# CITY OF LANCASTER, TEXAS

## STANDARD CONSTRUCTION DETAILS

![Lancaster Logo](image)

**PUBLIC WORKS**
**DECEMBER 1999**

<table>
<thead>
<tr>
<th>SECTION</th>
<th>DESCRIPTION</th>
<th>SHEET NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL NOTES</td>
<td>GENERAL CONSTRUCTION NOTES</td>
<td>GN-00</td>
</tr>
<tr>
<td>STREET</td>
<td>PAVING / SECTIONS</td>
<td>STREET-01</td>
</tr>
<tr>
<td>STREET</td>
<td>PAVING / SECTIONS / DETAILS</td>
<td>STREET-02</td>
</tr>
<tr>
<td>STREET</td>
<td>PAVING / JOINTS</td>
<td>STREET-03</td>
</tr>
<tr>
<td>STREET</td>
<td>PAVING / DETAILS</td>
<td>STREET-04</td>
</tr>
<tr>
<td>STREET</td>
<td>PAVING / ALLEY / DRIVEWAYS</td>
<td>STREET-05</td>
</tr>
<tr>
<td>STREET</td>
<td>PAVING / RADIUS</td>
<td>STREET-06</td>
</tr>
<tr>
<td>STREET</td>
<td>PAVING / DETAILS / EROSION</td>
<td>STREET-07</td>
</tr>
<tr>
<td>STREET</td>
<td>PAVING / SIDEWALKS</td>
<td>STREET-08</td>
</tr>
<tr>
<td>STORM SEWER</td>
<td>STORM SEWER / INLET</td>
<td>STM SEW-01</td>
</tr>
<tr>
<td>STORM SEWER</td>
<td>STORM SEWER / INLET / DETAILS</td>
<td>STM SEW-02</td>
</tr>
<tr>
<td>STORM SEWER</td>
<td>CHANNELS / CONCRETE</td>
<td>STM SEW-03</td>
</tr>
<tr>
<td>STORM SEWER</td>
<td>CHANNELS / GABIONS</td>
<td>STM SEW-04</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>SECTION</th>
<th>DESCRIPTION</th>
<th>SHEET NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>WATER</td>
<td>WATER-01</td>
</tr>
<tr>
<td>WATER</td>
<td>WATER</td>
<td>WATER-02</td>
</tr>
<tr>
<td>WATER</td>
<td>PAVING / SECTIONS / DETAILS</td>
<td>WATER-03</td>
</tr>
<tr>
<td>SANITARY SEWER</td>
<td>SANITARY SEWER</td>
<td>SEWER-01</td>
</tr>
<tr>
<td>SANITARY SEWER</td>
<td>SANITARY SEWER / MANHOLES</td>
<td>SEWER-02</td>
</tr>
<tr>
<td>SANITARY SEWER</td>
<td>SANITARY SEWER</td>
<td>SEWER-03</td>
</tr>
<tr>
<td>EMBEDMENT</td>
<td>TYPICAL EMBEDMENTS</td>
<td>EMBED-01</td>
</tr>
<tr>
<td>WALL</td>
<td>THIN BRICK SCREENING WALL</td>
<td>WALL-01</td>
</tr>
<tr>
<td>WALL</td>
<td>BRICK SCREENING / RETAINING</td>
<td>WALL-02</td>
</tr>
</tbody>
</table>

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*NOTE: IF CONFLICT EXISTS BETWEEN HARD COPY AND ELECTRONIC FILE, HARD COPY WILL GOVERN.*
PAVING NOTES

1. CONCRETE FOR ALL STREETS SHALL BE IN ACCORDANCE WITH NCTCOG CLASS "A" CONCRETE (3,000 P.S.I. COMPRESSIVE STRENGTH @ 28 DAYS). CONCRETE FOR ALL ALLEYS SHALL BE IN ACCORDANCE WITH NCTCOG CLASS "C" CONCRETE (1,500 COMPRESSIVE STRENGTH @ 28 DAYS).

2. REBAR DETAIL SHEETS SHALL BE PROVIDED BARS NO. 3 OR 16 INCH CENTERS OR NO. 4 BARS 24 INCH CENTERS. REBAR DETAIL SHEETS SHALL BE IN BOTH DIRECTIONS ON CENTER. REBAR DETAIL SHEETS FOR EASE OF CONSTRUCTION. CONCRETE SHALL BE PLACED IN 4" EASE ON ALL SIDES OF CONCRETE STRUCTURES AND 2" EASE ON ALL SIDES OF CONCRETE POLES.

