

**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

VOLUME I - YEAR 2010 REVISIONS

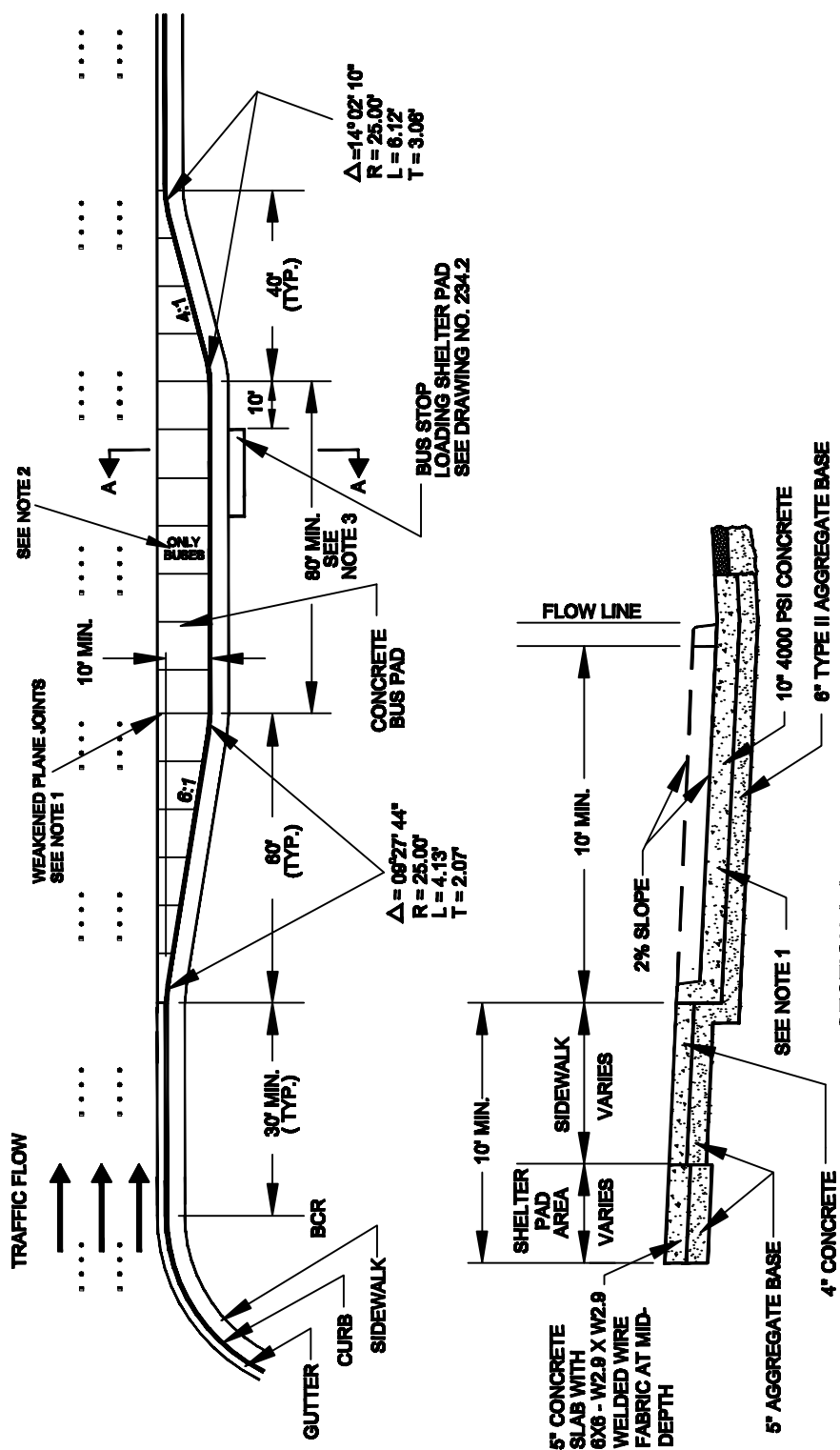
| DRAWING NUMBER | TITLE AND REVISION SUMMARY | EFFECTIVE DATE |
|---------------------------|---|---------------------------|
| 234.1 | "Typical Bus Turnout" - Revised to increase the thickness of the concrete shelter pad from 4 inches to 5 inches with 6X6 welded reinforcement. | 7/01/10 |
| 234.2 | "Typical Bus Stop Passenger Loading and Shelter Pads" - Revised to increase the thickness of the concrete shelter pad from 4 inches to 5 inches with 6X6 welded reinforcement. | 7/01/10 |
| 234.2A | "Typical Double Bus Stop Passenger Loading and Shelter Pads" - Revised to increase the thickness of the concrete shelter pad from 4 inches to 5 inches with 6X6 welded reinforcement. | 7/01/10 |
| 254A | "Crosswalk Markings" - Revision to remove the City of Las Vegas exclusion. | 1/01/10 |
| 506 | "Service Installation, 5/8", 3/4", & 1" Meter Sizes-Improved Area" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 507 | "Service Installation, 5/8", 3/4", & 1" Meter Sizes-Unimproved Area" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 508 | "Service Installation, Dual 5/8", 3/4", & 1" Meter Sizes-Improved Area" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 509 | "Service Installation, Dual 5/8", 3/4", & 1" Meter Sizes-Unimproved Area" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 510 | "Service Installation, 1-1/2" & 2" Meter Sizes-Improved Area" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 511 | "Service Installation, 1-1/2" & 2" Meter Sizes-Unimproved Area" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 512 | "Thrust Block Details" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 513 | "Anchor Block Details Reducer or Valve" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |

| DRAWING NUMBER | TITLE AND REVISION SUMMARY | EFFECTIVE DATE |
|-----------------------|--|-----------------------|
| 514 | "Blow-Off Assembly Locations" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 515 | "Blow-Off Assembly 4", 6",8", & 10" Mains" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 516 | "Fire Hydrant Installation" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 517 | "Valve Box Installation & Adjustment" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |
| 518 | "Chlorination Requirements" - Drawing deleted, entities have adopted UDACS. | 7/01/10 |

SUMMARY OF ADMINISTRATIVE REVISIONS

| DRAWING NUMBER | TITLE AND REVISION SUMMARY | EFFECTIVE DATE |
|-----------------------|--|-----------------------|
| 234.3 | "Bus Stop Placement Within Exclusive Right Turn Lane for Commercial Properties" - Changed all references of "Type I Pavement Marking Film" to "Type II Pavement Marking Film" and all references of "Type II Pavement Marking Film" to "Type I Pavement Marking Film", to be consistent with modifications in USS 714. | 1/01/10 |
| 244.5 | "Bicycle Lane Delineation, Legend, and Signage" - Changed all references of "Type I Pavement Marking Film" to "Type II Pavement Marking Film" and all references of "Type II Pavement Marking Film" to "Type I Pavement Marking Film", to be consistent with modifications in USS 714. | 1/01/10 |
| 246 | "Standard Pavement Markers Added Turn Lane" - Changed all references of "Type I Pavement Marking Film" to "Type II Pavement Marking Film" and all references of "Type II Pavement Marking Film" to "Type I Pavement Marking Film", to be consistent with modifications in USS 714. | 1/01/10 |
| 246A | "Standard Pavement Markers Forced Turn Lane" - Changed all references of "Type I Pavement Marking Film" to "Type II Pavement Marking Film" and all references of "Type II Pavement Marking Film" to "Type I Pavement Marking Film", to be consistent with modifications in USS 714. | 1/01/10 |

| DRAWING NUMBER | TITLE AND REVISION SUMMARY | EFFECTIVE DATE |
|----------------|---|----------------|
| 246B | "Pavement Marking and Signage Right Turn Lane at Minor Intersections (Arterials With Emergency/Parking Lane)" - Changed all references of "Type I Pavement Marking Film" to "Type II Pavement Marking Film" and all references of "Type II Pavement Marking Film" to "Type I Pavement Marking Film", to be consistent with modifications in USS 714 | 1/01/10 |
| 246.1 | "Bike Lane Approach to Intersection With Exclusive Right Turn Lane" - Changed all references of "Type I Pavement Marking Film" to "Type II Pavement Marking Film" and all references of "Type II Pavement Marking Film" to "Type I Pavement Marking Film", to be consistent with modifications in USS 714. | 1/01/10 |
| 246.2 | "Bicycle Lane Transition to Shared Lane at Intersection" - Changed all references of "Type I Pavement Marking Film" to "Type II Pavement Marking Film" and all references of "Type II Pavement Marking Film" to "Type I Pavement Marking Film", to be consistent with modifications in USS 714. | 1/01/10 |



NOTES:

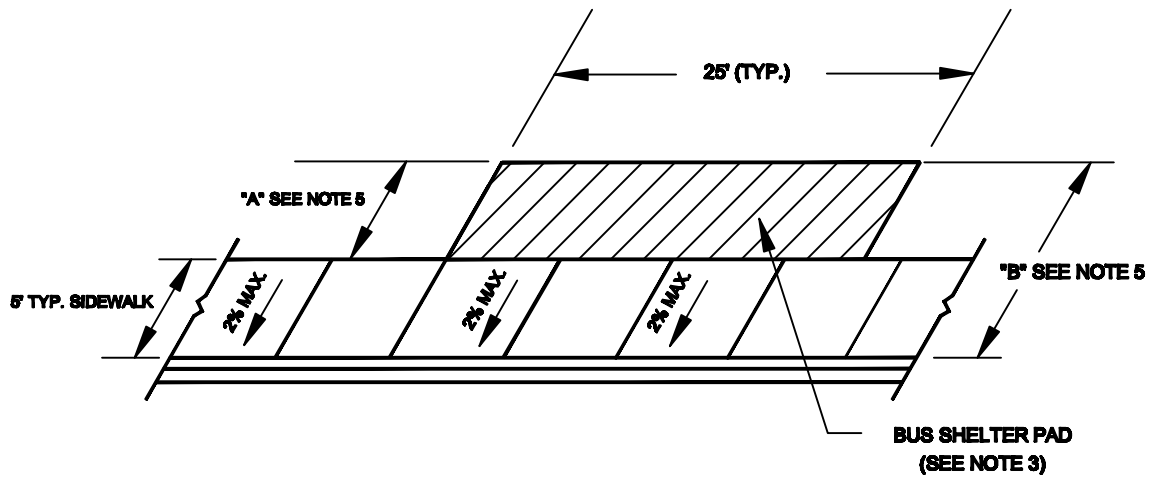
1. CONCRETE BUS PAD SHALL BE MONOLITHIC. TRANSVERSE WEAKENED PLANE JOINTS SHALL BE INSTALLED AT 10' INTERVALS AND AS DETAILED IN STANDARD DRAWING NO. 233, TYPE "C".
2. A MINIMUM OF ONE SET OF PAVEMENT MARKINGS CONTAINING THE "BUSES ONLY" SYMBOL SHALL BE PLACED IN THE TURN-OUT AREA. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.
3. ADDITIONAL STORAGE AREA WILL BE REQUIRED WHEN MORE THAN ONE BUS IS EXPECTED TO OCCUPY THE TURN-OUT AT THE SAME TIME.
4. ALTERNATE CONCRETE AND BASE THICKNESS MAY BE SUBSTITUTED, BUT MUST BE SUPPORTED BY ENGINEERING ANALYSIS AND APPROVED BY THE ENGINEER.
5. TURN-OUT SURFACE SHALL BE TEXTURED IN ACCORDANCE WITH UNIFORM STANDARD SPECIFICATION NO. 408.03.08. FLOW LINE SHALL NOT BE TEXTURED, BUT SHALL BE A TROWELED SURFACE.

| SPECIFICATION REFERENCE | |
|-------------------------|---------------------|
| 302 | AGGREGATE BASE |
| 501 | CONCRETE |
| 502 | CONCRETE STRUCTURES |
| | |
| | |

**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

TYPICAL BUS TURN-OUT

| | | | |
|--------------|----------|-------|--|
| DATE 6-10-10 | DWG. NO. | 234.1 | |
|--------------|----------|-------|--|

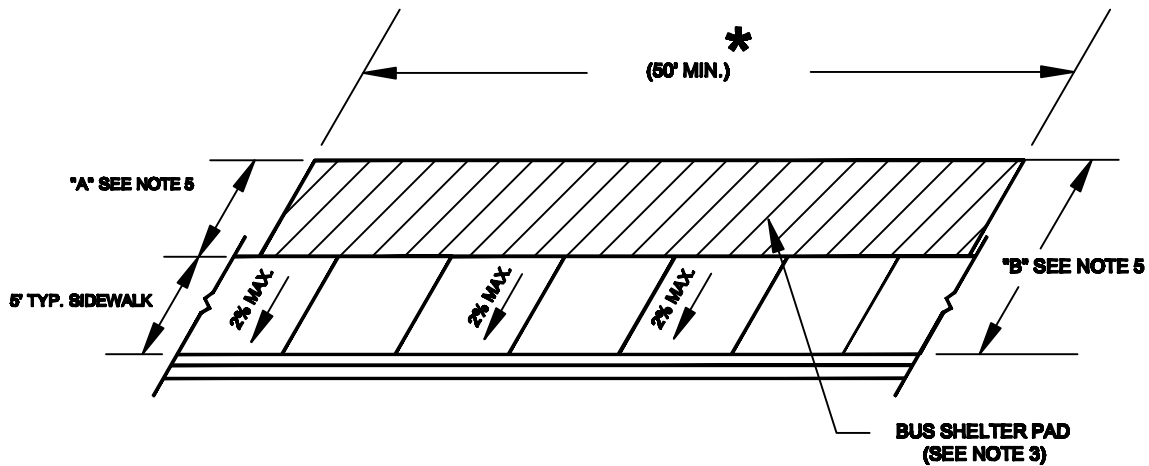


 ADDITIONAL AREA REQUIRED BEHIND TYPICAL 5 FT. SIDEWALK FOR BUS SHELTER PAD

NOTES:

