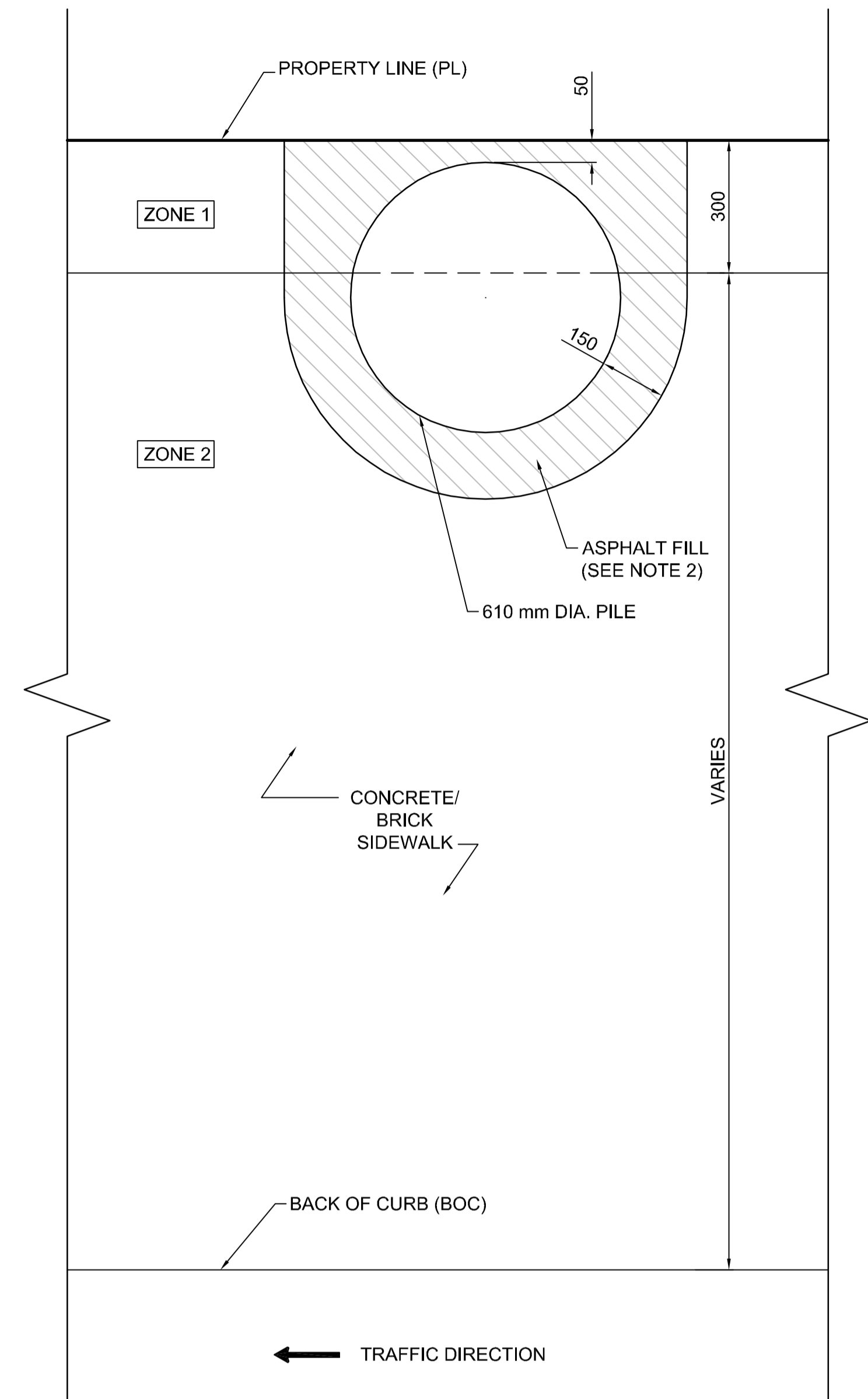


TYPICAL ELEVATION OF OHSS

1:50

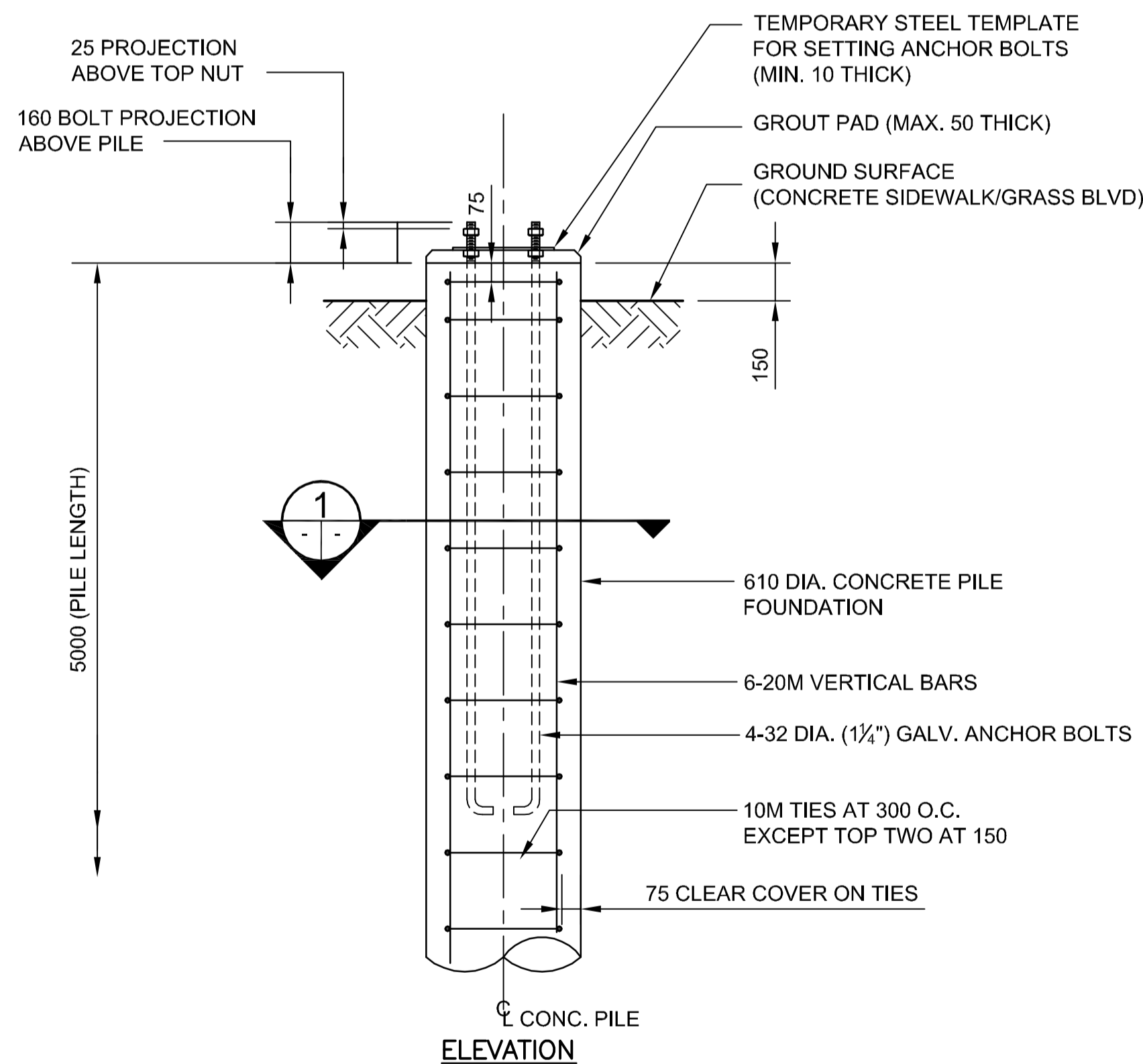
PILE CONSTRUCTION NOTES

- REINFORCING STEEL
 - CSA G30.12 GR. 400
 - VERTICAL BARS FULL LENGTH OF PILE
 - HOT DIP GALVANIZED
- ANCHOR BOLTS
 - CSA G40.21 GR. 300W
 - 4-32 (1/2") DIA. x 1500 LONG + 150 HOOK
 - EACH BOLT C/W 2 NUTS & 2 WASHERS
 - TOP 300 THREADED
 - HOT DIP GALVANIZED FULL LENGTH
 - BCD = BOLT CIRCLE DIAMETER TO CENTRE OF BOLT GROUP