3. ALL REINFORCING STEEL SHALL BE TIED (1%2) REINFORCING STEEL SHALL BE SET ON PLASTIC CHAIRS. BAR LAPS SHALL BE MINIMUM 30 DIAMETERS

4. EXPANSION JOINTS SHALL BE SPACED EVERY 200 FEET AND AT ALL INTERSECTION ALLEYS SHALL HAVE A MINIMUM OF TWO EXPANSION JOINTS.

5. SAWCUT TRANSVERSE DUMMY JOINTS SHALL BE SPACED EVERY 30 FEET ON PAVING 6 INCHES OR THICKER AND EVERY 25 FEET FOR PAVING THICKNESS LESS THAN 6 INCHES. SAWING SHALL OCCUR WITHIN 5 TO 10 HOURS AFTER THE POUR INCLUDING SEALING. OTHERWISE THE JOINT SHALL BE REMOVED AND LONGITUDINAL BUTT JOINT CONSTRUCTED.

6. SUBGRADE UNDER PAVEMENT SHALL BE A MINIMUM OF 6 INCHES OF LIME TREATED SUBGRADE ONLY HYDRAULIC LIME SHALL BE UTILIZED. OPTIMUM LIME CONTENT SHALL BE DETERMINED DURING THE EXCAVATION BY THE USE OF A LINE TEST SERIES. LINE SERIES TEST SHALL BE TAKEN ALONG THE EXCAVATION AT ALL GALLEYS SHALL BE IN 1/2" LIME SERIES. LIME SERIES TEST SHALL BE COMPLETED BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY.

7. LIME TREATED SUBGRADE SHALL BE COMPACTED TO A DENSITY OF 90% NOT LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D 692. MOISTURE CONTENT SHALL BE DETERMINED PRIOR TO COMPACTING. DENSITY TEST RESULTS SHALL BE COMPLETED BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY. ALL RESULTS SHALL BE PROVIDED TO THE CITY.

8. LIME TRIMMINGS ARE NOT ACCEPTABLE FOR ANY USE.

9. ALL FILL SHALL BE COMPACTED BY MECHANICAL METHODS. MAXIMUM LOOSE LIFT FOR COMPACTION SHALL BE 2 INCHES. ALL LIFTS SHALL BE TESTED FOR DENSITY BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY. DENSITY REQUIREMENTS SHALL BE AS SHOWN ON THE PLANS FOR THE TYPE OR MATERIAL PLACED IN THE PLANS.

10. ALL AREAS OF EROSION WILL HAVE GRASS ESTABLISHED IMMEDIATELY. GRASS SHALL MEET THE REQUIREMENTS OF ITEM 3.9.3.10.2.3 niftco1.

11. ALL AREAS TO BE ERODED OR FILL SHALL HAVE EROSION CONTROL PLACED PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE PROJECT IN ACCORDANCE WITH NCTCOG ITEM 3.12.

12. ALL SIDEWALKS SHALL INCLUDE BARRIER FREE RAMPS AT INTERSECTING STREETS, ALLEYS, DRIVEWAYS, ET AL. BARRIER FREE RAMPS WILL MEET CURRENT ADA REQUIREMENTS AND BE APPROVED BY THE TEXAS LICENSING BOARD.

13. SIDEWALKS SHALL MAINTAIN A MINIMUM SLIP RESISTANCE FIFTY SCALES. SIDEWALKS SHAL BE DESIGNED, CONSTRUCTED AND MAINTAINED FOR NON-SLIP DRIVESHIPS EXPANSION JOINT MATERIAL SHALL BE USED AT THESE LOCATIONS.

14. NO VEHICLES SHALL BE PERMITTED ON CONCRETE PAVEMENT WITHOUT APPROVAL FROM THE CITY. THE CITY WILL MAKE DETERMINATION BASED ON CONCRETE BREAK REPORT.

LINED CHANNELS

1. CONSTRUCTION JOINT SHOWN IN DETAILS FOR CONVENIENCE ONLY. MONOLITHIC CONSTRUCTION MAY BE USED.

2. ALL VISIBLE SURFACES SHALL BE A TRINAX FINISH.

3. ALL REINFORCING STEEL SHALL BE #19 DIAMETER AND SPACED 12" CENTER TO CENTER BOTH WAYS UNLESS OTHERWISE SPECIFIED.

4. IF WOOD FORMS ARE USED WITH CONSTRUCTION JOINT THEY SHALL BE TWO, 7/8", AND SHALL NOT REMOVED UNTIL CONCRETE ON SLIP ROOF IS READY TO PLACE.