1. SIDEWALK RAMP MAY BE REQUIRED TO BE CONSTRUCTED IN THOSE LOCATIONS WHERE THE BUS STOP WOULD OTHERWISE BE INACCESSIBLE AS DEFINED BY THE AMERICANS WITH DISABILITIES ACT. SEE DRAWING NO. 235, SHEET 4 OF 4 FOR SIDEWALK RAMP DETAILS.
2. ADDITIONAL RIGHT-OF-WAY OR EASEMENT IS REQUIRED FOR BUS SHELTER PAD AND VARIABLE HEIGHT CURB AT BACK OF SIDEWALK RAMP AND SHALL BE DEDICATED TO THE LOCAL ENTITY.
3. CONCRETE FOR BUS SHELTER PAD SHALL BE 5 INCHES THICK SLAB WITH 6X6 - W2.9 X W2.9 WELDED WIRE FABRIC AT MID-POINT AND TYPE II AGGREGATE BASE SHALL BE 5 INCHES THICK.
4. BUS SHELTER PAD CONNECTION TO DETACHED SIDEWALK CONDITION SHALL BE DETERMINED BY THE ENTITIES.
5. "A" = 10', "B" = 15' UNLESS BUS TURNOUT IS CONSTRUCTED PER STANDARD DRAWINGS 234.1 OR 234.3, THEN "A" = 5', "B" = 10'.

| SPECIFICATION REFERENCE | | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
|-------------------------|---------------------|--|----------------|
| 302 | AGGREGATE BASE | TYPICAL BUS STOP PASSENGER LOADING AND SHELTER PADS | |
| 501 | CONCRETE | | |
| 502 | CONCRETE STRUCTURES | | |
| | | DATE 6-10-10 | DWG. NO. 234.2 |



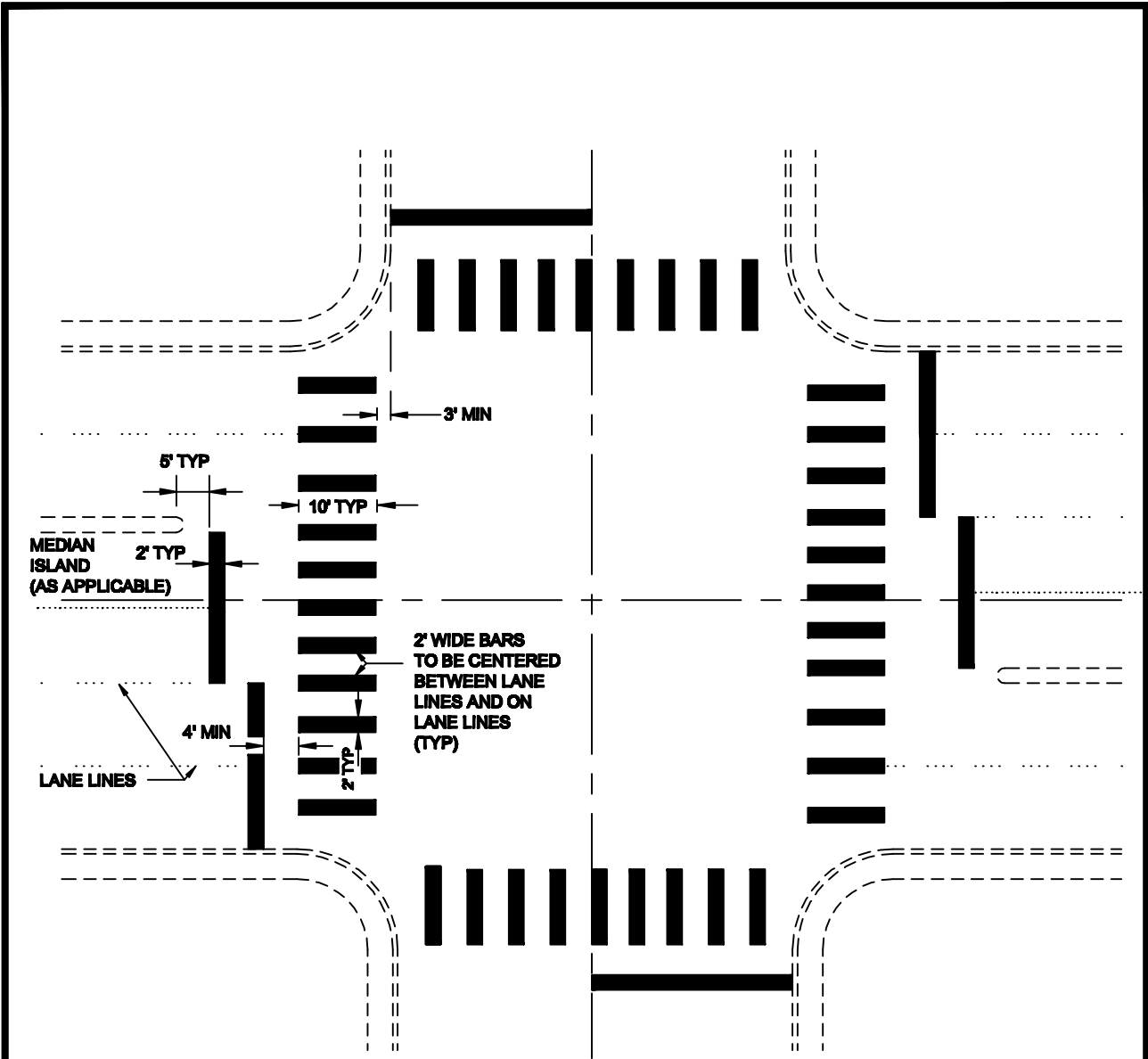
 ADDITIONAL AREA REQUIRED BEHIND TYPICAL 5 FT. SIDEWALK FOR BUS SHELTER PAD

 ADDITIONAL 25 FEET MAY BE REQUIRED BY RTC.

NOTES:

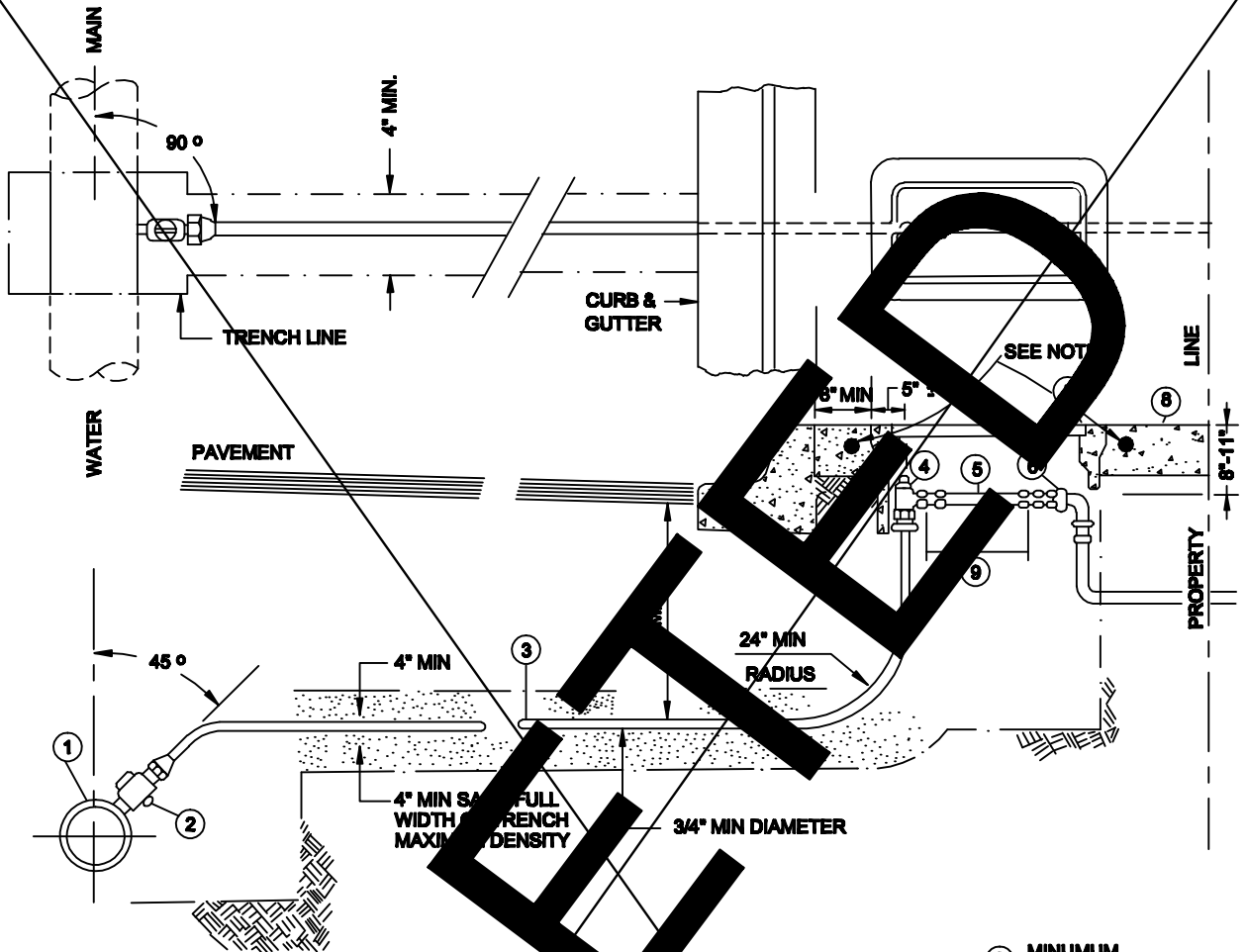
1. SIDEWALK RAMP MAY BE REQUIRED TO BE CONSTRUCTED IN THOSE LOCATIONS WHERE THE BUS STOP WOULD OTHERWISE BE INACCESSIBLE AS DEFINED BY THE AMERICANS WITH DISABILITIES ACT. SEE DRAWING NO. 235, SHEET 4 OF 4 FOR SIDEWALK RAMP DETAILS.
2. ADDITIONAL RIGHT-OF-WAY OR EASEMENT IS REQUIRED FOR BUS SHELTER PAD AND VARIABLE HEIGHT CURB AT BACK OF SIDEWALK RAMP AND SHALL BE DEDICATED TO THE LOCAL ENTITY.
3. CONCRETE FOR BUS SHELTER PAD SHALL BE 5 INCHES THICK SLAB WITH 6X6 - W2.9 X W2.9 WELDED WIRE FABRIC AT MID-POINT AND TYPE II AGGREGATE BASE SHALL BE 5 INCHES THICK.
4. BUS SHELTER PAD CONNECTION TO DETACHED SIDEWALK CONDITION SHALL BE DETERMINED BY THE ENTITIES.
5. "A" = 10', "B" = 15' UNLESS BUS TURNOUT IS CONSTRUCTED PER STANDARD DRAWINGS 234.1 OR 234.3, THEN "A" = 5', "B" = 10'.

| SPECIFICATION REFERENCE | | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
|-------------------------|---------------------|---|-----------------|
| 302 | AGGREGATE BASE | TYPICAL DOUBLE BUS STOP PASSENGER LOADING AND SHELTER PADS | |
| 501 | CONCRETE | | |
| 502 | CONCRETE STRUCTURES | | |
| | | | |
| | | DATE 6-10-10 | DWG. NO. 234.2A |



**TYPICAL CROSSWALK
STRIPING DETAIL**

| | | | |
|--------------------------------|--|--|----------------------|
| SPECIFICATION REFERENCE | | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
| | | CROSSWALK MARKINGS | |
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| | | | |
| | | | |
| | | | |
| | | DATE 11-12-09 | DWG. NO. 254A |



LEGEND

- ① THREADED COLLAR OR BALL ANGLE STRAP BRONZE SERVICE STOP
- ② CORPORATION STOP
- ③ POLYETHYLENE OR COPPER SERVICE LATERAL (SEE NOTE 4)
- ④ ANGLE METER STOP (NOTE 1)
- ⑤ IDLER
- ⑥ SERVICE COUPLER
- ⑦ METER BOX
- ⑧ CONCRETE SIDEWALK

| METER SIZE | ⑨ IDLER LENGTH | ③ MINIMUM SERVICE LATERAL SIZE |
|------------|----------------|--------------------------------|
| 5/8" | 7-1/2" | 3/4" |
| 3/4" | 7-1/2" | 3/4" |
| 1" | 10-3/4" | 1" |

NOTES:

