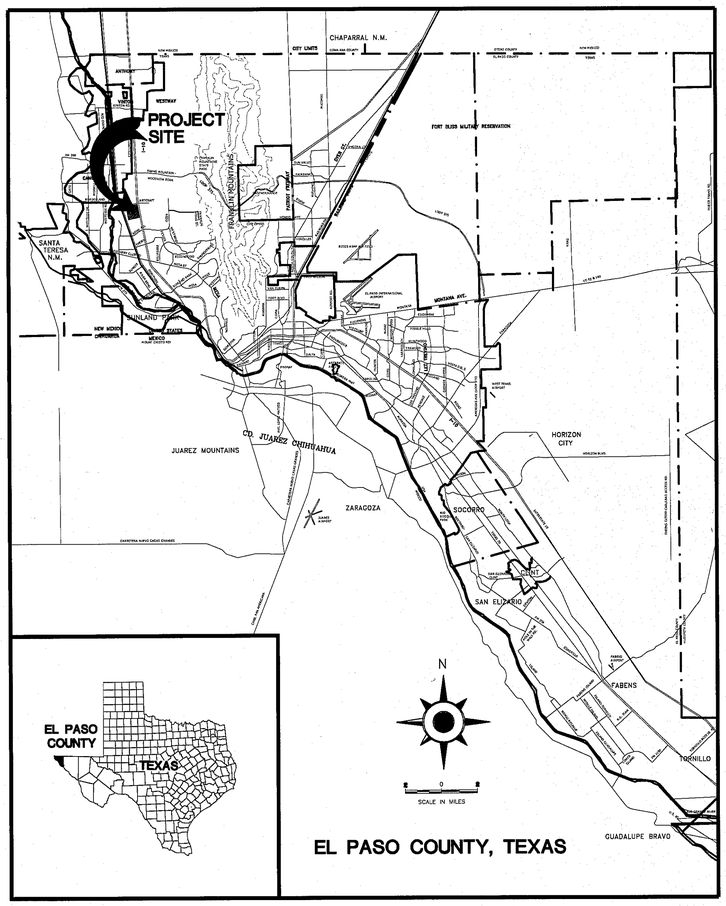
# WEST DESERT MARKETPLACE
## SUBDIVISION IMPROVEMENT PLANS

EL PASO COUNTY, TEXAS
AUGUST 2015

### VICINITY MAP

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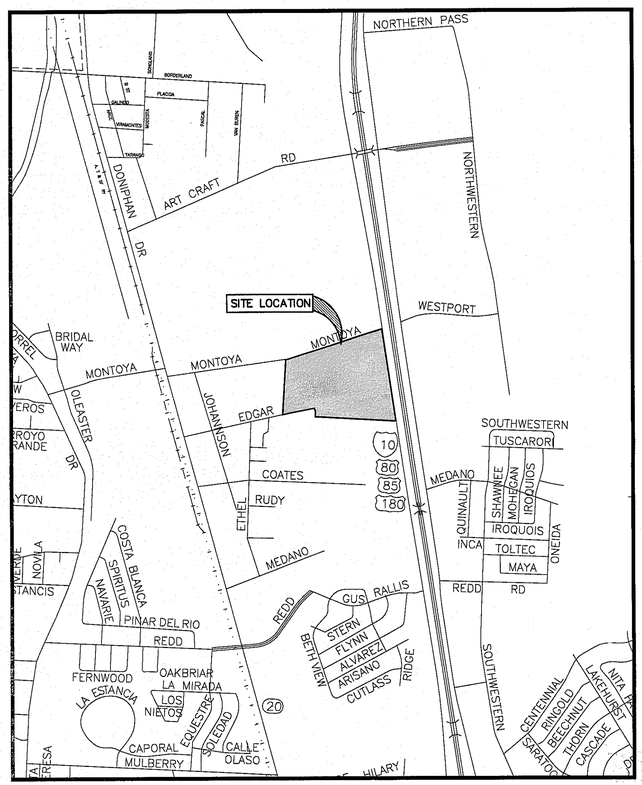
### SITE MAP




NOTE:
ALL WORK INDICATED ON STATE PROPERTY MUST BE APPROVED AND COORDINATED WITH TxDOT


QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146


STATE OF TEXAS
ROBERT A. GONZALES
69920
REGISTERED PROFESSIONAL ENGINEER
8/5/15

The seal appearing on this document was authorized by Robert A. Gonzales, P.E. 69920. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.

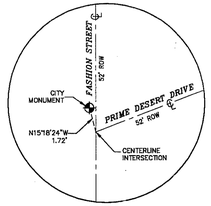
CITY DEVELOPMENT DEPARTMENT
Reviewed For Conformance For Condition Related To:
Subdivision — Detentions
Grading & Drainage — Retaining Rock Walls
Wholesale Ramps — On Site Ponding of Storm Waters
On Site Parking Layout
Contractor Must Call 24 Hours Prior To Construction for Inspections
By _____ Date 8/11/17

# WEST DESERT MARKETPLACE

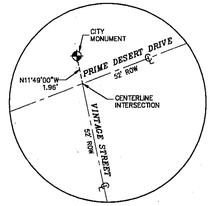
## AMENDING SUBDIVISON

BEING AN AMENDMENT TO WEST DESERT MARKET PLACE
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 48.885 ± (2,129.429 SQ.FT.)

| CURVE TABLE | | | | | |
|---|---|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA | BEARING | CHORD |
| C1 | 81.73 | 46.00 | 101°47'45" | N39°06'22"E | 71.39 |
| C2 | 62.79 | 46.00 | 78°12'30" | S50°53'31"E | 58.03 |
| C3 | 64.95 | 46.00 | 80°54'16" | S28°39'52"W | 59.69 |
| C4 | 83.67 | 46.00 | 104°12'46" | S52°06'22"E | 72.60 |
| C5 | 28.24 | 20.00 | 80°54'30" | S28°39'45"W | 25.95 |
| C6 | 162.63 | 70.00 | 133°08'49" | N54°45'55"E | 128.44 |
| C7 | 10.93 | 20.00 | 31°19'04" | N74°25'13"W | 10.80 |
| C8 | 11.10 | 20.00 | 31°48'45" | S74°05'52"W | 10.96 |
| C9 | 8.26 | 70.00 | 6°45'46" | N61°34'22"E | 8.26 |
| C10 | 37.67 | 70.00 | 30°50'11" | N80°22'20"E | 37.22 |
| C11 | 33.56 | 70.00 | 27°28'04" | S70°28'53"E | 33.24 |
| C12 | 32.28 | 70.00 | 26°25'18" | S43°31'51"E | 31.99 |
| C13 | 20.39 | 70.00 | 16°41'29" | S21°58'28"E | 20.32 |
| C14 | 41.12 | 70.00 | 33°39'13" | S03°11'53"W | 40.53 |
| C15 | 5.05 | 20.00 | 14°28'10" | N12°47'24"E | 5.04 |
| C16 | 5.05 | 20.00 | 17°20'35" | N03°08'58"W | 6.03 |
| C17 | 32.26 | 20.00 | 92°25'30" | N58°10'01"W | 28.88 |
| C18 | 9.65 | 20.00 | 27°39'29" | S81°57'30"W | 9.56 |
| C19 | 12.97 | 70.00 | 10°37'11" | N53°26'21"E | 12.96 |
| C20 | 40.32 | 70.00 | 33°00'10" | N75°15'01"E | 39.77 |
| C21 | 32.67 | 70.00 | 26°44'19" | S74°52'45"E | 32.37 |
| C22 | 31.11 | 70.00 | 25°27'46" | S48°48'42"E | 30.85 |
| C23 | 35.77 | 70.00 | 29°18'54" | S21°24'22"E | 35.39 |
| C24 | 42.06 | 70.00 | 34°25'25" | S10°28'47"W | 41.43 |
| C25 | 3.30 | 20.00 | 9°26'02" | N22°55'29"E | 3.30 |
| C26 | 6.35 | 20.00 | 18°11'27" | N09°05'44"E | 6.32 |
| C27 | 38.71 | 20.00 | 110°53'01" | N55°26'30"W | 32.94 |
| C28 | 24.13 | 20.00 | 69°07'32" | S34°33'30"W | 22.69 |
| C29 | 38.71 | 20.00 | 110°53'01" | S55°26'30"E | 32.94 |
| C30 | 28.24 | 20.00 | 80°54'30" | N28°39'45"E | 25.95 |
| C31 | 34.59 | 20.00 | 99°05'30" | N61°20'15"W | 30.44 |
| C32 | 34.59 | 20.00 | 99°05'30" | N61°20'15"W | 30.44 |
| C33 | 35.53 | 20.00 | 101°47'30" | N39°06'15"E | 31.04 |
| C34 | 27.30 | 20.00 | 78°12'15" | S50°53'38"E | 25.23 |
| C35 | 28.24 | 20.00 | 80°54'30" | S28°39'45"W | 25.95 |
| C36 | 34.59 | 20.00 | 99°05'30" | N61°20'15"W | 30.44 |
| C37 | 28.24 | 20.00 | 80°54'30" | N28°39'45"E | 25.95 |
| C38 | 10.98 | 20.00 | 31°26'49" | N84°52'10"E | 10.84 |
| C39 | 15.81 | 70.00 | 12°56'28" | N85°54'25"W | 15.78 |
| C40 | 37.13 | 70.00 | 30°23'22" | S72°25'40"W | 36.69 |
| C41 | 41.50 | 70.00 | 33°57'55" | S40°15'02"W | 40.89 |
| C42 | 81.25 | 70.00 | 66°30'10" | S06°56'00"E | 76.76 |
| C43 | 10.98 | 20.00 | 31°26'49" | N27°30'41"W | 10.84 |
| C44 | 30.57 | 20.00 | 87°34'30" | N31°59'59"E | 27.68 |
| C45 | 36.38 | 20.00 | 104°12'46" | S52°06'22"E | 31.57 |
| C46 | 24.13 | 20.00 | 69°06'59" | S34°33'30"W | 22.69 |
| C47 | 28.24 | 20.00 | 80°54'16" | S28°39'52"W | 25.95 |
| C48 | 34.59 | 20.00 | 99°05'44" | N61°20'08"W | 30.44 |
| C49 | 35.53 | 20.00 | 101°47'30" | N39°06'29"E | 31.04 |
| C50 | 27.30 | 20.00 | 78°12'30" | S50°53'31"E | 25.23 |
| C51 | 27.30 | 20.00 | 78°12'30" | S50°53'31"E | 25.23 |
| C52 | 28.24 | 20.00 | 80°54'16" | S28°39'52"W | 25.95 |
| C53 | 34.59 | 20.00 | 99°05'30" | N61°20'15"W | 30.44 |
| C54 | 35.53 | 20.00 | 101°47'45" | N39°06'22"E | 31.04 |



DETAIL "A"
SCALE 1"=2000'



DETAIL "B"
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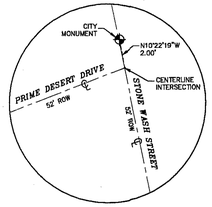
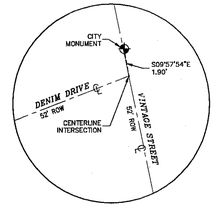
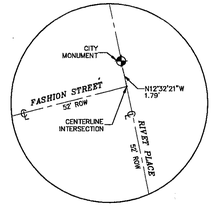


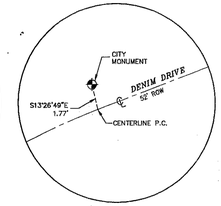
DETAIL "C"
SCALE 1"=2000'



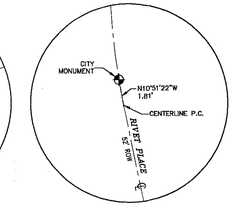
DETAIL "D"
SCALE 1"=2000'



DETAIL "E"
SCALE 1"=2000'



DETAIL "F"
SCALE 1"=2000'



DETAIL "G"
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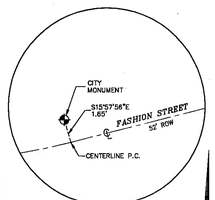


DETAIL "H"
SCALE 1"=2000'



DETAIL "I"
SCALE 1"=2000'



DETAIL "J"
SCALE 1"=2000'

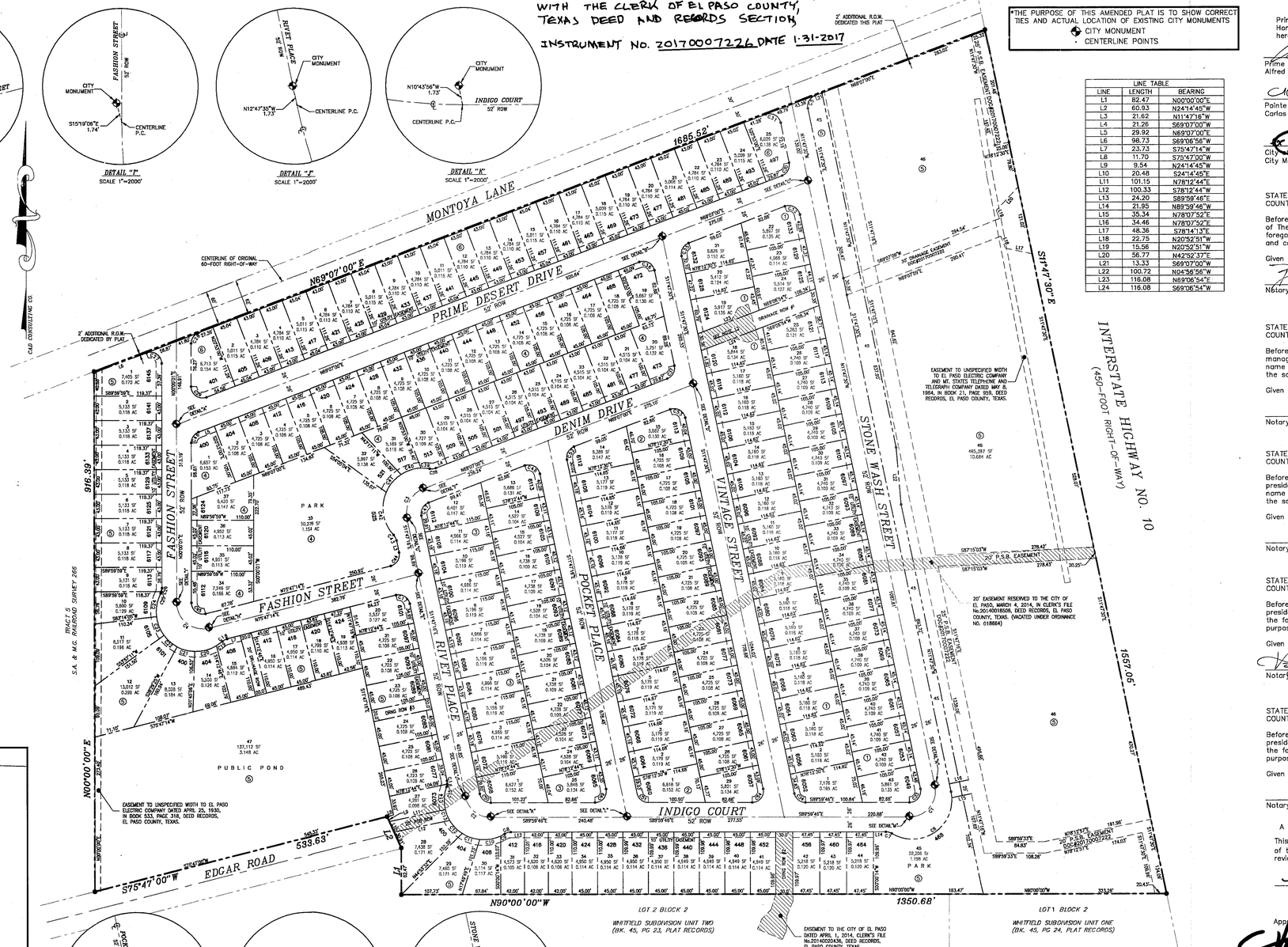


DETAIL "K"
SCALE 1"=2000'

RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE RECORDED WITH THE CLERK OF EL PASO COUNTY, TEXAS DEED AND RECORDS SECTION,
INSTRUMENT NO. 20170007226 DATE 1-31-2017

*THE PURPOSE OF THIS AMENDED PLAT IS TO SHOW CORRECT TIES AND ACTUAL LOCATION OF EXISTING CITY MONUMENTS
⊕ CITY MONUMENT
· CENTERLINE POINTS

| LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L1 | 82.47 | N90°00'00"E |
| L2 | 60.93 | N24°14'45"W |
| L3 | 21.62 | N11°47'16"W |
| L4 | 21.26 | S69°07'00"W |
| L5 | 29.92 | N69°07'00"E |
| L6 | 98.73 | S69°06'56"W |
| L7 | 23.73 | S75°47'14"W |
| L8 | 11.70 | S75°47'00"W |
| L9 | 9.54 | N24°14'45"W |
| L10 | 20.48 | S24°14'45"E |
| L11 | 101.15 | N78°12'44"E |
| L12 | 100.33 | S78°12'44"W |
| L13 | 24.20 | S89°59'46"W |
| L14 | 21.95 | N89°59'46"W |
| L15 | 35.34 | N78°07'52"E |
| L16 | 34.46 | N78°07'52"E |
| L17 | 48.36 | S78°14'13"E |
| L18 | 22.75 | N20°52'51"W |
| L19 | 15.56 | N20°52'51"W |
| L20 | 56.77 | N42°52'37"E |
| L21 | 13.33 | S69°07'00"W |
| L22 | 100.72 | N04°56'56"W |
| L23 | 116.08 | N89°06'54"E |
| L24 | 116.08 | S69°06'54"E |


MONTOYA LANE
CENTERLINE OF ORIGINAL 60-FOOT RIGHT-OF-WAY
N69°07'00"E
1685.52'
PRIME DESERT DRIVE
52' ROW
DENIM DRIVE
52' ROW
INDIGO COURT
52' ROW
277.35'
FASHION STREET
52' ROW
RIVET PLACE
52' ROW
POCKET PLACE
52' ROW
VINTAGE STREET
52' ROW
STONE WASH STREET
52' ROW
PARK
PUBLIC POND
EDGAR ROAD
S75°47'00"W
533.63'
916.39'
N00°00'00"E
1350.68'
N90°00'00"W
S75°47'00"E
1557.05'
INTERSTATE HIGHWAY NO. 10
(450-FOOT RIGHT-OF-WAY)
2' ADDITIONAL R.O.W. DEDICATED BY PLAT
2' ADDITIONAL R.O.W. DEDICATED THIS PLAT
EASEMENT TO UNSPECIFIED WIDTH TO EL PASO ELECTRIC COMPANY AND MT. STATES TELEPHONE AND TELEGRAPH COMPANY DATED MAY 8, 1964, IN BOOK 21, PAGE 358, DEED RECORDS, EL PASO COUNTY, TEXAS.
EASEMENT TO UNSPECIFIED WIDTH TO EL PASO ELECTRIC COMPANY DATED APRIL 25, 1930, IN BOOK 533, PAGE 318, DEED RECORDS, EL PASO COUNTY, TEXAS.
EASEMENT TO THE CITY OF EL PASO DATED APRIL 1, 2014, CLERK'S FILE No.20140020436, DEED RECORDS, EL PASO COUNTY, TEXAS.
20' EASEMENT RESERVED TO THE CITY OF EL PASO, MARCH 4, 2014, IN CLERK'S FILE No.20140018506, DEED RECORDS, EL PASO COUNTY, TEXAS. (VACATED UNDER ORDINANCE NO. 018664)
20' P.S.B. EASEMENT DOC#20070027273
20' P.S.B. EASEMENT DOC#20070027274
20' P.S.B. EASEMENT DOC#20070027275
20' P.S.B. EASEMENT DOC#20070027276
20' P.S.B. EASEMENT DOC#20070027277
20' P.S.B. EASEMENT DOC#20070027278
20' DRAINAGE EASEMENT DOC#20070027279
20' P.S.B. EASEMENT DOC#20070027280
20' P.S.B. EASEMENT DOC#20070027281
20' P.S.B. EASEMENT DOC#20070027282
20' P.S.B. EASEMENT DOC#20070027283
20' P.S.B. EASEMENT DOC#20070027284
20' P.S.B. EASEMENT DOC#20070027285
20' P.S.B. EASEMENT DOC#20070027286
20' P.S.B. EASEMENT DOC#20070027287
20' P.S.B. EASEMENT DOC#20070027288
20' P.S.B. EASEMENT

# WEST DESERT MARKETPLACE

BEING ALL OF TRACTS 6 AND 10 AND A PORTION OF
VACATED EDGAR ROAD R.O.W., S.A. & M.G. RAILROAD SURVEY 266,
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 48.885 ± ACRES (2,129,429 SQ. FT.)



| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 1 Block 1 | 7176 | 0.165 |
| Lot 2 Block 1 | 5160 | 0.118 |
| Lot 3 Block 1 | 5160 | 0.118 |
| Lot 4 Block 1 | 5160 | 0.118 |
| Lot 5 Block 1 | 5160 | 0.118 |
| Lot 6 Block 1 | 5160 | 0.118 |
| Lot 7 Block 1 | 5160 | 0.118 |
| Lot 8 Block 1 | 5160 | 0.118 |
| Lot 9 Block 1 | 5160 | 0.118 |
| Lot 10 Block 1 | 5160 | 0.118 |
| Lot 11 Block 1 | 5160 | 0.118 |
| Lot 12 Block 1 | 5160 | 0.118 |
| Lot 13 Block 1 | 5160 | 0.118 |
| Lot 14 Block 1 | 5160 | 0.118 |
| Lot 15 Block 1 | 5160 | 0.118 |
| Lot 16 Block 1 | 5160 | 0.118 |
| Lot 17 Block 1 | 5160 | 0.118 |
| Lot 18 Block 1 | 5844 | 0.134 |
| Lot 21 Block 1 | 6626 | 0.152 |
| Lot 22 Block 1 | 5897 | 0.135 |
| Lot 23 Block 1 | 4968 | 0.114 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 24 Block 1 | 5514 | 0.127 |
| Lot 25 Block 1 | 5283 | 0.121 |
| Lot 26 Block 1 | 4740 | 0.109 |
| Lot 27 Block 1 | 4740 | 0.109 |
| Lot 28 Block 1 | 4740 | 0.109 |
| Lot 29 Block 1 | 4740 | 0.109 |
| Lot 30 Block 1 | 4740 | 0.109 |
| Lot 31 Block 1 | 4740 | 0.109 |
| Lot 32 Block 1 | 4740 | 0.109 |
| Lot 33 Block 1 | 4740 | 0.109 |
| Lot 34 Block 1 | 4740 | 0.109 |
| Lot 35 Block 1 | 4740 | 0.109 |
| Lot 36 Block 1 | 4740 | 0.109 |
| Lot 37 Block 1 | 4740 | 0.109 |
| Lot 38 Block 1 | 4740 | 0.109 |
| Lot 39 Block 1 | 4740 | 0.109 |
| Lot 40 Block 1 | 4740 | 0.109 |
| Lot 41 Block 1 | 4740 | 0.109 |
| Lot 42 Block 1 | 4740 | 0.109 |
| Lot 43 Block 1 | 5861 | 0.135 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| 20' PSB ROW | 2005 | 0.046 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Drainage ROW #1 | 6673 | 0.153 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Drainage ROW #2 | 3299 | 0.076 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Drainage ROW #3 | 2100 | 0.048 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Drainage ROW #4 | 2200 | 0.051 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 1 Block 2 | 6618 | 0.152 |
| Lot 2 Block 2 | 5179 | 0.119 |
| Lot 3 Block 2 | 5179 | 0.119 |
| Lot 4 Block 2 | 5179 | 0.119 |
| Lot 5 Block 2 | 5179 | 0.119 |
| Lot 6 Block 2 | 5178 | 0.119 |
| Lot 7 Block 2 | 5180 | 0.119 |
| Lot 8 Block 2 | 5177 | 0.119 |
| Lot 9 Block 2 | 5178 | 0.119 |
| Lot 10 Block 2 | 5178 | 0.119 |
| Lot 11 Block 2 | 5178 | 0.119 |
| Lot 12 Block 2 | 5178 | 0.119 |
| Lot 13 Block 2 | 5177 | 0.119 |
| Lot 14 Block 2 | 6389 | 0.147 |
| Lot 15 Block 2 | 5662 | 0.130 |
| Lot 16 Block 2 | 4725 | 0.108 |
| Lot 17 Block 2 | 4725 | 0.108 |
| Lot 18 Block 2 | 4725 | 0.108 |
| Lot 19 Block 2 | 4725 | 0.108 |
| Lot 20 Block 2 | 4725 | 0.108 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 21 Block 2 | 4725 | 0.108 |
| Lot 22 Block 2 | 4725 | 0.108 |
| Lot 23 Block 2 | 4725 | 0.108 |
| Lot 24 Block 2 | 4725 | 0.108 |
| Lot 25 Block 2 | 4725 | 0.108 |
| Lot 26 Block 2 | 4725 | 0.108 |
| Lot 27 Block 2 | 4725 | 0.108 |
| Lot 28 Block 2 | 4725 | 0.108 |
| Lot 29 Block 2 | 5821 | 0.134 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 1 Block 3 | 6627 | 0.152 |
| Lot 2 Block 3 | 5196 | 0.119 |
| Lot 3 Block 3 | 4986 | 0.114 |
| Lot 4 Block 3 | 5196 | 0.119 |
| Lot 5 Block 3 | 4986 | 0.114 |
| Lot 6 Block 3 | 5196 | 0.119 |
| Lot 7 Block 3 | 4986 | 0.114 |
| Lot 8 Block 3 | 5184 | 0.119 |
| Lot 9 Block 3 | 4955 | 0.114 |
| Lot 10 Block 3 | 5196 | 0.119 |
| Lot 11 Block 3 | 4966 | 0.114 |
| Lot 12 Block 3 | 6401 | 0.147 |
| Lot 13 Block 3 | 5686 | 0.131 |
| Lot 14 Block 3 | 4527 | 0.104 |
| Lot 15 Block 3 | 4528 | 0.104 |
| Lot 16 Block 3 | 4738 | 0.109 |
| Lot 17 Block 3 | 4738 | 0.109 |
| Lot 18 Block 3 | 4528 | 0.104 |
| Lot 19 Block 3 | 4738 | 0.109 |
| Lot 20 Block 3 | 4528 | 0.104 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 21 Block 3 | 4738 | 0.109 |
| Lot 22 Block 3 | 4738 | 0.109 |
| Lot 23 Block 3 | 4528 | 0.104 |
| Lot 24 Block 3 | 4526 | 0.104 |
| Lot 25 Block 3 | 5848 | 0.134 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 1 Block 4 | 6657 | 0.153 |
| Lot 2 Block 4 | 4725 | 0.108 |
| Lot 3 Block 4 | 4729 | 0.108 |
| Lot 4 Block 4 | 4725 | 0.108 |
| Lot 5 Block 4 | 4725 | 0.108 |
| Lot 6 Block 4 | 4725 | 0.108 |
| Lot 7 Block 4 | 4725 | 0.108 |
| Lot 8 Block 4 | 4726 | 0.108 |
| Lot 9 Block 4 | 4724 | 0.108 |
| Lot 10 Block 4 | 4725 | 0.108 |
| Lot 11 Block 4 | 4725 | 0.108 |
| Lot 12 Block 4 | 4725 | 0.108 |
| Lot 13 Block 4 | 4725 | 0.108 |
| Lot 14 Block 4 | 4725 | 0.108 |
| Lot 15 Block 4 | 4716 | 0.108 |
| Lot 16 Block 4 | 4734 | 0.109 |
| Lot 17 Block 4 | 4725 | 0.108 |
| Lot 18 Block 4 | 4725 | 0.108 |
| Lot 19 Block 4 | 5887 | 0.130 |
| Lot 20 Block 4 | 5751 | 0.132 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 21 Block 4 | 4515 | 0.104 |
| Lot 22 Block 4 | 4515 | 0.104 |
| Lot 23 Block 4 | 4515 | 0.104 |
| Lot 24 Block 4 | 4515 | 0.104 |
| Lot 25 Block 4 | 4515 | 0.104 |
| Lot 26 Block 4 | 4515 | 0.104 |
| Lot 27 Block 4 | 4515 | 0.104 |
| Lot 28 Block 4 | 4515 | 0.104 |
| Lot 29 Block 4 | 4515 | 0.104 |
| Lot 30 Block 4 | 4727 | 0.109 |
| Lot 31 Block 4 | 5189 | 0.119 |
| Lot 32 Block 4 | 5997 | 0.138 |
| Lot 33 Block 4 | 50278 | 1.154 |
| Lot 34 Block 4 | 7247 | 0.166 |
| Lot 35 Block 4 | 4952 | 0.114 |
| Lot 36 Block 4 | 4952 | 0.114 |
| Lot 37 Block 4 | 6421 | 0.147 |

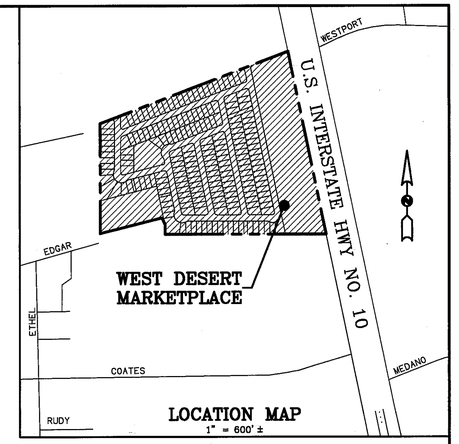
| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 1 Block 6 | 5713 | 0.154 |
| Lot 2 Block 6 | 5011 | 0.115 |
| Lot 3 Block 6 | 4784 | 0.110 |
| Lot 4 Block 6 | 4784 | 0.110 |
| Lot 5 Block 6 | 5011 | 0.115 |
| Lot 6 Block 6 | 4784 | 0.110 |
| Lot 7 Block 6 | 4784 | 0.110 |
| Lot 8 Block 6 | 5011 | 0.115 |
| Lot 9 Block 6 | 4784 | 0.110 |
| Lot 10 Block 6 | 4784 | 0.110 |
| Lot 11 Block 6 | 5011 | 0.115 |
| Lot 12 Block 6 | 4784 | 0.110 |
| Lot 13 Block 6 | 4784 | 0.110 |
| Lot 14 Block 6 | 4784 | 0.110 |
| Lot 15 Block 6 | 5011 | 0.115 |
| Lot 16 Block 6 | 4784 | 0.110 |
| Lot 17 Block 6 | 4784 | 0.110 |
| Lot 18 Block 6 | 5009 | 0.115 |
| Lot 19 Block 6 | 4784 | 0.110 |
| Lot 20 Block 6 | 4784 | 0.110 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 21 Block 6 | 5009 | 0.115 |
| Lot 22 Block 6 | 4784 | 0.110 |
| Lot 23 Block 6 | 4784 | 0.110 |
| Lot 24 Block 6 | 5009 | 0.115 |
| Lot 25 Block 6 | 6029 | 0.138 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 1 Block 5 | 7405 | 0.170 |
| Lot 2 Block 5 | 5133 | 0.118 |
| Lot 3 Block 5 | 5133 | 0.118 |
| Lot 4 Block 5 | 5133 | 0.118 |
| Lot 5 Block 5 | 5133 | 0.118 |
| Lot 6 Block 5 | 5133 | 0.118 |
| Lot 7 Block 5 | 5133 | 0.118 |
| Lot 8 Block 5 | 5133 | 0.118 |
| Lot 9 Block 5 | 5131 | 0.118 |
| Lot 10 Block 5 | 5600 | 0.129 |
| Lot 11 Block 5 | 8517 | 0.196 |
| Lot 12 Block 5 | 13012 | 0.299 |
| Lot 13 Block 5 | 8028 | 0.184 |
| Lot 14 Block 5 | 5503 | 0.126 |
| Lot 15 Block 5 | 4884 | 0.112 |
| Lot 16 Block 5 | 4950 | 0.114 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 17 Block 5 | 4950 | 0.114 |
| Lot 18 Block 5 | 4799 | 0.110 |
| Lot 19 Block 5 | 4938 | 0.113 |
| Lot 20 Block 5 | 5537 | 0.127 |
| Lot 21 Block 5 | 4725 | 0.108 |
| Lot 22 Block 5 | 4725 | 0.108 |
| Lot 23 Block 5 | 4725 | 0.108 |
| Lot 24 Block 5 | 4725 | 0.108 |
| Lot 25 Block 5 | 4725 | 0.108 |
| Lot 26 Block 5 | 4723 | 0.108 |
| Lot 27 Block 5 | 4281 | 0.098 |
| Lot 28 Block 5 | 7436 | 0.171 |
| Lot 29 Block 5 | 7460 | 0.171 |
| Lot 30 Block 5 | 5114 | 0.117 |
| Lot 31 Block 5 | 4573 | 0.105 |
| Lot 32 Block 5 | 4620 | 0.106 |

| LOT TABLE | | |
|---|---|---|
| LOT NUMBER | SQ FT | ACRES |
| Lot 34 Block 5 | 4950 | 0.114 |
| Lot 35 Block 5 | 4950 | 0.114 |
| Lot 36 Block 5 | 4950 | 0.114 |
| Lot 37 Block 5 | 4950 | 0.114 |
| Lot 38 Block 5 | 4949 | 0.114 |
| Lot 39 Block 5 | 4949 | 0.114 |
| Lot 40 Block 5 | 4949 | 0.114 |
| Lot 41 Block 5 | 4949 | 0.114 |
| Lot 42 Block 5 | 5218 | 0.120 |
| Lot 43 Block 5 | 5218 | 0.120 |
| Lot 44 Block 5 | 5218 | 0.120 |
| Lot 45 Block 5 | 52206 | 1.198 |
| Lot 46 Block 5 | 465397 | 10.684 |
| Lot 47 Block 5 | 137112 | 3.148 |




REVISED: NOV. 18, 2016
REVISED: JUNE 25, 2015
REVISED: MAY 12, 2015
REVISED: DEC. 11, 2014
REVISED: OCT. 27, 2014
REVISED: SEPT. 22, 2014
REVISED: AUGUST 7, 2014
REVISED: JULY 2, 2014
REVISED: JUNE 24, 2014
DATE OF PREPARATION: JUNE 13, 2014

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Oct 23,2015 2:14pm Administrator
S:\drawings\SAAA\WEST DESERT MARKETPLACE\G-4-5 Grading.dwg

## LEGEND:

- PROPOSED ASPHALT PAVEMENT. REFER TO DETAILS ON SHEET C-9.0.
- LIMITS OF NATIVE SEED OR ENGINEER APPROVED EQUIVALENT TO BE PLACED ON PROPOSED SLOPES
- PROPOSED LANDSCAPED AREA. REFER TO LANDSCAPING AND IRRIGATION PLANS.
- SUBDIVISION BOUNDARY LINE
- ROW LINE
- PROPERTY LINE
- STREET CENTERLINE
- EASEMENT LINE
- 4080 EXISTING GROUND CONTOUR ELEVATION (INDEX)
- EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
- PROPOSED HANDICAP RAMP. REFER TO DETAIL ON SHEET C-9.2. (WHEEL CHAIR RAMPS WILL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS)
- XX FINAL CONTOUR ELEVATION
- H.P. HIGH POINT
- L.P. LOW POINT
- DRAINAGE FLOW DIRECTION
- (X) BLOCK NUMBER
- X LOT NUMBER
- PROPOSED ROCKWALL (BY DEVELOPER)
- PROPOSED ROCKWALL WITH WROUGHT IRON FENCE (BY DEVELOPER)
- X:X SLOPE HORIZONTAL:VERTICAL SLOPE RATIO
- EXISTING CITY MONUMENT
- PROPOSED CITY MONUMENT
- STANDARD SECTION NUMBER
- SHEET NUMBER WHERE STANDARD SECTION IS DRAWN
- FG=XX.XX PROPOSED LOT FINISHED GROUND ELEVATION.
- TC XX.XX PROPOSED TOP OF CURB ELEVATION
- PV XX.XX PROPOSED TOP OF PAVEMENT ELEVATION

# GRADING PLAN

SCALE: 1" = 60'

NORTH

## GENERAL NOTES:

1. THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING HIS BID.
2. THE CONTRACTOR SHALL SCHEDULE AND PERFORM HIS WORK SO AS TO INSURE THE SAFE AND SUFFICIENT PASSAGE OF STORMWATER RUNOFF DURING THE COURSE OF HIS OPERATIONS. ALL REQUIRED LABOR, TOOLS, EQUIPMENT, AND SUPERVISION SHALL BE CONSIDERED INCIDENTAL TO THE WORK AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO OWNER.
3. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE OWNER, ALL AFFECTED UTILITY COMPANIES, AND ALL OTHER ENTITIES HAVING JURISDICTION OVER THE PROJECT.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES PRIOR TO COMMENCING WITH THE WORK. ANY DISCREPANCIES NOTED SHALL BE REPORTED IMMEDIATELY TO THE PROJECT ARCHITECT AND CIVIL ENGINEER, RESPECTIVELY.
5. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN STRICT CONFORMANCE WITH ALL CURRENT SAFETY CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO, OSHA REQUIREMENTS.
6. THE EXISTING TOPOGRAPHIC/BOUNDARY INFORMATION ON THIS DRAWING WAS OBTAINED FROM A **PROFESSIONAL LAND SURVEYOR.** PROJECT CIVIL ENGINEER DOES NOT WARRANT THE ACCURACY OF THIS INFORMATION.
7. WARNING! BEFORE EXCAVATING, CONTRACTOR SHALL LOCATE AND PROTECT ALL UNDERGROUND UTILITY LINES. CONTRACTOR SHALL REPLACE ANY UTILITIES DAMAGED DURING CONSTRUCTION, AT NO ADDITIONAL COST TO OWNER.
8. CONTRACTOR SHALL WATER CONSTRUCTION SITE AREA A MINIMUM OF TWICE A DAY TO KEEP DUST TO A MINIMUM – ONCE IN THE MORNING AND ONCE IN THE AFTERNOON.
9. THIS GRADING PLAN SHALL BE COORDINATED WITH THE ENTIRE SET OF CONSTRUCTION DRAWINGS FOR SITE IMPROVEMENT DETAILS, DIMENSIONS AND LAYOUT AT TIME OF BUILDING PERMIT ISSUANCE.
10. FILL MATERIAL FOR SITE GRADING AND BACKFILL MAY CONSIST OF ON SITE AND/OR IMPORTED MATERIALS IN COMPLIANCE WITH THE GEOTECHNICAL INVESTIGATION
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. ANY DAMAGES RESULTING FROM CONTRACTOR'S WORK SHALL BE REPAIRED TO ITS ORIGINAL CONDITION BY CONTRACTOR, AT NO COST TO THE OWNER.
12. CONTRACTOR SHALL INSURE THE FOLLOWING: ALL ACCESSIBLE ROUTES SHALL NOT EXCEED A RUNNING SLOPE GREATER THAN 1:20. NO WHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 IN ALL DIRECTIONS. NEW WHEELCHAIR RAMPS SHALL NOT EXCEED A SLOPE OF 1:1
13. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL REVIEW AND COORDINATE THE ENTIRE SET OF DRAWINGS AND PROJECT MANUAL TO ESTABLISH PROJECT COST.
14. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS DURING CONSTRUCTION ACTIVITY.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL ENVIRONMENTAL FINES RESULTING FROM HIS/HER WORK AND SHALL HOLD THE OWNER HARMLESS IN SUCH CASES.
16. ALL EXISTING VEGETATION WITHIN THE GRADING LIMITS SHALL BE REMOVED AND PROPERLY DISPOSED UNLESS OTHERWISE INDICATED.
17. THE CONTRACTOR SHALL EXERCISE CARE TO PRESERVE THE NATURAL LANDSCAPE AT THE AREAS MARKED AS "TO REMAIN UNDISTURBED," AND SHALL CONDUCT HIS CONSTRUCTION OPERATION SO AS TO PREVENT ANY DAMAGE TO EXISTING FEATURES. EXCEPT WHERE CLEARING IS REQUIRED FOR PERMANENT WORK AND FOR EXCAVATION OPERATIONS, TREES, NATIVE SHRUBBERY, AND VEGETATION SHALL BE PROTECTED FROM DAMAGE WHICH MAY BE CAUSED BY THE CONTRACTOR'S CONSTRUCTION OPERATIONS AND EQUIPMENT.
18. COORDINATE FINAL GRADING OF SWALES AND BERMS WITH OTHER LANDSCAPE FEATURES AS REQUIRED.
19. A MINIMUM WALL HEIGHT OF 6 FEET SHALL BE PROVIDED BETWEEN EXISTING OR FUTURE RESIDENTIAL ZONES/DEVELOPMENTS AND COMMERCIAL ZONES.

## GRADING SPECIFICATIONS

1. CLEARING AND GRUBBING: CLEAR SITE OF TREES, SHRUBS AND OTHER VEGETATION; COMPLETELY REMOVE STUMPS, ROOTS AND OTHER DEBRIS PROTRUDING THROUGH GROUND SURFACE; FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY FILL MATERIAL. REMOVE TOPSOIL CONTAINING EXCESSIVE AMOUNTS OF ORGANIC MATTER AS INDICATED; REMOVE EXISTING ABOVE-GRADE AND BELOW-GRADE IMPROVEMENTS AND UTILITIES AS NECESSARY TO FACILITATE NEW CONSTRUCTION. BURNING IS NOT PERMITTED ON OR NEAR THE SITE. REMOVE WASTE MATERIALS FROM OWNER'S PROPERTY.
2. SATISFACTORY FILL MATERIALS: FILL MATERIALS SHALL BE FREE OF ANY ORGANIC SUBSTANCE, AND SHALL BE DEFINED AS THOSE COMPLYING WITH ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, GC, SM, SP, SM, AND SC.
3. UNSATISFACTORY FILL MATERIAL: ARE DEFINED AS THOSE COMPLYING WITH ASTM D 2487 SOIL CLASSIFICATION GROUPS ML, MH, CL, CH, OL, OH, AND PT, OR WITH A PLASTICITY INDEX GREATER THAN 30.
4. EXCAVATION: IS UNCLASSIFIED AND INCLUDES EXCAVATION TO ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIAL AND OBSTRUCTIONS ENCOUNTERED.
5. GROUND SURFACE PREPARATION FOR FILL: REMOVE VEGETATION, DEBRIS, UNSATISFACTORY MATERIAL, OBSTRUCTIONS, AND DELETERIOUS MATERIAL FROM GROUND SURFACE BEFORE PLACING FILL. IF FILL IS TO BE PLACED ON SURFACE SHALL THEN BE SCARIFIED TO A DEPTH OF AT LEAST 8 INCHES. PLOW STRIP, OR GROOVE SURFACE FROM RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH WOULD PREVENT UNIFORM COMPACTION. PLOW STRIPS, OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO THAT FILL MATERIAL WILL BOND WITH EXISTING SURFACE. AFTER PLOWING AND SCARIFYING FILL AREA, IT SHALL THEN BE DISCED OR BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS, BROUGHT TO OPTIMUM MOISTURE, AND COMPACTED TO 95% OF MAXIMUM DENSITY ACCORDING TO ASTM D1557.
6. PLACING FILL MATERIAL: PLACE FILL MATERIAL IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE OPTIMUM MOISTURE CONTENT. COMPACT EACH FILL MATERIALS EVEN ADJACENT TO SITE APPURTENANCES, PIPING, OR CONDUIT TO REQUIRED ELEVATIONS. TO PREVENT WEDGING ACTION OF BACKFILL AGAINST SITE APPURTENANCES, PIPING, OR CONDUIT DO NOT PLACE, SPREAD, OR COMPACT MATERIAL WITHIN 12 INCHES OF SITE APPURTENANCES, PIPING, OR CONDUIT TO APPROXIMATELY SAME ELEVATION IN EACH LIFT. COMPACT SOIL TO NOT LESS THAN 95% OF MAXIMUM DENSITY, IN ACCORDANCE WITH ASTM D1557. - 13 TO 25
7. MOISTURE CONTROL: WHERE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE CONDITIONED FOR OPTIMUM MOISTURE BEFORE COMPACTION, UNIFORMLY APPLY WATER TO SURFACE OF SUBGRADE OR SOIL LAYER. DO NOT APPLY WATER IN EXCESS OF AMOUNT THAT WILL PREVENT THE REQUIRED COMPACTION OR WILL CAUSE SOFTENING OF SUBGRADE OR SOIL LAYERS DURING OR SUBSEQUENT TO COMPACTION OPERATIONS. WATER CONTENT SHALL BE WITHIN 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY SOFTENED SOIL TO PROPER MOISTURE CONTENT THAT IS TOO WET TO PERMIT COMPACTION TO SPECIFIED DENSITY.
8. QUALITY CONTROL: THE OWNER SHALL PROVIDE A GEOTECHNICAL ENGINEER TO PERFORM FIELD DENSITY TEST OF THE COMPACTION OF EACH LAYER OF FILL. DENSITY TESTS SHALL BE TAKEN IN THE COMPACTED MATERIAL BELOW THE DISTURBED SURFACE. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED UNTIL THE REQUIRED DENSITY HAS BEEN OBTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADDITIONAL COSTS RESULTING FROM THE REQUIRED DENSITIES ARE NOT MET. SUPERVISION BY THE GEOTECHNICAL ENGINEER DURING THE GRADING OPERATIONS TO ENSURE GRADING WORK IN ACCORDANCE WITH THIS PLAN AND SPECIFICATIONS.

BLOCK 4 BETWEEN LOTS 4 TO 5 AND LOTS 20 TO 32
BLOCK 5 TO BE REVISED TO DRAINAGE EASEMENT
BLOCK 20 DISPLACEMENT OF PIPING OR CONDUIT BY CARRYING MATERIALS SHOULD BE REVISED TO DRAINAGE EASEMENT
BLOCK 21 REVISED TO DRAINAGE EASEMENT

Reviewed For Conformance For Condition Related To:
Grading & Drainage
Retaining Rock Walls
Driveway
Ponding Requirements
Outside Pooling of Storm Waters
On Site Parking Layout
Contractor Must Call 24 Hours Prior To Construction for Inspections
CITY DEVELOPMENT DEPARTMENT
Date: Nov 3 2015

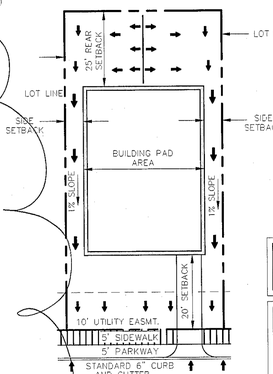
CITY DEVELOPMENT DEPARTMENT
SITE PLAN REVIEW
REVIEWED FOR GRADING ONLY

GRADING PERMIT
BY: [illegible] DATE: NOV 3 2015

ROCKWALLS REVISED BY: DORADO ENG. 10/08/15

## TYPICAL LOT LAYOUT

SCALE: N.T.S.




**DRIVEWAY NOTE:**
DRIVEWAY SLOPES MUST BE 10% MAX. FROM GUTTER FOR FIRST 12 FT. AND NO GREATER THAN 14% MAX. THEREAFTER. (BLDG. CO. 13.12.095) FOR SETBACK DIMENSIONS REFER TO ZONING ORDINANCE.

**LOT GRADE NOTE:**
FG=AS SHOWN ON GRADING PLAN THIS SHEET
FF=SHALL BE OBTAINED BY ADDING 6 INCHES TO EACH LOT FINISHED GRADE ELEVATION AS INDICATED ON THE GRADING PLAN THIS SHEET

**ROCK RETAINING WALL NOTE:**
A ROCK RETAINING WALL SHALL BE REQUIRED WHEN THERE IS A DIFFERENCE OF 2' OR MORE BETWEEN LOT FINISHED GRADES OR BETWEEN SIDEWALK AND LOTS.

MAINTENANCE OF DRAINAGE STRUCTURES OUTSIDE SUBDIVISION BOUNDARIES SHALL BE THE RESPONSIBILITY OF DEVELOPER UNTIL THEY ARE PLATTED, DEDICATED, AND ACCEPTED FOR MAINTENANCE BY THE CITY OF EL PASO WITH FUTURE SUBDIVISION PLATS

**BENCHMARK:**
VERTICAL DATUM IS CITY AS PER FOUND CITY MONUMENT AT THE INTERSECT OF QUIMAULT & IMCA AVENUE REFERENCE IN THREE HILLS ADDITION.
CITY DATUM ELEV.=3876.84

**LEGAL DESCRIPTION:**
BEING ALL OF TRACTS 3 AND 10 AND A PORTION OF VACATED EDGAR ROAD P.O.W., S.A. & M.G. RAILROAD SURVEY 266, CITY OF EL PASO, EL PASO COUNTY, TEXAS, CONTAINING 48.885 ± ACRES (2,129,429 SQ. FT.)

**FLOOD ZONE:**
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NO. 480214-0020D, DATED JANUARY 3, 1997. THIS PROPERTY IS ON FLOOD HAZARD ZONE C, AND IN FLOOD HAZARD ZONE X IN PANEL NO. 481212-0125B, DATED SEPTEMBER 4, 1991.

NOTE:
THE CONTRACTOR SHALL [illegible] PERSONNEL FOR THE PROTECTION OF THE EL PASO WATER UTILITIES' UNDERGROUND AND ABOVE GROUND FACILITIES, INCLUDING BUT NOT LIMITED TO, DOMESTIC WATER, HIGH PRESSURE [illegible] ELECTRICITY, FIBER OPTIC CABLE, TELEPHONE CABLE AND ASSOCIATED APPURTENANCES. IF ANY ELECTRICITY, FIBER OPTIC CABLE, TELEPHONE CABLE OR WATER LINE SHALL REMOVE, ADJUST OR RELOCATE ANY OF THE EL PASO WATER UTILITIES' FACILITIES TO ACCOMMODATE NEW IMPROVEMENTS, A COPY OF THE APPROVED "BUILT" CAN BE PROVIDED TO THE CONTRACTOR BY THE EL PASO WATER UTILITIES AND THE CITY OF EL PASO. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE EL PASO WATER UTILITIES AND ALL OTHER ENTITIES HAVING JURISDICTION.

**GENERAL UTILITY RELOCATION / REPLACEMENT NOTES:**
ALL UTILITY WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION STANDARDS AND GUIDELINES OF THE UTILITY COMPANY(S) HAVING JURISDICTION.

PRIOR TO COMMENCING WORK, AND AT SUCH OTHER TIMES AS [illegible] BE REQUIRED BY THE PROJECT ENGINEER, THE CONTRACTOR SHALL SUBMIT SCHEDULES SHOWING THE ORDER IN WHICH THE CONTRACTOR PROPOSES TO DO THE WORK, AND THE ESTIMATED NUMBER OF WORKING DAYS ELAPSED WHEN THE PHASES ARE TO BE STARTED AND ALSO THE ESTIMATED NUMBER OF WORKING DAYS REQUIRED TO COMPLETE THE PHASES. SAID SCHEDULES SHALL BE SUBJECT TO THE APPROVAL OF THE PROJECT CIVIL ENGINEER.

CONTRACTOR SHALL COMPLY WITH THE EL PASO WATER UTILITIES CONSTRUCTION GUIDELINES FOR ANY WATER AND SANITARY SEWER ADJUSTMENTS REPLACEMENTS AND/OR RELOCATIONS.

## WARNING! BEFORE YOU DIG

**COORDINATION WITH UTILITIES:**
CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

| | | | |
|---|---|---|---|
| TEXAS GAS SERVICE<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344-8377 | EL PASO ELECTRIC CO.<br>100 WEST 16TH AVENUE ST.<br>EL PASO, TEXAS 79901<br>(800) 351-4545 | EL PASO WATER UTILITIES PUBLIC SERVICE BOARD<br>1154 HUGHES BLVD<br>EL PASO, TEXAS 79925<br>(915) 594-5527 | CITY OF EL PASO STREET DEPARTMENT<br>7960 GATEWAY BLVD<br>EL PASO, TEXAS 79907<br>(915) 852-6480 |
| AT&T INCORPORATED<br>11000 PELICHIO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1122 (FIBER OPTIC) | TIME WARNER CABLE<br>4901 DOYLE STREET<br>EL PASO, TEXAS 79932<br>(800) 344-8377 | TEXAS EXCAVATION SAFETY SYSTEM<br>WASHINGTON, D.C.<br>(800) 344-8377 | TEXAS DEPARTMENT OF TRANSPORTATION EL PASO DISTRICT (WEST AREA)<br>4501 GATEWAY BLVD<br>EL PASO, TEXAS 79904<br>(915) 790-4200 |

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUIMAULT & IMCA AVENUE REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM ENGINEERING CONSULTANTS, Inc.
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

DORADO ENGINEERING, INC.
ENGINEERS SURVEYORS PLANNERS
2777 E YARBELL EL PASO, TEXAS 79925 (915)595-4002

SCALE: HORIZONTAL: 1"=60' VERTICAL: N/A CONTOUR INTERVAL: N/A
DATE: AUGUST 2015 DESIGN BY: M.A.S. DRAWN BY: E.M.C. CHKD BY: R.A.C. JOB NO.: 1326.

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
OVERALL GRADING PLAN (1 OF 2)

SHEET NO.
C-4
4 OF 123 SHEETS

REVISED 10-08-15

BLDG15-00008 / 11/24/14 / 00022

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MATCH LINE. REFER TO SHEET C-4.

## GRADING PLAN

SCALE: 1" = 60'

NORTH

### GENERAL NOTES:

1. THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING HIS BID.
2. THE CONTRACTOR SHALL SCHEDULE AND PERFORM HIS WORK SO AS TO INSURE THE SAFE AND SUFFICIENT PASSAGE OF STORMWATER RUNOFF DURING THE COURSE OF HIS OPERATIONS. ALL REQUIRED LABOR, TOOLS, EQUIPMENT, AND SUPERVISION SHALL BE CONSIDERED INCIDENTAL TO THE WORK AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO OWNER.
3. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE OWNER, ALL AFFECTED UTILITY COMPANIES, AND ALL OTHER ENTITIES HAVING JURISDICTION OVER THE PROJECT.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES PRIOR TO COMMENCING WITH THE WORK. ANY DISCREPANCIES NOTED SHALL BE REPORTED IMMEDIATELY TO THE PROJECT ARCHITECT AND CIVIL ENGINEER, RESPECTIVELY.
5. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN STRICT CONFORMANCE WITH ALL CURRENT SAFETY CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO, OSHA REQUIREMENTS.
6. THE EXISTING TOPOGRAPHIC/BOUNDARY INFORMATION ON THIS DRAWING WAS OBTAINED FROM A **PROFESSIONAL LAND SURVEYOR.** PROJECT CIVIL ENGINEER DOES NOT WARRANT THE ACCURACY OF THIS INFORMATION.
7. WARNING! BEFORE EXCAVATING, CONTRACTOR SHALL LOCATE AND PROTECT ALL UNDERGROUND UTILITY LINES. CONTRACTOR SHALL REPLACE ANY UTILITIES DAMAGED DURING CONSTRUCTION, AT NO ADDITIONAL COST TO OWNER.
8. CONTRACTOR SHALL WATER CONSTRUCTION SITE AREA A MINIMUM OF TWICE A DAY TO KEEP DUST TO A MINIMUM – ONCE IN THE MORNING AND ONCE IN THE AFTERNOON.
9. THIS GRADING PLAN SHALL BE COORDINATED WITH THE ENTIRE SET OF CONSTRUCTION DRAWINGS FOR SITE IMPROVEMENT DETAILS, DIMENSIONS AND LAYOUT AT TIME OF BUILDING PERMIT ISSUANCE.
10. FILL MATERIAL FOR SITE GRADING AND BACKFILL MAY CONSIST OF ON SITE AND/OR IMPORTED MATERIALS IN COMPLIANCE WITH THE GEOTECHNICAL INVESTIGATION
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. ANY DAMAGES RESULTING FROM CONTRACTOR'S WORK SHALL BE REPAIRED TO ITS ORIGINAL CONDITION BY CONTRACTOR, AT NO COST TO THE OWNER.
12. CONTRACTOR SHALL INSURE THE FOLLOWING: ALL ACCESSIBLE ROUTES SHALL NOT EXCEED A RUNNING SLOPE GREATER THAN 1:20. NO WHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 IN ALL DIRECTIONS. NEW WHEELCHAIR RAMPS SHALL NOT EXCEED A SLOPE OF 1:12
13. GENERAL CONTRACTOR AND ALL SUBCONTRACTOR'S SHALL REVIEW AND COORDINATE THE ENTIRE SET OF DRAWINGS AND PROJECT MANUAL TO ESTABLISH PROJECT COST.
14. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIROMENTAL REGULATIONS DURING CONSTRUCTION ACTIVITY.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR AHY AND ALL ENVIRONMENTAL FINES RESULTING FROM HIS/HER WORK AND SHALL HOLD THE OWNER HARMLESS IN SUCH CASES.
16. ALL EXISTING VEGETATION WITHIN THE GRADING LIMITS SHALL BE REMOVED AND PROPERLY DISPOSED UNLESS OTHERWISE INDICATED.
17. THE CONTRACTOR SHALL EXERCISE CARE TO PRESERVE THE NATURAL LANDSCAPE AT THE AREAS MARKED AS "TO REMAIN UNDISTURBED," AND SHALL CONDUCT HIS CONSTRUCTION OPERATION SO AS TO PREVENT ANY DAMAGE TO EXISTING FEATURES. EXCEPT WHERE CLEARING IS REQUIRED FOR PERMANENT WORK AND FOR EXCAVATION OPERATIONS, TREES, NATIVE SHRUBBERY, AND VEGETATION SHALL BE PROTECTED FROM DAMAGE WHICH MAY BE CAUSED BY THE CONTRACTOR'S CONSTRUCTION OPERATIONS AND EQUIPMENT.
18. COORDINATE FINAL GRADING OF SWALES AND BERMS WITH OTHER LANDSCAPE FEATURES AS REQUIRED.
19. A MINIMUM WALL HEIGHT OF 6 FEET SHALL BE PROVIDED BETWEEN EXISTING OR FUTURE RESIDENTIAL ZONES/DEVELOPMENTS AND COMMERCIAL ZONES.

### GRADING SPECIFICATIONS

1. CLEARING AND GRUBBING: CLEAR SITE OF TREES, SHRUBS AND OTHER VEGETATION; COMPLETELY REMOVE STUMPS, ROOTS AND OTHER DEBRIS PROTRUDING THROUGH GROUND SURFACE; FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY FILL MATERIAL UNLESS FURTHER EXCAVATION OF EARTHWORK IS INDICATED; REMOVE EXISTING ABOVE-GRADE AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION. BURNING IS NOT PERMITTED ON OWNER'S PROPERTY. REMOVE WASTE MATERIALS FROM OWNER'S PROPERTY.
2. SATISFACTORY FILL MATERIALS: FILL MATERIALS SHALL BE FREE OF ANY ORGANIC OR DELETERIOUS SUBSTANCE AND SHALL BE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS GW, GP,GM, GC, SM, SP, SM, AND SC.
3. UNSATISFACTORY FILL MATERIAL: ARE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS ML, MH, CL, CH, OL, OH, AND PT, OR WHERE THE PLASTICITY INDEX EXCEEDS 12.
4. EXCAVATION: IS UNCLASSIFIED AND INCLUDES EXCAVATION TO ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIAL AND OBSTRUCTIONS ENCOUNTERED.
5. GROUND SURFACE PREPARATION FOR FILL: REMOVE VEGETATION, DEBRIS, UNSATISFACTORY SOIL MATERIAL, OBSTRUCTIONS, AND DELETERIOUS MATERIAL FROM GROUND SURFACE UPON WHICH THE FILL IS TO BE PLACED. THE SURFACE SHALL THEN BE SCARIFIED TO A DEPTH OF AT LEAST 6-INCHES, AND UNTIL THE SURFACE IS FREE FROM RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH WOULD PREVENT UNIFORM COMPACTION. PLOW STRIP, OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO THAT FILL MATERIAL WILL BOND WITH EXISTING SURFACE. AFTER PLOWING AND SCARIFYING FILL AREA, IT SHALL THEN BE DISCED OR BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. BROUGHT TO OPTIMUM MOISTURE, AND COMPACTED TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557.
6. PLACEMENT OF FILL: PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE OPTIMUM MOISTURE CONTENT. PLACE FILL MATERIALS EVENLY ADJACENT TO SITE APPURTENANCES, PIPING, OR CONDUIT TO REQUIRED ELEVATIONS. PREVENT WEDGING ACTION OF BACKFILL AGAINST SIDE APPURTENANCES OR DISPLACEMENT OF PIPING OR CONDUIT BY CARRYING MATERIAL UNIFORMLY AROUND SITE APPURTENANCES, PIPING, OR CONDUIT TO APPROXIMATELY SAME ELEVATION IN EACH LIFT. COMPACT SOIL TO NOT LESS THAN 95% OF MAXIMUM DENSITY, IN ACCORDANCE WITH ASTM D1557.
7. MOISTURE CONTROL: WHERE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE CONDITIONED FOR OPTIMUM MOISTURE BEFORE COMPACTION, UNIFORMLY APPLY WATER TO THE SURFACE OF SUBGRADE OR LAYER OF SOIL MATERIAL. APPLY WATER IN MINIMUM QUANTITY AS NECESSARY TO PREVENT FREE WATER FROM APPEARING ON SURFACE DURING OR SUBSEQUENT TO COMPACTION OPERATIONS. WATER CONTENT SHALL BE WITHIN 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY SOIL MATERIAL THAT IS TOO WET TO PERMIT COMPACTION TO SPECIFIED DENSITY.
8. QUALITY CONTROL: THE OWNER SHALL PROVIDE A GEOTECHNICAL ENGINEER TO PERFORM FIELD DENSITY TESTS OF THE COMPACTION OF EACH LAYER OF FILL. DENSITY TESTS SHALL BE TAKEN IN THE COMPACTED MATERIAL BELOW THE DISTURBED SURFACE. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED UNTIL THE REQUIRED DENSITY HAS BEEN OBTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADDITIONAL COSTS RESULTING FROM THE REQUIRED DENSITIES ARE NOT MET. SUPERVISION BY THE GEOTECHNICAL ENGINEER DURING THE GRADING OPERATIONS TO ENSURE GRADING WORK IN ACCORDANCE WITH THIS PLAN AND SPECIFICATIONS.

### ROCK RETAINING WALL NOTE:

A ROCK RETAINING WALL SHALL BE REQUIRED WHEN THERE IS A DIFFERENCE OF 2' OR MORE BETWEEN LOT FINISHED GRADES OR BETWEEN SIDEWALK AND LOTS.

MAINTENANCE OF DRAINAGE STRUCTURES OUTSIDE SUBDIVISION BOUNDARIES SHALL BE THE RESPONSIBILITY OF DEVELOPER UNTIL THEY ARE PLATTED, DEDICATED, AND ACCEPTED FOR MAINTENANCE BY THE CITY OF EL PASO WITH FUTURE SUBDIVISION PLATS

### FLOOD ZONE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 480214-0001B, DATED JANUARY 3, 1997. THIS PROPERTY IS ON FLOOD HAZARD ZONE C, AND IN FLOOD HAZARD ZONE X IN PANEL NO. 481212-0125B, DATED SEPTEMBER 4, 1991.

### BENCHMARK:

VERTICAL DATUM IS CITY AS PER FOUND CITY MONUMENT AT THE INTERSECT OF QUIMAULT & IIICA AVENUE REFERENCE IN THREE HILLS ADDITION.

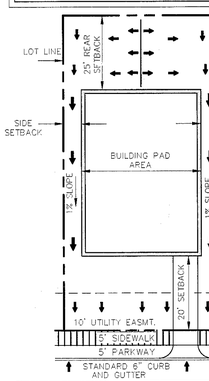
CITY DATUM ELEV.=3876.84

### LEGAL DESCRIPTION:

BEING ALL OF TRACTS 6 AND 10 AND A PORTION OF VACATED EDGAR ROAD R.O.W., S.A. & M.G. RAILROAD SURVEY 266, CITY OF EL PASO, EL PASO COUNTY, TEXAS, CONTAINING 48.885 ± ACRES (2,129,429 SQ. FT.)

### LOT GRADE NOTE:

FG=AS SHOWN ON GRADING PLAN THIS SHEET
FF=SHALL BE OBTAINED BY ADDING 6 INCHES TO EACH LOT FINISHED GRADE ELEVATION AS INDICATED ON THE GRADING PLAN THIS SHEET.




### DRIVEWAY NOTE:

DRIVEWAY SLOPES MUST BE 10% MAX. FROM GUTTER FOR FIRST 12 FT. AND NO GREATER THAN 14% MAX. THEREAFTER. (BLDG. CD. 13.12.095) FOR SETBACK DIMENSIONS REFER TO ZONING ORDINANCE.

## TYPICAL LOT LAYOUT

SCALE: N.T.S.

### NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO, SANITARY SEWER, DOMESTIC WATER, HIGH PRESSURE WATER MAINS, FIRE PROTECTION, IRRIGATION LINES AND ASSOCIATED APPURTENANCES, GAS, ELECTRICAL AND FIBER OPTICS. THE CONTRACTOR SHALL REMOVE, ADJUST AND/OR RELOCATE UTILITIES AS NECESSARY TO ACCOMMODATE NEW IMPROVEMENTS. A COPY OF THE EXISTING UTILITY "AS-BUILTS" CAN BE PROVIDED TO THE CONTRACTOR BY THE EL PASO WATER UTILITIES AND THE CITY OF EL PASO. THE CONTRACTOR SHALL COORDINATE ALL RELOCATIONS WITH UTILITY COMPANIES AND ALL OTHER ENTITIES HAVING JURISDICTION OVER THE PROJECT.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. ANY DAMAGES RESULTING FROM CONTRACTOR'S WORK SHALL BE REPAIRED TO ITS ORIGINAL CONDITION BY CONTRACTOR, AT NO ADDITIONAL COST TO OWNER. THE CONTRACTOR SHALL SUBMIT A SAFETY CONTROL PLAN TO PROTECT EXISTING BUILDINGS AND STRUCTURES NOT TO BE DISTURBED, PEDESTRIANS AND FACILITY USERS.

### GENERAL UTILITY RELOCATION / REPLACEMENT NOTES:

ALL UTILITY WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION STANDARDS AND GUIDELINES OF THE UTILITY COMPANY(S) HAVING JURISDICTION.

PRIOR TO COMMENCING WORK, AND AT SUCH OTHER TIMES AS MAY BE REQUIRED BY THE PROJECT ENGINEER, THE CONTRACTOR SHALL SUBMIT SCHEDULES SHOWING THE ORDER IN WHICH THE CONTRACTOR PROPOSES TO CARRY ON THE WORK, THE ESTIMATED NUMBER OF WORKING DAYS ELAPSED WHEN THE PHASES ARE TO BE STARTED AND ALSO THE ESTIMATED NUMBER OF WORKING DAYS REQUIRED TO COMPLETE THE PHASES. SAID SCHEDULES SHALL BE SUBJECT TO THE APPROVAL OF THE PROJECT CIVIL ENGINEER.

CONTRACTOR SHALL COMPLY WITH THE EL PASO WATER UTILITIES CONSTRUCTION GUIDELINES FOR ANY WATER AND SANITARY SEWER ADJUSTMENTS REPLACEMENTS AND/OR RELOCATIONS.

## WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES:

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

| | | | |
|---|---|---|---|
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| **AT&T INCORPORATED**<br>11200 PELLICANO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1133 (FIBER OPTIC) | **TIME WARNER CABLE**<br>#20 CONCORD STREET<br>EL PASO, TEXAS 79906<br>(800) 244-8377 | **TEXAS EXCAVATION SAFETY SYSTEM**<br>ANYWHERE IN TEXAS<br>(800) 344-8377 | **TEXAS DEPARTMENT OF TRANSPORTATION EL PASO DISTRICT (WEST AREA)**<br>4201 MONTANA<br>EL PASO, TEXAS 79904<br>(915) 757-5922 |

### LEGEND:

- PROPOSED ASPHALT PAVEMENT. REFER TO DETAILS ON SHEET C-90
- PROPOSED HYDROMULCH SEED OR ENGINEER APPROVED EQUIVALENT TO BE PLACED ON PROPOSED SLOPES
- PROPOSED LANDSCAPED AREA. REFER TO LANDSCAPING AND IRRIGATION PLANS.
- SUBDIVISION BOUNDARY LINE
- ROW LINE
- PROPERTY LINE
- STREET CENTERLINE
- EASEMENT LINE
- 4080 — EXISTING CONTOUR ELEVATION
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- PROPOSED CURB, GUTTER. REFER TO DETAIL ON SHEET C-90. WHEEL CHAIR RAMPS SHALL BE INSTALLED BY THE DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.
- FINAL CONTOUR ELEVATION
- H.P. — HIGH POINT
- L.P. — LOW POINT
- DRAINAGE FLOW DIRECTION
- BLOCK NUMBER
- LOT NUMBER
- PROPOSED ROCKWALL (BY DEVELOPER)
- PROPOSED ROCKWALL WITH WROUGHT IRON FENCE (BY DEVELOPER)
- EXISTING CITY MONUMENT
- PROPOSED CITY MONUMENT
- STANDARD SECTION NUMBER
- SHEET NUMBER WHERE STANDARD SECTION IS DRAWN
- FG=XX.XX — PROPOSED LOT FINISHED GROUND ELEVATION
- TC 15.52 — PROPOSED TOP OF CURB ELEVATION
- PV 89.83 — PROPOSED TOP OF PAVEMENT ELEVATION

QUANTUM engineering consultants
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

DORADO ENGINEERING, INC.
ENGINEERS SURVEYORS PLANNERS
2777 E. YANDELL EL PASO, TEXAS 79903 (915)566-0202

BENCHMARKS: CITY MONUMENT AT THE INTERSECT OF QUIMAULT & IIICA AVENUE
ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
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SCALE: HORIZONTAL: 1"=60' VERTICAL: N/A CONTOUR INTERVAL:

DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: P.A.G.
CHECKED BY: M.A.G.
APPVD BY: R.A.G.
JOB NO. 1376

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
OVERALL GRADING PLAN (2 OF 2)

SHEET NO.
C-5
5 OF 123 SHEETS

REVISED 10-08-15

Oct 29,2015 2:18pm Administrator
S:\drawings\SAGE\WEST DESERT MARKETPLACE\C-4-5 Grading.dwg

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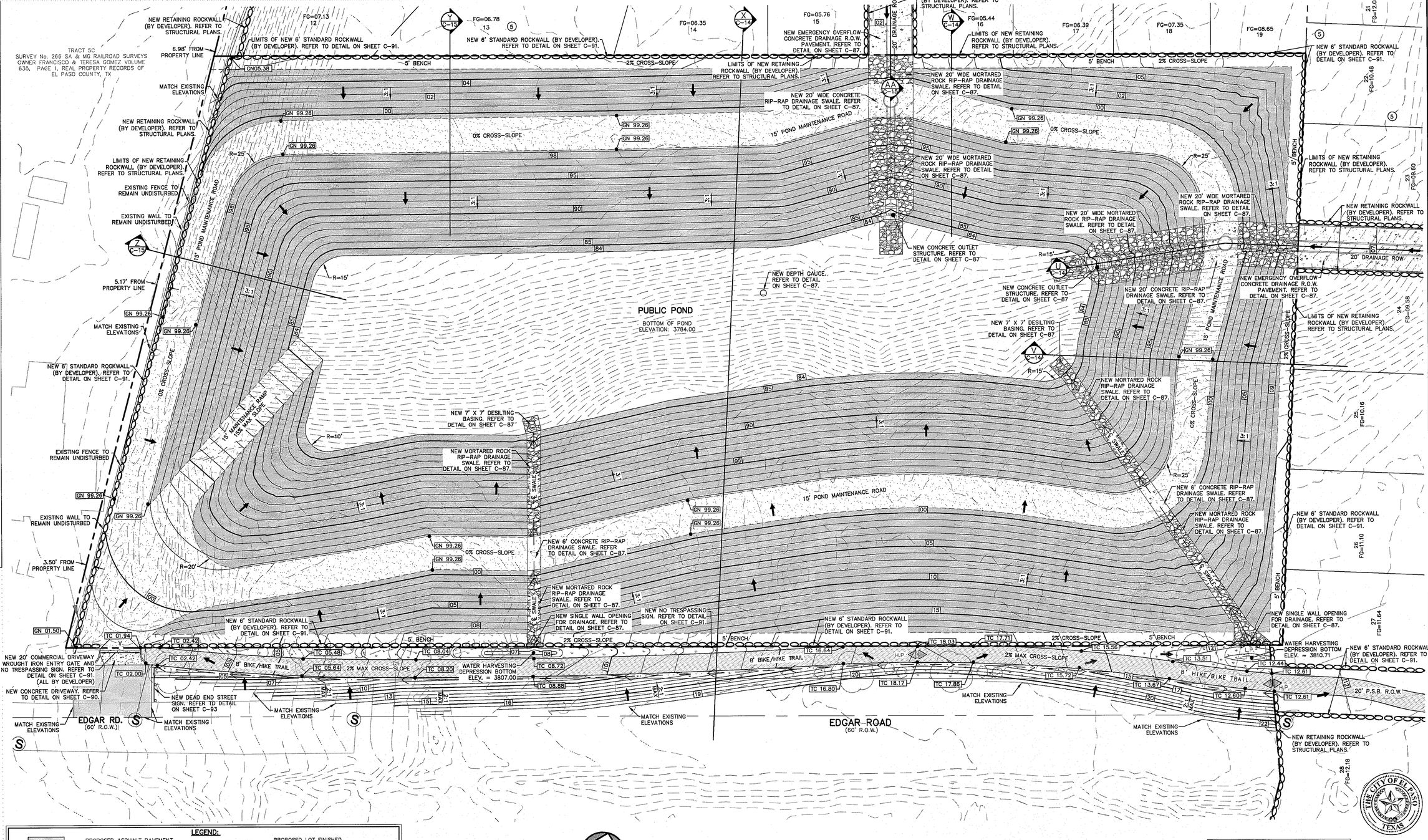


## POND GRADING PLAN

SCALE: 1" = 20'

**LEGEND:**

| | |
|---|---|
| PROPOSED ASPHALT PAVEMENT. REFER TO DETAILS ON SHEET C-90. | FG=XX.XX PROPOSED LOT FINISHED GROUND ELEVATION |
| PROPOSED HIKE/BIKE TRAIL. REFER TO DETAIL ON SHEET C-92. | XX FINAL CONTOUR ELEVATION |
| PROPOSED LANDSCAPED AREA. REFER TO DETAIL ON SHEET C-92. | H.P. HIGH POINT |
| PROPOSED 3" COMPACTED SCREENING SURFACE POND MAINTENANCE ROAD | L.P. LOW POINT |
| LIMITS OF NATIVE SEED OR ENGINEER APPROVED EQUIVALENT TO BE PLACED ON PROPOSED SLOPES | DRAINAGE FLOW DIRECTION |
| SUBDIVISION BOUNDARY LINE | X BLOCK NUMBER |
| ROW LINE | X LOT NUMBER |
| PROPERTY LINE | PROPOSED ROCKWALL |
| STREET CENTERLINE | X STANDARD SECTION NUMBER |
| 4080 EXISTING GROUND CONTOUR ELEVATION (INDEX) | X SHEET NUMBER WHERE STANDARD SECTION IS DRAWN |
| EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE) | TC XX.XX PROPOSED TOP OF CURB ELEVATION |
| | PV XX.XX PROPOSED TOP OF PAVEMENT ELEVATION |
| | GN XX.XX PROPOSED TOP OF GROUND ELEVATION |
| | INV XX.XX PROPOSED TOP OF INVERT ELEVATION |

NOTE:
RESULTS OF THE RETENTION BASIN BORING AND PERCOLATION TESTS PERFORMED AT THE TIME OF EXCAVATION IN ACCORDANCE TO COEP DESIGN STANDARDS FOR CONSTRUCTION ARE REQUIRED BEFORE ACCEPTANCE OF ANY STORMWATER MANAGEMENT FACILITIES.

## WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES:

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

| | | | |
|---|---|---|---|
| TEXAS GAS SERVICE<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344-8377 | EL PASO ELECTRIC CO.<br>501 WEST SAN ANTONIO ST.<br>EL PASO, TEXAS 79901<br>(800) 246-4545 | EL PASO WATER UTILITIES PUBLIC SERVICE BOARD<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(800) 344-8377 | CITY OF EL PASO STREET DEPARTMENT<br>7969 SAN PAULO DR.<br>EL PASO, TEXAS 79907<br>(915) 621-6480 |
| AT&T INCORPORATED<br>11200 PELICANO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1133 (FIBER OPTIC) | TIME WARNER CABLE<br>#20 CONCORD STREET<br>EL PASO, TEXAS 79906<br>(800) 344-8377 | TEXAS EXCAVATION SAFETY SYSTEM<br>ANYWHERE IN TEXAS<br>(800) 344-8377 | TEXAS DEPARTMENT OF TRANSPORTATION EL PASO DISTRICT (WEST AREA)<br>4201 HONDO PASS DR.<br>EL PASO, TEXAS 79904<br>(915) 757-5922 |

**REFERENCES – BENCHMARK**

BENCHMARK: CITY MONUMENT AT THE INTERSECT OF GUINALT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3878.84 (CITY DATUM)

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Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

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SCALE:
HORIZONTAL: 1"=20'
VERTICAL: N/A
CONTOUR INTERVAL: 1'
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE
# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
POND AND HIKE/BIKE TRAIL GRADING PLAN

SHEET NO.
C-6
6 OF 123 SHEETS

Aug 03,2015 3:29pm brol
O:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-6 Pond & Trail Grading.dwg

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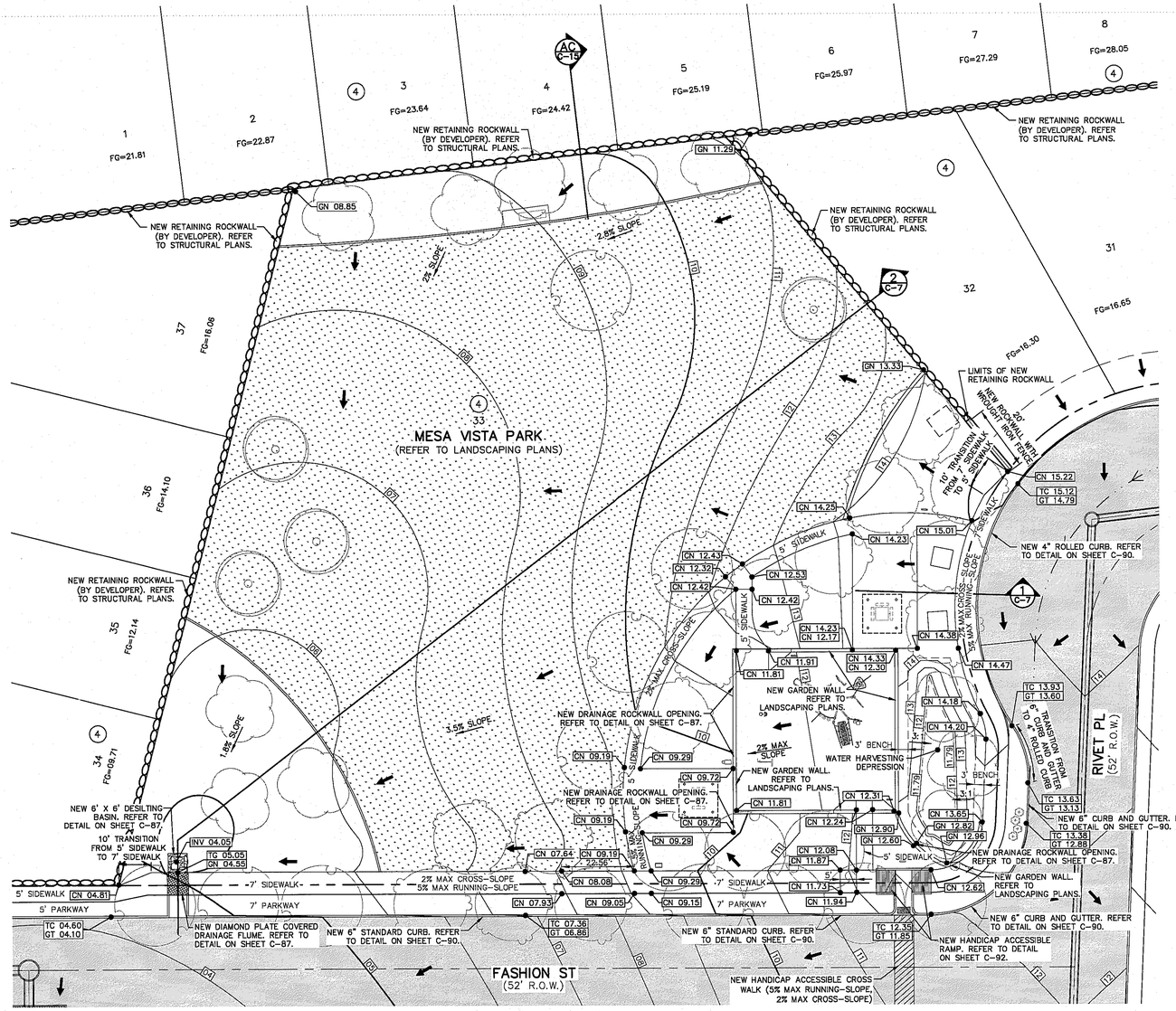
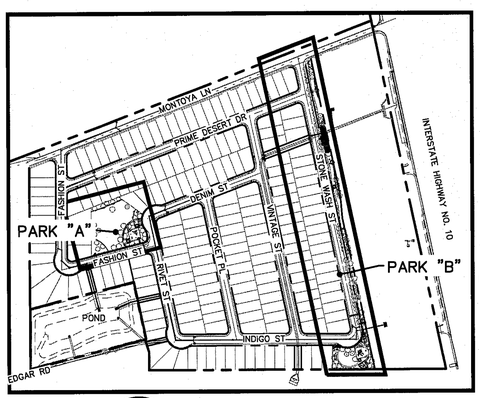



**LEGEND:**

- PROPOSED ASPHALT PAVEMENT. REFER TO DETAILS ON SHEET C-90.
- PROPOSED LANDSCAPED AREA. REFER TO LANDSCAPING AND IRRIGATION PLANS.
- PROPOSED 8' WIDE CONCRETE HIKE/BIKE TRAIL (2% MAX CROSS SLOPE, 5% MAX RUNNING SLOPE). REFER TO LANDSCAPING PLANS.
- SUBDIVISION BOUNDARY LINE
- ROW LINE
- PROPERTY LINE
- STREET CENTERLINE
- EASEMENT LINE
- 4080 EXISTING GROUND CONTOUR ELEVATION
- EXISTING GROUND CONTOUR ELEVATION
- PROPOSED HANDICAP RAMP. REFER TO DETAIL ON SHEET C-92.
- XX FINAL CONTOUR ELEVATION
- H.P. HIGH POINT
- L.P. LOW POINT
- DRAINAGE FLOW DIRECTION
- (X) BLOCK NUMBER
- X LOT NUMBER
- PROPOSED ROCKWALL (BY DEVELOPER)
- PROPOSED 2' HIGH ROCKWALL WITH 4' WROUGHT IRON FENCE. REFER TO DETAIL ON SHEET C-91.
- X/X STANDARD SECTION NUMBER / SHEET NUMBER WHERE STANDARD SECTION IS DRAWN
- FG=XX.XX PROPOSED LOT FINISHED GROUND ELEVATION.
- TC XX.XX PROPOSED TOP OF CURB ELEVATION
- PV XX.XX PROPOSED TOP OF PAVEMENT ELEVATION
- TP XX.XX PROPOSED TOP OF DIAMOND PLATE ELEVATION



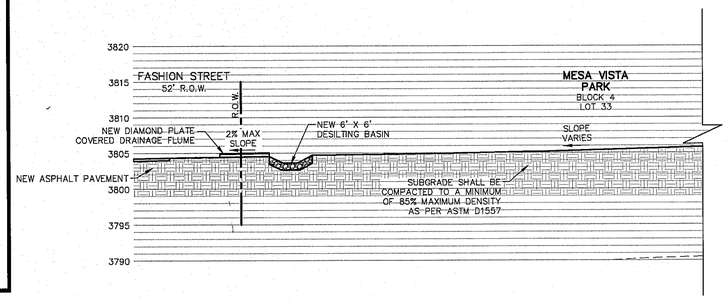

SECTION "1"
SCALE: 1"=10'



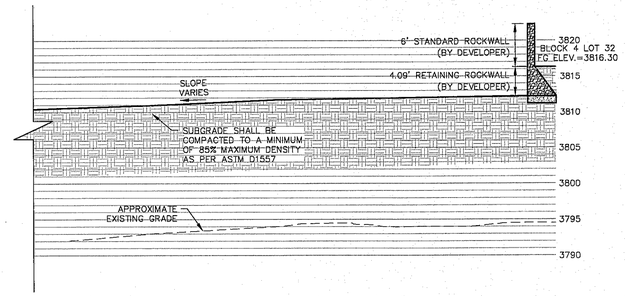

KEY MAP
SCALE: N.T.S.
NORTH

# MESA VISTA PARK GRADING PLAN

NORTH
SCALE: 1" = 20'




SECTION "2"
SCALE: 1"=10'




**NOTE:**

1. NO SIGNS, FIRE HYDRANTS, LIGHTS, NDCBU'S, ELECTRICAL/ WATER BOXES, TELEPHONE PEDESTALS, NO OBSTRUCTIONS IN GENERAL, SHALL BE PLACED INTO PROPOSED PERIMETER SIDEWALK, NOR SHALL ANY UTILITY CONDUITS BE PLACED ALONG THE PARK SITE – ANY UTILITIES WITH–IN THE PARKWAY NEED TO BE UNDERNEATH THE PROPOSED SIDEWALK AND BURIED AT 5' MINIMUM COVER.
2. DEVELOPER SHALL OBTAIN SOIL SAMPLES (TAKEN FROM PROPOSED PARK SITE LOCATION FINISHED GROUND) AND PROVIDE COMPLETE ANALYSIS REPORT (TEXTURAL, MINERALS AVAILABILITY, WATER INFILTRATION, DETAILED SALINITY, AND PH CONDUCTIVITY TEST) WITH RECOMMENDATIONS FOR SOILS AMENDMENTS AND PREPARATION TO INSURE EXISTING SOIL CONDITIONS ARE SUITABLE FOR TURF, SHRUBS, AND TREE GROWTH; COORDINATE SITE VISIT WITH PARKS STAFF FOR COLLECTION OF SOIL SAMPLES.
4. ANY UNSUITABLE SOIL MATERIALS NOT APPROVED BY PARKS DEPARTMENT ARE TO BE REMOVED, DISPOSED–OFF, AND REPLACED WITH TOP SOIL TO A MINIMUM DEPTH OF 12 INCHES.
5. ANY UNSUITABLE SOIL CONDITIONS SHALL BE REMEDIED TO ELIMINATE HARD SOILS, STONY SOILS, HIGH CALICHE SOILS, CLAY SOILS AND CONTAMINATED SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BY SHATTERING, IN TWO DIRECTIONS, OF HARD PAN CALICHE, CLAY SOILS, ROCKS TO A DEPTH OF 36 INCHES BELOW FINISHED GRADE AS REQUIRED FOR PROPER PLANTING AS PER PARKS DESIGN AND CONSTRUCTION STANDARDS.

## WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES:

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REFERENCES – BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3816.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
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QUANTUM engineering consultants incorporated
414 Executive Center Blvd
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DATE: AUGUST 2015
DESIGN BY: M.A.G. / DRAWN BY: CADD / CHKD BY: R.A.G. / APPVD BY: R.A.G. / JOB NO. 1326

PROJECT TITLE

**WEST DESERT MARKETPLACE**
**SUBDIVISION IMPROVEMENT PLANS**
EL PASO, TEXAS

SHEET TITLE

MESA VISTA PARK GRADING PLAN

SHEET NO.

**C-7**

7 OF 123 SHEETS

Aug 03,2015 2:27pm brojas
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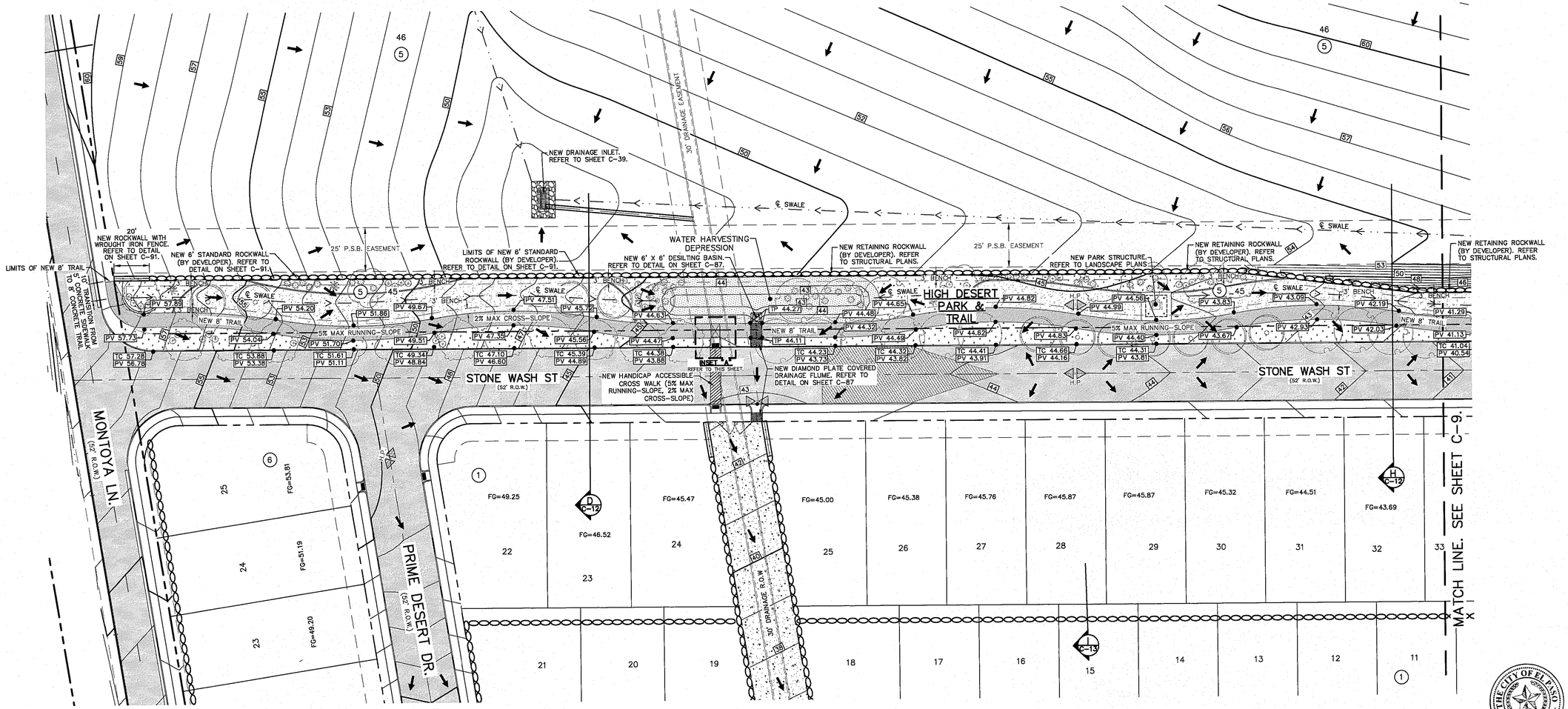


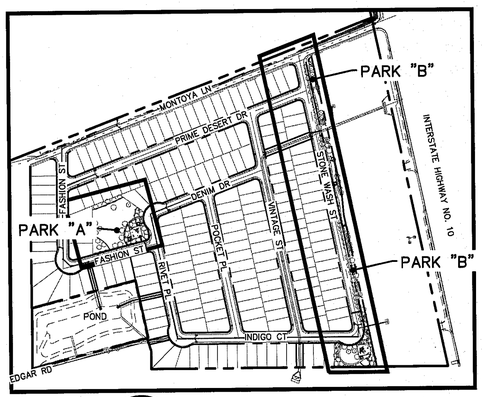


KEY MAP
SCALE: N.T.S.
NORTH

# HIGH-DESERT & TRAIL PARK GRADING PLAN
SCALE: 1" = 30'
NORTH

**LEGEND:**

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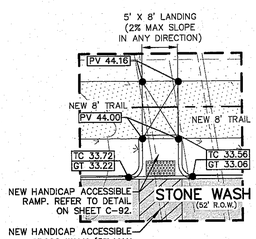


INSET "A"
SCALE: 1" = 10'
NORTH

**NOTE:**

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REFERENCES – BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF QUINALTY & INCA AVENUE REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3976.84 (CITY DATUM)

| BY | REVISION | DATE |
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CONTOUR INTERVAL:-
DATE:- AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

HIGH DESERT PARK & TRAIL GRADING PLAN (1 OF 2)

SHEET NO.

**C-8**

8 OF 123 SHEETS

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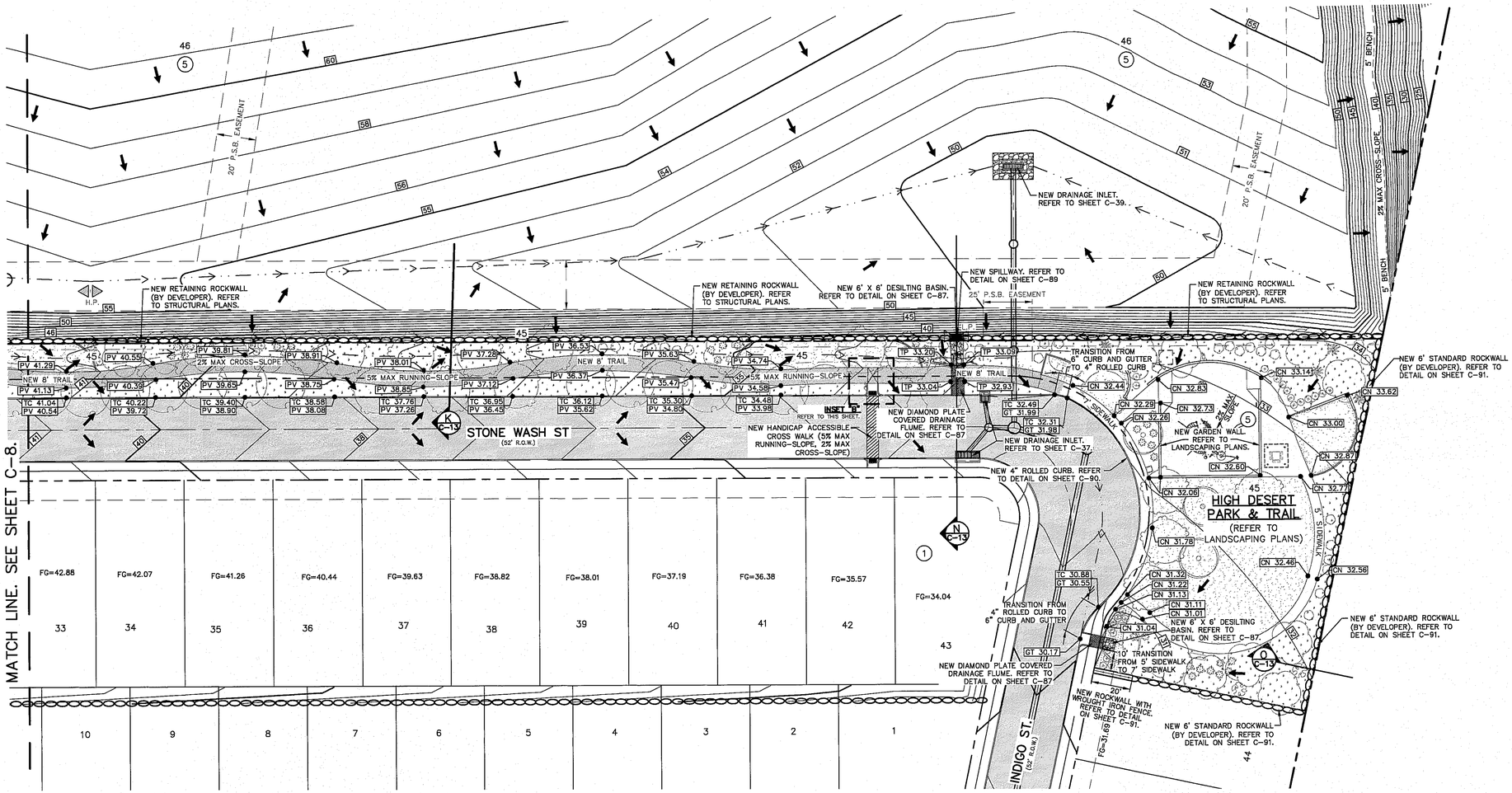


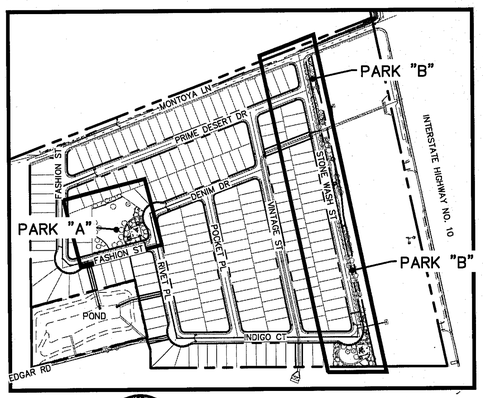


KEY MAP
SCALE: N.T.S.
NORTH

# HIGH-DESERT & TRAIL PARK GRADING PLAN
SCALE: 1" = 30'
NORTH

**LEGEND:**

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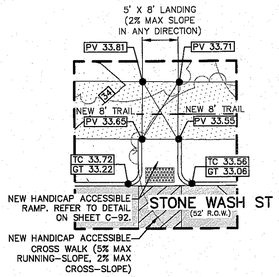


INSET "B"
SCALE: 1" = 10'
NORTH

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THE CITY OF EL PASO
TEXAS

## REFERENCES – BENCHMARK

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REFERENCE IN THREE HILLS ADDITION.
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THE ENGINEER IN CHARGE
ROBERT A. GONZALES
69920
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS

| | | | |
|---|---|---|---|
| 08/31/2015 | M.A.G. | CADD | 1326 |
| DATE | DESIGN BY: | DRAWN BY: | JOB NO. |

SCALE:
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VERTICAL:–
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DRAWN BY:– CADD
CHKD BY:– R.A.G.
APPVD BY:– R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

HIGH DESERT PARK & TRAIL GRADING PLAN (2 OF 2)

SHEET NO.

**C-9**

9 OF 123 SHEETS

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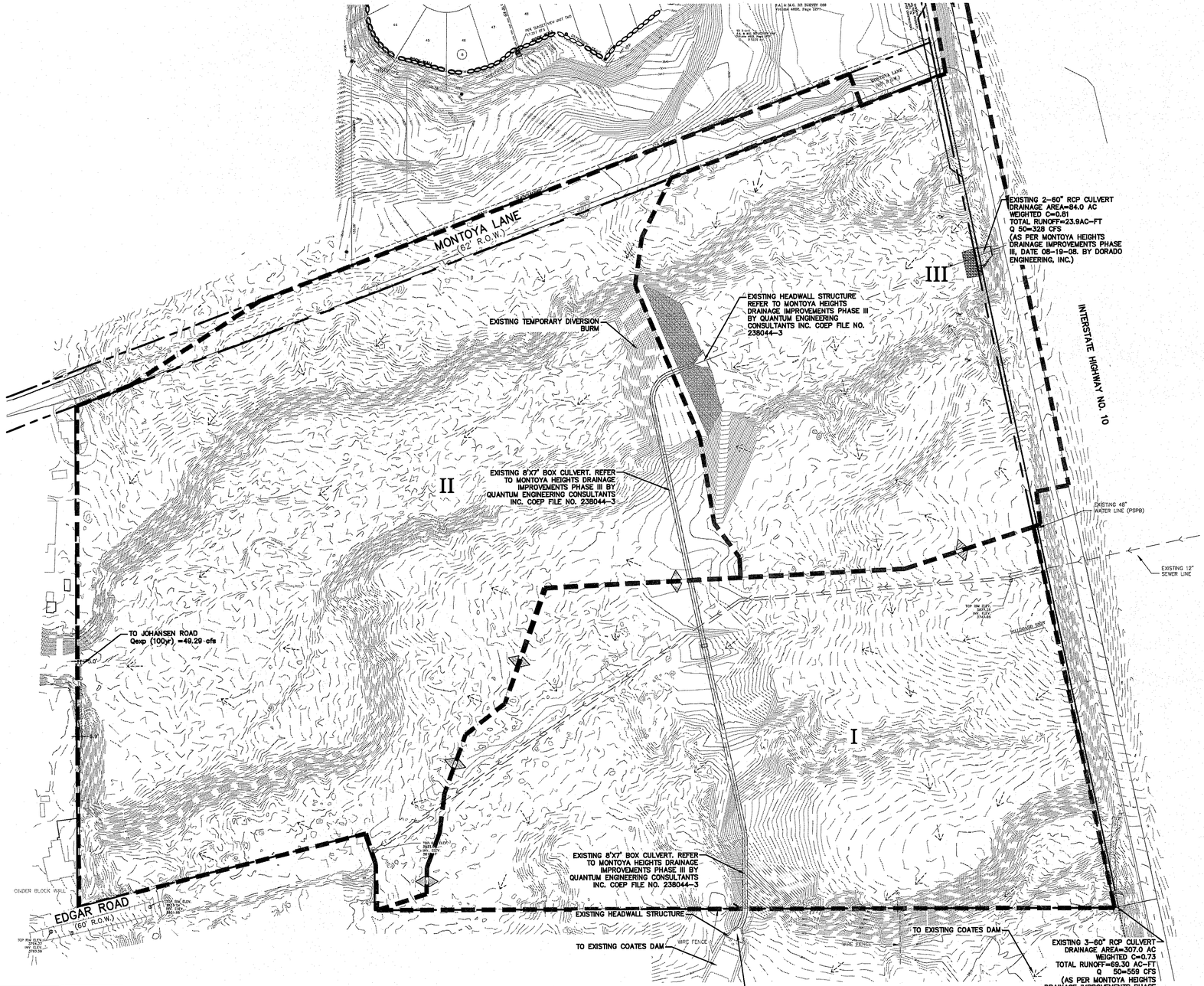


## OVERALL EXISTING DRAINAGE PLAN

SCALE: 1" = 100'

NORTH

**EXISTING (HISTORICAL) RUNOFF CALCULATIONS**
**Q = A R C / 12**
RUNOFF CALCULATIONS BASED ON A 100 YEAR STORM FREQUENCY.

| WATERSHED AREA (1) | AREA (AC) (2) | RAINFALL (IN) (4) | $C_{W_1}$ (5) | ESTIMATED RUNOFF (AC-FT) |
|---|---|---|---|---|
| I | 15.58 | 4.00 | 0.50 | 2.60 |
| II | 24.34 | 4.00 | 0.50 | 4.05 |
| III | 13.01 | 4.00 | 0.81 | 3.51 |

**EXISTING (HISTORICAL) DRAINAGE CALCULATIONS**
**$Q_{100} = C\ I\ A$**
STORM DRAINAGE CALCULATIONS BASED ON A 100 YEAR STORM FREQUENCY.

| WATERSHED AREA (1) | AREA (AC) (2) | $C_W$ (5) | $t_C$ (3) (min) | $I_{50}$ (4) (in/hr) | $I_{100}$ (4) (in/hr) | (6) $Q_{50}$ (CFS) | (6) $Q_{100}$ (CFS) |
|---|---|---|---|---|---|---|---|
| I | 15.58 | 0.50 | 23.55 | 3.35 | 3.87 | 26.10 | 30.15 |
| II | 24.34 | 0.50 | 21.21 | 3.52 | 4.05 | 42.84 | 49.29 |
| III | 13.01 | 0.81 | 10 | 4.61 | 5.19 | 48.58 | 54.69 |

REFERENCE: CITY OF EL PASO DRAINAGE DESIGN MANUAL AND SUBDIVISION STANDARDS

(1) WATERSHED AREA IDENTIFICATION

(2) AREA FROM DRAINAGE PLAN

(3) TIME OF CONCENTRATION: TC = T (OVERLAND) + T (GUTTER) (MINIMUM = 10 MIN.)

(4) RAINFALL INTENSITY, 50 OR 100 YEAR
STORM = WESTSIDE REGION
REGION TABLE 4-2: WESTSIDE INTENSITY EQUATIONS.

(5) RUNOFF COEFFICIENT

WEIGHTED $C = \frac{\Sigma\ Cn\ An}{\Sigma\ An}$

C= WEIGHTED RUNOFF COEFFICIENT
n= nth SUB-AREA
Cn= RUNOFF COEFFICIENT FOR THE nth SUB-AREA (TABLE 4-5 DRAINAGE DESIGN MANUAL)
An= nth SUB-AREA SIZE, IN ACRES

(6) $Q_{(xx)} = C\ X\ A\ X\ I\ (Tc)$

**FLOOD ZONE:**
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 480214-0021D, DATED JANUARY 3, 1997. THIS PROPERTY IS ON FLOOD HAZARD ZONE C. AND IN FLOOD HAZARD ZONE X IN PANEL NO. 481212-0125B, DATED SEPTEMBER 4, 1991.

**LEGEND:**
- I — EXISTING DRAINAGE AREA LABEL
- EXISTING DRAINAGE AREA LIMITS
- 3985 — EXISTING CONTOURS
- H.P. — EXISTING HIGH POINT
- EXISTING DRAINAGE FLOW DIRECTION

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CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

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EL PASO WATER UTILITIES
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1154 HAWKINS BLVD.
EL PASO, TEXAS 79925
(800) 344-8377

CITY OF EL PASO
STREET DEPARTMENT
7969 SAN PAULO DR.
EL PASO, TEXAS 79907
(915) 621-6480

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EL PASO, TEXAS 79905
(800) 344-8377

TEXAS EXCAVATION SAFETY SYSTEM
ANYWHERE IN TEXAS
(800) 344-8377

TEXAS DEPARTMENT OF TRANSPORTATION
EL PASO DISTRICT (WEST AREA)
4201 HONDO PASS DR.
EL PASO, TEXAS 79904
(915) 757-5922

**REFERENCES - BENCHMARK**

BENCHMARK: CITY MONUMENT AT THE INTERSECT OF DONALLY & RICA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

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STATE OF TEXAS — 69320 — REGISTERED PROFESSIONAL ENGINEER — ROBERT A. GONZALES

**SCALE:**
HORIZONTAL: 1"=100'
VERTICAL: N/A
CONTOUR INTERVAL: N/A
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD. BY: R.A.G.
JOB NO. 1326

THE CITY OF EL PASO — APPROVED — TEXAS

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

EXISTING DRAINAGE PLAN

SHEET NO.

**C-10**

10 OF 123 SHEETS

Aug 03,2015 2:32pm bro)
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-10 Ex-Drainage Plan.dwg

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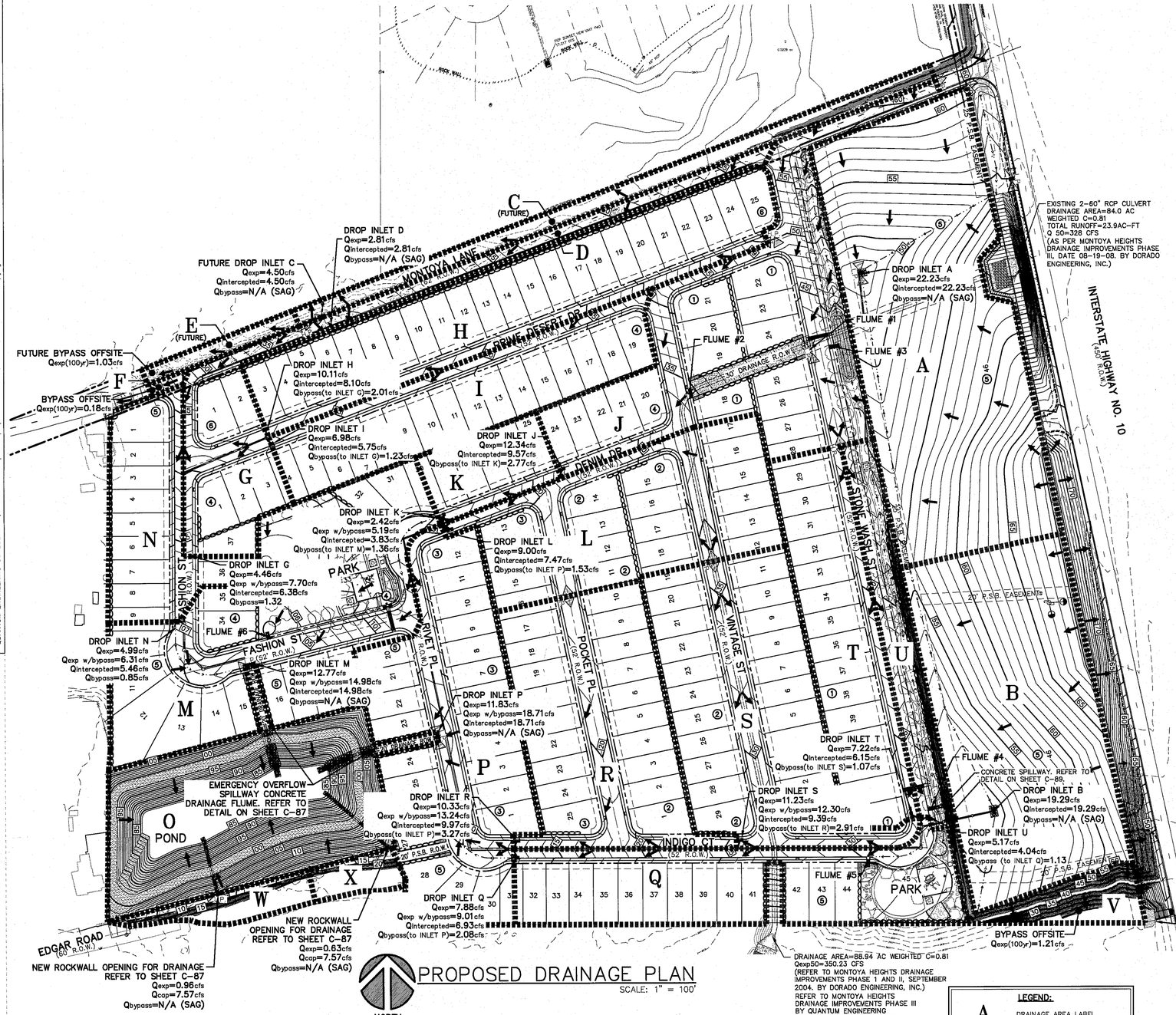


## PROPOSED DRAINAGE PLAN
SCALE: 1" = 100'

| DEVELOPED DRAINAGE CALCULATIONS $Q_{100} = C\ I\ A$ — STORM DRAINAGE CALCULATIONS BASED ON A 100 YEAR STORM FREQUENCY. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| WATERSHED AREA (1) | DRAINAGE AREA (1) | AREA (AC) (2) | *$C_W$ (5) | $t_C$ (min) (3) | I100 (in/hr) (4) | Q100 (CFS) (6) | INLET TYPE | GRATE Offstreet(OS) Type-I (TYI) | $Q_{exp}$ WITH BYPASS (CFS) | Q INTERCEPTED/ CAPACITY (CFS) | BYPASS (CFS) |
| 1 | A | 5.48 | 0.88 | 15.00 | 4.61 | 22.23 | SAG | 5 GRATE OS | N/A | 22.23 | N/A |
| 2 | B | 4.30 | 0.88 | 10.75 | 5.09 | 19.29 | SAG | 5 GRATE OS | N/A | 19.29 | N/A |
| 2 | C FUTURE | 0.91 | 0.95 | 10.00 | 5.19 | 4.50 | SAG | FUTURE 2 GRATE TYI | N/A | 4.50 | N/A |
| 2 | D | 0.57 | 0.95 | 10.00 | 5.19 | 2.81 | SAG | 2 GRATE TYI | N/A | 2.81 | N/A |
| OFFSITE | E FUTURE | 0.21 | 0.95 | 10.00 | 5.19 | 1.03 | BYPASS | FUTURE BYPASS OFFSITE | N/A | N/A | 1.03 |
| OFFSITE | F | 0.04 | 0.95 | 10.00 | 5.19 | 0.18 | BYPASS | BYPASS OFFSITE | N/A | N/A | 0.18 |
| 2 | G | 1.30 | 0.66 | 10.00 | 5.19 | 4.46 | ONGRADE | 2 GRATE TYI | 7.70 | 6.38 | 1.32 |
| 2 | H | 3.26 | 0.66 | 14.15 | 4.70 | 10.11 | ONGRADE | 6 GRATE TYI | N/A | 8.10 | 2.01 |
| 2 | I | 2.17 | 0.66 | 12.64 | 4.87 | 6.98 | ONGRADE | 4 GRATE TYI | N/A | 5.75 | 1.23 |
| 2 | J | 4.05 | 0.66 | 14.98 | 4.61 | 12.34 | ONGRADE | 6 GRATE TYI | N/A | 9.57 | 2.77 |
| 2 | K | 0.71 | 0.66 | 10.00 | 5.19 | 2.42 | ONGRADE | 2 GRATE TYI | 5.19 | 3.83 | 1.36 |
| 2 | L | 2.83 | 0.66 | 13.07 | 4.82 | 9.00 | ONGRADE | 6 GRATE TYI | N/A | 7.47 | 1.53 |
| 2 | M | 4.11 | 0.66 | 14.10 | 4.70 | 12.77 | SAG | 12 GRATE TYI MOD | 14.98 | 14.98 | N/A |
| 2 | N | 1.46 | 0.66 | 10.00 | 5.19 | 4.99 | ONGRADE | 2 GRATE TYI | 6.31 | 5.46 | 0.85 |
| 2 | O | 3.21 | 0.50 | 10.00 | 5.19 | 8.34 | POND | N/A | N/A | N/A | N/A |
| 2 | P | 3.56 | 0.66 | 11.25 | 5.03 | 11.83 | SAG | 12 GRATE TYI MOD | 18.71 | 18.71 | N/A |
| 2 | Q | 2.54 | 0.66 | 14.20 | 4.69 | 7.88 | ONGRADE | 4 GRATE TYI | 9.01 | 6.93 | 2.08 |
| 2 | R | 3.02 | 0.66 | 10.00 | 5.19 | 10.33 | ONGRADE | 6 GRATE TYI | 13.24 | 9.97 | 3.27 |
| 2 | S | 3.40 | 0.66 | 11.43 | 5.01 | 11.23 | ONGRADE | 6 GRATE TYI | 12.30 | 9.39 | 2.91 |
| 2 | T | 2.11 | 0.66 | 10.00 | 5.19 | 7.22 | ONGRADE | 6 GRATE TYI | N/A | 6.15 | 1.07 |
| 2 | U | 1.05 | 0.95 | 10.00 | 5.19 | 5.17 | ONGRADE | 2 GRATE TYI | N/A | 4.04 | 1.33 |
| OFFSITE | V | 0.47 | 0.50 | 10.00 | 5.19 | 1.23 | BYPASS | N/A | N/A | N/A | N/A |
| 2 | W | 0.37 | 0.50 | 10.00 | 5.19 | 0.96 | SAG | WALL OPENING | N/A | N/A | N/A |
| 2 | X | 0.24 | 0.50 | 10.00 | 5.19 | 0.63 | SAG | WALL OPENING | N/A | N/A | N/A |

* WEIGHTED RUNOFF COEFFICIENT OBTAINED BY THE AVERAGE OF COEFFICIENTS PERVIOUS-0.5 AND IMPERVIOUS-0.95 SUB-AREAS FOR FUTURE DEVELOPMENTS.

REFERENCE: CITY OF EL PASO DRAINAGE DESIGN MANUAL AND SUBDIVISION STANDARDS

(1) WATERSHED AREA IDENTIFICATION

(2) AREA FROM DRAINAGE PLAN

(3) TIME OF CONCENTRATION: TC = T (OVERLAND) + T (GUTTER) (MINIMUM = 10 MIN.)

(4) RAINFALL INTENSITY, 50 OR 100 YEAR STORM = WESTSIDE REGION REGION TABLE 4-2: WESTSIDE INTENSITY EQUATIONS.

(5) RUNOFF COEFFICIENT

WEIGHTED $C = \frac{\Sigma\ Cn\ An}{\Sigma\ An}$

C= WEIGHTED RUNOFF COEFFICIENT
n= n'th SUB-AREA
Cn= RUNOFF COEFFICIENT FOR THE n'th SUB-AREA (TABLE 4-5 DRAINAGE DESIGN MANUAL)
* SMARTCODE REQUIRES 15% OF DEVELOPED COMMERCIAL AREA TO BE LANDSCAPED; RUNOFF COEFFICIENT AVERAGE TO BE 0.88.
An= n'th SUB-AREA SIZE, IN ACRES

(6) Q(exp) = C X A X I (INTENSITY FREQUENCY)

(7) REQUIRED RUNOFF POND CAPACITY:

HISTORICAL RUNOFF DISCHARGE FOR EXISTING WATERSHED I = 2.60AC-FT, IN GOOD FAITH EFFORT 35% OF HISTORICAL RUNOFF WILL BE RETAINED ON THE PROPERTY THEREFOR DISCHARGING 65% OF THE HISTORICAL RUNOFF FOR WATERSHED I = 0.65*2.60AC-FT=1.69AC-FT

OBTAIN DEVELOPED WATERSHED EQUIVALENT OF 65% HISTORICAL (1.69AC-FT HISTORICAL RUNOFF)
Q=ARC/12
A=UNKNOWN
R=4.00
C=0.65
Q=1.69AC-FT
A=DEVELOPED WATERSHED EQUIVALENT = 5.76AC

REQUIRED POND CAPACITY:
Q=ARC/12
A=50.83AC (TOTAL AREA) - 5.76AC (HISTORICAL DISCHARGED) = 45.07AC
R=4.00
C=0.63
Q=10.37AC-FT

ID = (ARC/12) + 25% EMERGENCY + 10YR SILT FACTOR
25% EMERGENCY = 10.37 X 0.25 = 2.59AC-FT
10YR SILT FACTOR = 45.07 X 0.012 = 0.54AC-FT
ID = (10.37 + 2.59 + 0.54)AC-FT = 13.50AC-FT < 15.60AC-FT "ADEQUATE"

| POND CAPACITY TABLE | | | |
|---|---|---|---|
| ELEVATION (FEET) | CONTOUR AREA (FT^2) | CONTOUR AREA (AC) | CONTOUR VOLUME (AC-FT) |
| 3799.26 | 72484.13 | 1.66 | 16.57 |
| 3799.00 | 72484.13 | 1.66 | 16.14 |
| 3798.00 | 69696.29 | 1.60 | 14.52 |
| 3797.00 | 64120.58 | 1.47 | 12.99 |
| 3796.98 | 64069.56 | 1.47 | 12.96** |
| 3796.00 | 61332.73 | 1.41 | 11.54 |
| 3795.00 | 58544.87 | 1.34 | 10.17 |
| 3794.81 | 57496.72 | 1.32 | 9.93* |
| 3794.00 | 52969.17 | 1.22 | 8.89 |
| 3793.00 | 50181.32 | 1.15 | 7.68 |
| 3792.00 | 47393.47 | 1.09 | 6.54 |
| 3791.00 | 44605.61 | 1.02 | 5.48 |
| 3790.00 | 41817.77 | 0.96 | 4.50 |
| 3789.00 | 39029.92 | 0.90 | 3.58 |
| 3788.00 | 36242.07 | 0.83 | 2.74 |
| 3787.00 | 33454.21 | 0.77 | 1.96 |
| 3786.00 | 30666.36 | 0.70 | 1.24 |
| 3785.00 | 27878.51 | 0.64 | 0.59 |
| 3784.00 | 25090.66 | 0.58 | 0.00 |

** ELEVATION OF REQUIRED POND CAPACITY
* 100yr DEVELOPED PEAK ELEVATION OF POND OF 3794.81' (IS BELOW THE 1' FREEBOARD)

| POND DATA 100 YEAR STORM FREQUENCY | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| WATERSHED AREA | AREA (AC) | RAINFALL (INCHES) | RUNOFF COEFFICIENT | $Q_{exp}$ (AC-FT) | 25% EMERGENCY (AC-FT) | 10-YR SILT FACTOR (AC-FT) | TOTAL $Q_{exp}$ (AC-FT) | POND CAP. $Q_{exp}$ (AC-FT) |
| 1 | 5.48 | 4.0 | 0.88 | 1.61 | N/A | N/A | N/A | N/A |
| 2 | 45.13 | 4.0 | 0.66 | 9.93 | 2.48 | 0.54 | 12.95 | 16.57 |

| FLUME ID | FLUME TYPE | Q EXPECTED 100YR (CFS) | Q CAPACITY 100YR (CFS) | HIGH WATER ELEV (Qexp 100YR) |
|---|---|---|---|---|
| FLUME #1 | 2-2.5 WIDE DIAMOND PLATE FLUMES | 9.54 | 19.28 | 0.49' (5-7/8" INCH) |
| FLUME #2 | 3-2.5 WIDE DIAMOND PLATE FLUMES | 10.34 | 29.80 | 0.39' (4-5/8" INCH) |
| FLUME #3 | 2-2.5 WIDE DIAMOND PLATE FLUMES | 1.43 | 19.28 | 0.14" (1-5/8" INCH) |
| FLUME #4 | 2-2.5 WIDE DIAMOND PLATE FLUMES | 1.97 | 19.28 | 0.17' (2" INCHES) |
| FLUME #5 | 2-2.5 WIDE DIAMOND PLATE FLUMES | 1.25 | 19.28 | 0.13' (1-1/2" INCH) |
| FLUME #6 | 2-2.5 WIDE DIAMOND PLATE FLUMES | 2.94 | 19.28 | 0.23' (2-3/4" INCH) |

**LEGEND:**

- A — DRAINAGE AREA LABEL
- DRAINAGE AREA LIMITS
- — — 3985 — — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- H.P. — HIGH POINT
- L.P. — LOW POINT
- DRAINAGE FLOW DIRECTION
- (X) — BLOCK NUMBER
- X — LOT NUMBER
- PROPOSED ROCKWALL (3' AND GREATER RETAINING ROCKWALL BY DEVELOPER)

**FLOOD ZONE:**

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 480214-0021D, DATED JANUARY 3, 1997. THIS PROPERTY IS ON FLOOD HAZARD ZONE C. AND IN FLOOD HAZARD ZONE X IN PANEL NO. 481212-0125B, DATED SEPTEMBER 4, 1991.

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EL PASO DEPARTMENT OF TRANSPORTATION
EL PASO DISTRICT (WEST AREA)
4201 HONDO PASS DR.
EL PASO, TEXAS 79904
(915) 757-5922

REFERENCES - BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
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THE CITY OF EL PASO TEXAS

SCALE:
HORIZONTAL: 1"=100'
VERTICAL: N/A
CONTOUR INTERVAL:
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

PROPOSED MASTER DRAINAGE PLAN

SHEET NO.

C-11

11 OF 123 SHEETS

Aug 03,2015 2:33pm brojl
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-11 Proposed Drainage.dwg

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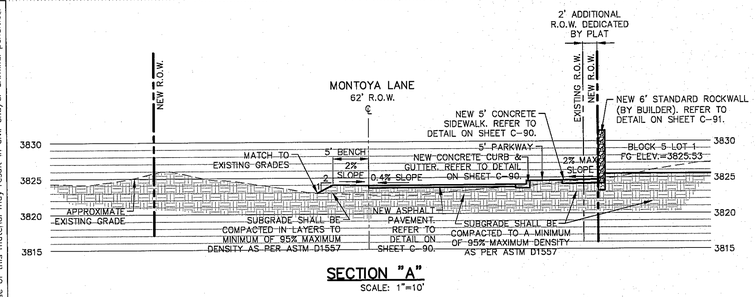
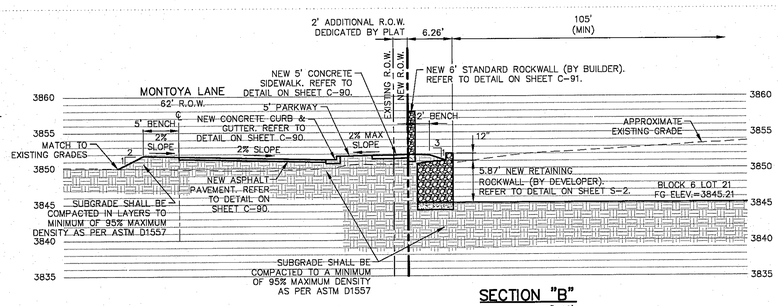
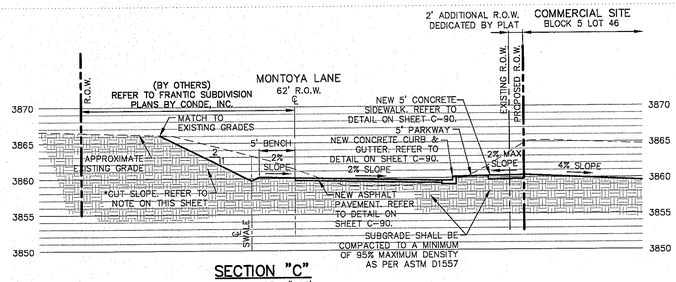


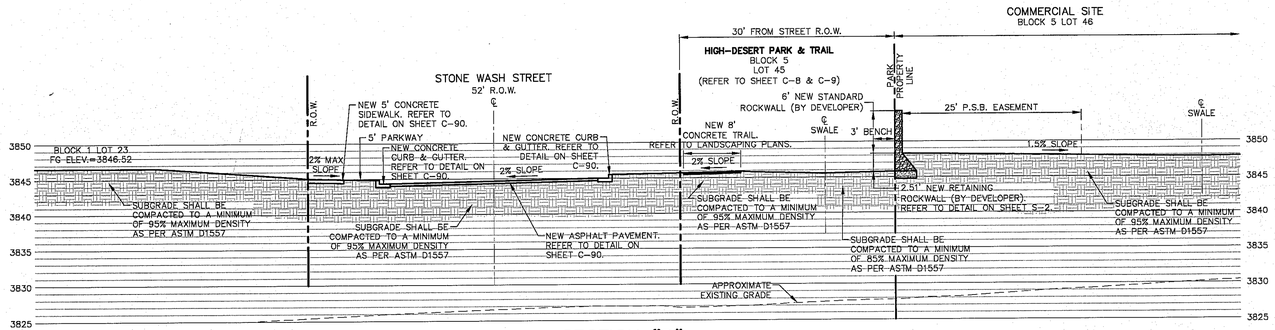

SECTION "A"
SCALE: 1"=10'




SECTION "B"
SCALE: 1"=10'

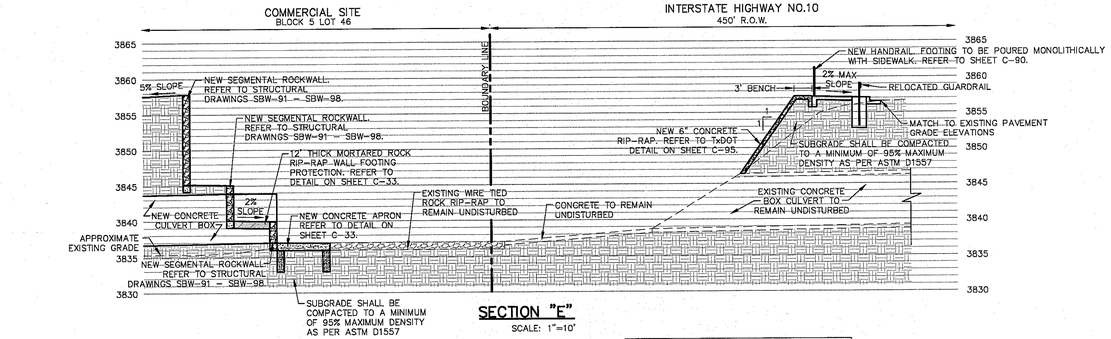



SECTION "C"
SCALE: 1"=10'



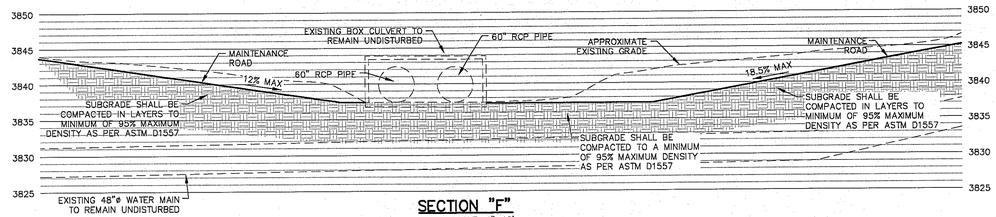

SECTION "D"
SCALE: 1"=10'

NOTE:
ALL RETAINING WALLS 4'-0" AND HIGHER MUST BE BUILT BY DEVELOPER

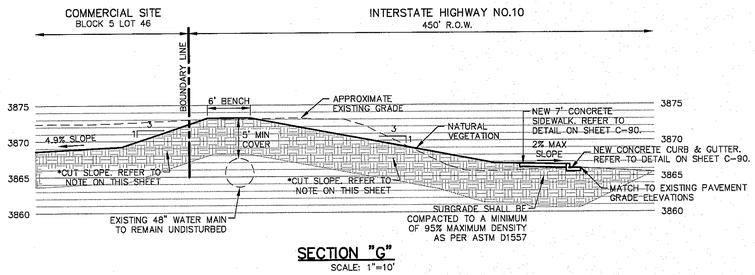



SECTION "E"
SCALE: 1"=10'

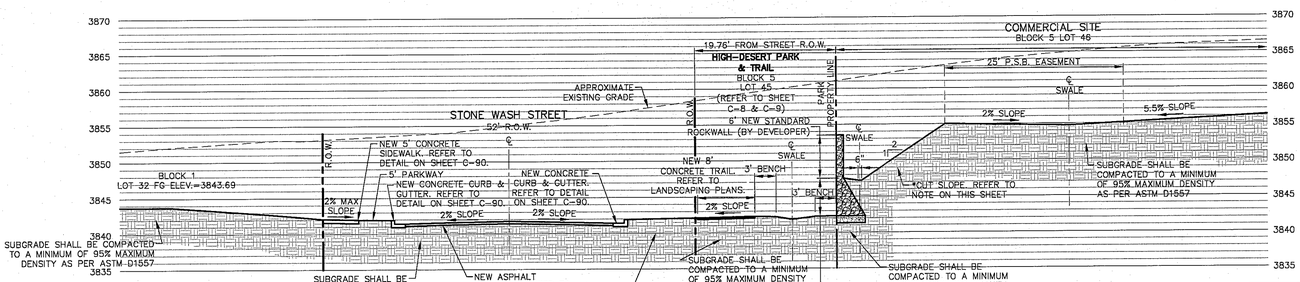
NOTE:
ALL WORK INDICATED ON STATE PROPERTY MUST BE APPROVED AND COORDINATED WITH TxDOT.




SECTION "F"
SCALE: 1"=10'




SECTION "G"
SCALE: 1"=10'




SECTION "H"
SCALE: 1"=10'

*NOTE:
ALL SLOPES THAT ARE CONSTRUCTED AS A RESULT OF CUT CONDITION, SHALL BE CONSTRUCTED NO STEEPER THEN A SLOPE OF 2:1 (HORIZONTAL TO VERTICAL). NO EROSION PROTECTION PLATING REQUIRED. CUT SLOPES TO REMAIN DISTURBED. REFER TO GEOTECHNICAL STUDY AMENDMENT LETTER BY AMEC EARTH AND ENVIRONMENTAL DATED DECEMBER 5, 2014.

REFERENCES – BENCHMARK
BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3876.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
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P 915.532.7272
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| | |
|---|---|
| SCALE: | |
| HORIZONTAL: | 1"=10' |
| VERTICAL: | N/A |
| CONTOUR INTERVAL: | |
| DATE: | AUGUST 2015 |
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CADD |
| CHKD BY: | R.A.G. |
| APPVD BY: | R.A.G. |
| JOB NO. | 1326 |

PROJECT TITLE
# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
TYPICAL SECTIONS (1 OF 4)

SHEET NO.
C-12
12 OF 123 SHEETS

Aug 03,2015 2:34pm brojl
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-12-15 Typical Sections (1-4 of 4).dwg

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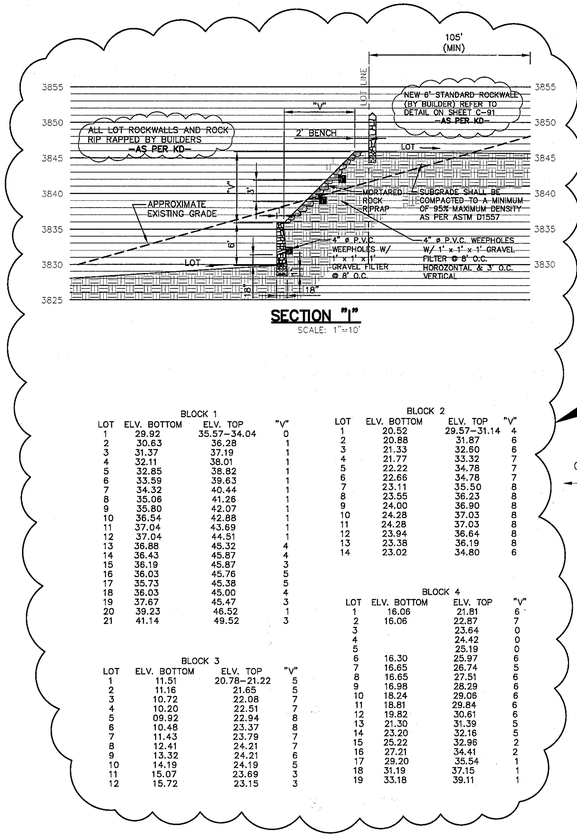
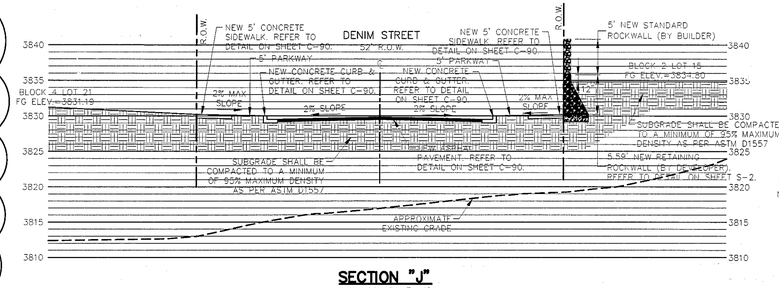



## SECTION "I"
SCALE: 1"=10'

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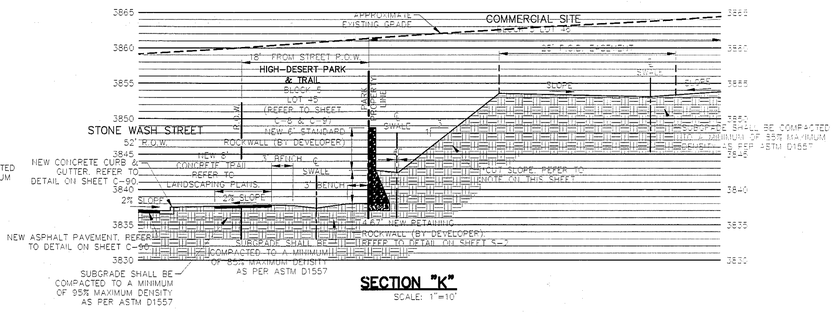



## SECTION "K"
SCALE: 1"=10'

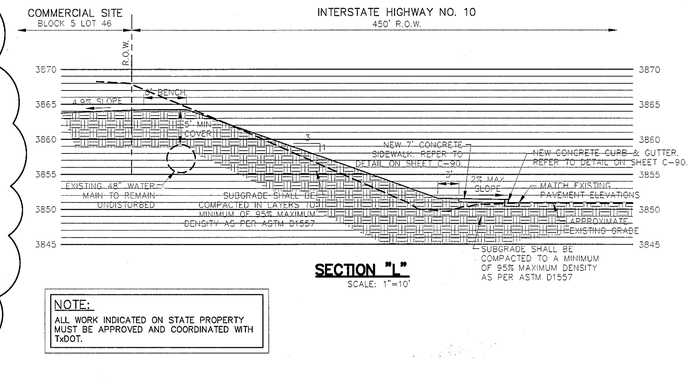
REVISED BY:
DORADO ENG.
10/08/15

| BLOCK 1 | | | |
|---|---|---|---|
| LOT | ELV. BOTTOM | ELV. TOP | "V" |
| 1 | 29.92 | 35.57–34.04 | 0 |
| 2 | 30.63 | 36.28 | 1 |
| 3 | 31.37 | 37.19 | 1 |
| 4 | 32.11 | 38.01 | 1 |
| 5 | 32.85 | 38.82 | 1 |
| 6 | 33.59 | 39.63 | 1 |
| 7 | 34.32 | 40.44 | 1 |
| 8 | 35.06 | 41.26 | 1 |
| 9 | 35.80 | 42.07 | 1 |
| 10 | 36.54 | 42.88 | 1 |
| 11 | 37.04 | 43.69 | 1 |
| 12 | 37.04 | 44.51 | 1 |
| 13 | 36.88 | 45.32 | 4 |
| 14 | 36.43 | 45.87 | 4 |
| 15 | 36.19 | 45.87 | 3 |
| 16 | 36.03 | 45.76 | 5 |
| 17 | 35.73 | 45.38 | 5 |
| 18 | 36.03 | 45.00 | 4 |
| 19 | 37.67 | 45.47 | 3 |
| 20 | 39.23 | 46.52 | 1 |
| 21 | 41.14 | 49.52 | 3 |

| BLOCK 2 | | | |
|---|---|---|---|
| LOT | ELV. BOTTOM | ELV. TOP | "V" |
| 1 | 20.52 | 29.57–31.14 | 4 |
| 2 | 20.88 | 31.87 | 6 |
| 3 | 21.33 | 32.60 | 6 |
| 4 | 21.77 | 33.32 | 7 |
| 5 | 22.22 | 34.78 | 7 |
| 6 | 22.66 | 34.78 | 7 |
| 7 | 23.11 | 35.50 | 8 |
| 8 | 23.55 | 36.23 | 8 |
| 9 | 24.00 | 36.90 | 8 |
| 10 | 24.28 | 37.03 | 8 |
| 11 | 24.28 | 37.03 | 8 |
| 12 | 23.94 | 36.64 | 8 |
| 13 | 23.38 | 36.19 | 8 |
| 14 | 23.02 | 34.80 | 6 |

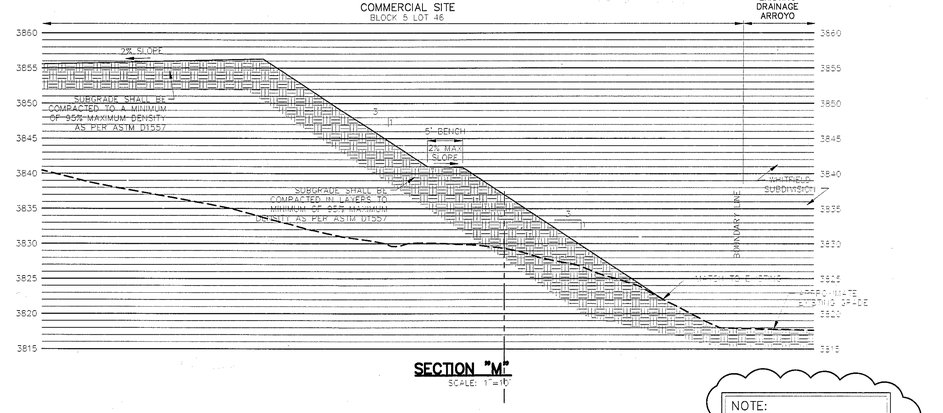
| BLOCK 3 | | | |
|---|---|---|---|
| LOT | ELV. BOTTOM | ELV. TOP | "V" |
| 1 | 11.51 | 20.78–21.22 | 5 |
| 2 | 11.16 | 21.65 | 5 |
| 3 | 10.72 | 22.08 | 7 |
| 4 | 10.20 | 22.51 | 7 |
| 5 | 09.92 | 22.94 | 8 |
| 6 | 10.48 | 23.37 | 8 |
| 7 | 11.43 | 23.79 | 7 |
| 8 | 12.41 | 24.21 | 7 |
| 9 | 13.32 | 24.21 | 6 |
| 10 | 14.19 | 24.19 | 5 |
| 11 | 15.07 | 23.69 | 3 |
| 12 | 15.72 | 23.15 | 3 |

| BLOCK 4 | | | |
|---|---|---|---|
| LOT | ELV. BOTTOM | ELV. TOP | "V" |
| 1 | 16.06 | 21.81 | 6 |
| 2 | 16.06 | 22.87 | 7 |
| 3 | | 23.64 | 0 |
| 4 | | 24.42 | 0 |
| 5 | | 25.19 | 0 |
| 6 | 16.30 | 25.97 | 6 |
| 7 | 16.65 | 26.74 | 5 |
| 8 | 16.65 | 27.51 | 6 |
| 9 | 16.98 | 28.29 | 6 |
| 10 | 18.24 | 29.06 | 6 |
| 11 | 18.81 | 29.84 | 6 |
| 12 | 19.82 | 30.61 | 6 |
| 13 | 21.30 | 31.39 | 5 |
| 14 | 23.20 | 32.16 | 5 |
| 15 | 25.22 | 32.96 | 2 |
| 16 | 27.21 | 34.41 | 2 |
| 17 | 29.20 | 35.54 | 1 |
| 18 | 31.19 | 37.15 | 1 |
| 19 | 33.18 | 39.11 | 1 |




## SECTION "L"
SCALE: 1"=10'

NOTE:
ALL WORK INDICATED ON STATE PROPERTY MUST BE APPROVED AND COORDINATED WITH TxDOT.

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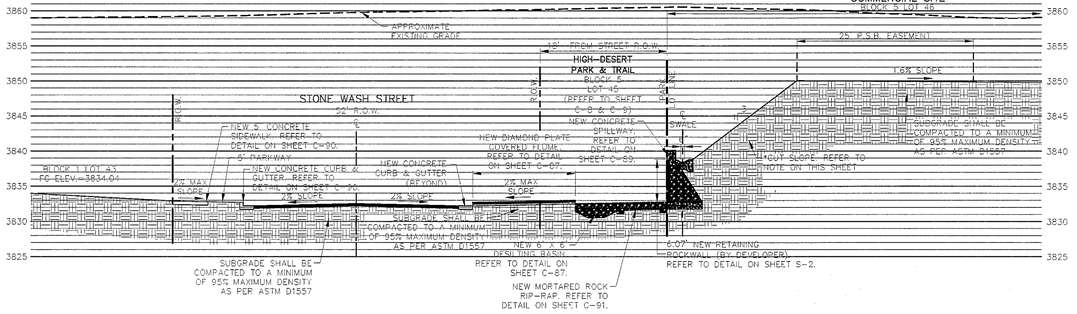
SCALE: 1"=10'

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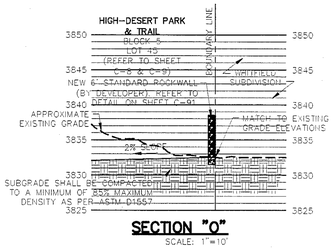
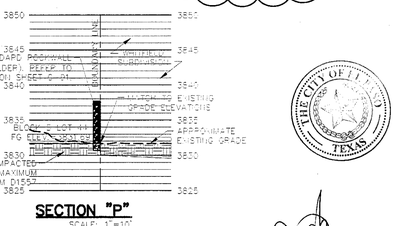
SCALE: 1"=10'




## SECTION "O"
SCALE: 1"=10'

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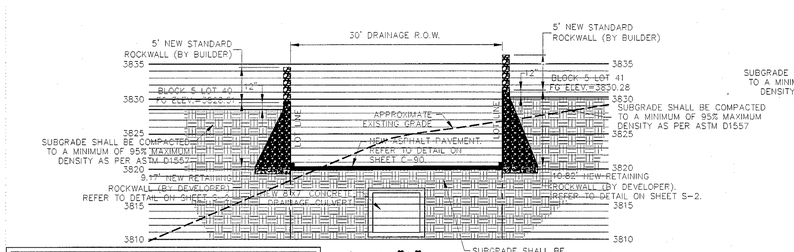
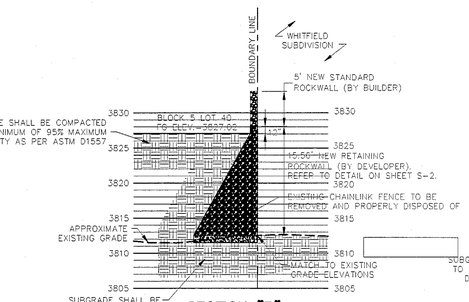
SCALE: 1"=10'

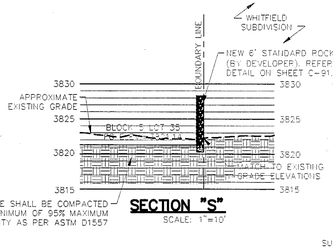



## SECTION "Q"
SCALE: 1"=10'

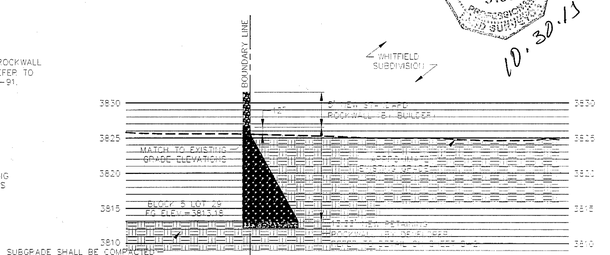
*NOTE:
ALL SLOPES THAT ARE CONSTRUCTED AS A RESULT OF CUT CONDITION, SHALL BE CONSTRUCTED NO STEEPER THEN A SLOPE OF 1:1 (HORIZONTAL TO VERTICAL), NO EROSION PROTECTION PLATING REQUIRED. CUT SLOPES TO REMAIN DISTURBED. REFER TO GEOTECHNICAL STUDY AMENDMENT LETTER BY AMEC EARTH AND ENVIRONMENTAL DATED DECEMBER 5, 2014.




