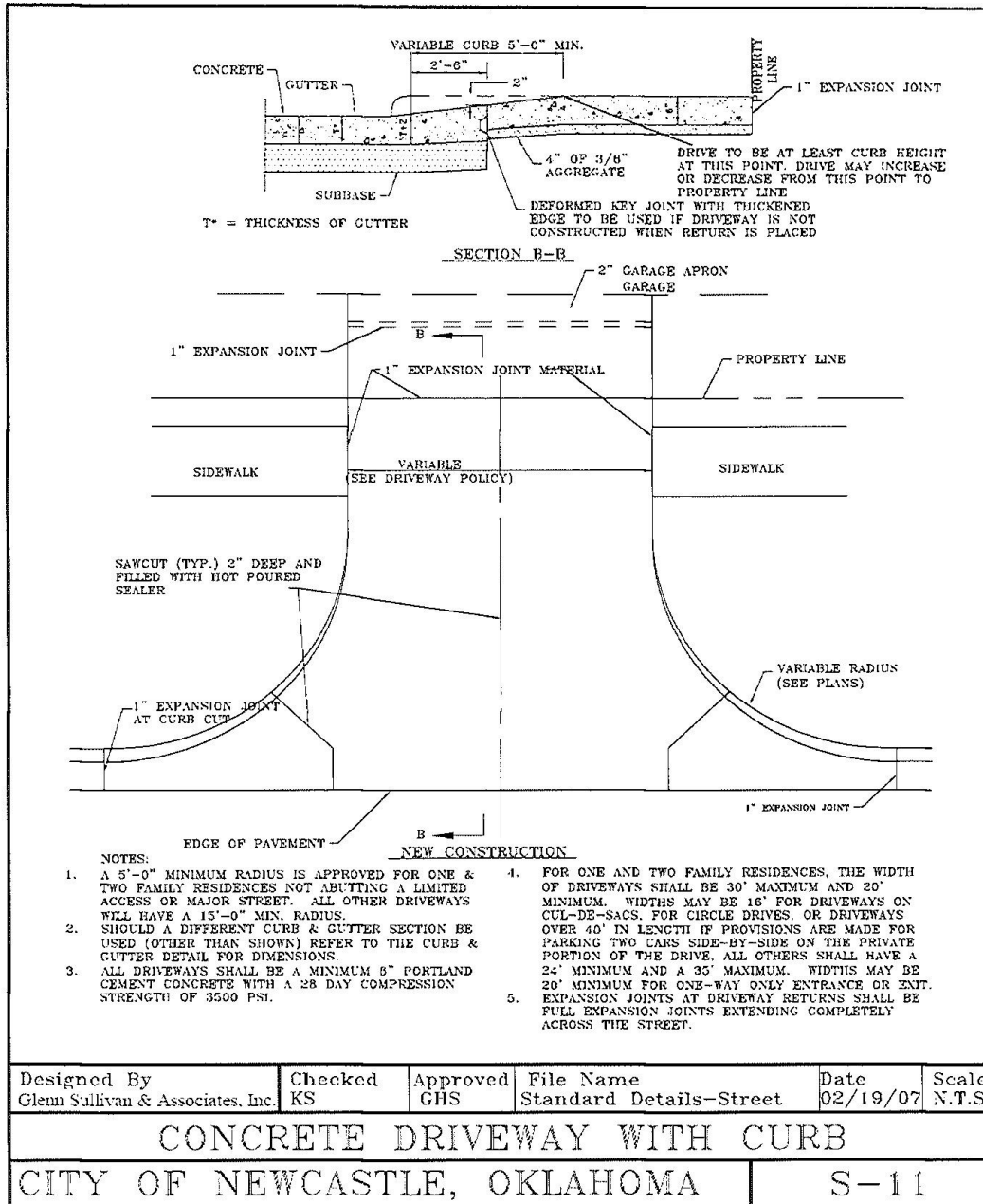
Designed By Glenn Sullivan & Associates, Inc.	Checked KS	Approved GHS	File Name Standard Details-Street	Date 02/19/07	Scale N.T.S.
--	---------------	-----------------	--------------------------------------	------------------	-----------------

RESIDENTIAL DRIVEWAY WITHOUT CURB

CITY OF NEWCASTLE, OKLAHOMA

S-10

Figure S-11: Concrete Driveway With Curb



Designed By Glenn Sullivan & Associates, Inc.	Checked KS	Approved GHS	File Name Standard Details-Street	Date 02/19/07	Scale N.T.S.
--	---------------	-----------------	--------------------------------------	------------------	-----------------

CONCRETE DRIVEWAY WITH CURB

CITY OF NEWCASTLE, OKLAHOMA	S-11
-----------------------------	------

Figure S-12: Curb & Gutter Details

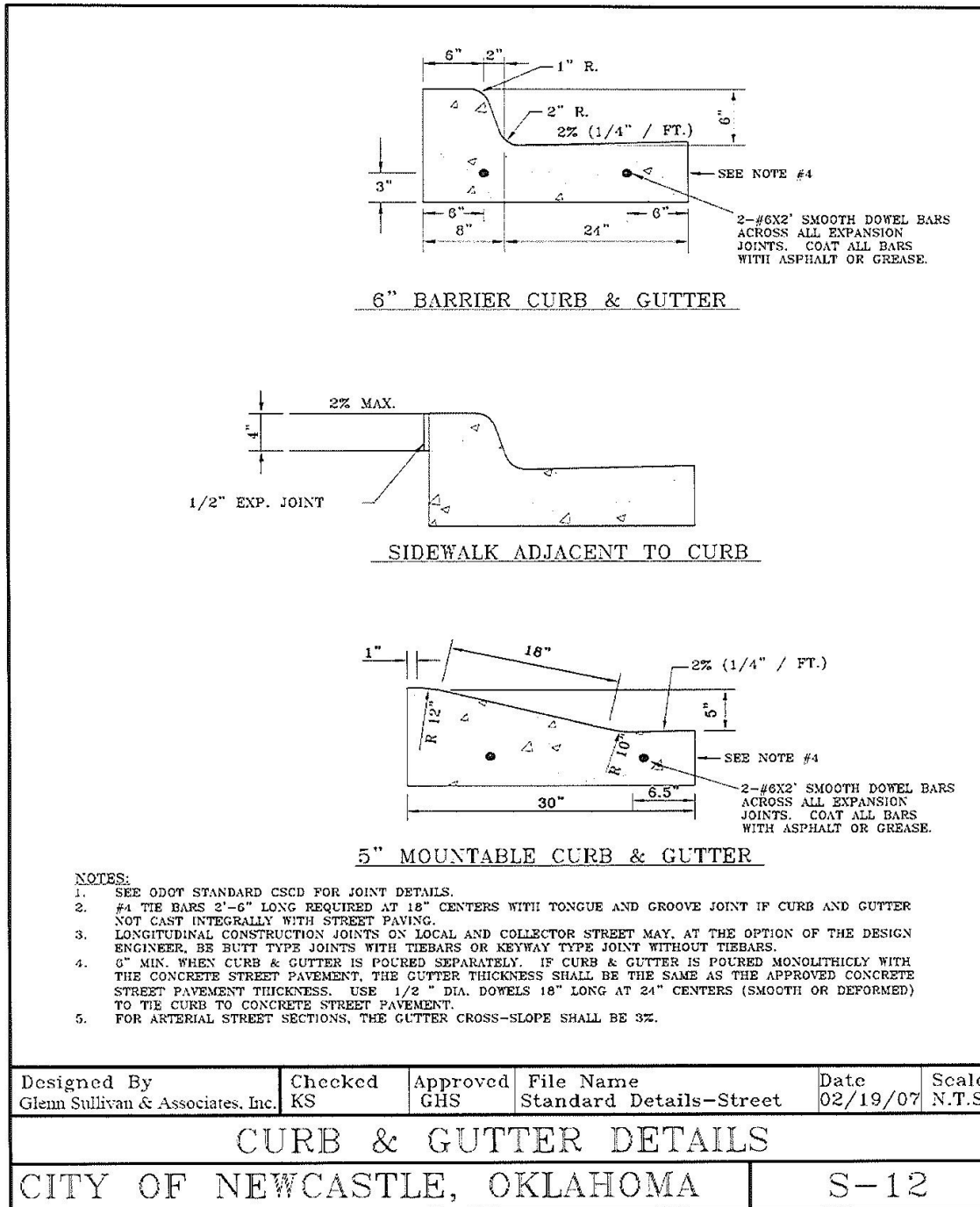
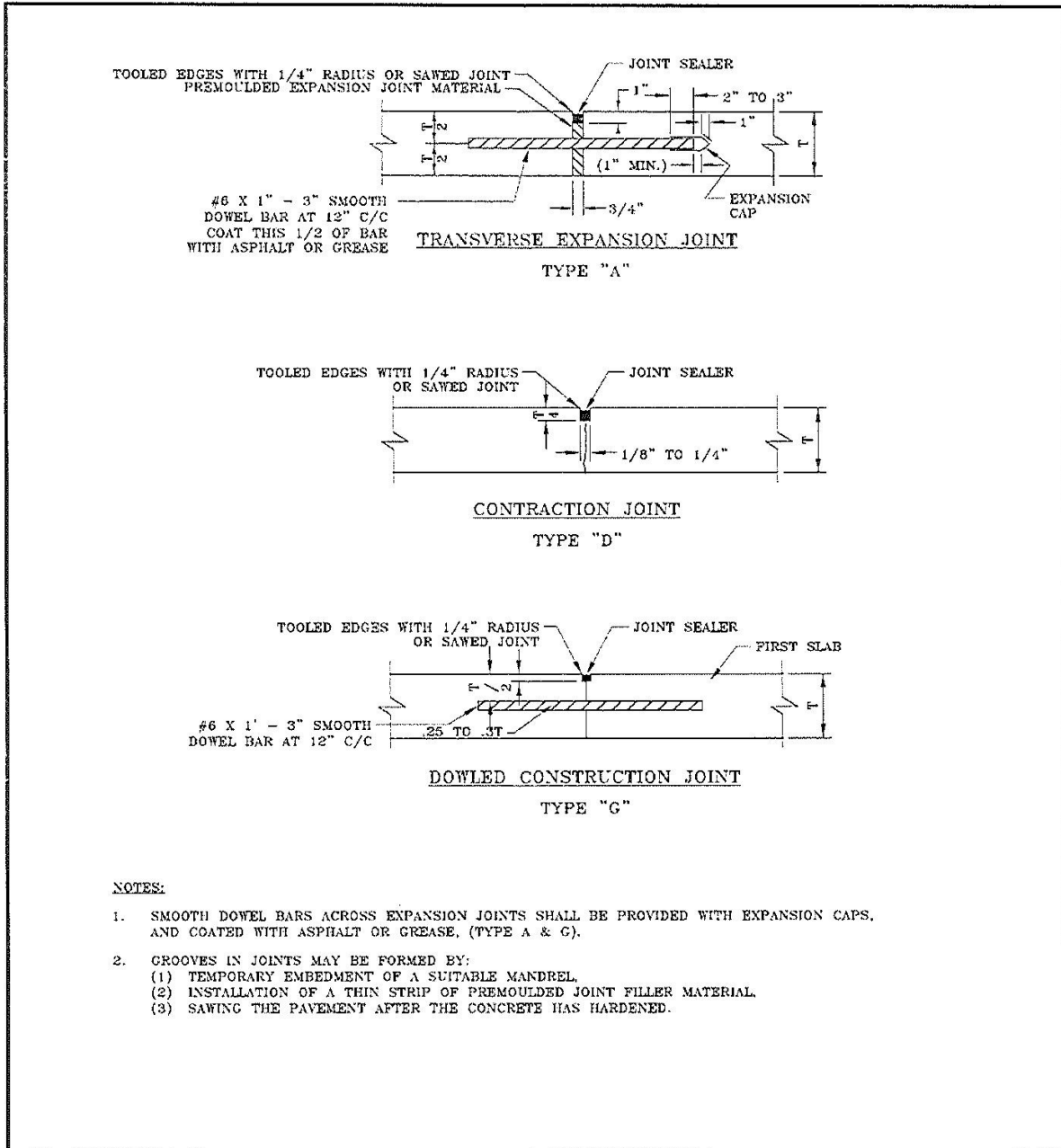


Figure S-14: Transverse Joint Details



NOTES:

1. SMOOTH DOWEL BARS ACROSS EXPANSION JOINTS SHALL BE PROVIDED WITH EXPANSION CAPS, AND COATED WITH ASPHALT OR GREASE, (TYPE A & G).
2. GROOVES IN JOINTS MAY BE FORMED BY:
 - (1) TEMPORARY EMBEDMENT OF A SUITABLE MANDREL,
 - (2) INSTALLATION OF A THIN STRIP OF PREMOULDED JOINT FILLER MATERIAL,
 - (3) SAWING THE PAVEMENT AFTER THE CONCRETE HAS HARDENED.