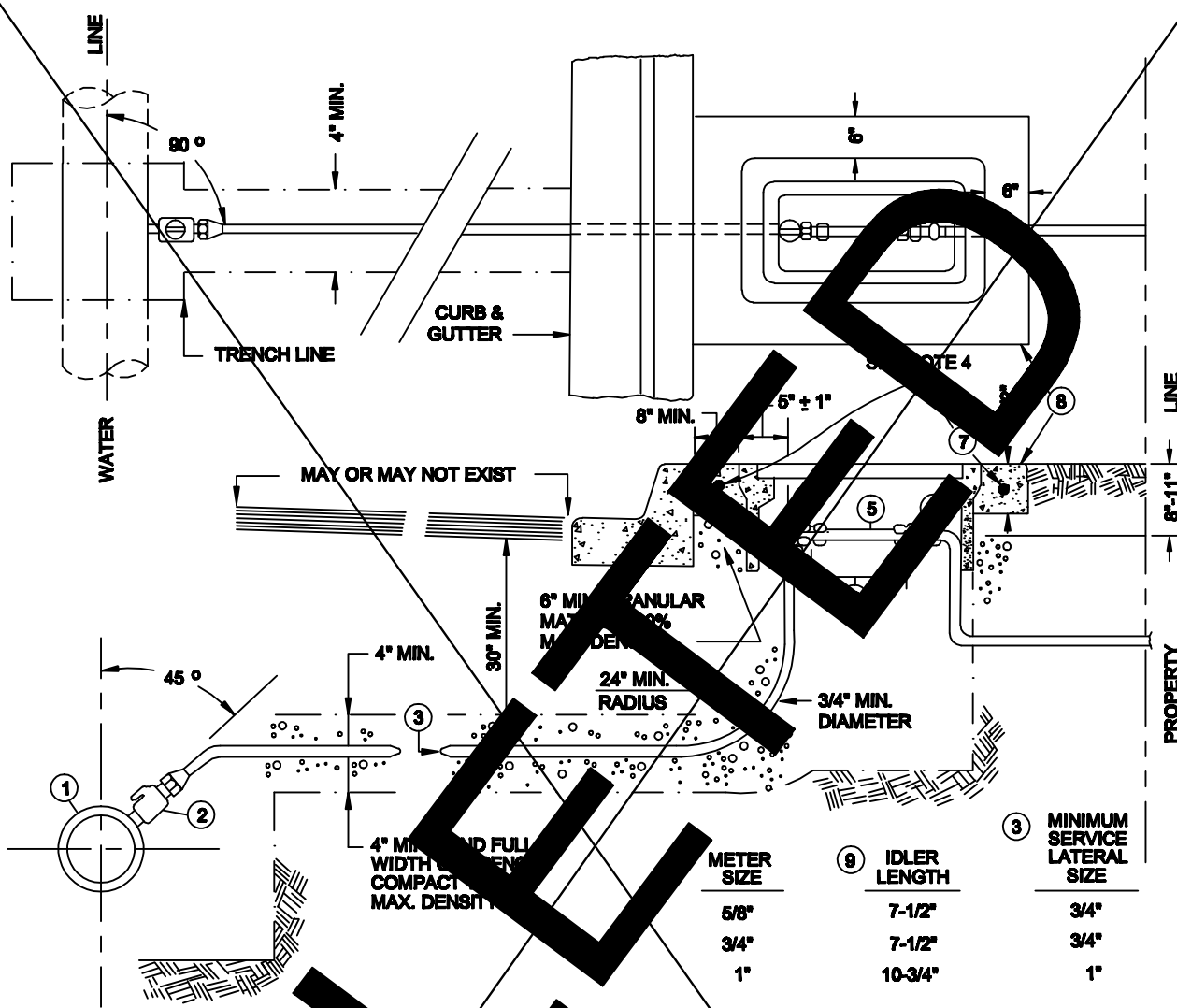
1. 5/8", 3/4" & 1" REQUIRES BALL ANGLE METER STOP.
2. LOCATOR TAPE REQUIRED ABOVE SERVICE LINE IF OTHER THAN 90° OFF WATER MAIN (HENDERSON AND NORTH LAS VEGAS ONLY).
3. SEE DWG. NO. 336 FOR REINFORCEMENT DETAIL AROUND METER BOX.
4. WHEN COPPER SERVICE LATERALS ARE USED, FLARED COPPER FITTINGS AND CONNECTIONS ARE REQUIRED.

SPECIFICATION REFERENCE

**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

**SERVICE INSTALLATION, 5/8", 3/4"
& 1" METER SIZES-IMPROVED AREA**

DATE : 5-20-10 DWG. NO. 506



| METER SIZE | (9) IDLER LENGTH | (3) MINIMUM SERVICE LATERAL SIZE |
|------------|------------------|----------------------------------|
| 5/8" | 7-1/2" | 3/4" |
| 3/4" | 7-1/2" | 3/4" |
| 1" | 10-3/4" | 1" |

LEGEND

- ① THREADED BALL OR DOUBLE STRAP BRASS SERVICE SADDLE
- ② CORPORATION STOP
- ③ POLYETHYLENE OR COPPER SERVICE LATERAL (SEE NOTE 5)
- ④ ANGLE METER STOP (NOTE 1)
- ⑤ IDLER
- ⑥ 90° TAIL PIECE DWG. 336
- ⑦ METER BOX
- ⑧ CONCRETE COLLAR 2500 PSI COMPRESSIVE STRENGTH

NOTES:

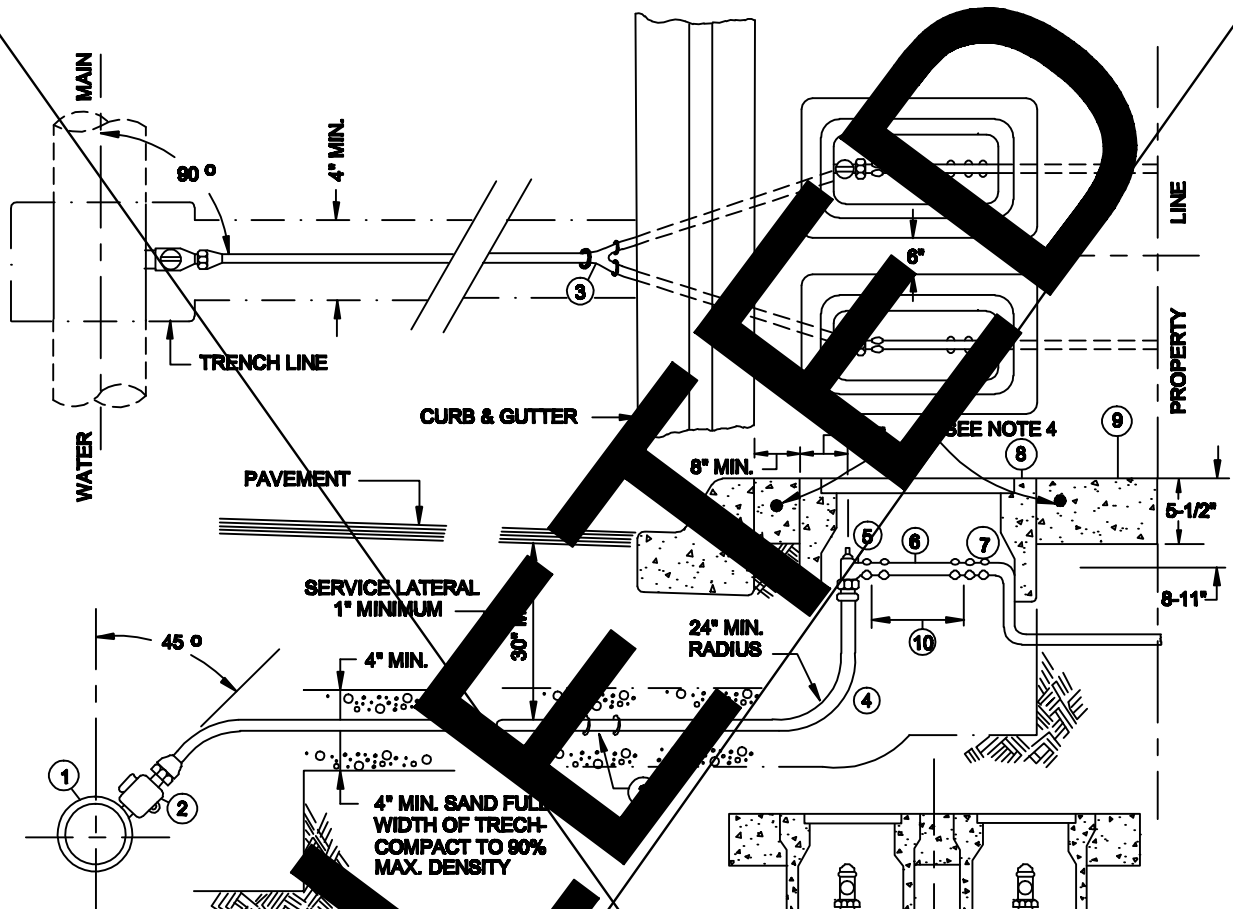
- 1. 5/8", 3/4" & 1" REQUIRES BALL ANGLE METER STOP.
- 2. LOCATOR TAPE REQUIRED ABOVE SERVICE LINE IF OTHER THAN 90° OFF WATER MAIN (HENDERSON AND NORTH LAS VEGAS ONLY).
- 3. TOP OF METER BOX TO BE INSTALLED AS NEAR TO FUTURE FINAL GRADE AS POSSIBLE.
- 4. SEE DWG. NO. 336 FOR REINFORCEMENT DETAIL AROUND METER BOX.
- 5. WHEN COPPER SERVICE LATERALS ARE USED, FLARED COPPER FITTINGS AND CONNECTIONS ARE REQUIRED.

SPECIFICATION REFERENCE

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**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

**SERVICE INSTALLATION, 5/8", 3/4"
& 1" METER SIZES-UNIMPROVED AREA**



LEGEND

- ① THREAD COLLAR OR DOUBLE STRAP BRONZE SERVICE SAFF
- ② CORRECTION STOP
- ③ CTS YOKE AND ADAPTER
- ④ POLYETHYLENE COPPER SERVICE LATERAL (SEE
- ⑤ ANGLE METER STOP (NOTE 1)
- ⑥ IDLER
- ⑦ 90°TAIL PIECE COUPLING
- ⑧ METER BOX
- ⑨ CONCRETE SIDEWALK

| METER SIZE | IDLER LENGTH | MINIMUM METER LATERAL SIZE |
|------------|--------------|----------------------------|
| 5/8" | 7-1/2" | 3/4" |
| 3/4" | 7-1/2" | 3/4" |
| 1" | 10-1/2" | 1" |

NOTES:

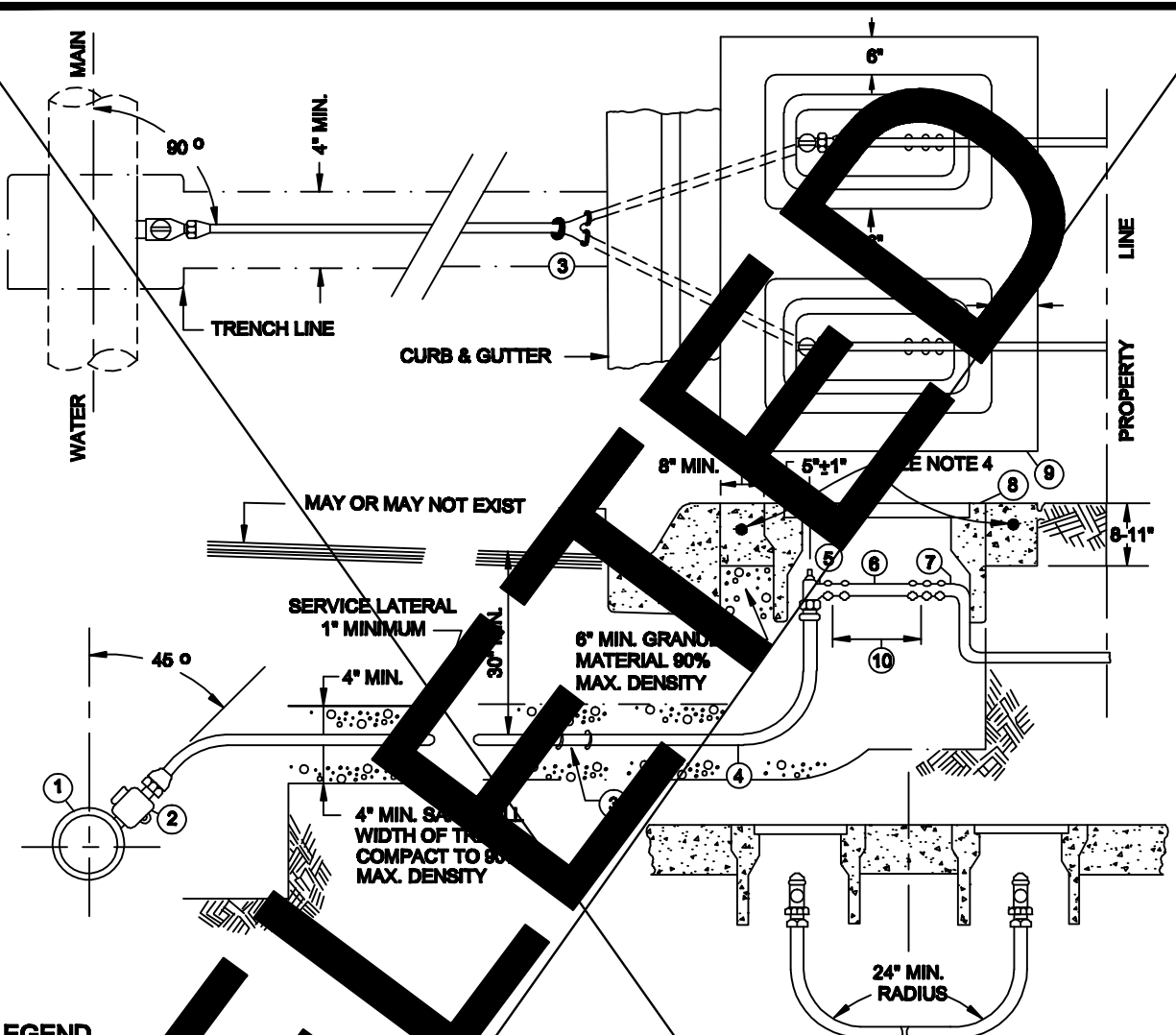
1. 5/8", 3/4" & 1" REQUIRES BALL ANGLE METER STOP.
2. LOCATOR TAPE REQUIRED ABOVE SERVICE LINE IF OTHER THAN 90°OFF WATER MAIN (HENDERSON AND NORTH LAS VEGAS ONLY).
3. TOP OF METER BOX TO BE INSTALLED AS NEAR TO FUTURE FINAL GRADE AS POSSIBLE.
4. SEE DWG. 336 FOR REINFORCEMENT DETAIL AROUND METER BOX, 336.
5. WHEN COPPER SERVICE LATERALS ARE USED, FLARED COPPER FITTINGS AND CONNECTIONS ARE REQUIRED.