## SECTION "R"
SCALE: 1"=10'




## SECTION "S"
SCALE: 1"=10'




## SECTION "T"
SCALE: 1"=10'

NOTE:
ALL RETAINING WALLS 4'-0" AND HIGHER MUST BE BUILT BY DEVELOPER

OUT AS PER KD

10-28-15
REVISED 10-08-15

REFERENCES – BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECT OF ORAVALI X INCA AVENUE
NORTHING = 3079.34 (CITY DATUM)
ELEVATION = 3839.34 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM ENGINEERING CONSULTANTS
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

DORADO ENGINEERING, INC.
ENGINEERS SURVEYORS PLANNERS
277 E WARREN D. PASO, TEXAS 79903 (915)926-0002

SCALE:
HORIZONTAL: 1"=10'
VERTICAL: N/A
CONTOUR INTERVAL: N/A
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: R.A.G.
CHECKED BY: R.A.G.
APPVD. BY: R.A.G.
JOB NO.: 13215

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
TYPICAL SECTIONS (2 OF 4)

SHEET NO.
C-13
13 OF 123 SHEETS

Oct 29,2015 2:26pm - Administrator
S:\Drawings\SHAD\WEST DESERT MARKETPLACE\C-13 C-15 Typical Sections.dwg

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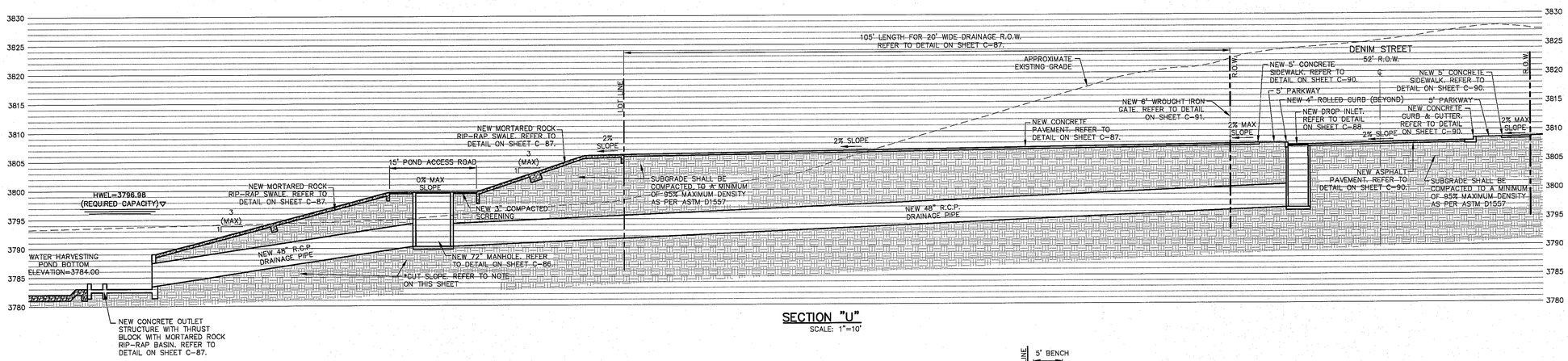
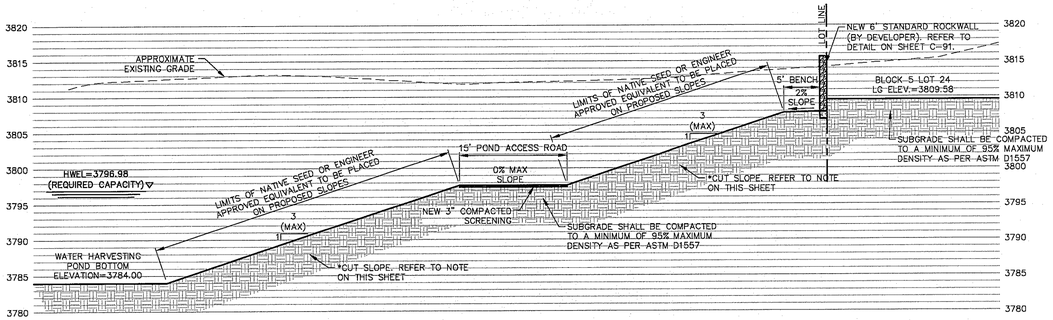
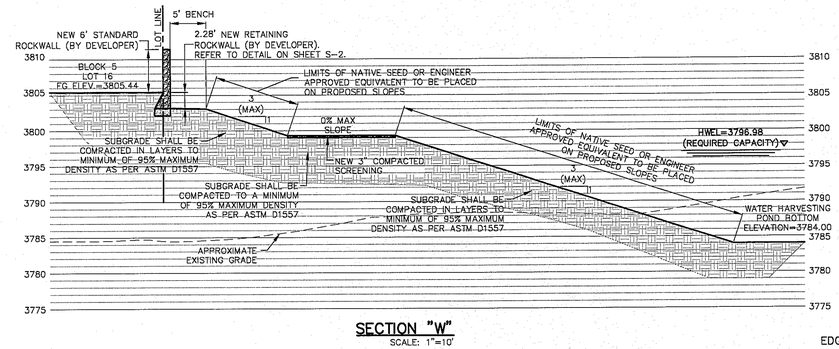



## SECTION "U"
SCALE: 1"=10'

NOTE:
ALL RETAINING WALLS 4'-0" AND HIGHER MUST BE BUILT BY DEVELOPER




## SECTION "V"
SCALE: 1"=10'

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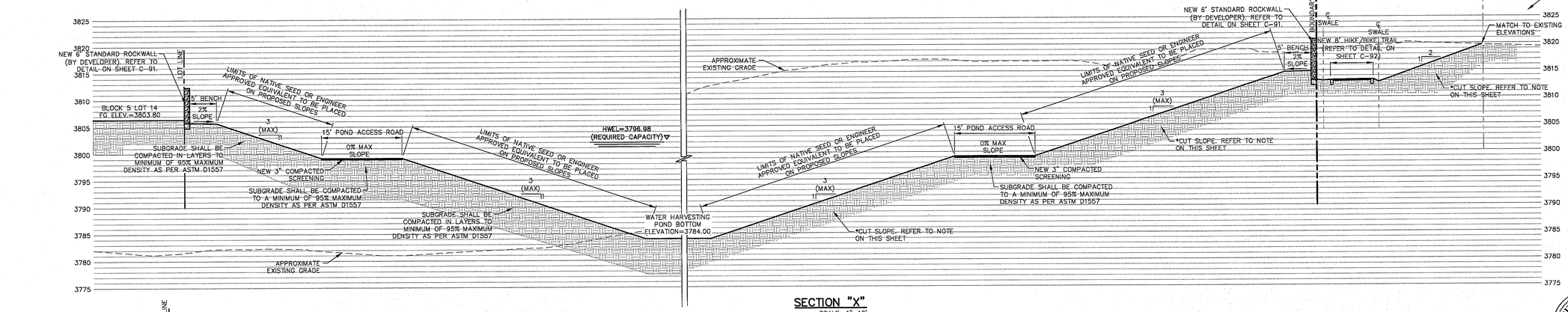
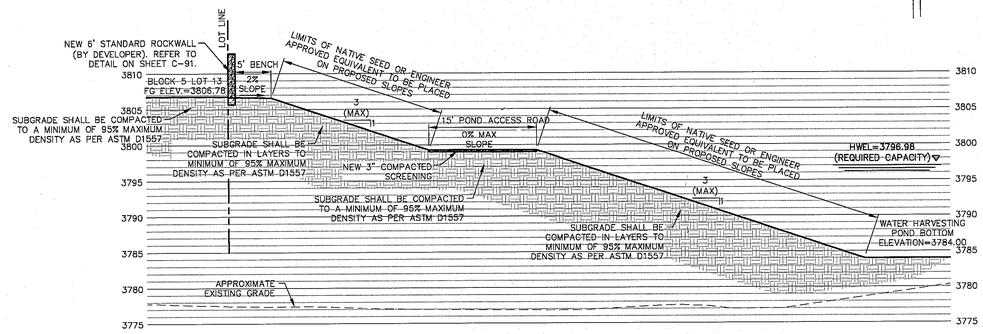
SCALE: 1"=10'

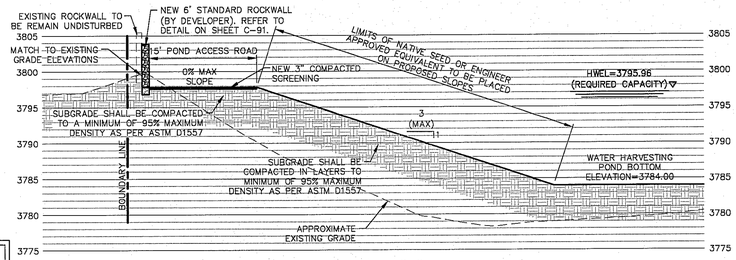



## SECTION "X"
SCALE: 1"=10'




## SECTION "Y"
SCALE: 1"=10'

*NOTE:
ALL SLOPES THAT ARE CONSTRUCTED AS A RESULT OF CUT CONDITION, SHALL BE CONSTRUCTED NO STEEPER THEN A SLOPE OF 2:1 (HORIZONTAL TO VERTICAL). NO EROSION PROTECTION PLATING REQUIRED. CUT SLOPES TO REMAIN DISTURBED. REFER TO GEOTECHNICAL STUDY AMENDMENT LETTER BY AMEC EARTH AND ENVIRONMENTAL DATED DECEMBER 5, 2014.




## SECTION "Z"
SCALE: 1"=10'

THE CITY OF EL PASO TEXAS

### REFERENCES – BENCHMARK
BENCHMARK- CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE #- 3816.84 (CITY DATUM)
ELEVATION = 3816.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT A. GONZALES, 86920, PROFESSIONAL ENGINEER, 8/5/15

| | |
|---|---|
| SCALE: HORIZONTAL: | 1"=10' |
| VERTICAL: | N/A |
| CONTOUR INTERVAL: | |
| DATE: | AUGUST 2015 |
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CADD |
| CHKD BY: | R.A.G. |
| APPVD BY: | R.A.G. |
| JOB NO. | 1326 |

PROJECT TITLE
# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
TYPICAL SECTIONS (3 OF 4)

SHEET NO.
C-14
14 OF 123 SHEETS

Aug 03,2015 2:35pm brojl
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-12-15 Typical Sections (1-4 of 4).dwg

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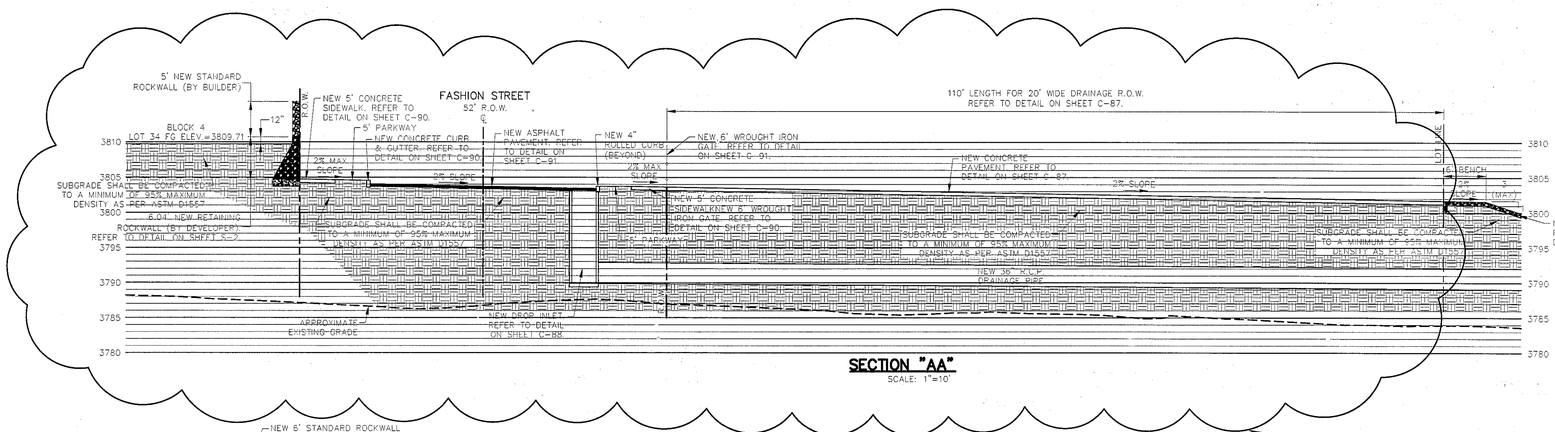
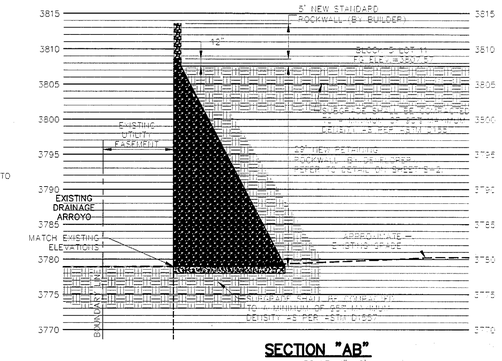
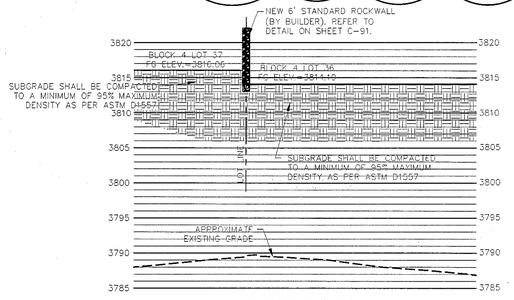



**SECTION "AA"**
SCALE: 1"=10'

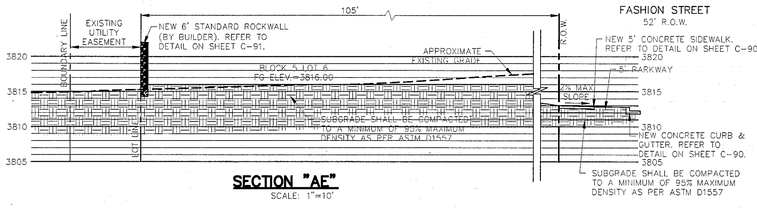



**SECTION "AB"**
SCALE: 1"=10'

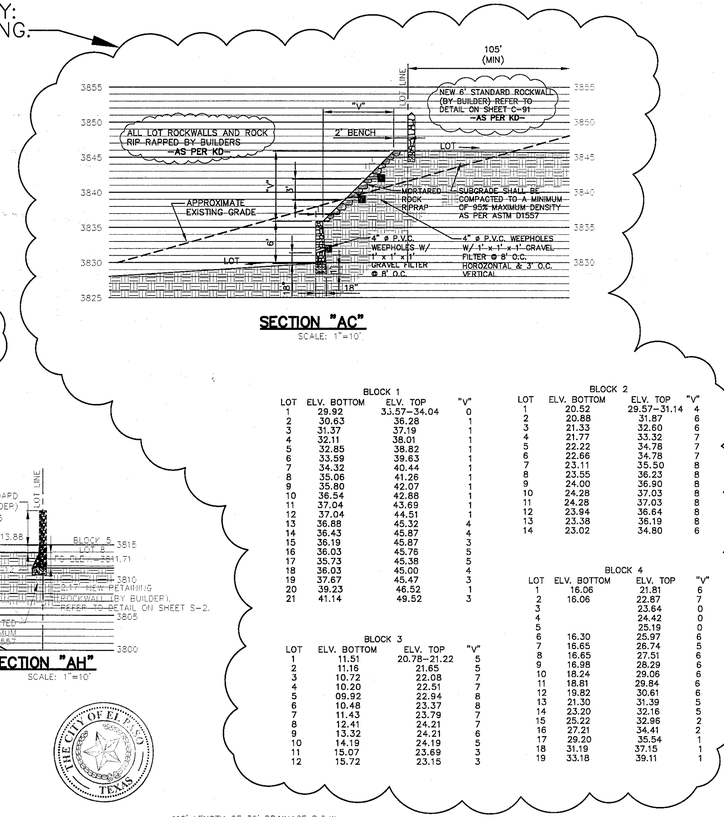



**SECTION "AD"**
SCALE: 1"=10'

REVISED BY:
DORADO ENG.
10/08/15

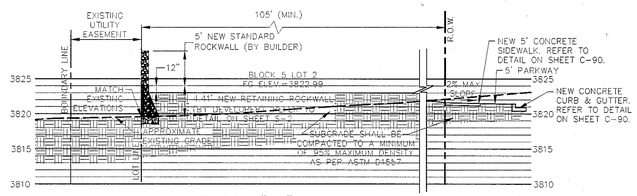



**SECTION "AE"**
SCALE: 1"=10'

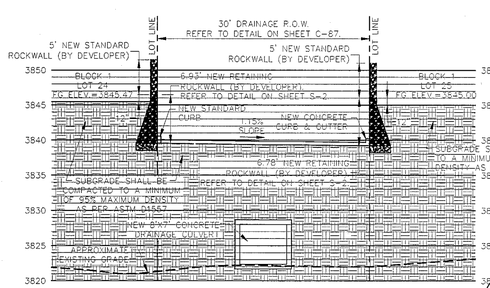



**SECTION "AC"**
SCALE: 1"=10'

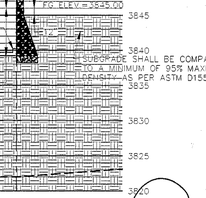
NOTE:
ALL RETAINING WALLS 4'-0" AND HIGHER MUST BE BUILT BY DEVELOPER
OUT AS PER KD




**SECTION "AF"**
SCALE: 1"=10'




**SECTION "AG"**
SCALE: 1"=10'

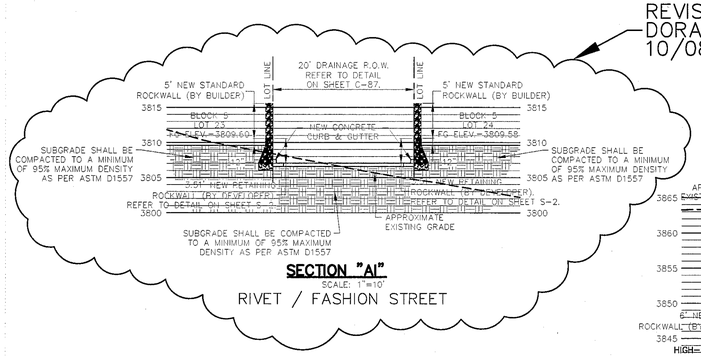



**SECTION "AH"**
SCALE: 1"=10'

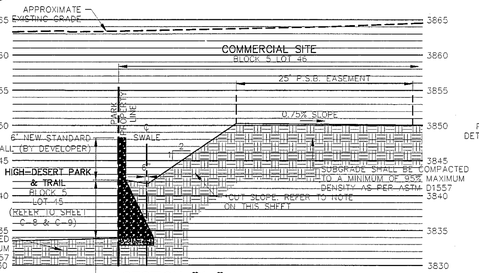
| BLOCK 1 | | | | BLOCK 2 | | | |
|---|---|---|---|---|---|---|---|
| LOT | ELV. BOTTOM | ELV. TOP | "V" | LOT | ELV. BOTTOM | ELV. TOP | "V" |
| 1 | 29.92 | 33.57–34.04 | 0 | 1 | 20.52 | 29.57–31.14 | 4 |
| 2 | 30.63 | 36.28 | 1 | 2 | 20.88 | 31.87 | 6 |
| 3 | 31.37 | 37.19 | 1 | 3 | 21.33 | 32.60 | 6 |
| 4 | 32.11 | 38.01 | 1 | 4 | 21.77 | 33.32 | 7 |
| 5 | 32.85 | 38.82 | 1 | 5 | 22.22 | 34.78 | 7 |
| 6 | 33.59 | 39.63 | 1 | 6 | 22.66 | 34.78 | 7 |
| 7 | 34.32 | 40.44 | 1 | 7 | 23.11 | 35.50 | 8 |
| 8 | 35.06 | 41.26 | 1 | 8 | 23.55 | 36.23 | 8 |
| 9 | 35.80 | 42.07 | 1 | 9 | 24.00 | 36.90 | 8 |
| 10 | 36.54 | 42.88 | 1 | 10 | 24.28 | 37.03 | 8 |
| 11 | 37.04 | 43.69 | 1 | 11 | 24.28 | 37.03 | 8 |
| 12 | 37.04 | 44.51 | 1 | 12 | 23.94 | 36.64 | 8 |
| 13 | 36.88 | 45.32 | 4 | 13 | 23.38 | 36.19 | 8 |
| 14 | 36.43 | 45.87 | 4 | 14 | 23.02 | 34.80 | 6 |
| 15 | 36.19 | 45.87 | 3 | | | | |
| 16 | 36.03 | 45.76 | 5 | | | | |
| 17 | 35.73 | 45.38 | 5 | | | | |
| 18 | 36.03 | 45.00 | 4 | | | | |
| 19 | 37.67 | 45.47 | 3 | | | | |
| 20 | 39.23 | 46.52 | 1 | | | | |
| 21 | 41.14 | 49.52 | 3 | | | | |

| BLOCK 3 | | | | BLOCK 4 | | | |
|---|---|---|---|---|---|---|---|
| LOT | ELV. BOTTOM | ELV. TOP | "V" | LOT | ELV. BOTTOM | ELV. TOP | "V" |
| 1 | 11.51 | 20.78–21.22 | 5 | 1 | 16.06 | 21.81 | 6 |
| 2 | 11.16 | 21.65 | 5 | 2 | 16.06 | 22.87 | 7 |
| 3 | 10.72 | 22.08 | 7 | 3 | | 23.64 | 0 |
| 4 | 10.20 | 22.51 | 7 | 4 | | 24.42 | 0 |
| 5 | 09.92 | 22.94 | 8 | 5 | | 25.19 | 0 |
| 6 | 10.48 | 23.37 | 8 | 6 | 16.30 | 25.97 | 6 |
| 7 | 11.43 | 23.79 | 7 | 7 | 16.65 | 26.74 | 5 |
| 8 | 12.41 | 24.21 | 7 | 8 | 16.65 | 27.51 | 6 |
| 9 | 13.32 | 24.21 | 6 | 9 | 16.98 | 28.29 | 6 |
| 10 | 14.19 | 24.19 | 5 | 10 | 18.24 | 29.06 | 6 |
| 11 | 15.07 | 23.69 | 3 | 11 | 18.81 | 29.84 | 6 |
| 12 | 15.72 | 23.15 | 3 | 12 | 19.82 | 30.61 | 6 |
| | | | | 13 | 21.30 | 31.39 | 5 |
| | | | | 14 | 23.20 | 32.16 | 5 |
| | | | | 15 | 25.22 | 32.96 | 2 |
| | | | | 16 | 27.21 | 34.41 | 2 |
| | | | | 17 | 29.20 | 35.54 | 1 |
| | | | | 18 | 31.19 | 37.15 | 1 |
| | | | | 19 | 33.18 | 39.11 | 1 |

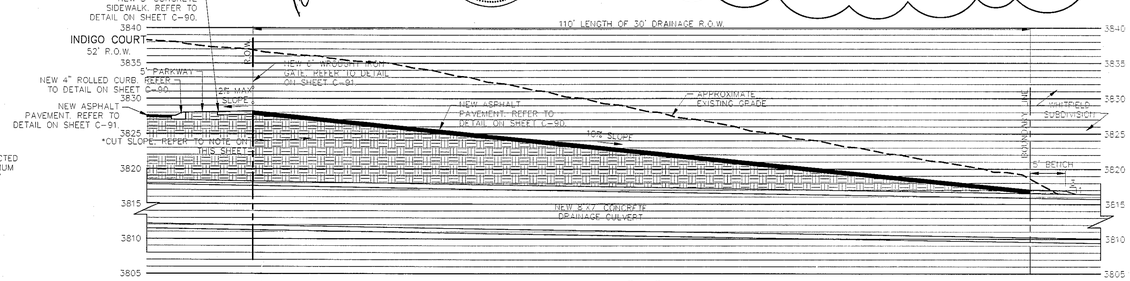
REVISED BY:
DORADO ENG.
10/08/15




**SECTION "AI"**
SCALE: 1"=10'
RIVET / FASHION STREET




**SECTION "AJ"**
SCALE: 1"=10'




**SECTION "AK"**
SCALE: 1"=10'

*NOTE:
ALL SLOPES THAT ARE CONSTRUCTED AS A RESULT OF CUT CONDITION, SHALL BE CONSTRUCTED NO STEEPER THEN A SLOPE OF 2:1 (HORIZONTAL TO VERTICAL), NO EROSION PROTECTION PLATING REQUIRED. CUT SLOPES TO REMAIN DISTURBED. REFER TO GEOTECHNICAL STUDY AMENDMENT LETTER BY AMEC EARTH AND ENVIRONMENTAL DATED DECEMBER 5, 2014.

10-28-15
REVISED 10-08-15

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF ODONNELL & INCA AVENUE
REFERENCE: W. HYDE FIELD ADDITION
ELEVATION = 3876.58 (CITY DATUM)

| DATE: | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

DORADO ENGINEERING, INC.
ENGINEERS SURVEYORS PLANNERS
2717 E. YANDELL ST. PASO, TEXAS 79903 (915)565-0052

SCALE: HORIZONTAL: 1"=10'
VERTICAL: N/A
CONTOUR INTERVAL:
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: R.C.
CHKD BY: R.A.C.
APPVD BY: R.A.C.
JOB NO. 1326

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
TYPICAL SECTIONS (4 OF 4)

SHEET NO.
C-15
15 OF 123 SHEETS

Oct 29,2015 2:23pm - Administrator
S:\drawings\SAAD\WEST DESERT MARKETPLACE\C-13 C-15 Typical Sections.dwg

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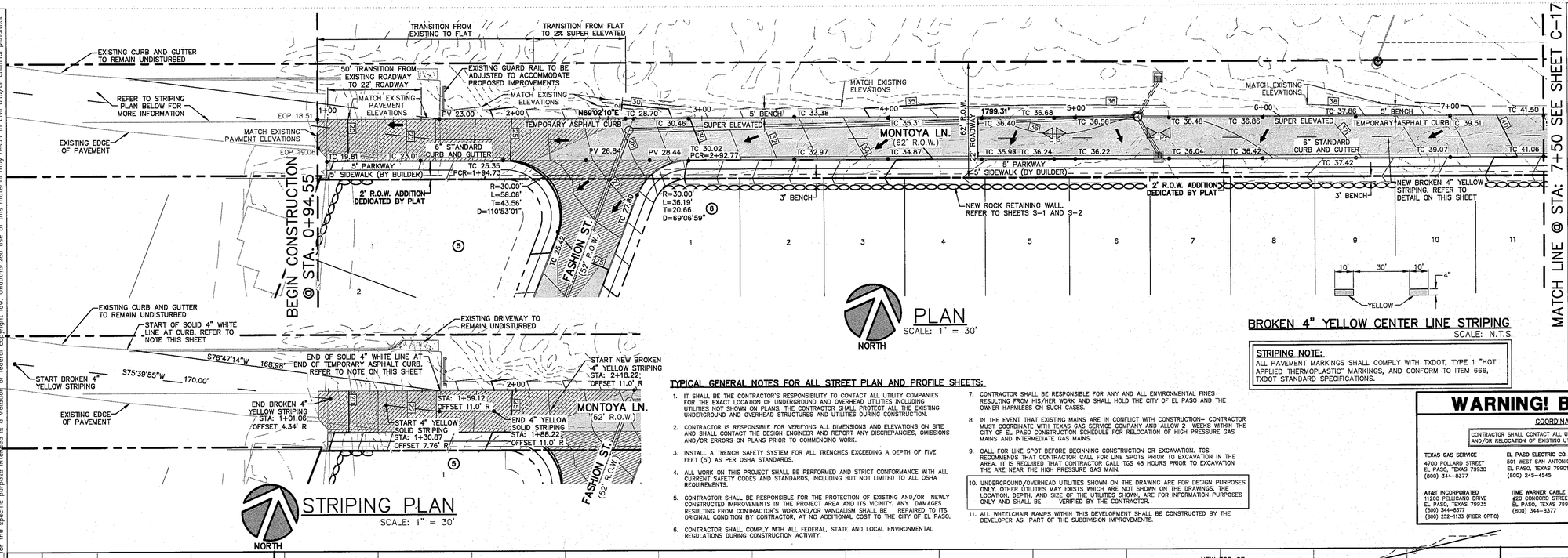



## PLAN
SCALE: 1" = 30'




## STRIPING PLAN
SCALE: 1" = 30'

## BROKEN 4" YELLOW CENTER LINE STRIPING
SCALE: N.T.S.




**STRIPING NOTE:**
ALL PAVEMENT MARKINGS SHALL COMPLY WITH TXDOT, TYPE 1 "HOT APPLIED THERMOPLASTIC" MARKINGS, AND CONFORM TO ITEM 666, TXDOT STANDARD SPECIFICATIONS.

**LEGEND:**

- 3985 — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- EXISTING RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- FLOW LINE OF SWALE
- NEW RETAINING ROCKWALL (BY DEVELOPER)
- H.P. HIGH POINT
- L.P. LOW POINT
- NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C-90.
- NEW PAVEMENT TRANSITION
- X BLOCK NUMBER
- XX LOT NUMBER
- DRAINAGE FLOW DIRECTION
- TC XX.XX TOP OF CURB ELEVATION
- PV XX.XX TOP PAVEMENT ELEVATION
- GN XX.XX TOP GROUND ELEVATION
- GT XX.XX TOP GUTTER ELEVATION
- PCR=X+XX POINT OF CURB RETURN STATION
- EXTC XX.XX EXISTING TOP OF CURB ELEVATION
- EXGT XX.XX EXISTING GUTTER ELEVATION
- ES XX.XX EXISTING STRIPING ELEVATION
- EOP XX.XX EXISTING EDGE OF PAVEMENT ELEVATION
- NEW WHEEL CHAIR RAMP. REFER TO DETAIL ON SHEET C-92.

## TYPICAL GENERAL NOTES FOR ALL STREET PLAN AND PROFILE SHEETS:

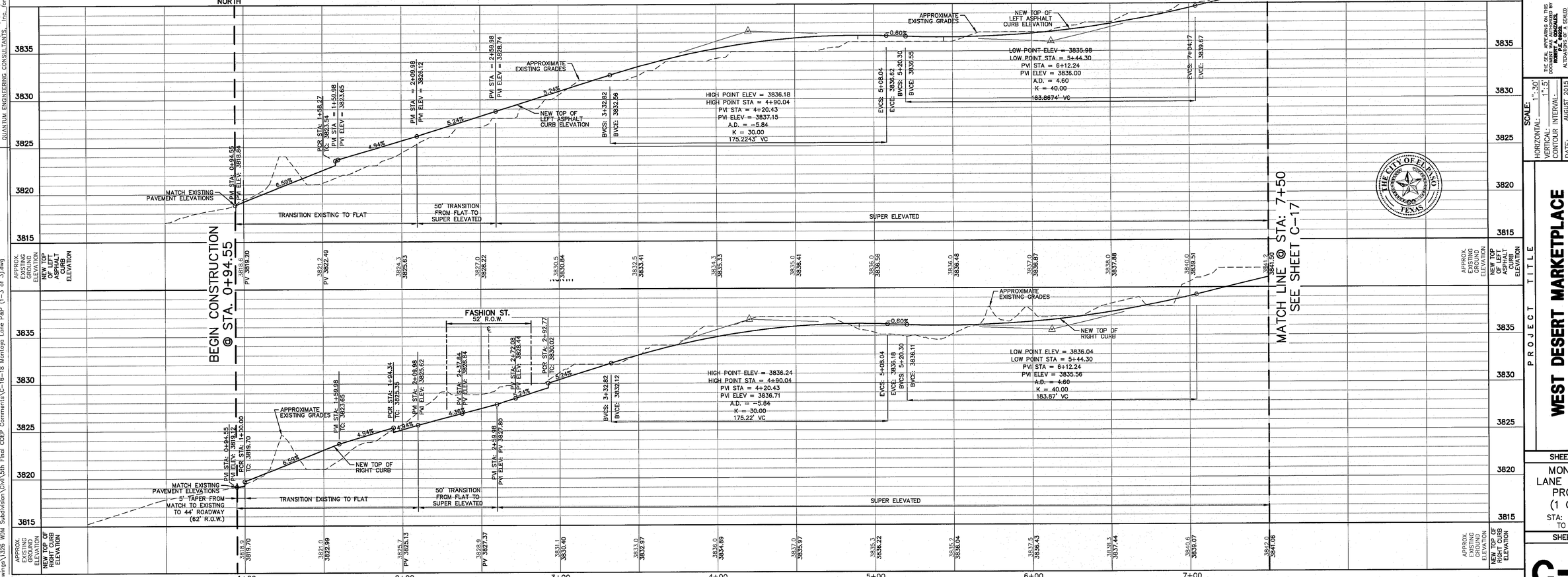
1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES FOR THE EXACT LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES INCLUDING UTILITIES NOT SHOWN ON PLANS. THE CONTRACTOR SHALL PROTECT ALL THE EXISTING UNDERGROUND AND OVERHEAD STRUCTURES AND UTILITIES DURING CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS ON SITE AND SHALL CONTACT THE DESIGN ENGINEER AND REPORT ANY DISCREPANCIES, OMISSIONS AND/OR ERRORS ON PLANS PRIOR TO COMMENCING WORK.
3. INSTALL A TRENCH SAFETY SYSTEM FOR ALL TRENCHES EXCEEDING A DEPTH OF FIVE FEET (5') AS PER OSHA STANDARDS.
4. ALL WORK ON THIS PROJECT SHALL BE PERFORMED AND STRICT CONFORMANCE WITH ALL CURRENT SAFETY CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO ALL OSHA REQUIREMENTS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING AND/OR NEWLY CONSTRUCTED IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. ANY DAMAGES RESULTING FROM CONTRACTOR'S WORKAND/OR VANDALISM SHALL BE REPAIRED TO ITS ORIGINAL CONDITION BY CONTRACTOR, AT NO ADDITIONAL COST TO THE CITY OF EL PASO.
6. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS DURING CONSTRUCTION ACTIVITY.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL ENVIRONMENTAL FINES RESULTING FROM HIS/HER WORK AND SHALL HOLD THE CITY OF EL PASO AND THE OWNER HARMLESS ON SUCH CASES.
8. IN THE EVENT THAT EXISTING MAINS ARE IN CONFLICT WITH CONSTRUCTION– CONTRACTOR MUST COORDINATE WITH TEXAS GAS SERVICE COMPANY AND ALLOW 2 WEEKS WITHIN THE CITY OF EL PASO CONSTRUCTION SCHEDULE FOR RELOCATION OF HIGH PRESSURE GAS MAINS AND INTERMEDIATE GAS MAINS.
9. CALL FOR LINE SPOT BEFORE BEGINNING CONSTRUCTION OR EXCAVATION. TGS RECOMMENDS THAT CONTRACTOR CALL FOR LINE SPOTS PRIOR TO EXCAVATION IN THE AREA. IT IS REQUIRED THAT CONTRACTOR CALL TGS 48 HOURS PRIOR TO EXCAVATION THE ARE NEAR THE HIGH PRESSURE GAS MAIN.
10. UNDERGROUND/OVERHEAD UTILITIES SHOWN ON THE DRAWING ARE FOR DESIGN PURPOSES ONLY. OTHER UTILITIES MAY EXISTS WHICH ARE NOT SHOWN ON THE DRAWINGS. THE LOCATION, DEPTH, AND SIZE OF THE UTILITIES SHOWN, ARE FOR INFORMATION PURPOSES ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR.
11. ALL WHEELCHAIR RAMPS WITHIN THIS DEVELOPMENT SHALL BE CONSTRUCTED BY THE DEVELOPER AS PART OF THE SUBDIVISION IMPROVEMENTS.

## WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES:

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

| | | | |
|---|---|---|---|
| TEXAS GAS SERVICE<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344-8377 | EL PASO ELECTRIC CO.<br>501 WEST SAN ANTONIO ST.<br>EL PASO, TEXAS 79901<br>(800) 245-4545 | EL PASO WATER UTILITIES<br>PUBLIC SERVICE BOARD<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(800) 344-8377 | CITY OF EL PASO<br>STREET DEPARTMENT<br>7969 SAN PAULO DR.<br>EL PASO, TEXAS 79907<br>(915) 621-6460 |
| AT&T INCORPORATED<br>11200 PELLICANO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1133 (FIBER OPTIC) | TIME WARNER CABLE<br>#20 CONCORD STREET<br>EL PASO, TEXAS 79906<br>(800) 344-8377 | TEXAS EXCAVATION SAFETY SYSTEM<br>ANYWHERE IN TEXAS<br>(800) 344-8377 | TEXAS DEPARTMENT OF TRANSPORTATION<br>EL PASO DISTRICT (WEST AREA)<br>4201 HONDO PASS DR.<br>EL PASO, TEXAS 79904<br>(915) 757-5922 |




## PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

**REFERENCES – BENCHMARK**
BENCHMARK– CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE BENCHMARK SHEET NO. 5 OF 5 SHEETS
ELEVATION = 3876.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

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F 915.532.7373
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SCALE:
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 5'
CONTOUR INTERVAL: —
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APP'VD BY: R.A.G.
JOB NO. 1328

THE CITY OF EL PASO TEXAS

PROJECT TITLE
**WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS**
EL PASO, TEXAS

SHEET TITLE
MONTOYA LANE PLAN & PROFILE (1 OF 3)
STA: 0+94.55 TO 7+50

SHEET NO.
**C-16**
16 OF 123 SHEETS

Aug 03,2015 2:37pm broj
Q:\Active Drawings\1328 WDM Subdivision\Civil\5th Final CDEP Comments\C-16-18 Montoya Lane P&P (1-3 of 3).dwg

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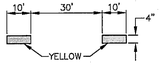


## BROKEN 4" YELLOW CENTER LINE STRIPING
SCALE: N.T.S.

**STRIPING NOTE:**
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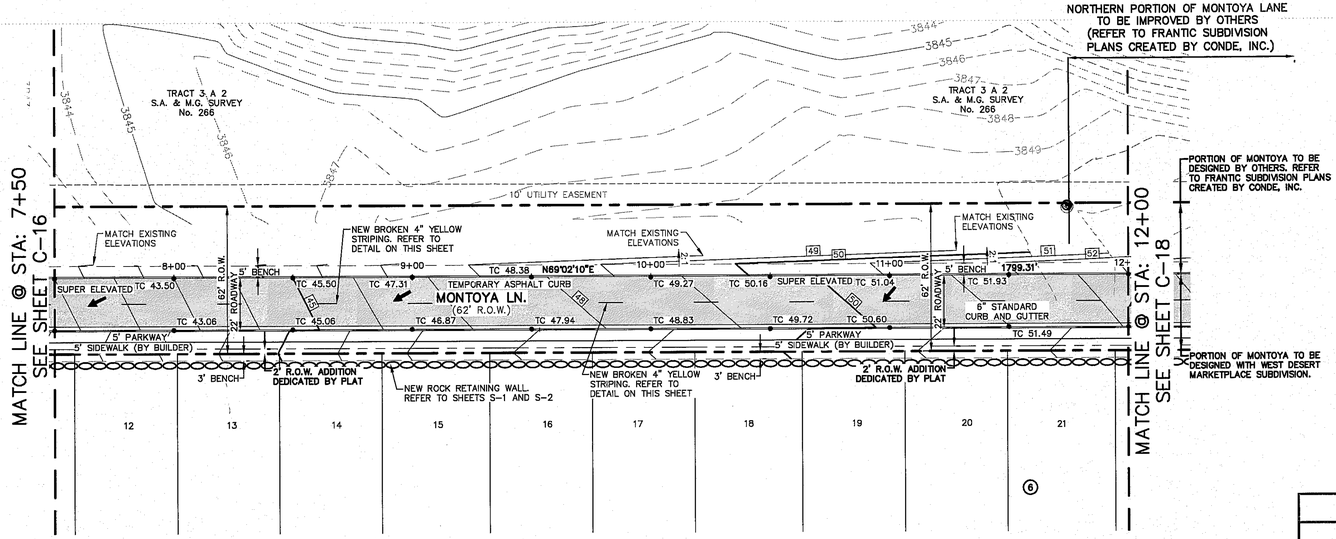


## PLAN
SCALE: 1" = 30'

NORTH

**LEGEND:**

- 3985 — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- EXISTING RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- FLOW LINE OF SWALE
- NEW RETAINING ROCKWALL (BY DEVELOPER)
- H.P. HIGH POINT
- L.P. LOW POINT
- NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C-90.
- NEW PAVEMENT TRANSITION
- (X) BLOCK NUMBER
- XX LOT NUMBER
- DRAINAGE FLOW DIRECTION
- TC XX.XX TOP OF CURB ELEVATION
- PV XX.XX TOP PAVEMENT ELEVATION
- GN XX.XX TOP GROUND ELEVATION
- GT XX.XX TOP GUTTER ELEVATION
- PCR=X+XX POINT OF CURB RETURN STATION
- EXTC XX.XX EXISTING TOP OF CURB ELEVATION
- EXGT XX.XX EXISTING GUTTER ELEVATION
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- NEW WHEEL CHAIR RAMP. REFER TO DETAIL ON SHEET C-92

## WARNING! BEFORE YOU DIG

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|---|---|---|---|
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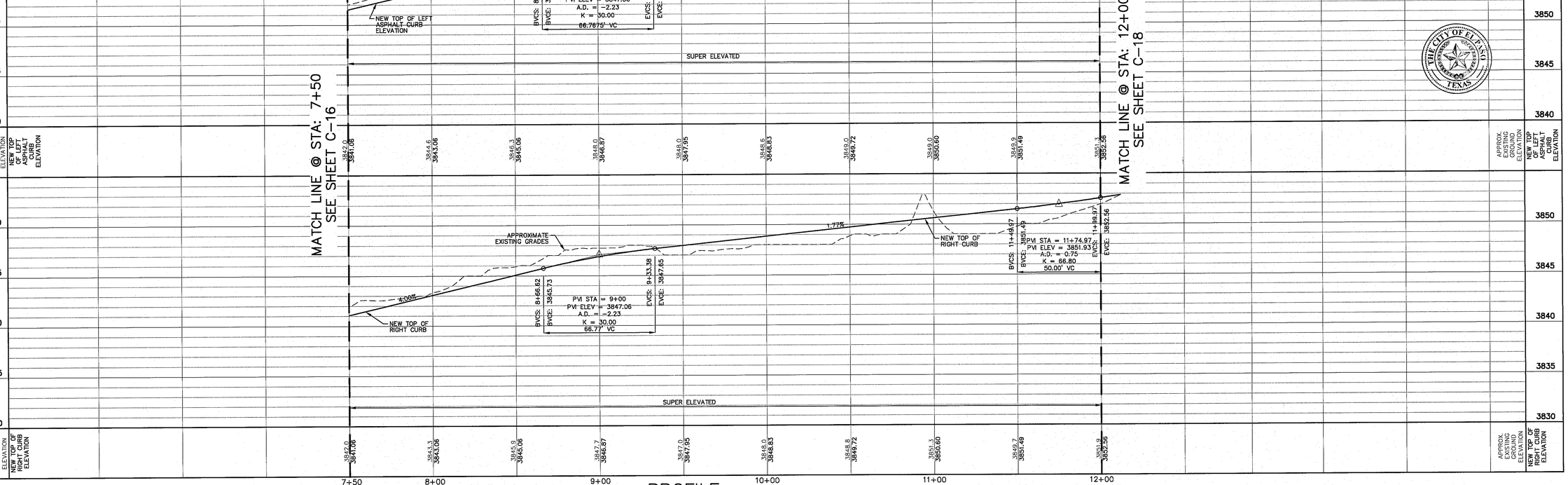


## PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

**REFERENCES – BENCHMARK**

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE REFERENCE IN THREE HILLS ADDITION. ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |


QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146


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SCALE: HORIZONTAL: 1":30' VERTICAL: 1":5'
CONTOUR INTERVAL: —
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

MONTOYA LANE PLAN & PROFILE (2 OF 3)
STA: 7+50 TO 12+00

SHEET NO.

**C-17**

17 OF 123 SHEETS


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Aug 03 2015 2:38pm bro]
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-16-18 Montoya Lane P&P (1-3 of 3).dwg

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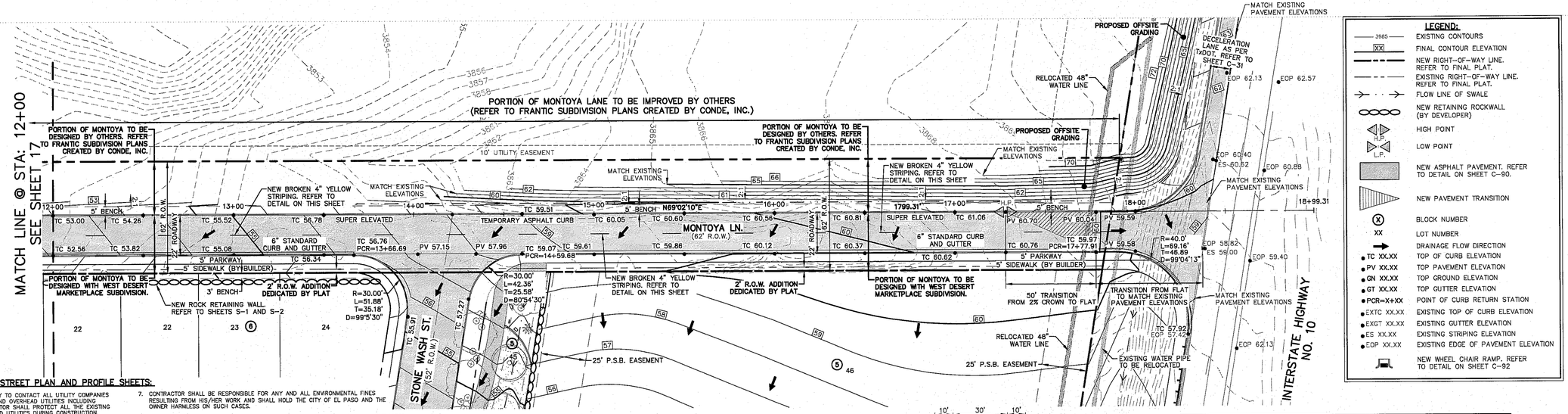


## LEGEND:

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- NEW PAVEMENT TRANSITION
- BLOCK NUMBER
- LOT NUMBER
- DRAINAGE FLOW DIRECTION
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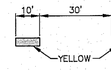
**NOTE:**
ALL WORK INDICATED ON STATE PROPERTY MUST BE APPROVED AND COORDINATED WITH TxDOT.

NORTH

PLAN
SCALE: 1" = 30'




BROKEN 4" YELLOW CENTER LINE STRIPING
SCALE: N.T.S.

**STRIPING NOTE:**
ALL PAVEMENT MARKINGS SHALL COMPLY WITH TXDOT, TYPE 1 "HOT APPLIED THERMOPLASTIC" MARKINGS, AND CONFORM TO ITEM 666, TXDOT STANDARD SPECIFICATIONS.

## WARNING! BEFORE YOU DIG

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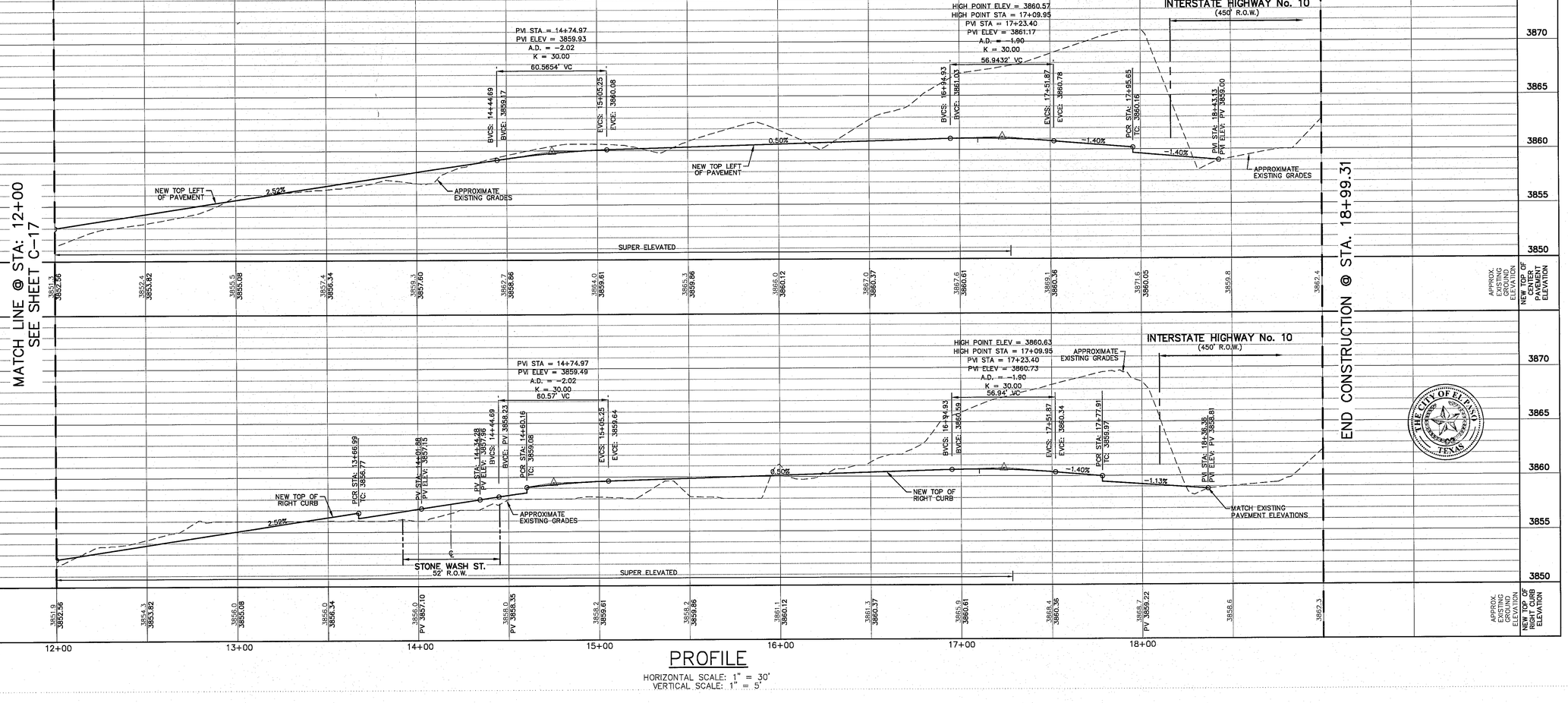


## PROFILE

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

REFERENCES – BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECT OF GUINAULT & INCA AVENUE
REFERENCE IN THREE WELLS ADDITION
ELEVATION = 3876.84 (CITY DATUM)

| BY | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

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SCALE:
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 5'
CONTOUR INTERVAL: ____

DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

**WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS**

EL PASO, TEXAS

SHEET TITLE

MONTOYA LANE PLAN & PROFILE (3 OF 3) STA: 12+00 TO 18+99.31

SHEET NO.

**C-18**

18 OF 123 SHEETS

Aug 03,2015 2:39pm broj
G:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-16-18 Montoya Lane P&P (1-3 of 3).dwg

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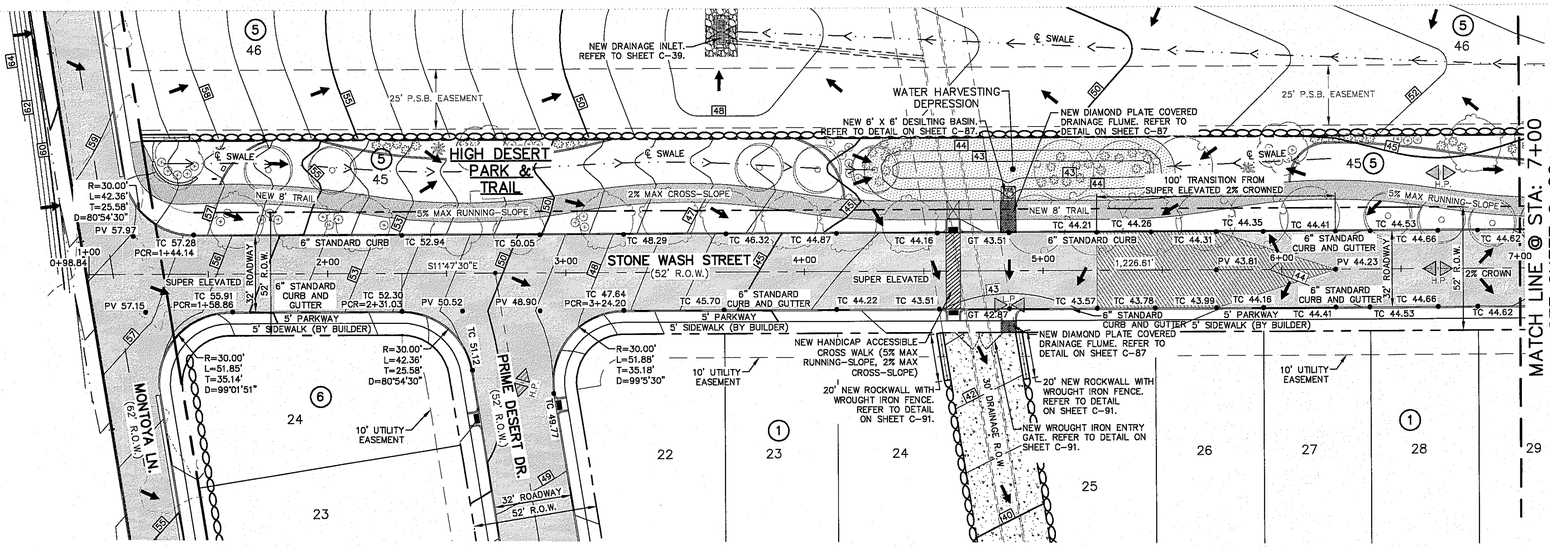
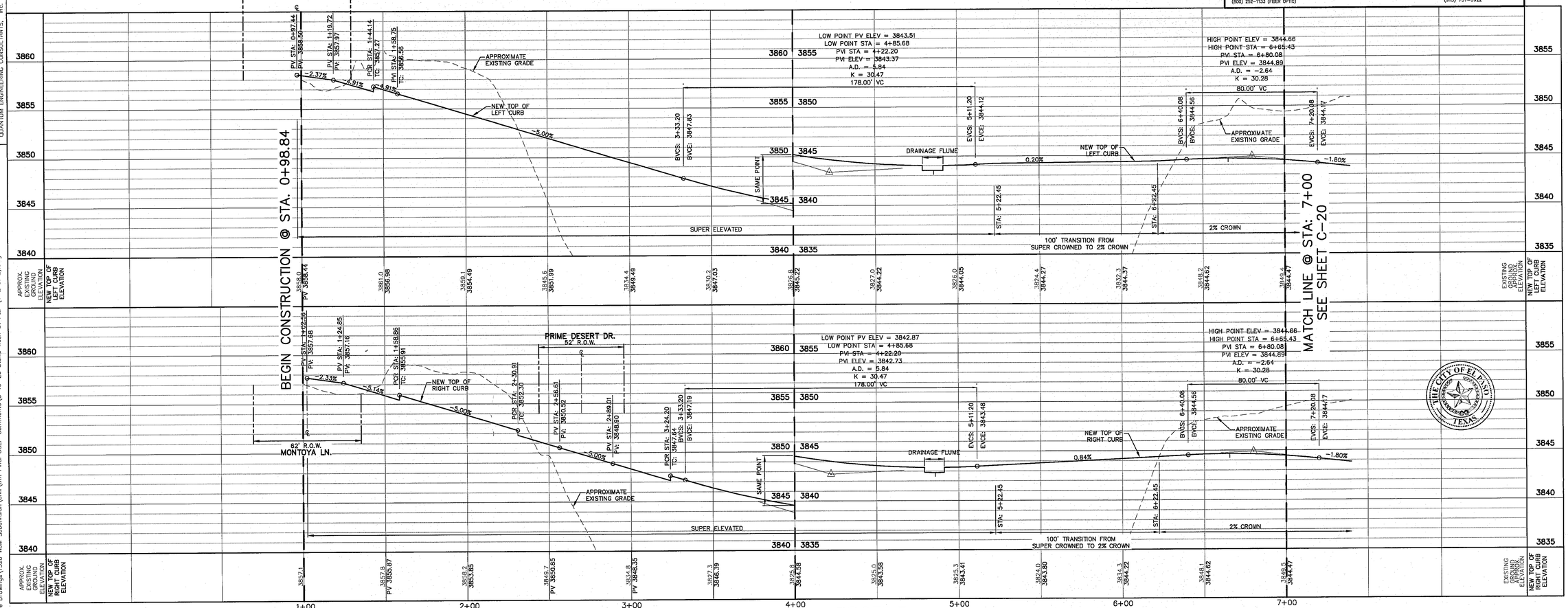



## PLAN
SCALE: 1" = 30'

NORTH




## PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

## LEGEND:

- 3985 — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- FLOW LINE OF SWALE
- NEW STANDARD/ RETAINING ROCKWALL.
- H.P. — HIGH POINT
- L.P. — LOW POINT
- NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C-90.
- PROPOSED 8' WIDE ASPHALT HIKE/BIKE TRAIL (2% MAX CROSS SLOPE, 5% MAX RUNNING SLOPE). REFER TO LANDSCAPING PLANS.
- NEW PAVEMENT TRANSITION
- X — BLOCK NUMBER
- XX — LOT NUMBER
- DRAINAGE FLOW DIRECTION
- TC XX.XX — TOP OF CURB ELEVATION
- PV XX.XX — TOP PAVEMENT ELEVATION
- GN XX.XX — TOP GROUND ELEVATION
- GT XX.XX — TOP GUTTER ELEVATION
- PCR=X+XX — POINT OF CURB RETURN STATION
- NEW WHEEL CHAIR RAMP. REFER TO DETAIL ON SHEET C-92.
- NEW DIAMOND PLATE COVERED DRAINAGE FLUME. REFER TO DETAIL ON SHEET C-87.

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REFERENCES – BENCHMARK

BENCHMARK:– CITY MONUMENT AT THE INTERSECT OF GUINAULT & MCA AVENUE
DESCRIPTION: BRASS DISK IN CONCRETE
ELEVATION = 3876.84 (CITY DATUM)

| BY | DATE | REVISION |
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414 Executive Center Blvd
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DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD. BY: R.A.G.
JOB NO. 1328

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

STONE WASH STREET PLAN & PROFILE (1 OF 2)
STA: 0+98.84 TO 7+00

SHEET NO.

**C-19**

19 OF 123 SHEETS


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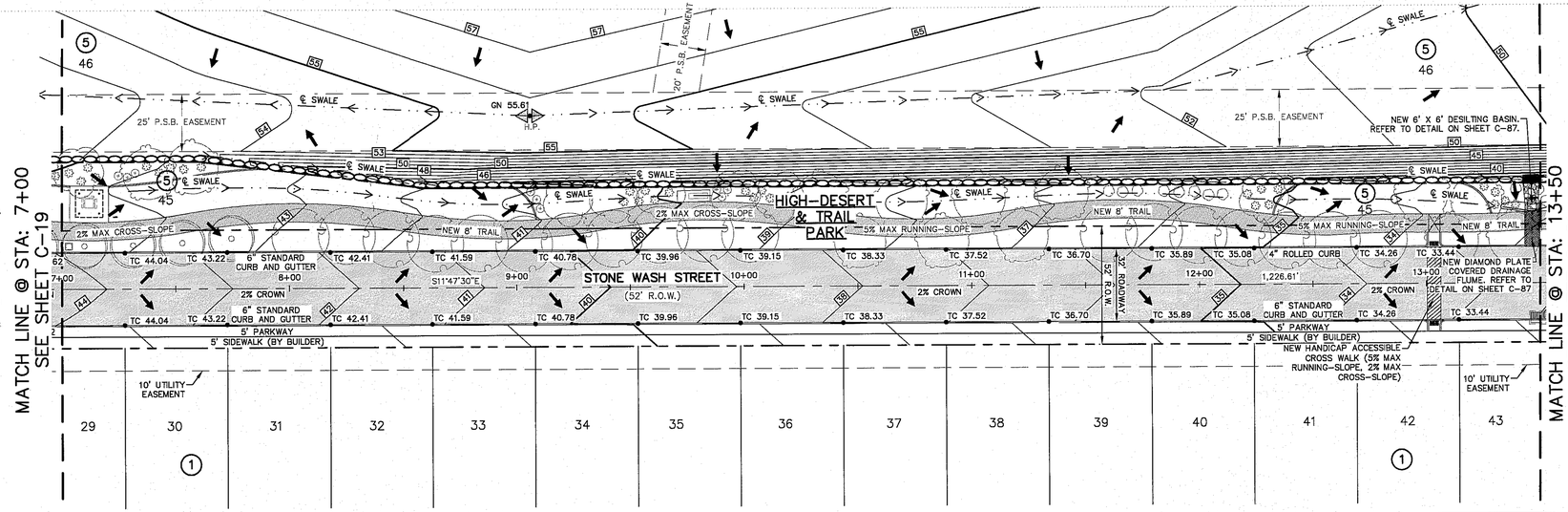


## PLAN
SCALE: 1" = 30'

NORTH

## LEGEND:

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- FLOW LINE OF SWALE
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## PROFILE
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VERTICAL SCALE: 1" = 5'

| REFERENCES – BENCHMARK | REVISION | BY | DATE |
|---|---|---|---|
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DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

STONE WASH STREET PLAN & PROFILE (2 OF 5)
STA: 7+00 TO STA: 13+50

SHEET NO.

**C-20**

20 OF 123 SHEETS

Aug 03,2015 2:43pm brej
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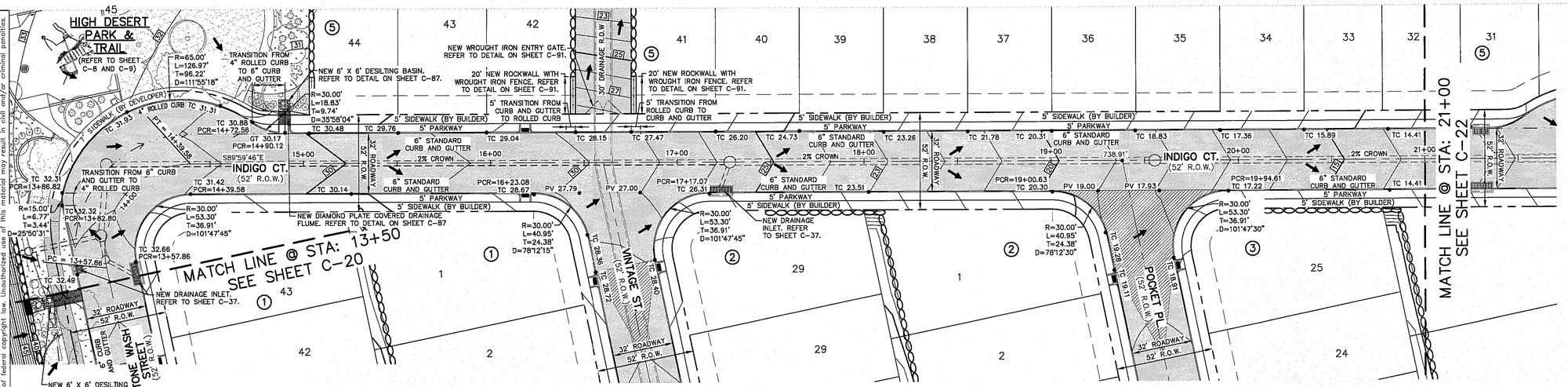


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## PLAN
SCALE: 1" = 30'

NORTH

## LEGEND:

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- XX — FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
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- (X) — BLOCK NUMBER
- XX — LOT NUMBER
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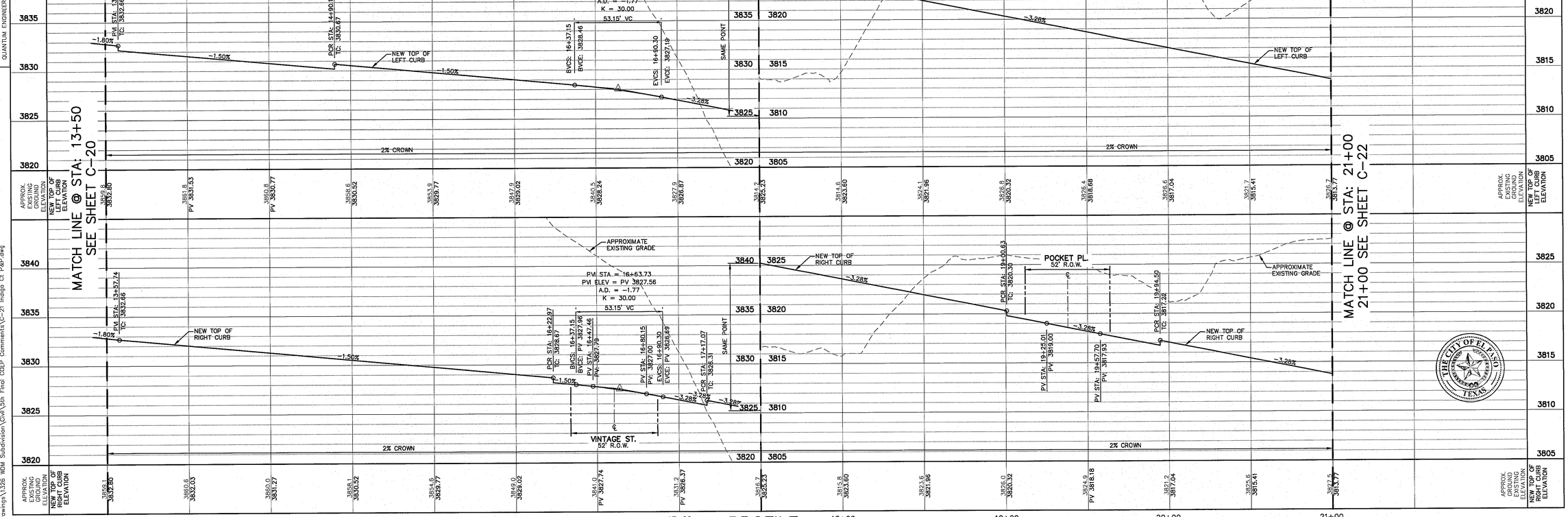


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Texas Registered Engineering Firm F-005146

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SCALE:
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 5'
CONTOUR INTERVAL: ---
DATE: AUGUST 2015
DESIGN BY: MAG.
DRAWN BY: CADD
CHKD BY: RAG.
APPVD BY: RAG.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

INDIGO COURT PLAN & PROFILE
STA: 13+50 TO 21+00

SHEET NO.

C-21

21 OF 123 SHEETS

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## TYPICAL GENERAL NOTES FOR ALL STREET PLAN AND PROFILE SHEETS:

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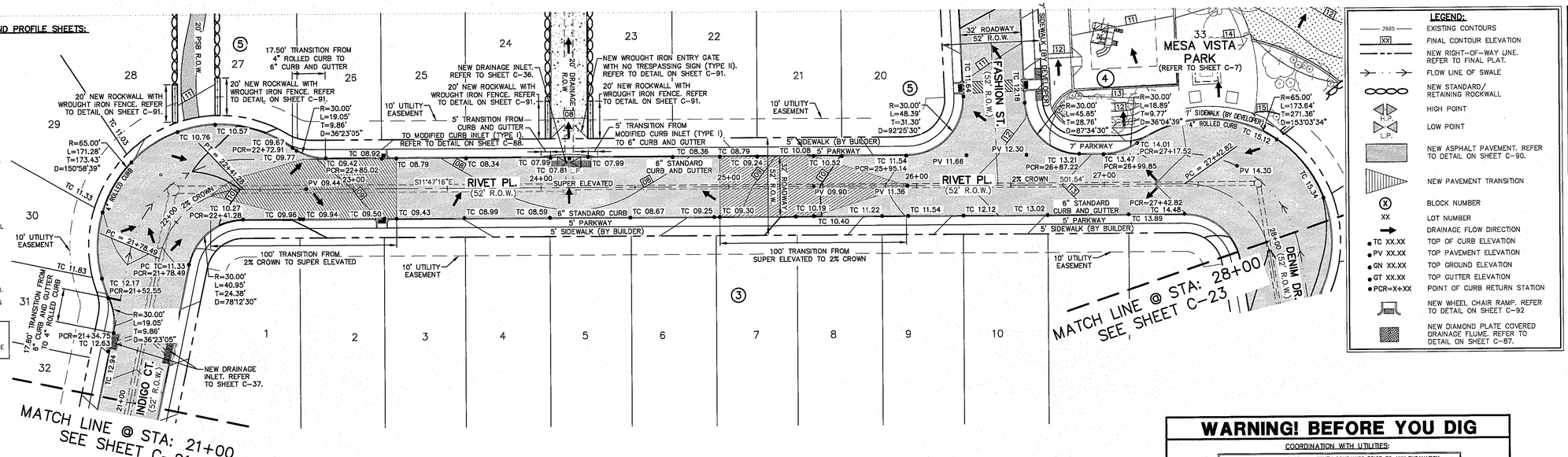
11. ALL WHEELCHAIR RAMPS WITHIN THIS DEVELOPMENT SHALL BE CONSTRUCTED BY THE DEVELOPER AS PART OF THE SUBDIVISION IMPROVEMENTS.




## LEGEND:

- EXISTING CONTOURS
- FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- FLOW LINE OF SWALE
- NEW STANDARD/ RETAINING ROCKWALL
- HIGH POINT
- LOW POINT
- NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C-90.
- NEW PAVEMENT TRANSITION
- BLOCK NUMBER
- LOT NUMBER
- DRAINAGE FLOW DIRECTION
- TOP OF CURB ELEVATION
- TOP PAVEMENT ELEVATION
- TOP GROUND ELEVATION
- TOP GUTTER ELEVATION
- POINT OF CURB RETURN STATION
- NEW WHEEL CHAIR RAMP. REFER TO DETAIL ON SHEET C-92
- NEW DIAMOND PLATE COVERED DRAINAGE FLUME. REFER TO DETAIL ON SHEET C-87.

NORTH

## PLAN
SCALE: 1" = 30'

## WARNING! BEFORE YOU DIG

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| | | | |
|---|---|---|---|
| TEXAS GAS SERVICE<br>6700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344-8377 | EL PASO ELECTRIC CO.<br>501 WEST SAN ANTONIO ST.<br>EL PASO, TEXAS 79901<br>(800) 245-4545 | EL PASO WATER UTILITIES<br>PUBLIC SERVICE BOARD<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(800) 344-8377 | CITY OF EL PASO<br>STREET DEPARTMENT<br>7969 SAN PAULO DR.<br>EL PASO, TEXAS 79907<br>(915) 621-6480 |
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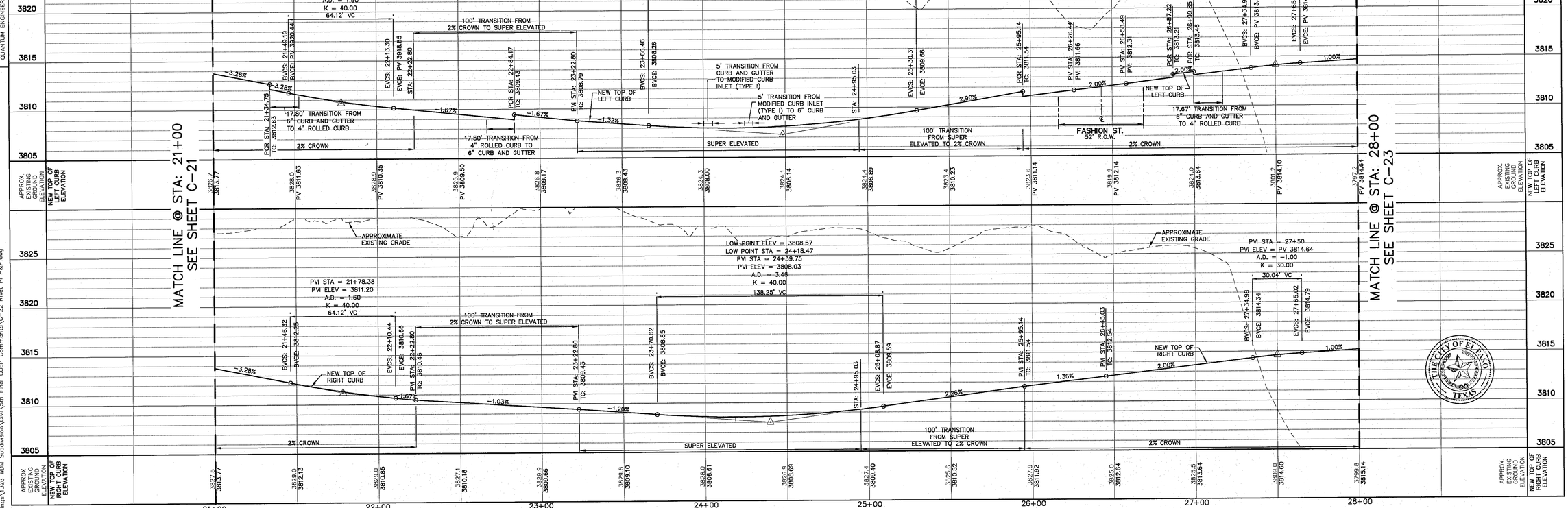


## PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

QUANTUM ENGINEERING CONSULTANTS, Inc.
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
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REFERENCES – BENCHMARK
BENCHMARK– CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

SCALE:
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 5'
CONTOUR INTERVAL: —
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE
# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
RIVET PLACE PLAN & PROFILE
STA: 21+00 TO 28+00

SHEET NO.
C-22R
22 OF 123 SHEETS

Aug 03,2015 2:46pm - brojl
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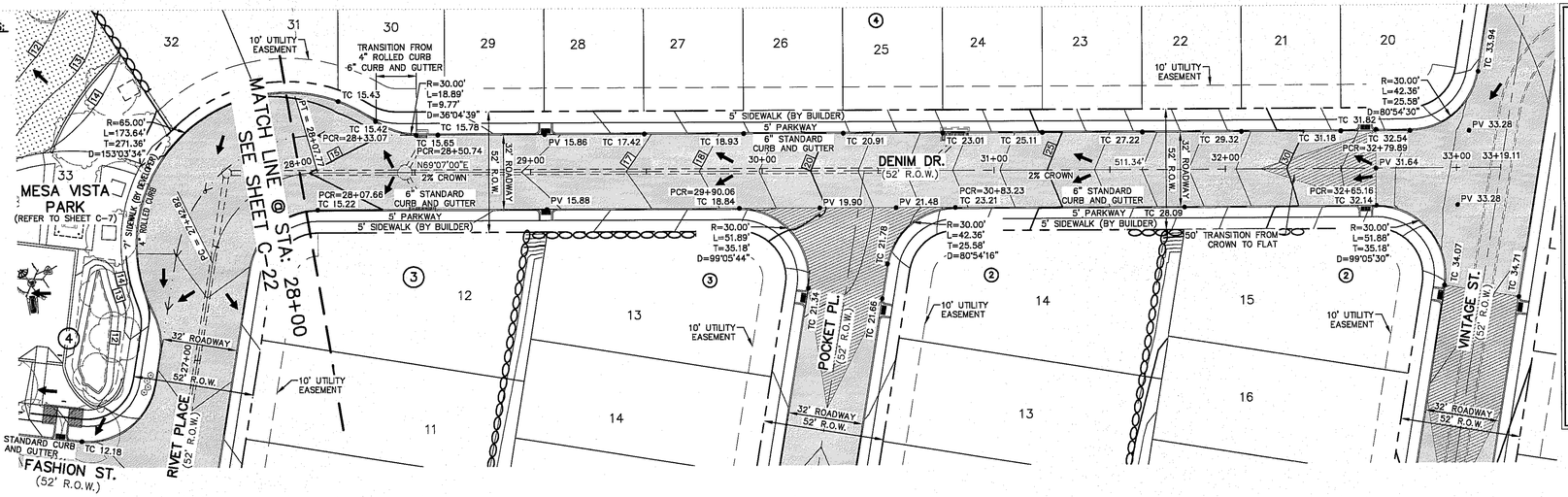


### LEGEND:

- EXISTING CONTOURS
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- NEW RIGHT–OF–WAY LINE. REFER TO FINAL PLAT.
- FLOW LINE OF SWALE
- NEW STANDARD/ RETAINING ROCKWALL
- HIGH POINT
- LOW POINT
- NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C–90.
- NEW PAVEMENT TRANSITION
- BLOCK NUMBER
- LOT NUMBER
- DRAINAGE FLOW DIRECTION
- TOP OF CURB ELEVATION
- TOP PAVEMENT ELEVATION
- TOP GROUND ELEVATION
- TOP GUTTER ELEVATION
- POINT OF CURB RETURN STATION
- NEW WHEEL CHAIR RAMP. REFER TO DETAIL ON SHEET C–92
- NEW DIAMOND PLATE COVERED DRAINAGE FLUME. REFER TO DETAIL ON SHEET C–87.

NORTH

PLAN
SCALE: 1" = 30'

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| | | | |
|---|---|---|---|
| **TEXAS GAS SERVICE**<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344–8377 | **EL PASO ELECTRIC CO.**<br>501 WEST SAN ANTONIO ST.<br>EL PASO, TEXAS 79901<br>(800) 245–4545 | **EL PASO WATER UTILITIES PUBLIC SERVICE BOARD**<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(800) 344–8377 | **CITY OF EL PASO STREET DEPARTMENT**<br>7969 SAN PAULO DR.<br>EL PASO, TEXAS 79907<br>(915) 621–6480 |
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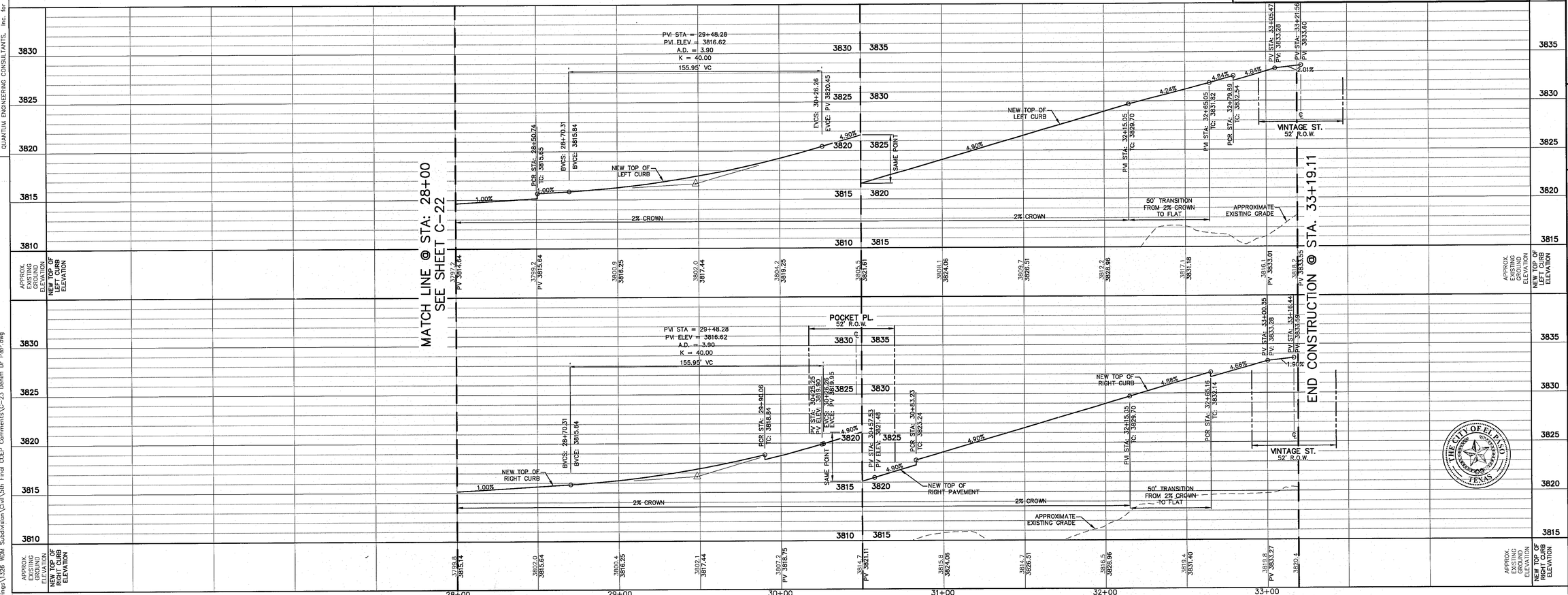


PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

### REFERENCES – BENCHMARK

BENCHMARK:– CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
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ELEVATION = 3816.84 (CITY DATUM)

| BY | DATE | REVISION |
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ROBERT A. GONZALES 69920 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

| SCALE: | |
|---|---|
| HORIZONTAL: | 1"=30' |
| VERTICAL: | 1"=5' |
| CONTOUR INTERVAL: | |
| DATE: | AUGUST 2015 |
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CADD |
| CHKD BY: | R.A.G. |
| APPVD BY: | R.A.G. |
| JOB NO. | 1326 |

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

THE CITY OF EL PASO TEXAS

SHEET TITLE

DENIM DRIVE PLAN & PROFILE

STA: 28+00.00 TO 33+19.11

SHEET NO.