- ANCHOR BOLTS SHALL BE ALIGNED WITH A TEMPORARY STEEL TEMPLATE. PLACEMENT OF ANCHOR BOLTS AND CONCRETE WITHOUT THE TEMPLATE WILL NOT BE PERMITTED.
- TOP OF PILE SHALL BE FORMED WITH A TUBULAR FORM (SONOTUBE) AS FOLLOWS:
 - (a) BORED PILES - MIN. 500 mm BELOW FINAL GRADE
 - (b) "HYDRO-JET EXCAVATED" PILES - MIN. 1000 mm BELOW FINAL GRADE
- CONTRACTOR SHALL REMOVE THE BASE TEMPLATE, NUTS AND FORM, FOLLOWING A MINIMUM 24 HOUR CONCRETE CURING PERIOD.
- CONCRETE MIX DESIGN
 - PROPORTIONING OF FINE AGGREGATE, COARSE AGGREGATE, CEMENT, WATER, AND AIR ENTRAINING AGENT SHALL BE SUCH AS YIELD CONCRETE HAVING THE REQUIRED STRENGTH AND WORKABILITY AS FOLLOWS:
 - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS = 35 MPa
 - MAXIMUM WATER/CEMENT RATIO = 0.45
 - MINIMUM CEMENT CONTENT = 340 kg/m
 - SLUMP = 80 mm ±30 mm
 - AGGREGATE: 20 mm NOMINAL
 - AIR CONTENT: 5.0 TO 8.0 PERCENT
 - CEMENT - TYPE HS, HIGH SULFATE-RESISTANT.



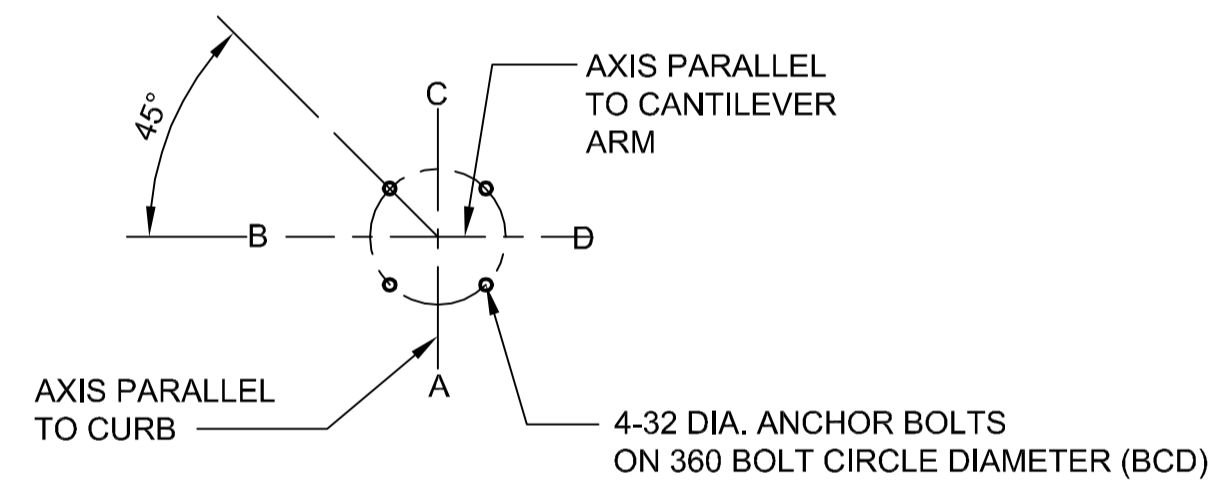
TYPICAL SITE PLAN SHOWING ADJACENT PROPERTY

1:10 (SEE TABLE ON SHEET 2)