SPECIFICATION REFERENCE

**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

**SERVICE INSTALLATION, 5/8", 3/4"
& 1" METER SIZES-IMPROVED AREA**

DATE : 5-20-10 DWG. NO. 508



LEGEND

- ① THREADED COLLAR OR DOUBLE STRAP BRONZE SERVICE SADDLE
- ② CORPORATOR
- ③ CTS YOKE WITH IPS METER
- ④ METER BOXES OR COPPER SERVICE LATERAL (SEE NOTE 5)
- ⑤ ANGLE METER STOP (NOTE 1)
- ⑥ IDLER
- ⑦ 90° TAIL PIECE COUPLING
- ⑧ METER BOX
- ⑨ CONCRETE COLLAR, 2500 PSI COMPRESSIVE STRENGTH

| METER SIZE | ⑩ IDLER LENGTH | ④ MINIMUM METER LATERAL SIZE |
|------------|----------------|------------------------------|
| 5/8" | 7-1/2" | 3/4" |
| 3/4" | 7-1/2" | 3/4" |
| 1" | 10-1/2" | 1" |

NOTES:

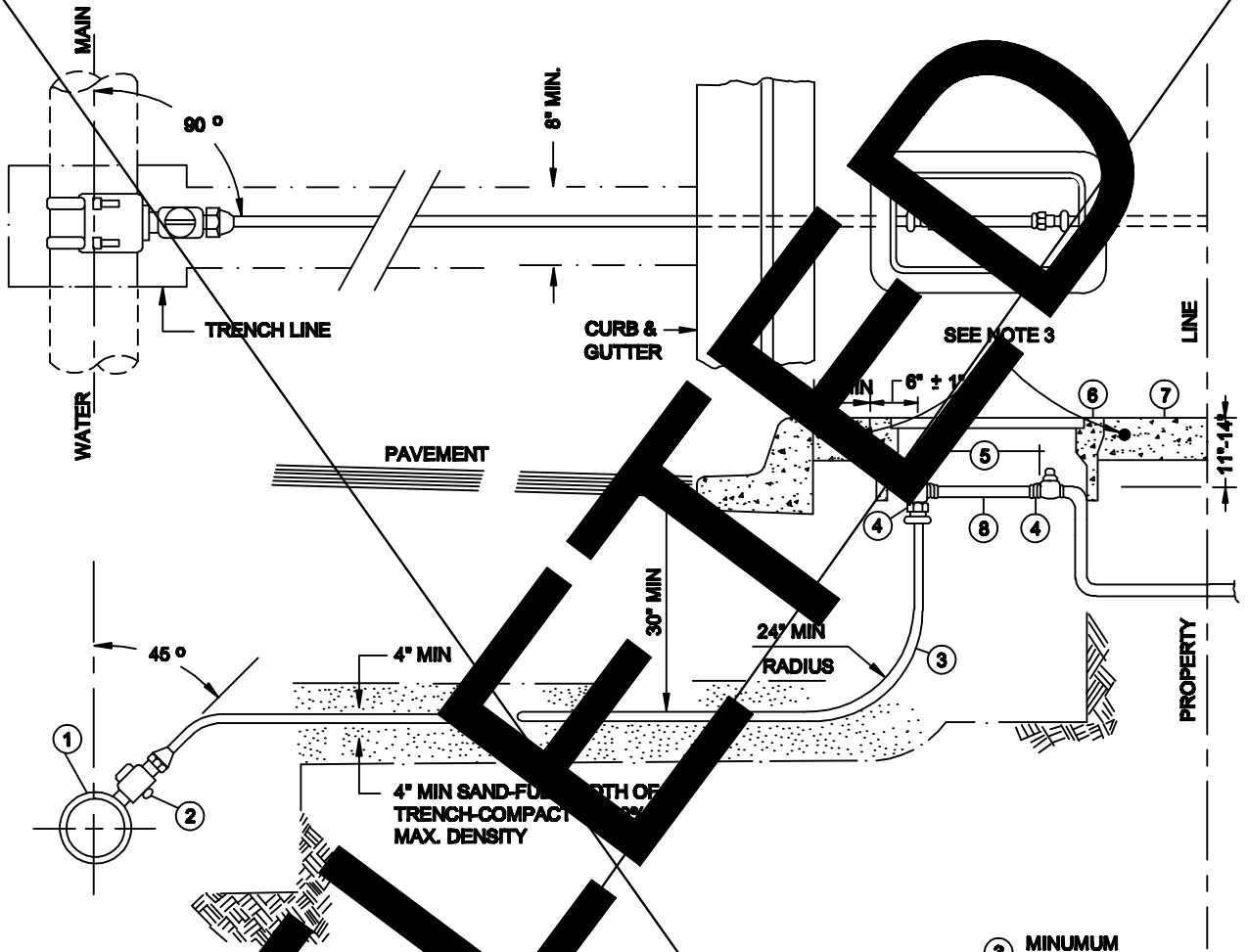
1. 5/8", 3/4" & 1" REQUIRES BALL ANGLE METER STOP.
2. LOCATOR TAPE REQUIRED ABOVE SERVICE LINE IF OTHER THAN 90° OFF WATER MAIN (HENDERSON AND NORTH LAS VEGAS ONLY).
3. TOP OF METER BOX TO BE INSTALLED AS NEAR TO FUTURE FINAL GRADE AS POSSIBLE.
4. SEE DWG. 336 FOR REINFORCEMENT DETAIL AROUND METER BOX.
5. WHEN COPPER SERVICE LATERALS ARE USED, FLARED COPPER FITTINGS AND CONNECTIONS ARE REQUIRED.

SPECIFICATION REFERENCE

**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

**SERVICE INSTALLATION, DUAL 5/8", 3/4"
& 1" METER SIZES-UNIMPROVED AREA**

DATE : 5-20-10 | DWG. NO. 509



LEGEND

- ① DOUBLE BALL BRONZE SERVICE SAUCE
- ② CORPORATION
- ③ POINT OF LENE OR UNDER SERVICE LATERAL (SIZE, SEE NOTE 4)
- ④ BALL ANGLE METER STOP, P.E. PIPE PACK JOINT (I.P. SIZE)
- ⑤ IDLER LENGTH
- ⑥ METER BOX
- ⑦ CONCRETE SIDEWALK
- ⑧ IDLER (FLANGE x FLANGE)

| METER SIZE |
|------------|
| 1-1/2" |
| 2" |

| ⑤ IDLER LENGTH |
|----------------|
| 13" |
| 17" |

| ③ MINIMUM SERVICE LATERAL SIZE |
|--------------------------------|
| 1-1/2" |
| 2" |

NOTES:

1. 1-1/2" & 2" REQUIRES BALL ANGLE METER STOP. (EXCEPT LVWD).
2. LOCATOR TAPE REQUIRED ABOVE SERVICE LINE IF OTHER THAN 90° OFF WATER MAIN (HENDERSON AND NORTH LAS VEGAS ONLY).
3. SEE DWG. NO. 336 FOR REINFORCEMENT DETAIL AROUND METER BOX.
4. WHEN COPPER SERVICE LATERALS ARE USED, FLARED COPPER FITTINGS AND CONNECTIONS ARE REQUIRED.

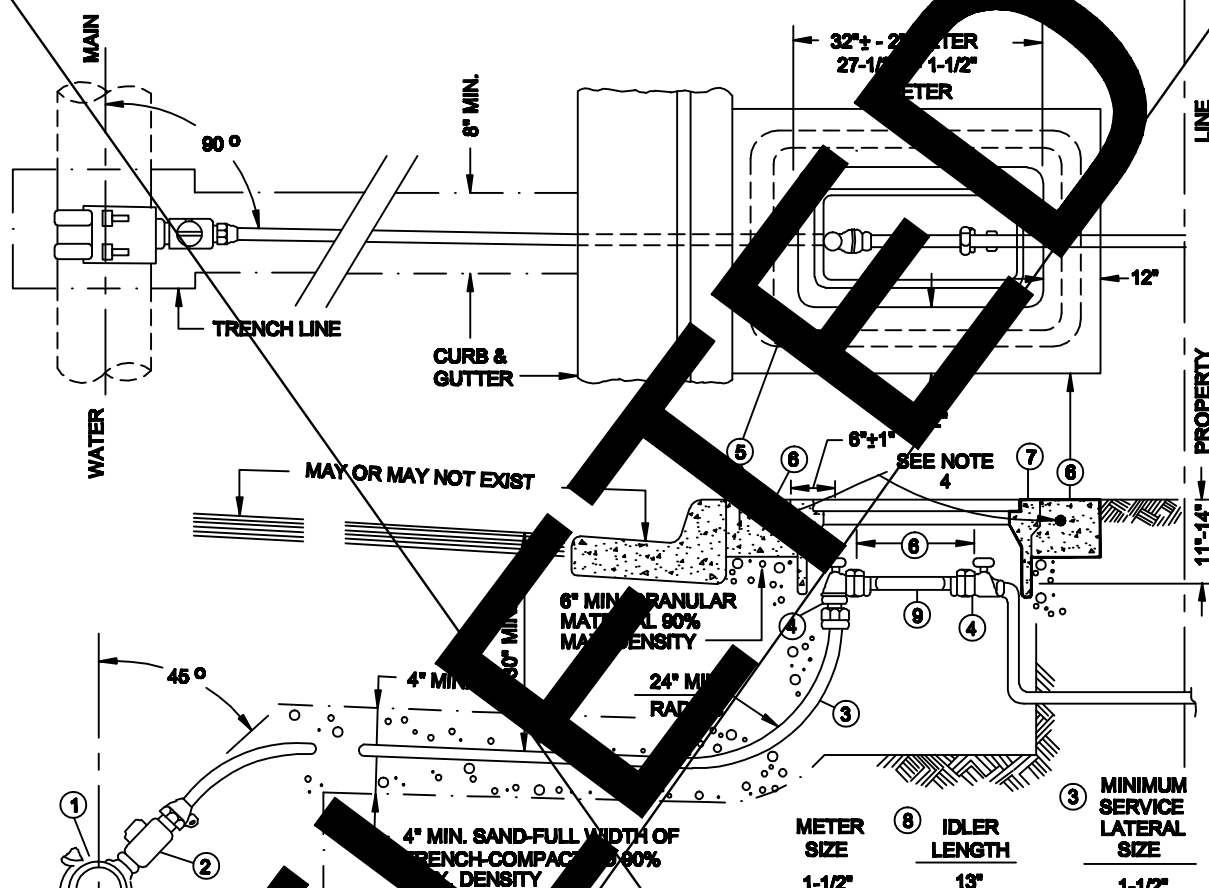
SPECIFICATION REFERENCE

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**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

**SERVICE INSTALLATION, 1-1/2" & 2"
METER SIZES-IMPROVED AREA**

DATE : 5-20-10 DWG. NO. 510

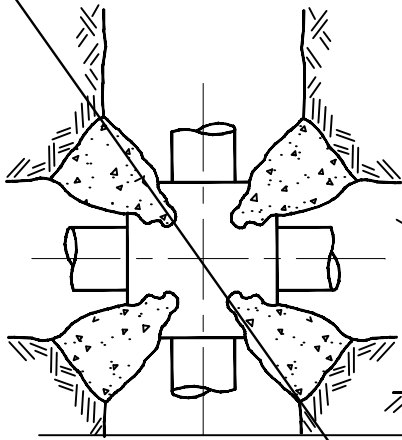


- LEGEND**
- ① DOUBLE STRAP BRACKET SERVICE SADDLE
 - ② CORPORATION STOP
 - ③ POLYETHYLENE OR COPPER SERVICE LATERAL (I.P. SIZE) (SEE NOTE 5)
 - ④ ANGLE METER STOP (I.E. PIPE PACK JOINT (I.P. SIZE))
 - ⑤ NO. 4 REBAR (IF REQUIRED) 2" CONCRETE COVER
 - ⑥ CONCRETE COVER, 2500 PSI COMPRESSIVE STRENGTH
 - ⑦ METER BOX
 - ⑧ IDLER LENGTH
 - ⑨ IDLER (FLANGE x FLANGE)

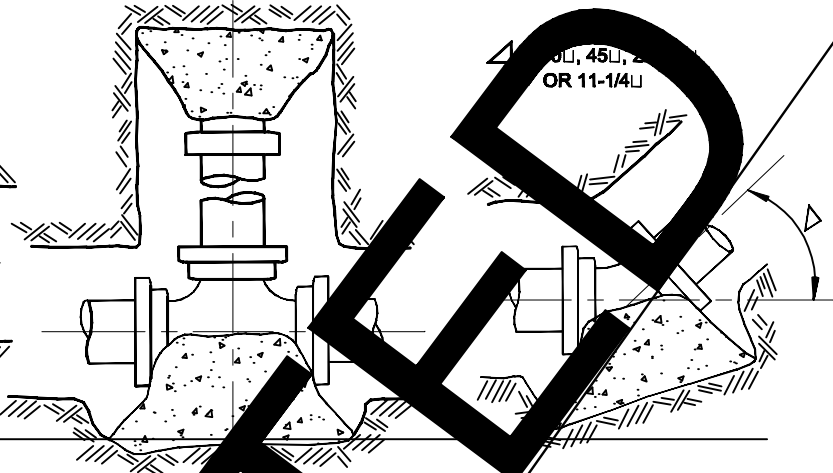
- NOTES:**
1. 1-1/2" & 2" REQUIRES 2 BALL ANGLE METER STOPS (EXCEPT L/VWD).
 2. LOCATOR TAPE REQUIRED ABOVE SERVICE LINE IF OTHER THAN 90° OFF WATER MAIN (HENDERSON AND NORTH LAS VEGAS ONLY).
 3. TOP OF METER BOX TO BE INSTALLED AS NEAR TO FUTURE FINAL GRADE AS POSSIBLE.
 4. SEE DWG. NO. 336 FOR REINFORCEMENT DETAIL AROUND METER BOX.
 5. WHEN COPPER SERVICE LATERALS ARE USED, FLARED COPPER FITTINGS AND CONNECTIONS ARE REQUIRED.