**C-23**

23 OF 123 SHEETS

Aug 03,2015 2:47pm brojl
O:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-23 Denim Dr P&P.dwg

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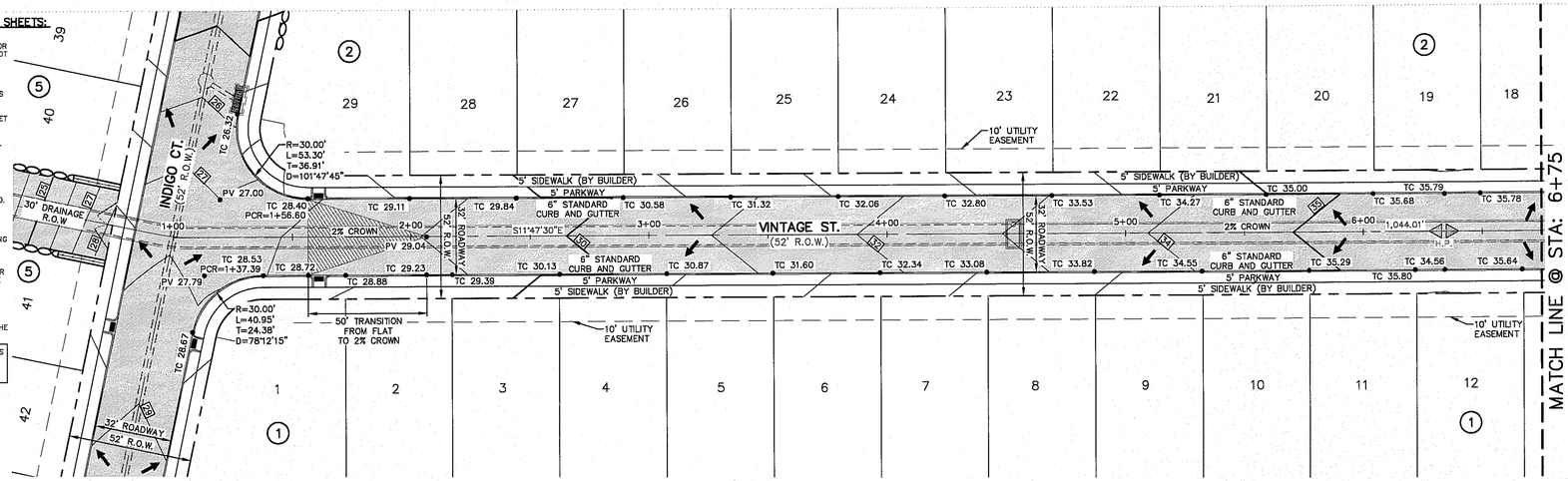


PLAN
SCALE: 1" = 30'

NORTH

### LEGEND:

- 3985 — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- FLOW LINE OF SWALE
- NEW STANDARD/ RETAINING ROCKWALL
- H.P. — HIGH POINT
- L.P. — LOW POINT
- NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C-90.
- NEW PAVEMENT TRANSITION
- BLOCK NUMBER
- XX — LOT NUMBER
- DRAINAGE FLOW DIRECTION
- TC XX.XX — TOP OF CURB ELEVATION
- PV XX.XX — TOP PAVEMENT ELEVATION
- GN XX.XX — TOP GROUND ELEVATION
- GT XX.XX — TOP GUTTER ELEVATION
- PCR=X+XX — POINT OF CURB RETURN STATION
- NEW WHEEL CHAIR RAMP. REFER TO DETAIL ON SHEET C-92
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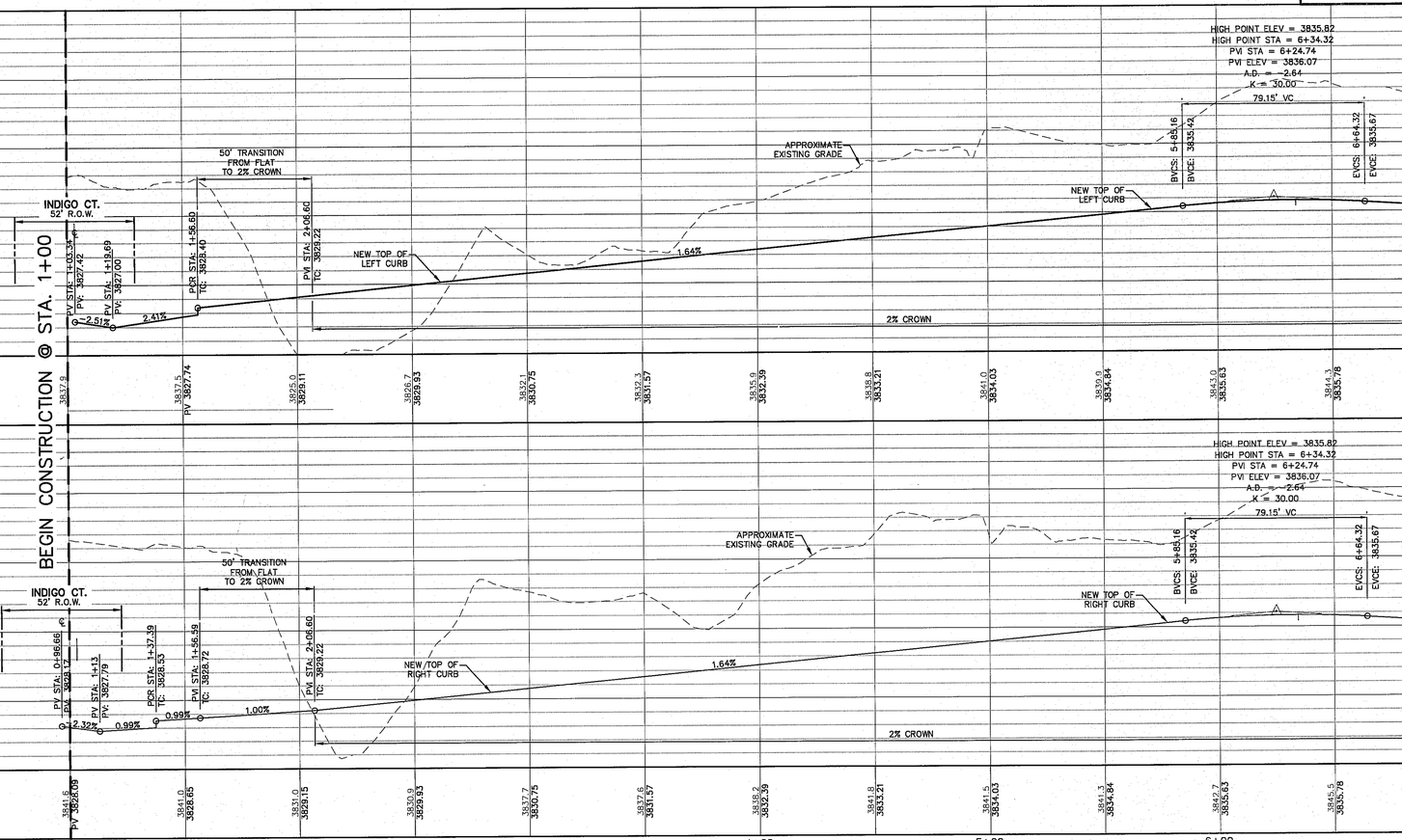


PROFILE
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Aug 03 2015 2:48pm brol
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-24-25 Vintage St P&P (1-2 of 2).dwg

**REFERENCES - BENCHMARK**

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PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

VINTAGE STREET PLAN & PROFILE (1 OF 2)

STA: 1+00 TO 6+75

SHEET NO.

**C-24**

24 OF 123 SHEETS

## TYPICAL GENERAL NOTES FOR ALL STREET PLAN AND PROFILE SHEETS:

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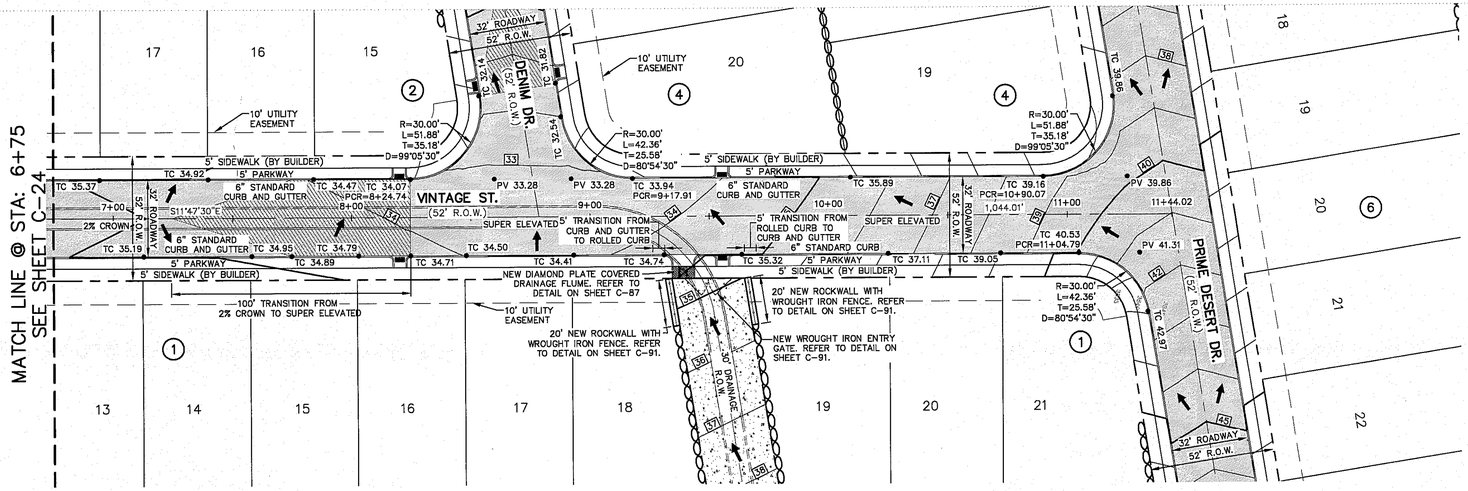


### LEGEND:

- 3985 — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- FLOW LINE OF SWALE
- NEW STANDARD/ RETAINING ROCKWALL
- H.P. — HIGH POINT
- L.P. — LOW POINT
- NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C-90.
- NEW PAVEMENT TRANSITION
- BLOCK NUMBER
- XX — LOT NUMBER
- DRAINAGE FLOW DIRECTION
- TC XX.XX — TOP OF CURB ELEVATION
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- NEW WHEEL CHAIR RAMP. REFER TO DETAIL ON SHEET C-92
- NEW DIAMOND PLATE COVERED DRAINAGE FLUME. REFER TO DETAIL ON SHEET C-87.

## PLAN
SCALE: 1" = 30'

NORTH

## WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES:

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

| | | | |
|---|---|---|---|
| TEXAS GAS SERVICE<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344-8377 | EL PASO ELECTRIC CO.<br>501 WEST SAN ANTONIO ST.<br>EL PASO, TEXAS 79901<br>(800) 245-4545 | EL PASO WATER UTILITIES<br>PUBLIC SERVICE BOARD<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(800) 344-8377 | CITY OF EL PASO<br>STREET DEPARTMENT<br>7969 SAN PAULO DR.<br>EL PASO, TEXAS 79907<br>(915) 621-6480 |
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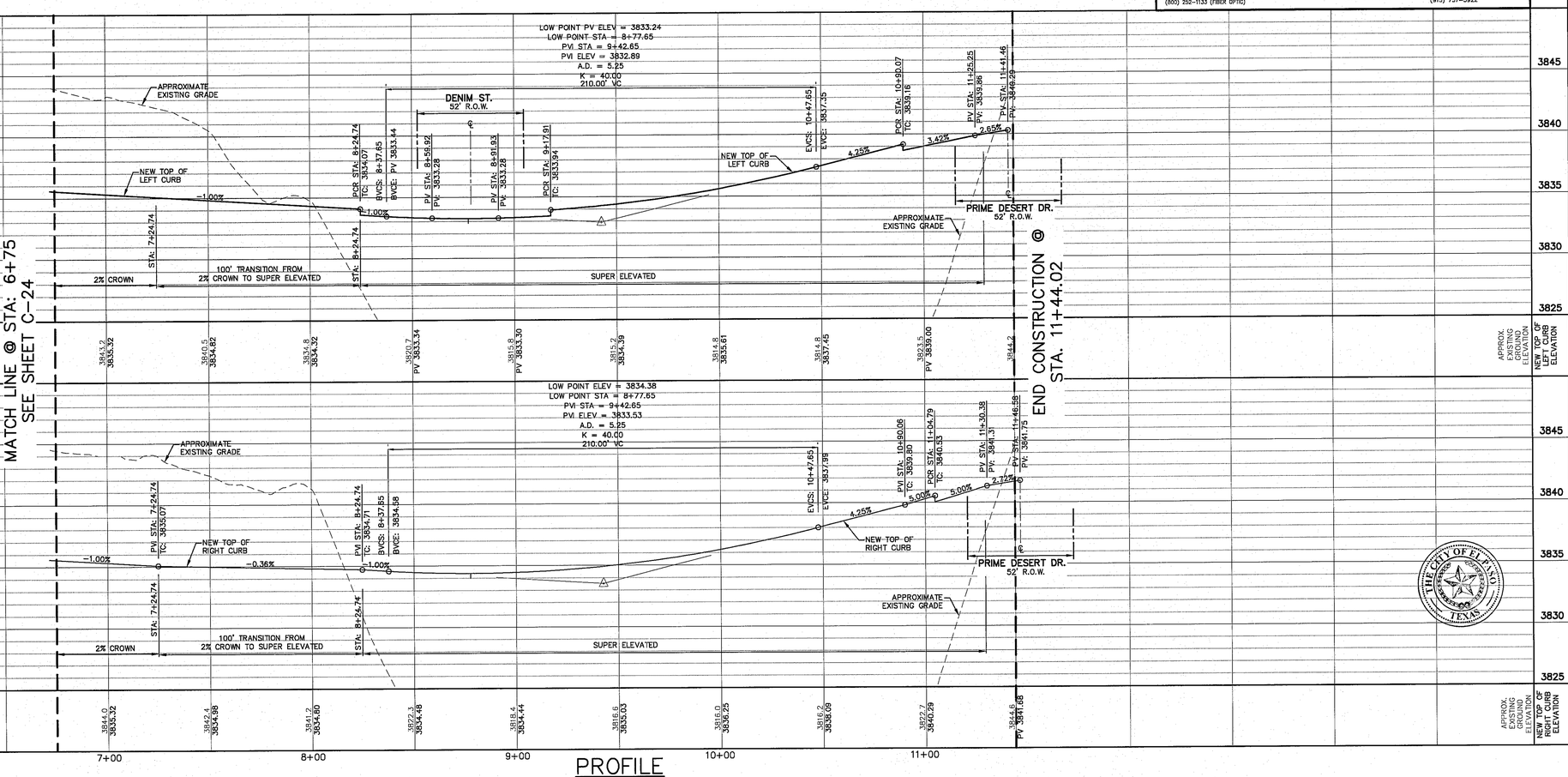


## PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

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Aug 03,2015 2:49pm brol
Q:\Active Drawings\1208 WDM Subdivision\Civil\5th Final CDEP Comments\C-24-25 Vintage St P&P (1-2 of 2).dwg

REFERENCES – BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3878.64 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

414 Executive Center Blvd
Ste 200 El Paso TX 79902
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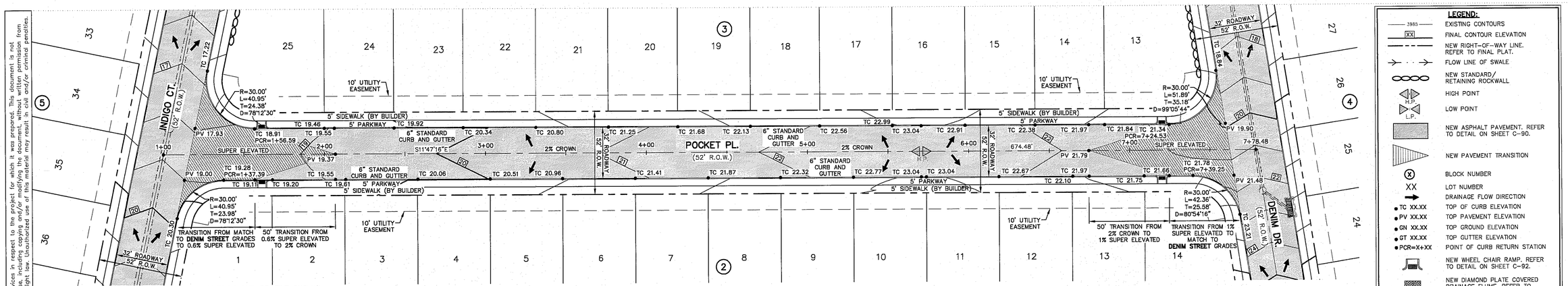
SCALE:
HORIZONTAL: 1"=30'
VERTICAL: 1"=5'
CONTOUR INTERVAL:
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE
# SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
VINTAGE STREET PLAN & PROFILE (2 OF 2)
STA: 6+75 TO 11+44.02

SHEET NO.
**C-25**
25 OF 123 SHEETS

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## PLAN
SCALE: 1" = 30'

NORTH

## LEGEND:

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- XX — FINAL CONTOUR ELEVATION
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## WARNING! BEFORE YOU DIG

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| | | | |
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## PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

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Aug 03,2015 2:50pm broj
G:\Active Drawing\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-26 Pocket Pl P&P.dwg

REFERENCES – BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECT OF GERMANY & INCA AVENUE REFERENCE IN SPACE (TXSPCN)
ELEVATION = 3876.64 (CITY DATUM)

| BY | REVISION | DATE |
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SCALE: HORIZONTAL: 1"=30' VERTICAL: 1"=5' CONTOUR INTERVAL: —
DATE: AUGUST 2015
DESIGN BY: M.A.G. DRAWN BY: CADD CHKD BY: R.A.G. APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

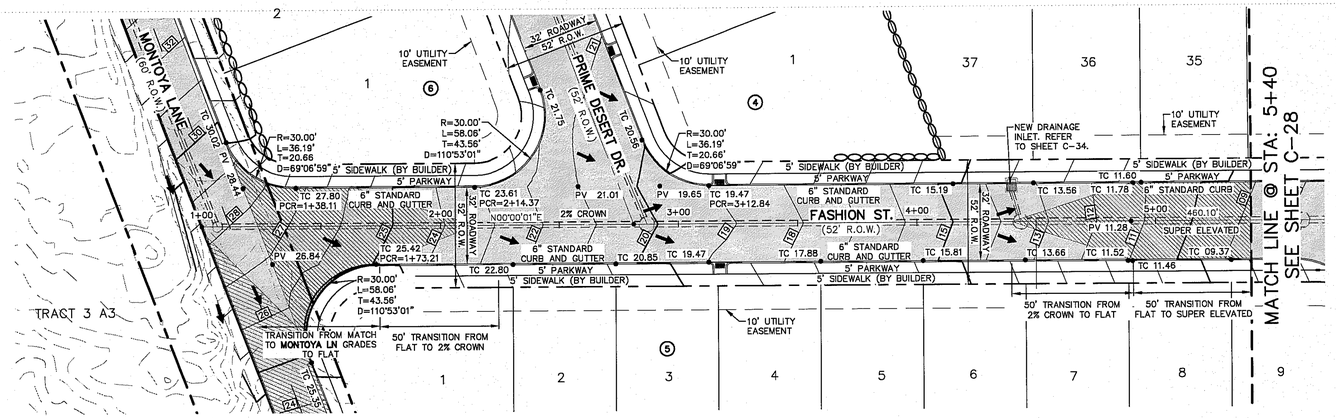
SHEET TITLE

POCKET PLACE PLAN & PROFILE
STA: 1+00 TO 7+78.48

SHEET NO.

**C-26**

26 OF 123 SHEETS




PLAN
SCALE: 1" = 30'

NORTH

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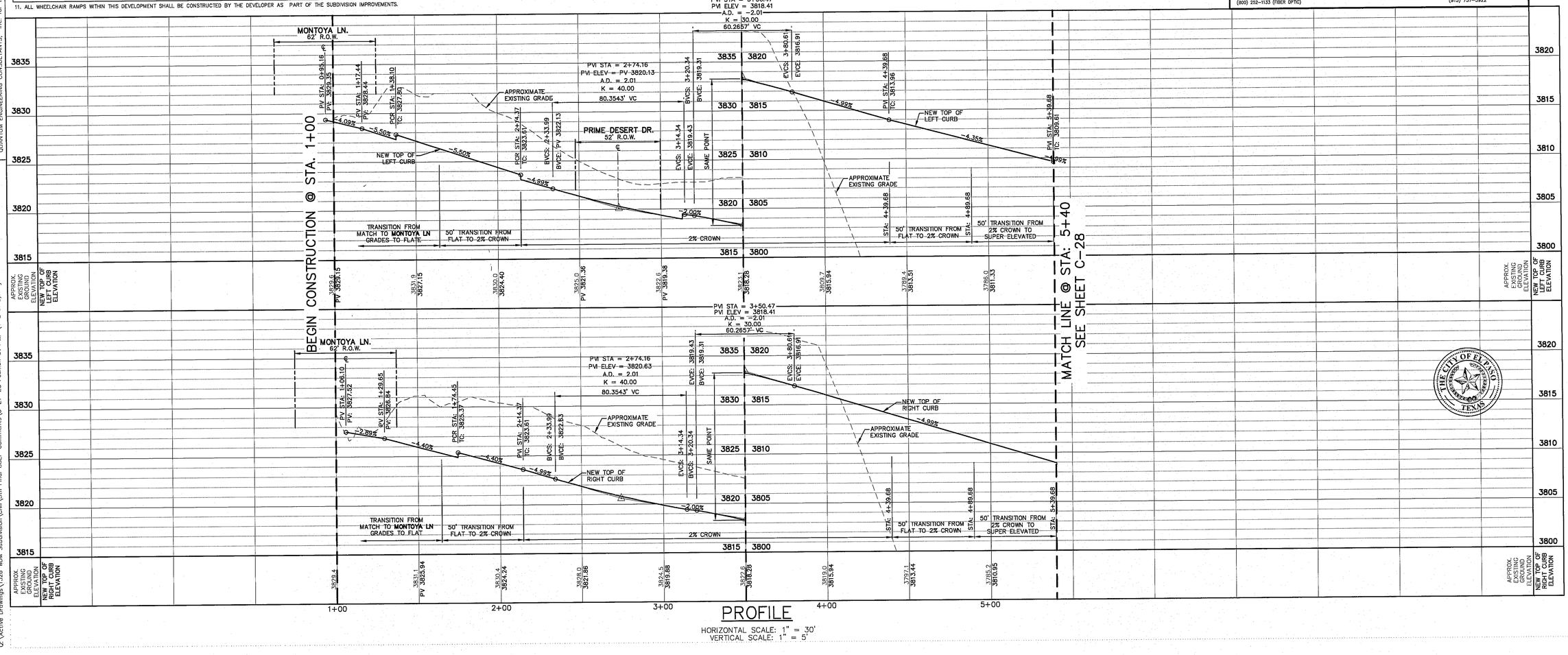


PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

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REFERENCES – BENCHMARK
BENCHMARK:– CITY MONUMENT AT THE INTERSECT OF GUNNALT & MICA AVENUE
NORTHING = 13,865,815.5 (NAD 83 DATUM)
ELEVATION = 3815.84 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
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Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
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|---|---|
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| VERTICAL: | 1"= 5' |
| CONTOUR INTERVAL: | |
| DATE: | AUGUST 2015 |
| DESIGN BY: | MAG. |
| DRAWN BY: | CADD |
| CHKD BY: | RAG. |
| APPVD BY: | RAG. |
| JOB NO. | 1326 |

PROJECT TITLE
# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
FASHION STREET PLAN & PROFILE (1 OF 2)
STA: 1+00 TO 5+40

SHEET NO.
**C-27**
27 OF 123 SHEETS

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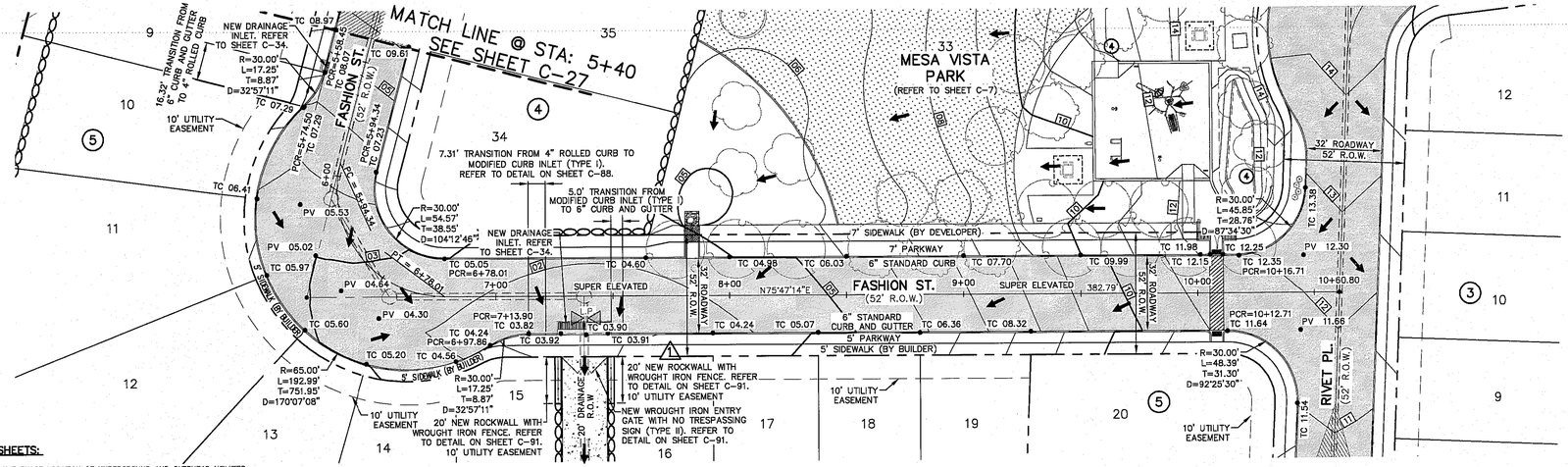
Aug 03,2015 2:51pm brojl
Q:\Active Drawings\1326 WDM Subdivision\Civil\3th Final CDEP Comments\C-27-28 Fashion St P&P (1-2 of 2).dwg

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SCALE: 1" = 30'

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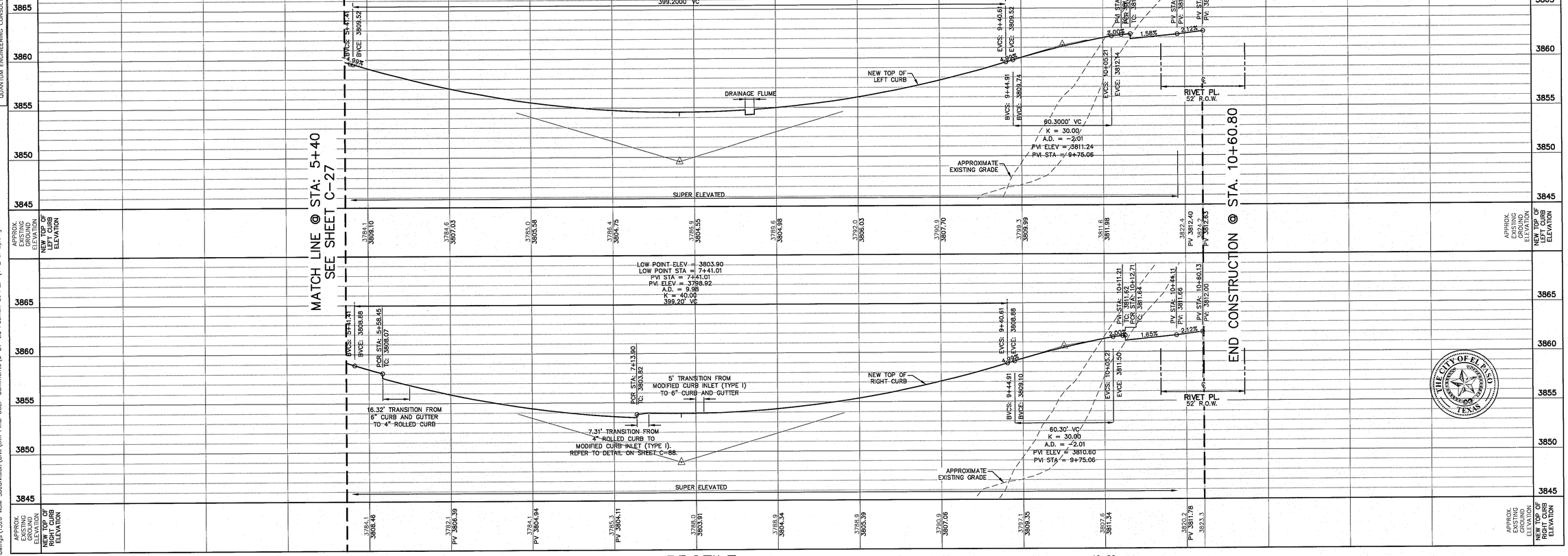


## PROFILE
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VERTICAL SCALE: 1" = 5'

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|---|---|---|---|
| **TEXAS GAS SERVICE**<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344-8377 | **EL PASO ELECTRIC CO.**<br>501 WEST SAN ANTONIO ST.<br>EL PASO, TEXAS 79901<br>(800) 245-4545 | **EL PASO WATER UTILITIES PUBLIC SERVICE BOARD**<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(800) 344-8377 | **CITY OF EL PASO STREET DEPARTMENT**<br>7959 SAN PAULO DR.<br>EL PASO, TEXAS 79907<br>(915) 621-6480 |
| **AT&T INCORPORATED**<br>11200 PELLICANO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1133 (FIBER OPTIC) | **TIME WARNER CABLE**<br>#20 CONCORD STREET<br>EL PASO, TEXAS 79906<br>(800) 344-8377 | **TEXAS EXCAVATION SAFETY SYSTEM**<br>ANYWHERE IN TEXAS<br>(800) 344-8377 | **TEXAS DEPARTMENT OF TRANSPORTATION EL PASO DISTRICT (WEST AREA)**<br>4201 HONDO PASS DR.<br>EL PASO, TEXAS 79904<br>(915) 757-5922 |

### LEGEND:

- 3985 — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- FLOW LINE OF SWALE
- NEW STANDARD/ RETAINING ROCKWALL
- H.P. — HIGH POINT
- L.P. — LOW POINT
- NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C-90.
- NEW PAVEMENT TRANSITION
- (X) — BLOCK NUMBER
- XX — LOT NUMBER
- DRAINAGE FLOW DIRECTION
- TC XX.XX — TOP OF CURB ELEVATION
- PV XX.XX — TOP PAVEMENT ELEVATION
- GN XX.XX — TOP GROUND ELEVATION
- GT XX.XX — TOP GUTTER ELEVATION
- PCR=X+XX — POINT OF CURB RETURN STATION
- NEW WHEEL CHAIR RAMP. REFER TO DETAIL ON SHEET C-92.
- NEW DIAMOND PLATE COVERED DRAINAGE FLUME. REFER TO DETAIL ON SHEET C-87.

REFERENCES – BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF GUNAULT & INCA AVENUE REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |


QUANTUM ENGINEERING CONSULTANTS INCORPORATED
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
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CONTOUR INTERVAL:-
DATE:- AUGUST 2015
DESIGN BY:- M.A.G.
DRAWN BY:- CADD
CHKD BY:- R.A.G.
APPVD BY:- R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

FASHION STREET PLAN & PROFILE (2 OF 2)
STA: 5+40.00 TO 10+60.80

SHEET NO.

**C-28R**

28 OF 123 SHEETS


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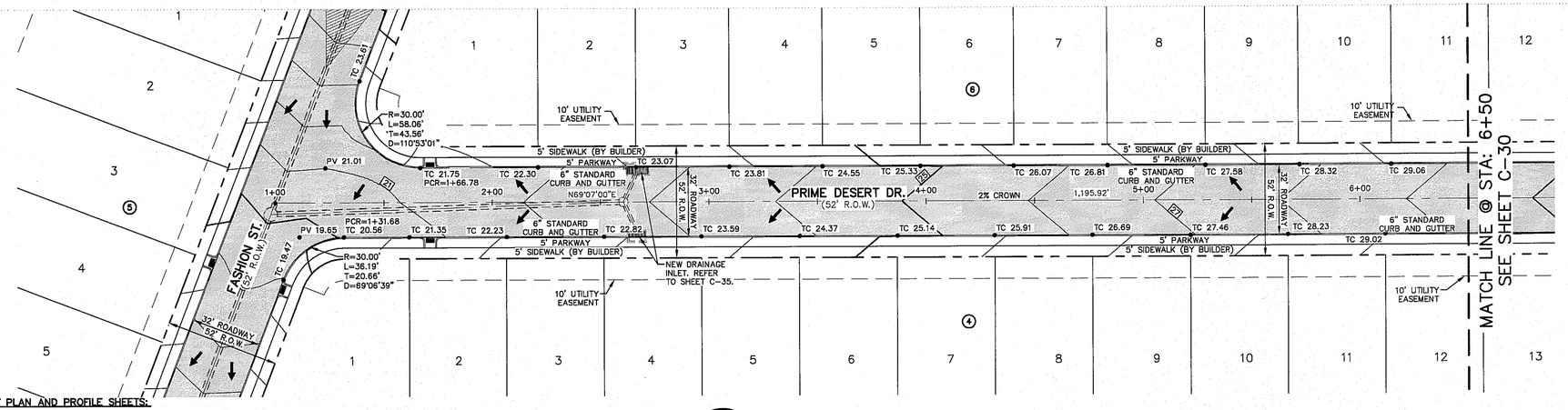
Aug 03,2015 2:52pm brol
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-27-28 Fashion St P&P (1-2 of 2).dwg




PLAN
SCALE: 1" = 30'

NORTH

**LEGEND:**

- 3985 — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
- FLOW LINE OF SWALE
- NEW STANDARD/ RETAINING ROCKWALL
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- (X) BLOCK NUMBER
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- DRAINAGE FLOW DIRECTION
- TC XX.XX TOP OF CURB ELEVATION
- PV XX.XX TOP PAVEMENT ELEVATION
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- GT XX.XX TOP GUTTER ELEVATION
- PCR=X+XX POINT OF CURB RETURN STATION
- NEW WHEEL CHAIR RAMP. REFER TO DETAIL ON SHEET C-92
- NEW DIAMOND PLATE COVERED DRAINAGE FLUME. REFER TO DETAIL ON SHEET C-87.

**TYPICAL GENERAL NOTES FOR ALL STREET PLAN AND PROFILE SHEETS:**

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES FOR THE EXACT LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES INCLUDING UTILITIES NOT SHOWN ON PLANS. THE CONTRACTOR SHALL PROTECT ALL THE EXISTING UNDERGROUND AND OVERHEAD STRUCTURES AND UTILITIES DURING CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS ON SITE AND SHALL CONTACT THE DESIGN ENGINEER AND REPORT ANY DISCREPANCIES, OMISSIONS AND/OR ERRORS ON PLANS PRIOR TO COMMENCING WORK.
3. INSTALL A TRENCH SAFETY SYSTEM FOR ALL TRENCHES EXCEEDING A DEPTH OF FIVE FEET (5') AS PER OSHA STANDARDS.
4. ALL WORK ON THIS PROJECT SHALL BE PERFORMED AND STRICT CONFORMANCE WITH ALL CURRENT SAFETY CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO ALL OSHA REQUIREMENTS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING AND/OR NEWLY CONSTRUCTED IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. ANY DAMAGES RESULTING FROM CONTRACTOR'S WORKAND/OR VANDALISM SHALL BE REPAIRED TO ITS ORIGINAL CONDITION BY CONTRACTOR, AT NO ADDITIONAL COST TO THE CITY OF EL PASO.
6. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS DURING CONSTRUCTION ACTIVITY.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL ENVIRONMENTAL FINES RESULTING FROM HIS/HER WORK AND SHALL HOLD THE CITY OF EL PASO AND THE OWNER HARMLESS ON SUCH CASES.
8. IN THE EVENT THAT EXISTING MAINS ARE IN CONFLICT WITH CONSTRUCTION– CONTRACTOR MUST COORDINATE WITH TEXAS GAS SERVICE COMPANY AND ALLOW 2 WEEKS WITHIN THE CITY OF EL PASO CONSTRUCTION SCHEDULE FOR RELOCATION OF HIGH PRESSURE GAS MAINS AND INTERMEDIATE GAS MAINS.
9. CALL FOR LINE SPOT BEFORE BEGINNING CONSTRUCTION OR EXCAVATION. TGS RECOMMENDS THAT CONTRACTOR CALL FOR LINE SPOTS PRIOR TO EXCAVATION IN THE AREA. IT IS REQUIRED THAT CONTRACTOR CALL TGS 48 HOURS PRIOR TO EXCAVATION THE ARE NEAR THE HIGH PRESSURE GAS MAIN.
10. UNDERGROUND/OVERHEAD UTILITIES SHOWN ON THE DRAWING ARE FOR DESIGN PURPOSES ONLY. OTHER UTILITIES MAY EXISTS WHICH ARE NOT SHOWN ON THE DRAWINGS. THE LOCATION, DEPTH, AND SIZE OF THE UTILITIES SHOWN, ARE FOR INFORMATION PURPOSES ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR.
11. ALL WHEELCHAIR RAMPS WITHIN THIS DEVELOPMENT SHALL BE CONSTRUCTED BY THE DEVELOPER AS PART OF THE SUBDIVISION IMPROVEMENTS.

## WARNING! BEFORE YOU DIG

**COORDINATION WITH UTILITIES:**

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

| | | | |
|---|---|---|---|
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PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

**REFERENCES – BENCHMARK**

BENCHMARK: CITY MONUMENT AT THE INTERSECT OF CURRALET & INDA AVENUE
REFERENCE = 3876.84 (CITY DATUM)
ELEVATION =

| DATE | REVISION | BY |
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DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

PRIME DESERT DRIVE PLAN & PROFILE (1 OF 2)
STA: 1+00 TO 6+50

SHEET NO.

**C-29**

29 OF 123 SHEETS


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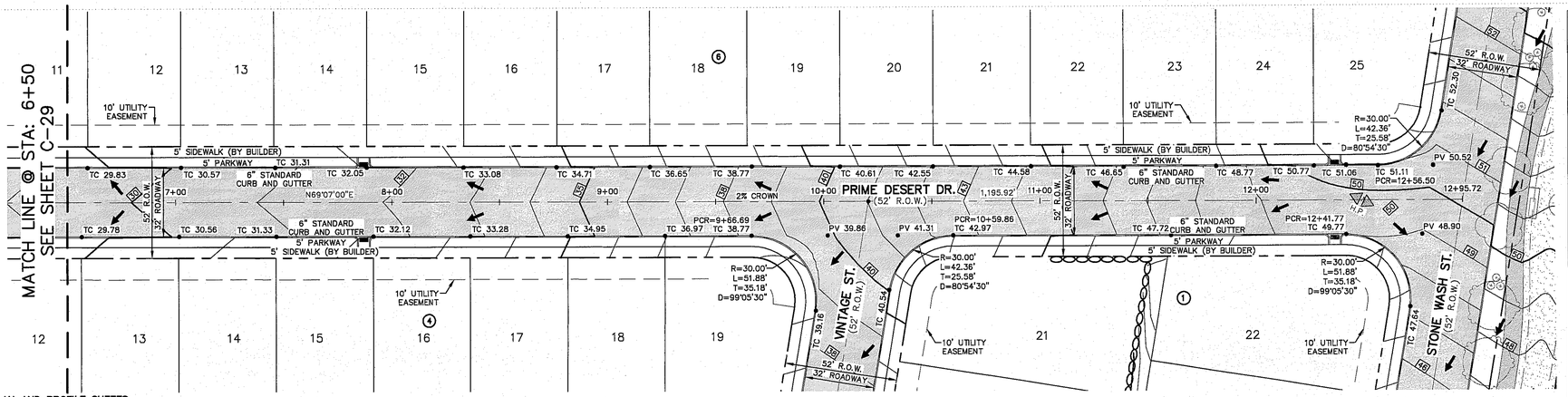


PLAN
SCALE: 1" = 30'

NORTH

**LEGEND:**

- 3985 — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- NEW RIGHT-OF-WAY LINE. REFER TO FINAL PLAT.
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- BLOCK NUMBER
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## WARNING! BEFORE YOU DIG

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| | | | |
|---|---|---|---|
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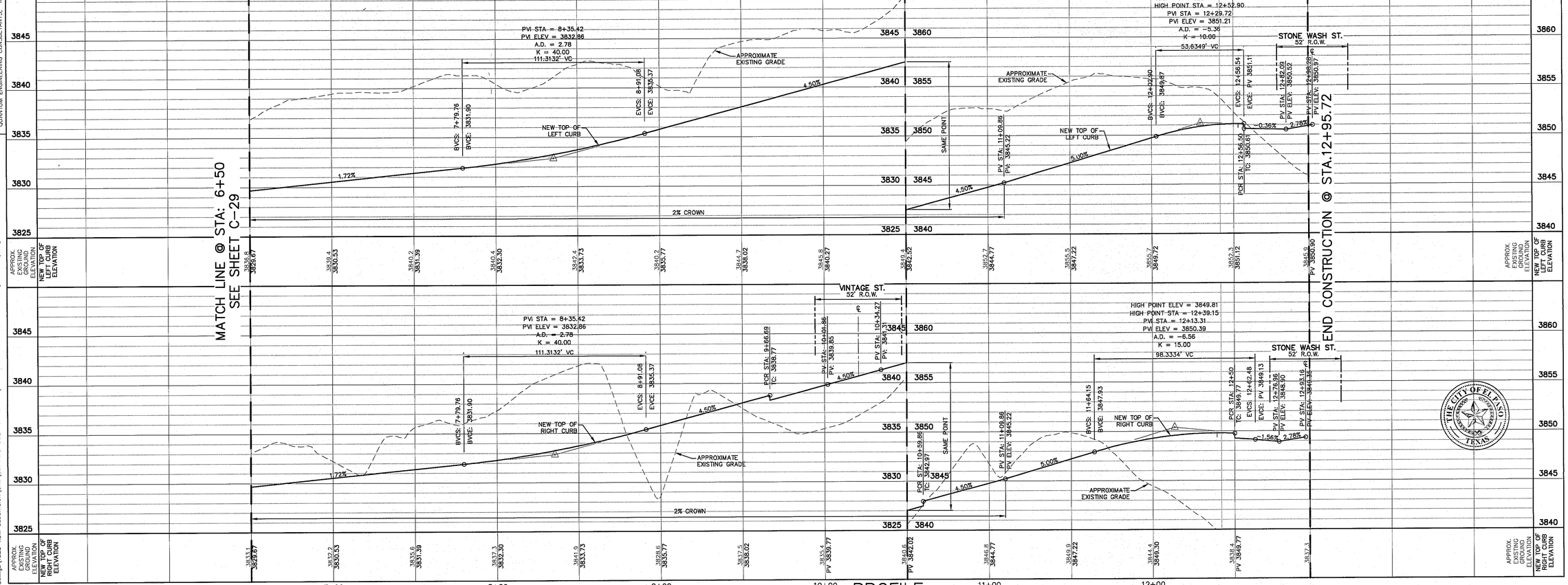
| AT&T INCORPORATED<br>11200 PELLICANO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1133 (FIBER OPTIC) | TIME WARNER CABLE<br>#20 CONCORD STREET<br>EL PASO, TEXAS 79906<br>(800) 344-8377 | TEXAS EXCAVATION SAFETY SYSTEM<br>ANYWHERE IN TEXAS<br>(800) 344-8377 | TEXAS DEPARTMENT OF TRANSPORTATION<br>EL PASO DISTRICT (WEST AREA)<br>4201 MONDO PASS DR.<br>EL PASO, TEXAS 79904<br>(915) 757-5922 |




PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

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REFERENCES – BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE IN "THREE HILLS ADDITION"
ELEVATION = 3876.84 (CITY DATUM)

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VERTICAL: 1"=5'
CONTOUR INTERVAL: ---
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

PRIME DESERT DRIVE PLAN & PROFILE (2 OF 2)
STA: 6+50 TO 12+95.72

SHEET NO.

**C-30**

30 OF 123 SHEETS

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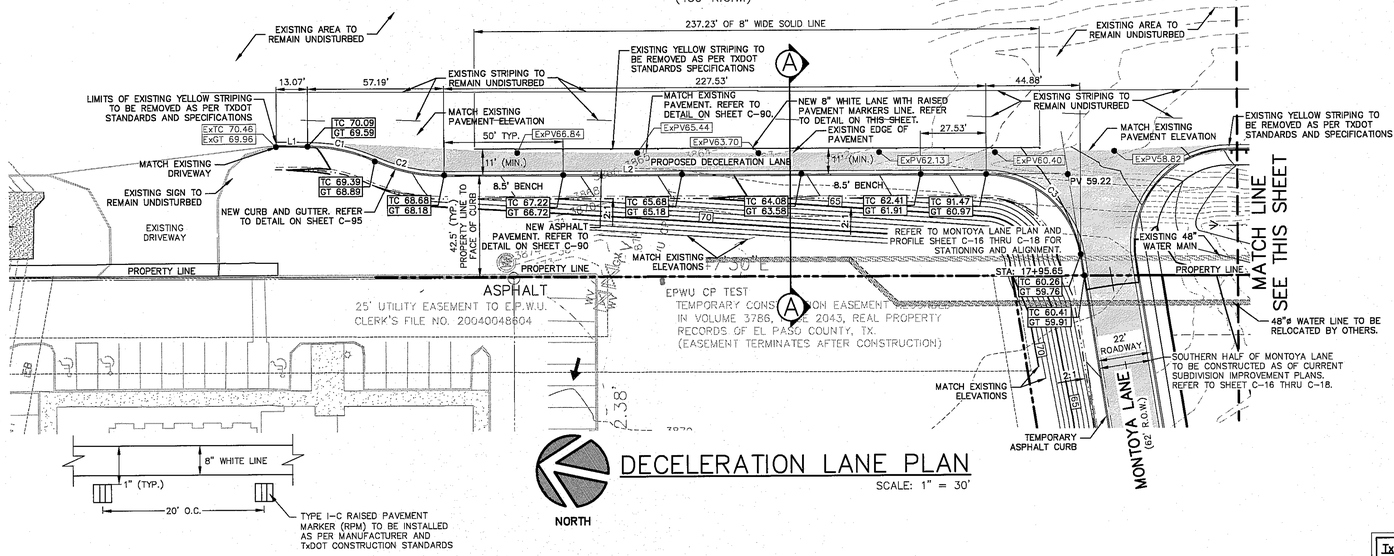



## DECELERATION LANE PLAN
SCALE: 1" = 30'

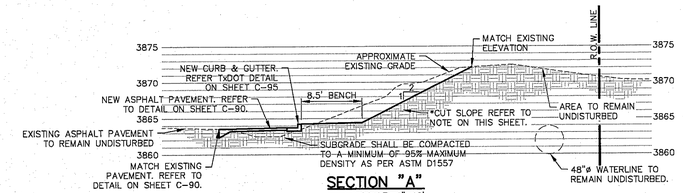
NORTH

## SOLID 8" WIDE LANE LINE
SCALE: N.T.S.

**STRIPING NOTE:**
ALL PAVEMENT MARKINGS SHALL COMPLY WITH TXDOT, TYPE 1 "HOT APPLIED THERMOPLASTIC" MARKINGS, AND CONFORM TO ITEM 666, TXDOT STANDARD SPECIFICATIONS.

| LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L1 | 13.07' | S11°27'02"E |
| L2 | 227.53' | N11°44'59"W |

| CURVE TABLE | | | | | | |
|---|---|---|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA | TANGENT | CHORD | BEARING |
| C1 | 29.31' | 70.00' | 23°59'35" | 14.87' | 29.10' | N00°32'46"E |
| C2 | 29.68' | 70.00' | 24°17'24" | 15.06' | 29.46' | S00°23'51"W |
| C3 | 56.42' | 40.00' | 80°49'08" | 34.05' | 51.86' | N28°39'43"E |




## SECTION "A"
SCALE: 1"=10'

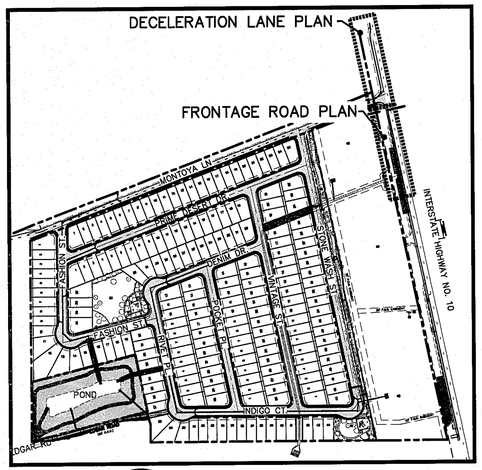
**LEGEND:**

| | |
|---|---|
| 3985 | EXISTING CONTOURS |
| | SWALE |
| XX | FINAL CONTOUR ELEVATION |
| H.P. | HIGH POINT |
| L.P. | LOW POINT |
| | DRAINAGE FLOW DIRECTION |
| | EXISTING DRAINAGE FLOW DIRECTION |
| TC XX.XX | TOP OF CURB ELEVATION |
| GT XX.XX | GUTTER ELEVATION |
| SW XX.XX | SIDEWALK ELEVATION |
| INVXX.XX | INVERT ELEVATION |
| PV XX.XX | TOP OF PAVEMENT ELEVATION |
| ExPVXX.XX | EXISTING TOP OF PAVEMENT ELEVATION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SPOT ELEVATIONS |
| ExGTXX.XX | EXISTING TOP OF GUTTER ELEVATION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SPOT ELEVATIONS |
| | NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C-90. |
| | CONCRETE RIP-RAP. REFER TO TXDOT DETAIL ON SHEET C-95. |
| | 12' THICK MORTARED ROCK RIP-RAP WALL FOOTING PROTECTION. REFER TO DETAIL ON SHEET C-33. |

**NOTE:**
ALL WORK INDICATED ON STATE PROPERTY MUST BE APPROVED AND COORDINATED WITH TxDOT.

**TxDOT NOTE:**
ALL NEW/EXISTING, UNUSED OR SALVAGED GUARDRAIL MATERIAL TO BE SALVAGED TO TxDOT. CONTRACTOR TO COORDINATE WITH TxDOT PRIOR TO START OF ANY CONSTRUCTION OF WORK WITHIN TxDOT R.O.W. CONTRACTOR TO CONTACT AND COORDINATE WITH MR. HECTOR GRANADOS (TxDOT WEST AREA MAINTENANCE SECTION SUPERVISOR).

***NOTE:**
ALL SLOPES THAT ARE CONSTRUCTED AS A RESULT OF CUT CONDITION, SHALL BE CONSTRUCTED NO STEEPER THEN A SLOPE OF 2:1 (HORIZONTAL TO VERTICAL). NO EROSION PROTECTION PLATING REQUIRED. CUT SLOPES TO REMAIN DISTURBED. REFER TO GEOTECHNICAL STUDY AMENDMENT LETTER BY AMEC EARTH AND ENVIRONMENTAL DATED DECEMBER 5, 2014.

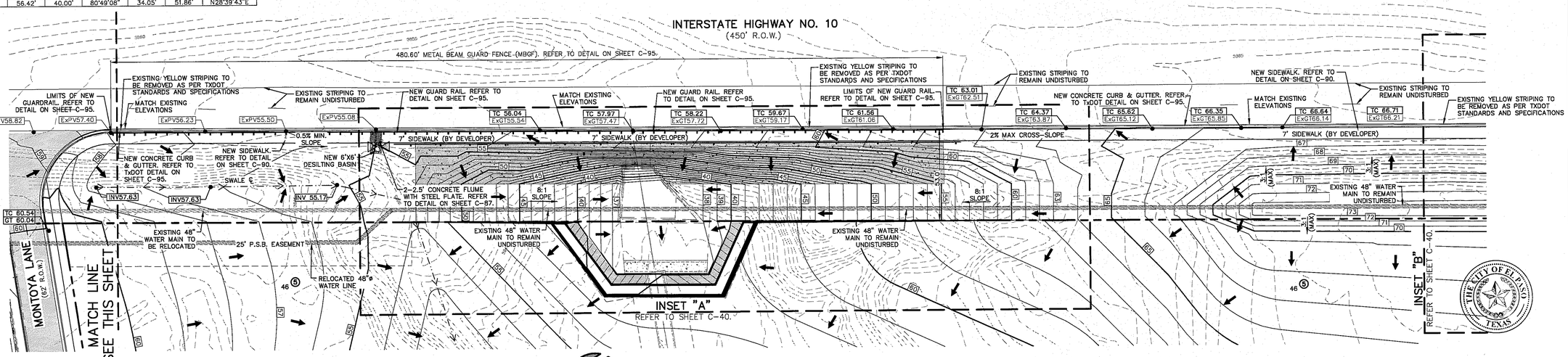



## KEY MAP
SCALE: N.T.S.

NORTH

## FRONTAGE ROAD PLAN
SCALE: 1" = 30'

NORTH

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| | | |
|---|---|---|
| **TEXAS GAS SERVICE**<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(915) 680-7329 | **EL PASO ELECTRIC CO.**<br>501 WEST SAN ANTONIO STREET<br>EL PASO, TEXAS 79901<br>(915) 543-5970 | **EL PASO WATER UTILITIES PUBLIC SERVICE BOARD**<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(915) 594-5528 |
| **AT&T INCORPORATED**<br>11200 PELLICANO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1133 (FIBER OPTIC) | **TIME WARNER COMMUNICATIONS**<br>#20 CONCORD STREET<br>EL PASO, TEXAS 79906<br>(915) 775-7414 | **TEXAS EXCAVATION SAFETY SYSTEM**<br>ANYWHERE IN TEXAS<br>(800) 344-8377 |

REFERENCES – BENCHMARK

BENCHMARK:– CITY MONUMENT AT THE INTERSECT OF GUNNALT & MCA AVENUE
STAMPED "EPWU 1 1995"
ELEVATION = 3876.84 (CITY DATUM)

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Texas Registered Engineering Firm F-005146

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SCALE:
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VERTICAL: N/A
CONTOUR INTERVAL: —
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD. BY: R.A.G.
JOB NO. 1328

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

DECELERATION LANE STRIPING & DETAILS

SHEET NO.

# C-31

31 OF 123 SHEETS

Aug 03,2015 3:01pm broj
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-31 Decel ln Striping.dwg

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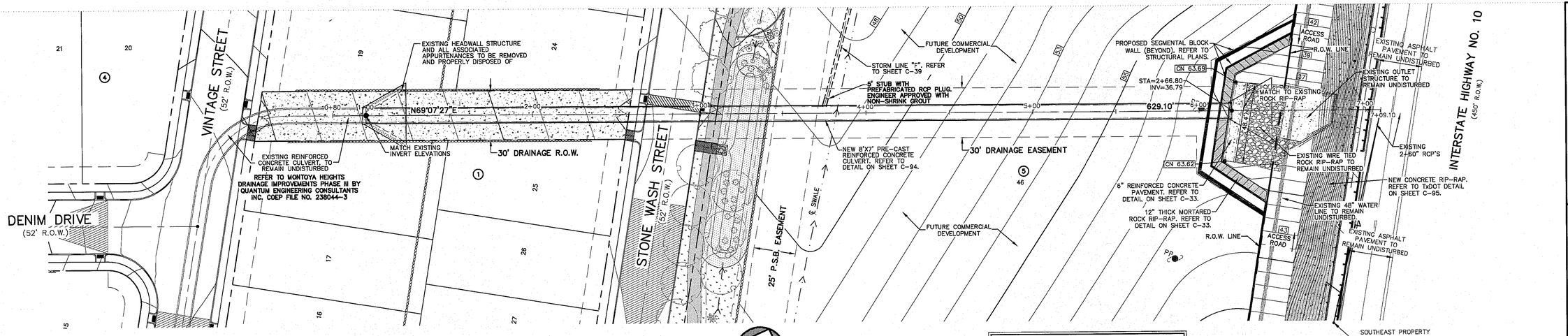


PLAN
SCALE: 1" = 30'

NORTH

## TYPICAL GENERAL NOTES FOR ALL STORM DRAIN PLAN AND PROFILE SHEETS:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES FOR THE EXACT LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES INCLUDING UTILITIES NOT SHOWN ON PLANS. THE CONTRACTOR SHALL PROTECT ALL THE EXISTING UNDERGROUND AND OVERHEAD STRUCTURES AND UTILITIES DURING CONSTRUCTION.
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3. INSTALL A TRENCH SAFETY SYSTEM FOR ALL TRENCHES EXCEEDING A DEPTH OF FIVE FEET (5') AS PER OSHA STANDARDS. CONTRACTOR TO SUBMIT A TRENCH SAFETY PLAN FOR APPROVAL PRIOR TO ANY EXCAVATION WORK.
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13. CALL FOR LINE SPOT BEFORE BEGINNING CONSTRUCTION OR EXCAVATION. TGS RECOMMENDS THAT CONTRACTOR CALL FOR LINE SPOTS PRIOR TO EXCAVATING IN THE AREA. IT IS REQUIRED THAT CONTRACTOR CALL TGS 48 HOURS PRIOR TO EXCAVATING THE AREA NEAR THE HIGH PRESSURE GAS MAIN.
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18. REFER TO DRAINAGE DETAILS ON SHEETS C-86 THRU C-89.

### LEGEND:

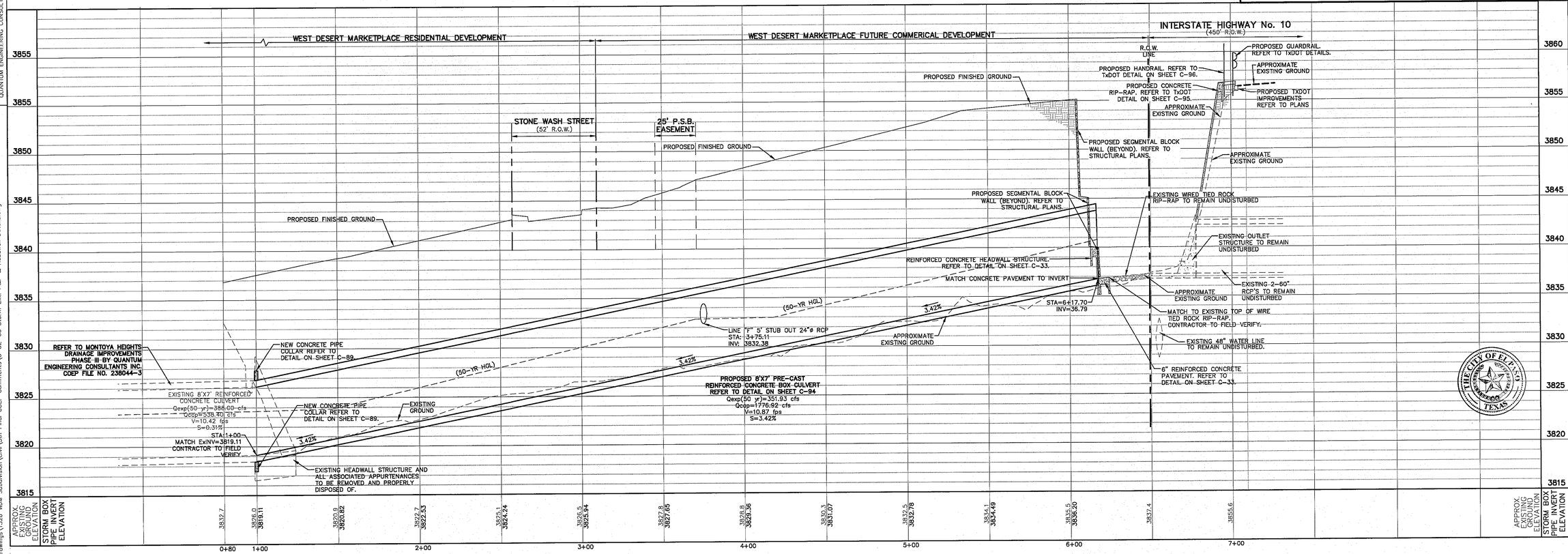
| | |
|---|---|
| 3985 | EXISTING CONTOURS |
| XX | FINAL CONTOUR ELEVATION |
| | SWALE |
| | EXISTING RIP-RAP TO REMAIN UNDISTURBED |
| | 6" THICK REINFORCED CONCRETE PAVEMENT DETAIL. REFER TO DETAIL ON SHEET C-33. |
| | CONCRETE RIP-RAP. REFER TO TxDOT DETAIL ON SHEET C-95. |
| | 12" THICK MORTARED ROCK RIP-RAP WALL FOOTING PROTECTION. REFER TO DETAIL ON SHEET C-33. |
| CN 63.69 | NEW TOP OF CONCRETE ELEVATION |

## WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES:

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

| | | | |
|---|---|---|---|
| TEXAS GAS SERVICE<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344-8377 | EL PASO ELECTRIC CO.<br>501 WEST SAN ANTONIO ST.<br>EL PASO, TEXAS 79901<br>(800) 245-4545 | EL PASO WATER UTILITIES<br>PUBLIC SERVICE BOARD<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(800) 344-8377 | CITY OF EL PASO<br>STREET DEPARTMENT<br>7969 SAN PAULO DR.<br>EL PASO, TEXAS 79907<br>(915) 621-6480 |
| AT&T INCORPORATED<br>11200 PELICANO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1133 (FIBER OPTIC) | TIME WARNER CABLE<br>#20 CONCORD STREET<br>EL PASO, TEXAS 79906<br>(800) 344-8377 | TEXAS EXCAVATION SAFETY SYSTEM<br>ANYWHERE IN TEXAS<br>(800) 344-8377 | TEXAS DEPARTMENT OF TRANSPORTATION<br>EL PASO DISTRICT (WEST AREA)<br>4201 HONDO PASS DR.<br>EL PASO, TEXAS 79904<br>(915) 757-5922 |




PROFILE
SCALE: 1" = 5'

THE CITY OF EL PASO
TEXAS

REFERENCES – BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF GUNNAUT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
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SCALE:
HORIZONTAL: 1"=30'
VERTICAL: 1"=5'
CONTOUR INTERVAL: -

| | |
|---|---|
| DATE: | AUGUST 2015 |
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CADD |
| CHK'D BY: | R.A.G. |
| APP'VD BY: | R.A.G. |
| JOB NO. | 1328 |

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

EXISTING STORM DRAIN EXTENSION PLAN AND PROFILE
STA: 0+80 TO 7+09.10

SHEET NO.

C-32

32 OF 123 SHEETS

Aug 03,2015 3:04pm kraj
Q:\Active Drawings\1328 WDM Subdivision\Civil\5th Final COEP Comments\C-32-33 Storm Ext. P&P & Headwall Details.dwg

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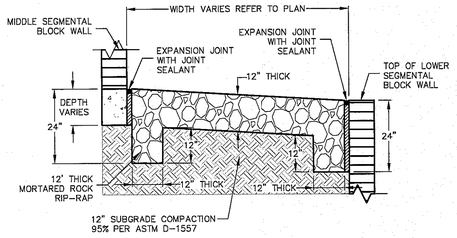
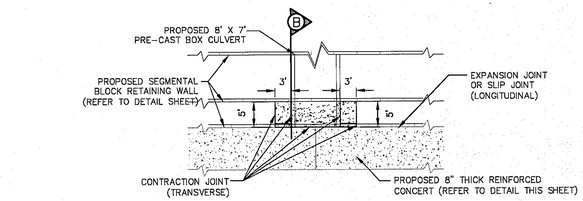
Aug 03,2015 3:04pm, tmoj
G:\Active Drawings\1326 NDM Subdivision\Civil\5th Final COEP Comments\C-32-33 Storm Ext. P&P & Headwall Details.dwg

**NOTES**

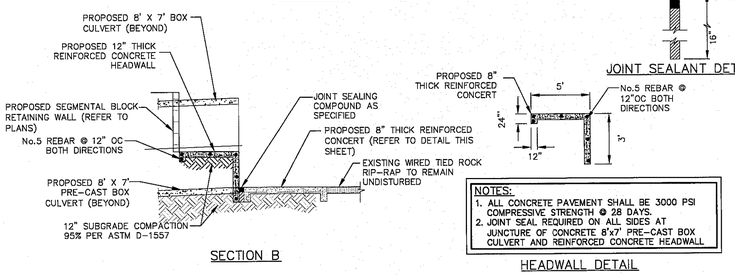
1. ROCK RIP-RAP SHALL BE A MINIMUM OF 12" MORTARED ROCK
2. STONE FOR ROCK RIP-RAP SHALL BE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. STONE SHALL BE QUARRIED; FRACTURED RIVER ROCK SHALL NOT BE PERMITTED.
3. MORTAR FOR ROCK WALL SHALL BE TYPE S. 1800 P.S.I. AS PER ASTM C270.
4. FOR SLOPES GREATER THAN 1:1 OR VERTICAL HEIGHT OF MORE THAN SIX (6) FEET THE RIP-RAP SHALL BE DESIGNED BY A PROFESSIONAL STRUCTURAL ENGINEER.



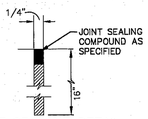

## 12' MORTARED ROCK RIP-RAP WALL FOOTING PROTECTION




PLAN VIEW




SECTION B




JOINT SEALANT DETAIL



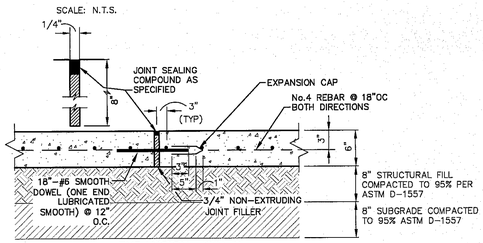

NOTES:
1. ALL CONCRETE PAVEMENT SHALL BE 3000 PSI COMPRESSIVE STRENGTH @ 28 DAYS.
2. JOINT SEAL REQUIRED ON ALL SIDES AT JUNCTURE OF CONCRETE 8'x7' PRE-CAST BOX CULVERT AND REINFORCED CONCRETE HEADWALL

HEADWALL DETAIL

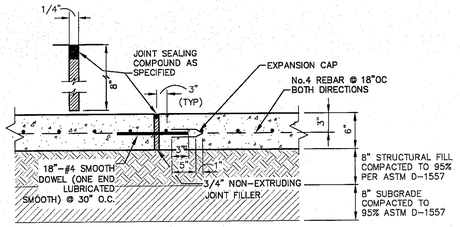
## REINFORCED CONCRETE HEADWALL FOR BOX CULVERT

SCALE: N.T.S.

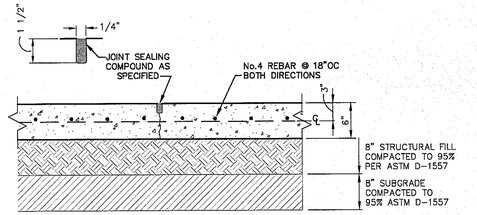
SCALE: N.T.S.



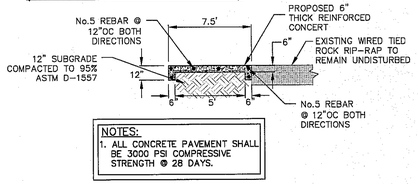

EXPANSION JOINTS
(TRANSVERSE OR LONGITUDINAL)
CONSTRUCTION JOINTS
(TRANSVERSE)




CONSTRUCTION JOINTS
(LONGITUDINAL)




CONTRACTION JOINTS
(TRANSVERSE OR LONGITUDINAL)

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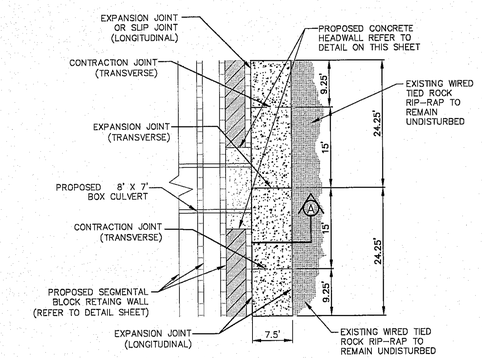
SECTION A




PLAN VIEW
CONTRACTOR TO FIELD VERIFY
JOINT LAYOUT

NOTES:
1. CONSTRUCTION JOINTS TO BE USED WHERE CONCRETE OPERATIONS ARE CONCLUDED FOR THE DAY. CONSTRUCTION JOINT SHALL NOT BE LOCATED LESS THAN FIVE FEET FROM ANY OTHER JOINT. IF AT ANY TIME CONCRETING IS INTERRUPTED LONG ENOUGH FOR THE PLACED CONCRETE TO HARDEN, A CONSTRUCTION JOINT SHOULD BE USED.
2. NO EXPANSION JOINT SHALL EXCEED SIXTY FEET IN LENGTH AND NO EXPANSION JOINT OR CONSTRUCTION JOINT SHALL BE LOCATED IN A SWALE OR DRAINAGE COLLECTION LOCATIONS.
3. ISOLATION JOINTS SHOULD BE PROVIDED WHERE PAVEMENT ABUTS FIXED OBJECTS SUCH AS DROP INLETS AND CURB.
4. REINFORCED CONCRETE SHOULD CURE A MINIMUM OF 3 DAYS BEFORE ALLOWING AUTOMOBILE AND TRUCK TRAFFIC LOAD THE PAVEMENT.
5. CONCRETE PAVEMENT SHALL CONSIST OF A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
6. A WORKING STRESS OF 40,000 PSI (CORRESPONDING TO GRADE 40) FOR REINFORCING STEEL.

JOINT SEALING COMPOUND: WHERE JOINTS IN CONCRETE CONSTRUCTION ARE SHOWN TO BE SEALED, THE JOINT SEALING COMPOUND SHALL BE COLD-APPLIED TWO-COMPONENT POLY-SULFIDE SEALANT SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR USE IN SUBMERGED JOINTS. THE HANDLING PRIOR TO SEALING SHALL BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. JOINT SEALING COMPOUND SHALL BE SIKAFLEX -2C NS EZ MIX OR ENGINEER APPROVED EQUAL. A TWO COMPOUND EPOXY PRIMER SUITABLE FOR THE USE IN SUBMERGED JOINTS AND COMPATIBLE WITH THE SEALER SHALL BE USED IN ALL JOINTS, COMPOUND TO BE SONNEBORN OR APPROVED EQUAL.

## 6" THICK REINFORCED CONCRETE PAVEMENT DETAIL

SCALE: N.T.S.

**REFERENCES – BENCHMARK**

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF GUINAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3676.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM ENGINEERING CONSULTANTS, Inc.
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

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THE REPRESENTED ENGINEER **THE TEXAS ENGINEERING PRACTICE ACT**

STATE OF TEXAS · ROBERT A. GONZALES · 69320 · LICENSED PROFESSIONAL ENGINEER

| SCALE: | |
|---|---|
| HORIZONTAL: | 1"=30' |
| VERTICAL: | 1"=5' |
| CONTOUR INTERVAL: | |
| DATE: | AUGUST 2015 |
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CADD |
| CHKD BY: | R.A.G. |
| APPVD BY: | R.A.G. |
| JOB NO. | 1326 |

PROJECT TITLE

**WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS**

EL PASO, TEXAS

THE CITY OF EL PASO · TEXAS

SHEET TITLE

HEADWALL AND RIP-RAP DETAIL

SHEET NO.