5. ALL CONCRETE IN LINED CHANNEL SHALL BE NCTCOG CLASS "A" (MINIMUM 3,000 P.S.I.) CONCRETE.

6. FLAT BOTTOM TO BE CONSTRUCTED WHEN CHANNEL WIDTH LESS THAN 12 FOOT.

7. NO CHAMFER ON ALL CONCRETE CORNERS.

STORM SWEEP

1. THE FLOOR OF THE EXCAVATION FOR INLET BOX MUST PROVIDE A FRAMED LEVEL BED FOR THE BASE SECTION TO REST UPON.

2. A MINIMUM OF 6 INCHES OF 1" DIA MAXIMUM ROCK OR GRAVEL SHALL BE USED TO PREPARE THE BASE OF THE INLET BOX. A MINIMUM 6 INCHES OF 3/4" BARK CRUSHED STABILIZED SAND SHALL BE USED TO PREPARE THE BEDDING. CEMENT STABILIZED SAND SHALL BE ALLOWED TO BE KEYED IN HOLE PLUMPED DRY.

3. AFTER PIPE HAS BEEN LAID ON PROPER BEDDING, BACKFILLING TO COMPLY WITH MAXIMUM IN LOUD LIMITS MECHANICALLY COMPACTED TO 90% STANDARD PROCTOR UNDER ROADWAY ON 12" MAXIMUM LOOSE LIFT BEHIND CURB. MAXIMUM SIZE ROCK IN BACKFILL SHALL NOT EXCEED 4 INCHES IN DIAMETER.

4. PRECAST INLETS MUST BE APPROVED BY THE CITY.

5. CONCRETE TO BE MINIMUM 4,000 P.S.I.

6. LOOKING DEVICE IS REQUIRED ON ALL STORM SEWER LIDS.

7. "NO DUMPING" WARNING PLACED TO BE INSTALLED ON ALL STANDARD AND RECESSION INLETS.

8. CONCRETE CAST IN PLACE INLETS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 P.S.I. @ 28 DAYS.


10. EXISTING STORM SEWER PIPE AND OR LATERALS SHALL BE LOCATED PRIOR TO SETTING OF CONSTRUCTING INLET BOXES. IF ADJUSTMENT IN GRADE OF LATERAL IS REQUIRED A REVISED DESIGN BY THE ENCORP shall be submitted to the CITY FOR APPROVAL.

11. REINFORCED CONCRETE PIPE CLASS B MINIMUM OR HIGH DENSITY POLYETHYLENE STORM SEWER PIPE IS APPROVED WITHIN THE CITY.

WATER

1. ALL WATER LINE CROSSINGS OF SANITARY SEWER LINES SHALL BE AS SHOWN IN THE PLANS AND MEET TINCO REQUIREMENTS.

2. PIPES 12 INCHES IN DIAMETER AND SMALLER SHALL BE POLYVYNIL, CHLORIDE (PVC) MEETING THE REQUIREMENTS OF AMWA CSA C150 CLASS 50 PIPE. ALL 3-P.I. SHAPE SHALL BE MANUFACTURED FROM A POLYETHYLENE LINE.

3. FOR PIPES LARGER THAN 12 INCHES IN DIAMETER, THE PIPE SHALL BE REINFORCED CONCRETE PIPE (AMWA class C900, or AMWA class D120, ESCUTCHEON PIPE (AMWA class C900, or AMWA class D120.) MEETING THE REQUIREMENTS OF AMWA C900 CLASS 50 OR POLYVYNIL, CHLORIDE PIPE UP TO 18 INCHES MEETING THE REQUIREMENTS OF AMWA C900-225 P.S.I. RATED PIPE.

4. ALL VALVES ON PIPES 12 INCHES AND SMALLER SHALL BE RESIDENTIAL SEATED WEDGE VALVES (AMWA C900).

5. ALL VALVES ON PIPES LARGER THAN 12 INCHES BUT SMALLER THAN 30 INCHES SHALL BE BUTTERFLY VALVES (AMWA C900). ALL VALVES ON PIPES 30 INCHES AND LARGER SHALL BE BUTTERFLY VALVES (AMWA C900).