| METER SIZE | ⑧ IDLER LENGTH | ③ MINIMUM SERVICE LATERAL SIZE |
|------------|----------------|--------------------------------|
| 1-1/2" | 13" | 1-1/2" |
| 2" | 17" | 2" |

| | | |
|--------------------------------|--|---------------------|
| SPECIFICATION REFERENCE | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
| | SERVICE INSTALLATION, 1-1/2" & 2" METER SIZES-UNIMPROVED AREA | |
| | DATE : 5-20-10 | DWG. NO. 511 |

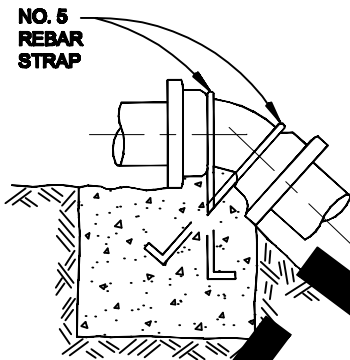


CROSS
FIG. 1



THRU OR PLUG
FIG. 2

HORIZONTAL OR VERTICAL ELBOW



ELBOW
FIG. 3

NOTES:

1. ALL FITTINGS AND EXPOSED REBAR TO BE COATED WITH EC 244 AND WRAPPED WITH TWO LAYERS OF 6 MIL. POLYETHYLENE.
2. THE TABLE BELOW INDICATES MINIMUM BEARING AREA OR VOLUME OF THRUST BLOCK. SPECIAL DESIGN FOR EACH INSTALLATION IS REQUIRED IF ALLOWABLE SOIL BEARING CAPACITY IS LESS THAN 3000 PSF.
3. PLACE CONCRETE AGAINST UNDISTURBED EARTH.
4. VERTICAL SURFACES NOT BEARING AGAINST UNDISTURBED EARTH SHOULD BE FORMED.

| SIZE OF PIPE | MINIMUM BEARING AREA IN SQUARE FEET | | | | | | CUBIC YARDS OF CONCRETE | | |
|--------------|-------------------------------------|--------|-----|---------|---------|--------|-------------------------|---------|--|
| | FIG. 2 | FIG. 3 | | | | FIG. 4 | | | |
| | | 90° | 45° | 22-1/2° | 11-1/4° | 45° | 22-1/2° | 11-1/4° | |
| 2" | 2 | 2 | 1 | 1 | 1 | 1.0 | .5 | .5 | |
| 4" | 2 | 3 | 2 | 1 | 1 | 1.5 | 1.0 | .5 | |
| 6" | 2 | 5 | 3 | 2 | 1 | 2.0 | 1.0 | .5 | |
| 8" | 3 | 7 | 5 | 3 | 1 | 4.0 | 2.0 | 1.0 | |
| 10" | 3 | 10 | 8 | 4 | 2 | | | | |
| 12" | 4 | 14 | 10 | 5 | 3 | | | | |
| 14" | 4 | 20 | 12 | 7 | 4 | | | | |
| 16" | 5 | 24 | 16 | 10 | 5 | | | | |
| 18" | 5 | 28 | 20 | 12 | 6 | | | | |
| 20" | | | | | | | | | |

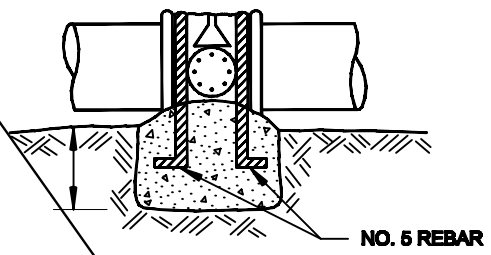
SPECIAL DESIGN

SPECIFICATION REFERENCE

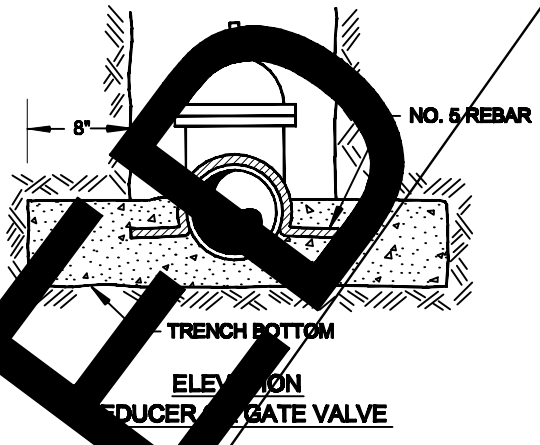
**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

THRUST BLOCK DETAILS

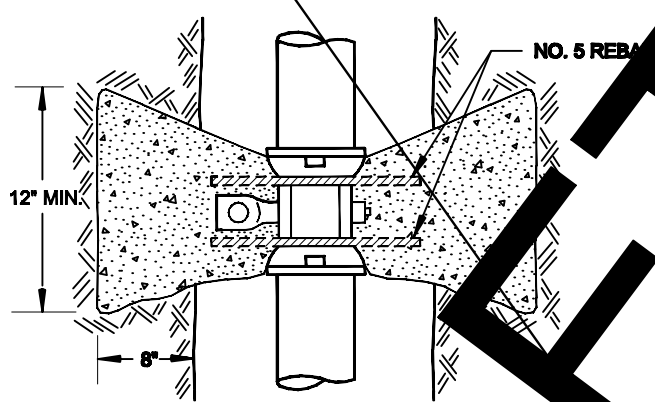
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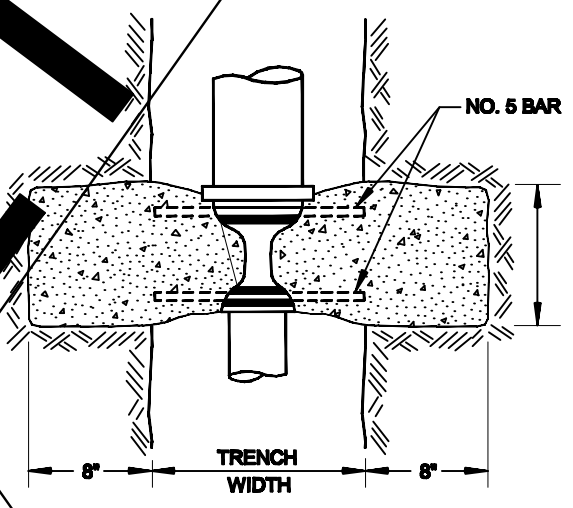
ELEVATION - B.F. VALVE



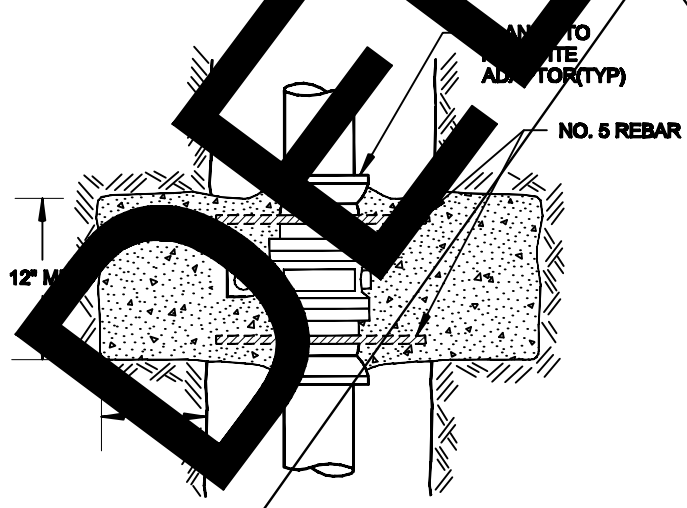
**ELEVATION
REDUCER OR GATE VALVE**



**PLAN - RING-TITE
B.F. VALVE**



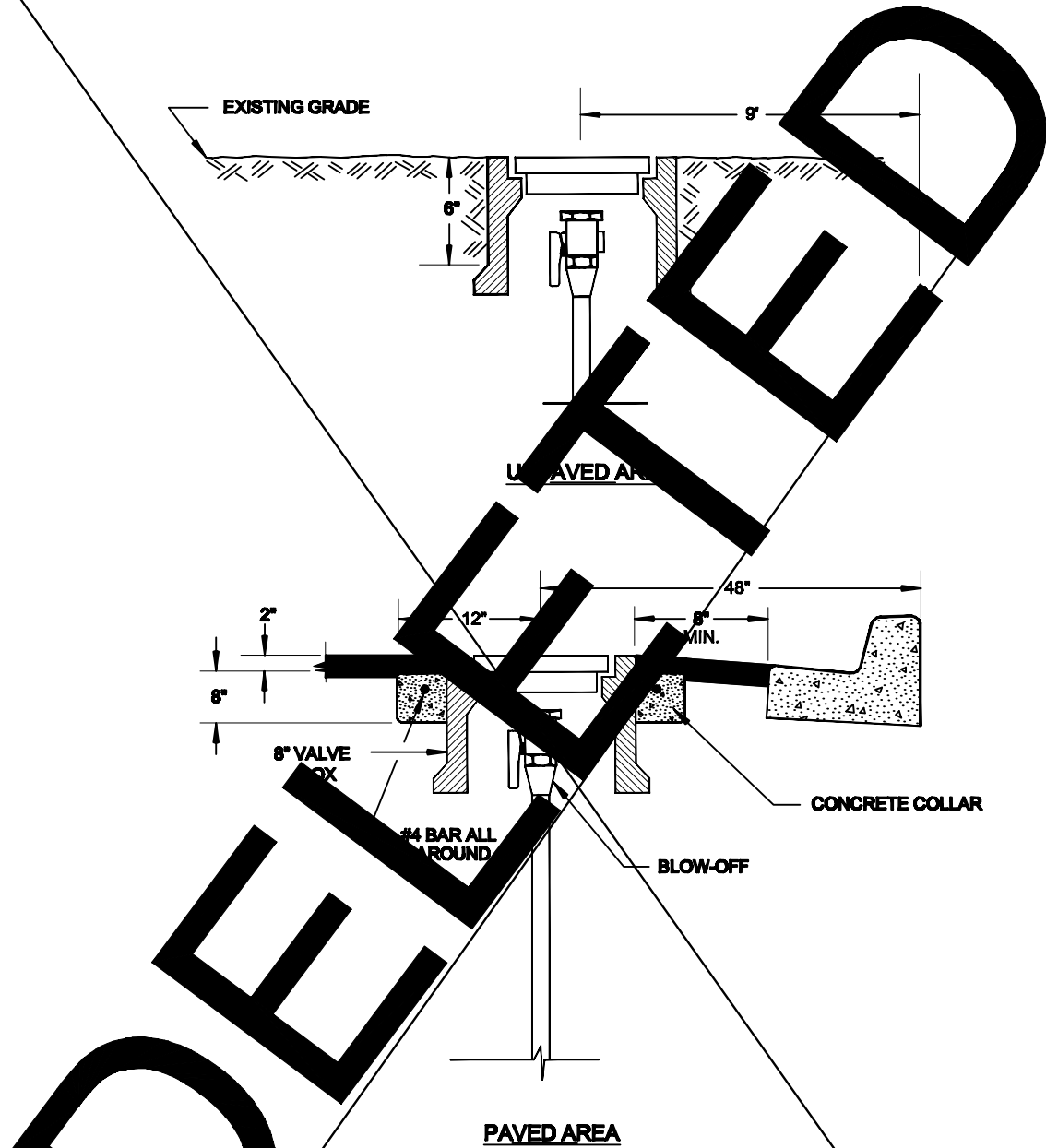
**PLAN
REDUCER OR
GATE VALVE**



PLAN - FLANGE MT. B.F. VALVE

- NOTES:**
1. ALL VALVES TO BE PAINTED WITH E.C. 244 AND WRAPPED WITH TWO LAYERS OF 6 MIL POLYETHYLENE.

| | | | |
|--------------------------------|--|--|---------------------|
| SPECIFICATION REFERENCE | | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
| | | ANCHOR BLOCK DETAILS REDUCER OR VALVE | |
| | | DATE : 5-20-10 | DWG. NO. 513 |



NOTE:

CONCRETE COLLAR NOT REQUIRED IN UNINCORPORATED CLARK COUNTY RESIDENTIAL STEETS
LESS THAN 80' RW.

| SPECIFICATION REFERENCE | |
|-------------------------|-------------------------------|
| 501 | CONCRETE |
| 505 | REINFORCING STEEL |
| 629 | WATER DISTRIBUTION FACILITIES |
| | |
| | |

| | |
|--|--------------|
| UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
| BLOW-OFF ASSEMBLY LOCATIONS | |
| DATE : 5-20-10 | DWG. NO. 514 |

RING-TITLE CAP
TAPPED OUTLET

A.F.C.

#5 REBAR STRAP TO
REMOVE THRUST BLOCK

CORP STOP
J-41

CONCRETE THRUST
BLOCK

METHOD "A"

#4 BAR
ALL AROUND

48"

VALVE BOX

CAST IRON PLUG

HEAVY TAPPED
COUPLING (2" TAP)
OR DOUBLE STRAP
BRONZE SERVICE SADDLE

PLUG COUPLING
TO BE PROTECTED
FROM DIRECT CONTACT
WITH CONCRETE

JONES J-1909
OR
FORD CO 877 COUPLING

#5 REBAR STRAP TO
REMOVE THRUST BLOCK

2" P.E. OR COPPER PIPE

CORP STOP -
J-41

CONCRETE THRUST
BLOCK (2000 PSI)

PAVED AREA

1/4 BEND -
J-1536

(SEE NOTE BELOW)

COUPLING -
FORD CO 877

METHOD "B"

NOTE

1. FOR CLARITY THE ELBOW AND P.E. PIPE ARE SHOWN ROTATED 90° ALL FITTINGS SHALL BE 90°.
2. CONCRETE CURB NOT REQUIRED IN UNINCORPORATED CLARK COUNTY RESIDENTIAL STREETS LESS THAN 80' R/W.