**C-33**

33 OF 123 SHEETS

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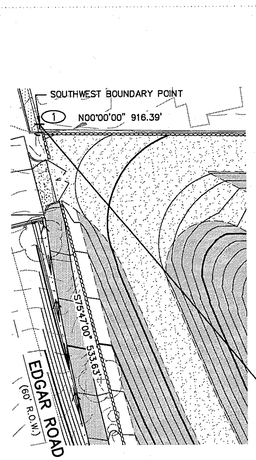


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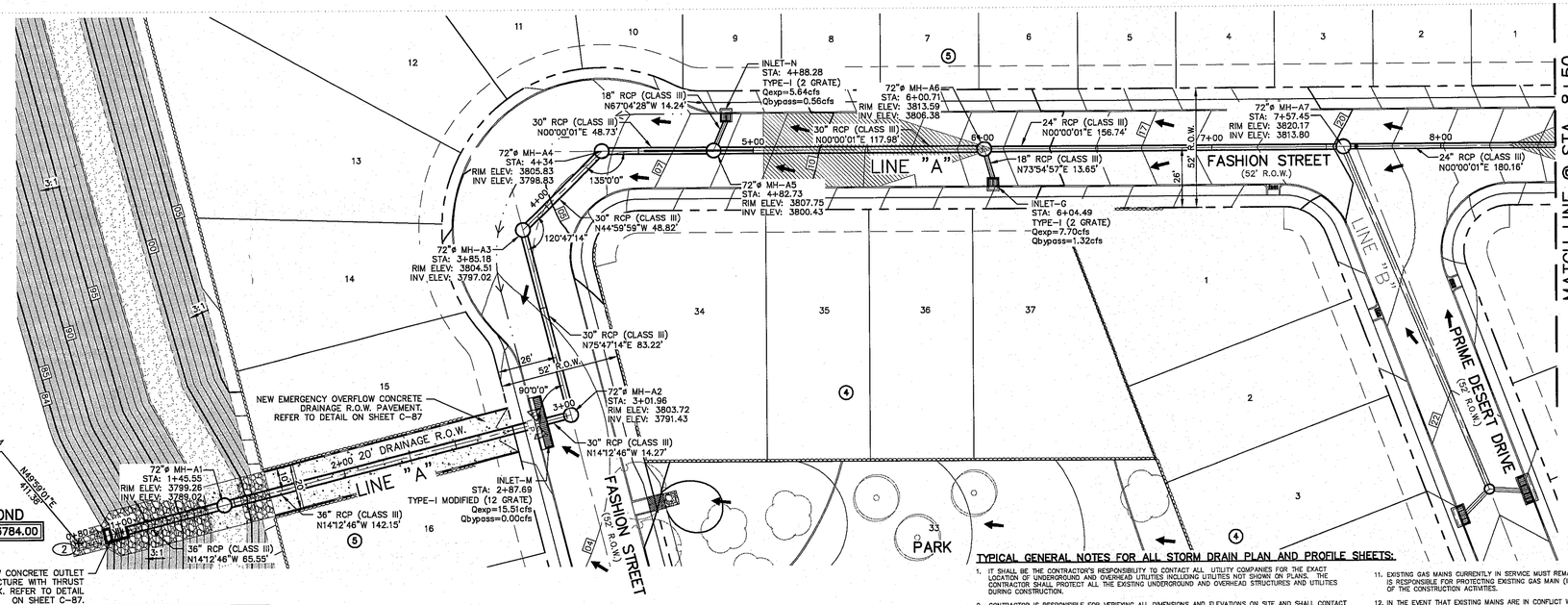

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| | | | |
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| TEXAS GAS SERVICE<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344-8377 | EL PASO ELECTRIC CO.<br>501 WEST SAN ANTONIO ST.<br>EL PASO, TEXAS 79901<br>(800) 245-4545 | EL PASO WATER UTILITIES<br>PUBLIC SERVICE BOARD<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(800) 344-8377 | CITY OF EL PASO<br>STREET DEPARTMENT<br>7959 SAN PAULO DR.<br>EL PASO, TEXAS 79907<br>(915) 521-6480 |
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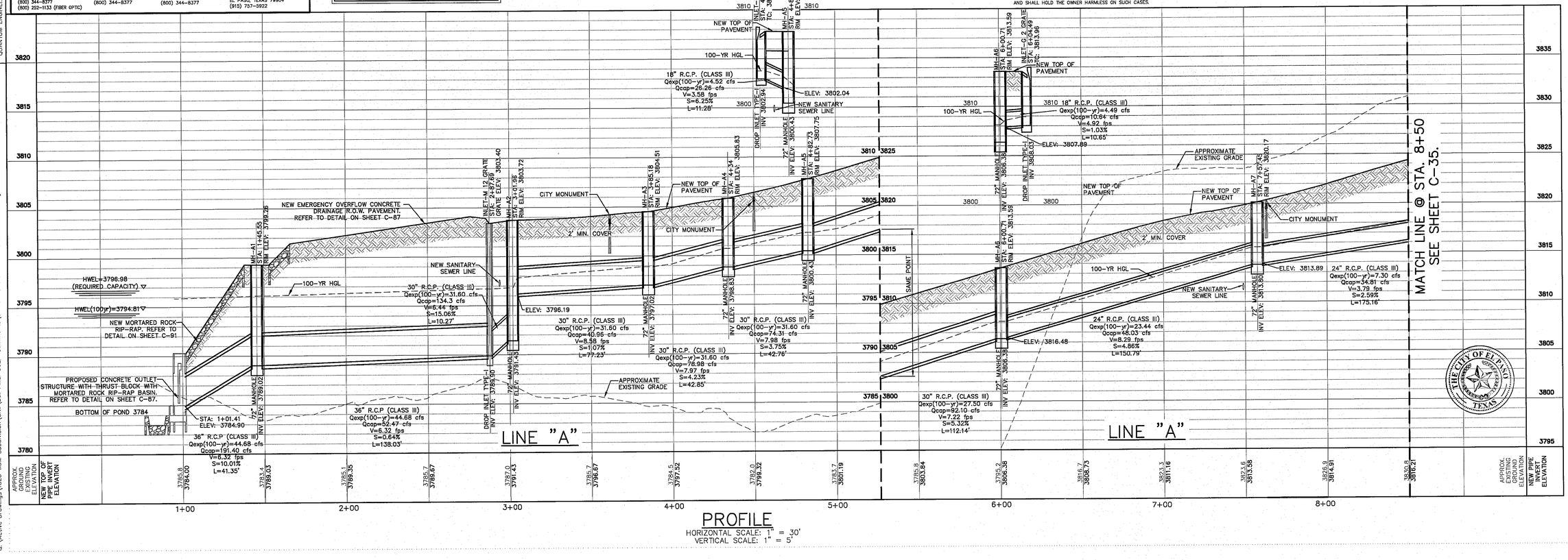
## LEGEND:

- H.P. — HIGH POINT
- L.P. — LOW POINT
- DRAINAGE FLOW DIRECTION
- NEW PAVEMENT TRANSITION
- XX — LOT NUMBER
- (X) — BLOCK NUMBER
- +(X) — COORDINATE POINT




## PROFILE

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

| REFERENCES – BENCHMARK | | | |
|---|---|---|---|
| BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE<br>REFERENCE NAVD 1988<br>ELEVATION = 3815.84 (CITY DATUM) | | | |
| DATE | REVISION | BY | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

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| SCALE: | |
|---|---|
| HORIZONTAL: | 1" = 30' |
| VERTICAL: | 1" = 5' |
| CONTOUR INTERVAL: | |
| DATE: | AUGUST 2015 |
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CADD |
| CHKD BY: | R.A.G. |
| APPVD. BY: | R.A.G. |
| JOB NO. | 1326 |

PROJECT TITLE

# WEST DESERT MARKETPLACE
# SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

STORMWATER PLAN & PROFILE
LINE "A"
STA: 0+80 TO 8+50

SHEET NO.

C-34

34 OF 123 SHEETS

Aug 03,2015 3:05pm brad
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-34-35 Storm P&P Line A and B.dwg

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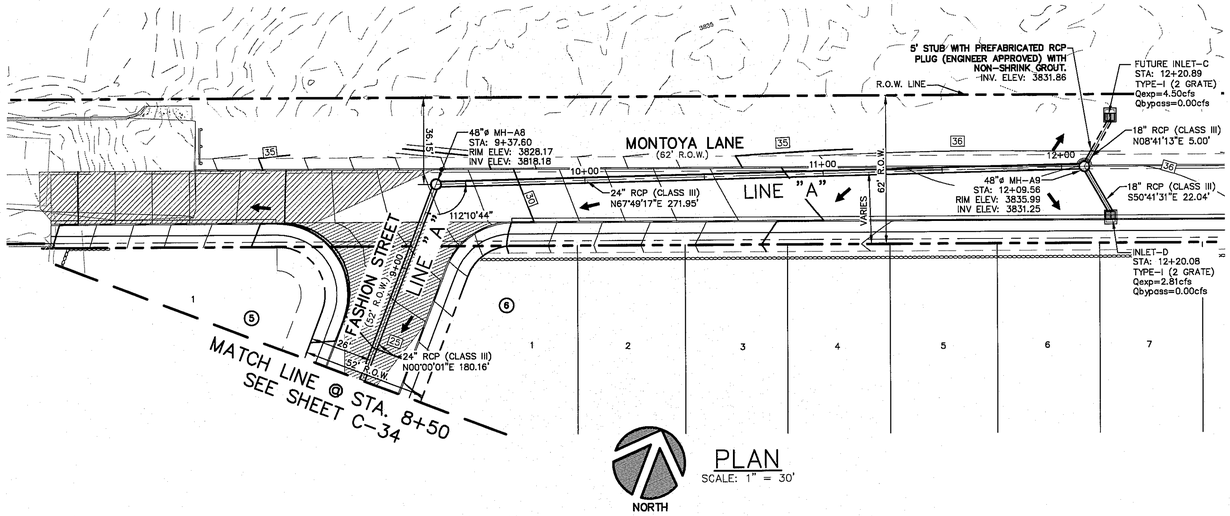
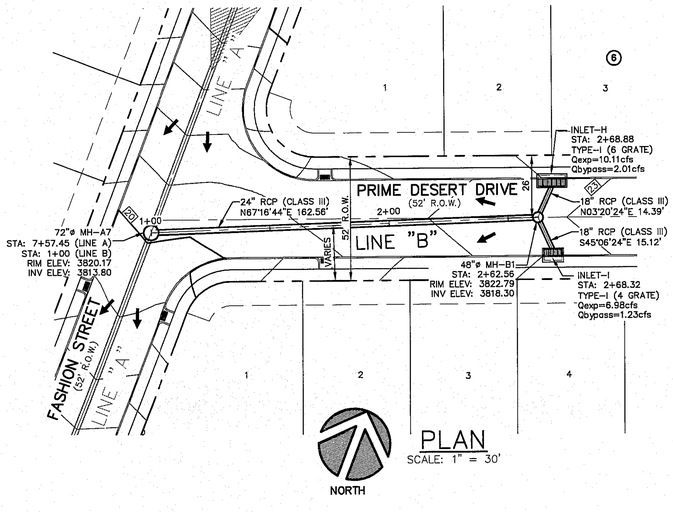



PLAN
SCALE: 1" = 30'
NORTH




PLAN
SCALE: 1" = 30'
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## TYPICAL GENERAL NOTES FOR ALL STORM DRAIN PLAN AND PROFILE SHEETS:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES FOR THE EXACT LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES INCLUDING UTILITIES NOT SHOWN ON PLANS. THE CONTRACTOR SHALL PROTECT ALL THE EXISTING UNDERGROUND AND OVERHEAD STRUCTURES AND UTILITIES DURING CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS ON SITE AND SHALL CONTACT THE DESIGN ENGINEER AND REPORT ANY DISCREPANCIES, OMISSIONS AND/OR ERRORS ON PLANS PRIOR TO COMMENCING WORK.
3. INSTALL A TRENCH SAFETY SYSTEM FOR ALL TRENCHES EXCEEDING A DEPTH OF FIVE FEET (5') AS PER OSHA STANDARDS. CONTRACTOR TO SUBMIT A TRENCH SAFETY PLAN FOR APPROVAL PRIOR TO ANY EXCAVATION WORK.
4. THE CONTRACTOR WILL COORDINATE ALL UTILITY REMOVAL AND RELOCATIONS WITH THE APPROPRIATE UTILITY COMPANIES INCLUDING, BUT NOT LIMITED TO, THE EL PASO WATER UTILITIES, EL PASO ELECTRIC COMPANY, TEXAS GAS SERVICE, AT&T COMMUNICATIONS, ETC.
5. ALL STORM DRAIN STATIONING IS TAKING FROM CENTER TO CENTER OF EACH STRUCTURE.
6. RAM-NEK JOINT SEALANT SHALL BE USED ON ALL REINFORCED CONCRETE PIPE/BOX JOINTS AS SPECIFIED BY MANUFACTURER.
7. ALL WORK ON THIS PROJECT SHALL BE PERFORM AND STRICT CONFORMANCE WITH ALL CURRENT SAFETY CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO ALL OSHA REQUIREMENTS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING AND/OR NEWLY CONSTRUCTED IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. ANY DAMAGES RESULTING FROM CONTRACTOR'S WORK AND/OR VANDALISM SHALL BE REPAIRED TO ITS ORIGINAL CONDITION BY CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
9. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS DURING CONSTRUCTION ACTIVITY.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL ENVIRONMENTAL FINES RESULTING FROM HIS/HER WORK AND SHALL HOLD THE OWNER HARMLESS ON SUCH CASES.
11. EXISTING GAS MAINS CURRENTLY IN SERVICE MUST REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING GAS MAIN (INCLUDING SERVICE LINES) FROM DAMAGE AS A RESULT OF THE CONSTRUCTION ACTIVITIES.
12. IN THE EVENT THAT EXISTING MAINS ARE IN CONFLICT WITH CONSTRUCTION – CONTRACTOR MUST COORDINATE WITH TEXAS GAS SERVICE COMPANY AND ALLOW 2 WEEKS WITHIN THE CITY OF EL PASO CONSTRUCTION SCHEDULE FOR RELOCATION OF HIGH PRESSURE GAS MAINS AND INTERMEDIATE GAS MAINS.
13. CALL FOR LINE SPOT BEFORE BEGINNING CONSTRUCTION OR EXCAVATION. TGS RECOMMENDS THAT CONTRACTOR CALL FOR LINE SPOTS PRIOR TO EXCAVATING IN THE AREA. IT IS REQUIRED THAT CONTRACTOR CALL TGS 48 HOURS PRIOR TO EXCAVATING THE AREA NEAR THE HIGH PRESSURE GAS MAIN.
14. UNDERGROUND/OVERHEAD UTILITIES SHOWN ON THE DRAWINGS ARE FOR DESIGN PURPOSES ONLY. OTHER UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE DRAWINGS. THE LOCATION, DEPTH, AND SIZE OF THE UTILITIES SHOWN, ARE FOR INFORMATION PURPOSES ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR.
15. REFER TO CIVIL PLANS FOR PROPOSED JUNCTION BOX DETAILS.
16. SHOULD UNSTABLE SOIL CONDITIONS BE ENCOUNTERED DURING THE STORM DRAINAGE SYSTEM INSTALLATION, CONTRACTOR SHALL USE CEMENT STABILIZED BACKFILL. CEMENT STABILIZED BACKFILL SHALL CONSIST OF 2 SACKS OF CEMENT PER CUBIC YARD OF SOIL.
17. CEMENT STABILIZED BACKFILL SHALL BE PLACED WHEN AN EXISTING SANITARY SEWER OR WATER LINE IS SITUATED ABOVE A PROPOSED STORM SEWER LINE AND IS LESS THAN OR EQUAL TO TWO (2) FEET APART. THE CEMENT STABILIZED BACKFILL SHALL COMPLY WITH THE REQUIREMENTS AS DEFINED: CEMENT STABILIZED BACKFILL: WHERE CEMENT STABILIZED BACKFILL IS SHOWN ON THE PROJECT DOCUMENTS, IT SHALL CONSIST OF A MIXTURE OF SOIL AND TWO SACKS OF TYPE I PORTLAND CEMENT PER CUBIC YARD. SOIL SHALL BE CLASSIFIED AS SW, SP, OR SM BY THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) OF ASTM D2487, FREE FROM LUMPS, CLODS OR ORGANIC MATERIAL. IF EXCAVATED MATERIAL IS NOT SUITABLE, PIT-RUN SAND SHALL BE USED. CEMENT STABILIZED BACKFILL SHALL BE MIXED IN A CONCRETE MIXER OR TRANSIT MIXER.
18. REFER TO DRAINAGE DETAILS ON SHEETS C-86 THRU C-89.

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| | | | |
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| **AT&T INCORPORATED**<br>11200 PELICANO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1133 (FIBER OPTIC) | **TIME WARNER CABLE**<br>#20 CONCORD STREET<br>EL PASO, TEXAS 79906<br>(800) 344-8377 | **TEXAS EXCAVATION SAFETY SYSTEM**<br>ANYWHERE IN TEXAS<br>(800) 344-8377 | **TEXAS DEPARTMENT OF TRANSPORTATION EL PASO DISTRICT (WEST AREA)**<br>4201 HONDO PASS DR.<br>EL PASO, TEXAS 79904<br>(915) 757-5922 |

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- L.P. — LOW POINT
- DRAINAGE FLOW DIRECTION
- NEW PAVEMENT TRANSITION
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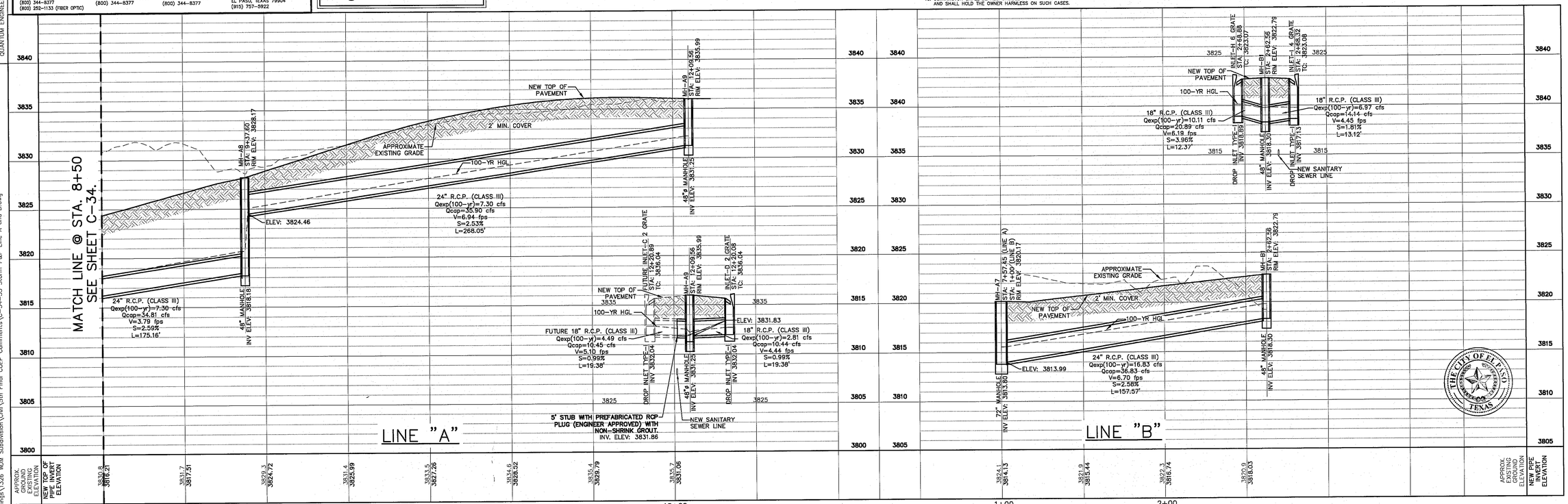


PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

**REFERENCES – BENCHMARK**

BENCHMARK:– CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3816.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

THE STATE OF TEXAS
ROBERT A. GONZALES
65920
LICENSED PROFESSIONAL ENGINEER
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SCALE:
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 5'
CONTOUR INTERVAL: —
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: C.S.D.
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE
## SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE

STORMWATER PLAN & PROFILE
LINE "A"
STA: 8+50 TO 12+20.89
LINE "B"
STA: 1+00 TO 2+68.88

SHEET NO.

**C-35**

35 OF 123 SHEETS

Aug 03,2015 3:05pm bnj
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-34-35 Storm P&P Line A and B.dwg

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| COORDINATE POINT TABLE | | |
|---|---|---|
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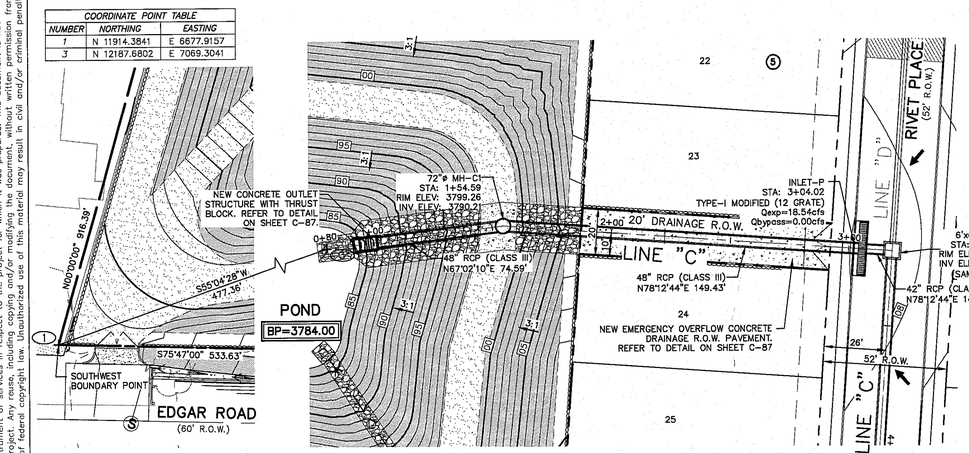
| 3 | N 12187.6802 | E 7069.3041 |



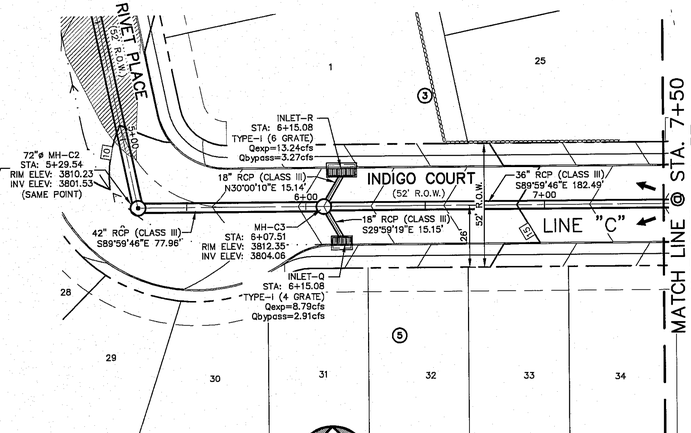

NORTH

PLAN
SCALE: 1" = 30'




NORTH

PLAN
SCALE: 1" = 30'

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EL PASO, TEXAS 79935
(800) 344-8377
(800) 252-1133 (FIBER OPTIC)

**TIME WARNER CABLE**
620 CONCORD STREET
EL PASO, TEXAS 79906
(800) 344-8377

**TEXAS EXCAVATION SAFETY SYSTEM**
ANYWHERE IN TEXAS
(800) 344-8377

**TEXAS DEPARTMENT OF TRANSPORTATION EL PASO DISTRICT (WEST AREA)**
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EL PASO, TEXAS 79904
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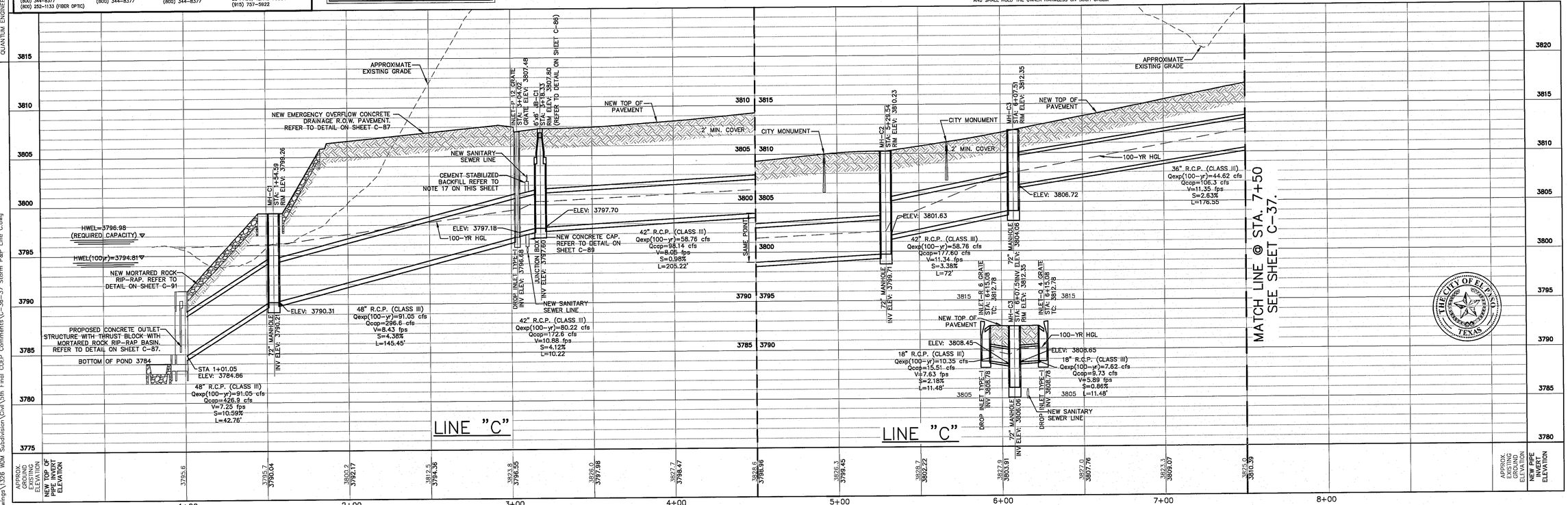


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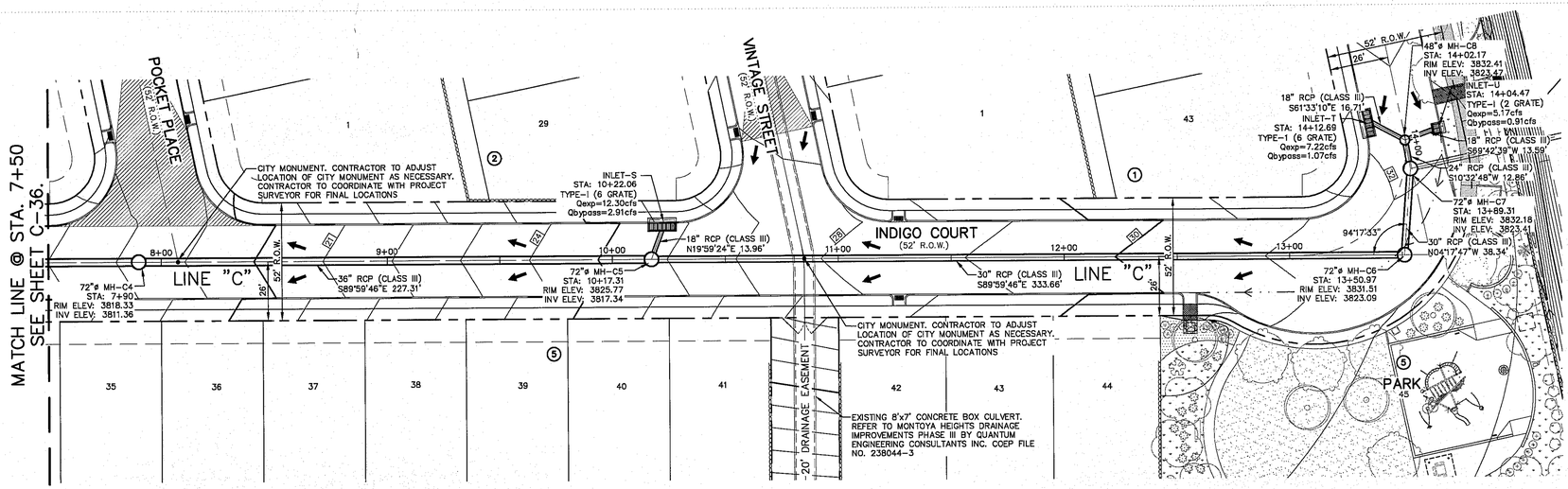


## PLAN
SCALE: 1" = 30'

NORTH

## LEGEND:

- H.P. / L.P. — HIGH POINT / LOW POINT
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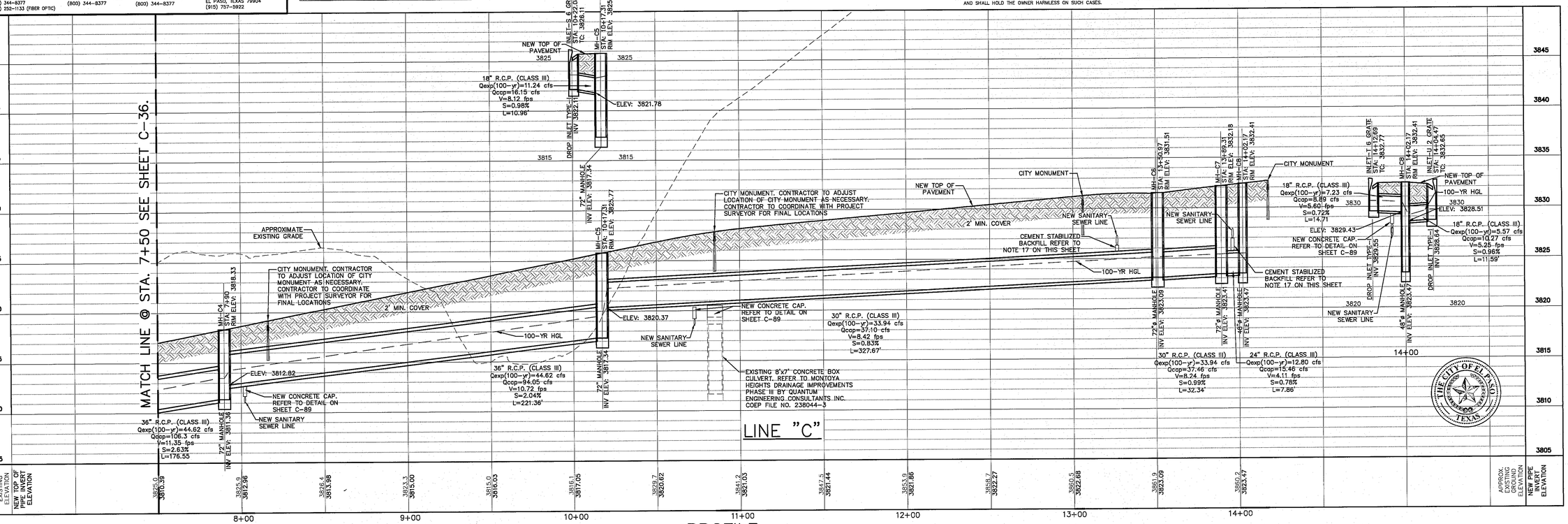


## PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

THE STATE OF TEXAS
ROBERT A. GONZALES
69920
LICENSED PROFESSIONAL ENGINEER
8/15

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| REFERENCES – BENCHMARK | DATE | REVISION | BY |
|---|---|---|---|
| BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE<br>REFERENCE IN THREE HILLS ADDITION;<br>ELEVATION = 3816.84 (CITY DATUM) | | | |

SCALE:
HORIZONTAL: 1"=30'
VERTICAL: 1"=5'
CONTOUR INTERVAL: N/A

DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

STORMWATER PLAN & PROFILE LINE "C"
STA: 7+50 TO 14+12.69

SHEET NO.

# C-37

37 OF 123 SHEETS

Aug 03,2015 3:07pm hnd
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-36-37 Storm P&P Line C.dwg

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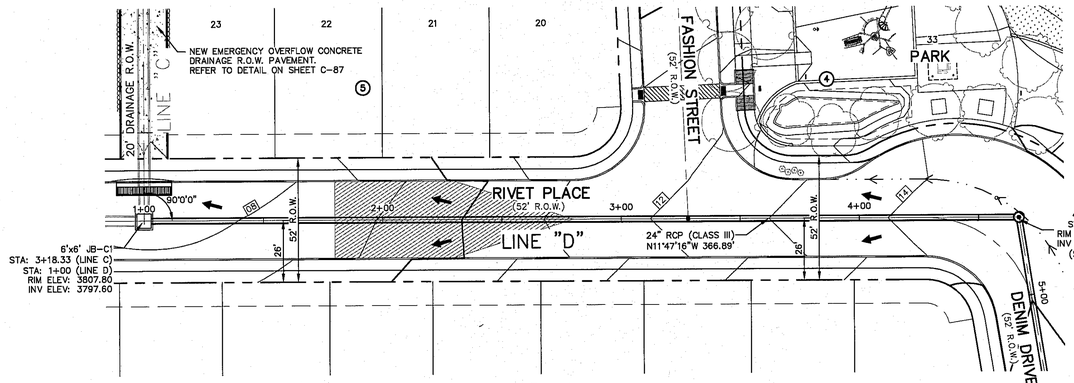
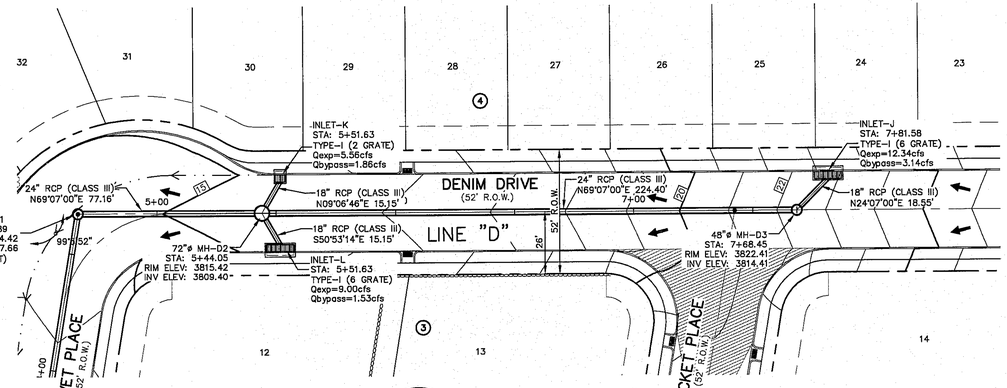



PLAN
SCALE: 1" = 30'

NORTH




PLAN
SCALE: 1" = 30'

NORTH

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3. INSTALL A TRENCH SAFETY SYSTEM FOR ALL TRENCHES EXCEEDING A DEPTH OF FIVE FEET (5') AS PER OSHA STANDARDS. CONTRACTOR TO SUBMIT A TRENCH SAFETY PLAN FOR APPROVAL PRIOR TO ANY EXCAVATION WORK.
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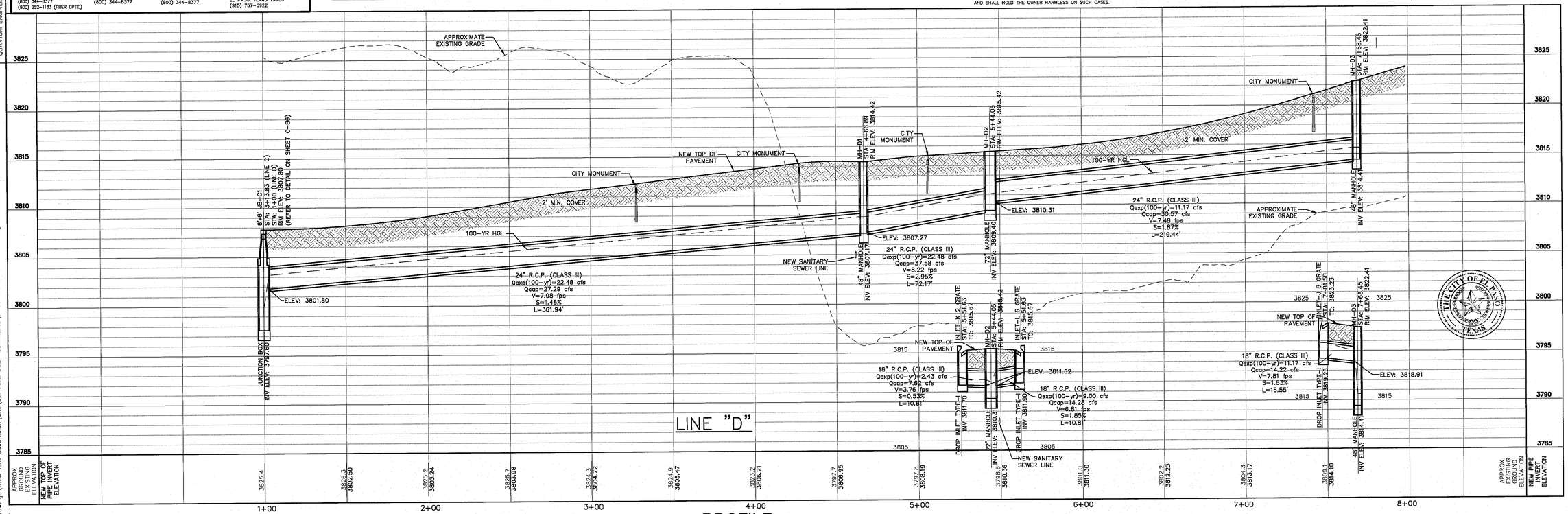
| | | | |
|---|---|---|---|
| **TEXAS GAS SERVICE**<br>4700 POLLARD STREET<br>EL PASO, TEXAS 79930<br>(800) 344-8377 | **EL PASO ELECTRIC CO.**<br>501 WEST SAN ANTONIO ST.<br>EL PASO, TEXAS 79901<br>(800) 246-4545 | **EL PASO WATER UTILITIES PUBLIC SERVICE BOARD**<br>1154 HAWKINS BLVD.<br>EL PASO, TEXAS 79925<br>(800) 344-8377 | **CITY OF EL PASO STREET DEPARTMENT**<br>7969 SAN PAULO DR.<br>EL PASO, TEXAS 79907<br>(915) 621-6480 |
| **AT&T INCORPORATED**<br>11200 PELICANO DRIVE<br>EL PASO, TEXAS 79935<br>(800) 344-8377<br>(800) 252-1133 (FIBER OPTIC) | **TIME WARNER CABLE**<br>420 CONCHRO STREET<br>EL PASO, TEXAS 79906<br>(800) 344-8377 | **TEXAS EXCAVATION SAFETY SYSTEM**<br>ANYWHERE IN TEXAS<br>(800) 344-8377 | **TEXAS DEPARTMENT OF TRANSPORTATION EL PASO DISTRICT (WEST AREA)**<br>4201 HONDO PASS DR.<br>EL PASO, TEXAS 79904<br>(915) 757-5922 |

**LEGEND:**

- H.P. — HIGH POINT
- L.P. — LOW POINT
- DRAINAGE FLOW DIRECTION
- NEW PAVEMENT TRANSITION
- XX — LOT NUMBER
- (X) — BLOCK NUMBER




PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

**REFERENCES – BENCHMARK**

BENCHMARK:– CITY MONUMENT AT THE INTERSECT OF GUINAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION
ELEVATION = 3876.84 (CITY DATUM)

| BY | REVISION | DATE |
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QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
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CONTOUR INTERVAL: —
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: C.M.D.
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

STORMWATER PLAN & PROFILE LINE "D"
STA: 1+00 TO 7+81.58

SHEET NO.

**C-38**

38 OF 123 SHEETS

Aug 03,2015, 3:08pm, bryj
Q:\Active Drawings\1326 WDM Subdivision\Civil\Sht Find COEP Comments\C-38 Storm P&P Line D.dwg

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Aug 03,2015 3:10pm brol
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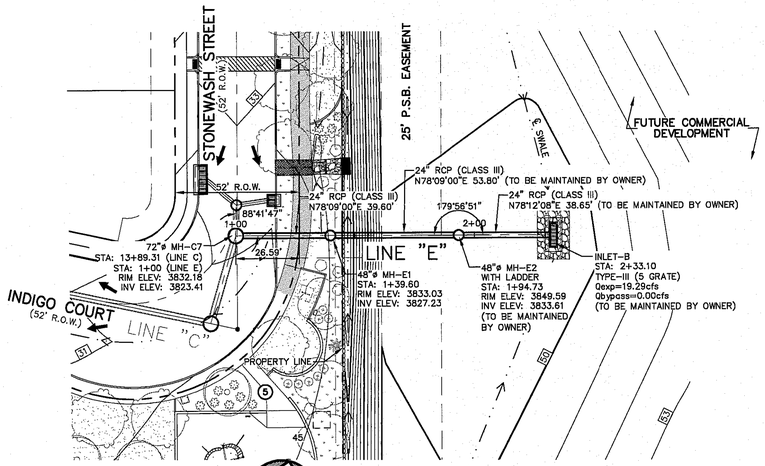
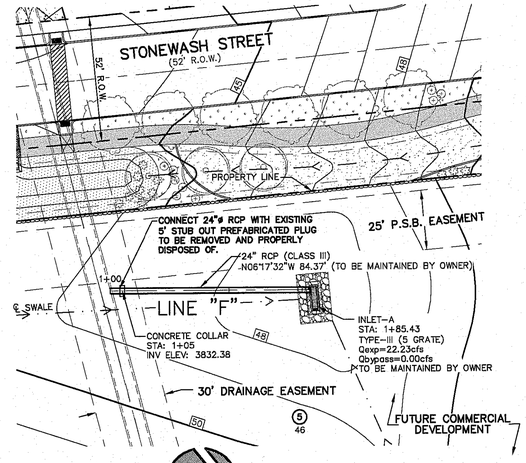



PLAN
SCALE: 1" = 30'
NORTH




PLAN
SCALE: 1" = 30'
NORTH

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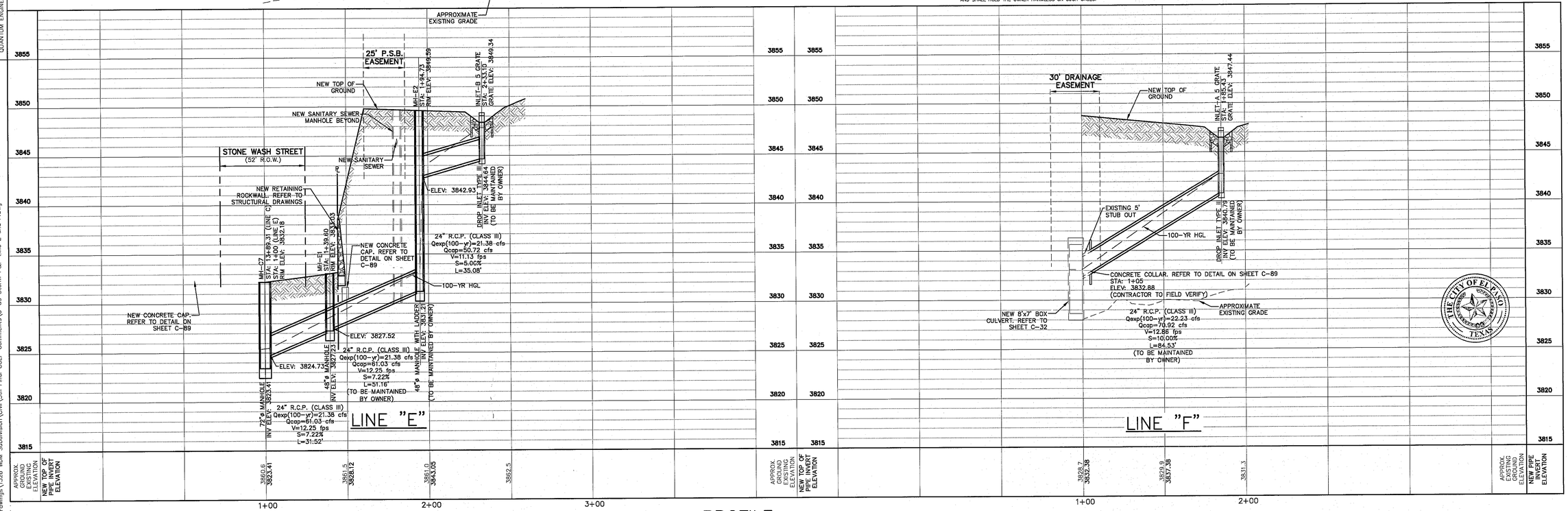


PROFILE
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VERTICAL SCALE: 1" = 5'

REFERENCES – BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF DURAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

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DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

STORMWATER PLAN & PROFILE
LINE "E"
STA: 1+00 TO 2+33.10
LINE "F"
STA: 1+00 TO 1+85.43

SHEET NO.

**C-39**

39 OF 123 SHEETS

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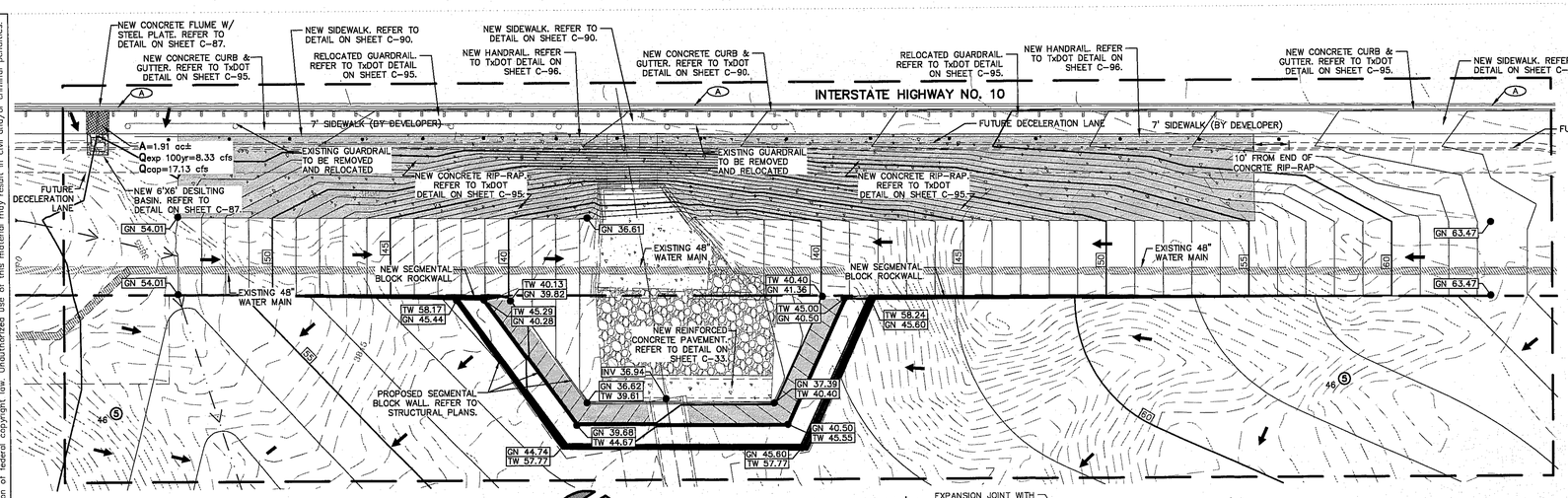
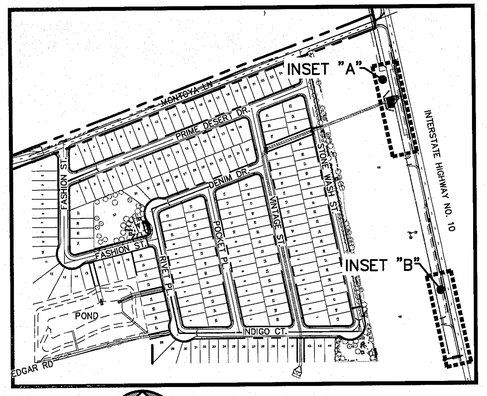
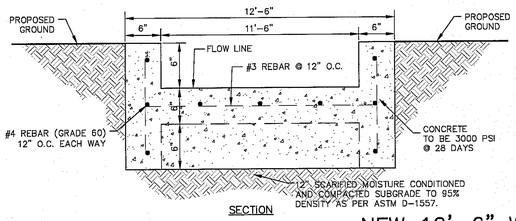
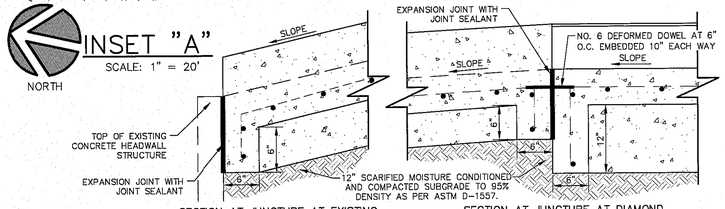



KEY MAP
SCALE: N.T.S.
NORTH




SECTION




SECTION AT JUNCTURE AT EXISTING HEADWALL STRUCTURE

SECTION AT JUNCTURE AT DIAMOND PLATE COVERED FLUME

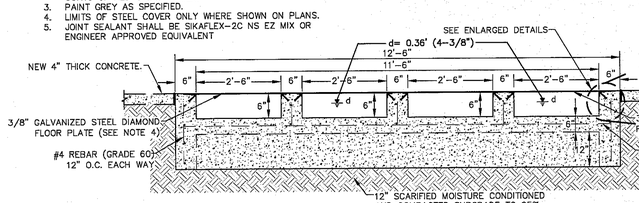
**NOTE:**
ALL WORK INDICATED ON STATE PROPERTY MUST BE APPROVED AND COORDINATED WITH TxDOT.

## NEW 12'-6" WIDE OPEN CONCRETE FLUME RUNDOWN DETAIL

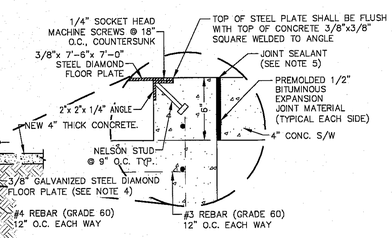
SCALE: N.T.S.

**CONCRETE FLUME NOTES:**

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3600 PSI CLASS "C" @ 28 DAYS.
2. STEEL DIAMOND FLOOR PLATE TO HAVE A MINIMUM OF TWO COATS OF RED OXIDE PRIMER.
3. PAINT GREY AS SPECIFIED.
4. LIMITS OF STEEL COVER ONLY WHERE SHOWN ON PLANS.
5. JOINT SEALANT SHALL BE SIKAFLEX-2C NS EZ MIX OR ENGINEER APPROVED EQUIVALENT

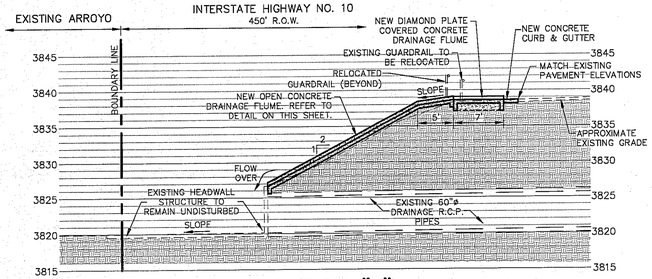



SECTION




**LEGEND:**

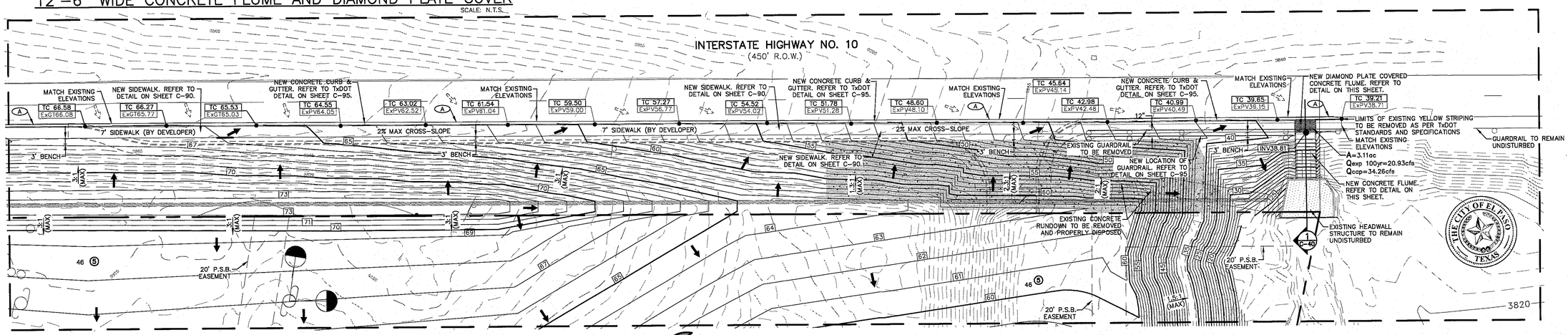
- 3685 — EXISTING CONTOURS
- XX — FINAL CONTOUR ELEVATION
- <- - <- — SWALE
- EXISTING RIP-RAP TO REMAIN UNDISTURBED
- CONCRETE RIP-RAP. REFER TO TxDOT DETAIL ON SHEET C-95.
- 12" THICK MORTARED ROCK RIP-RAP WALL FOOTING PROTECTION. REFER TO DETAIL ON SHEET C-33.
- GN XX.XX — TOP OF GROUND ELEVATION
- TW XX.XX — TOP OF WALL ELEVATION
- INV XX.XX — TOP OF INVERT ELEVATION
- TC XX.XX — TOP OF CURB ELEVATION
- PV XX.XX — TOP OF PAVEMENT ELEVATION
- GT XX.XX — GUTTER ELEVATION
- (A) — EXISTING YELLOW STRIPING TO BE REMOVED AS PER TxDOT STANDARDS AND SPECIFICATION




SECTION "1"
SCALE: 1"=10'

## 12'-6" WIDE CONCRETE FLUME AND DIAMOND PLATE COVER

SCALE: N.T.S.




INSET "B"
SCALE: 1" = 30'
NORTH

**REFERENCES – BENCHMARK**

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF GUNAULT & INCA AVENUE REFERENCE IN SHEET C-95.
ELEVATION = + 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 B Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY **ROBERT A. GONZALES, P.E. 69920** ON 4/9/16. ALTERATIONS OF A SEALED DOCUMENT WITHOUT NOTIFICATION TO THE ENGINEER IS PROHIBITED AND IS AN OFFENSE UNDER **THE ENGINEERING PRACTICE ACT.**

**SCALE:**
HORIZONTAL: AS SHOWN
VERTICAL: N/A
CONTOUR INTERVAL: —
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

**WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS**

EL PASO, TEXAS

SHEET TITLE

GRADING PLAN INSETS

SHEET NO.

**C-40**

40 OF 123 SHEETS

Aug 03,2015, 3:11pm, brol
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-40 Grading Insets Plan.dwg

# GENERAL NOTES

NOTES:

1) PUBLIC WATER AND SEWER UTILITY WORK SHALL NOT BE PERFORMED BY THE CONTRACTOR UNTIL A DEVELOPMENT AGREEMENT HAS BEEN EXECUTED BETWEEN THE OWNER AND EPWU-PSB.

2) CONTRACTOR MUST COMPLY WITH EPWU REQUIREMENTS: INCLUDING BUT NOT LIMITED TO, EPWU STANDARDS SPECIFICATIONS, CONSTRUCTION, AND COMPLIANCE TESTING REQUIREMENTS. ALL FACILITIES MUST BE CONSTRUCTED TO EPWU STANDARDS AND MUST RECEIVE FINAL ACCEPTANCE BY EPWU.

3) WATER LINES CONSTRUCTION - IN ADDITION TO THRUST BLOCKING, INSTALL RESTRAINED JOINTS AT ELBOWS, VALVES, AND DEAD ENDS. USE RESTRAINED JOINTS ON ALL ABOVE GROUND INSTALLATIONS.

4) SERVICE LINES INSTALLATION BY CONTRACTOR INCLUDES THE FOLLOWING
   A) TIE-IN TO MAIN LINES & EXTENSIONS TO PROPERTY LINES. REFER TO DETAILS FOR SERVICE LINES INSTALLATION AND TO PLANS FOR GENERAL LOCATION.
   B) COORDINATION WITH EPWU FOR A COMPLETE SERVICE INSTALLATION PER EPWU REQUIREMENTS.

5) PAVMENT CUT PERMIT MUST BE OBTAINED FROM THE CITY OF EL PASO FOR ANY WORK TO BE PERFORMED ON EXISTING CITY STREETS. CONTRACTOR MUST COMPLY WITH CITY REQUIREMENTS FOR PAVEMENT REPLACEMENT.

6) PIPE MATERIAL FOR WATER:
   A) ABOVE GROUND PIPING OR PIPING IN VAULTS SHALL BE DUCTILE IRON PIPE AWWA C150 (MINIMUM PRESSURE RATING 250, WITH RESTRAINED MECHANICAL JOINTS (M.J.) FITTINGS PER AWWA C153 OR C110 WITH EPOXY COATING AND LINING.
   B) PER EPWU REQUIREMENTS BURIED PIPE 4" AND LARGER SHALL BE PVC C-900 DR-14, CLASS 305, WITH DUCTILE IRON M.J. FITTINGS PER AWWA C153 OR C110 WITH EPOXY COATING AND LINING.
      COLOR:
      BLUE FOR DOMESTIC WATER
      BURIED PIPE FOR SERVICE LINES SHALL BE AS REQUIRED BY EPWU.
   C) VALVES SHALL BE RESILIENT SEAT GATE VALVES WITH NON-RISING STEM, 250 PSIPRESSURE RATING CONFORMING TO AWWA C509, WITH FUSION EPOXY INSTALLED WITH BONNET BOX AND COVER PER DETAILS.
   D) FIRE HYDRANTS SEE DETAIL 280-1 FOR INSTALLATION AND COORDINATION REQUIREMENTS.
   E) DISINFECT PIPE IN ACCORDANCE WITH AWWA-C651 AND EPWU REQUIREMENTS.
   F) HYDROSTATIC PRESSURE REQUIRED FOR TESTING IS 150 PSI.
   G) PIPE CURVATURE ALLOWANCE SHALL BE IN STRICT COMPLINACE WITH MANUFACTURER'S RECOMMENDATIONS AND EPWU REQUIREMENTS.
   H) PRIOR TO INSERTION SEPCIAL EMPHASIS ON PVC WATER PIPE:
      1. PIPE ALIGNMENT AND INSERTION.
         a. PER EPUW REQUIREMENTS, ALL PVC WATER PIPE SHALL HAVE BE MARKED WITH DUAL INDICATOR LINES AT TEH SPIGOT END INDICATING PROPER PENETRATION WHEN THE JOINTS IS ASSEMBLED.
         b. USE OF HAND TOOLS LIKE "COME-A-LONG" OR THE BAR AND BLOCK METHOD IS RECOMMENDED AS A WORKER IS ABLE TO FEEL THE AMOUNT OF FORCE BEING USED AND WHETHER THE JOINT GOES TOGETHER SMOOTHLY. LARGER PIPE MAY REQUIRE MECHANICAL ASSISTANCE TO APPLY SUFFICIENT FORCE TO PER MANUFACTURER'S RECOMMENDATIONS, AND SPECIAL CARE MUST BE TAKE TO INSURE THAT THE SPIGOT IS NOT OVER-INSERTED. BRACE PIPE BELL WHILE INSERTING THE SPIGOT END TO PREVENT MOVEMENT AND OVER-INSERTION OF PREVISOULY COMPLETED IN-LINE PIPE.
         c. SPECIAL EMPHASIS MUST BE PUT ON PROPER PIPE ALIGNMENT AND INSERTION, UP TO THE MARK ON THE SPIGOT. IF THE PIPE IS MISALIGNED, OVER-INSERTED, OR ASSEMBLED WITH EXCESSIVE FORCE, IT WILL BE GROUNDS TO REJECT PIPE INSTALLATION.
         d. INSTALLED PIPE MUST REMAIN EXPOSED AT THE JOINTS UNTIL IT PASSES INSPECTION. IF OVER-INSERTION PROBLEM IS EVIDENT ON THE JOB, THEN THE CONTRACTOR AT HIS OWN COST WILL BE REQUIRED TO CORRECT ALL DEFICIENCIES AND PERFORM ANY SUBSEQUENT INSTALLATION USING MEGA-STOP TYPE FITTING AT EVERY JOINT, AS MANUFACTURED BY EBAA OR APPROVED EQUAL. THE MEGA-STOP FITTING WILL PREVENT OVER-INSERTION.
         e. PRIOR TO ASSEMBLY AND LUBRICATION, THE GASKET, THE GROOVE AREA BEHIND THE GASKETS AND THE PIPE SPIGOT ENDS SHOULD BE WIPED CLEAN. DO NOT REMOVE GASKETS FROM THE RACE. THE GASKETS ARE NOT REMOVABLE AND WILL BE DAMAGED BY ATTEMPTS TO REMOVE THEM.
         f. LUBRICATION - USE ONLY MANUFACTURER SUPPLIED OR APPROVED LUBRICANT. APPLY TO BELL AND SPIGOT PER MANUFACTURER'S RECOMMENDATIONS. ONCE PIPE IS LUBRICATED, CARE MUST BE TAKEN AS TO NOT MAKE CONTACT BETWEEN THE LUBRICATED PIPE AND SURROUNDING SOIL OR OTHER DEBRIS PRIOR TO INSERTION.

7) PROVIDE FOUR FEET (4') MINIMUM COVER OVER WATER LINES LESS THAN 12-INCHES, IN DIAMETER AND FIVE FEET (5') MINIMUM COVER FOR MAINS 12-INCHES IN DIAMETER.

8) MAINTAIN A MINIMUM HORIZONTAL SEPARATION DISTANCE OF 10' BETWEEN ALL WATER & SEWER LINES. VARIATIONS TO THIS MINIMUM MUST BE IN STRICT ACCORDANCE WITH EPWU REQUIREMENTS, AND TCEQ REGULATIONS.

9) CONTACT UTILITY COMPANIES OR "ONE-CALL SERVICE" FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.

10) INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF FIVE FEET (5') PER O.S.H.A. REQUIREMENTS.

11) FOR WATER AND SEWER CROSSINGS COMPLY WITH TCEQ AND EPWU REQUIREMENTS OUTLINED IN DETAIL 161. FOR WATER AND STORMWATER CROSSINGS, MINIMUM SEPARATION DISTANCE SHALL BE 18-INCHES AND PROVIDE CASING WHEN STORMWATER IS LARGER THAN 30-INCHES.

12) INSTALL DETECTABLE WARNING TAPE 12-INCHES ABOVE THE PIPE. TAPE SHALL BE 5 MIL OVERALL THICKNESS WITH 0.35 MIL SOLID ALUMINUM FOIL CORE, 0.8 MIL CLEAR FILM, REVERSE PRINTED WITH A REPEATED WARNING MESSAGE AND LAMINATED TO ALUMINUM FOIL WITH 0.375 CLEAR FILM BACKING. THE LETTERING ON ALL TAPES IS A MINIMUM OF 1-INCH UNLESS OTHERWISE SPECIFIED MANUFACTURERS: NORTHTOWN, PRESCO, OR EQUAL.

    TAPE WIDTH, LETTERING, AND COLOR SHALL BE AS FOLLOWS:

    FOR DOMESTIC LINE — WIDTH-> 6-INCH
    LABEL-> CAUTION WATER LINE — COLOR-> BLUE

    FOR SEWER LINE: — WIDTH-> 6-INCH
    LABEL-> CAUTION SANITARY SEWER LINE — COLOR-> GREEN

13) PIPE MATERIAL FOR SEWER:
   A) GRAVITY SANITARY SEWER PVC PIPE SHALL BE PVC PIPE MEETING THE REQUIREMENTS OF ASTM D304, SDR 35 EXCEPT WHERE SDR-26 PIPE IS CALLED OUT, COLOR GREEN. PRESSURE PVC PIPE C-900 WILL BE REQUIRED AT CROSSINGS WHERE THE MINIMUM REQUIRED CLEARANCE CANNOT BE ACCOMPLISED.
   B) TESTING REQUIREMENTS OF PIPE AND MANHOLES SHALL BE IN ACCORDANCE WITH AWWA AND EPWU STANDARDS.
   C) PIPE CURVATURE ALLOWANCE SHALL BE IN STRICT COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS AND EPWU REQUIREMENTS.

14) MANHOLES SHALL BE PRE-CAST CONCRETE WITH 400 PSI COMPRESSIVE STRENGTH USING TYPE V CEMENT, AND SHALL BE MANUFACTURED IN COMPLIANCE WITH ASTM C-478. ALL MANHOLE PENETRATIONS MUST BE PERFORMED WITH KNOCK-OUT BY THE PRE-CAST MANUFACTURER OR CORE DRILLED IN THE FIELD, ALL PENETRATIONS MUST HAVE COMPESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (ASTM923) "KOR-N-SEAL" OR EQUAL.

15) ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES. SOME FIELD ADJUSTMENT OF SERVICE LOCATIONS MAY BE REQUIRED TO COMPLY WITH THIS REQUIREMENT.

THE CITY OF EL PASO TEXAS

Final Approval

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT, AT THE INTERSECT OF DANAHUE & MESA AVENUE REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3939.85 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE NICHOLS
2230 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone: (940) 220-4340
Fax: (940) 220-4350
Web - www.freese.com

FREESE AND NICHOLS INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144

12-30-14
RONALD E. KING 81073 LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:

| | |
|---|---|
| DATE: | 05-2013 |
| DESIGN BY: | RJS |
| DRAWN BY: | RJS |
| CHKD BY: | RGK |
| APPVD: | RGK |
| JOB NO. | 12145 |

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

GENERAL CONSTRUCTION NOTES

SHEET NO.

41 OF 117 SHEETS

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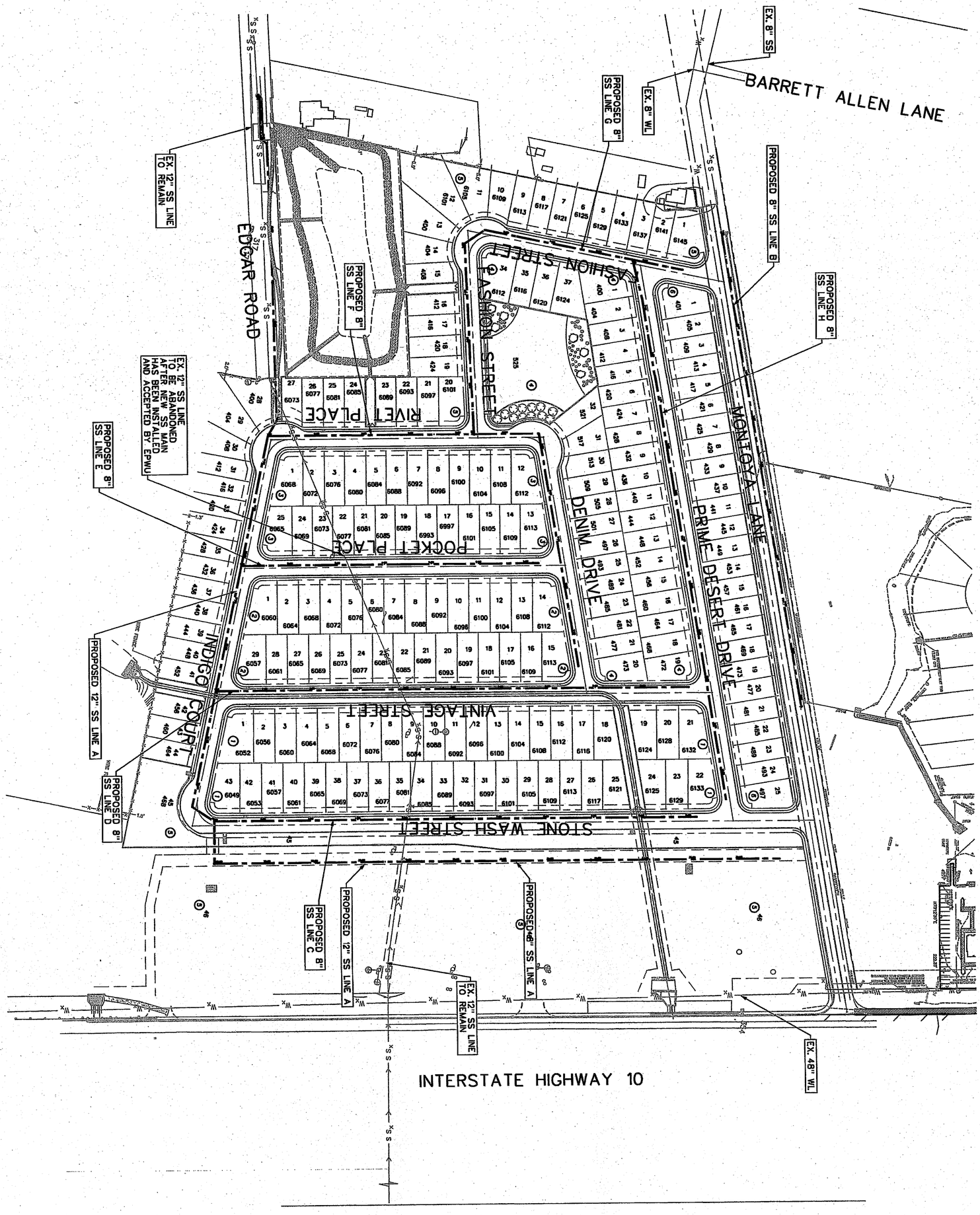
Plot Scale: 39.9998 ' / in Model: Default
Date: Dec. 31, 2014 - 11:42:03 AM Project: Freese and Nichols, Inc.




0 50' 100' 200'
SCALE IN FEET

N

THE CITY OF EL PASO

42 OF 117 SHEETS

SHEET NO.

SEWER COLLECTION PLAN

SHEET TITLE

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS

EL PASO, TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:

DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

STATE OF TEXAS
RONALD G. KING
81073
12-30-14

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GUNNALT & BCA AVENUE REFERENCE IN THREE HILLS ADDITION.

ELEVATION - 3878.84 CITY DATUM

| DATE | REVISION | BY |
|---|---|---|
| | | |
| | | |
| | | |

BARRETT ALLEN LANE

MONTOYA LANE

PRIME DESERT DRIVE

DENIM DRIVE

FASHION STREET

RIVET PLACE

POCKET PLACE

VINTAGE STREET

STONE WASH STREET

INDIGO COURT

EDGAR ROAD

INTERSTATE HIGHWAY 10

EX. 8" SS

EX. 8" WL

PROPOSED 8" WL B

PROPOSED 8" WL F

PROPOSED 8" WL C

PROPOSED 8" WL G

EX. 48" WL

PROPOSED 12" WL A

EX. 12" SS LINE TO REMAIN

PROPOSED 8" WL C

PROPOSED 8" WL C

EX. 12" SS LINE TO BE ABANDONED

PROPOSED 8" WL E

EX. 12" SS LINE TO REMAIN

PROPOSED 8" WL C

PROPOSED 8" WL D

WIRE FENCE

0 50' 100' 200'
SCALE IN FEET

N

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECTION OF MONTOYA & MCA AVENUE
REFERENCE IS THREE HILLS CONTROL
ELEVATION = 3979.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |


FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


12-30-14

RONALD G. KING
81073
LICENSED
PROFESSIONAL
ENGINEER
STATE OF TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2015
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RSK
APPVD: RSK
JOB NO. 9245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

THE CITY OF EL PASO
TEXAS

SHEET TITLE

WATER DISTRIBUTION PLAN

SHEET NO.

43 OF 117 SHEETS


MicroStation V8 Users Cfg: Officer Denton
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Officer Denton QEC13102 Date: Dec. 31, 2014 - 11:42:07 AM User: rjs File: N:\UTIL\Drawings\cv-util-pl-sht02.sht

STA. 10+19.09
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,784.31'
FL OUT = 3,784.21'
N: 11877.65
E: 6636.03

CONCRETE REPAIR
80 SY

EX. 8" WL

EX. 12" SS
TO REMAIN

EX. 8" SS

EDGAR ROAD

STA. 10+09.22
BEGIN 12" SS LINE A
CONNECT TO
EX. DROP MANHOLE
FL IN = 3,784.08'
FL OUT = 3,783.58'
CONTRACTOR FIELD
VERIFY PRIOR TO
ANY SS CONSTRUCTION
CUT AND PLUG
EX. 12" SS (E)
N: 11870.23
E: 6629.51

EX. 12" SS TO
BE ABANDONED
AFTER NEW SS MAIN
HAS BEEN INSTALLED AND
ACCEPTED BY EPWU

STA. 11+05.69
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,786.64'
FL OUT = 3,786.54'
N: 11898.38
E: 6720.10

STA. 11+19.20
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,786.89'
FL OUT = 3,786.79'
N: 11910.22
E: 6726.63

PROPOSED 12" SS LINE A

SAS MANHOLE

60' R.O.W.

17.5' R.O.W. TO SS ℄

MATCH LINE STA. 14+00

3785'
3790'
3795'
3800'
3805'
3810'
3815'

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

## 12" SS LINE A

EXISTING GROUND
PROPOSED GROUND

12" SDR-26 PVC @ 2.39% 10 LF
12" SDR-35 PVC @ 2.68% 6 LF
12" SDR-26 PVC @ 2.70% 83 LF
12" SDR-26 PVC @ 1.17% 279 LF

STA. 10+09.22
FL IN = 3,783.58'
FL OUT = 3,783.48'

STA. 10+19.09
FL IN = 3,784.31'
FL OUT = 3,784.21'

STA. 10+85.89
FL IN = 3,786.64'
FL OUT = 3,786.54'

STA. 11+19.20
FL IN = 3,786.89'
FL OUT = 3,786.79'

EGL = 3,793.65
SS ℄ = 3,783.58

EGL = 3,797.91
SS ℄ = 3,785.09

EGL = 3,803.10
SS ℄ = 3,786.44

EGL = 3,808.06
SS ℄ = 3,787.23

EGL = 3,814.19
SS ℄ = 3,787.81

EGL = 3,815.47
SS ℄ = 3,788.40

EGL = 3,818.00
SS ℄ = 3,788.98

EGL = 3,819.94
SS ℄ = 3,789.57

EGL = 3,820.05
SS ℄ = 3,790.15

MATCH LINE STA. 14+00

3,810
3,805
3,800
3,795
3,790
3,785
3,780
3,775

10+00 10+50 11+00 11+50 12+00 12+50 13+00 13+50 14+00

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GEMINI & MCA AVENUE
REFERENCE IN WEST TEXAS DATUM
ELEVATION = 3,811.445 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 382-3540
Fax - (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO
TEXAS

STATE OF TEXAS
ROBERT G. KIRK
103173
LICENSED
PROFESSIONAL
ENGINEER
12-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

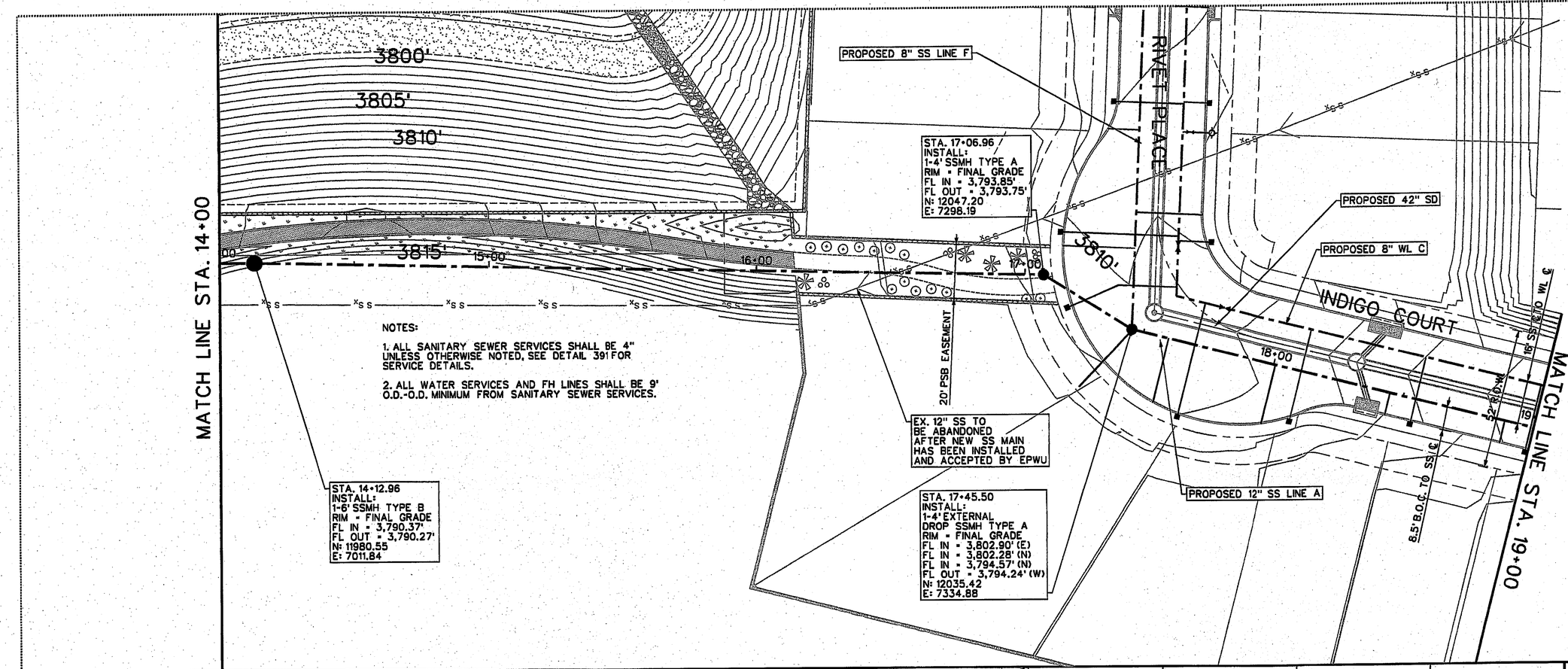
SHEET TITLE

12" SS LINE A
STA. 10+09.22
TO STA. 14+00

SHEET NO.