Designed By Glenn Sullivan & Associates, Inc.	Checked KS	Approved GHS	File Name Standard Details-Street	Date 02/19/07	Scale N.T.S.
TRANSVERSE JOINT DETAILS					
CITY OF NEWCASTLE, OKLAHOMA				S-14	

Figure S-15: Longitudinal Joint Details

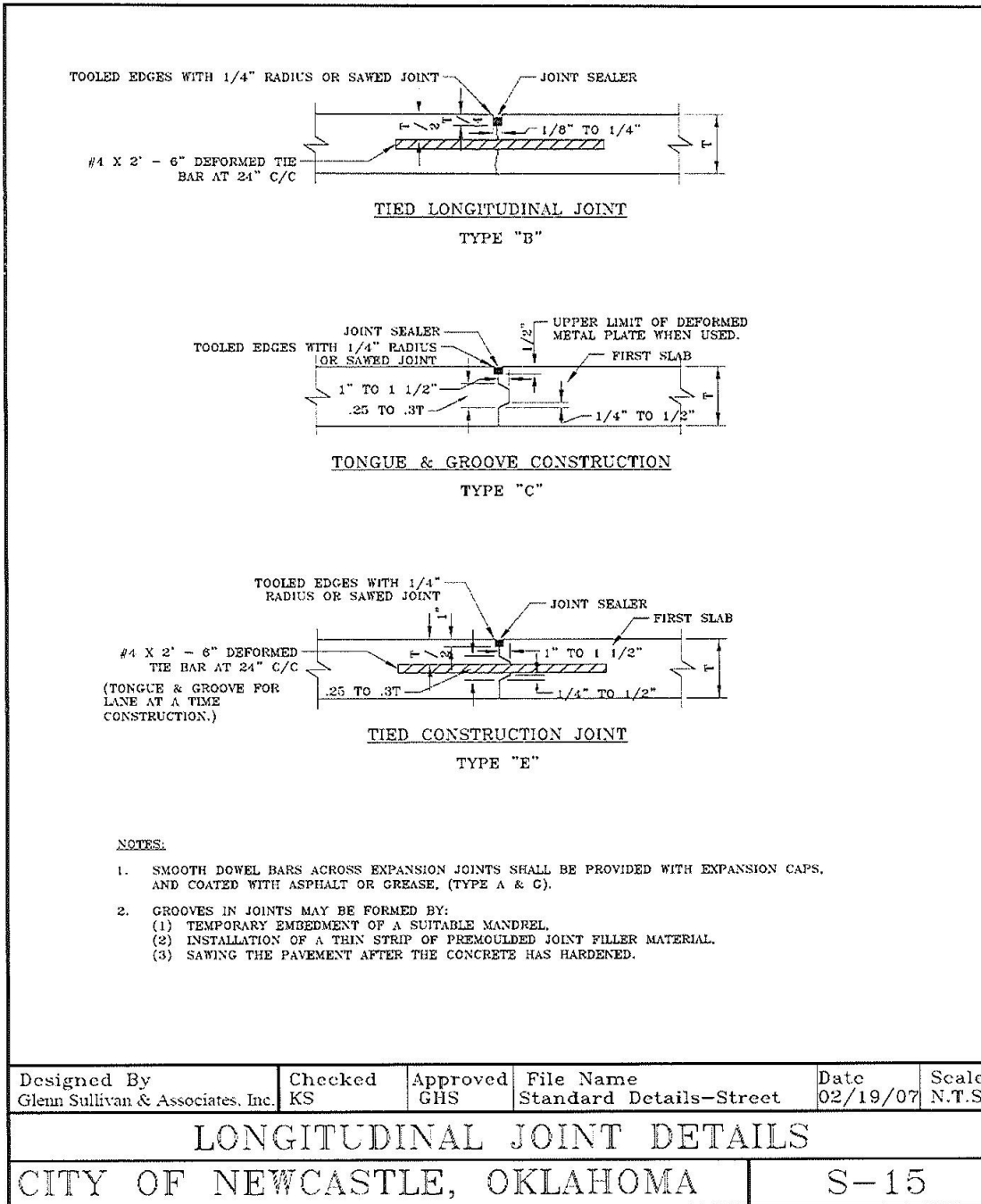
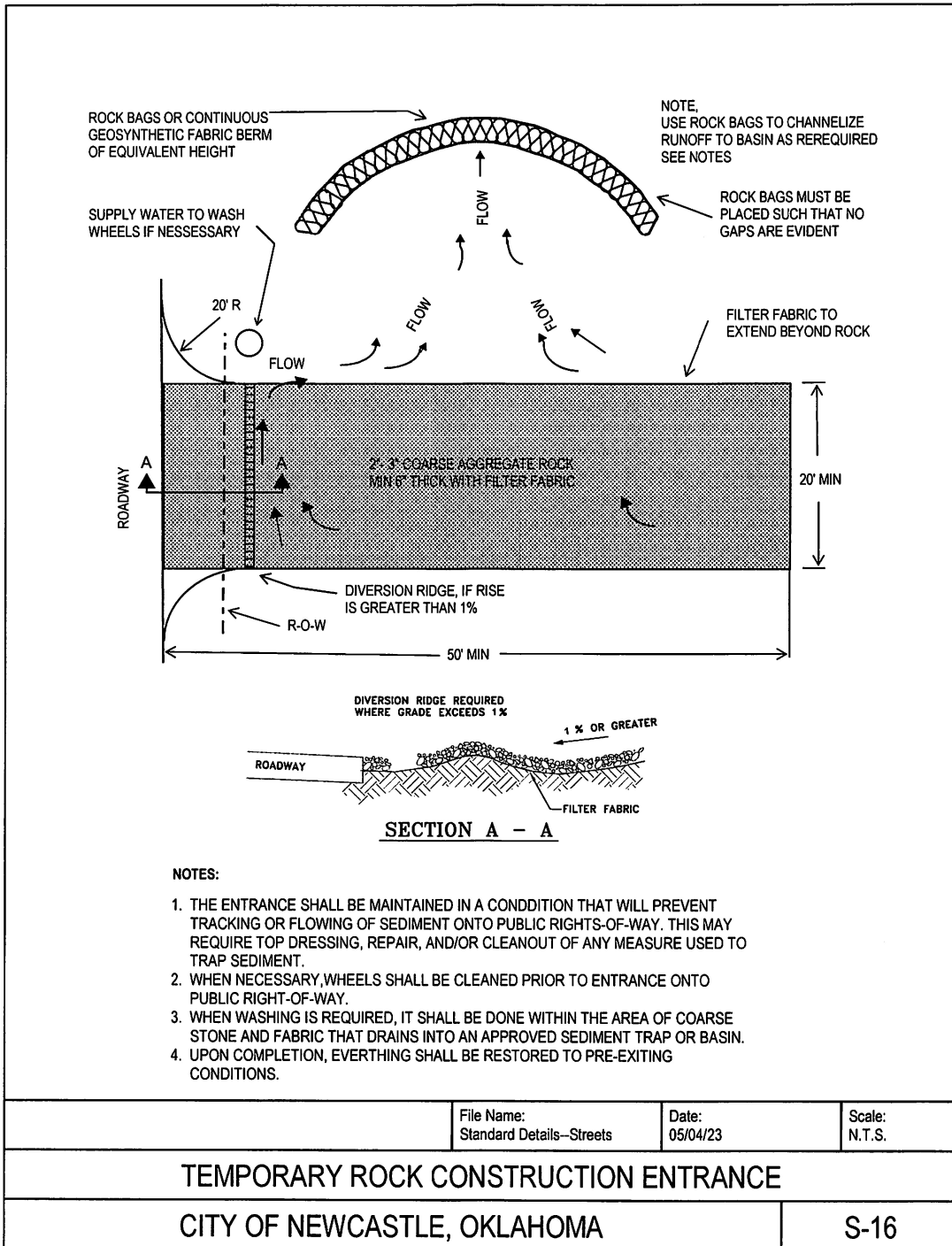


Figure S-16: Temporary Rock Construction Entrance



(Ord. 946, passed 6-12-2023)

Figure W-1: General Notes—Water

<u>GENERAL NOTES</u>					
<ol style="list-style-type: none"> 1. All construction shall be in accordance with ODEQ standards and specifications, and City of Newcastle Subdivision Regulations. 2. PVC water pipe shall be ASTM D2241, Class 200. 3. HDPE water pipe shall be DR 9. Inside diameter shall be consistent with adjacent piping. 4. All fire hydrants & valve boxes to be set to proposed final grade with steamer nozzle a minimum of 15" above ground level. Steamer nozzle shall face street. 5. Fire hydrants shall be located 5' to 9' from back of curb. Sidewalk locations to be pre-determined so that hydrants will not be located in sidewalk. 6. All existing water mains being abandoned by this project are to be plugged with non-shrinking, high early strength grout and shall remain the property of the owner. The cost of plugging and abandoning water mains shall be incidental if a specific bid item has not been included in the bid schedule. 7. When crossing streets, driveways subject to heavy traffic, alleys and structures, etc., pipe shall be installed with ¾" crusher run or river sand backfill, see standard detail. All other pipe to be installed in accordance with manufacturer's recommendations or engineer's specifications. Street crossings shall have steel casing with I.D. 4" larger than the largest O.D. of the carrier pipe. Steel casing shall extend 24" past edge of paving or back of curb. 8. Set end of main stubs in cul-de-sacs at a point 5.0' off of front property line. This point being in line with side property line. 9. In instances where flow lines are not indicated on the drawings, lines shall be constructed with a minimum of 3' cover or as directed by the field engineer. 10. All staking for alignment and grade will be done under the supervision of a registered professional engineer or a registered land surveyor. 11. Unless specifically authorized, all gate valves are to be located at p.c. or p.t. on street curb. 12. All valves fittings and connections shall be installed outside proposed paving. 13. Disinfection of all new lines shall be in accordance with the latest revision of AWWA C651. New lines shall not be placed into service until two (2) consecutive samples taken at least 24 hours apart produce satisfactory bacteriological results. 					
Designed By Glenn Sullivan & Associates, Inc.	Checked KS	Approved GHS	File Name Standard Details-Water	Date 02/19/07	Scale N.T.S.
GENERAL NOTES — WATER					
CITY OF NEWCASTLE, OKLAHOMA				W-1	