SPECIFICATION REFERENCE

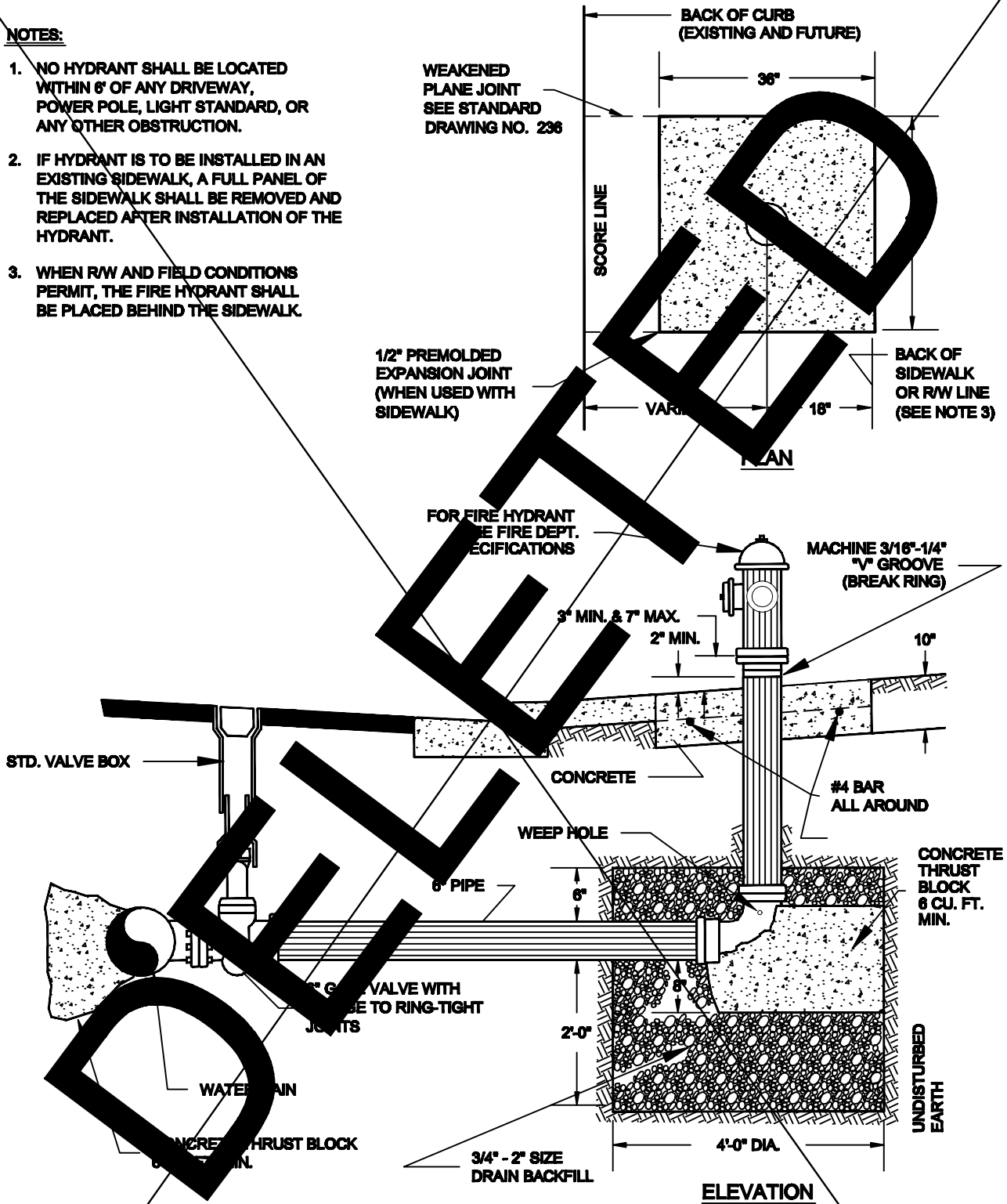
UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

BLOW-OFF ASSEMBLY
4", 6", 8", & 10" MAINS

DATE : 5-20-10 | DWG. NO. 515

NOTES:

1. NO HYDRANT SHALL BE LOCATED WITHIN 6' OF ANY DRIVEWAY, POWER POLE, LIGHT STANDARD, OR ANY OTHER OBSTRUCTION.
2. IF HYDRANT IS TO BE INSTALLED IN AN EXISTING SIDEWALK, A FULL PANEL OF THE SIDEWALK SHALL BE REMOVED AND REPLACED AFTER INSTALLATION OF THE HYDRANT.
3. WHEN RW AND FIELD CONDITIONS PERMIT, THE FIRE HYDRANT SHALL BE PLACED BEHIND THE SIDEWALK.



SPECIFICATION REFERENCE

| | |
|-----|-------------------------------|
| 501 | CONCRETE |
| 629 | WATER DISTRIBUTION FACILITIES |
| 704 | BASE AGGREGATES |
| 707 | JOINT MATERIAL |

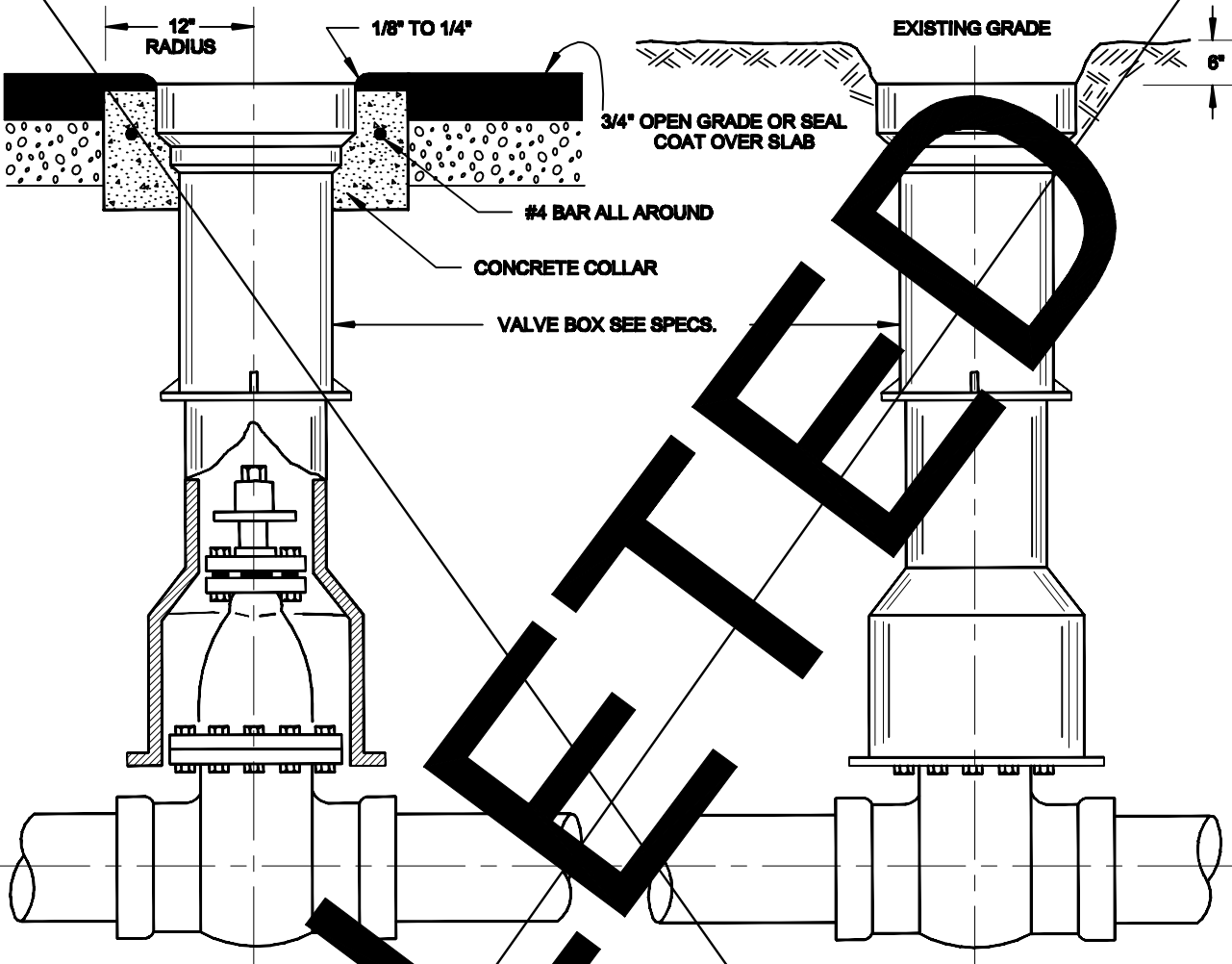
**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

**FIRE HYDRANT
INSTALLATION**

DATE : 5-20-10 DWG. NO. 516

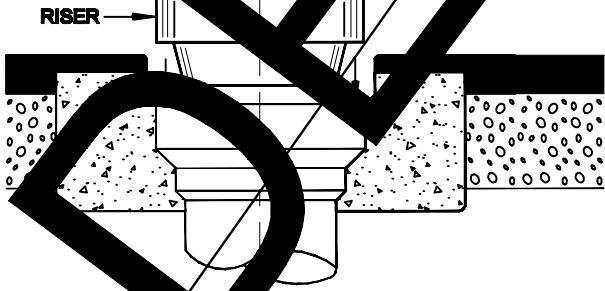
PAVED STREET INSTALLATION

UNPAVED STREET INSTALLATION



ADJUSTMENT

RAISE TOP SECTION AND/OR INSTALL RISERS AS NECESSARY. TYPED OR APPROVED EQUAL.



NOTE:

CONCRETE COLLAR NOT REQUIRED IN UNINCORPORATED CLARK COUNTY RESIDENTIAL STREETS LESS THAN 80' R/W.

SPECIFICATION REFERENCE

**UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA**

**VALVE BOX INSTALLATION &
ADJUSTMENT**

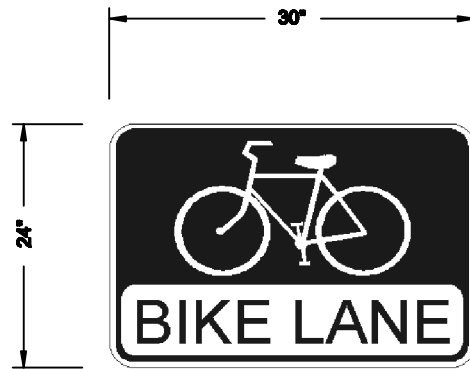
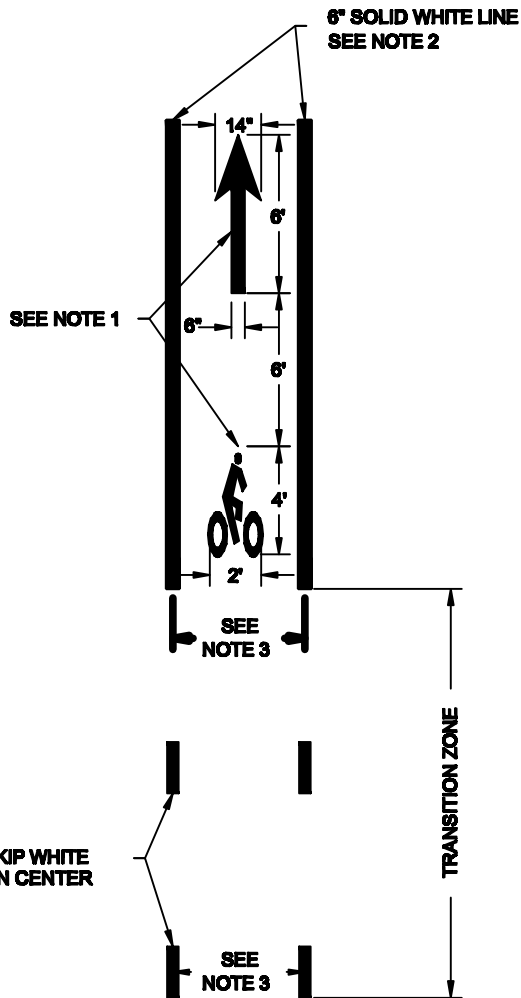
DATE : 5-20-10 | DWG. NO. 517

**OUNCES OF CHLORINE COMPOUNDS
REQUIRED FOR DISINFECTION OF 100 FEET
OF PIPE**

| I.D of Pipe | Volume of Water Gallons per 100 Feet | Quantity Sodium Hypochlorite % Available Chlorine | |
|-------------|---|---|-----------|
| | | 25 P.P.M. | 50 P.P.M. |
| 4" | 65.3 | 0.31 oz. | 0.62 oz. |
| 6" | 146.5 | 0.69 oz. | 1.38 oz. |
| 8" | 261.0 | 1.25 oz. | 2.50 oz. |
| 10" | 409.0 | 1.95 oz. | 3.90 oz. |
| 12" | 567.0 | 2.81 oz. | 5.60 oz. |
| 14" | 800.0 | 3.82 oz. | 7.65 oz. |
| 16" | 1047.0 | 5.00 oz. | 10.00 oz. |
| 18" | 1300.0 | 6.40 oz. | 12.80 oz. |
| 20" | 1567.0 | 7.75 oz. | 15.50 oz. |
| 24" | 2234.8 | 11.20 oz. | 22.40 oz. |

DELETED

| | | |
|--------------------------------|--|---------------------|
| SPECIFICATION REFERENCE | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
| | CHLORINATION REQUIREMENTS | |
| | DATE : 5-20-10 | DWG. NO. 518 |
| | | |
| | | |