44 OF 117 SHEETS

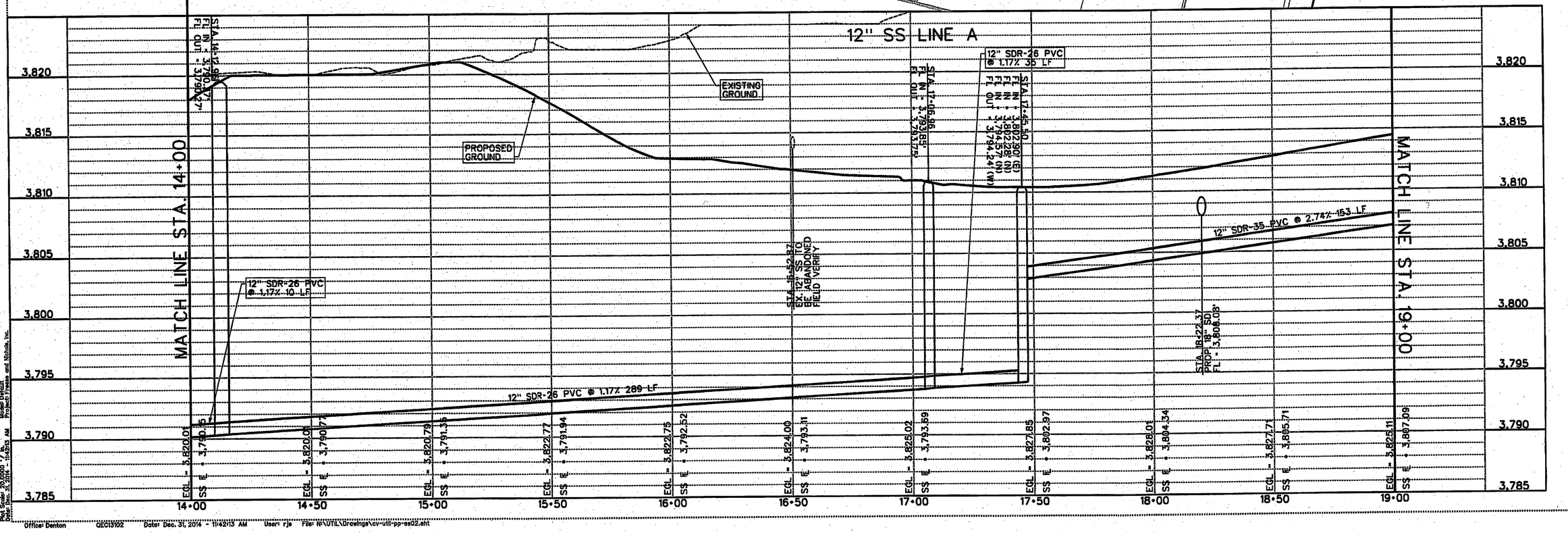
Officer: Denton GEC13902 Date: Dec. 31, 2014 - 11:42:10 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-ss01.sht




NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 FOR SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECTION OF GEMAULT & MESA AVENUE
DESCRIPTION - BRASS DISK IN CONCRETE
ELEVATION = 3,815.84 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |


FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, (940) 382-3525
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


THE CITY OF EL PASO TEXAS

12-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:

| DATE: | 08-2013 |
|---|---|
| DESIGN BY: | RJS |
| DRAWN BY: | RJS |
| CHKD BY: | RGK |
| APPVD: | RGK |
| JOB NO. | 1245 |

PROJECT TITLE

# WEST DESERT MARKETPLACE
## SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

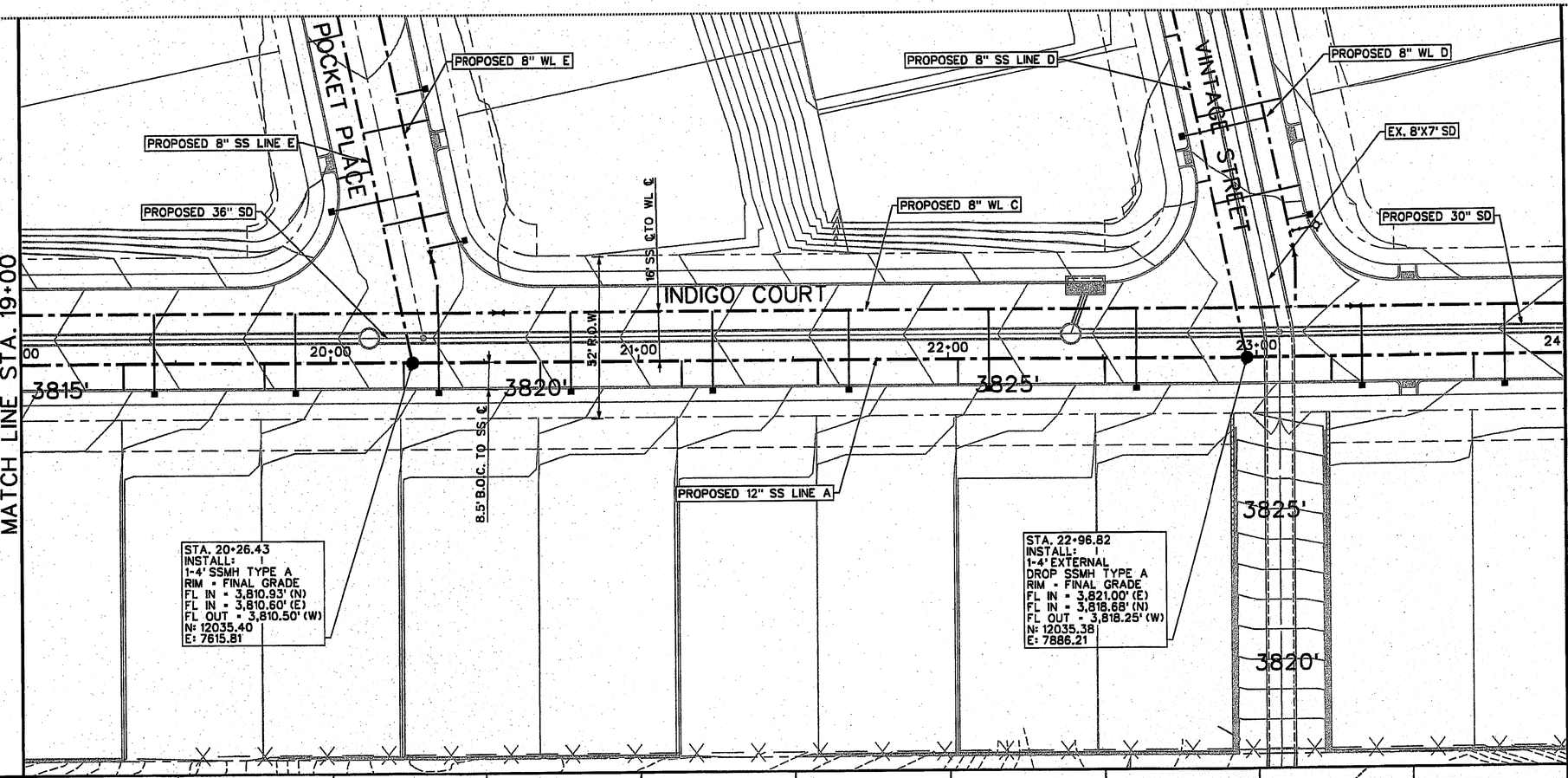
SHEET TITLE

12" SS LINE A
STA. 14+00 TO
STA. 19+00

SHEET NO.

45 OF 117 SHEETS


Identification XB Xlref Dependency Offices Denton
QEC13102 N:\UTIL\Drawings\cv-util-pp-ss02.sht
Plotted on 1/6/2015 by rjs for Project Manager
Date: Dec. 31, 2014 - 11:42:13 AM Project Freese and Nichols, Inc.

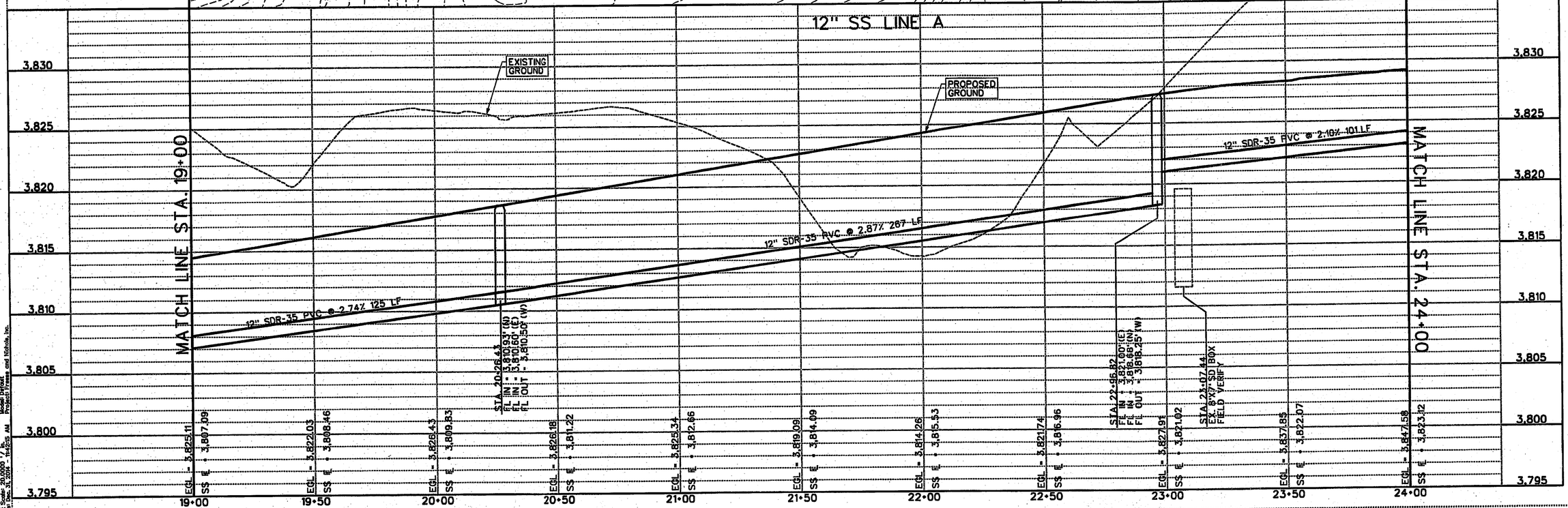



NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED. SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE




REFERENCES - BENCHMARK:
BENCHMARK:- CITY MONUMENT AT THE INTERSECTION OF GEMALT & ROCK AVENUE
CITY MONUMENT AT THE INTERSECTION OF PIEDRAS AND CAMINO REAL
ELEVATION = 3,819.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |


FREESE NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


THE CITY OF EL PASO TEXAS

4-30-15
RONALD G. KING
81073
LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2015
DESIGN BY: RJS
DRAWN BY: RSK
CHKD BY: RSK
APPV'D: RSK
JOB NO. 1245

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE
12" SS LINE A
STA. 19+00 TO
STA. 24+00

SHEET NO.
46 OF 117 SHEETS


MicroStation V8i User: rjs Officer: Denton
GEC13102 - N:\UTIL\Drawings\cv-util-pp-ss03.dgn
Plot Scale: 20.0000 ' / in. Plot Date: Dec. 31, 2014 - 11:42:15 AM
Model: Default Project: Freese and Nichols, Inc.
Officer: Denton GEC13102 Date: Dec. 31, 2014 - 11:42:15 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-ss03.dgn

MATCH LINE STA. 24+00

MATCH LINE STA. 29+00

PROPOSED 8" SS LINE C

PROPOSED 8" WL C

STONE WASH STREET

INDIGO COURT

16'-SS @TO WL @

8.5'B.O.C. TO WL @

2% R.O.W.

25'00

26'00

28'00

27'00

PROPOSED 12" SS LINE A

PROPOSED 12" WL A

5'SS @TO EASEMENT

15'SS @TO WL @

PROPOSED 12" SS LINE A
PROPOSED 8" SS LINE A

25' PSB EASEMENT

PROPOSED 30" SD

PROPOSED 24" SD

3830'

3835'

3840'

3845'

3850'

3855'

STA. 26+00.90
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,827.27' (N)
FL IN = 3,826.94' (E)
FL OUT = 3,826.84' (W)
N: 12086.52
E: 8156.08

STA. 25+45.56
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,826.24'
FL OUT = 3,826.14'
N: 12035.37
E: 8134.94

STA. 26+90.37
INSTALL:
1-5' EXTERNAL
DROP SSMH TYPE B
RIM = FINAL GRADE
FL IN = 3,844.14'
FL IN = 3,828.03'
FL OUT = 3,827.93'
N: 12104.92
E: 8243.63

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

0 10' 20' 40'
HORIZONTAL SCALE

0 2' 4' 8'
VERTICAL SCALE

12" SS LINE A

12" C-900 DR-14 CLASS 305 PVC @ 1.17% 52 LF

EXISTING GROUND

PROPOSED GROUND

8" SDR-35 PVC @ 0.76% 207 LF

12" SDR-26 PVC @ 2.03% 207 LF

12" C-900 DR-14 CLASS 305 PVC @ 1.17% 85 LF

12" SDR-35 PVC @ 2.10% 144 LF

MATCH LINE STA. 24+00

MATCH LINE STA. 29+00

3.850
3.845
3.840
3.835
3.830
3.825
3.820
3.815

24+00 24+50 25+00 25+50 26+00 26+50 27+00 27+50 28+00 28+50 29+00

STA. 25+54.21
PROP 12" SD
FL = 3,827.99'
EGL = 3,861.42
SS E = 3,826.27'

STA. 25+62.85
PROP 8" D.I. WL C
T.O.P. = 3,832.85'

STA. 26+07.76
PROP 24" SD
FL = 3,823.44'

STA. 26+17.84
PROP 8" D.I. WL C
T.O.P. = 3,824.49'

STA. 26+75.45
PROP 12" WL A
T.O.P. = 3,845.68'

STA. 26+90.37
FL IN = 3,844.14'
FL IN = 3,828.03'
FL OUT = 3,827.93'

EGL = 3,847.58 SS E = 3,823.12
EGL = 3,857.22 SS E = 3,824.18
EGL = 3,859.91 SS E = 3,825.25
EGL = 3,860.09 SS E = 3,826.87
EGL = 3,861.22 SS E = 3,827.49
EGL = 3,859.90 SS E = 3,828.16
EGL = 3,856.92 SS E = 3,829.18
EGL = 3,848.97 SS E = 3,830.19
EGL = 3,856.72 SS E = 3,831.21
EGL = 3,860.36 SS E = 3,832.22

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECTION OF GRANULITE & ROCK AVENUE SET IN MONUMENT BOX AT THE NE CORNER OF THE INTERSECTION

ELEVATION = 3,870.439 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE AND NICHOLS

2220 San Jacinto Blvd, Suite 330
Austin, Texas 78701
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

RONALD D. KING
81073
LICENSED PROFESSIONAL ENGINEER
11-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 08-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

12" SS LINE A
STA. 24+00 TO
STA. 29+00

SHEET NO.

47 OF 117 SHEETS

Officer: Denton QEC13102 Date: Dec. 31, 2014 - 11:42:18 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-ss04.sht

MicroStation V8i User: rjs Officer: Denton
QEC13102 N:\UTIL\Drawings\cv-util-pp-ss04.plt
Full Scale: 20.00000 Y/X Ratio: 1.00000
Date: Dec. 31, 2014 - 11:42:18 AM User: rjs Project: Freese and Nichols, Inc.

PROPOSED 8" SS LINE C

PROPOSED 8" WL C

STONE WASH STREET

3840'

EX. 12" SS LINE TO BE ABANDONED AFTER NEW SS MAIN HAS BEEN INSTALLED AND ACCEPTED BY EPWU

3845'

3850'

MATCH LINE STA. 29+00

30+00

31+00

32+00

33+00

34

MATCH LINE STA. 34+00

PROPOSED 12" SS LINE A
PROPOSED 8" SS LINE A

EX. 12" SS LINE TO REMAIN

STA. 30+85.94
INSTALL:
1-6' EXTERNAL DROP SSMH TYPE B
CONNECT TO EX. 12" SS LINE
RIM = FINAL GRADE
FL IN = 3,843.47'
FL IN = 3,836.26'
FL OUT = 3,847.10'
FL OUT = 3,835.93'
CUT AND PLUG EX. 12" SS LINE (W)
N: 12492.14
E: 8162.79

25' PSB EASEMENT

15' SS C/O EASEMENT

5' SS C/O EASEMENT

PROPOSED 12" WL A

3855'

3855'

3860'

0 10' 20' 40'
HORIZONTAL SCALE

0 2' 4' 8'
VERTICAL SCALE

EXISTING GROUND

PROPOSED GROUND

STA. 29+00.00
FL IN = 3,843.47'
FL IN = 3,836.26'
FL OUT = 3,847.10'
FL OUT = 3,835.93'

12" SS LINE A

8" SDR-35 PVC @ 0.76% 183 LF

8" SDR-35 PVC @ 0.33% 312 LF

8" SDR-26 PVC @ 0.42% 312 LF

12" SDR-26 PVC @ 2.03% 183 LF

| | 29+00 | 29+50 | 30+00 | 30+50 | 31+00 | 31+50 | 32+00 | 32+50 | 33+00 | 33+50 | 34+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EGL = | 3,860.36 | 3,863.12 | 3,863.68 | 3,863.24 | 3,863.31 | 3,864.08 | 3,864.96 | 3,860.84 | 3,852.68 | 3,852.64 | 3,847.51 |
| SS E = | 3,832.22' | 3,833.23' | 3,834.25' | 3,835.26' | 3,836.31' | 3,836.52' | 3,836.72' | 3,836.93' | 3,837.14' | 3,837.35' | 3,837.56' |

3,860
3,855
3,850
3,845
3,840
3,835
3,830
3,825

MATCH LINE STA. 29+00

MATCH LINE STA. 34+00

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT, AT THE INTERSECT OF GENAULT & RICA AVENUE
NAD83(96) - STATE PLANE COORDINATES
ELEVATION - NAVD88 - CITY DATUM

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 930
Austin, Texas 78701
Phone - (940) 220-4340
Fax - (940) 397-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

11-26-14

RONALD G. KING
81073
LICENSED
PROFESSIONAL
ENGINEER
STATE OF TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 08-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

12"/8" SS LINE A
STA. 29+00 TO
STA. 34+00

SHEET NO.

48 OF 117 SHEETS

Office= Denton QEC13102 Date= Dec. 31, 2014 - 11:42:20 AM User= rjs File= N:\UTIL\Drawings\ov-util-pp-ss05.dgn

Xrefs/Division 10\Utilities\Office Denton\QEC13102\Drawings\ov-util-pp-ss05.dgn
Project Manager: Ron King (817) 336-5500
Project Engineer: Ron King (817) 336-5500
Date: Dec. 31, 2014 - 11:42:20 AM
Model: Default
Projects Freese and Nichols, Inc.

PROPOSED 8" SS LINE G

PROPOSED 8" WL F

PROPOSED 8" WL C

PROPOSED 8" SS LINE C

PRIME DESERT DRIVE

STONE WASH STREET

STA. 37+04.58
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,842.60'
FL OUT = 3,842.50'
N: 13097.73
E: 8036.37

PROPOSED 12" WL A

MATCH LINE STA. 34+00

35+00

36+00

37+00

38+00

STA. 34+85.94
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,844.70
FL OUT = 3,838.00'
FL OUT = 3,837.90'
N: 12883.70
E: 8081.05

PROPOSED 12" SS LINE A

25' PSB EASEMENT

15' SS ℄ TO WL ℄

5' SS ℄ TO EASEMENT

STA. 38+85.94
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL OUT = 3,839.31'
N: 13275.26
E: 7999.31

3850'

3855'

PROPOSED 18" SD

PROPOSED 7'X8' SD

0 10' 20' 40'
HORIZONTAL SCALE

0 2' 4' 8'
VERTICAL SCALE

12" SS LINE A

PROPOSED GROUND

EXISTING GROUND

8" SDR-35 PVC @ 0.33% 83 LF

8" SDR-26 PVC @ 0.42% 83 LF

8" SDR-26 PVC @ 2.10% 214 LF

8" SDR-35 PVC @ 5.28% 178 LF

STA. 34+85.94
FL IN = 3,844.77'
FL IN = 3,838.00'
FL OUT = 3,837.90'

STA. 36+02.67
PROP. 8'X7' SD
FL = 3,827.21'

STA. 37+04.58
FL IN = 3,842.60'
FL OUT = 3,842.50'

STA. 38+85.94
FL OUT = 3,839.31'

| | | |

STA. 0+97.00
BEGIN 8" SS LINE B
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,813.94'
FL OUT = 3,813.84'
FIELD VERIFY EXISTING SANITARY SEWER FLOW LINE PRIOR TO LAYING OUT 8" SS LINE B
N: 12892.69
E: 6721.30

PROPOSED 18" SD

PROPOSED 8" SS LINE B

PROPOSED 8" WL B

PROPOSED 8" WL G

EX. 8" WL

EX. 8" SS

MONTOYA LANE

FASHION STREET

62' R.O.W.

10' B.O.C. TO SS ℄

23.5' SS ℄ TO WL ℄

STA. 5+98.00
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,831.45'
FL OUT = 3,831.35'
N: 13070.93
E: 7188.45

MATCH LINE STA. 6+00

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

## 8" SS LINE B

EXISTING GROUND

PROPOSED GROUND

8" SDR-35 PVC @ 3.51% 496 LF

EX. 8" SS

STA. 4+79.73
PROP. 18" SD
FL = 3,822.00'

STA. 5+98.00
FL IN = 3,831.45'
FL OUT = 3,831.35'

MATCH LINE STA. 6+00

| | 1+00 | 1+50 | 2+00 | 2+50 | 3+00 | 3+50 | 4+00 | 4+50 | 5+00 | 5+50 | 6+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EGL = | 3,823.03 | 3,827.79 | 3,831.44 | 3,833.13 | 3,835.07 | 3,835.89 | 3,836.24 | 3,836.44 | 3,836.89 | 3,837.93 | 3,840.00 |
| SS E = | 3,813.94 | 3,815.70 | 3,817.45 | 3,819.21 | 3,820.96 | 3,822.72 | 3,824.47 | 3,826.23 | 3,827.98 | 3,829.74 | 3,831.45 |

REFERENCES - BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF GERAULD & MESA AVENUE
REFERENCE BY THREE ALIAS STATIONS
ELEVATION = 3816.64 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE AND NICHOLS
2230 San Jacinto Blvd., Suite 350
Denton, Texas 76205
Phone: (940) 220-4140
Fax: (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

12-30-14

STATE OF TEXAS
81078
REGISTERED
ENGINEER
ROBERT G. KING

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE
8" SS LINE B
STA. 0+97 TO
STA. 6+00

SHEET NO.

50 OF 117 SHEETS

Officer: Denton QEC13102 Date: Dec. 31, 2014 - 11:42:24 AM User: rjs File: N:\UTIL\Drawings\ov-utl-pp-as20.sht

MATCH LINE STA. 6+00

PROPOSED 8" SS LINE B

STA.11+20.00
END 8" SS LINE B
INSTALL:
1-8" PLUG
FL IN = 3,845.49'
N: 13257.00
E: 7676.16

STA. 10+98.00
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,845.39'
FL OUT = 3,845.29'
N: 13249.16
E: 7655.60

10' B.O.C. TO SS ℄

23.5' SS ℄ TO WL ℄

3840'

3845'

3850'

6+00

7+00

8+00

9+00

10+00

11+00

MONTOYA LANE

62' R.O.W.

PROPOSED 8" WL B

N

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

8" SS LINE B

8" SDR-35 PVC @ 0.5% 20 LF

EXISTING GROUND

PROPOSED GROUND

8" SDR-35 PVC @ 2.79% 496 LF

STA. 10+98.00
FL IN = 3,845.39'
FL OUT = 3,845.29'

STA. 11+20.00
FL IN = 3,845.49'

MATCH LINE STA. 6+00

| | 6+00 | 6+50 | 7+00 | 7+50 | 8+00 | 8+50 | 9+00 | 9+50 | 10+00 | 10+50 | 11+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EGL = | 3,840.00 | 3,840.68 | 3,842.03 | 3,844.52 | 3,846.33 | 3,847.74 | 3,848.13 | 3,847.94 | 3,848.67 | 3,848.89 | 3,850.13 |
| SS E. = | 3,831.45 | 3,832.84 | 3,834.24 | 3,835.63 | 3,837.03 | 3,838.43 | 3,839.82 | 3,841.22 | 3,842.61 | 3,844.01 | 3,845.39 |

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GEMINI & MOA AVENUE
REFERENCE TO THREE FEET CENTRAL
ELEVATION = 3870.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE NICHOLS

2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 387-8740
Fax - (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

12-30-14

STATE OF TEXAS
81073
LICENSED
PROFESSIONAL
ENGINEER
RANDALL J. SCHLIEMANN

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" SS LINE B
STA. 6+00
TO END

SHEET NO.

51 OF 117 SHEETS

Officer: Denton QEC15102 Date: Dec. 31, 2014 - 11:42:27 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-ss21.sht

Description: VII. Water & Sa...
Officer: Denton
Date: Dec. 31, 2014 - 11:42:27 AM
Project: Project Areas and Nichols, Inc.

INDIGO COURT

PROPOSED SD

STA. 0+98.00
CONNECT TO
PROPOSED SSMH
RIM = FINAL GRADE
FL IN = 3,827.27' (N)
FL IN = 3,826.94' (E)
FL OUT = 3,826.84' (W)
N: 12086.52'
E: 8156.08

PROPOSED 8" SS LINE C

EX. 12" SS TO BE ABANDONED, REMOVED, AND DISPOSED OF PROPERLY AFTER NEW 12" SS MAIN IS IN SERVICE.

STA. 5+98.00
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,835.15'
FL OUT = 3,835.05'
N: 12575.97
E: 8053.90

7.5' B.O.C. TO SS ℄

17' SS ℄ TO WL ℄

52' R.O.W.

STONE WASH STREET

3835'

3840'

3850'

3855'

1+00 2+00 3+00 4+00 5+00 6+00

PROPOSED 8" WL C

EX. 12" WL TO BE ABANDONED

PROPOSED 12" WL A

PROPOSED 12" SS LINE A

MATCH LINE STA. 6+00

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

## 8" SS LINE C

EXISTING GROUND

PROPOSED GROUND

STA. 0+98.00
20 LF 16"X12" STEEL CASING
FL IN = 3,827.27
FL IN = 3,826.94
FL OUT = 3,826.84

8" SDR-35 PVC @ 1.57% 496 LF

STA 1+07.38
PROP. 18" SD
FL = 3,829.34'

STA 5+98.00
EXISTING 12" SS TO BE ABANDONED, REMOVED, AND DISPOSED OF PROPERLY AFTER NEW 12" SS MAIN HAS BEEN INSTALLED AND ACCEPTED BY EPWU FIELD VERIFY

STA 5+98.00
FL IN = 3,835.15'
FL OUT = 3,835.05'

| | 1+00 | 1+50 | 2+00 | 2+50 | 3+00 | 3+50 | 4+00 | 4+50 | 5+00 | 5+50 | 6+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EGL = | 3,859.97 | 3,857.48 | 3,845.76 | 3,856.01 | 3,857.34 | 3,857.55 | 3,857.65 | 3,855.37 | 3,852.76 | 3,853.03 | 3,854.14 |
| SS E = | 3,827.27 | 3,828.05 | 3,828.84 | 3,829.52 | 3,830.41 | 3,831.19 | 3,831.98 | 3,832.76 | 3,833.54 | 3,834.33 | 3,835.15 |

3,850 3,845 3,840 3,835 3,830 3,825 3,820 3,815

REFERENCES - BENCHMARK
BENCHMARK - CITY MONUMENT AT THE INTERSECT. OF GEMAULT & MESA AVENUE
ELEVATION = 3,815.84 CITY DATUM

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205-2540
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

12-3-14

SCALE:
HORIZONTAL: 1"=40'
VERTICAL: 1"=4'
CONTOUR INTERVAL: 1'
DATE: DE-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE
8" SS LINE C
STA. 0+98 TO
STA. 6+00

SHEET NO.
52 OF 117 SHEETS

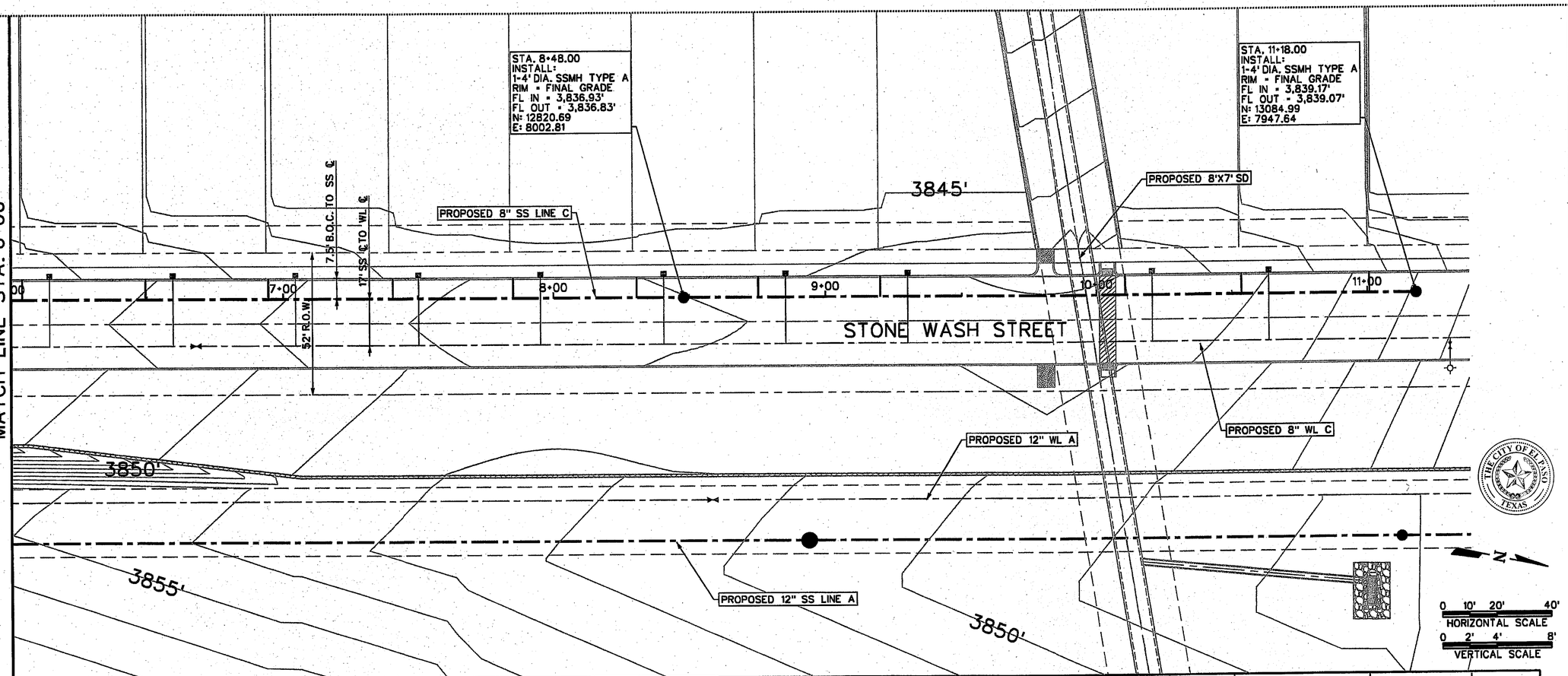
MicroStation V8 User: rja Office: Denton
QEC13102 N:\UTIL\Drawings\cv-util-pp-ss30.sht
Plot Scale: 20.0000 ' = 1.0000 ' Plot Driver: PDF
Date: Dec. 31, 2014 - 11:42:30 AM Model: Default
Project: Freese and Nichols, Inc.

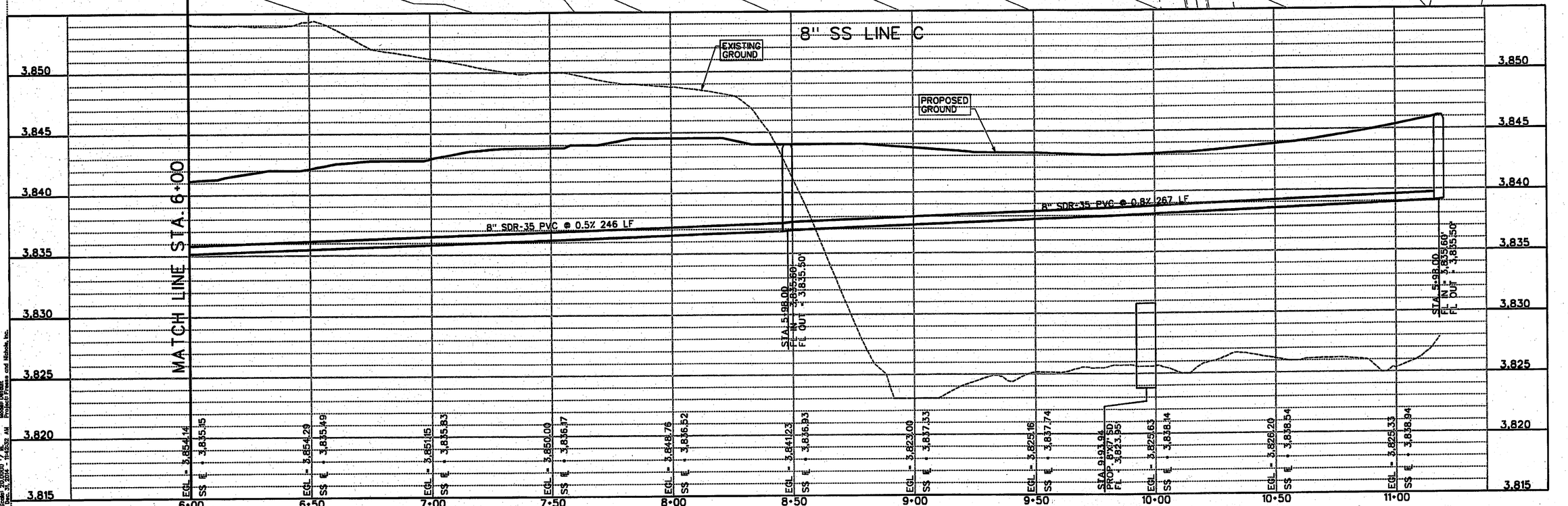
Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:42:30 AM User: rja File: N:\UTIL\Drawings\cv-util-pp-ss30.sht

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GEMAULT & MCA AVENUE REFERENCE IN THREE HILLS ADDITION.
ELEVATION - DATUM: CITY DATUM

| BY | REVISION | DATE |
|---|---|---|
| | | |


FREESE AND NICHOLS
2250 San Jacinto Blvd., Suite 350
Denton, Texas 76205
Phone: (940) 387-4740
Fax: (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


THE CITY OF EL PASO TEXAS

12-30-14

STATE OF TEXAS
81073
JAMES R. SIRMON
12/30/14

| | |
|---|---|
| SCALE: | |
| HORIZONTAL: | |
| VERTICAL: | |
| CONTOUR INTERVAL: | |
| DATE: | 06-2015 |
| DESIGN BY: | RJS |
| DRAWN BY: | RJS |
| CHKD BY: | RGK |
| APPVD: | RGK |
| JOB NO. | 1245 |

PROJECT TITLE

# WEST DESERT MARKETPLACE
## SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" SS LINE C
STA 6+00
TO END

SHEET NO.

53 OF 117 SHEETS


Officer: Denton GEC13102 Date: Dec. 31, 2014 - 11:42:32 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-ss31.sht

STA. 0+98.00
CONNECT TO
PROPOSED SSMH
RIM = FINAL GRADE
FL IN = 3,818.68'
FL OUT = 3,818.25'
N: 12035.38
E: 7886.21

ADIGO COURT

EX. 12" WL TO
BE ABANDONED
AFTER NEW SS MAIN
HAS BEEN INSTALLED
AND ACCEPTED BY EPWU

STA. 5+98.00
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,827.07'
FL OUT = 3,826.97'
N: 12524.83
E: 7784.03

22' SS ℄ TO WL ℄

4.5' B.O.C. TO SS ℄

PROPOSED 8" SS LINE D

EX. 8'X7' SD BOX

12' SS ℄ TO SD ℄

1+00 2+00 3+00 4+00 5+00

VINTAGE STREET

52' R.O.W.

3830 3835'

PROPOSED 12" SS LINE A

PROPOSED 24" SD

PROPOSED 8" WL D

PROPOSED 8" WL C

MATCH LINE STA. 6+00

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

## 8" SS LINE D

PROPOSED GROUND

EXISTING GROUND

8" SDR-35 PVC @ 1.67% 496 LF

EX. 8'X7' SD

STA. 0+98.00
20 LF 16"ø
STEEL CASING
FL IN = 3,818.68'
FL OUT = 3,818.25'

STA. 1+05.18
PROP 24" SD
FL = 3,820.75'

STA. 1+44.30 ℄
PROP 8" WL ℄
T.O.P. = 3,822.57'

STA. 4+88.85
EX 12" SS TO
BE ABANDONED
FIELD VERIFY

STA. 5+98.00
FL IN = 3,827.07'
FL OUT = 3,826.97'

MATCH LINE STA. 6+00

| | EGL | SS E |
|---|---|---|
| 1+00 | 3,827.72 | 3,818.68 |
| 1+50 | 3,827.21 | 3,819.52 |
| 2+00 | 3,825.81 | 3,820.35 |
| 2+50 | 3,827.61 | 3,821.19 |
| 3+00 | 3,829.60 | 3,822.02 |
| 3+50 | 3,835.54 | 3,822.86 |
| 4+00 | 3,837.34 | 3,823.69 |
| 4+50 | 3,839.07 | 3,824.53 |
| 5+00 | 3,841.03 | 3,825.37 |
| 5+50 | 3,841.27 | 3,826.20 |
| 6+00 | 3,842.32 | 3,827.07 |

3.835 3.830 3.825 3.820 3.815 3.810 3.805 3.800

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GERAULT & MCA AVENUE
REFERENCE IN THREE HILLS ADDITION
ELEVATION = 3,875.86 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE NICHOLS
2220 Stemmons Trail, Suite 380
Denton, Texas 76205
Phone: (940) 220-2540
Fax: (940) 387-4805
Web: www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

12-30-14

RONALD G. KING
81073
LICENSED
PROFESSIONAL
ENGINEER
STATE OF TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 08-2015
DESIGN BY: RJS
DRAWN BY: SBK
CHKD BY: SBK
APP'VD: RJS
JOB NO. 9245

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE
8" SS LINE D
STA. 0+98 TO
STA. 6+00

SHEET NO.

54 OF 117 SHEETS

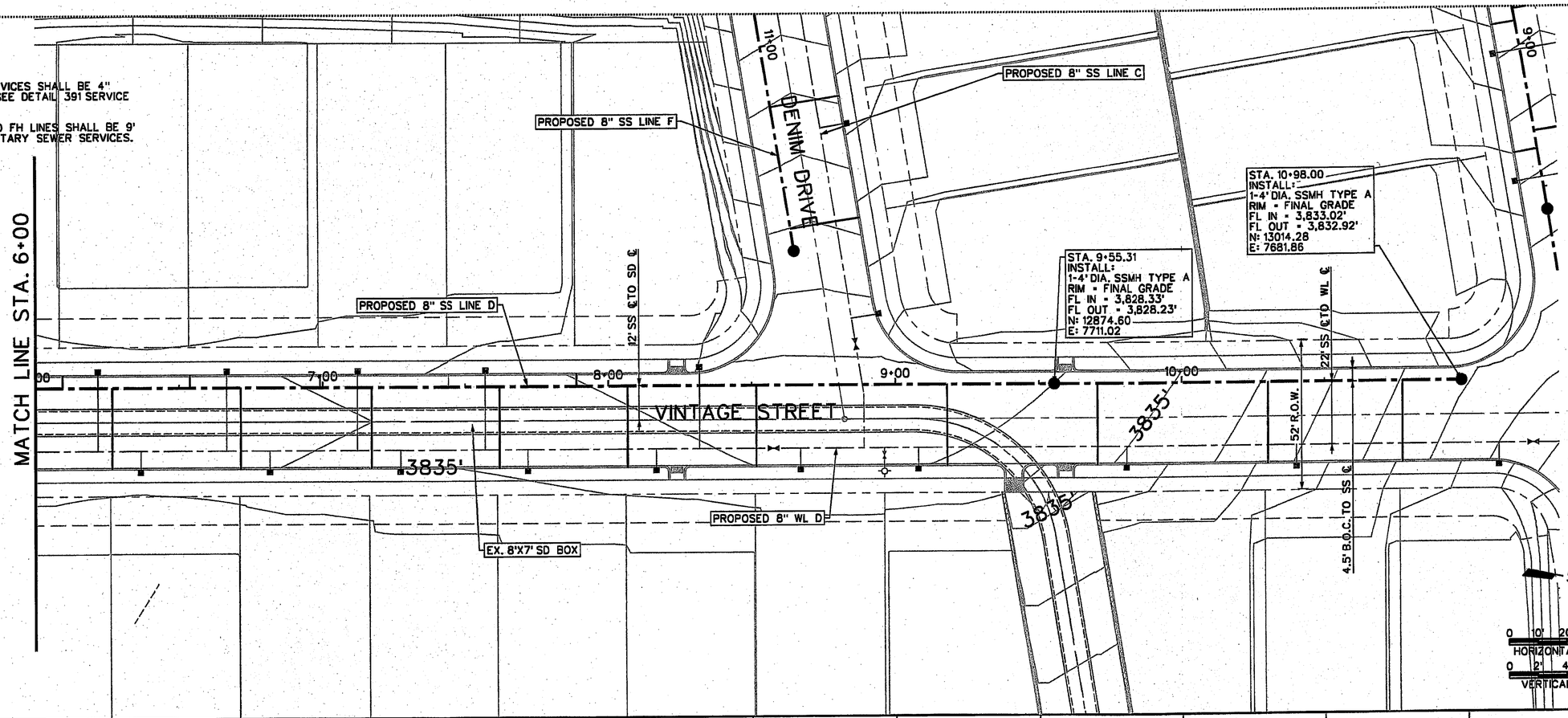
MicroStation V8 User: rje Office: Denton
GEC13102 N:\UTIL\Drawings\cv-util-pp-ss640.dgn
Plot Scale: 20.0000 ' / in. Model: Default
Plot Date: Dec. 31, 2014 - 11:42:34 AM Project: Freese and Nichols, Inc.

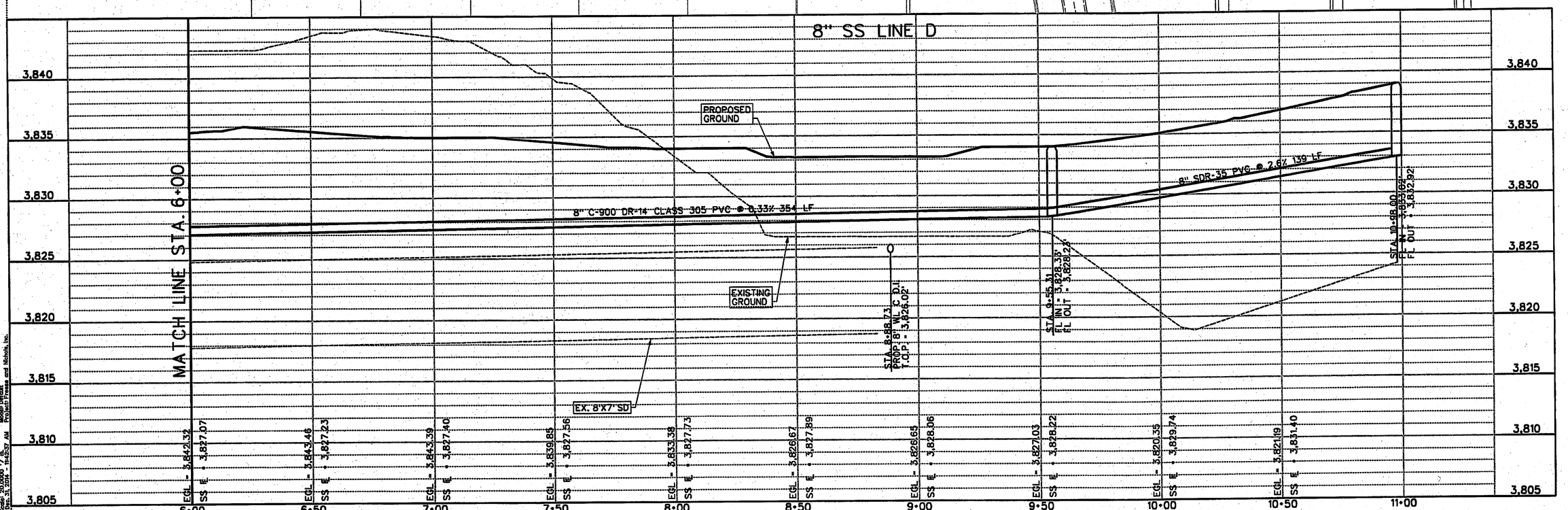
Office: Denton GEC13102 Date: Dec. 31, 2014 - 11:42:34 AM User: rje File: N:\UTIL\Drawings\cv-util-pp-ss640.dgn

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GEMINI & VEGA AVENUE REFERENCE BY THREE TELLS CONTROL
ELEVATION = 3870.849 CITY DATUM

| BY | REVISION | DATE |
|---|---|---|
| | | |


FREESE NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
(940) 220-2300 Fax
Fax: (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


THE CITY OF EL PASO TEXAS

12-30-14

STATE OF TEXAS
ROBERT G. KEMP
81078
LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL=
VERTICAL=
CONTOUR INTERVAL=

DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" SS LINE D
STA. 6+00
TO END

SHEET NO.

55 OF 117 SHEETS


Microstation V8 User: rjs Office: Denton
Project: N:\UTIL\Projects\PS\TXDF-Fletcher\Engr\Plat\Fletcher_N-Design-Plat.plt
Plotted: Dec. 31, 2014 - 11:42:37 AM Project: Freese and Nichols, Inc.
Date: Dec. 31, 2014 - 11:42:37 AM

Office: Denton QEC15102 Date: Dec. 31, 2014 - 11:42:37 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-ss41.sht

STA. 0+98.00
CONNECT TO
PROPOSED SSMH
RIM = FINAL GRADE
FL IN = 3,810.93'
FL OUT = 3,810.50'
N: 12035.40
E: 7615.81

EX. 12" WL TO
BE ABANDONED
AFTER NEW SS MAIN
HAS BEEN INSTALLED
AND ACCEPTED BY EPWU

STA. 4+48.00
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,814.83'
FL OUT = 3,814.73'
N: 12378.02
E: 7544.31

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

INDIGO COURT

PROPOSED 8" SS LINE E

PROPOSED 8" SS LINE A

PROPOSED 36" SD

PROPOSED 8" WL C

PROPOSED 8" WL E

POCKET PLACE

3820'

52' R.O.W.

13' S.S. TO WL ℄

11.5' B.O.C. TO SS ℄

1+00 2+00 3+00 4+00 5+00 6+

MATCH LINE STA. 6+00

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

8" SS LINE E

EXISTING GROUND

PROPOSED GROUND

8" SDR-35 PVC @ 1.13% 346 LF

8" SDR-35 PVC @ 0.41% 150 LF

STA. 0+98.00
SSMH
STEEL CASING
FL IN = 3,810.93'
FL OUT = 3,810.50'

STA. 1+96.26
PROP. 36" SD
FL = 3,813.01'

STA. 1+14.41
PROP. 8" WL C
T.O.P. = 3,814.51'

STA. 3+23.73
EXI. 12" SS TO
BE ABANDONED
FIELD VERIFY

STA. 4+48.00
IN = 3,814.83'
FL OUT = 3,814.43'

MATCH LINE STA. 6+00

| | 1+00 | 1+50 | 2+00 | 2+50 | 3+00 | 3+50 | 4+00 | 4+50 | 5+00 | 5+50 | 6+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EGL = | 3,825.82 | 3,823.92 | 3,825.94 | 3,828.39 | 3,830.78 | 3,833.11 | 3,836.62 | 3,837.63 | 3,840.94 | 3,841.06 | 3,840.10 |
| SS E = | 3,810.93 | 3,811.49 | 3,812.06 | 3,812.62 | 3,813.19 | 3,813.75 | 3,814.31 | 3,814.93 | 3,815.13 | 3,815.34 | 3,815.34 |

3.830 3.825 3.820 3.815 3.810 3.805 3.800 3.795

REFERENCES - BENCHMARK:
BENCHMARK - CITY MONUMENT AT THE INTERSECTION OF QUAMALT & INCA AVENUE
ELEVATION = 3,878.66 CITY DATUM

| BY | REVISION | DATE |
|---|---|---|
| | | |


FREESE NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205-4340
Phone: (940) 220-4340
Fax: (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


THE CITY OF EL PASO TEXAS

12-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RSK
APPVD: RSK
JOB NO. 1245

PROJECT TITLE

# WEST DESERT MARKETPLACE
## SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" SS LINE E
STA. 0+98 TO
STA. 6+00

SHEET NO.

56 OF 117 SHEETS


Microstation V8 User: rje Office: Denton
Plotted By: rje Plot Date: Dec. 31, 2014 - 11:42:39 AM
Plotter: \\Plot04_VS_1N-VSP_Plot\HP-36inch-1st
Project: Freese and Nichols, Inc.
Date: Dec. 31, 2014 - 11:42:39 AM
Project: Freese and Nichols, Inc.

Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:42:39 AM User: rje File: N:\UTIL\Drawings\cv-utl-pp-ss50.sht

MATCH LINE STA. 6+00

PROPOSED 8" SS LINE F

STA. 7+28.00
END 8" SS LINE E
INSTALL:
1-4' DIA. SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,816.15'
FL OUT = 3,816.05'
N: 12652.12
E: 7487.11

PROPOSED 8" SS LINE E

7+00

POCKET PLACE

PROPOSED 8" WL E

9+00

DENIM DRIVE

3820'

10+00

PROPOSED 8" WL C

PROPOSED 8" SS LINE H

7+00

PRIME DESERT DRIVE

8+00

PROPOSED 8" WL F

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

N

0 10' 20' 40'
HORIZONTAL SCALE

0 2' 4' 8'
VERTICAL SCALE

8" SS LINE E

EXISTING GROUND

PROPOSED GROUND

8" SDR-35 PVC @ 0.41% 126 LF

STA. 7+28.00
FL IN = 3,816.15'
FL OUT = 3,816.05'

MATCH LINE STA. 6+00

EGL = 3,840.10
SS E = 3,815.54

EGL = 3,835.72
SS E = 3,815.74

EGL = 3,829.22
SS E = 3,815.95

3.830
3.825
3.820
3.815
3.810
3.805
3.800
3.795

6+00
6+50
7+00
7+50

REFERENCES - BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF GUADALUPE & MESA AVENUE REFERENCE IN THREE FILES POSITIVE
ELEVATION - 3816.66 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |


FREESE NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone: (940) 220-4900
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


THE CITY OF EL PASO TEXAS

11-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" SS LINE E
STA. 6+00
TO END

SHEET NO.

57 OF 117 SHEETS


Micro Station V8 User id: Officer Denton
GEC13102 M:\UTIL\Drawings\cov-util-pp-as51.sht
Plotted at: 30.000 by M:\UTIL\Plot_24W_Mono.plt
Date: Dec. 31, 2014 - 11:42:42 AM Model: Default
Project: Freese and Nichols, Inc.


Office: Denton GEC13102 Date: Dec. 31, 2014 - 11:42:42 AM User: rjs File: M:\UTIL\Drawings\cov-util-pp-as51.sht

PROPOSED 12" SS LINE A

PROPOSED 42" SD

PROPOSED 2-8" SS LINE F

PROPOSED 42" SD

STA. 3+78.05
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,803.29'
FL OUT = 3,803.19'
N: 12310.55
E: 7277.47

PROPOSED 8" WL LINE G

PROPOSED 8" SS LINE G

STA. 5+34.39
INSTALL:
1-6' EXTERNAL
DROP SSMH TYPE B
RIM = FINAL GRADE
FL IN = 3,803.84'
FL IN = 3,796.43'
FL OUT = 3,807.26'
FL OUT = 3,796.33'
N: 12463.59
E: 7245.53

16' SS ℄ TO WL ℄

8.5' O.C. TO SS ℄

32' R.O.W.

INDIGO COURT

RIVET PLACE

FASHION STREET

3810'

1+00 2+00 3+00 4+00 5+00 6+00

PROPOSED 24" SD

PROPOSED 8" WL ℄

EX. 12" SS TO BE ABANDONED AFTER NEW SS MAIN HAS BEEN INSTALLED ACCEPTED BY EPWU

STA. 0+97.00
CONNECT TO PROPOSED EXTERNAL 4' DROP SSMH
RIM = FINAL GRADE
FL IN = 3,802.28'
FL IN = 3,794.57'
FL OUT = 3,794.24'
N: 12035.42
E: 7334.88

MATCH LINE STA. 6+00

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED. SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

N

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

8" SS LINE F

EXISTING GROUND

PROPOSED GROUND

8" SDR-35 PVC @ 0.33% 278 LF

8" SDR-35 PVC @ 2.61% 153 LF

8" SDR-35 PVC @ 0.33% 62 LF

8" SDR-26 PVC @ 0.41% 433 LF

STA. 0+97.00 CONNECT TO PROPOSED EXTERNAL 4' DROP SSMH FL IN = 3,802.28' FL IN = 3,794.57' FL OUT = 3,794.24'

EX. 12" SS TO BE ABANDONED

STA. 1+15.00

STA. 1+68.20 10 LF 16" CASING STEEL CASING PROP. 42" SD FL = 3,797.39

STA. 3+78.05 FL IN = 3,803.29' FL OUT = 3,803.19'

STA. 5+34.39 FL IN = 3,803.84' FL IN = 3,796.43' FL OUT = 3,807.26' FL OUT = 3,796.33'

STA. 5+50.04 PROP. 8" WL ℄ T.O.P. = 3,806.26'

MATCH LINE STA. 6+00

| | 1+00 | 1+50 | 2+00 | 2+50 | 3+00 | 3+50 | 4+00 | 4+50 | 5+00 | 5+50 | 6+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EGL = | 3,827.59 | 3,826.00 | 3,827.15 | 3,826.82 | 3,824.92 | 3,825.13 | 3,825.67 | 3,824.33 | 3,824.73 | 3,821.69 | 3,825.05 |
| SS ℄ = | 3,794.57 | 3,794.78 | 3,794.98 | 3,795.18 | 3,795.38 | 3,795.59 | 3,795.79 | 3,795.89 | 3,796.20 | 3,803.88 | 3,804.05 |

3.820 3.815 3.810 3.805 3.800 3.795 3.790 3.785

REFERENCES - BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECT. OF GIRAULT & MCA AVENUE
DESCRIPTION: BRASS DISK STAMPED "EL PASO"
ELEVATION = 3,815.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Austin, Texas 78705
Phone - (940) 220-4340
Fax - (940) 397-4077
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

12-30-14

RONALD G. KING
81107
LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL: 1"=
VERTICAL: 1"=
CONTOUR INTERVAL:

DATE: 08-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" SS LINE F
STA. 0+97 TO
STA. 6+00

SHEET NO.

58 OF 117 SHEETS

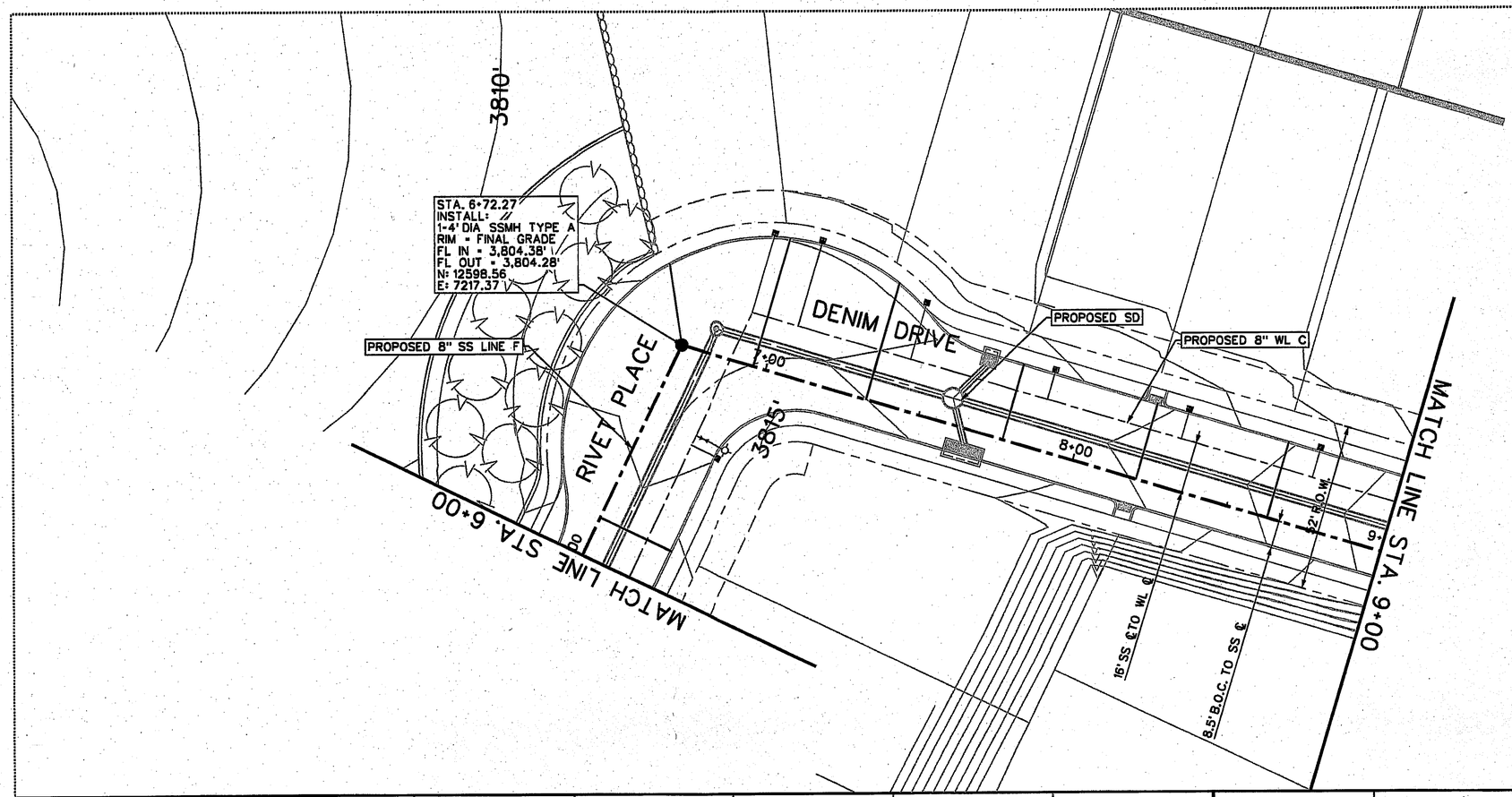
Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:42:44 AM User: rjs File: N:\UTIL\Drawings\ov-util-pp-ss60.sht

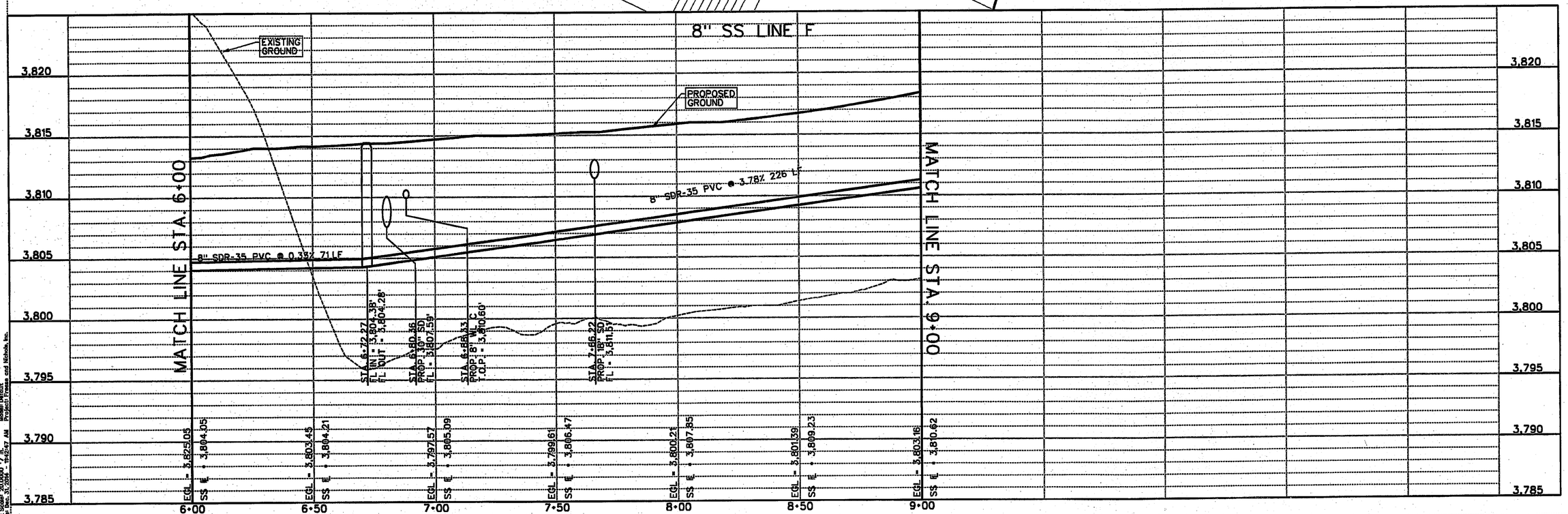
Modification: VB User: rjs Office: Denton
QEC13102 N:\UTIL\Drawings\ov-util-pp-ss60.plt
Plotted at: 20.000000 by VB/P...ne\Desktop\ov-util-pp-ss60.plt
Date: Dec. 31, 2014 - 11:42:44 AM Model: Default
Project: Freese and Nichols Inc.

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.




N

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

REFERENCES - BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF DENIM DR & MCA AVENUE
REFERENCE BY THREE HILLS ADDITION
ELEVATION = 3,819.644 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144

2200 San Jacinto Blvd., Suite 330
Austin, Texas 78701
Phone - (940) 220-4940
Fax - (940) 387-4677
Web - www.freese.com

THE CITY OF EL PASO TEXAS

12-30-14

RONALD G. KING 81079 LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 08-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APP'VD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

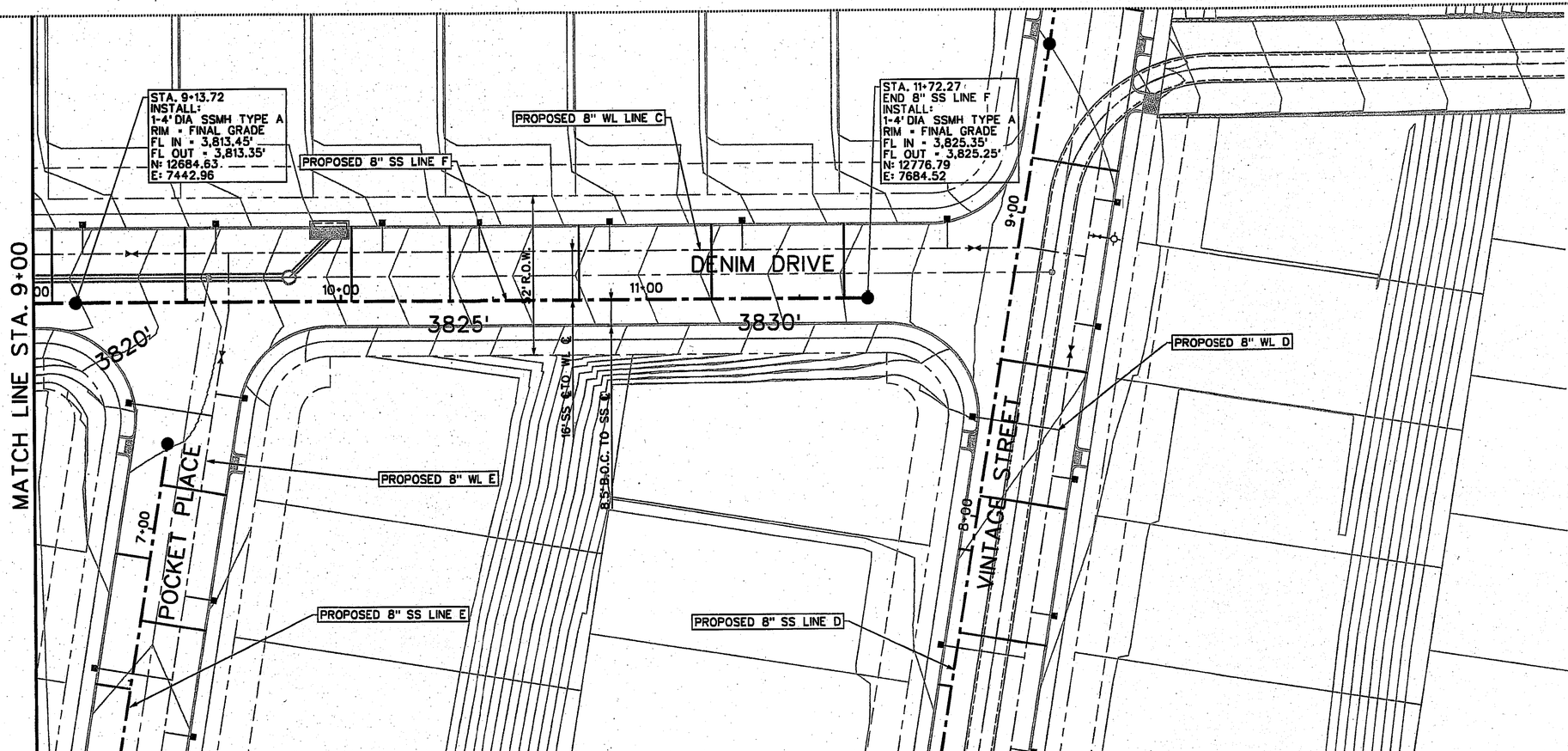
SHEET TITLE

8" SS LINE F
STA. 6+00 TO
STA. 9+00

SHEET NO.

59 OF 117 SHEETS

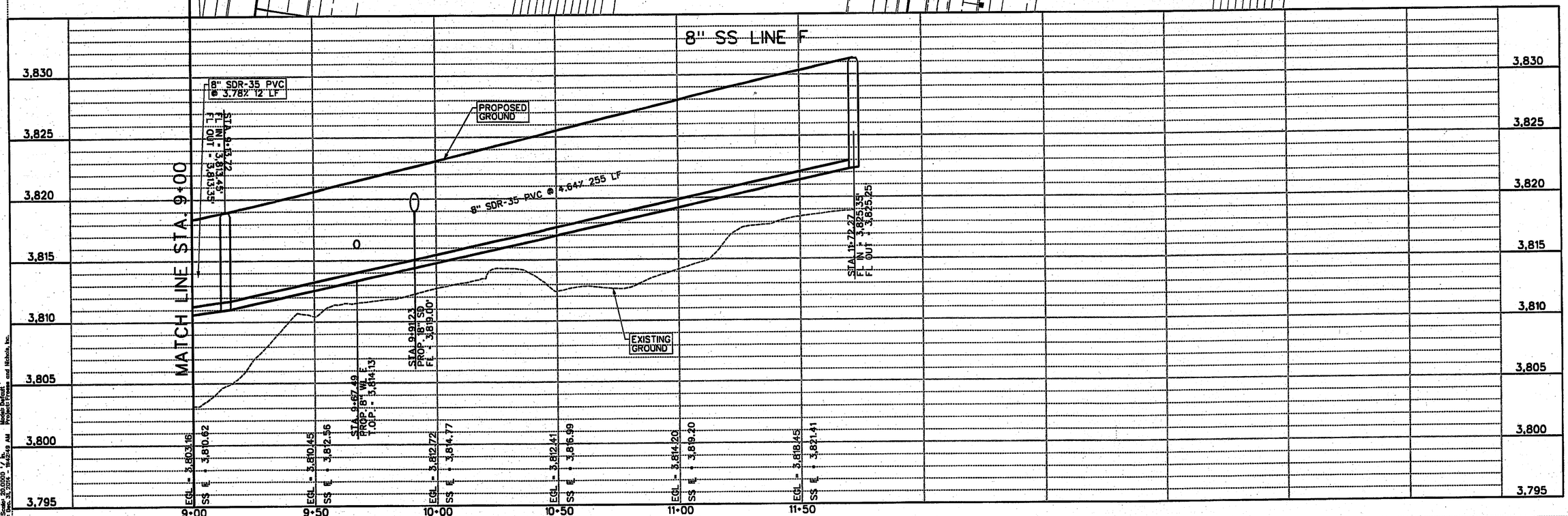
MicroStation V8 User: rjs Office: Denton
Design: C:\projects\1245\Civil\Plan-Profile\pp-ss01.dgn
Model: Default
Plot Scale: 20.0000 ' / in.
Date: 12/30/2014 - 11:42:47 AM Model: Default
Project: C:\projects\1245\Civil\Plan-Profile\pp-ss01.plt
Plotted by: rjs on




NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF MARGARET & RICH AVENUE
REFERENCE # THREE HILLS 'CENTRAL'
ELEVATION - DATUM: CITY DATUM

| DATE | REVISION | BY |
|---|---|---|
| | | |

FREESE NICHOLS
2320 San Jacinto Blvd., Suite 350
Denton, Texas 76205
Phone - (940) 220-4340
Fax - (940) 497-8557
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

12-30-14
RONALD G. KING
81073
LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL
VERTICAL
CONTOUR INTERVAL

| DATE: | 08-2013 |
|---|---|
| DESIGN BY: | RJS |
| DRAWN BY: | RJS |
| CHKD BY: | RGK |
| APPD BY: | RGK |
| JOB NO. | 1245 |

PROJECT TITLE

# WEST DESERT MARKETPLACE
## SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

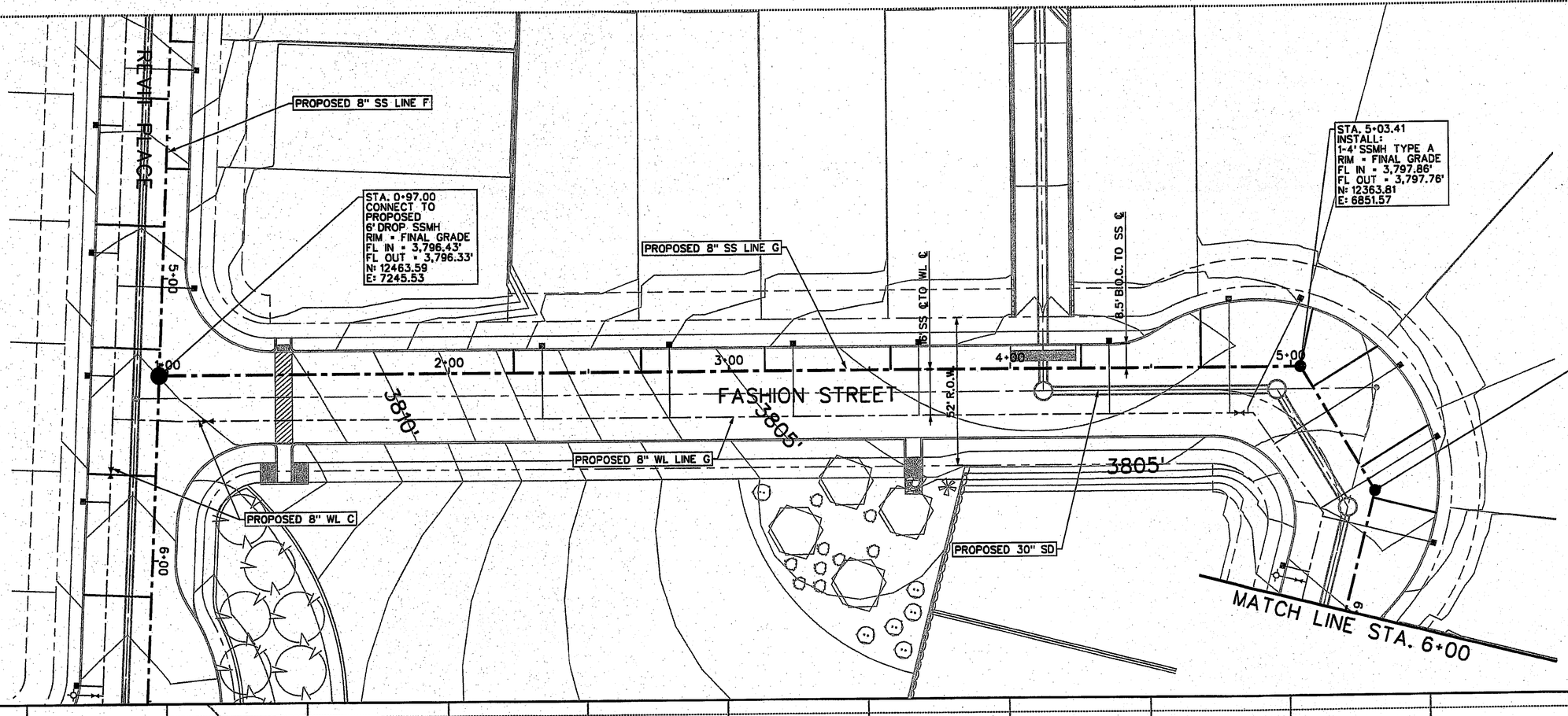
SHEET TITLE

8" SS LINE F
STA. 9+00
TO END

SHEET NO.

60 OF 117 SHEETS

MicroStation V8 User: rjs Officer: Denton
Design File: N:\UTIL\Drawings\cv-util-pp-ss02.dgn
Active Model: Default Level: PROF_storm-Default
Plot Scale: 20.0000 'x' Plot Offset: 0.0000, 0.0000
Plot Date: 31-Dec-14 11:42:49 AM Mode: Default
Copyright 2014 Bentley Systems, Incorporated and Nichols, Inc.