Figure W-2: Typical Service Line

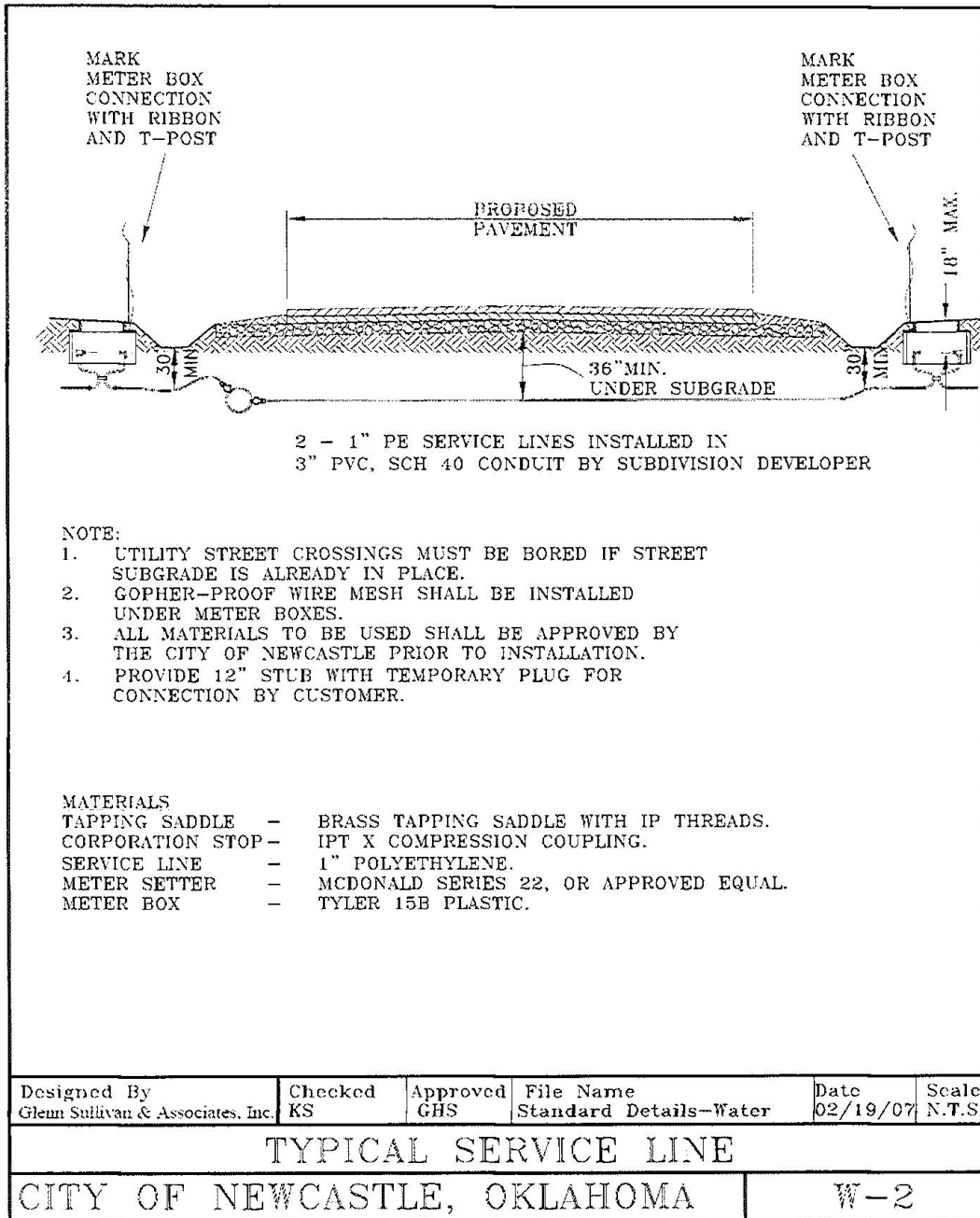
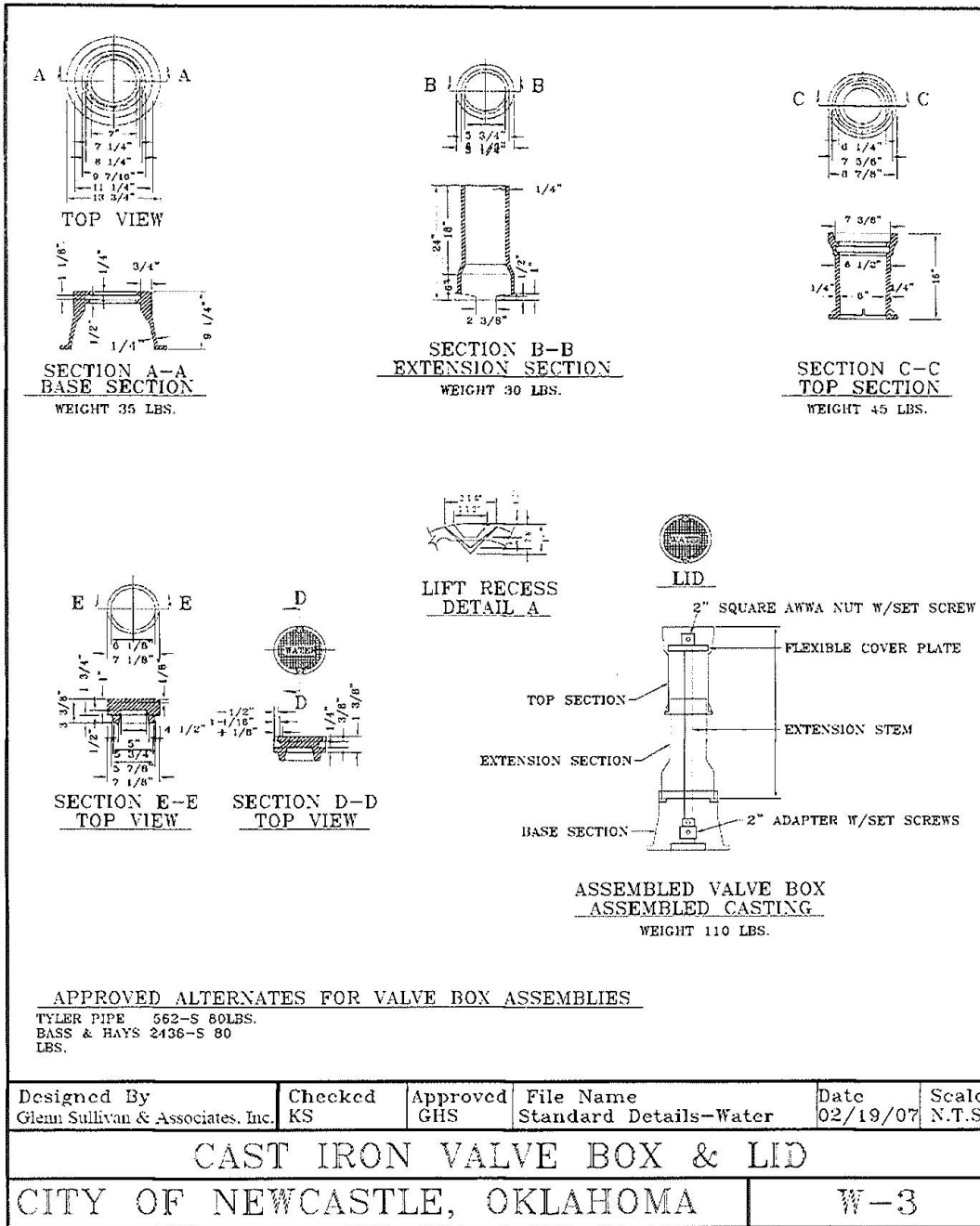
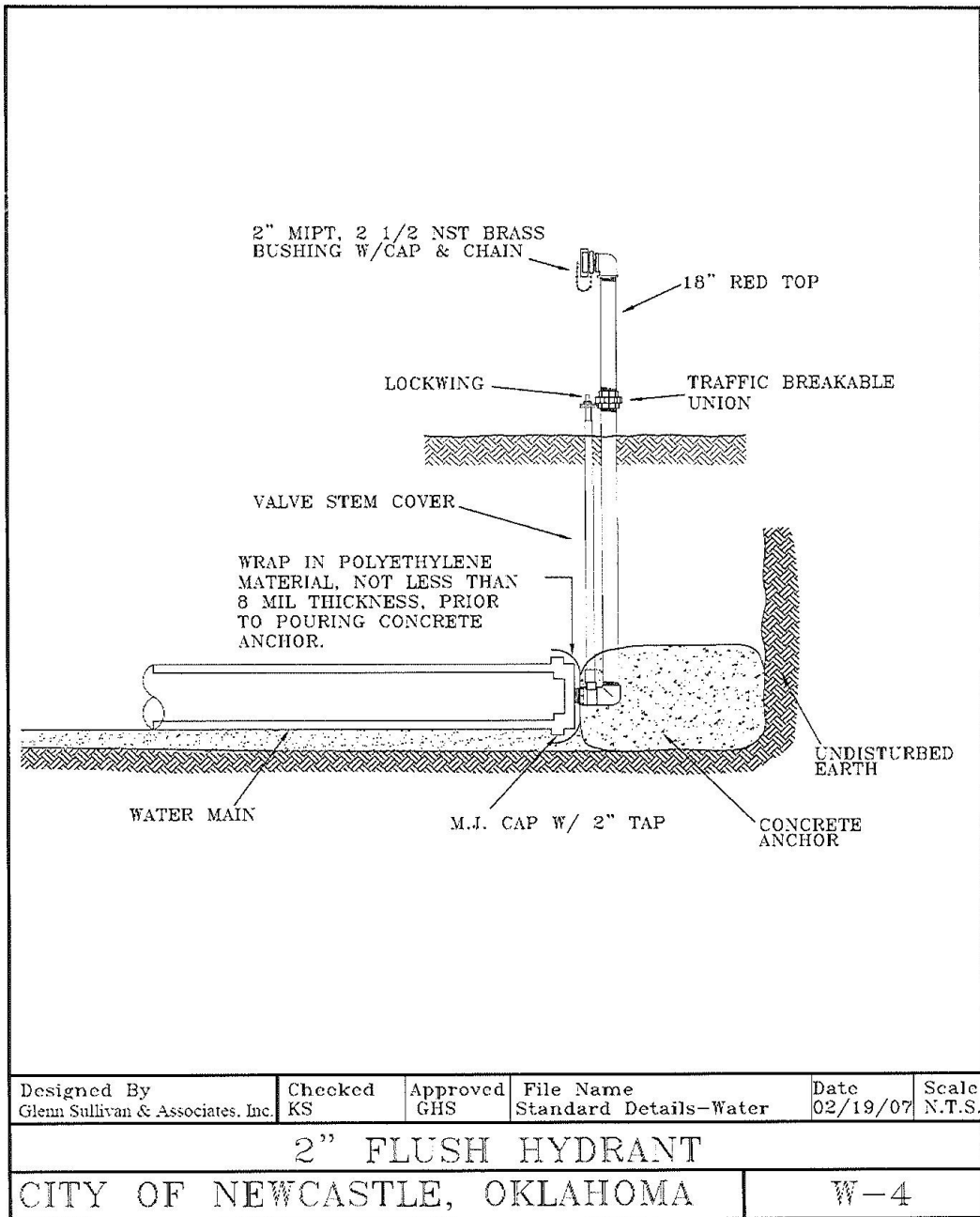