R3-17

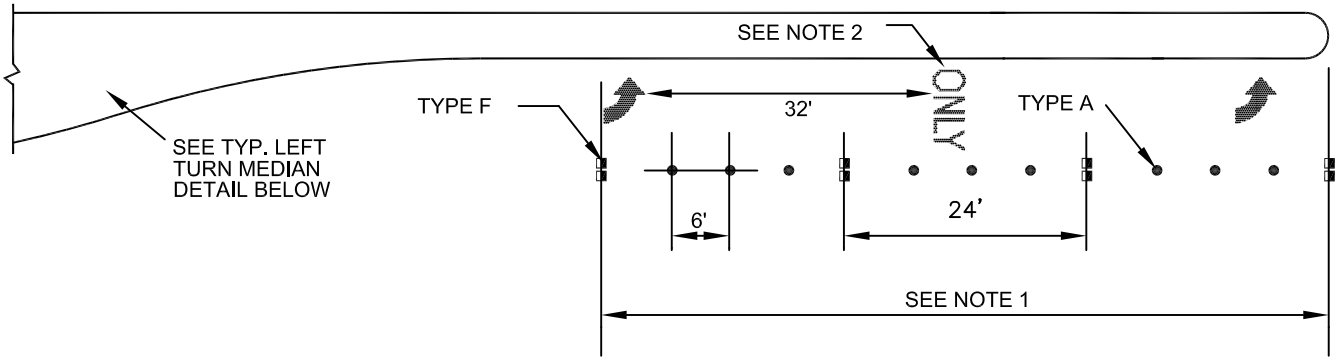
BIKE LANE SIGNAGE

BIKE LANE DELINEATION AND LEGEND

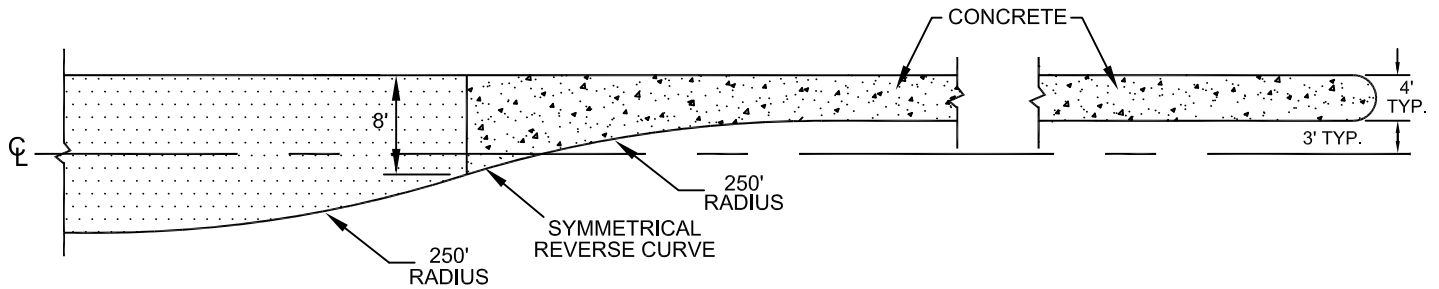
NOTES:

1. BIKE LANE LEGENDS SHALL BE APPROVED TYPE II PAVEMENT MARKING FILM AND SHALL BE SLIP RESISTANT.
2. BIKE LANE LINES SHALL BE APPROVED TYPE II PAVEMENT MARKING FILM AND SHALL BE SLIP RESISTANT.
3. BIKE LANES MUST BE A MINIMUM OF 5 FEET WHEN ADJACENT TO A PARKING LANE, 4 FEET MINIMUM IN OTHER CASES AND NO GREATER THAN 8 FT WIDE; HOWEVER A WIDTH OF 5 FEET IS PREFERRED.
4. BICYCLE LANE DELINEATION, LEGEND, AND SIGNING SHALL CONFORM TO THE MUTCD LATEST EDITION.
5. PER THE MUTCD LATEST EDITION, BICYCLE LANE SIGNS SHALL BE USED IN ADVANCE OF THE BEGINNING OF A MARKED BICYCLE LANE.
6. THE BIKE LANE SIGNAGE SHALL BE CLASS 6 SHEETING.

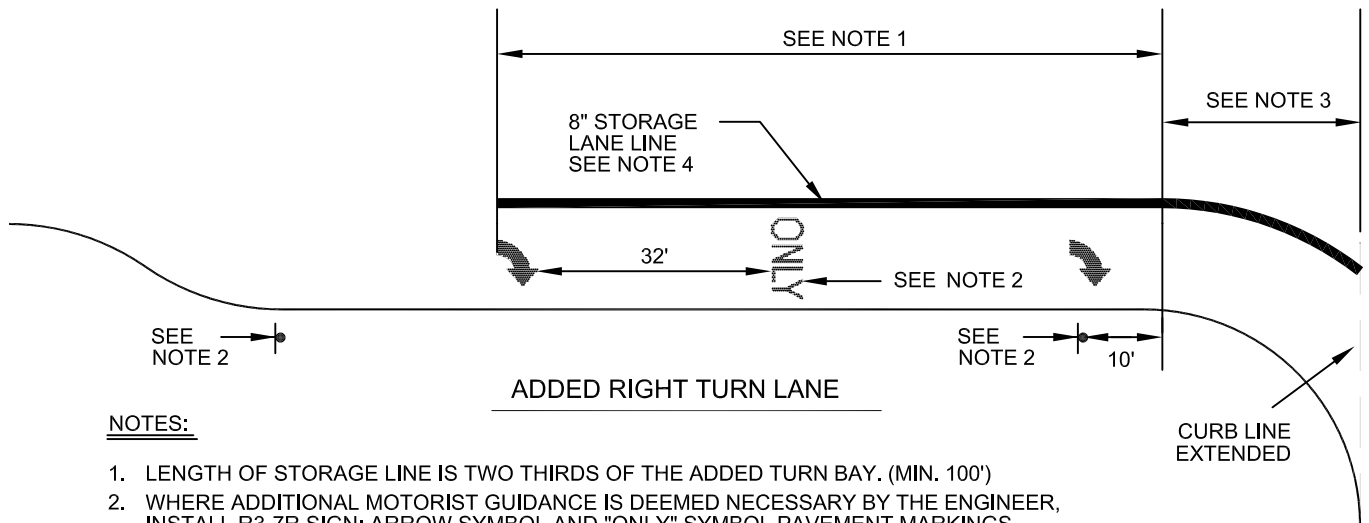
| | |
|-------------------------|--|
| SPECIFICATION REFERENCE | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA |
| | BICYCLE LANE DELINEATION, LEGEND, AND SIGNAGE |
| DATE 12-08-09 | DWG. NO. 244.5 |



ADDED LEFT TURN LANE



TYPICAL LEFT TURN MEDIAN DETAIL

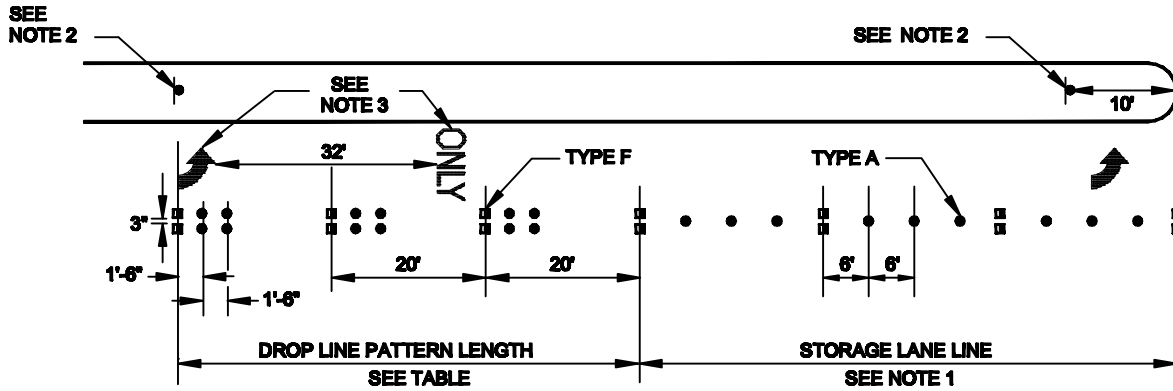


ADDED RIGHT TURN LANE

NOTES:

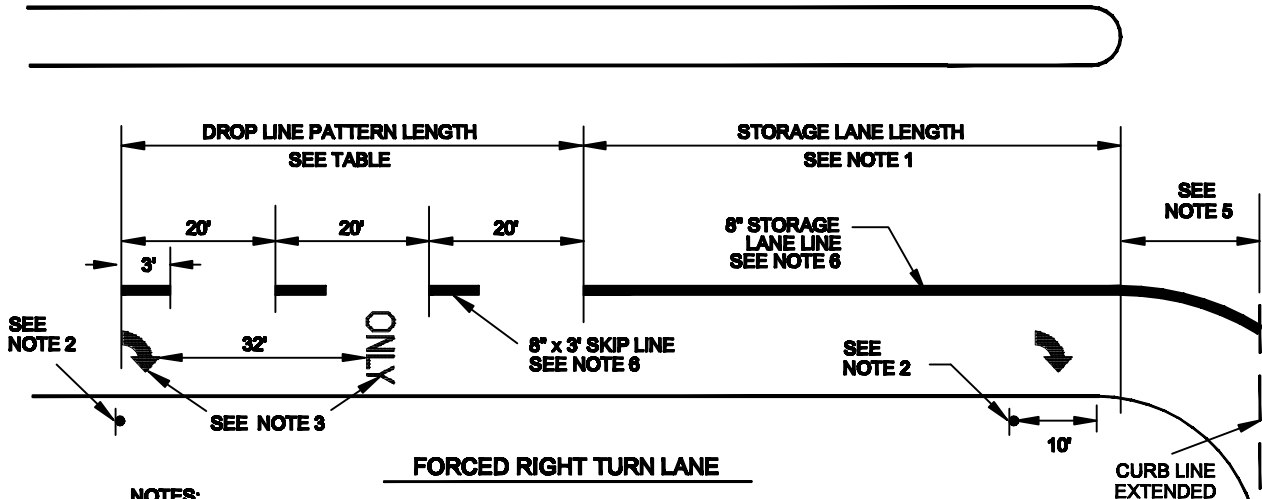
1. LENGTH OF STORAGE LINE IS TWO THIRDS OF THE ADDED TURN BAY. (MIN. 100')
2. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, INSTALL R3-7R SIGN; ARROW SYMBOL AND "ONLY" SYMBOL PAVEMENT MARKINGS FOR THE LENGTH OF THE STORAGE LINE. SYMBOLS SHALL BE APPROVED TYPE I PAVEMENT MARKING FILM.
3. APPROVED TYPE II PAVEMENT MARKING FILM OR RAISED PAVEMENT MARKERS MAY BE USED FOR ADDITIONAL GUIDANCE AT THE DISCRETION OF THE ENGINEER.
4. STORAGE LANE LINE SHALL BE APPROVED TYPE II PAVEMENT MARKING FILM OR IF APPROVED BY THE ENGINEER, RAISED PAVEMENT MARKERS MAY BE USED.

| | | | | | | | |
|-------------------------|--|--|--------|----------|-----|----------|----|
| SPECIFICATION REFERENCE | | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | | | | | |
| 633 | PAVEMENT MARKERS | STANDARD PAVEMENT MARKERS ADDED TURN LANE | | | | | |
| 628 | PAINTING TRAFFIC STRIPING, PAVEMENT MARKINGS... | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | DATE | 4-8-99 | DWG. NO. | 246 | PAGE NO. | 52 |



| TYP. DROP LINE LENGTHS | |
|------------------------|-------------|
| POSTED SPEED (MPH) | LENGTH (FT) |
| 25 | 240 |
| 30 | 320 |
| 35 | 400 |
| 40 | 480 |
| 45 | 560 |
| 50 | 640 |
| 55 | 720 |

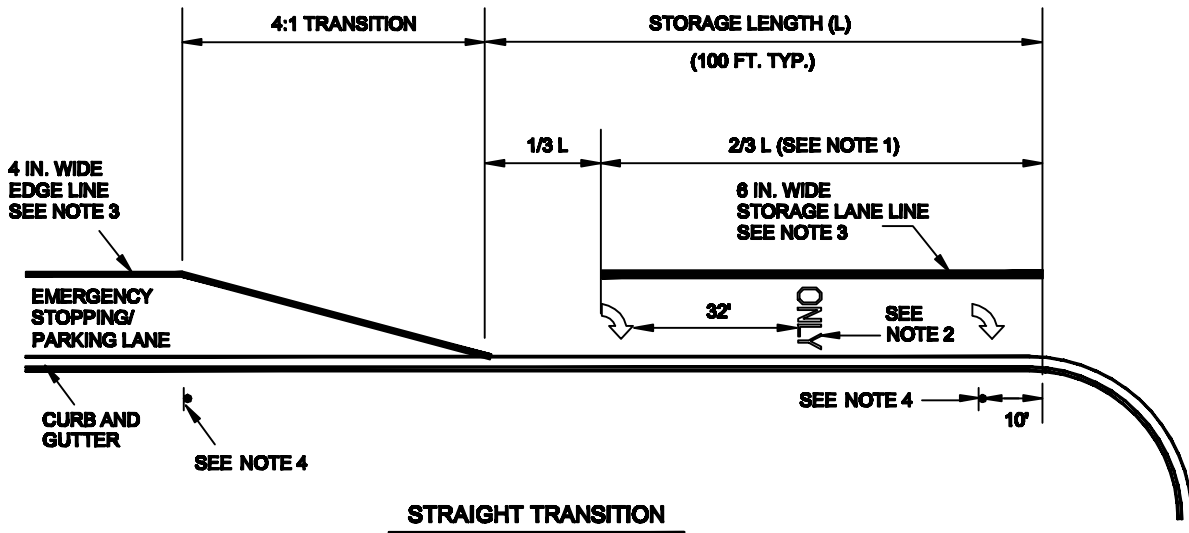
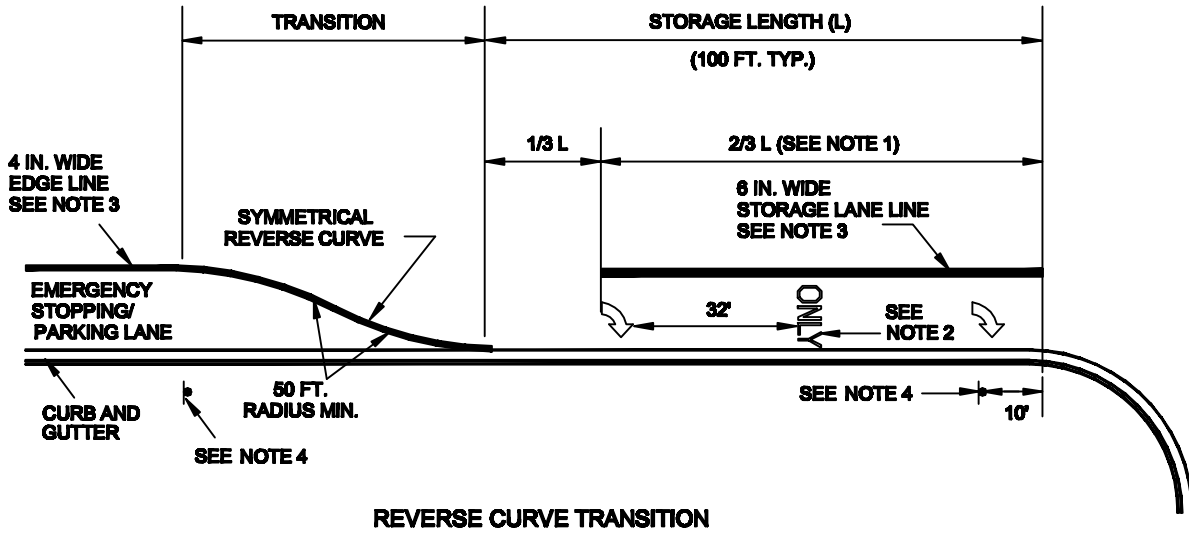
FORCED LEFT TURN LANE