6. EMBLEEM SHALL BE AS SHOWN IN THE PLANS. SCABFILL WITHIN THE LIMITS OF EXISTING AND NEW CONSTRUCTION. ALL FRATTING, COPING TO BE NOTED AT THE PROCTOR OUTSIDE PAVEMENT (EXISTING OR PROPOSED) SHALL BE COMPACTED TO MINIMUM OF 90% STANDARD PROCTOR. ALL COPING SHALL BE BY MECHANICAL METHODS.

7. WATER LINES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH NCTCOG ITEM 7.3.

8. ALL HORIZONTAL AND VERTICAL BENDS SHALL BE BLOODED.

SCREENING WALLS

1. CONCRETE = MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. @ 28 DAYS.

2. REINFORCEMENT = ASTM A-967.

3. MANUFACTURER = COMPRESSIVE STRENGTH SHALL BE PRESERVED IN ITEM 2.3.6 SPECIAL PROVISIONS.

4. WINO LOAD FOR DESIGN = 20 P.S.I.

5. PIER BEARING STRENGTHS = SEE BRICK SCREENING WALL NOTES.

6. MORTAR = TYPE "B".

7. PROVIDE CONCRETE JOINTS AT 50 FEET.

8. PROVIDE CONCRETE JOINTS AT 200 FEET CENTER MAXIMUM.

9. PROVIDE PIER WITH MINIMUM 9 FOOT 24 INCH DIAMETER BELL IN CLAY OR OTHER MATERIAL EXCEPT BILLY 4 FOOT DIAMETER WITH 3 FOOT MINIMUM INTO BLUE SHALE.

10. ALL EXPOSED CONCRETE SHALL BE CLASS 2 RUBBED FINISHED SURFACE.

11. SIDEWALKS ADJACENT TO WALLS MUST BE 5 FOOT MINIMUM WIDTH FROM ALL PORTIONS OF THE WALL, INCLUDING PLINTHS, COLUMN, ETC.

12. MAXIMUM PLASTER SPACING 40 FEET.

13. WALLS SHALL NOT BE PLACED IN THE VISIBILITY EASEMENT OR STREET RIGHT OF WAY.


15. IF WROUGHT IRON FENCING IS TO BE UTILIZED ON SCREENING, ALL WROUGHT IRON MUST BE BONDED TO STOCK NO TUBULAR STEEL WILL BE ALLOWED.

DETAILS

SPECIAL DETAILS OR MODIFICATIONS TO THESE STANDARD DETAILS TO BE UTILIZED ON ANY GIVEN PROJECT SHALL BE SUBMITTED TO THE CITY FOR APPROVAL FOR USE.
STANDARD 12', 16' & 20' ALLEY SECTION

STANDARD ALLEY SECTION WITH CURBS

MEDIAN AT DRIVEWAYS SPLIT BY PROPERTY LINE
ALLEY TURN FOR $\alpha = 75^\circ$–$90^\circ$

SECTION A–A

ALLEY TURN FOR $\alpha > 90^\circ$

DETAIL "A"

ALLEY TURN FOR $\alpha = 30^\circ$–$75^\circ$

ALLEY INTERSECTING ALLEY

ALLEY / STREET INTERSECTION
STORM SEWER TYPE A MANHOLE

MAX. PIPE SIZE 30'

SLOPED CONCRETE HEADWALL

DETAIL OF CONCRETE COLLAR
FOR R.C.P. OR R.G.A.P. CONNECTIONS
WROTE JOINT SHALL BE CONCRETE WELT
Typical Channel with Reinforced Concrete Lined Pilot Channel

Optional (Sloped Wall)

Reinforced Concrete Pilot Channel (Vertical Wall)

Typical Reinforced Concrete Channel

General Notes for Lined Channels
1. Construction joint shown for convenience only. Monolithic construction may be used.
2. All visible surfaces shall be a primer finish.
3. All reinforcing steel shall be 3/8" dia. and spaced 12" center to center both ways unless otherwise specified.
4. If wood forms are used with construction joint, they shall be Prim 2x4" and shall not be removed until concrete on slopes is ready to be placed.
5. ALL CONCRETE IN LINED CHANNELS SHALL BE MORTAR-CLASS "A" (MIN. 3000 F.S.L.) CONCRETE.
6. Flat bottom to be constructed when channel width is less than 12 feet.
7. 3/4" chamfer on all concrete corners.
METER VAULT & BY-PASS SPECIFICATIONS