Figure W-3: Cast Iron Valve Box & Lid



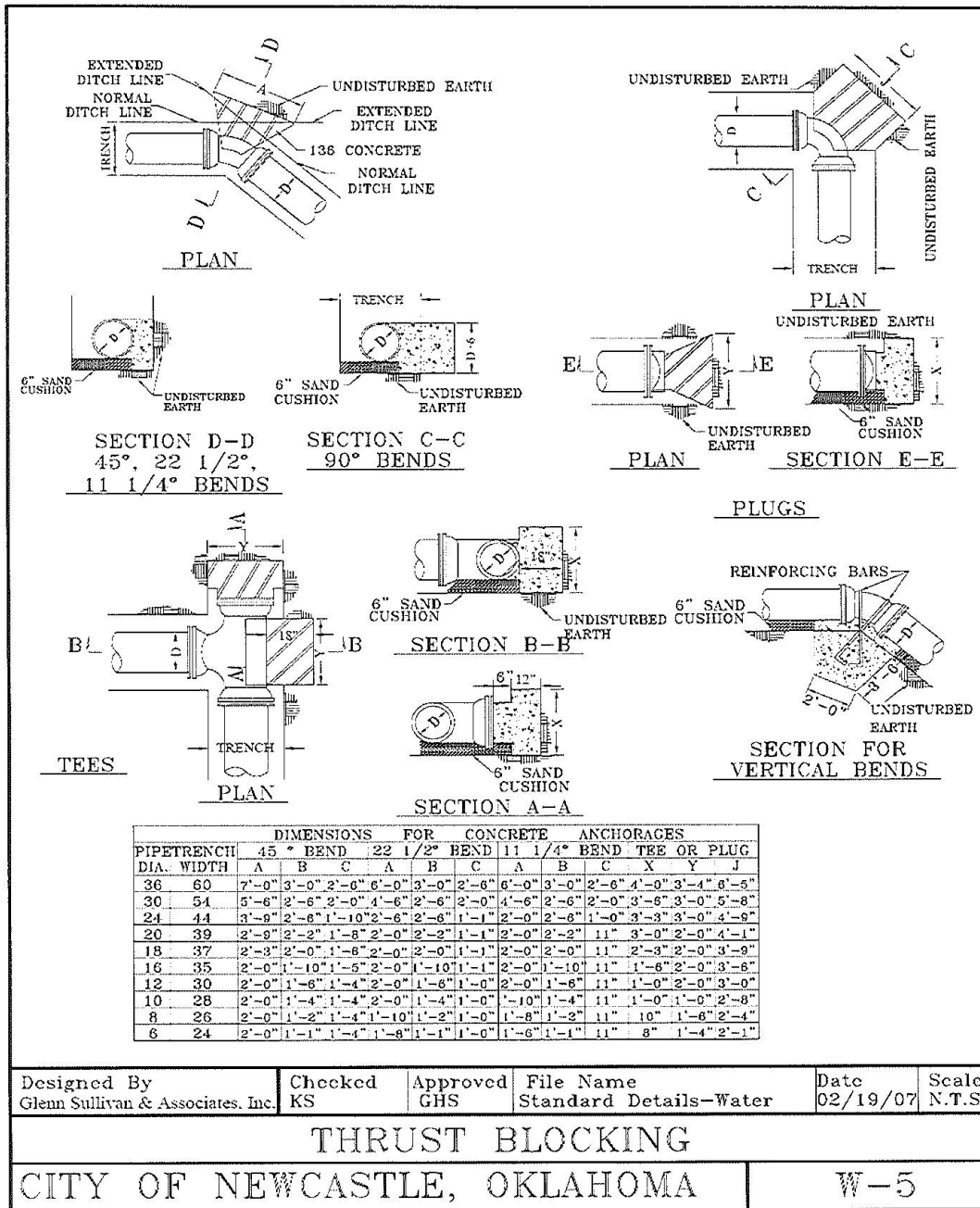
Subdivisions

Figure W-4: 2" Flush Hydrant



Newcastle - Land Usage

Figure W-5: Thrust Blocking



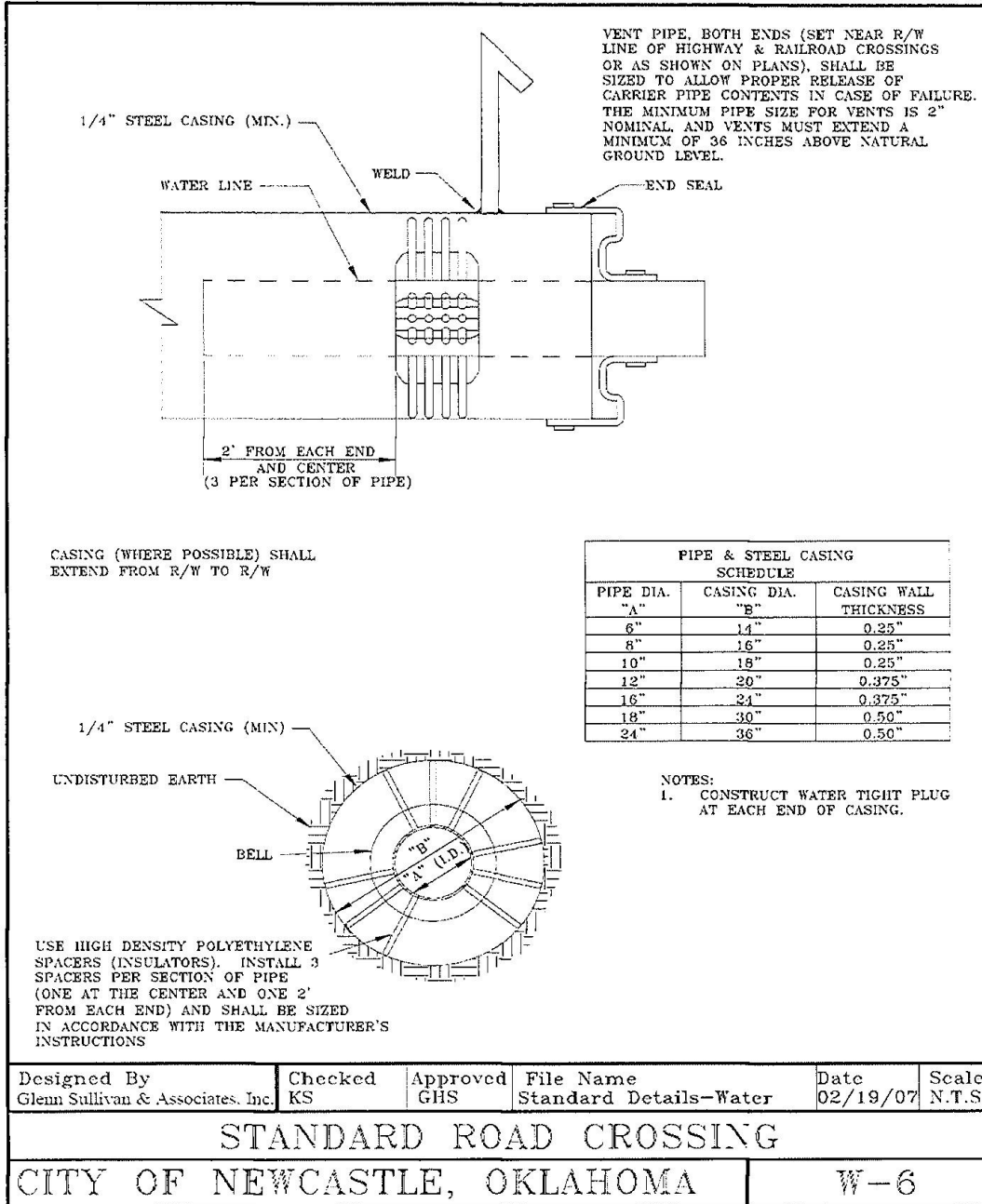
Designed By: Glenn Sullivan & Associates, Inc. | Checked: KS | Approved: GHS | File Name: Standard Details-Water | Date: 02/19/07 | Scale: N.T.S.

THRUST BLOCKING

CITY OF NEWCASTLE, OKLAHOMA

W-5

Figure W-6: Standard Road Crossing



Newcastle - Land Usage

Figure W-7: Street and Alley Repair

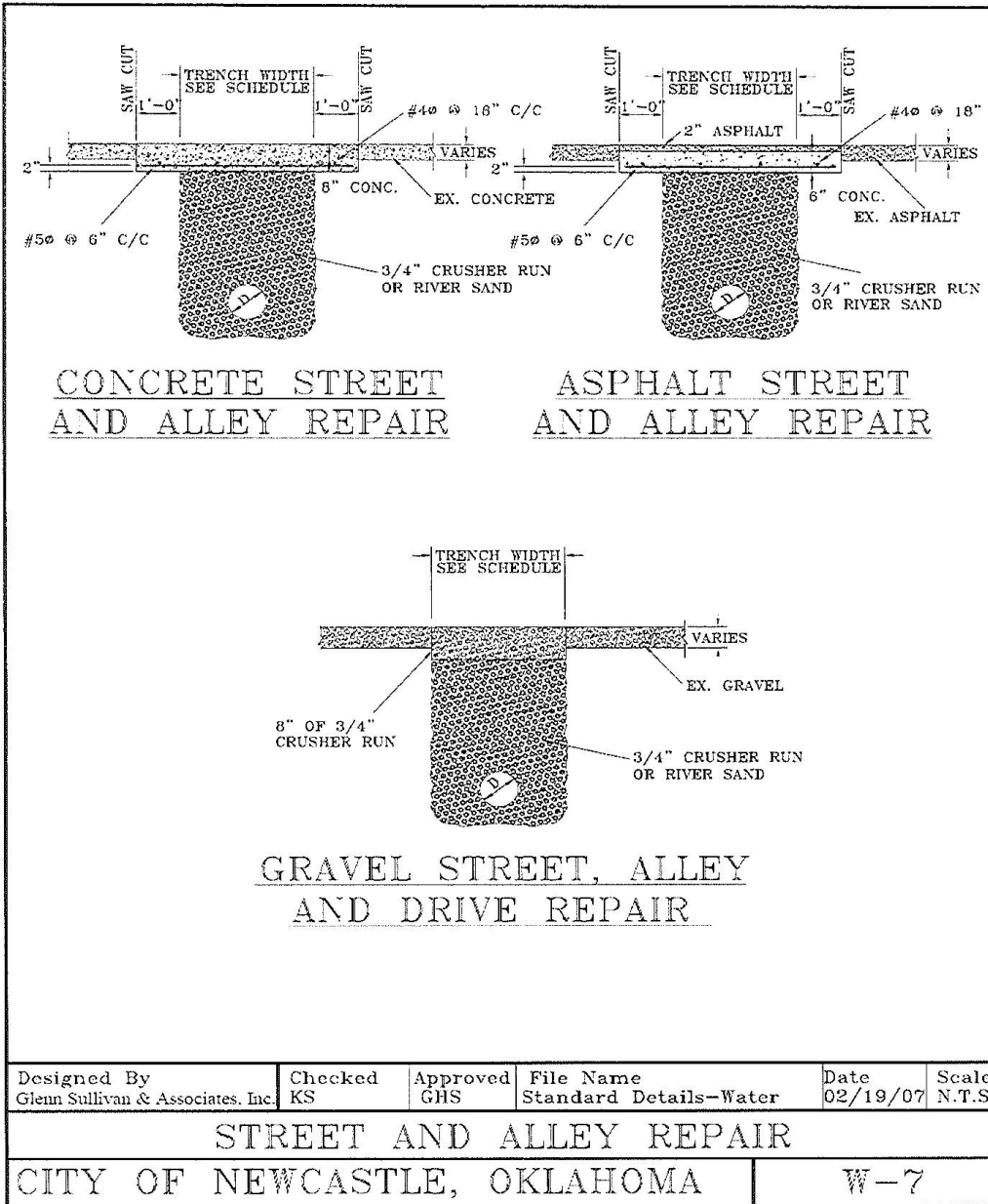
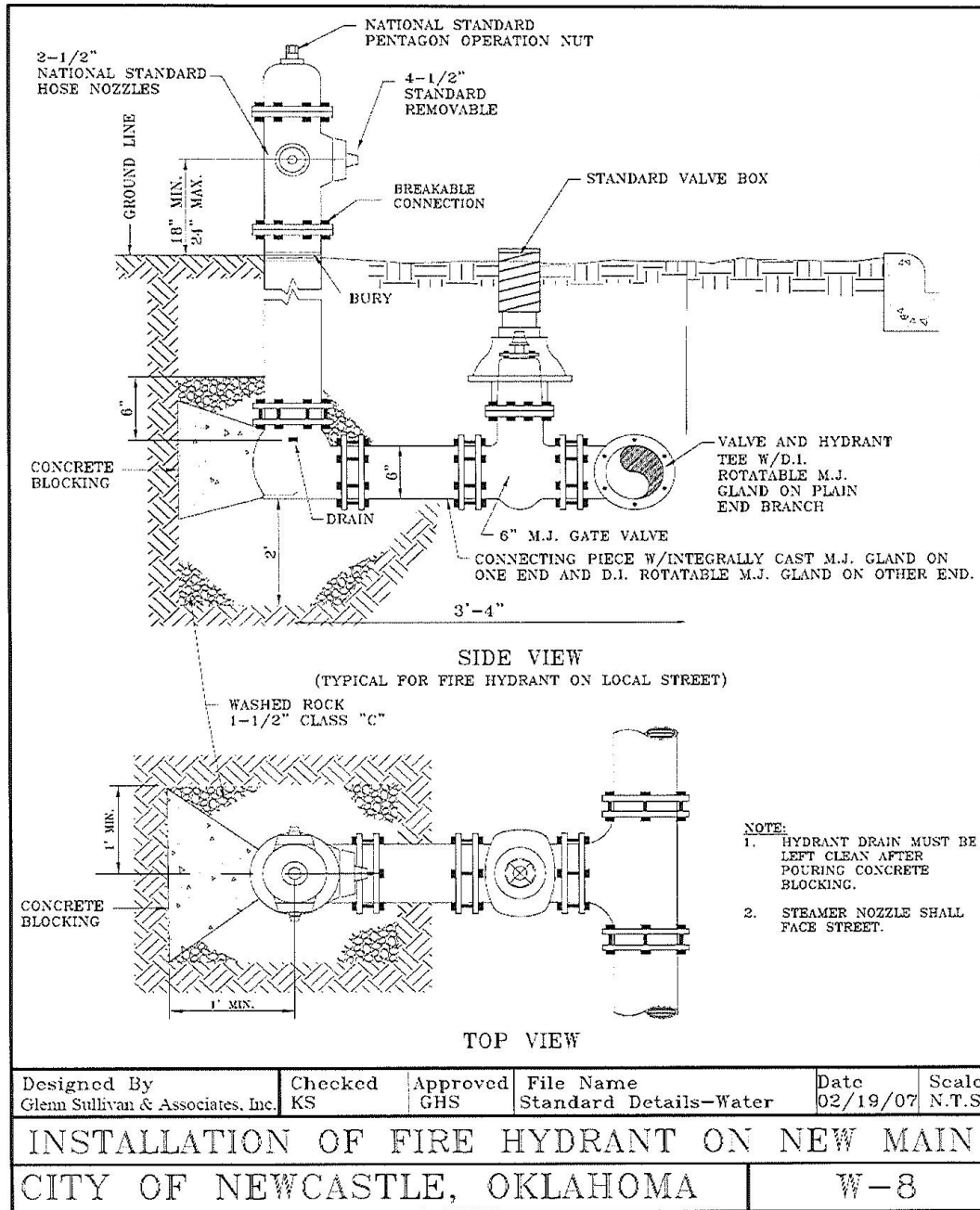
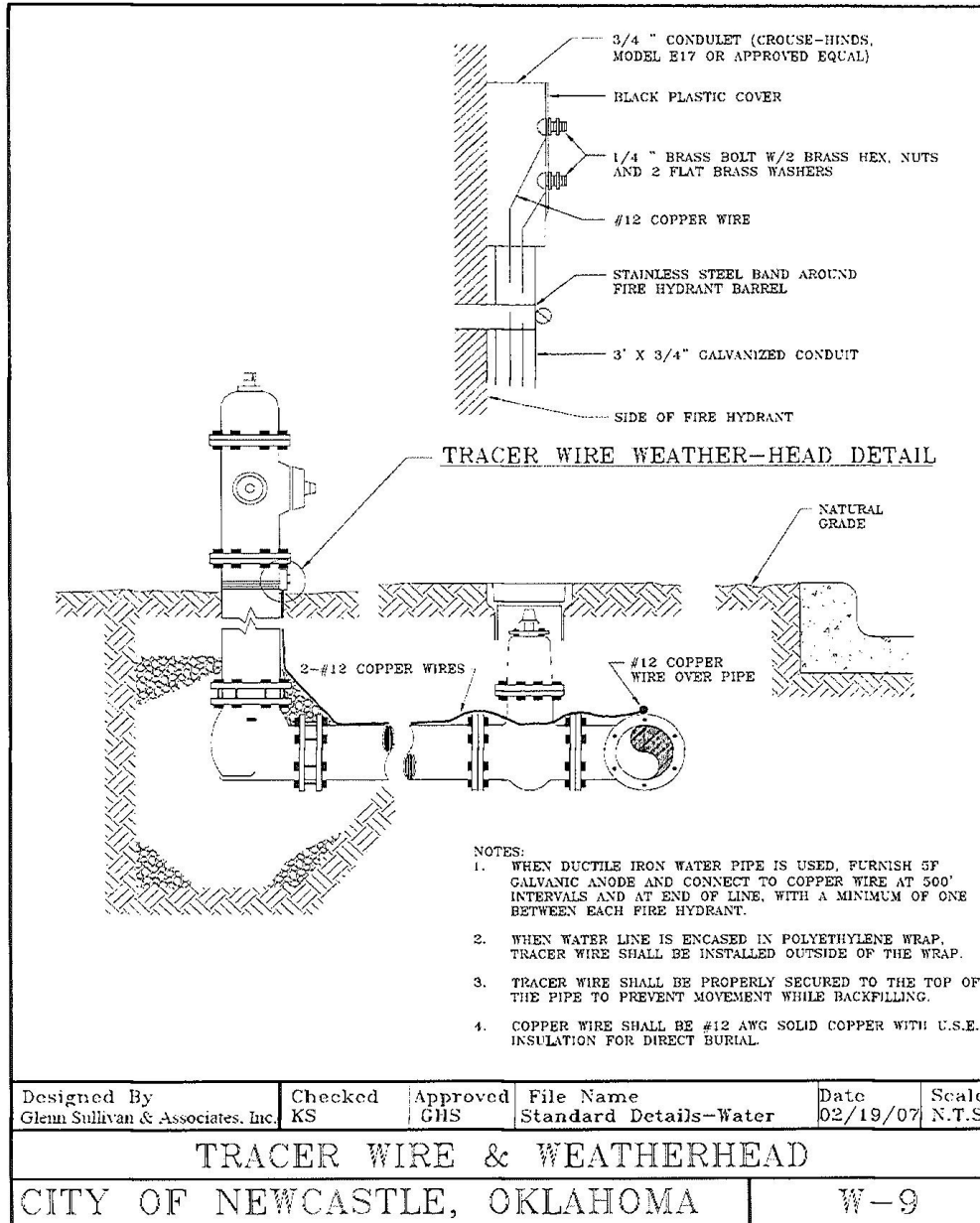