NOTES:

1. THE MINIMUM LENGTH OF STORAGE LINE IS 250 FT. ON ARTERIALS AND 150 FT. ON ALL OTHERS.
2. A MINIMUM OF 20 R3-7R OR R3-7L SIGNS SHALL BE INSTALLED IN ADVANCE OF THE INTERSECTION AT DISTANCES APPROVED BY THE ENGINEER. RECOMMENDED LOCATIONS ARE SHOWN ABOVE.
3. ONE SET OF PAVEMENT MARKINGS CONTAINING ONE ARROW SYMBOL AND ONE "ONLY" SYMBOL SHALL BE PLACED AT THE BEGINNING OF THE DROP LANE.
4. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, ADDITIONAL ARROW AND "ONLY" SYMBOL PAVEMENT MARKINGS AND OVERHEAD MOUNTED R3-5 SIGNS MAY BE INSTALLED. SYMBOLS SHALL BE APPROVED TYPE II PAVEMENT MARKING FILM.
5. APPROVED TYPE I PAVEMENT MARKING FILM OR RAISED PAVEMENT MARKERS MAY BE USED FOR ADDITIONAL GUIDANCE AT THE DISCRETION OF THE ENGINEER.
6. STORAGE LANE LINE AND SKIP LINES SHALL BE APPROVED TYPE I PAVEMENT MARKING FILM OR IF APPROVED BY THE ENGINEER, RAISED PAVEMENT MARKERS MAY BE USED.

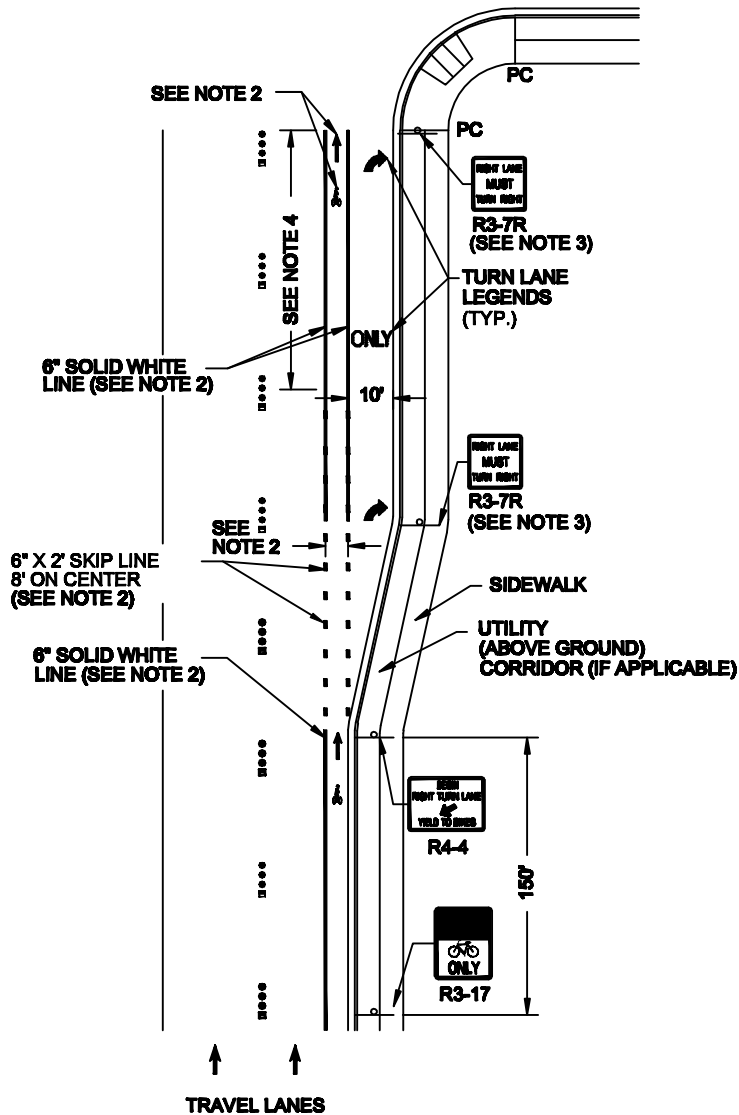
| SPECIFICATION REFERENCE | | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
|-------------------------|--|--|---------------|
| 633 | PAVEMENT MARKERS | STANDARD PAVEMENT MARKERS FORCED TURN LANE | |
| 628 | PAINTING TRAFFIC STRIPING, PAVEMENT MARKINGS... | | |
| | | | |
| | | | |
| | | DATE 12-08-09 | DWG. NO. 246A |



NOTES:

1. LENGTH OF STORAGE LANE LINE IS TWO THIRDS OF THE TURN LANE STORAGE LENGTH.
2. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, INSTALL ARROW AND "ONLY" SYMBOL PAVEMENT MARKINGS FOR THE LENGTH OF THE STORAGE LINE.
3. PAVEMENT MARKINGS SHALL BE TYPE I TAPE OR PAINT AS DIRECTED BY THE ENGINEER.
4. INSTALL "NO PARKING" SIGNS FOR ENTIRE LENGTH OF TURN LANE. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, INSTALL R3-7R SIGNS.

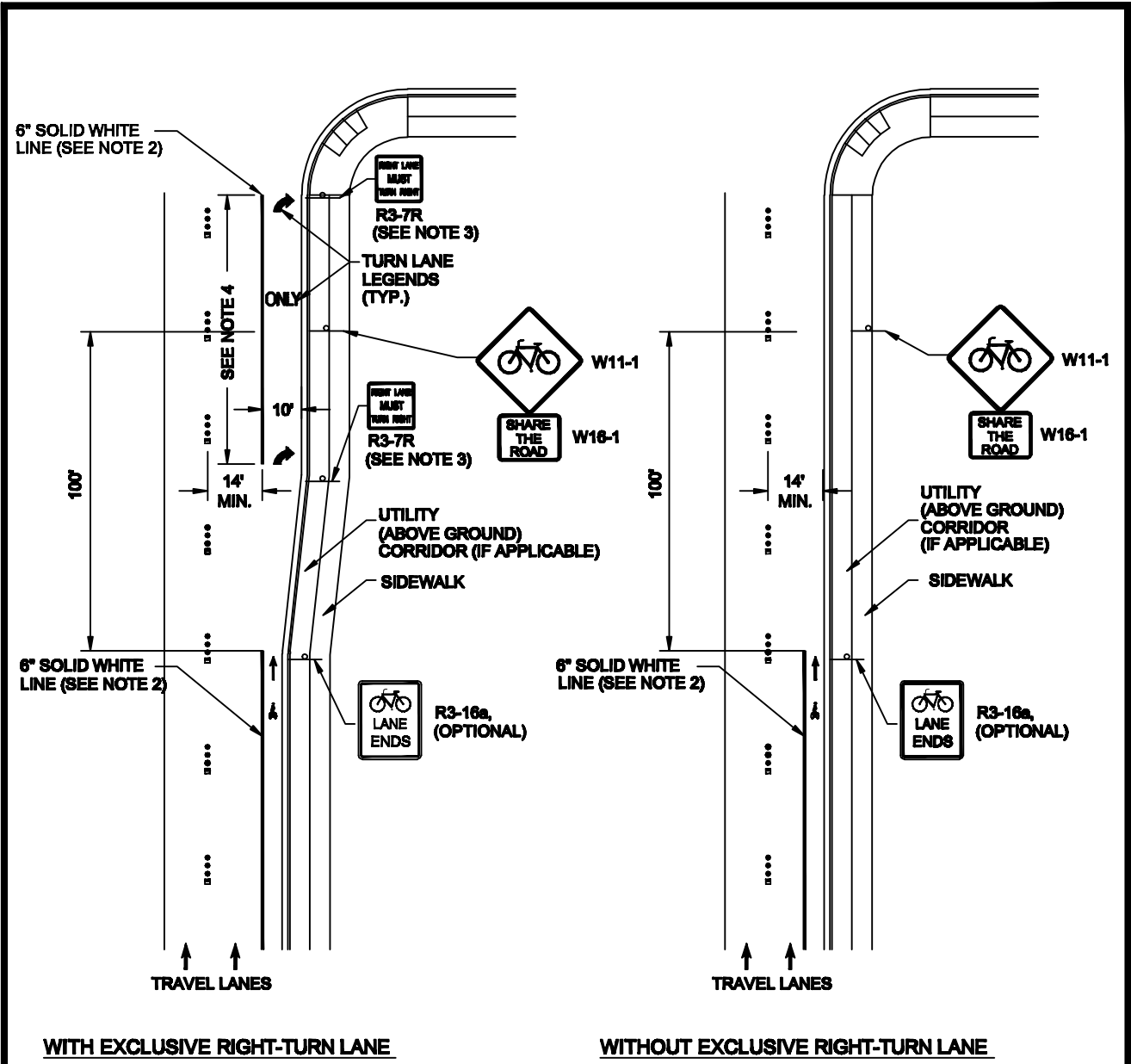
| | | | |
|--------------------------------|------------------|--|---------------|
| SPECIFICATION REFERENCE | | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
| 633 | PAVEMENT MARKERS | PAVEMENT MARKING AND SIGNAGE RIGHT TURN LANE AT MINOR INTERSECTIONS (ARTERIALS WITH EMERGENCY/PARKING LANE) | |
| | | | |
| | | | |
| | | | |
| | | DATE 12-08-09 | DWG. NO. 246B |



NOTES:

1. STORAGE LENGTH TO BE DETERMINED BY TRAFFIC ENGINEER.
2. SEE DRAWING NO. 244.5 FOR BIKE LANE LEGEND AND SIGNAGE.
3. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE TRAFFIC ENGINEER, INSTALL R3-7R SIGN, ARROW SYMBOL AND "ONLY" SYMBOL PAVEMENT MARKINGS FOR THE LENGTH OF THE STORAGE LINE. APPROVED TYPE II PAVEMENT MARKING FILM SHALL BE USED FOR SYMBOL MARKINGS.
4. SEE DRAWING NO. 246 NOTE 1 FOR STANDARD PAVEMENT MARKERS ADDED TURN LANE.

| | | | |
|-------------------------|---------------------------|---|----------------|
| SPECIFICATION REFERENCE | | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
| 628 | PAINTING TRAFFIC STRIPING | BICYCLE LANE APPROACH TO INTERSECTION WITH EXCLUSIVE RIGHT TURN LANE | |
| 633 | PAVEMENT MARKERS | | |
| | | | |
| | | | |
| | | DATE 12-08-09 | DWG. NO. 246.1 |



NOTES:

1. STORAGE LENGTH TO BE DETERMINED BY TRAFFIC ENGINEER.
2. SEE DRAWING NUMBER 244.5 FOR BIKE LANE LEGEND AND SIGNAGE.
3. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, INSTALL R3-7R SIGN, ARROW SYMBOL AND "ONLY" SYMBOL PAVEMENT MARKINGS FOR THE LENGTH OF THE STORAGE LINE. APPROVED TYPE II PAVEMENT MARKING FILM SHALL BE USED FOR SYMBOL MARKINGS.
4. SEE DWG. 246 NOTE 1 FOR STANDARD PAVEMENT MARKERS ADDED TURN LANE.
5. THE ABOVE DETAIL SHOULD BE FOLLOWED IN SITUATIONS WHERE THERE IS NOT ADEQUATE SPACE TO PROVIDE A SEPARATE BICYCLE LANE.

| | | | |
|-------------------------|---------------------------|---|----------------|
| SPECIFICATION REFERENCE | | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA | |
| 628 | PAINTING TRAFFIC STRIPING | | |
| 633 | PAVEMENT MARKERS | BICYCLE LANE TRANSITION TO SHARED LANE AT INTERSECTION | |
| | | | |
| | | | |
| | | | |
| | | DATE 12-08-09 | DWG. NO. 246.2 |