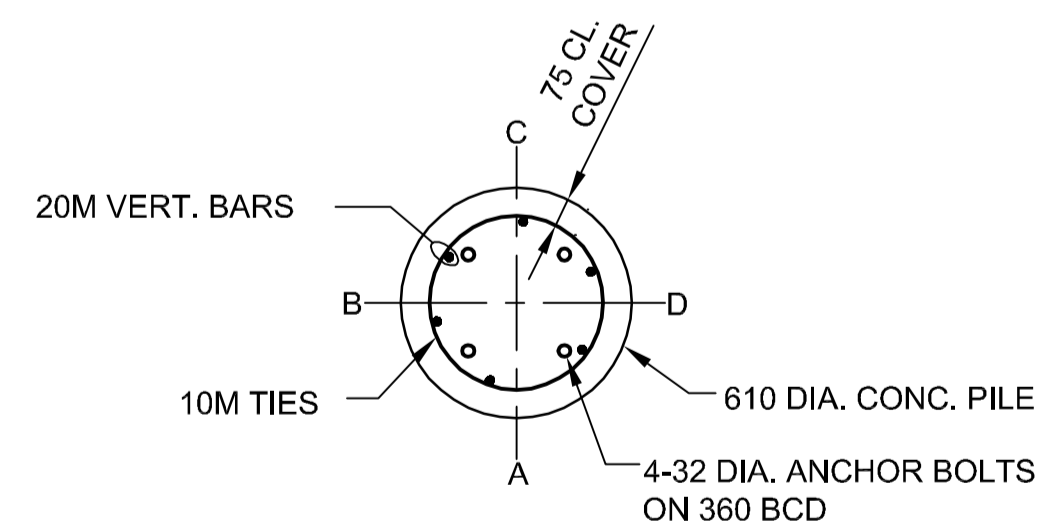


CONCRETE PILE FOUNDATION DETAIL

1:20



ANCHOR BOLTS LAYOUT



SECTION

TYPICAL SITE NOTES

- TYPICAL PILE INSTALLATION LOCATION SHOWN. CONTRACT ADMINISTRATOR MAY MODIFY DEPENDING ON SITE APPURTENANCES.
- ISOLATE PILE AS PER SD-228C.

| 150 mm W.M. | WATER MAIN | 150 mm W.M. | HYDRO | 150 mm W.M. |
|-------------|---------------------|-------------|----------------------|-------------|
| ⊕ | HYDRANT VALVE | ⊕ | M.T.S. | ⊕ |
| ⊗ | LAND DRAINAGE SEWER | ⊗ | CONCRETE | ⊗ |
| ⊙ | WASTE WATER SEWER | ⊙ | ASPHALT | ⊙ |
| ○ | MANHOLE | ○ | PLANNING | ○ |
| □ | CATCH BASIN | □ | SIDEWALK | □ |
| ▽ | CURB INLET | ▽ | PAVING STONES | ▽ |
| ⊕ | JUNCTIONS | ⊕ | PARTIAL DEPTH REPAIR | ⊕ |
| ⊖ | CULVERT | ⊖ | PROPERTY LINE | ⊖ |
| ⊗ | GAS | ⊗ | SURVEY BAR | ⊗ |
| --- | EXISTING | --- | PARAPLEGIC RAMP | --- |
| --- | LEGEND-PLAN | --- | PROPOSED | --- |
| --- | PROPOSED | --- | EXISTING | --- |
| --- | EXISTING | --- | LEGEND-PLAN | --- |
| --- | PROPOSED | --- | PROPOSED | --- |
| --- | EXISTING | --- | EXISTING | --- |

| UNDERGROUND STRUCTURES | B.M. ELEV. | DESIGNED BY | SSR |
|--------------------------------|------------|---------------------------|----------|
| SUPV. U/G STRUCTURES COMMITTEE | | DRAWN BY | TJH |
| DATE | | CHECKED BY | NBU |
| | | APPROVED BY | |
| | | HOR. SCALE | AS NOTED |
| | | VERTICAL | |
| | | RELEASED FOR CONSTRUCTION | |
| | | DATE | |

| NO. | REVISIONS | DATE | BY | DATE |
|-----|-------------------|----------|-----|------|
| 2 | ISSUED FOR TENDER | 08/15/08 | TJH | |
| 1 | ISSUED FOR REVIEW | 07/29/08 | TJH | |

| ENGINEER'S SEAL | PROVINCE OF MANITOBA | REGISTERED PROFESSIONAL ENGINEER |
|------------------------|----------------------|----------------------------------|
| ORIGINAL STAMPED BY | S.S. RIHAL | 08/15/08 |
| CONSULTANT PROJECT NO. | 08-8900 | |

| THE CITY OF WINNIPEG | TRANSIT DEPARTMENT |
|-----------------------------|---------------------------------|
| ON STREET TRANSIT | PRIORITY IMPROVEMENTS - PHASE 2 |
| STRUCTURAL DETAILS (1 OF 2) | |

| CITY DRAWING NUMBER | SHEET | OF | 11 |
|---------------------|-------|----|----|
| | 10 | | |