Figure W-8: Installation of Fire Hydrant on New Main



Newcastle - Land Usage

Figure W-9: Tracer Wire & Weatherhead



Sanitary Sewer

Figure SS-1: General Notes—Sanitary Sewer

<u>GENERAL NOTES</u>					
1.	All construction shall be in accordance with the ODEQ Standards.				
2.	The Contractor shall be responsible for the safety of all utilities, either public or private.				
3.	Manholes shall be bid as complete and shall consist of furnishing all materials (including ring and cover) as well as testing.				
4.	Backfill around each wye connection in accordance with the Service Connection and Riser Pipe Detail.				
5.	Backfill under existing and future paving with riversand or crusher run and tamp.				
6.	Installation shall be in accordance with ASTM D2321 - "Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications."				
7.	Water leakage inward or outward of sewer lines shall not exceed 10 gallons per 24 hours per inch diameter per mile of sewer. Water leakage tests must use at least 2-foot test head. All lines shall be tested for infiltration/ exfiltration as stated in OAC 252:656-5-5(b). An air test may be used in lieu of or in addition to infiltration test on PVC sewer lines. Air testing shall be performed in accordance with Uni-Bell PVC Pipe Association Specification UNI-B-6-98, as amended "Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe."				
8.	Deflection tests shall be performed on all pipe. The Test shall consist of pulling a mandrel through the pipe. The mandrel shall have a diameter equal to 95% of the inside diameter of the pipe. The test shall be performed without mechanical pulling devices. The allowable deflection shall not exceed five (5) percent of the internal diameter of the pipe as stated in OAC 252:656-5-5(a).				
9.	Manholes and other watertight structures shall be tested before backfilling by filling with water to overflowing, or other level as directed by the City, and observing the water surface level twenty-four hours thereafter. Exterior surfaces shall be examined for leaks or leakage. Leakage is within allowable limits for structures when there is no visible sign of leakage and where the water surface does not drop more than 1-inch during the twenty-four hour leakage test. Dampness on the exterior wall surface during the test period will not be considered leakage, except in the case of precast concrete structures.				
10.	In lieu of the hydrostatic testing described above, the contractor may vacuum test the manholes in accordance with ASTM C1244-02 "Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill."				
Designed By	Checked	Approved	File Name	Date	Scale
Glenn Sullivan & Associates, Inc.	KS	GHS	Standard Details—Sewer	02/19/07	N.T.S.
GENERAL NOTES – SANITARY SEWER					
CITY OF NEWCASTLE, OKLAHOMA				SS-1	

Figure SS-2: Sanitary Sewer Trenching and Bedding

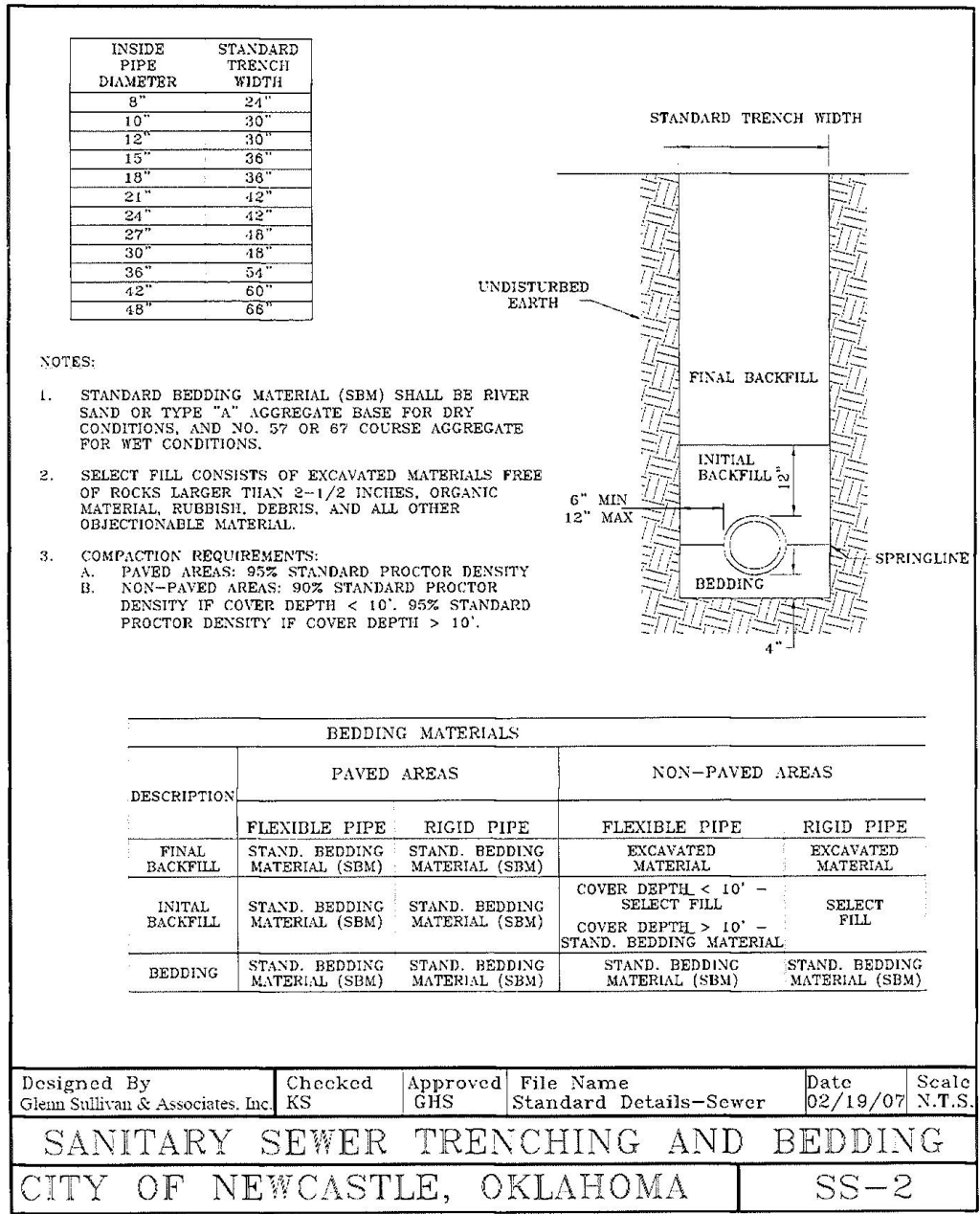
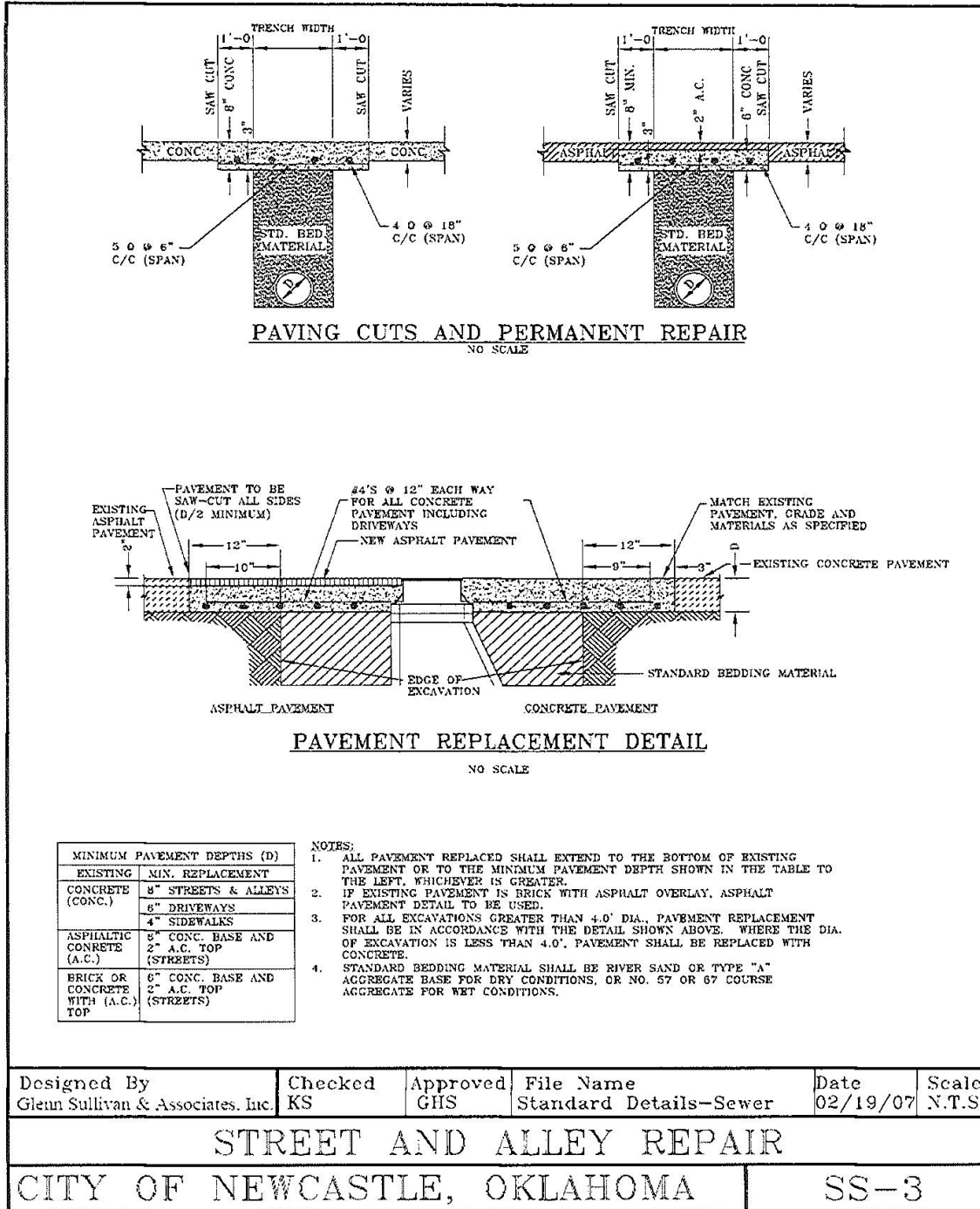


Figure SS-3: Street and Alley Repair



Designed By Glenn Sullivan & Associates, Inc	Checked KS	Approved GHS	File Name Standard Details-Sewer	Date 02/19/07	Scale N.T.S.
---	---------------	-----------------	-------------------------------------	------------------	-----------------