1. NOTIFY THE UTILITY OPERATIONS DEPARTMENT PRIOR TO CONSTRUCTION OF WATER VAULT OR BY-PASS ASSEMBLY.
2. THE WATER VAULT CAN BE EITHER POURED IN PLACE OR PRE-CAST. ALL WALLS, COVER POURED IN PLACE OR PRE-CAST, SHALL BE MIXTURED WITH 4,000 PSI OR EXCEEDING. THE THREE-WAY VALVE, 4" THICK CONCRETE WALLS REINFORCED WITH 1/4" STEEL, SHALL BE ON THE OUTER CONCRETE WALLS ONLY. THESE ARE MINIMUM SPECIFICATIONS.
3. THE WALLS OF THE VAULT SHALL BE 8" THICK CONCRETE WALLS. WALLS SHALL BE REINFORCED WITH 1/4" STEEL. BOTH WALLS SHALL BE A MAXIMUM OF 12" IN THICKNESS. A 4" THICK CONCRETE WALL SHALL BE REINFORCED AT THE PRINTED. THE OUTER CONCRETE WALLS SHALL BE Poured IN PLACE OR PRE-CAST. ALL CONCRETE WALLS SHALL BE POURED IN PLACE OR PRE-CAST.
4. THE VAULT VAULTS SHALL NOT BE INSTALLED IN A MANNER THAT EXCEEDS THE PRINTED SPECIFICATIONS OR EXCEEDS THE MINIMUMS SPECIFIED. ALL WALLS SHALL BE REINFORCED WITH 1/4" STEEL. BOTH WALLS SHALL BE A MAXIMUM OF 12" IN THICKNESS. A 4" THICK CONCRETE WALL SHALL BE REINFORCED AT THE PRINTED. THE OUTER CONCRETE WALLS SHALL BE Poured IN PLACE OR PRE-CAST. ALL CONCRETE WALLS SHALL BE POURED IN PLACE OR PRE-CAST.
5. THE VAULT LID SHALL BE BOLTED TO A MAXIMUM 6" PER SIDE. THE OUTER CONCRETE WALLS SHALL BE Poured IN PLACE OR PRE-CAST. ALL CONCRETE WALLS SHALL BE POURED IN PLACE OR PRE-CAST.
6. ALL FINAL RIGID MOUNTING DEVICES SHALL BE CAST IN PLACE OR POURED IN PLACE. ANY ADDITIONAL CONCRETE OR REINFORCED CONCRETE MOUNTING DEVICES SHALL BE CAST IN PLACE OR POURED IN PLACE. ANY ADDITIONAL CONCRETE OR REINFORCED CONCRETE MOUNTING DEVICES SHALL BE CAST IN PLACE OR POURED IN PLACE.
7. THE VAULT VAULTS SHALL BE BOLTED TO A MAXIMUM 6" PER SIDE. THE OUTER CONCRETE WALLS SHALL BE Poured IN PLACE OR PRE-CAST. ALL CONCRETE WALLS SHALL BE POURED IN PLACE OR PRE-CAST.
8. THE VAULT VAULTS SHALL BE BOLTED TO A MAXIMUM 6" PER SIDE. THE OUTER CONCRETE WALLS SHALL BE Poured IN PLACE OR PRE-CAST. ALL CONCRETE WALLS SHALL BE POURED IN PLACE OR PRE-CAST.
9. THE MINIMUM DEPTH OF ANY VAULT SUMP SHALL BE 18"-0".
NOTE:

ENGINEERING DESIGN SHALL BE SUBMITTED TO CITY FOR APPROVAL. FOR USE FOR EACH CROSSING, PIERS SHALL BE PLACED AT MAXIMUM SPAN DISTANCE AS DIAGETED BY ENGINEER'S DESIGN.

CITY OF LANCASTER, TEXAS

STANDARD CONSTRUCTION DETAILS

SANITARY SEWER

DATE: DECEMBER, 1999

SEWER-01
CITY OF LANCASTER, TEXAS
STANDARD CONSTRUCTION DETAILS
TYPICAL EMBDMENTS
DATE: DECEMBER 1, 1999
EMBD-01
TYPICAL WALL & COLUMN LAYOUT PLAN

THIN WALL BRICK SCREENING WALL ELEVATION

CITY OF LANCASTER, TEXAS
STANDARD CONSTRUCTION DETAILS

THIN BRICK SCREENING WALL

DATE: DECEMBER 1, 1999
SHEET: WALL-01