STREET AND ALLEY REPAIR

CITY OF NEWCASTLE, OKLAHOMA	SS-3
-----------------------------	------

Figure SS-4: Standard Road Crossing

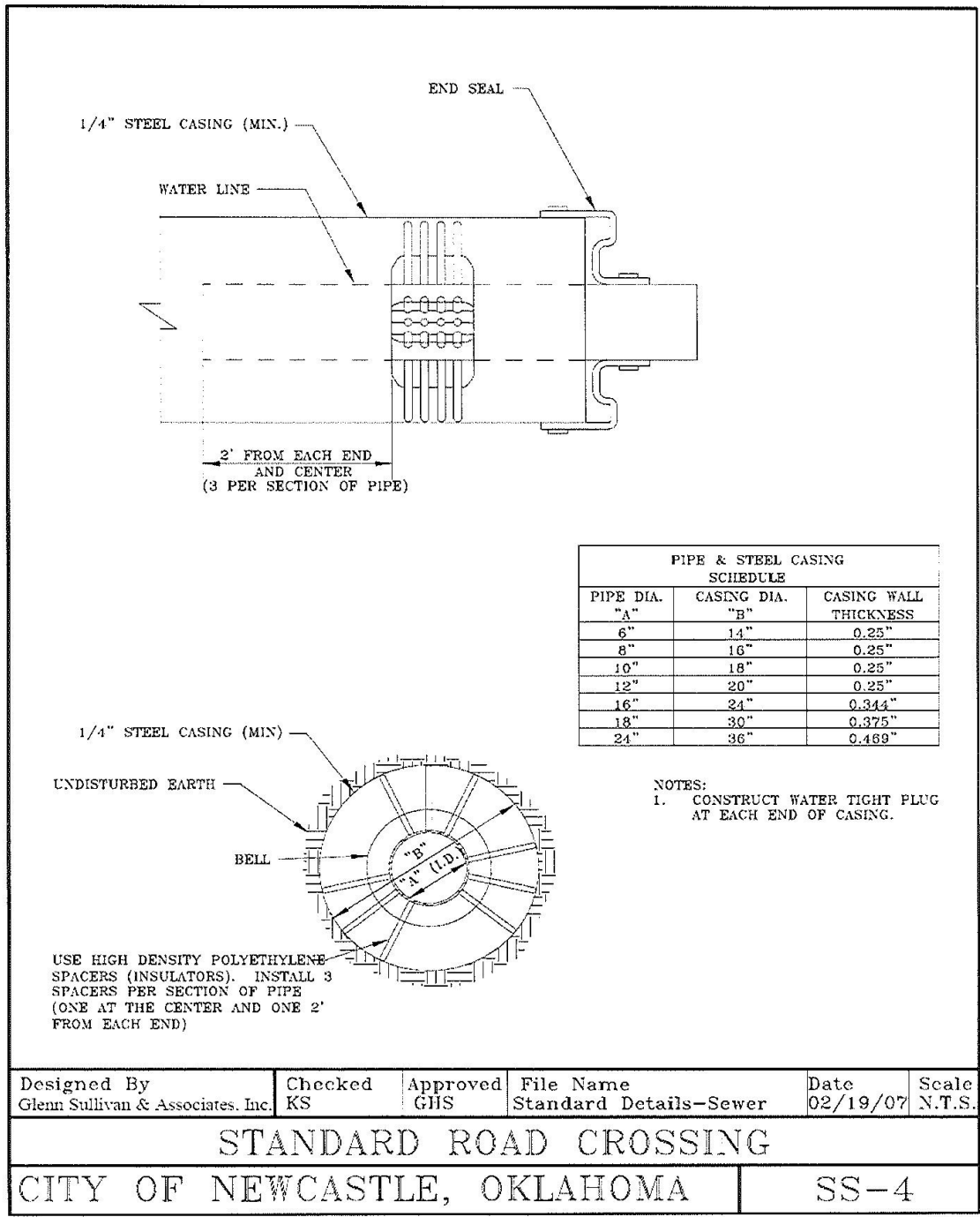
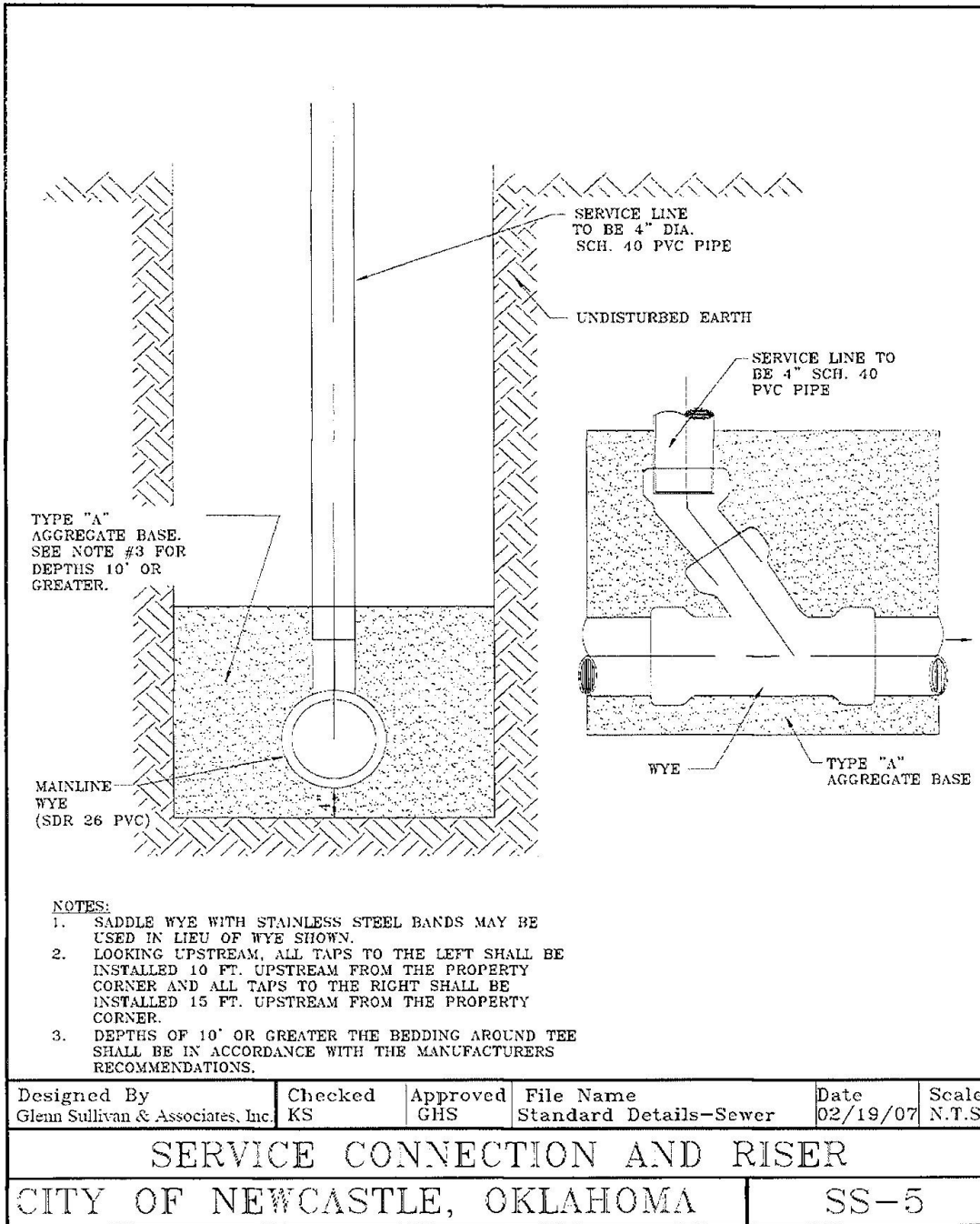
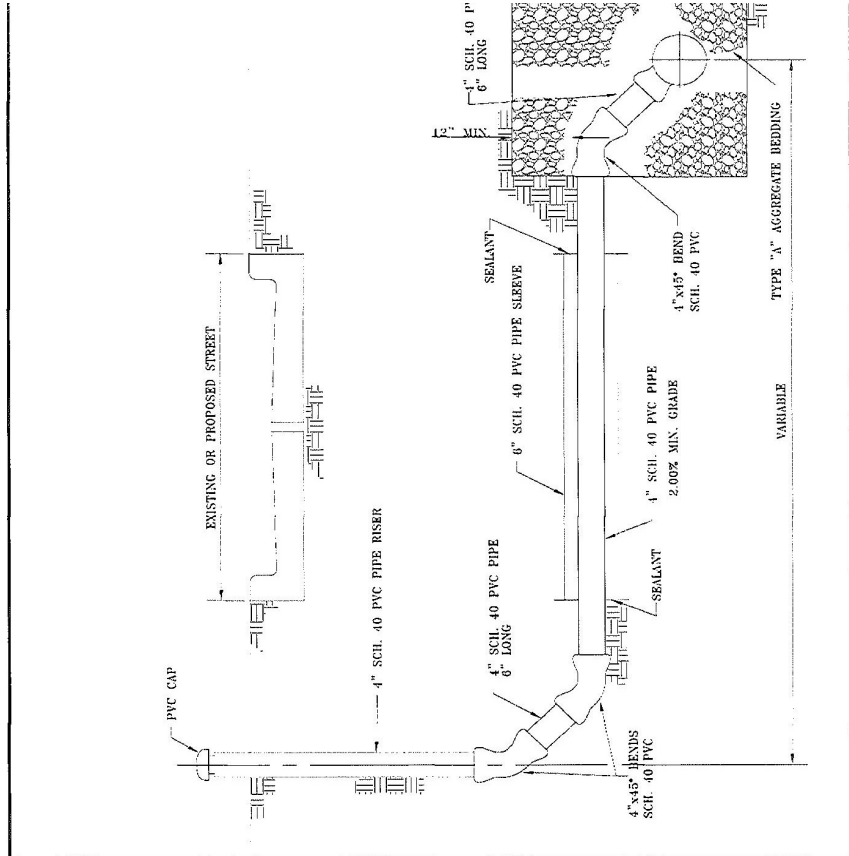


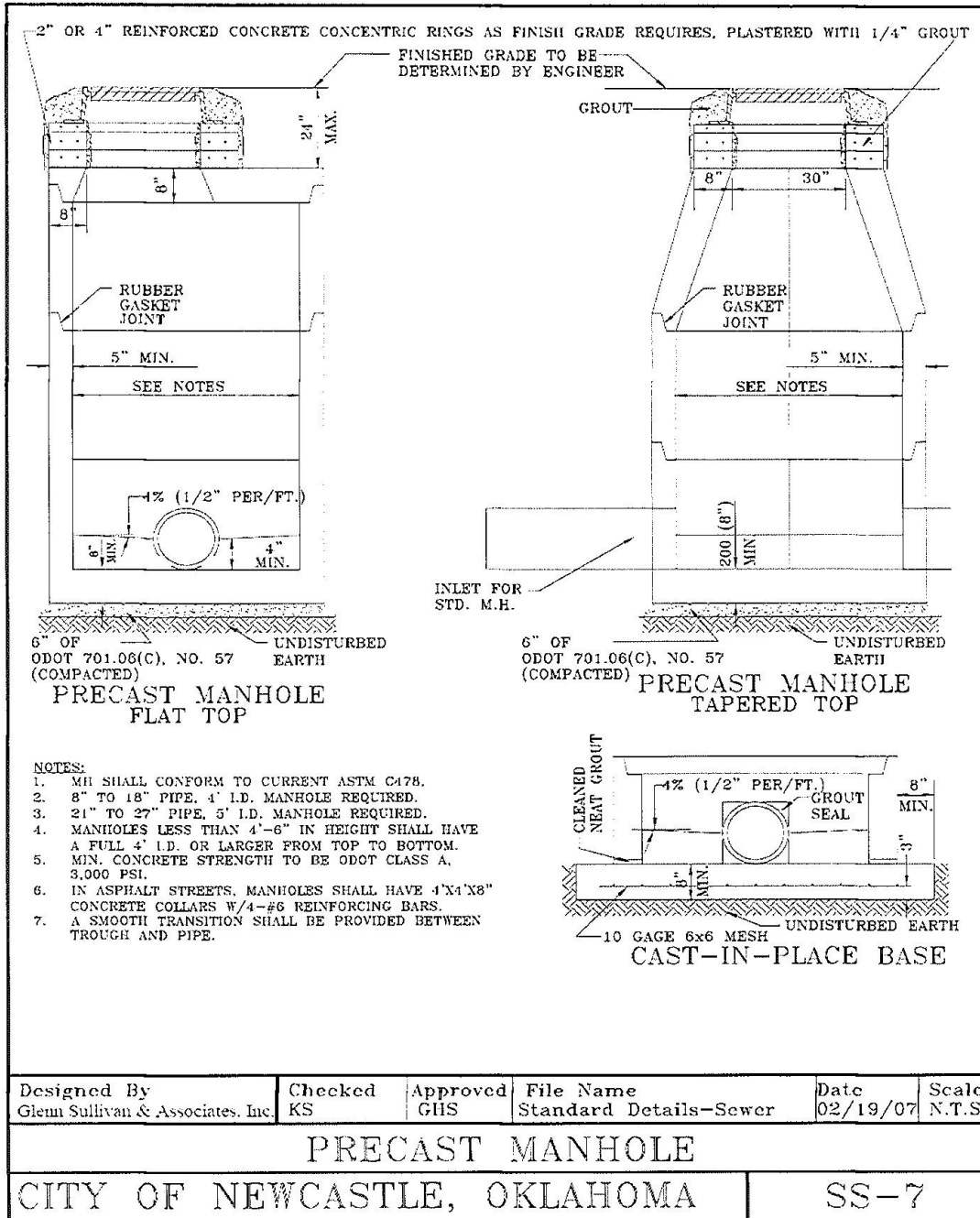
Figure SS-5: Service Connection and Riser





Designed By Glenn Sullivan & Associates, Inc.	Checked KS	Approved GHS	File Name Standard Details-Sewer	Date 02/19/07	Scale N.T.S.
--	---------------	-----------------	-------------------------------------	------------------	-----------------

Figure SS-7: Precast Manhole



Newcastle - Land Usage

Figure SS-8: Cast in Place Manhole

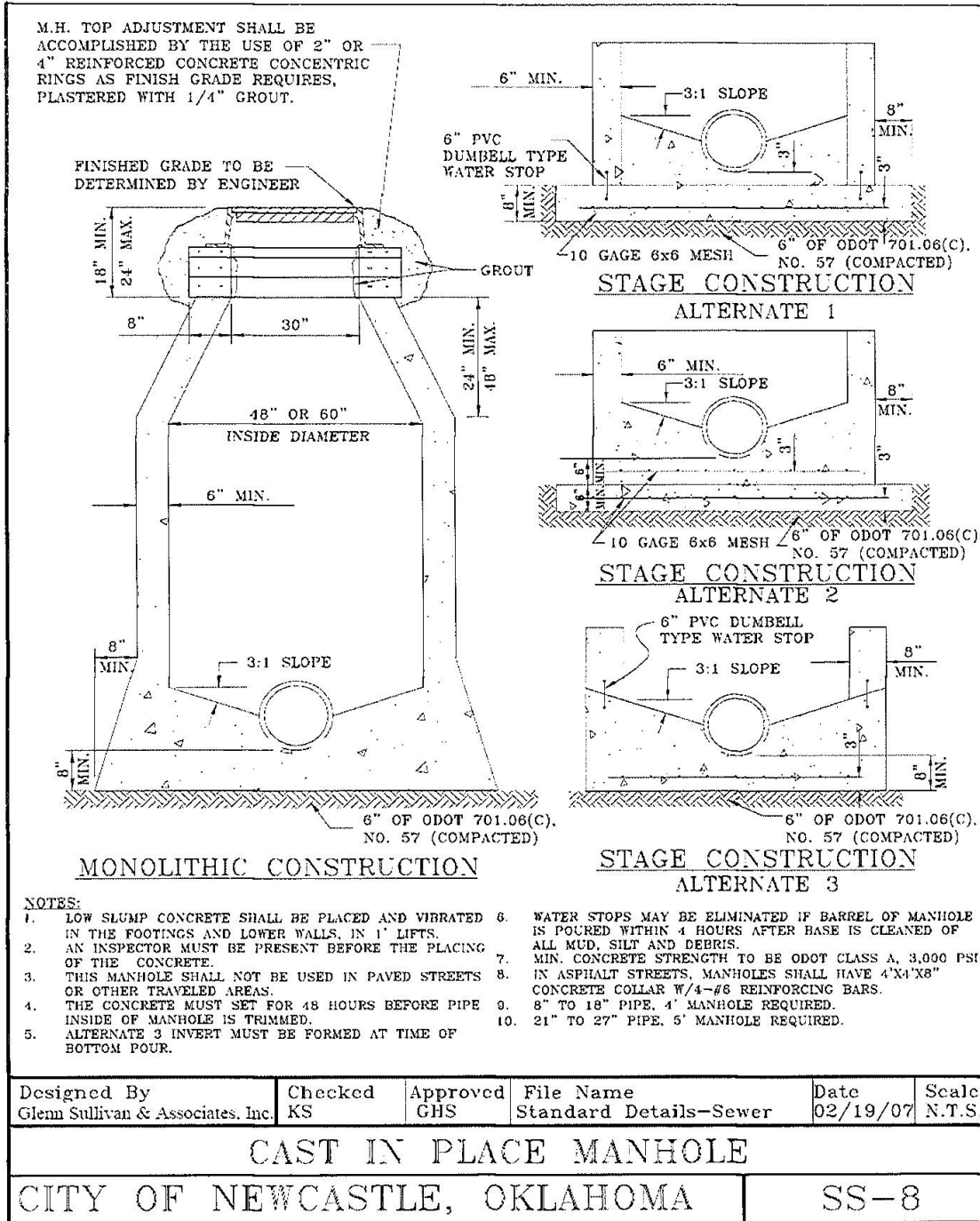
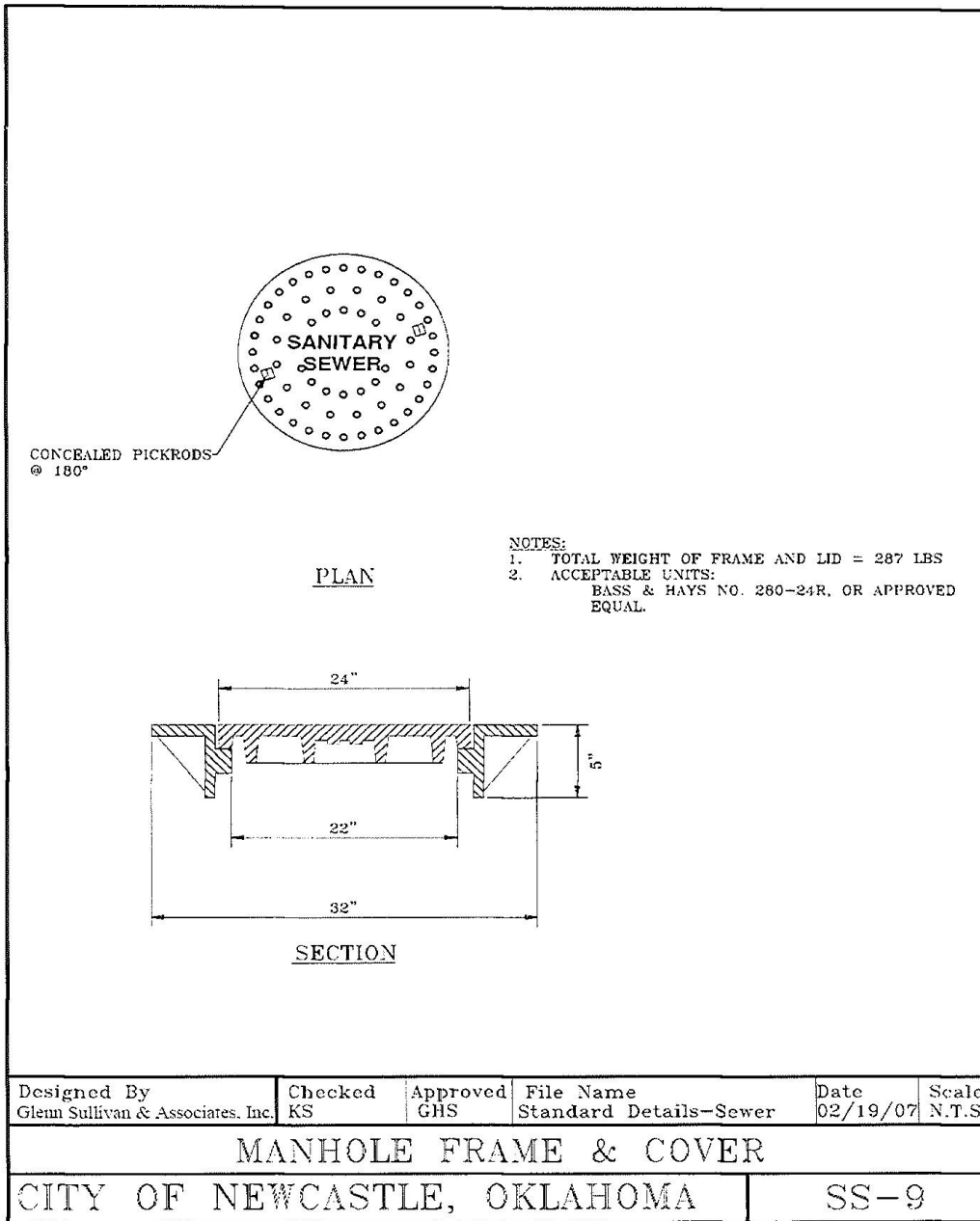


Figure SS-9: Manhole Frame & Cover



Newcastle - Land Usage

Figure SS-10: Sanitary Sewer Air Relief Valve

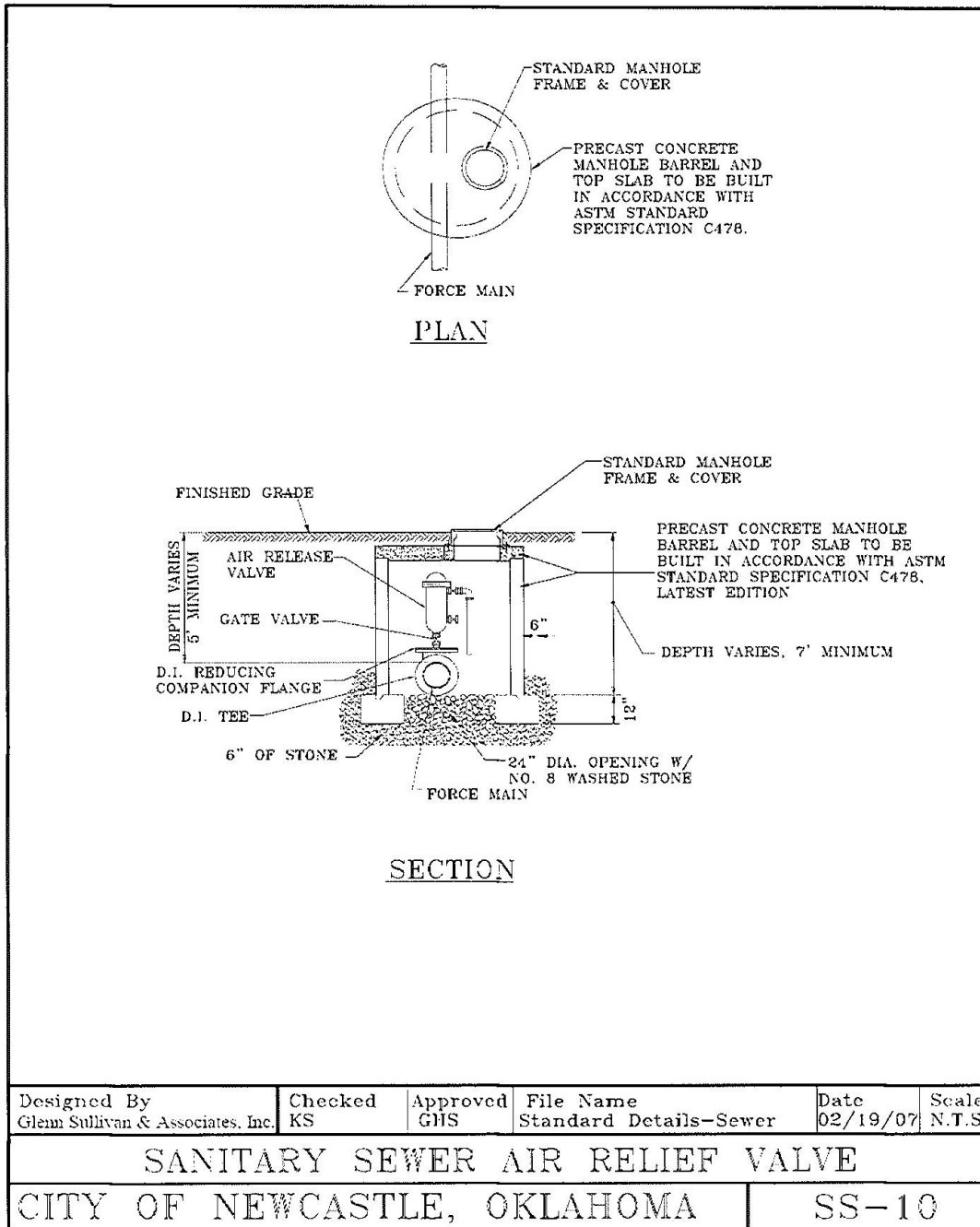
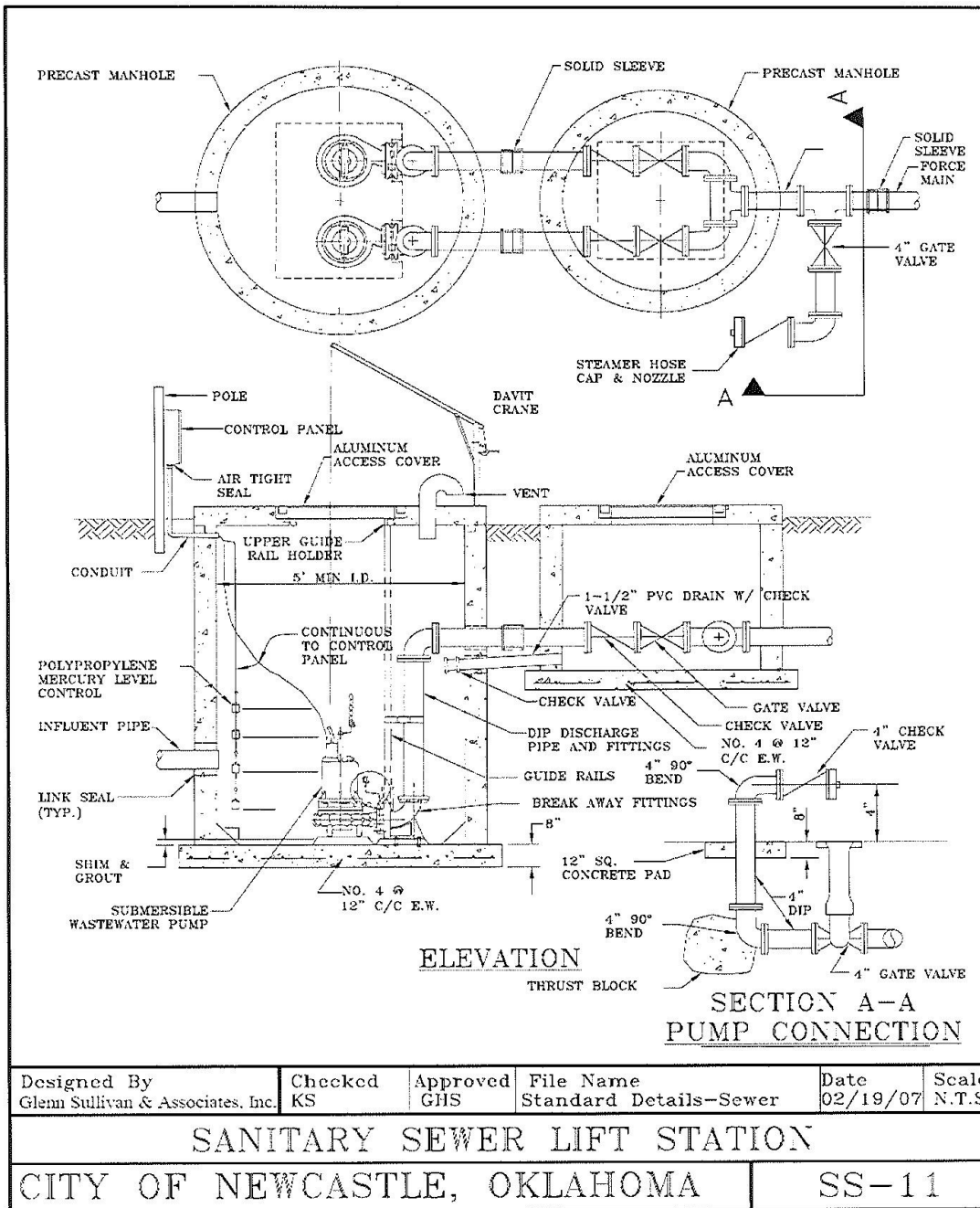
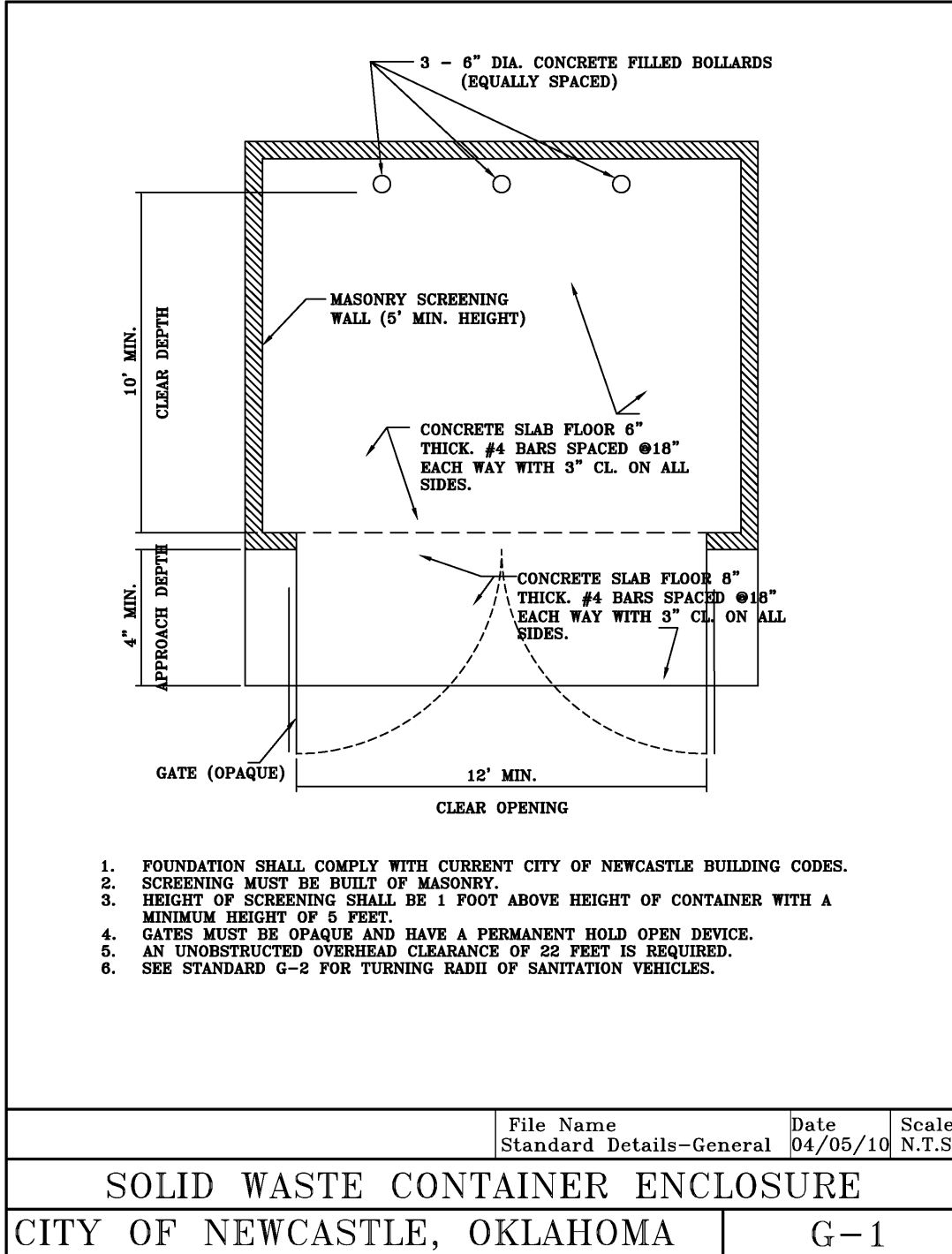
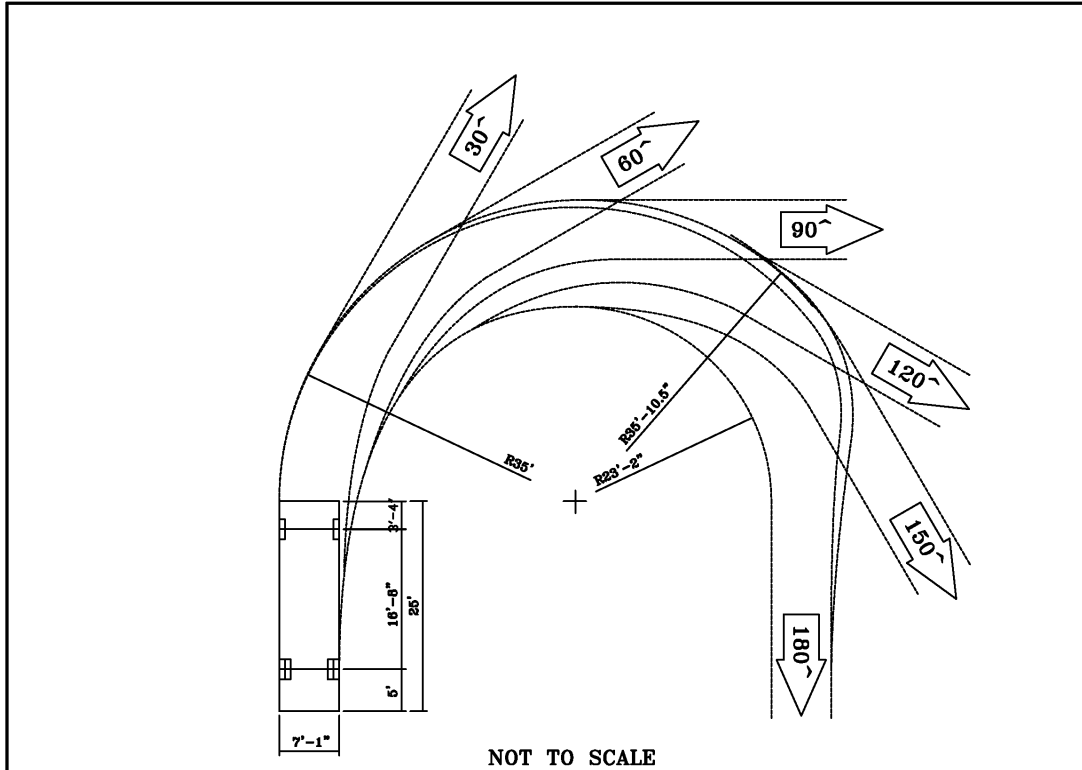


Figure SS-11: Sanitary Sewer Lift Station

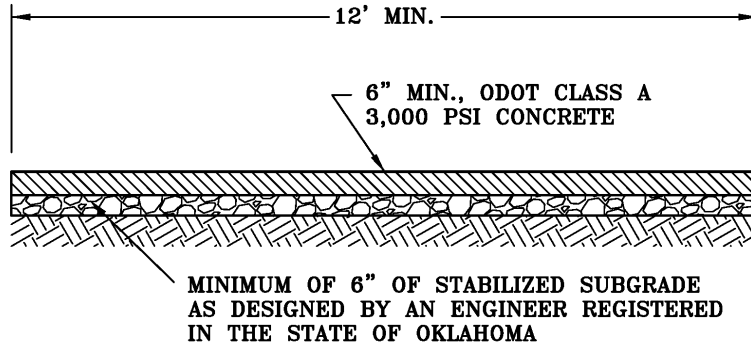




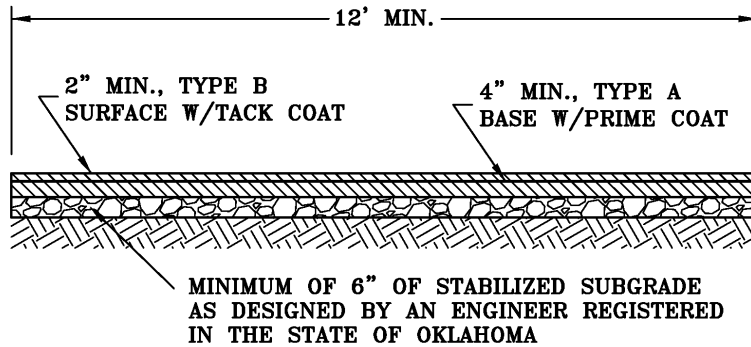


FROM THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS;
 "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS"; 1990: SINGLE UNIT
 TRUCK DESIGN VEHICLE

	File Name Standard Details-General	Date 04/05/10	Scale N.T.S.
SANITATION TRUCK TURNING RADIUS			
CITY OF NEWCASTLE, OKLAHOMA		G-2	



CONCRETE STREET SECTION



ASPHALT SECTION

NOTE:

1. PAVING SECTION SHOWN IS MINIMUM ALLOWED.

Designed By Glenn Sullivan & Associates, Inc.	Checked KS	Approved GHS	File Name Standard Details-Streets-G3	Date 12/12/11	Scale N.T.S.
SOLID WASTE ACCESS PAVING					
CITY OF NEWCASTLE, OKLAHOMA				G-3	