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GEMAULT & NOA AVENUE
REFERENCE IN TYPED FILE'S NOTEPAD
ELEVATION - 3979.84 CITY DATUM

| BY | REVISION | DATE |
|---|---|---|
| | | |


FREESE AND NICHOLS
2220 San Jacinto Blvd, Suite 330
Denton, Texas 76205
Phone (940) 387-4310
Fax (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


THE CITY OF EL PASO TEXAS

12-30-11

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RBK
APPV'D: RBK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" SS LINE G
STA. 0+97 TO
STA. 6+00

SHEET NO.

61 OF 117 SHEETS


MicroStation V8i User: rje
Officer: Denton
Date: Dec. 31, 2014 - 11:42:52 AM
Project: N:\UTIL\Drawings\cv-util-pp-se70.dgn
Plot Scale: 1.0000 ft/in
Plot Date: 31 Dec 2014 - 11:42:52 AM
Project Freese and Nichols, Inc.

Officer Denton QEC13102 Date: Dec. 31, 2014 - 11:42:52 AM User: rje File: N:\UTIL\Drawings\cv-util-pp-se70.sht

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

STA. 6+25.00
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,798.44'
FL OUT = 3,798.34'
N: 12470.36
E: 6815.25

STA. 8+73.28
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,810.82'
FL IN = 3,810.82'
FL OUT = 3,810.72'
N: 12718.65
E: 6815.25

STA. 9+81.32
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL OUT = 3,815.97'
N: 12826.68
E: 6815.25

PROPOSED 8" SS G
PROPOSED 36" SD
PROPOSED 24" SD
PROPOSED 8" WL G
PROPOSED 8" WL F
PROPOSED 8" SS H
8" SS @ 0.0% C. TO SS G
16" SS @ 3% TO WL G
52' R.O.W.
120'
FASHION STREET
PRIME DESERT DRIVE
MATCH LINE STA. 6+00
3810'
3815'
3820'
7+00
8+00
9+00

N

0 10' 20' 40'
HORIZONTAL SCALE

0 2' 4' 8'
VERTICAL SCALE

8" SS LINE G

EXISTING GROUND
PROPOSED GROUND
8" SDR-35 PVC @ 0.33% 23 LF
8" SDR-35 PVC @ 3.03% 245 LF
8" SDR-35 PVC @ 4.95% 98 LF

STA. 6+04.18
PROP. 18" SD
FL = 3,802.30'

STA. 6+25.00
FL IN = 3,798.44'
FL OUT = 3,798.34'

STA. 8+73.28
FL IN = 3,810.82'
FL IN = 3,810.82'
FL OUT = 3,810.72'

STA. 9+81.32
FL OUT = 3,815.97'

EGL = 3,783.22
SS E. = 3,798.26
EGL = 3,785.00
SS E. = 3,799.50
EGL = 3,786.96
SS E. = 3,802.11
EGL = 3,806.40
SS E. = 3,804.52
EGL = 3,822.08
SS E. = 3,807.14
EGL = 3,823.80
SS E. = 3,809.55
EGL = 3,825.47
SS E. = 3,812.04
EGL = 3,829.36
SS E. = 3,814.52

3,820
3,815
3,810
3,805
3,800
3,795
3,790
3,785

6+00
6+50
7+00
7+50
8+00
8+50
9+00
9+50
10+00

REFERENCES - BENCHMARK
BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GEMINI ST & NCA AVENUE
REFERENCE IS THREE MILES ADDITIONAL
ELEVATION = 3979.444 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone: (940) 387-8740
Fax: (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-244

THE CITY OF EL PASO
TEXAS

11-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: DEC-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245.

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

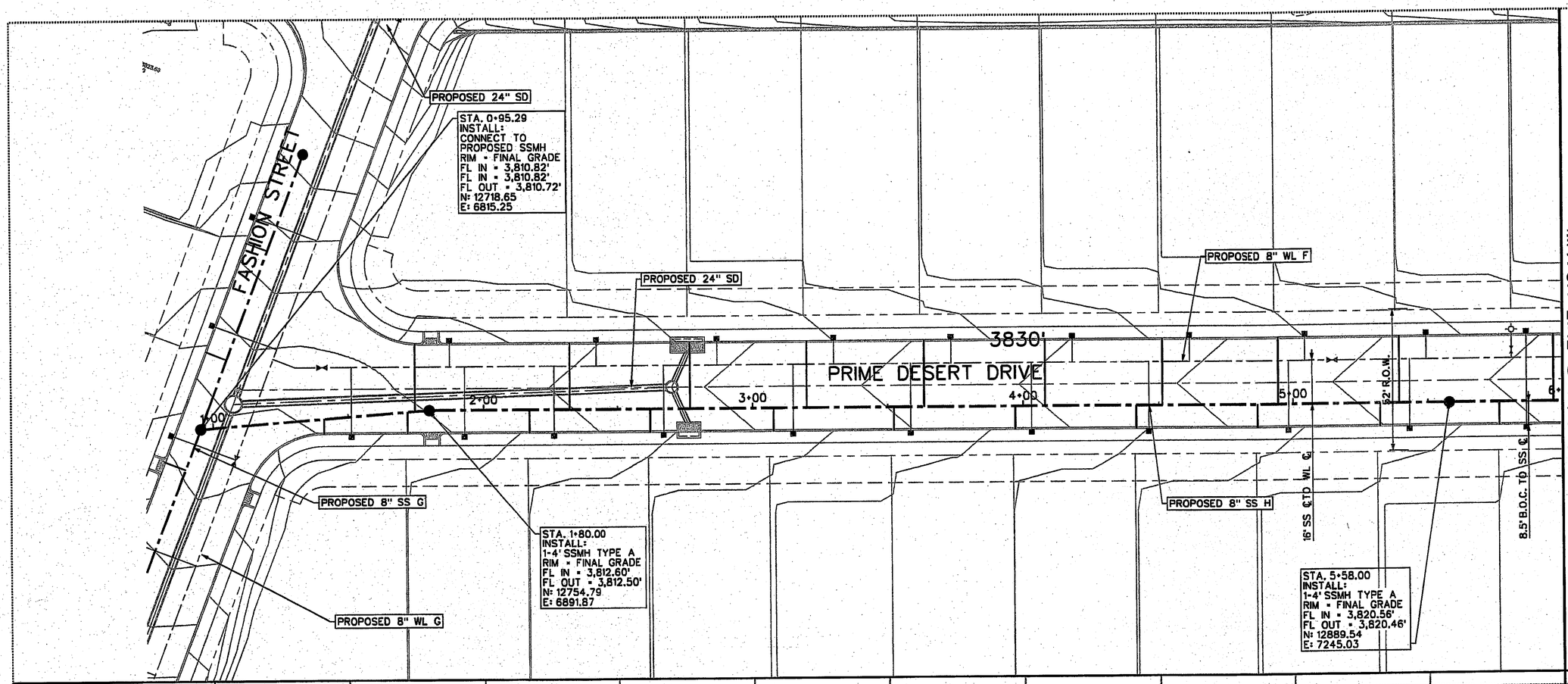
SHEET TITLE

8" SS LINE G
STA. 6+00
TO END

SHEET NO.

62 OF 117 SHEETS

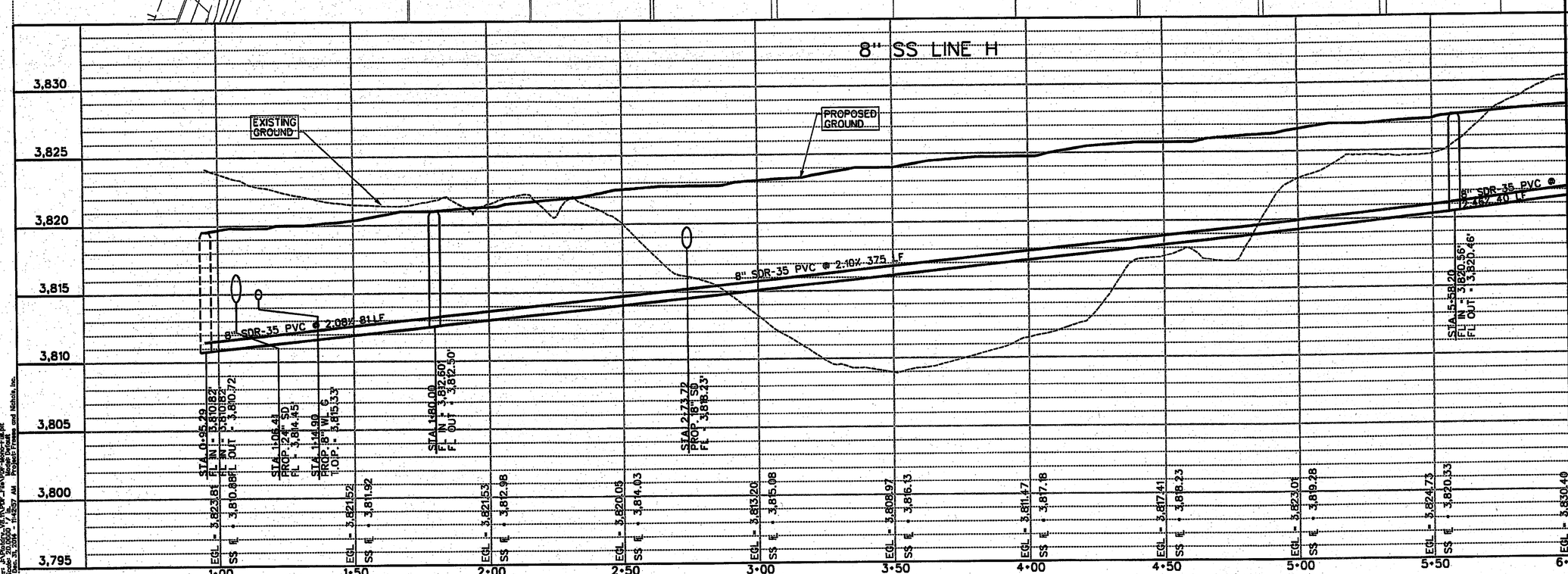
MicroStation V8 (User: rje
Officer: Denton
Design File: N:\UTIL\Drawings\cv-util-pp-ss71.sht
Plotted By: rje
Plot Date: 31 DEC 2014 11:42:55 AM
Project: Freese and Nichols, Inc.




NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GRANULY & NCA AVENUE
REFERENCE IN THREE HILLS ADDITION
ELEVATION = 3876.84 CITY DATUM

| DATE | REVISION | BY |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

12-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 08-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" SS LINE H
STA. 0+98 TO
STA. 6+00

SHEET NO.

63 OF 117 SHEETS

Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:42:57 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-ss80.sht

STA. 9+58.00
INSTALL:
1-4' SSMH TYPE A
RIM = FINAL GRADE
FL IN = 3,830.39'
FL OUT = 3,830.29'
N: 13032.12
E: 7618.76

PROPOSED 8" WL F

MATCH LINE STA. 6+00

3830'

PRIME DESERT DRIVE

3835'

MATCH LINE STA. 11+00

6+00 7+00 8+00 9+00 10+00 11+

52'-60' R.O.W.

16' SS ℄ TO WL ℄

8.5' B.O.C. TO SS ℄

3840'

VINTAGE STREET

PROPOSED 8" SS H

PROPOSED 8" SS D

PROPOSED 8" WL D

NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

N

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

8" SS LINE H

EXISTING GROUND

PROPOSED GROUND

8" SDR-35 PVC @ 2.46% 356 LF

8" SDR-35 PVC @ 4.34% 140 LF

STA. 6+09.73
PROP. 18" SD
F.L. = 3,824.75'

STA. 9+58.00
FL IN = 3,830.39'
FL OUT = 3,830.29'

STA. 10+39.06
PROP. 8" WL D
T.O.P. = 3,837.25'

MATCH LINE STA. 6+00

MATCH LINE STA. 11+00

3,840 3,835 3,830 3,825 3,820 3,815 3,810 3,805

| | 6+00 | 6+50 | 7+00 | 7+50 | 8+00 | 8+50 | 9+00 | 9+50 | 10+00 | 10+50 | 11+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EGL = | 3,830.40 | 3,833.46 | 3,836.64 | 3,836.13 | 3,837.65 | 3,841.55 | 3,833.41 | 3,842.64 | 3,838.82 | 3,842.52 | 3,851.00 |
| SS E = | 3,821.54 | 3,822.77 | 3,824.00 | 3,825.22 | 3,826.45 | 3,827.68 | 3,828.91 | 3,830.14 | 3,832.14 | 3,834.33 | 3,836.52 |

REFERENCES - BENCHMARK

BENCHMARK - CITY BENCHMART AT THE INTERSECT OF GEMAULT & MESA AVENUE
REFERENCE #1 THREE TILES ADDITIONAL
ELEVATION - 3819.64 CITY DATUM

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE NICHOLS
2201 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone: (940) 382-3340
Fax: (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

12-30-14

ROBERT A. JOHNSON
81075
LICENSED
PROFESSIONAL
ENGINEER
STATE OF TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: DEC-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RSK
APPVD: RSK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

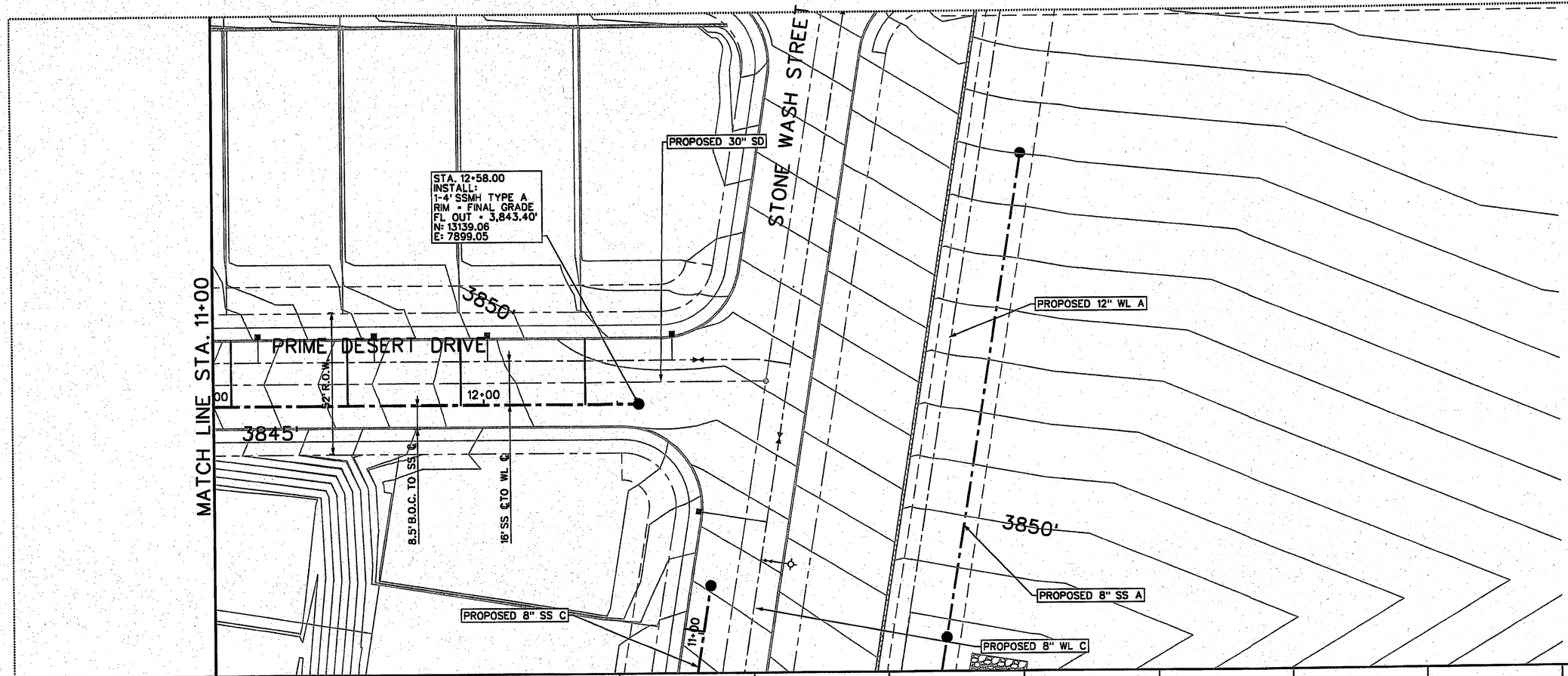
8" SS LINE H
STA. 6+00 TO
STA. 11+00

SHEET NO.

64 OF 117 SHEETS

MicroStation V8 User: rje Officer: Denton
Dataset: Denton_V8 Design File: N:\UTIL\Drawings\cv-util-pp-as81.dgn
Plot Scale: 20.0000 ' = 1 in. Plot Date: 30 Dec 2014 - 11:42:59 AM Plotted By: rje
Project Process and Nichols, Inc.

Officer: Denton QEC13102 Dated: Dec. 01, 2014 - 11:42:59 AM User: rje File: N:\UTIL\Drawings\cv-util-pp-as81.sht

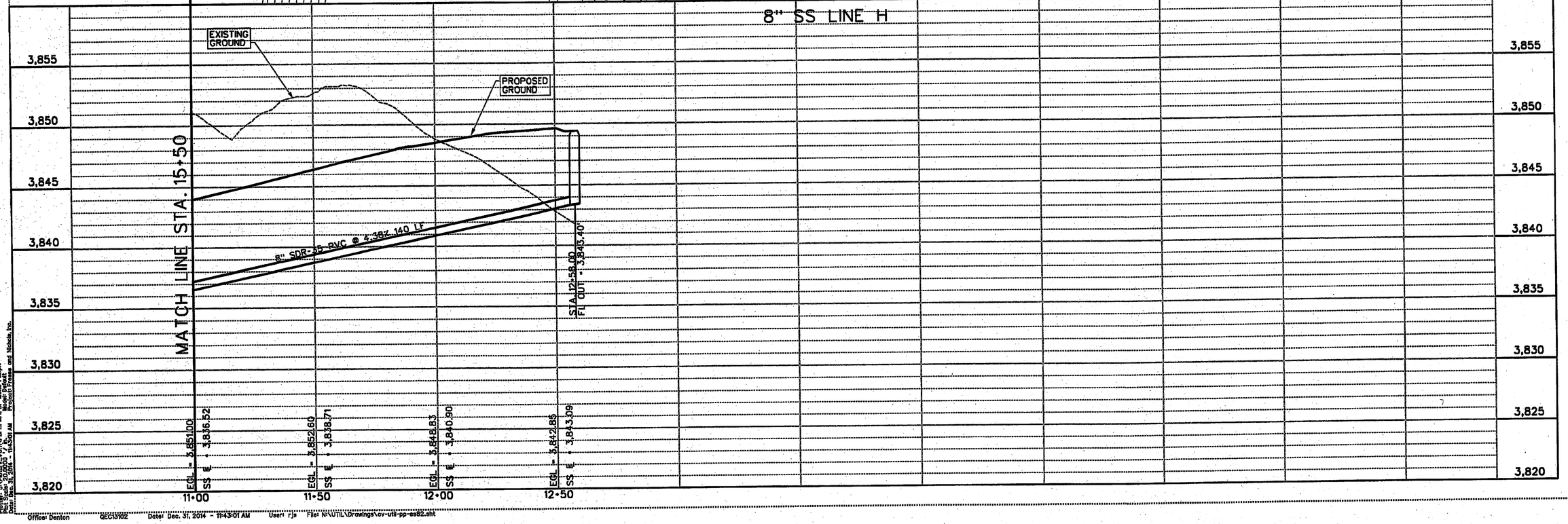



NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED, SEE DETAIL 391 SERVICE DETAILS.

2. ALL WATER SERVICES AND FH LINES SHALL BE 9' O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GEMINAIT & INCA AVENUE
REFERENCE BY THREE MILE ADDITION
ELEVATION = 3879.66 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE AND NICHOLS
2228 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone: (940) 382-3340
Fax: (940) 382-2497
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

12-30-14

RONALD S. KIRK
81073
LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:

DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RGK
CHKD BY: RGK
APP'VD:
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" SS LINE H
STA. 11+00
TO END

SHEET NO.

65 OF 117 SHEETS

MicroStation V8 User: rjs Office: Denton
Model: C:\Projects\GEC13102\Drawings\cv-util-pp-ss02.dgn
GEC13102 Dec. 31, 2014 - 11:43:01 AM rjs
Plot Scale: 20.0000 ' = 1 " Model Default
Plot Date: 31 DEC 2014 - 11:43:01 AM Model Default
Copyright 2014 Freese and Nichols, Inc.

Office: Denton GEC13102 Date: Dec. 31, 2014 - 11:43:01 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-ss02.sht

NOTES:

1. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION

STA. 1+47.69
INSTALL:
1-12"X90° BEND
Δ= 81°
N= 13442.22
E= 8227.67

STA. 1+60.38
INSTALL:
1-2" COMBINATION ARV
N= 13437.69
E= 8215.81

STA. 1+72.21
INSTALL:
1-12"X6" TEE
1-FH ASSEMBLY
N= 13433.48
E= 8204.76

STA. 1+05.08
INSTALL:
1-12" GV
N= 13483.92
E= 8218.90

STA. 1+00.00
BEGIN 12" WL
INSTALL:
1-12" PLUG
N= 13488.89
E= 8217.86

STA. 4+47.02
INSTALL:
1-12"X11.25° BEND
Δ= 9.09°
N= 13323.96
E= 7973.82

STA. 4+32.82
INSTALL:
1-12" GV
N= 13337.22
E= 7968.76

STA. 4+18.00
INSTALL:
1-12" GV
N= 13345.86
E= 7975.12

STA. 4+27.02
INSTALL:
1-12"X12" TEE
1-12"X8" REDUCER (W)
N= 13342.65
E= 7966.69

EX. 48" WL TO BE RELOCATED BY OTHERS

NEW 48" WL BY OTHERS

PROPOSED 12" WL A

PROPOSED 8" WL B

PROPOSED 8" WL C

25' PSB WATER EASEMENT

10' WL ℄

15' WL &TO SS ℄

5' EASEMENT 10' WL ℄

25' PSB EASEMENT

MONTOYA LANE

STONE WASH STREET

MATCH LINE STA. 6+00

3855'

3860'

1+00

2+00

3+00

4+00

5+00

0 10' 20' 40'
HORIZONTAL SCALE

0 2' 4' 8'
VERTICAL SCALE

## 12" WATER LINE A

PROPOSED GROUND

EXISTING GROUND

12" C-900 DR-14 CLASS 305 PVC WL @ 0%

12" C-900 DR-14 CLASS 305 PVC WL @ -4.71%

STA 1+00.00
T.O.P. = 3,854.24
12" PLUG

STA 1+05.08
12" GV

STA 1+60.38
2" COMBINATION ARV

STA 1+72.21
12"X6" TEE

EGL = 3,870.63
T.O.P. = 3,854.24

EGL = 3,870.00
T.O.P. = 3,854.24

EGL = 3,867.03
T.O.P. = 3,854.24

EGL = 3,861.91
T.O.P. = 3,854.24

EGL = 3,859.16
T.O.P. = 3,854.24

EGL = 3,858.85
T.O.P. = 3,854.24

EGL = 3,858.66
T.O.P. = 3,854.24

STA 4+18.00
12" GV

STA 4+27.02
12"X12" TEE

STA 4+32.82
12" GV
EGL = 3,858.09
T.O.P. = 3,853.57

VPI STA 4+35.71
T.O.P. = 3,854.24*

EGL = 3,861.01
T.O.P. = 3,851.21*

EGL = 3,854.32
T.O.P. = 3,848.86

EGL = 3,840.56
T.O.P. = 3,846.50

MATCH LINE STA. 6+00

3,865
3,860
3,855
3,850
3,845
3,840
3,835
3,830

1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00

REFERENCES - BENCHMARK

BENCHMARK - CITY OF EL PASO BENCHMARK AT GUNNELL & MCA AVENUE
BEARINGS ARE BASED ON THE EL PASO COUNTY COORDINATE SYSTEM, NAD 83, 2011 ADJUSTMENT
ELEVATION = DATUM: CITY DATUM

| BY | DATE | REVISION |
|---|---|---|
| | | |


FREESE NICHOLS
2220 San Jacinto Blvd, Suite 330
Austin, Texas 78705
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


THE CITY OF EL PASO TEXAS

STATE OF TEXAS
81073
RONALD G. KING
LICENSED PROFESSIONAL ENGINEER
12-30-14

SCALE:
HORIZONTAL: 1"=40'
VERTICAL: 1"=4'
CONTOUR INTERVAL: N/A
DATE: 06-2015
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RSK
APPVD: RSK
JOB NO. 1245

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENTS PLANS

EL PASO, TEXAS

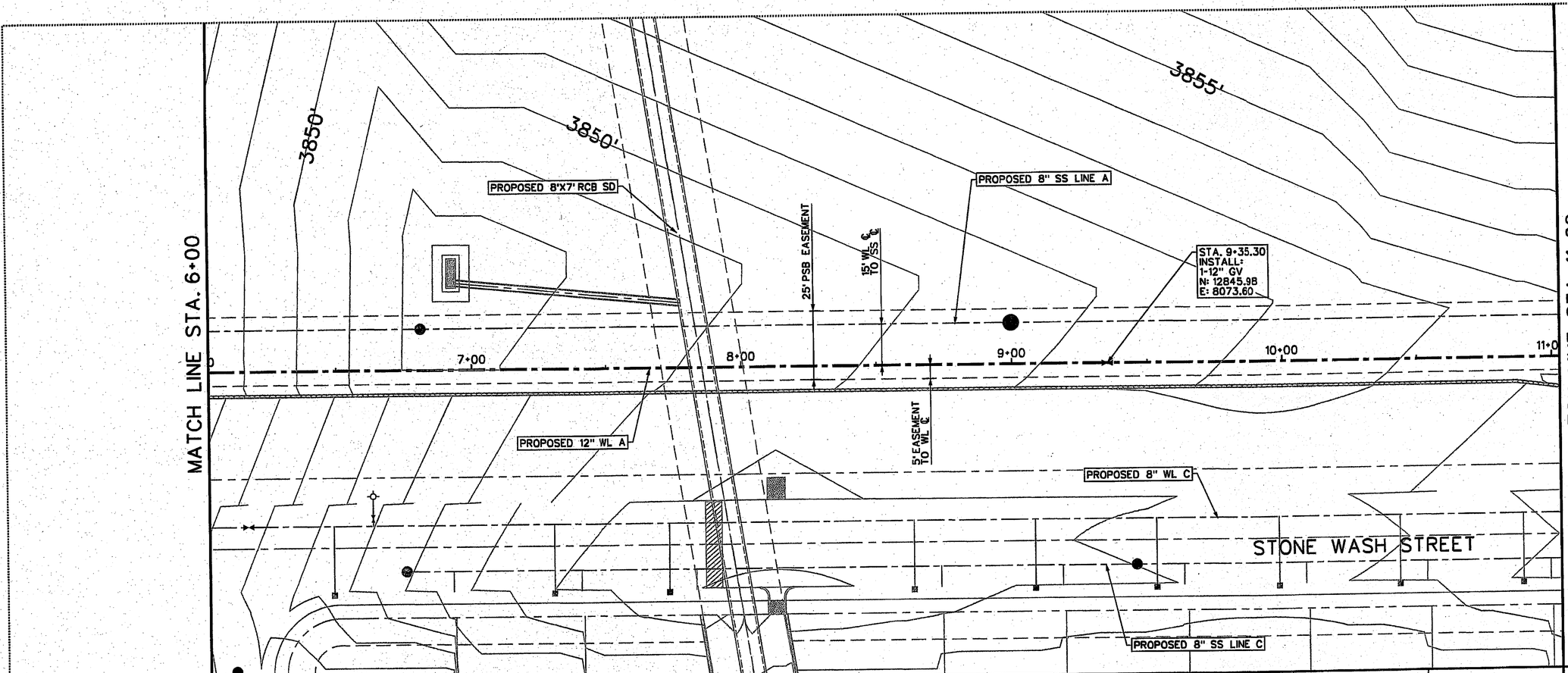
SHEET TITLE

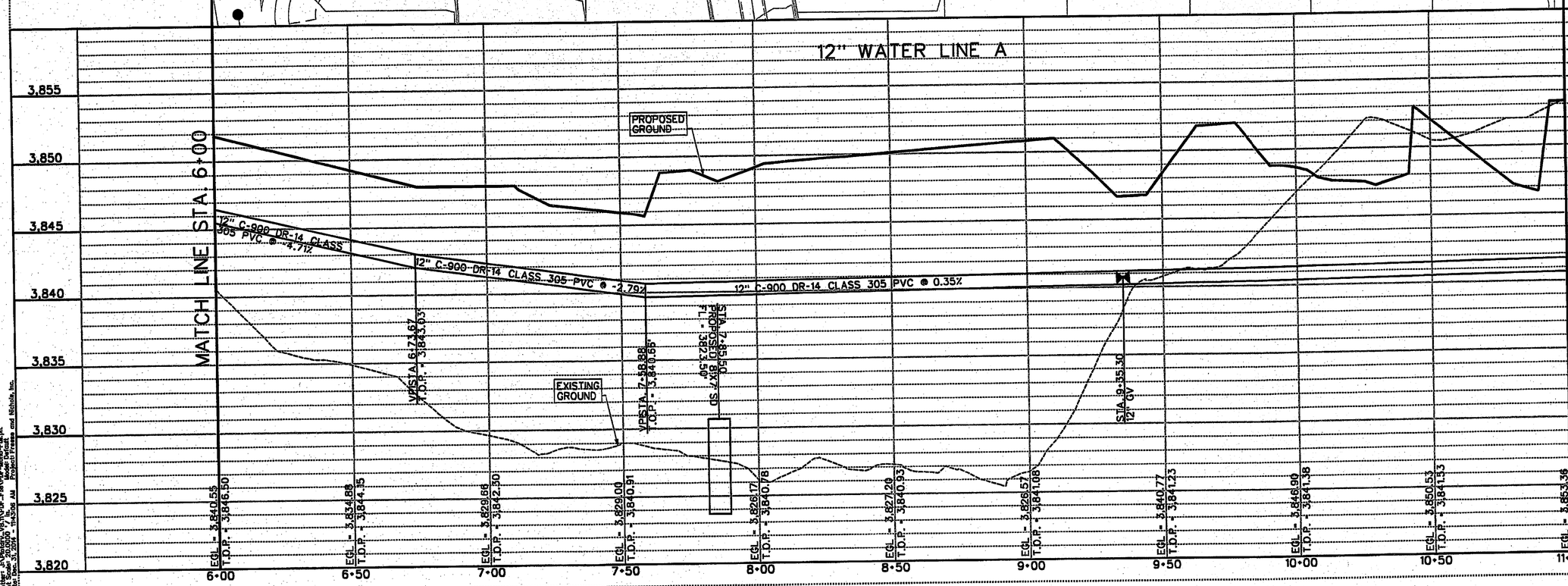
12" WL A
STA. 1+00 TO
STA. 6+00

SHEET NO.

66 OF 117 SHEETS


Officer Denton QEC13102 Date: Dec. 31, 2014 - 11:43:04 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-wl01.dgn




REFERENCES - BENCHMARK

BENCHMARK - CITY BENCHMARK AT THE INTERSECT OF GEMINAIT & INDA AVENUE
REFERENCE IN THREE FILES ADDITIONAL
ELEVATIONS - DETAILED CITY DATUM

| BY | REVISION | DATE |
|---|---|---|
| | | |


FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Dallas, Texas 75201
Phone: (940) 220-4340
Fax: (940) 387-4677
Web: www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


THE CITY OF EL PASO TEXAS

STATE OF TEXAS
R-90-11
RONALD G. KING
103173
LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2015
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RSK
APPVD: RSK
JOB NO. 1245

PROJECT TITLE

# WEST DESERT MARKETPLACE
# SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

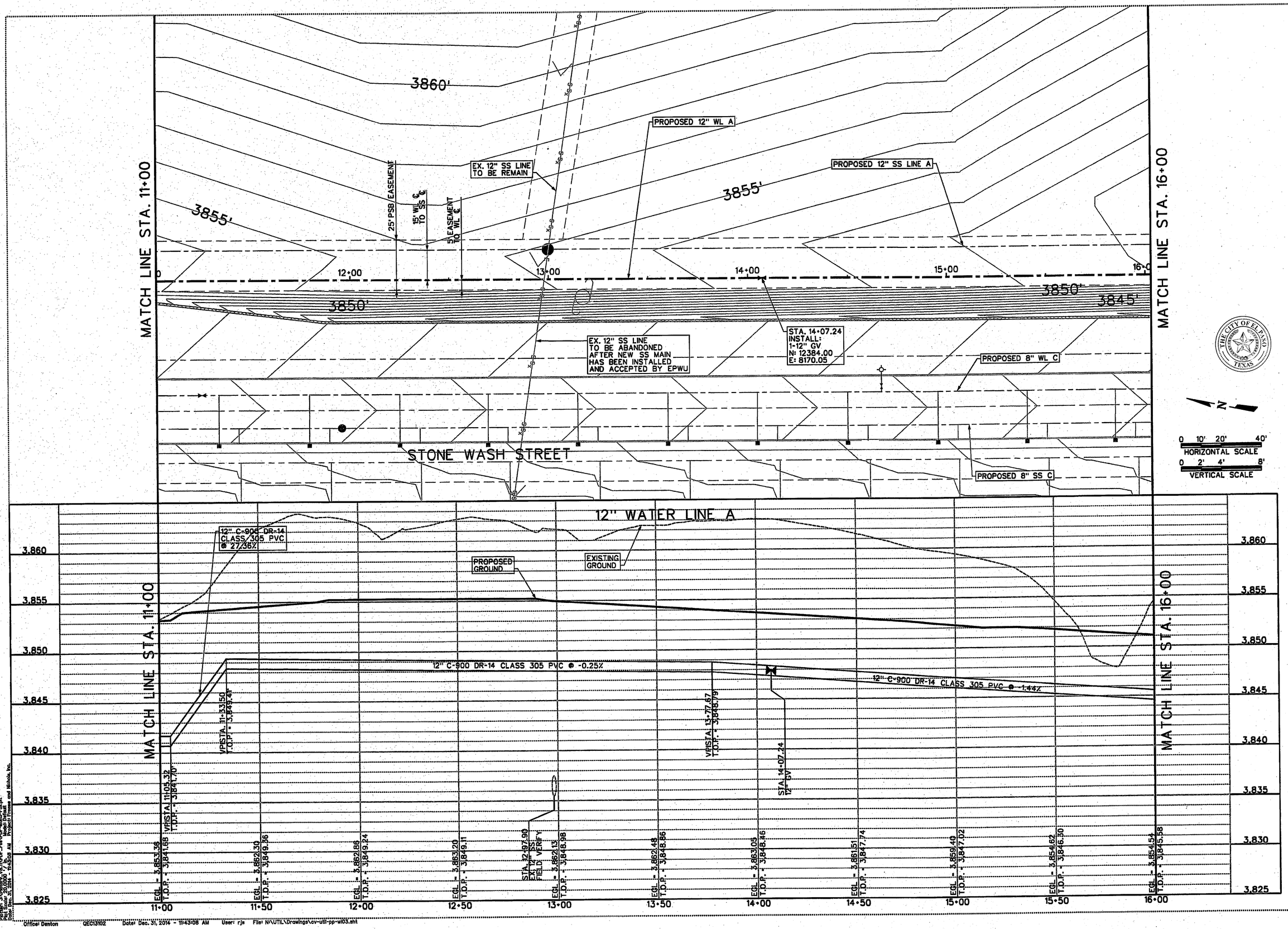
SHEET TITLE

12" WL A
STA. 6+00
TO STA. 11+00

SHEET NO.

67 OF 117 SHEETS


Microstation V8 User: rjs Office: Denton
Plotted: Dec. 31, 2014 - 11:43:06 AM
Plotter: Jr-Plotter V8 (1).PLT - 24x36 - 4pen-Tile.plt
Project: Project Freese and Nichols Inc.
Date: Dec. 31, 2014 - 11:43:06 AM




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GUNAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION
ELEVATION - 3876.94 CITY DATUM

| DATE | REVISION | BY |
|---|---|---|
| | | |


FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


STATE OF TEXAS
RONALD G. KING
81073
REGISTERED PROFESSIONAL ENGINEER
12-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENTS PLANS

EL PASO, TEXAS

SHEET TITLE

12" WL A
STA. 11+00
TO STA. 16+00

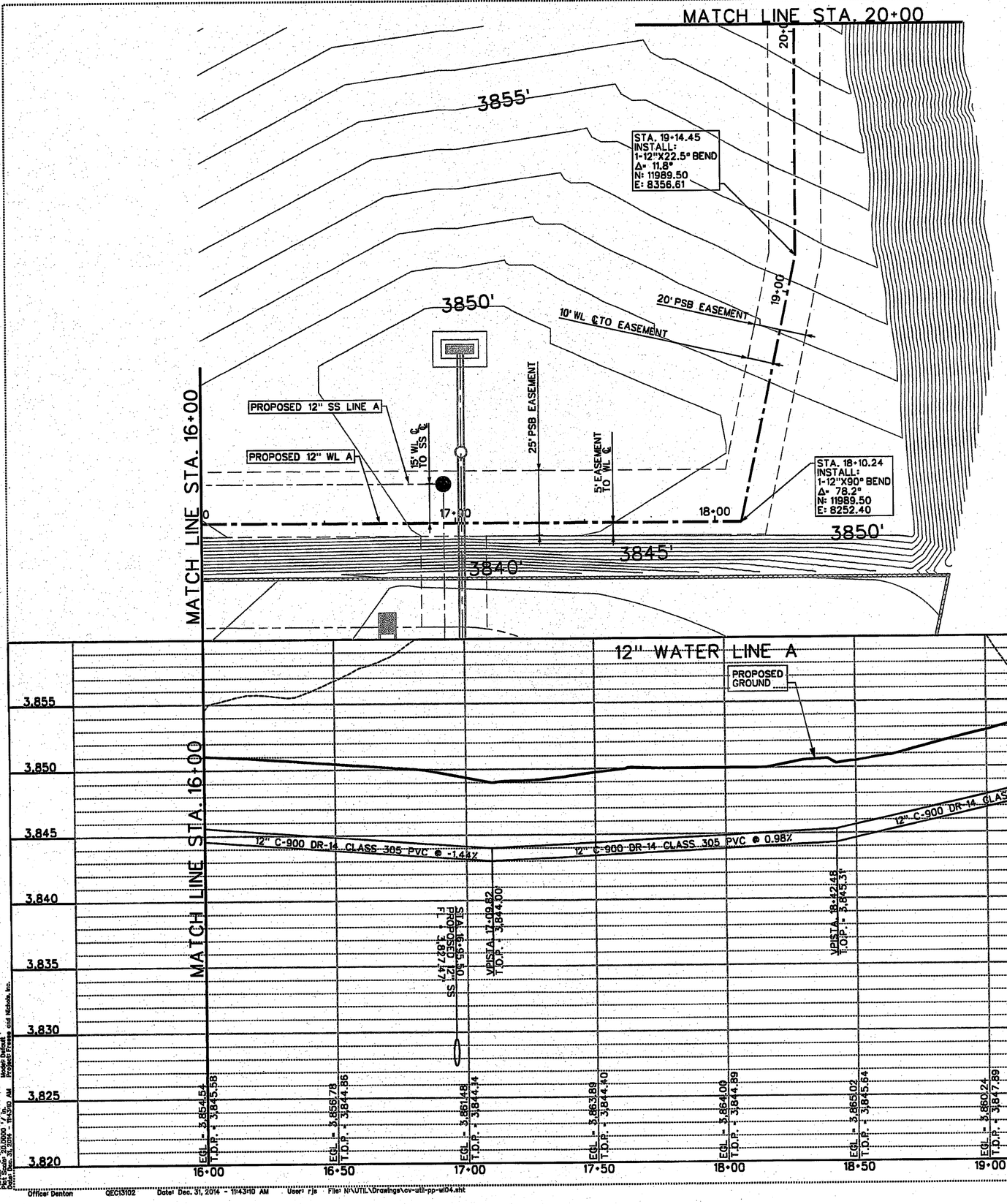
SHEET NO.

68 OF 117 SHEETS


Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:43:08 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-wl03.sht

NOTES:

1. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION




N

0 10' 20' 40'
HORIZONTAL SCALE
0 2' 4' 8'
VERTICAL SCALE

THE CITY OF EL PASO TEXAS

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GEMALT & MCA AVENUE
REFERENCE IN "THREE HILLS ADDITION"
ELEVATION = 3875.84 CITY DATUM

| BY | REVISION | DATE |
|---|---|---|
| | | |


FREESE NICHOLS
2320 San Jacinto Blvd. Suite 330
Denton, Texas 76205
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


12-30-14

RONALD G. KING
81073
LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:

DATE: 06-2015
DESIGN BY: RJS
DRAWN BY: RJS
CHECKED BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

# WEST DESERT MARKETPLACE
## SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

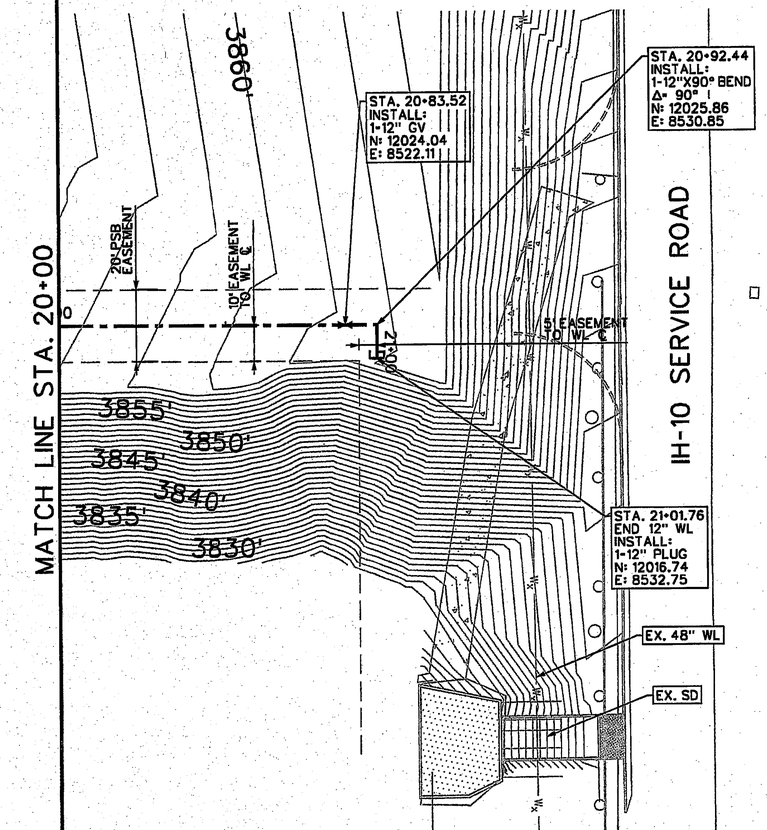
SHEET TITLE

12" WL A
STA. 16+00
TO STA. 20+00

SHEET NO.

69 OF 117 SHEETS


MicroStation V8 User: rjs Officer: Denton
Design: N:\UTIL\Drawings\cv-util-pp-wl04.sht
Xrefs: N:\UTIL\Drawings\cv-util-pp-wl04.sht
Plot Scale: 20.0000 ' / In.
Plot Date: Dec. 31, 2014 - 11:43 AM Model: Default
Project Name: cnd Module: Inc. Project: Private
Officer Denton QEC13102 Date: Dec. 31, 2014 - 11:43:10 AM User: rjs File: N:\UTIL\Drawings\cv-util-pp-wl04.sht



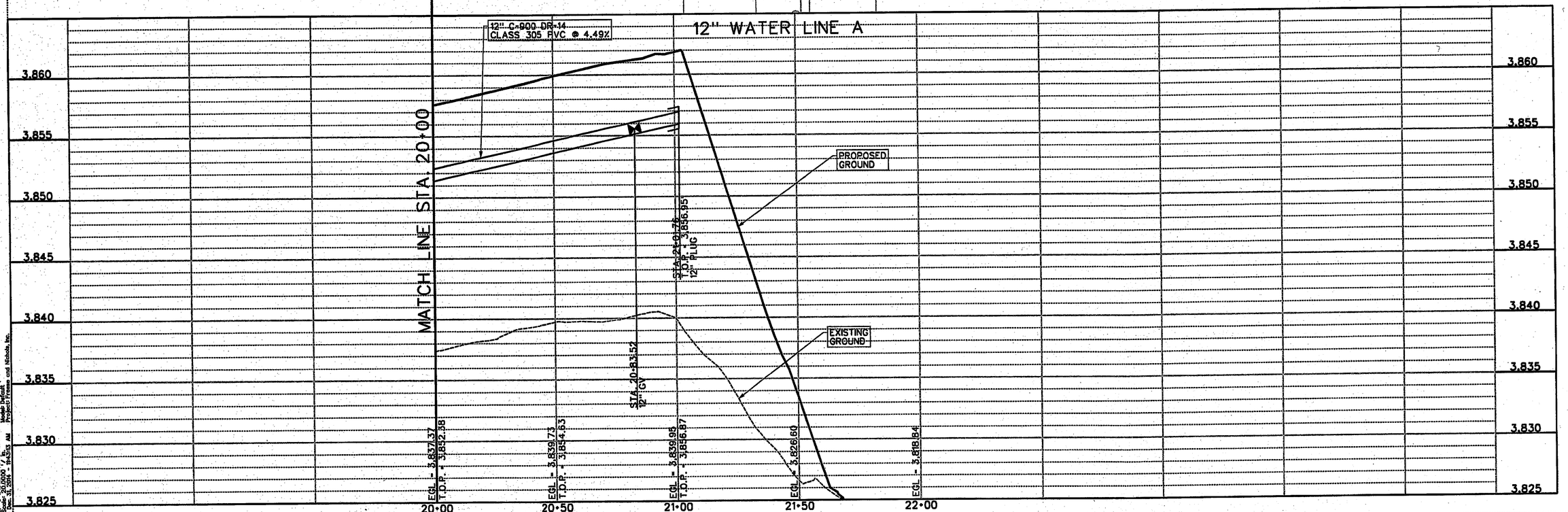

NOTES:

1. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION

N

0 10' 20' 40'
HORIZONTAL SCALE

0 2' 4' 8'
VERTICAL SCALE




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT, AT THE INTERSECT OF GERAULT & MCA AVENUE
BRASS DISK IN CONCRETE MONUMENT
ELEVATION = 3870.83 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE AND NICHOLS
CONSULTANTS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205-2240
Phone - (940) 382-3340
Fax - (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

STATE OF TEXAS
ARMANDO MIG
81073
LICENSED
PROFESSIONAL
ENGINEER
11-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 08-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

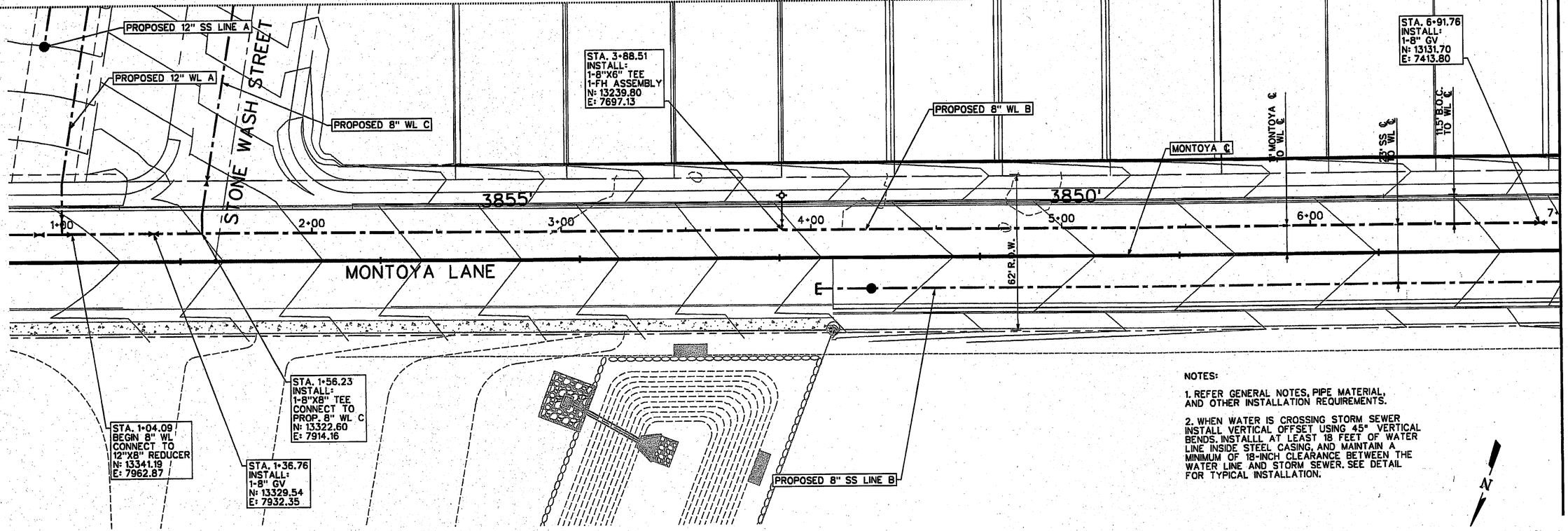
SHEET TITLE

12" WL A
STA. 20+00
TO END

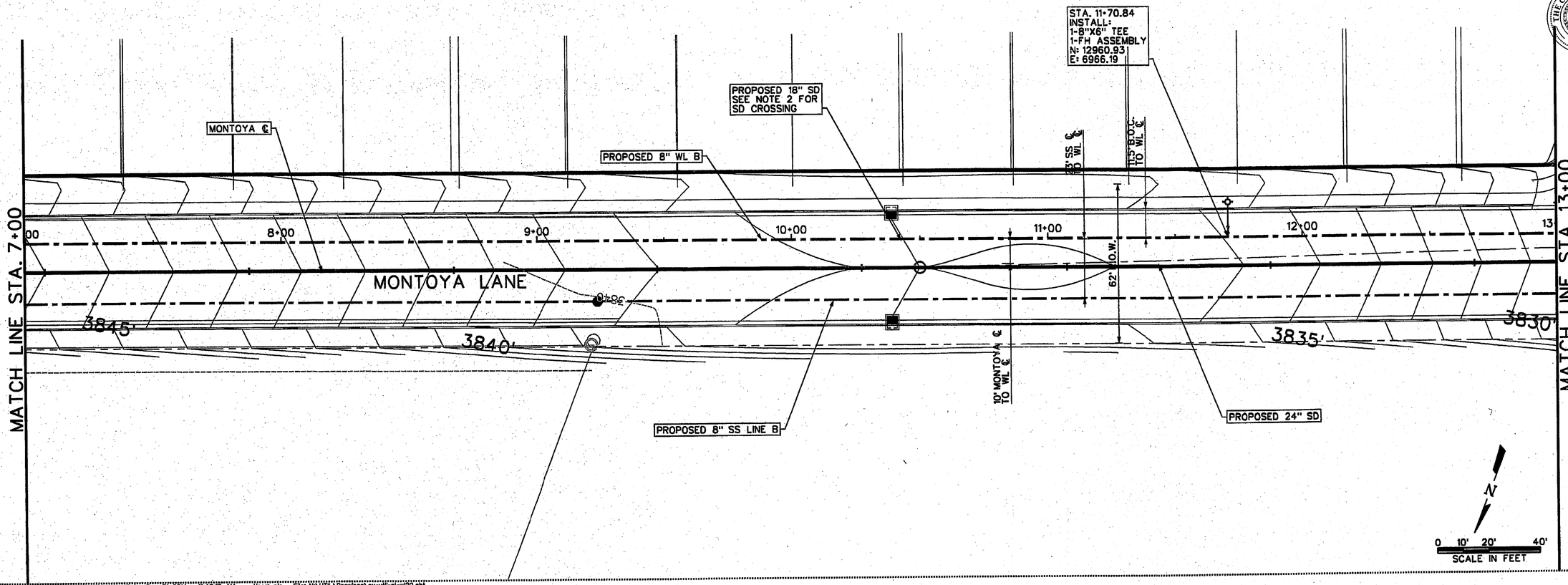
SHEET NO.

70 OF 117 SHEETS

Description: W:\Land Development\Projects\Westside\Marketplace\Plans\Water\cv-util-pp-wl05.dgn
Project: JA Project No. 1245
Date: Dec. 31, 2014 - 11:43:13 AM
Project Freese and Nichols, Inc.
Office Denton QEC13102 Date: Dec. 31, 2014 - 11:43:13 AM User: rja File: N:\UTIL\Drawings\cv-util-pp-wl05.sht




## 8" WATER LINE B




REFERENCES - BENCHMARK

BENCHMARK - CITY BENCHMARK AT THE INTERSECTION OF GERNART & MOA AVENUE
DESCRIPTION: "X" CUT IN CONCRETE
ELEVATION = 3878.44 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
(940) 220-7900
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE STATE OF TEXAS
ROBERT J. SIMS
87073
LICENSED
PROFESSIONAL
ENGINEER
12-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHK'D BY: RGK
APP'VD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" WL B
STA. 1+00
TO STA. 13+00

SHEET NO.

71 OF 117 SHEETS

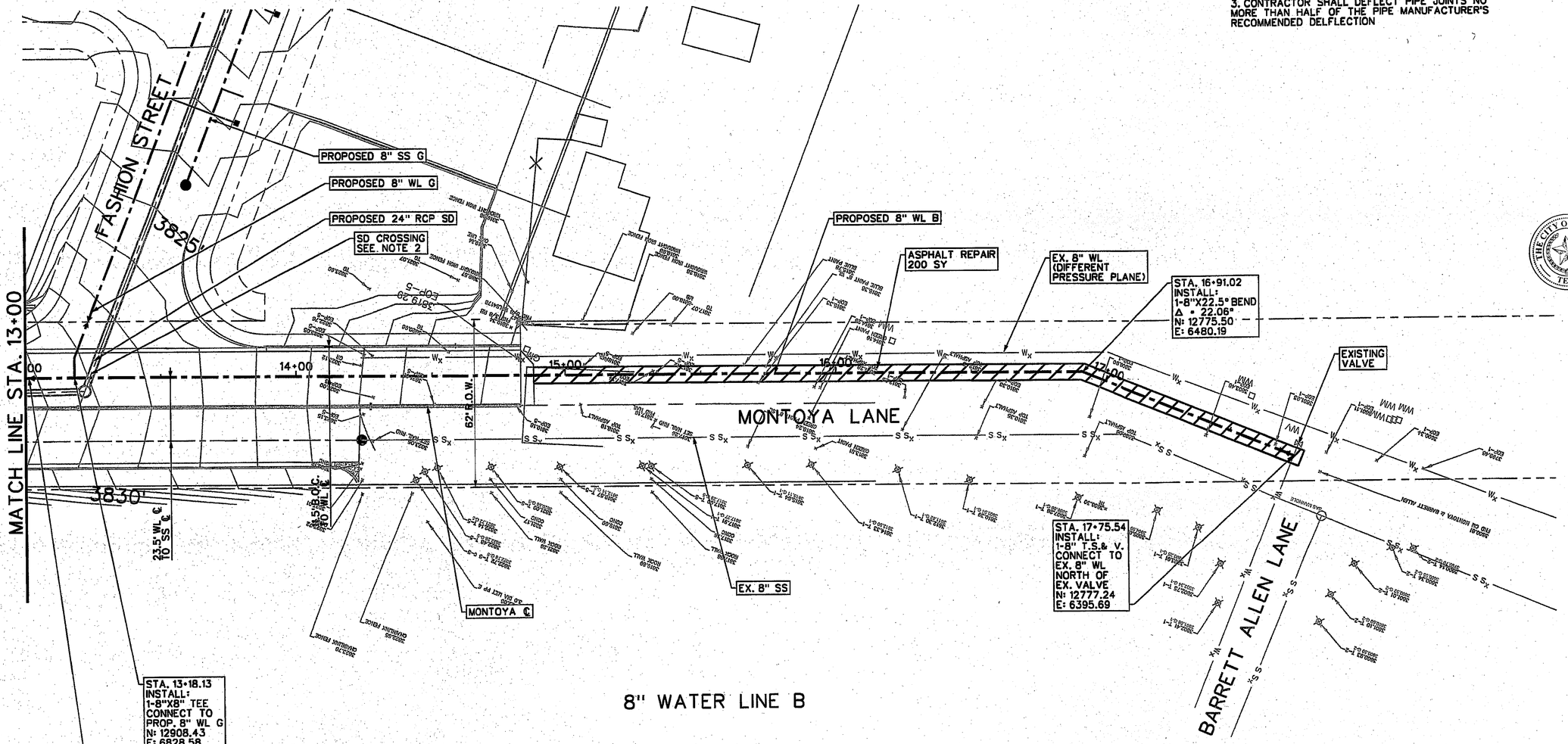
Microstation V8 User: rje Office: Denton
Workset: Active: Denton
Picture: N:\UTIL\Drawings\cv-util-pl-wl20.plt
Plot Scale: 1.0000 ft / 1.0 in
Date: Dec. 31, 2014 - 11:43:15 AM Project: Freese and Nichols, Inc.

NOTES:

1. REFER GENERAL NOTES, PIPE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.

2. WHEN WATER IS CROSSING STORM SEWER INSTALL VERTICAL OFFSET USING 45° VERTICAL BENDS. INSTALLL AT LEAST 18 FEET OF WATER LINE INSIDE STEEL CASING, AND MAINTAIN A MINIMUM OF 18-INCH CLEARANCE BETWEEN THE WATER LINE AND STORM SEWER. SEE DETAIL FOR TYPICAL INSTALLATION.

3. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION




8" WATER LINE B

0 10' 20' 40'
SCALE IN FEET

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GERAULT & NICA AVENUE
REFERENCE TO THREE MILE NORTHING
ELEVATION = 3870.69 CITY DATUM

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 220-4240
Fax - (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO TEXAS

11-30-14
STATE OF TEXAS
ROBERT G. KING
81073
LICENSED
PROFESSIONAL
ENGINEER

| | |
|---|---|
| SCALE: | |
| HORIZONTAL: | |
| VERTICAL: | |
| CONTOUR INTERVAL: | |
| DATE: | 06-2013 |
| DESIGN BY: | RJS |
| DRAWN BY: | RJS |
| CHKD BY: | RGK |
| APPVD: | RGK |
| JOB NO. | 124500 |

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

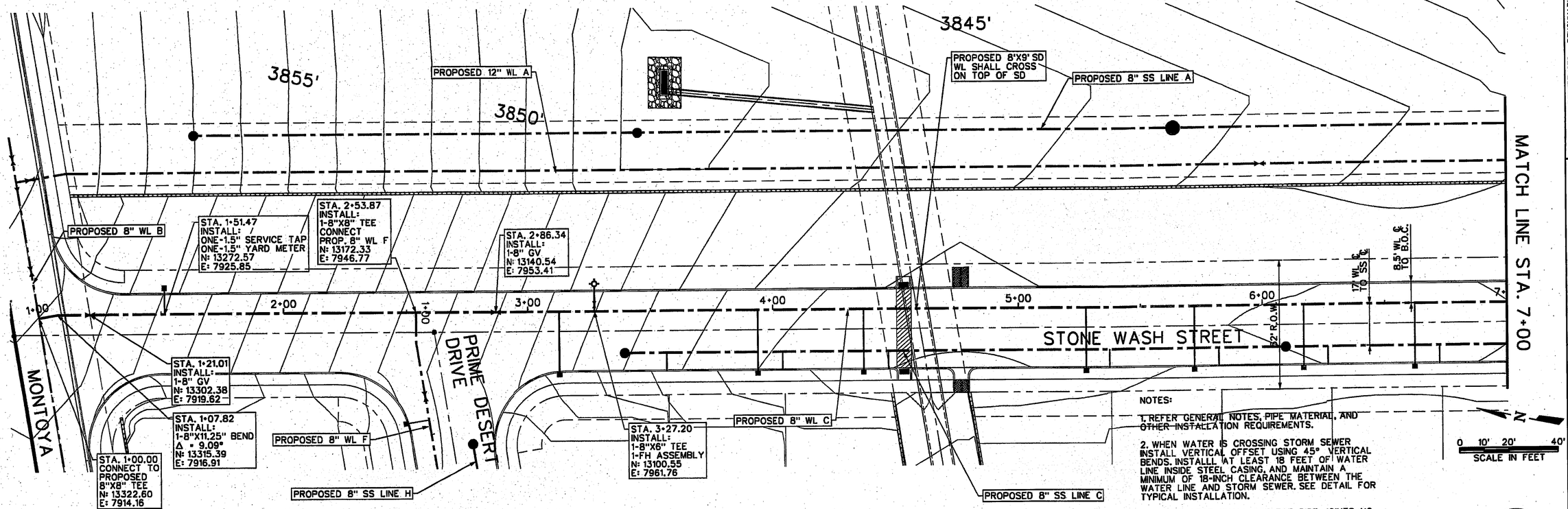
SHEET TITLE

8" WL B
STA. 13+00
TO END

SHEET NO.

72 OF 117 SHEETS

MicroStation V8 User's File Office: Denton
Plotted By: rjs Office: QEC13102
Project: J:\Projects\124500_FSW\DP-Design\plot
Plot Date: Dec. 31, 2014 - 11:43:17 AM Project: Freese and Nichols, Inc.
Date: Dec. 31, 2014 - 11:43:17 AM




NOTES:

1. REFER GENERAL NOTES, PIPE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.

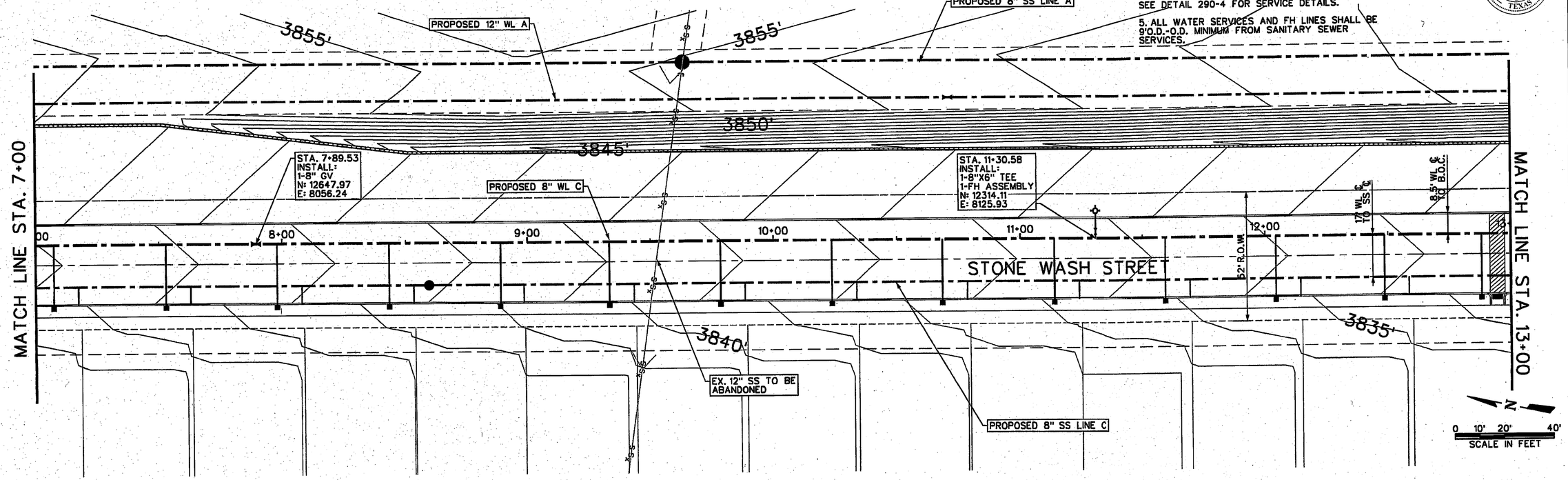
2. WHEN WATER IS CROSSING STORM SEWER INSTALL VERTICAL OFFSET USING 45° VERTICAL BENDS. INSTALLL AT LEAST 18 FEET OF WATER LINE INSIDE STEEL CASING, AND MAINTAIN A MINIMUM OF 18-INCH CLEARANCE BETWEEN THE WATER LINE AND STORM SEWER. SEE DETAIL FOR TYPICAL INSTALLATION.

3. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION

4. ALL WATER METER SHALL BE ¾" WITH 1-INCH WATER SERVICE LINE UNLESS OTHERWISE NOTED. SEE DETAIL 290-4 FOR SERVICE DETAILS.

5. ALL WATER SERVICES AND FH LINES SHALL BE 9'O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

## 8" WATER LINE C




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT "ALL" IN CENTERMEDIAN OF GEMINI & MOA AVENUE
ELEVATION = 3870.845 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |


FREESE NICHOLS
2220 San Jacinto Blvd., Suite 330
Austin, Texas 78701
Phone - (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144


1-30-14

THE CITY OF EL PASO TEXAS
ROMAN D. ESTRADA
83073
LICENSED PROFESSIONAL ENGINEER

| | |
|---|---|
| SCALE: HORIZONTAL | |
| VERTICAL | |
| CONTOUR INTERVAL | |
| DATE: | 05-2013 |
| DESIGN BY: | RJS |
| DRAWN BY: | RSK |
| CHKD BY: | RSK |
| APPVD: | RSK |
| JOB NO. | 12455 |

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

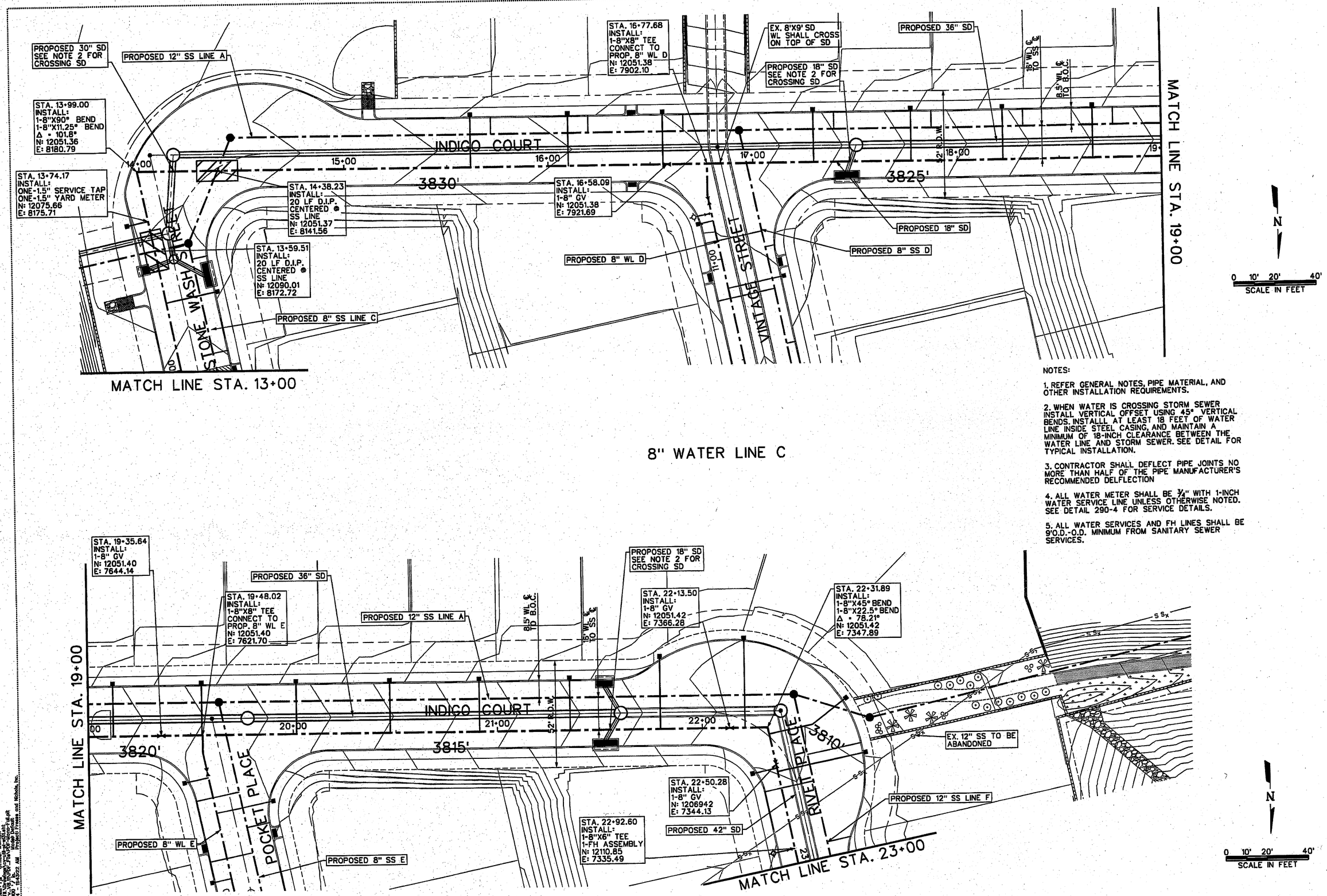
SHEET TITLE

8" WL A
STA. 1+00
TO STA. 13+00

SHEET NO.

73 OF 117 SHEETS


Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:43:19 AM User: rja File: N:\UTIL\Drawings\wv-util-pl-wl30.sht




NOTES:

1. REFER GENERAL NOTES, PIPE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.

2. WHEN WATER IS CROSSING STORM SEWER INSTALL VERTICAL OFFSET USING 45° VERTICAL BENDS. INSTALLL AT LEAST 18 FEET OF WATER LINE INSIDE STEEL CASING, AND MAINTAIN A MINIMUM OF 18-INCH CLEARANCE BETWEEN THE WATER LINE AND STORM SEWER. SEE DETAIL FOR TYPICAL INSTALLATION.

3. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION

4. ALL WATER METER SHALL BE ¾" WITH 1-INCH WATER SERVICE LINE UNLESS OTHERWISE NOTED. SEE DETAIL 290-4 FOR SERVICE DETAILS.

5. ALL WATER SERVICES AND FH LINES SHALL BE 9'O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GOMAULT & INCA AVENUE REFERENCE IN THREE HILLS ADDITION. ELEVATION = 3878.84 CITY DATUM

| DATE | REVISION | BY |
|---|---|---|
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FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 220-4940
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

STATE OF TEXAS
RONALD G. KING
81073
REGISTERED PROFESSIONAL ENGINEER
12-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

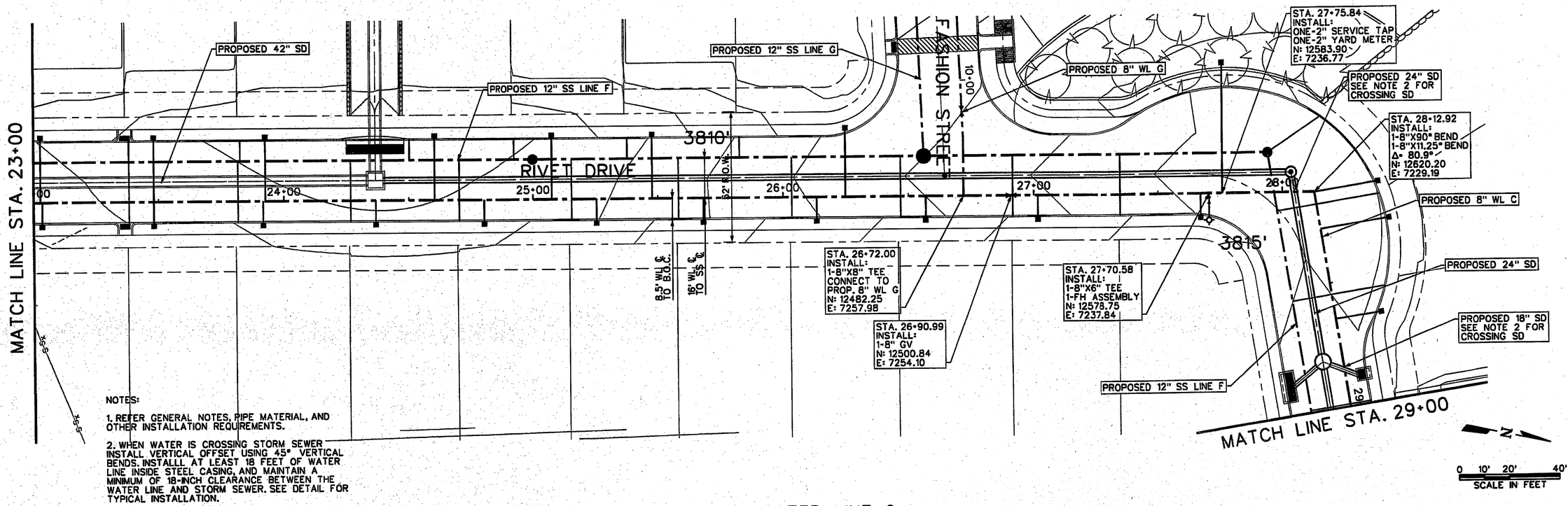
SHEET TITLE

8" WL LINE C
STA. 13+00 TO
STA. 23+00

SHEET NO.

74 OF 117 SHEETS

Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:43:22 AM User: rjs File: N:\UTIL\Drawings\cv-util-pl-wl31.sht




NOTES:

1. REFER GENERAL NOTES, PIPE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.

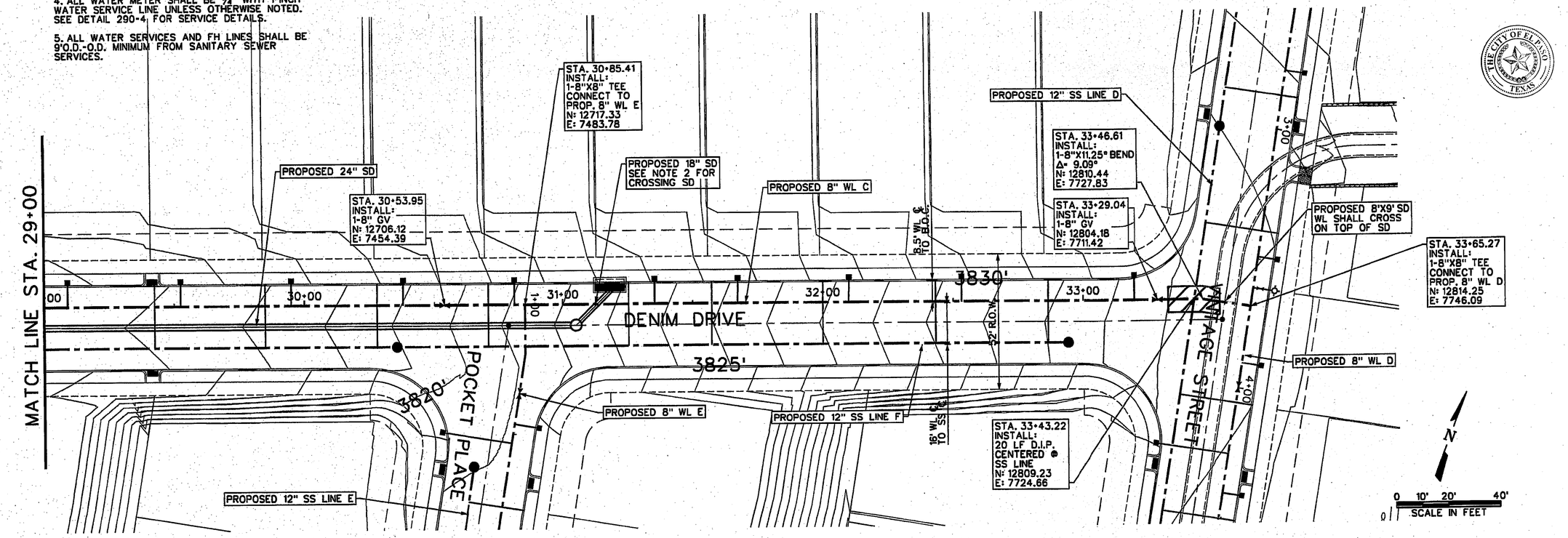
2. WHEN WATER IS CROSSING STORM SEWER INSTALL VERTICAL OFFSET USING 45° VERTICAL BENDS. INSTALLL AT LEAST 18 FEET OF WATER LINE INSIDE STEEL CASING, AND MAINTAIN A MINIMUM OF 18-INCH CLEARANCE BETWEEN THE WATER LINE AND STORM SEWER. SEE DETAIL FOR TYPICAL INSTALLATION.

3. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION

4. ALL WATER METER SHALL BE ¾" WITH 1-INCH WATER SERVICE LINE UNLESS OTHERWISE NOTED. SEE DETAIL 290-4 FOR SERVICE DETAILS.

5. ALL WATER SERVICES AND FH LINES SHALL BE 9'O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

## 8" WATER LINE C




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GUADALUPE & MESA AVENUE
REFERENCE IN THREE MILE ADDITION
ELEVATION = 3976.66 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE AND NICHOLS

2228 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone: (940) 220-4300
Fax: (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE CITY OF EL PASO
TEXAS

12-30-14

SCALE:
HORIZONTAL: -
VERTICAL: -
CONTOUR INTERVAL: -

DATE: 06-2015
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

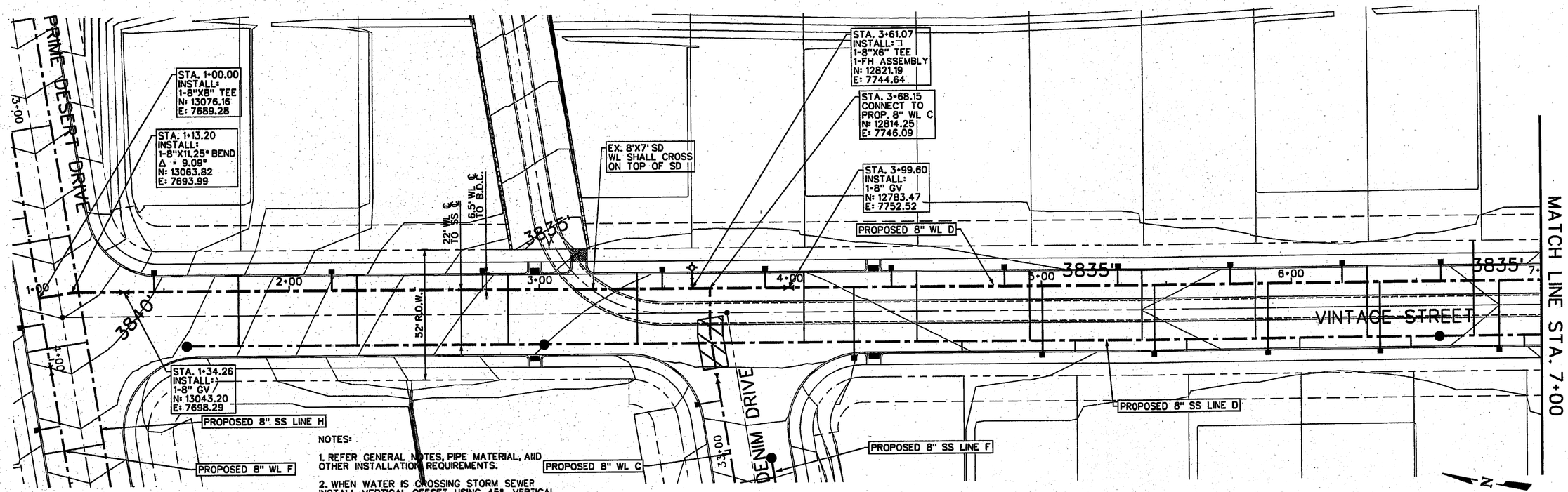
SHEET TITLE

8" WL LINE C
STA. 23+00
TO END

SHEET NO.

75 OF 117 SHEETS

MicroStation V8 Users File Officer Denton
Project: J:\projects\V8\TxDOT_Pavement\dgn\Project.pit
Design: J:\projects\V8\TxDOT_Pavement\dgn\Project.pit
Date: Dec. 31, 2014 - 11:43:25 AM Project: Freese and Nichols, Inc.
Officer Denton QEC13102 Date: Dec. 31, 2014 - 11:43:25 AM User: rjs File: N:\UTIL\Drawings\cv-util-pl-w32.dgn




8" WATER LINE D

NOTES:

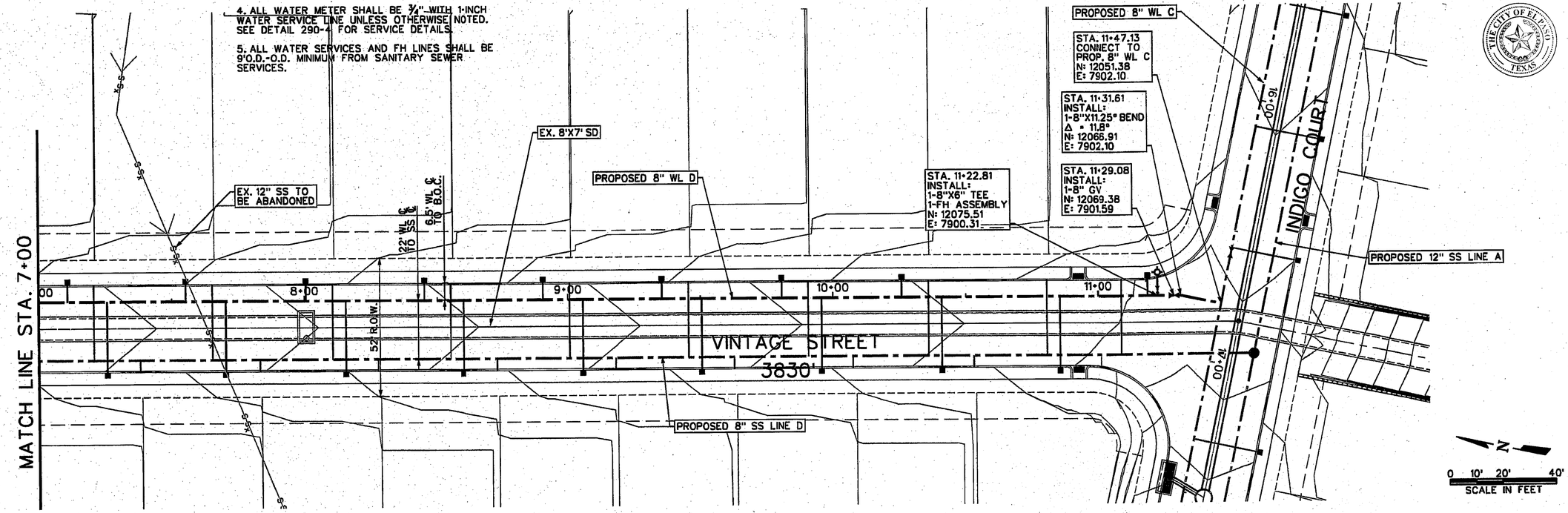
1. REFER GENERAL NOTES, PIPE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.

2. WHEN WATER IS CROSSING STORM SEWER INSTALL VERTICAL OFFSET USING 45° VERTICAL BENDS. INSTALLL AT LEAST 18 FEET OF WATER LINE INSIDE STEEL CASING, AND MAINTAIN A MINIMUM OF 18-INCH CLEARANCE BETWEEN THE WATER LINE AND STORM SEWER. SEE DETAIL FOR TYPICAL INSTALLATION.

3. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION

4. ALL WATER METER SHALL BE ¾"-WITH 1-INCH WATER SERVICE LINE UNLESS OTHERWISE NOTED. SEE DETAIL 290-4 FOR SERVICE DETAILS.

5. ALL WATER SERVICES AND FH LINES SHALL BE 9'O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GERALT & MCA AVENUE
NAD 83 (1993) ADJUSTMENT
ELEVATION - 3974.46 CITY DATUM

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 387-8340
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

STATE OF TEXAS
12-30-14
RONALD G. KING
81075
LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 08-2013
DESIGN BY: RJS
DRAWN BY: RGK
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" WL LINE D
STA. 1+00
TO END

SHEET NO.

76 OF 117 SHEETS

Modification WL Line.dgn Offline: Denton
MicroStation V8 (11.00.00.00) dgn
Plotted on 12/31/2014 11:43:29 AM by rjs
Plot Driver: HP DesignJet 500 PS.pltcfg File Version: 08.11.07.443
Plot Scale: 1.000000 Plot Offset: 0.00, 0.00
Date: Dec. 31, 2014 - 11:43:29 AM Project: Freese and Nichols, Inc.

## 8" WATER LINE E




NOTES:

1. REFER GENERAL NOTES, PIPE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.

2. WHEN WATER IS CROSSING STORM SEWER INSTALL VERTICAL OFFSET USING 45° VERTICAL BENDS. INSTALLL AT LEAST 18 FEET OF WATER LINE INSIDE STEEL CASING, AND MAINTAIN A MINIMUM OF 18-INCH CLEARANCE BETWEEN THE WATER LINE AND STORM SEWER. SEE DETAIL FOR TYPICAL INSTALLATION.

3. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION

4. ALL WATER METER SHALL BE ¾" WITH 1-INCH WATER SERVICE LINE UNLESS OTHERWISE NOTED. SEE DETAIL 290-4 FOR SERVICE DETAILS.

5. ALL WATER SERVICES AND FH LINES SHALL BE 9'O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GUADALUPE & NOCA AVENUE REFERENCE IN THREE TILES ADDITION
ELEVATION = 3979.94 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE NICHOLS
9701 Harry Hines Blvd., Suite 330
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone: (940) 387-7740
Fax: (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

THE STATE OF TEXAS
RONALD G. LONG
81073
LICENSED PROFESSIONAL ENGINEER
12-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2015
DESIGN BY: RJS
DRAWN BY: RJS
CHECKED BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" WL LINE E
STA. 1+00
TO END

SHEET NO.

77 OF 117 SHEETS

MicroStation V8 - User: rjs Office: Denton
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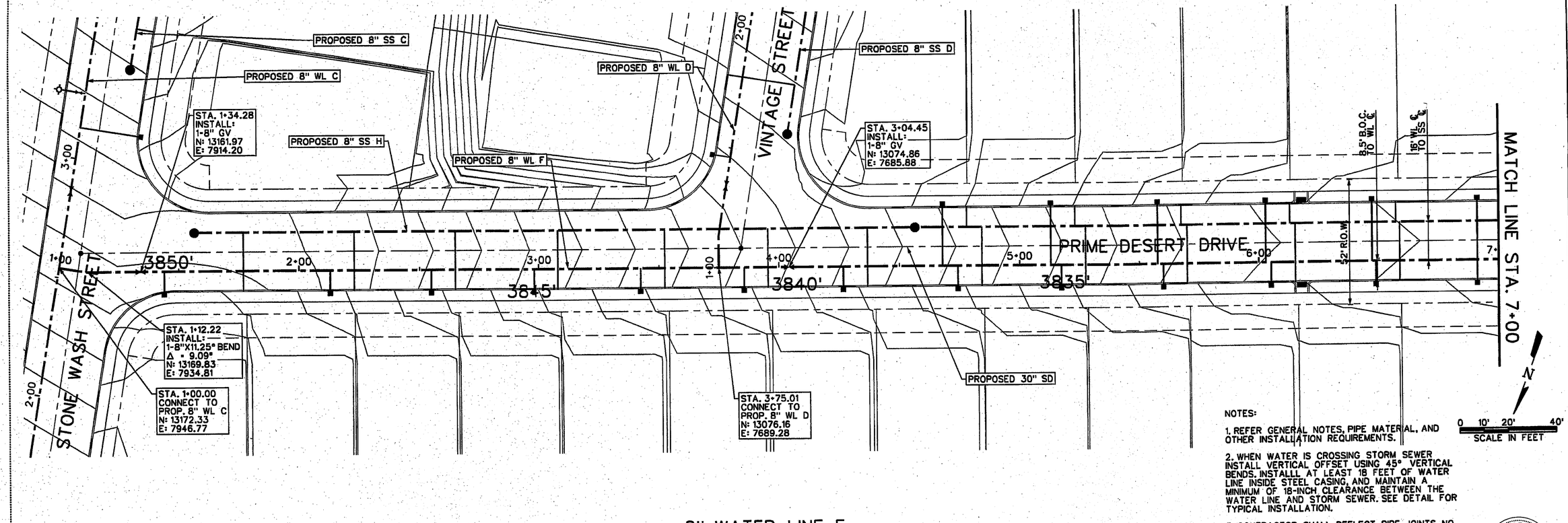
Plot Time: 31-Dec-14 11:43:32 AM Model: Default
Copyright 2014 Freese and Nichols, Inc.




NOTES:

1. REFER GENERAL NOTES, PIPE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.

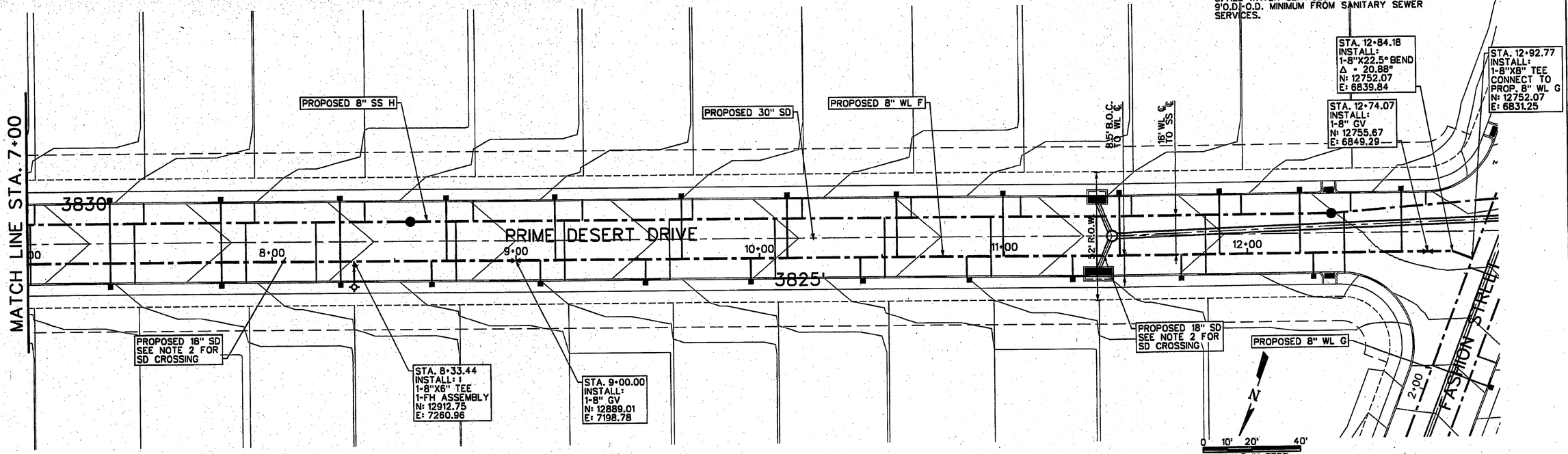
2. WHEN WATER IS CROSSING STORM SEWER INSTALL VERTICAL OFFSET USING 45° VERTICAL BENDS. INSTALLL AT LEAST 18 FEET OF WATER LINE INSIDE STEEL CASING, AND MAINTAIN A MINIMUM OF 18-INCH CLEARANCE BETWEEN THE WATER LINE AND STORM SEWER. SEE DETAIL FOR TYPICAL INSTALLATION.

3. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION

4. ALL WATER METER SHALL BE ¾" WITH 1-INCH WATER SERVICE LINE UNLESS OTHERWISE NOTED. SEE DETAIL 290-4 FOR SERVICE DETAILS.

5. ALL WATER SERVICES AND FH LINES SHALL BE 9'O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

8" WATER LINE F




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF CUNAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION
ELEVATION - 3878.84 CITY DATUM

| DATE | REVISION | BY |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 220-4840
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

12-30-14
STATE OF TEXAS
RONALD G. KING
81073
REGISTERED
PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

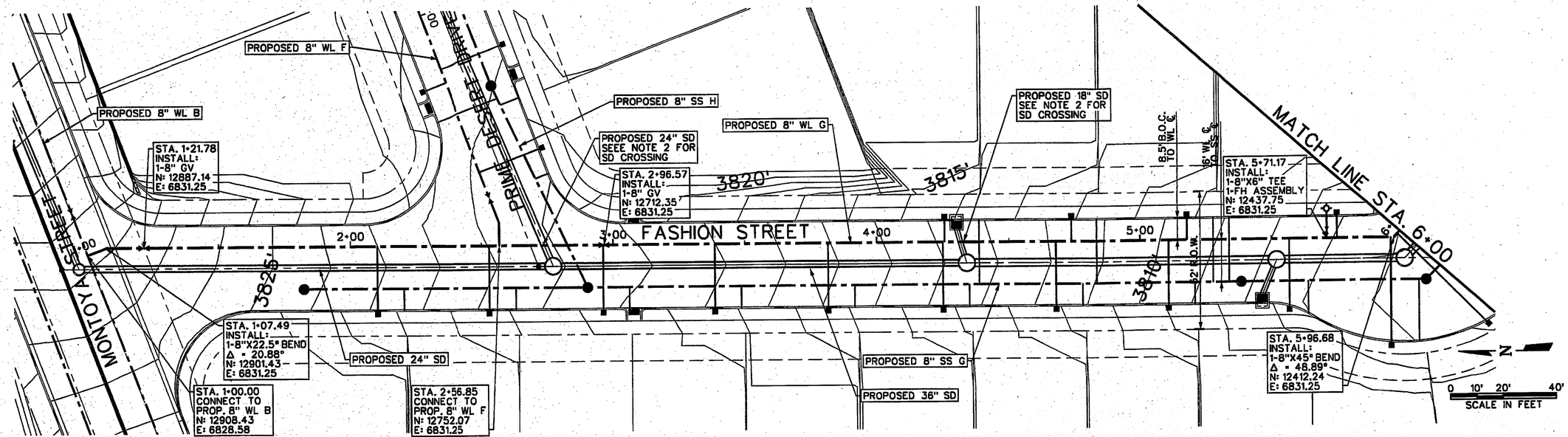
SHEET TITLE

8" WL LINE F
STA. 1+00
TO END

SHEET NO.

78 OF 117 SHEETS

Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:43:35 AM User: rjs File: N:\UTIL\Drawings\cv-util-pl-wl60.sht




NOTES:

1. REFER GENERAL NOTES, PIPE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.

2. WHEN WATER IS CROSSING STORM SEWER INSTALL VERTICAL OFFSET USING 45° VERTICAL BENDS. INSTALLL AT LEAST 18 FEET OF WATER LINE INSIDE STEEL CASING, AND MAINTAIN A MINIMUM OF 18-INCH CLEARANCE BETWEEN THE WATER LINE AND STORM SEWER. SEE DETAIL FOR TYPICAL INSTALLATION.

3. CONTRACTOR SHALL DEFLECT PIPE JOINTS NO MORE THAN HALF OF THE PIPE MANUFACTURER'S RECOMMENDED DELFLECTION

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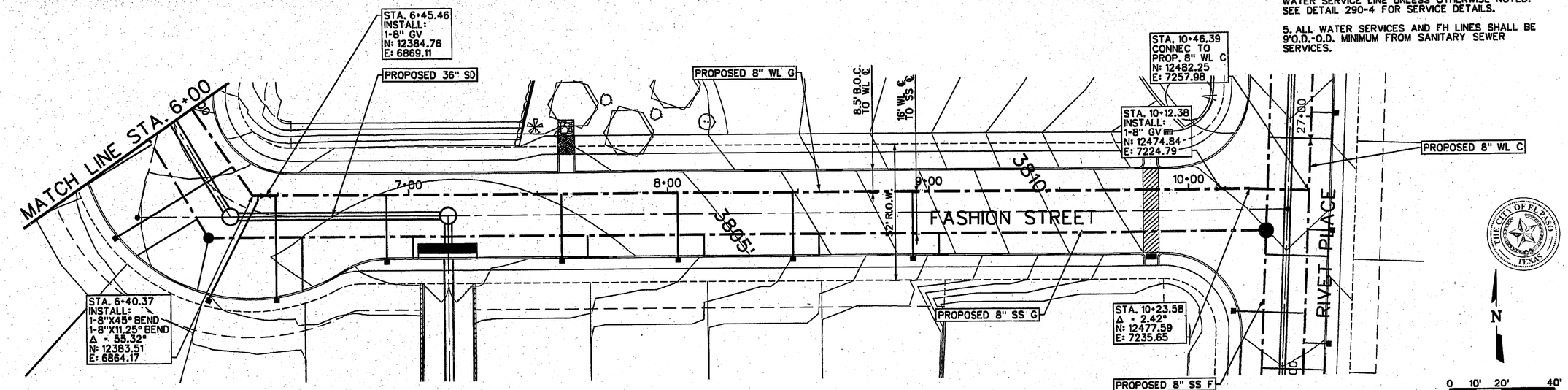
5. ALL WATER SERVICES AND FH LINES SHALL BE 9'O.D.-O.D. MINIMUM FROM SANITARY SEWER SERVICES.

## 8" WATER LINE G




REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GERAULT & MCA AVENUE REFERENCE IS MADE TO NGVD 1929 ELEVATION = 3870.68 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

FREESE AND NICHOLS

2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 387-4540
Fax - (940) 387-4677
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-0414

11-30-14

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

8" WL LINE G
STA. 1+00
TO END

SHEET NO.

79 OF 117 SHEETS

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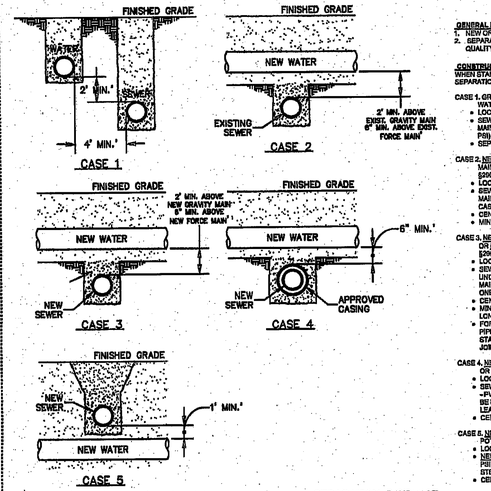
Project: N:\UTIL\Drawings\cv-util-pl-w70.dgn
Model: Default Plotted By: rjs Plot Date: Dec. 31, 2014 - 11:43:37 AM Project: Freese and Nichols, Inc.

Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:43:37 AM User: rjs File: N:\UTIL\Drawings\cv-util-pl-w70.dgn




STANDARD DETAIL — DATE: 8/3/2006, REV: 8/21/2007

SEPARATION DISTANCE
SANITARY SEWER AND POTABLE WATER
(SPECIAL CONDITIONS)

N.T.S.

DETAIL No. 161

GENERAL NOTES:
1. NEW OR EXISTING POTABLE WATER AND SANITARY SEWER MAINS.
2. SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.

CONSTRUCTION KEY NOTES:
WHEN STANDARD NINE (9) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, SEPARATION SHALL BE DETERMINED ACCORDING TO THE FOLLOWING CONDITIONS:

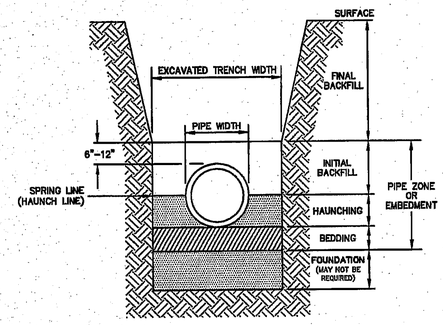
CASE 1. GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN (PER TCEQ §290.44(e)(4)(i)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING OF LEAKING, MUST BE REPLACED WITH PVC (150 PSI) OR DI. NEW GRAVITY MAIN OR FORCE MAIN REQUIRES PVC (150 PSI) OR DI.
- SEPARATE TRENCHES SHALL BE USED.

CASE 2. NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN (PER TCEQ §290.44(e)(4)(ii)(I) AND §290.44(e)(4)(ii)(II)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING OF LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
- CENTER ONE SEGMENT OF WATER PIPE OVER SEWER MAIN OR FORCE MAIN.
- MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.

CASE 3. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(e)(4)(ii)(II), §290.44(e)(4)(ii)(IV) AND §290.44(e)(4)(ii)(III)(-)(I)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) or DI REQUIRED, CENTER UNDEN WATER MAIN. NEW FORCE MAIN - PVC (150PSI) OR DI REQUIRED, FORCE MAIN TO BE SHORTEST POSSIBLE LENGTH AND BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12' BEYOND THE JOINT AT EACH END.
- CENTER ONE SEGMENT OF WATER PIPE OVER SEWER PIPE OR FORCE MAIN.
- MINIMUM PIPE SEGMENT LENGTH FOR WATER AND SEWER SHALL BE 18 FEET LONG.
- FOR NEW GRAVITY SEWER ONLY, IN LIEU OF PVC (150PSI) OR DI, INSTALL ONE PIPE SEGMENT OF SDR35; SEWER MAIN MUST BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.

CASE 4. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(e)(4)(ii)(V-VIII)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: NEW GRAVITY MAIN - SDR35 ACCEPTABLE, NEW FORCE MAIN - PVC (150PSI) OR DI REQUIRED, IN ADDITION, SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
- CENTER CASING PIPE ON WATER MAIN.

CASE 5. NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §290.44(e)(4)(ii)(III)(-)(II)).
- LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
- NEW GRAVITY MAIN OR FORCE MAIN REQUIRES ONE PIPE SEGMENT OF PVC (150 PSI) OR DI. IN ADDITION, WATER MUST BE DI OR STEEL, OR ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
- CENTER ONE SEGMENT OF SEWER PIPE ON WATER MAIN.



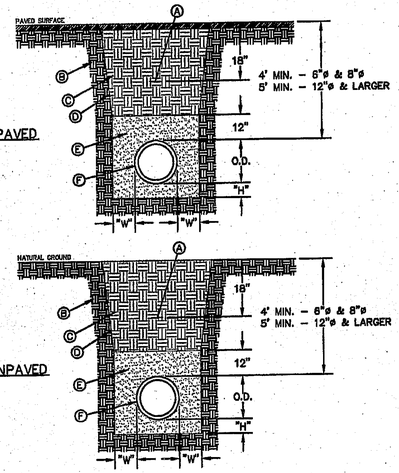

GENERAL NOTES:
1. DETAIL DRAWING TERMINOLOGY IS IN ACCORDANCE WITH ASTM D-2321.
2. UNLESS OTHERWISE PERMITTED BY THE ENGINEER, ALL MATERIAL IN THE EMBEDMENT ZONE SHALL BE HOMOGENOUS.

STANDARD DETAIL — DATE: 11/1992, REV: 3/28/2007

TRENCH CROSS SECTION TERMINOLOGY

N.T.S.

DETAIL No. 170




GENERAL NOTES:
1. BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
2. PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
3. IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT HIS EXPENSE, IMPORT SELECT MATERIAL TO BE MIXED WITH OR USED IN PLACE OF THE NATIVE MATERIAL. SELECT MATERIAL MUST BE APPROVED BY EPWU. SUBSTITUTE SOIL CEMENT SLURRY (1-SACK) IF REQUIRED IN SPECS.

CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL.
PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. (*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS CANNOT BE MET.)
D. SLOPE TRENCH IN SANDY SOIL CONDITIONS.
E. USE CLASS II OR CLASS III SAND PER ASTM D-2487. NATIVE MATERIAL OR IMPORTED SELECT MATERIAL MEETING OR EXCEEDING THIS REQUIREMENT MAY BE USED. COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR (OR 90% D-698 STANDARD PROCTOR).
F. APPROVED PIPE.
G. TRENCH DIMENSIONS AS FOLLOWS:

| PIPE DIAMETER | "H" |
|---|---|
| 6" - 30" | 4" |
| GREATER THAN 30" | 6" |

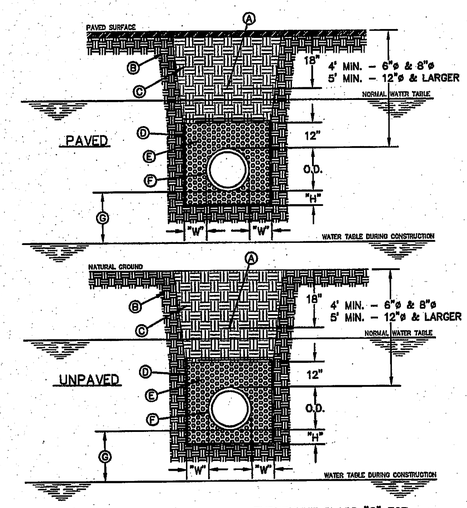
| PIPE DIAMETER | "W" |
|---|---|
| 6" - 30" | 8" |
| GREATER THAN 30" | 12" |

STANDARD DETAIL — DATE: 4/24/2007, REV: 2/21/2011

EMBEDMENT CLASS "A" FOR
PRESSURE PIPE AND GRAVITY PIPE
DRY CONDITIONS

N.T.S.

DETAIL No. 171




GENERAL NOTES:
1. BEDDING FOR PRESSURE PIPE IN WET CONDITIONS.
2. PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
3. A DRY TRENCH MUST BE MAINTAINED WHILE PLACING BEDDING.
4. IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT HIS EXPENSE, IMPORT SELECT MATERIAL TO BE MIXED WITH OR USED IN PLACE OF THE NATIVE MATERIAL. SELECT MATERIAL MUST BE APPROVED BY EPWU. SUBSTITUTE SOIL CEMENT SLURRY (1-SACK) IF REQUIRED IN SPECS.

CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL.
PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. (*SEE NOTE #4 IF THESE PREVIOUS CONDITIONS CANNOT BE MET.)
D. USE CLASS I GRAVEL PER ASTM D-2321 AND D-2487. NO COMPACTION REQUIRED. USE MINIMAL TAMPING, RODDING OR HAUNCH SLICING CAREFULLY IN THE EMBEDMENT ZONE. IF REQUIRED BY THE ENGINEER, TEST PER ASTM D-4254 PERCENT OF RELATIVE DENSITY.
E. APPROVED PIPE (WRAP PVC PIPE IN APPROVED POLYETHYLENE SHEETING, MINIMUM 6 MIL THICKNESS).
F. 18" MINIMUM UNLESS OTHERWISE SPECIFIED.
G. TRENCH DIMENSIONS AS FOLLOWS:

| PIPE DIAMETER | "H" |
|---|---|
| 6" - 30" | 4" |
| GREATER THAN 30" | 6" |

| PIPE DIAMETER | "W" |
|---|---|
| 6" - 30" | 8" |
| GREATER THAN 30" | 12" |

STANDARD DETAIL — DATE: 5/7/2007, REV: 7/6/2010

EMBEDMENT CLASS "B" FOR
PRESSURE PIPE
WET CONDITIONS

N.T.S.

DETAIL No. 172




GENERAL NOTES:
1. BEDDING FOR PRESSURE PIPE IN WET CONDITIONS.
2. PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
3. A DRY TRENCH MUST BE MAINTAINED WHILE PLACING BEDDING AND GEOTECHNICAL FABRIC.
4. IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT HIS EXPENSE, IMPORT SELECT MATERIAL TO BE MIXED WITH OR USED IN PLACE OF THE NATIVE MATERIAL. SELECT MATERIAL MUST BE APPROVED BY EPWU. SUBSTITUTE SOIL CEMENT SLURRY (1-SACK) IF REQUIRED IN SPECS.

CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL.
PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. (*SEE NOTE #4 IF THESE PREVIOUS CONDITIONS CANNOT BE MET.)
D. APPROVED GEOTECHNICAL FABRIC WITH A STANDARD OVERLAP THAT IS 2 FEET EXCEPT WHERE TRENCH WIDTH EXCEEDS 3 FEET, THE OVERLAP AT TOP SHALL BE 3 FEET.
E. USE CLASS I GRAVEL PER ASTM D-2321 AND D-2487. NO COMPACTION REQUIRED. USE MINIMAL TAMPING, RODDING OR HAUNCH SLICING CAREFULLY IN THE EMBEDMENT ZONE. IF REQUIRED BY THE ENGINEER, TEST PER ASTM D-4254 PERCENT OF RELATIVE DENSITY.
F. APPROVED PIPE.
G. 18" MINIMUM UNLESS OTHERWISE SPECIFIED.
H. TRENCH DIMENSIONS AS FOLLOWS:

| PIPE DIAMETER | "H" |
|---|---|
| 6" - 30" | 4" |
| GREATER THAN 30" | 6" |

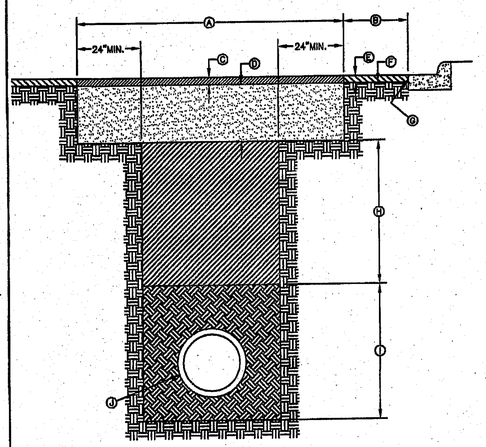
| PIPE DIAMETER | "W" |
|---|---|
| 6" - 30" | 8" |
| GREATER THAN 30" | 12" |

STANDARD DETAIL — DATE: 5/7/2007, REV: 7/6/2010

EMBEDMENT CLASS "C" FOR
GRAVITY PIPE
WET CONDITIONS

N.T.S.

DETAIL No. 173




GENERAL NOTES:
1. ALL ASPHALT CUTS MUST BE SAW CUT.
2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

CONSTRUCTION KEY NOTES:
A. REFER TO SPECS FOR LIMIT OF PAVING WIDTH.
B. DIMENSION VARIES. WHERE GUTTER FACE, ETC. IS WITHIN 3' OF SAW CUT EDGE, CONTRACTOR SHALL REMOVE & REPLACE EXISTING HMAC IN THIS AREA.
C. 2" ASPHALT MIN.
D. 12" THICK SOIL CEMENT BACKFILL (2 SACK PER C.Y. OF SOIL).
E. EXISTING HMAC--THICKNESS MAY VARY.
F. EXISTING BASE COURSE--THICKNESS MAY VARY.
G. EXISTING GUTTER FACE, EDGE OF PAVEMENT OR BEGINNING OF SHOULDER.
H. BACKFILL DEPTH VARIES, REFER TO REQUIREMENTS LISTED IN EMBEDMENT DETAILS (DETAIL 171 THRU DETAIL 173).
I. PIPE BEDDING AS SPECIFIED, REFER TO APPROPRIATE EMBEDMENT DETAIL (DETAIL 171 THRU DETAIL 173).
J. APPROVED PIPE.

STANDARD DETAIL — DATE: 10/1992, REV: 5/8/2011

PAVEMENT REPLACEMENT

N.T.S.

DETAIL No. 179

REFERENCES - BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF GIBAULT & MCA AVENUE
BENCHMARK IS THREE FEET SOUTHEAST.
ELEVATION = 3918.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144
2220 San Jacinto Blvd., Suite 930
Denton, Texas 76205
(940) 382-3340
Fax - (940) 387-4677
Web - www.freese.com

12-30-14

THE CITY OF EL PASO TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

UTILITY DETAILS
SHEET 1

SHEET NO.

80 OF 117 SHEETS

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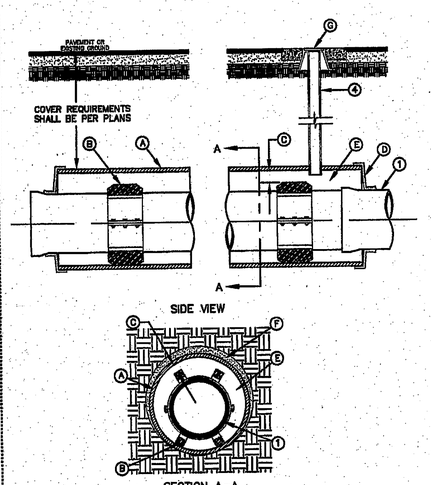
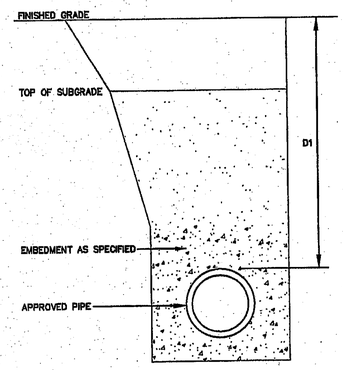
Plot Scale: 1.000 '= 1.000 '
Date: Dec. 31, 2014 - 11:43:41 AM Project: Freese and Nichols, Inc.




GENERAL NOTES:
1. INSTALLATION FOR APPROVED CARRIER PIPE.
2. CASING SHALL BE INSTALLED USING EITHER JACKING, BORING OR TUNNELING METHODS FROM THE END WHICH CREATES A MINIMUM OF ACCESS AND RELOCATION PROBLEMS.
3. INSULATED SPACERS SHALL BE USED WHEN SPECIFIED, TO PROVIDE CORROSION PROTECTION.
4. PRECAUTIONARY OUTLET (6") WITH BONNET BOX AND COVER SHALL BE USED WHEN REQUIRED BY OTHER GOVERNING AGENCIES.

CONSTRUCTION KEY NOTES:
A. STEEL CASING MINIMUM YIELD 36000 PSI, SIZE AND LENGTH AS SPECIFIED.
B. CASING INSULATORS, SPACING AND LOCATION PER MANUFACTURES RECOMMENDATIONS. INSULATORS SHALL FIT SNUG OVER THE CARRIER PIPE.
C. POSITION CARRIER PIPE APPROXIMATELY IN CENTER OF CASING. MINIMUM SPACING BETWEEN INSULATOR AND CARRIER PIPE SHALL BE 1", MAXIMUM SPACING SHALL BE 2'.
D. END SHALL BE SEALED WITH BRICK AND MORTAR, BULKHEAD AND GROUT, OR WITH SYNTHETIC RUBBER SEAL, AS SPECIFIED.
E. ANNULAR SPACE SHALL BE LEFT OPEN FOR CATHODICALLY PROTECTED SYSTEM WHERE BOTH CASING AND CARRIER PIPE ARE METALLIC MATERIAL, OR AS OTHERWISE SPECIFIED.
F. PRESSURE GROUT ANNULAR SPACE OUTSIDE CASING AFTER CASING IS INSTALLED.
G. BONNET BOX AND COVER (SEE DETAILS 268, 269-1 & 269-2) SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 260).

STANDARD DETAIL — DATE: 3/1994 REV: 1/7/2013 — CARRIER PIPE INSTALLATION WITH CASING INSULATORS — N.T.S. — DETAIL No. 180




GENERAL NOTES:
1. REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS.
2. TRENCH SAFETY SYSTEMS SHALL BE USED WHEN TRENCH DEPTH EXCEEDS 5 FEET.

CONSTRUCTION KEY NOTES:
A. COVER FOR WATER MAINS SHALL DEPEND ON THE PIPE SIZE AND THE FOLLOWING INSTALLATION CONDITIONS,

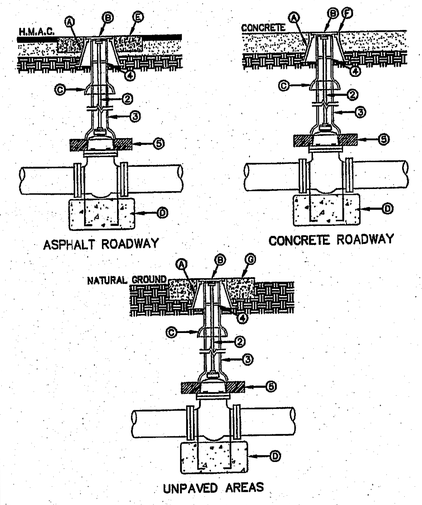
CONDITION A – NORMAL LINE INSTALLATION, STREET AND DRAINAGE PROJECTS, WATERLINE RELOCATION

CONDITION B – NEW SUBDIVISIONS, NON-PAVED AREA

AND SHALL BE AS FOLLOWS.

| PIPE SIZE | CONDITION | DIMENSION |
|---|---|---|
| 6", 8" | A | D1 = 4' |
| 6", 8" | B | D1 = 4' |
| 12" & LARGER | A OR B | D1 = 5' |

STANDARD DETAIL — FEB. 1994 REV: 8/3/2006 — COVER FOR WATER MAINS — N.T.S. — DETAIL No. 250




GENERAL NOTES:
1. VALVE TYPE AND VALVE ENDS SHALL BE AS SHOWN ON THE PLANS.
2. ALL BURIED VALVES 5' AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
3. 8" DIA. MINIMUM VITRIFIED CLAY OR SDR 35 P.V.C. PIPE, PIPE SHALL NOT REST ON VALVE BODY.
4. ¼" THICK STEEL TRASH RING VALVE BOX INSIDE DIAMETER MINUS ½".
5. MINIMUM 2½" CONCRETE OR BRICK ALL AROUND.
6. CLEAN BONNET BOX OF ALL DEBRIS AND SOIL.
7. COAT BURIED PIPE AND BONNET BOX PER SPECIFICATIONS. VALVE SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH SPECIFICATIONS.

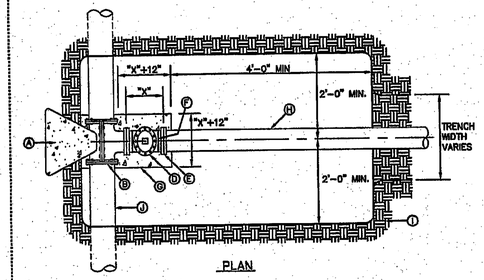
CONSTRUCTION KEY NOTES:
A. BONNET BOX (SEE DETAIL 268).
B. BONNET BOX COVER (SEE DETAILS 269-1 & 269-2)
C. FINAL EXTENSION TO BONNET BOX SHALL BE WITH BELL AND SPIGOT ENDS (CLAY OR SDR 35 P.V.C. SPOOL).
D. CONCRETE VALVE ANCHOR (SEE DETAIL 271).
E. CONCRETE COLLAR (SEE DET 184-1) FLUSH WITH TOP OF H.M.A.C.
F. BONNET BOX FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
G. CONCRETE APRON (SEE DETAIL 184-2) FLUSH WITH BONNET BOX AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL — DATE: 5/1994 REV: 6/22/2009 — GATE VALVE INSTALLATION — N.T.S. — DETAIL No. 260

REFERENCES - BENCHMARK
BENCHMARK: CITY BENCHMARK AT THE INTERSECT OF GEMINI & MOA AVENUE REFERENCE IN THREE WILES ADDITION.
ELEVATION = 3878.84 (CITY DATUM)

| BY | | | | | |
|---|---|---|---|---|---|
| REVISION | | | | | |
| DATE | | | | | |

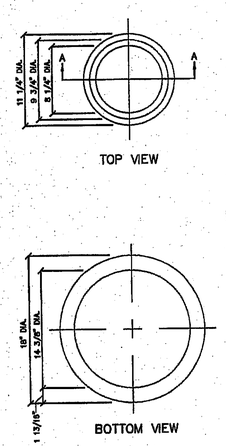
FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Austin, Texas 78701
Phone: (940) 220-4340
Fax: (940) 397-4677
Web: www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144




GENERAL NOTES:
1. THRUST BLOCKING SHALL EXTEND TO UNDISTURBED EARTH.
2. TAPPING SLEEVE SHALL BE 18" MINIMUM FROM ANY BELL, COUPLING, VALVE OR FITTING LOCATED ALONG EXISTING WATER LINE TO BE TAPPED.
3. REPLACE EXCAVATED MATERIAL WITH CEMENT STABILIZED BACKFILL PRIOR TO PAVING.
4. JOINTS AND BOLTS SHALL BE CLEAR OF CONCRETE.
5. INSTALL PERMANENT THRUST BLOCKING UNDER VALVE BEFORE TAP IS MADE. JOINTS AND BOLTS TO BE CLEAR OF CONCRETE.

CONSTRUCTION KEY NOTES:
A. CONCRETE THRUST BLOCKING, PER DETAIL 270.
B. TAPPING SLEEVE.
C. RISER INSTALLATION, PER DETAIL 280.
D. TAPPING VALVE.
E. VALVE ENDS FOR TYPE OF PIPE INSTALLED.
F. 2-#5 REBAR HAIRPINS, PAINT UNEMBEDDED PORTION OF BARS WITH 2-COATS OF COAL TAR EPOXY, THEN COVER WITH 2" MINIMUM OF CEMENT MORTAR.
G. CONCRETE VALVE SUPPORT, PER DETAIL 271.
H. NEW WATER LINE TO BE INSTALLED.
I. UNDISTURBED EARTH.
J. EXISTING WATER MAIN TO BE TAPPED.

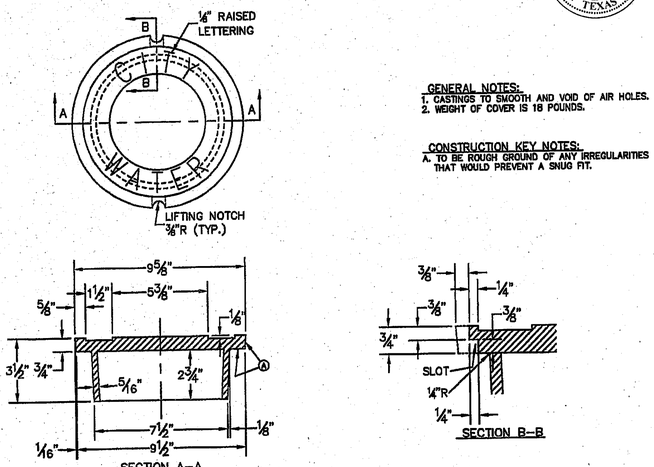
STANDARD DETAIL — DATE: 9/1994 REV: 8/9/2006 — TAPPING SLEEVE AND VALVE INSTALLATION — N.T.S. — DETAIL No. 268




GENERAL NOTES:
1. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
2. WEIGHT OF BONNET BOX IS 95 POUNDS.

CONSTRUCTION KEY NOTES:
A. TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.

STANDARD DETAIL — DATE: 2/1994 REV: — BONNET BOX — N.T.S. — DETAIL No. 268




GENERAL NOTES:
1. CASTINGS TO SMOOTH AND VOID OF AIR HOLES.
2. WEIGHT OF COVER IS 18 POUNDS.

CONSTRUCTION KEY NOTES:
A. TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.

STANDARD DETAIL — DATE: 2/16/2006 REV: 12/14/2007 — BONNET BOX COVER (FLIP RESISTANT) — N.T.S. — DETAIL No. 269-2

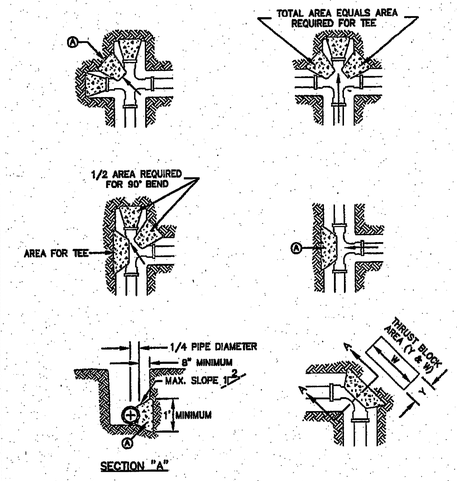
SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RSK
APPVD: RSK
JOB NO. 12415

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE
UTILITY DETAILS SHEET 2

SHEET NO.
81 OF 117 SHEETS

Transcribed by Viewpoint VB (Users.rjs - Office: Denton)
Project: J:\Projects - 10\11\092_Parkway\Land-Plan\Civil\Utility\cv-util-dt02.dgn
Model: Default
Date: Dec. 31, 2014 - 11:43:45 AM Projects Freese and Nichols, Inc.




GENERAL NOTES:
1. TABLE IS BASED ON 2000#/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 18" SHALL BE CALCULATED.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2500 PSI.
4. THRUST BLOCK IS TO EXTEND TO UNDISTURBED SOIL.
5. SIZE MAY BE DECREASED FOR LESSER DEGREE BENDS AS DETERMINED BY ENGINEER.
6. KEEP CONCRETE CLEAR OF M.J. OR BELL AND SPIGOT JOINTS.
7. BLOCK IN A SIMILAR MANNER AT TEES, HYDRANTS, PLUG OR OTHER LOCATIONS AS REQUIRED.
8. WHEN NECESSARY ADDITIONAL THRUST RESTRAINT METHODS MAY BE USED, SUCH AS MECHANICAL JOINT RESTRAINTS, TIE-RODS (INSTALLED PER MANUFACTURERS' RECOMMENDATIONS) OR OTHER APPROVED METHODS.

CONSTRUCTION KEY NOTES:
A. LENGTH "Y" & "W" AS REQUIRED TO OBTAIN BEARING AREA AGAINST UNDISTURBED SOIL.
B. ADDITIONAL EXCAVATION IF NECESSARY TO OBTAIN REQUIRED BEARING AREA.
C. MINIMUM THRUST BLOCK AREA REQUIREMENTS FOR (Y & W) AS FOLLOWS:

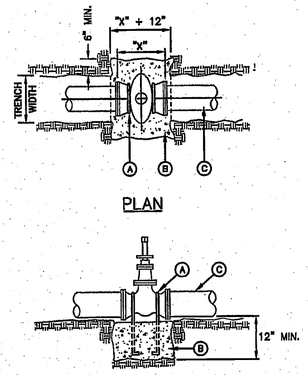
| PIPE SIZE | WATER PIPE | |
|---|---|---|
| | TEE, DEAD END / 90° BEND | 45° AND 22 1/2° BENDS |
| 4" & LESS | 3 SQ. FEET | 3 SQ. FEET |
| 6" | 4 SQ. FEET | 3 SQ. FEET |
| 8" | 6 SQ. FEET | 3 SQ. FEET |
| 10" | 9 SQ. FEET | 5 SQ. FEET |
| 12" | 13 SQ. FEET | 7 SQ. FEET |
| 16" | 23 SQ. FEET | 12 SQ. FEET |
| 18" | 29 SQ. FEET | 15 SQ. FEET |

STANDARD DETAIL — DATE: 2/1994 REV: 8/7/2008

CONCRETE THRUST BLOCKING

N.T.S.

DETAIL No. 270




GENERAL NOTES:
1. THE ENGINEER SHALL PROVIDE DESIGN FOR ALL VALVES GREATER THAN 12".
2. COMPLY WITH REQUIREMENTS OF AWWA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES.

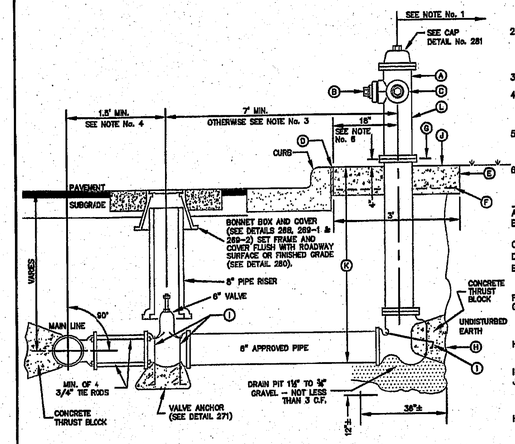
CONSTRUCTION KEY NOTES:
A. TWO No. 5 REBAR HAIR PINS. PAINT UNEMBEDDED PORTION OF REBARS WITH TWO COATS OF COAL TAR EPOXY.
B. CONCRETE VALVE SUPPORT, 2500 PSI. CONCRETE.
C. APPROVED PIPE.

STANDARD DETAIL — DATE: 2/1994 REV: 12/12/2011

VALVE ANCHOR

N.T.S.

DETAIL No. 271




GENERAL NOTES:
1. NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 5 FT. IN ALL DIRECTIONS OF FIRE HYDRANT (PER EL PASO MUNICIPAL CODE, TITLE 12). FIRE HYDRANT SHALL NOT BE PLACED IN WHEEL CHAIR RAMP OR DRIVEWAY.
2. FIRE HYDRANT SHALL BE LOCATED AT THE BEGINNING OF CURB RETURN OR AT THE PROPERTY LINE COMMON TO ADJOINING LOTS, UNLESS OTHERWISE SHOWN ON PLANS. REFER TO DETAIL No. 282 FOR SPECIAL CASES.
3. WHERE DISTANCE IS LESS THAN 7', HYDRANT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL No. 282.
4. VALVE MAY BE CONNECTED TO TEE AT MAIN LINE. USE FLANGED MECHANICAL JOINT ENDS. WHERE SPOOL IS REQUIRED BETWEEN TEE AND VALVE, USE FLANGED MECHANICAL ENDS WITH ¾" DIAMETER TIE RODS.
5. COMPLY WITH REQUIREMENTS OF AWWA C-502, DRY BARREL FIRE HYDRANTS AND AWWA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES AND HYDRANTS.
6. WHEN INSTALLATION IS WITHIN TxDOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB.

CONSTRUCTION KEY NOTES:
A. FIRE HYDRANT PER SPEC'S.
B. PUMPER NOZZLE 4½" TO BE FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED IN THE PLANS.
C. HOSE NOZZLE 2½".
D. ½" PREMOLDED EXPANSION JOINT WITH 1" TOP FILLER.
E. 3'x3'x6" CONC. SQ. PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC. AREA.
F. #10; 6/6 WWF.
G. CONTROLLED ELEVATION LINE, LEVEL IN ALL DIRECTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING TOP FLANGE OF THE HYDRANT TO CONTROLLED ELEVATION.
H. CONC. THRUST BLOCK, APPROX. 2'x2'x3' TO BE POURED AGAINST UNDISTURBED EARTH, F.H. WEEP HOLE MUST BE UNOBSTRUCTED.
I. 2"x1/4" STEEL ANCHOR PINS.
J. TOP OF SLAB SHALL BE AT CURB LEVEL 4" BELOW THE BREAK LINE OF THE HYDRANT. UNDER SPECIAL CONDITIONS THE ENGINEER MAY ALLOW VARIATIONS TO THIS CONSTRUCTION.
K. MAXIMUM OF ONE (1) SPOOL EXTENSION ALLOWED TO MAINTAIN THE CONTROLLED ELEVATION LINE TO TOP OF SLAB. ADDITIONAL ADJUSTMENT MUST ME MADE WITH OFFSETS & FITTINGS AS NEEDED.
L. REQUIRED — DAVIDSON ANTI TERRORISM CORROSION RESISTANT VALVE KIT (DATV).

STANDARD DETAIL — DATE: 2/1993 REV: 12/1/2011

FIRE HYDRANT INSTALLATION

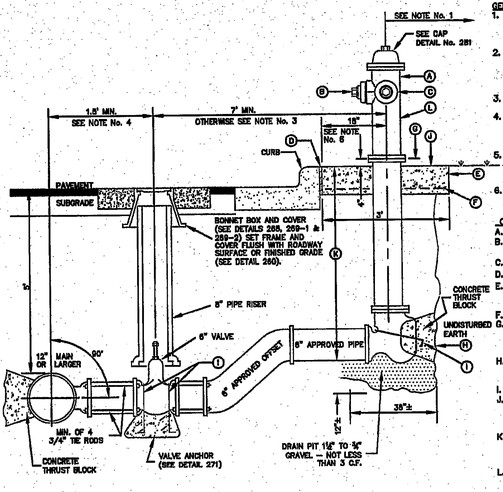
N.T.S.

DETAIL No. 280-1

REFERENCES - BENCHMARK:
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF GARDAULT & MCA AVENUE
DESCRIPTION: BRASS CAP IN CONCRETE
ELEVATION = 3978.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 387-8740
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144




GENERAL NOTES:
1. NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 5 FT. IN ALL DIRECTIONS OF FIRE HYDRANT (PER EL PASO MUNICIPAL CODE, TITLE 12). FIRE HYDRANT SHALL NOT BE PLACED IN WHEEL CHAIR RAMP OR DRIVEWAY.
2. FIRE HYDRANT SHALL BE LOCATED AT THE BEGINNING OF CURB RETURN OR AT THE PROPERTY LINE COMMON TO ADJOINING LOTS, UNLESS OTHERWISE SHOWN ON PLANS. REFER TO DETAIL No. 282 FOR SPECIAL CASES.
3. WHERE DISTANCE IS LESS THAN 7', HYDRANT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL No. 282.
4. VALVE MAY BE CONNECTED TO TEE AT MAIN LINE. USE FLANGED MECHANICAL JOINT ENDS. WHERE SPOOL IS REQUIRED BETWEEN TEE AND VALVE, USE FLANGED MECHANICAL ENDS WITH ¾" DIAMETER TIE RODS.
5. COMPLY WITH REQUIREMENTS OF AWWA C-502, DRY BARREL FIRE HYDRANTS AND AWWA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES AND HYDRANTS.
6. WHEN INSTALLATION IS WITHIN TxDOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB.

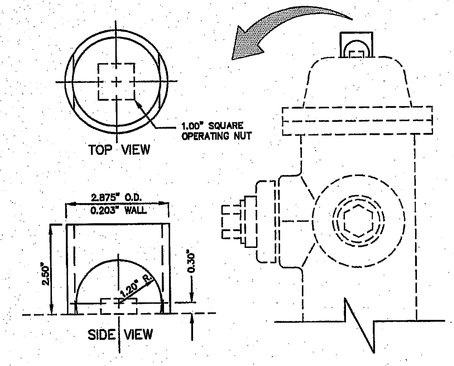
CONSTRUCTION KEY NOTES:
A. FIRE HYDRANT PER SPEC'S.
B. PUMPER NOZZLE 4½" TO BE FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED IN THE PLANS.
C. HOSE NOZZLE 2½".
D. ½" PREMOLDED EXPANSION JOINT WITH 1" TOP FILLER.
E. 3'x3'x6" CONC. SQ. PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC. AREA.
F. #10; 6/6 WWF.
G. CONTROLLED ELEVATION LINE, LEVEL IN ALL DIRECTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING TOP FLANGE OF THE HYDRANT TO CONTROLLED ELEVATION.
H. CONC. THRUST BLOCK, APPROX. 2'x2'x3' TO BE POURED AGAINST UNDISTURBED EARTH, F.H. WEEP HOLE MUST BE UNOBSTRUCTED.
I. 2"x1/4" STEEL ANCHOR PINS.
J. TOP OF SLAB SHALL BE AT CURB LEVEL 4" BELOW THE BREAK LINE OF THE HYDRANT. UNDER SPECIAL CONDITIONS THE ENGINEER MAY ALLOW VARIATIONS TO THIS CONSTRUCTION.
K. MAXIMUM OF ONE (1) SPOOL EXTENSION ALLOWED TO MAINTAIN THE CONTROLLED ELEVATION LINE TO TOP OF SLAB. ADDITIONAL ADJUSTMENT MUST ME MADE WITH OFFSETS & FITTINGS AS NEEDED.
L. REQUIRED — DAVIDSON ANTI TERRORISM CORROSION RESISTANT VALVE KIT (DATV).

STANDARD DETAIL — DATE: 12/1995 REV: 12/1/2011

FIRE HYDRANT INSTALLATION (12" MAIN OR LARGER)

N.T.S.

DETAIL No. 280-2



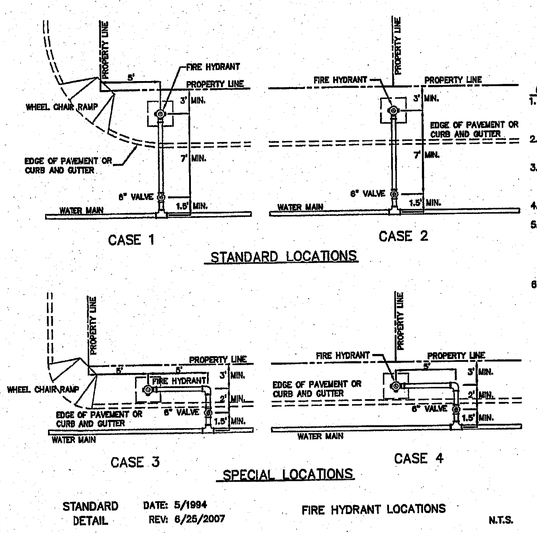

GENERAL NOTES:
1. STEEL CAPS TO BE MACHINED FROM STEEL PIPE: NOMINAL SIZE = 2 1/2" DIA. OUTSIDE DIA. = 2.875" WALL THICKNESS = 0.203 LBS/FT. = 5.79
2. CAPS ARE TO BE TACK WELDED OR BRAZED ON FIRE HYDRANT BONNET OR WEATHER CAP.
3. THE CAPS OVER THE OPERATING NUT WILL PREVENT ACCESS TO THE UNAUTHORIZED USE OF HYDRANT WATER.

STANDARD DETAIL — DATE: FEB. 1993 REV: FEB. 1994

FIRE HYDRANT CAP

N.T.S.

DETAIL No. 281




STANDARD LOCATIONS

SPECIAL LOCATIONS

GENERAL NOTES:
1. FOR CASE 1 FIRE HYDRANT SHALL BE LOCATED AT A DISTANCE OF 5 FT. MINIMUM FROM THE PROPERTY LINE OR AT THE BEGINNING OF CURB RETURN.
2. FOR CASE 2 FIRE HYDRANT SHALL BE LOCATED AT THE PROPERTY LINE COMMON TO ADJOINING LOTS.
3. FOR CASE 3 AND IV WHERE THE DISTANCE BETWEEN THE VALVE AND THE HYDRANT IS LESS THAN 7 FT. PLACE HYDRANT AS SHOWN.
4. FOR INSTALLATION OF FIRE HYDRANT SEE DETAIL 280-1 OR 280-2.
5. A MINIMUM CLEARANCE OF 3 FT. WILL BE PROVIDED BETWEEN A FIRE HYDRANT AND A PERMANENT OBSTRUCTION (UTILITY POLE, LIGHT STANDARD, TRAFFIC SIGNAL, WHEEL CHAIR RAMP, FENCE PROTECTIVE POSTS, ETC.).
6. WHEN INSTALLATION IS WITHIN TxDOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB.

STANDARD DETAIL — DATE: 5/1994 REV: 6/25/2007

FIRE HYDRANT LOCATIONS

N.T.S.

DETAIL No. 282

THE CITY OF EL PASO TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 12455

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

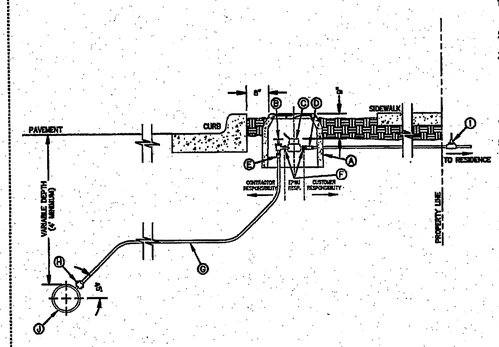
SHEET TITLE

UTILITY DETAILS SHEET 3

SHEET NO.

82 OF 117 SHEETS

Microstation V8 User File: Office: Denton
Project Directory: C:\Projects\Engineering\Projects\WDP_Phase1\DP\Addon Files\
Project Workspace: V8 WDP_Phase1DP.dgn
Date Dec. 31, 2014 - 11:43:49 AM Project: Freese and Nichols, Inc.



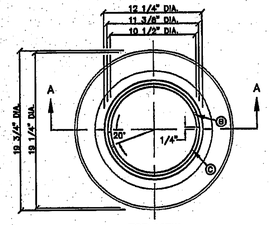

GENERAL NOTES:

1. DETAIL SHOWN FOR A 3/4" SERVICE, 1" SERVICE INSTALLATION IS SIMILAR EXCEPT FOR SIZES OF PIPE, FITTING, METER AND BOX (TYPE "B").
2. WHERE NO CURB EXISTS, METER IS TO BE SET NEAR PROPERTY LINE OR AT DESIGNATED LOCATION.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY PIPE, FITTINGS, AND METER BOXES REQUIRED. IT SHALL BE THE RESPONSIBILITY OF THE PRIVATE OWNER TO HAVE A CERTIFIED PLUMBER INSTALL A BACKFLOW PREVENTER AND EXTEND SERVICE LINE ON DISCHARGE SIDE OF METER.
4. NO SPLICING SHALL BE ALLOWED. FULL LENGTH OF PIPING SERVICE SHALL BE INSTALLED.
5. THE EPWU WILL FURNISH AND INSTALL THE METER.

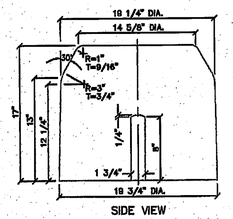
CONSTRUCTION KEY NOTES:

A. METER BOX TYPE "A" (SEE DETAILS 291 & 292) SHALL BE SET SLIGHTLY HIGHER THAN SURROUNDING GROUND OR AT CURB LEVEL.
B. 3/4" ANGLE SERVICE VALVE.
C. WATER METER (CENTER INSIDE METER BOX).
D. WHEN REQUIRED BY EPWU, A DUAL CHECK BACKFLOW PREVENTER SHALL BE INSTALLED ON THE OUTLET SIDE OF THE METER.
E. END FLARE OF SERVICE LINE.
F. INLET AND OUTLET COUPLING.
G. 3/4" COPPER SERVICE LINE (SEE NOTE 4).
H. 5/8" X 3/4" CORPORATION STOP
I. PRESSURE REGULATOR SOMETIMES LOCATED NEAR THE RESIDENCE.
J. WATER MAIN

STANDARD DETAIL — DATE: 10/20/2000 REV: 5/24/2007 — SERVICE LINE 3/4" AND 1" INSTALLATION BY CONTRACTOR — N.T.S. — DETAIL No. 290-4

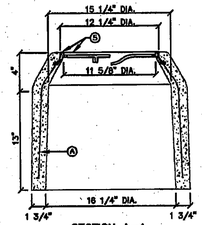



TOP VIEW




SIDE VIEW

STANDARD DETAIL — DATE: 4/1994 REV: 8/24/2006 — METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION — N.T.S. — DETAIL No. 291



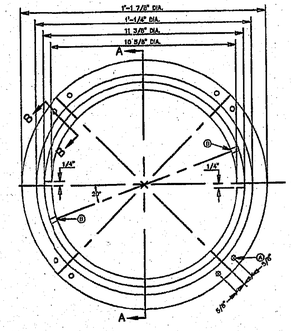

SECTION A–A

GENERAL NOTES:

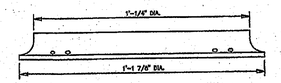
1. INSTALL TO GRADE MATCHING TOP OF CURB.
2. ANGLE VALVE SHALL BE IN LINE WITH THE INLET/OUTLET PORTS OF THE METER BOX.
3. METER BOXES SHALL NOT BE INSTALLED UNDER SIDEWALKS, DRIVEWAYS, OR PROPOSED ABOVE GROUND STRUCTURES.
4. WHERE NO CURBING EXIST, INSTALL BOXES IN ACCESSIBLE LOCATIONS BEYOND LIMITS OF STREET SURFACING, WALKS AND DRIVEWAYS.
5. METER BOX RING AND COVER PER EPWU DETAILS 300 AND 301.
6. WHERE IT IS NECESSARY TO INSTALL A TYPE "A" BOX FOR 3/4" METER UNDER ROADWAYS OF TRAFFIC BEARING SURFACES, BOX SHALL BE ENCASED IN 12" CONCRETE, 3000 PSI. MINIMUM.
7. METER BOX SHALL BE SINGLE UNIT CONSTRUCTION; CONCRETE TO HAVE A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 4000 PSI.

CONSTRUCTION KEY NOTES:

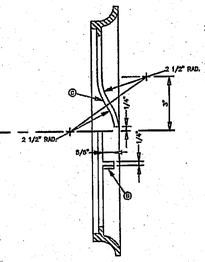
A. 3/16", 9 GAUGE BLACK ANNEALED WIRE
B. LUG-STOP C. CAST IRON RING




TOP VIEW




SIDE VIEW



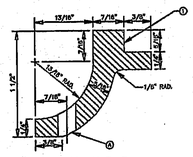

SECTION A–A

GENERAL NOTES:

1. MATCHING SURFACES TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
3. METER BOX RING WEIGHT = 7 LBS.
4. METER BOX RING MADE OF CAST IRON.

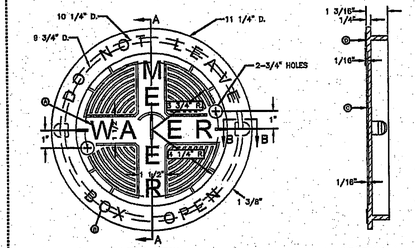
CONSTRUCTION KEY NOTES:

A. 1/4" DIAMETER HOLES FOR ANCHORING RING TO CONCRETE METER BOX.
B. LUG STOP
C. LOCKING LUG SLIDE




SECTION B–B

STANDARD DETAIL — DATE: 1/1995 REV: 8/10/2006 — METER BOX RING FOR TYPE "A" & "B" METER BOXES — N.T.S. — DETAIL No. 300




TOP VIEW



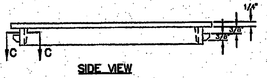

SECTION A–A

GENERAL NOTES:

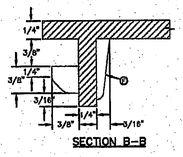
1. MATCHING SURFACES TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH AND VOID OF AIR
3. METER BOX COVER WEIGHT= 1 1/4 lbs.

CONSTRUCTION KEY NOTES:

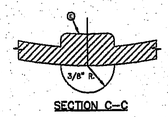
A. LETTERS TO BE 1" HIGH, 3/4" WIDE, 1/8" THICK
B. LETTERS TO BE 3/8" HIGH, 5/8" WIDE, 1/16" THICK
C. INSIDE LETTERS & RIBS 1/16" TALL
D. OUTSIDE LETTERS 1/16" TALL
E. REINFORCE BACK OF LUG
F. REINFORCEMENT




SIDE VIEW




SECTION B–B

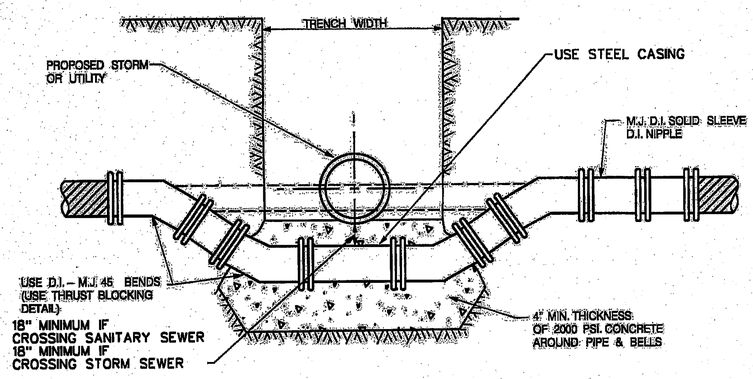



SECTION C–C

STANDARD DETAIL — DATE: 4/1994 REV: 8/10/2006 — METER BOX COVER FOR TYPE "A" & "B" METER BOXES — N.T.S. — DETAIL No. 301

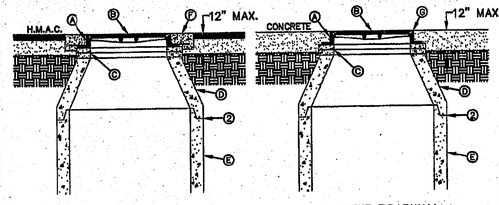
NOTES:

1. MEGA LUGS (OR APPROVED EQUAL) ARE REQUIRED ON ALL M.J. FITTINGS.




CROSSING DETAIL

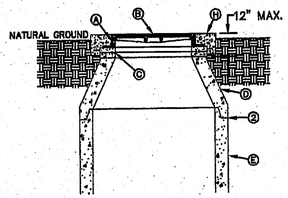
N.T.S.




ASPHALT ROADWAY




CONCRETE ROADWAY




UNPAVED AREAS

GENERAL NOTES:

1. MANHOLE TYPE SHALL BE AS SHOWN ON THE PLANS.
2. SEAL JOINTS PER SPECIFICATIONS.

CONSTRUCTION KEY NOTES:

A. MANHOLE RING (SEE DETAIL 377).
B. MANHOLE COVER (SEE DETAIL 378).
C. CONCRETE ADJUSTMENT RINGS AS REQUIRED.
D. MANHOLE CONE SECTION.
E. MANHOLE BARREL SECTION.
F. CONCRETE COLLAR (SEE DETAIL 184–1) FLUSH WITH TOP OF H.M.A.C.
G. MANHOLE RING FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
H. CONCRETE APRON (SEE DETAIL 184–2) FLUSH WITH MANHOLE RING AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL — DATE: 6/22/2009 REV: — MANHOLE RING AND COVER INSTALLATION — N.T.S. — DETAIL No. 185

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT, AT THE INTERSECTION OF GERONIMO & MESA AVENUE
ELEVATION = 3815.89 CITY DATUM

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE AND NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 382-3340
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144

12-30-14

SCALE: HORIZONTAL: VERTICAL: CONTOUR INTERVAL:
DATE: 08-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHK'D BY: RSK
APPV'D: RSK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

UTILITY DETAILS SHEET 4

SHEET NO.

83 OF 117 SHEETS

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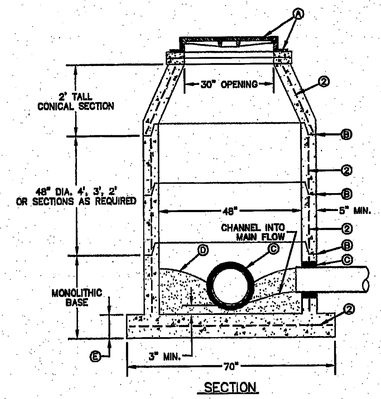



SECTION

GENERAL NOTES:
1. MANHOLE TYPE "A" SHALL BE USED FOR LINES 21" AND SMALLER.
2. PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADING. PROVIDE REINFORCEMENT WITHIN 3" ⌀ OPENINGS OR KNOCKOUTS. OPENINGS (UP TO 8") MADE IN FIELD SHALL BE CORE DRILLED.
3. CEMENT SHALL BE TYPE I-II, PER ASTM C-150, AND MUST CONTAIN A MINIMUM OF 4% FLY ASH OF THE TOTAL MANHOLE WEIGHT.
4. THE BASE & RISER SHALL BE INTEGRALLY CAST. CONCRETE SHALL BE MIN. 28 DAY COMPRESSIVE STRENGTH 4000psi.
5. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
6. THE SUBGRADE UNDER THE BASE SHALL BE COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM D-1557.
7. MANHOLES BELOW GROUNDWATER TO BE EXTERNALLY AND INTERNALLY COATED WITH BITUMINOUS COATING.

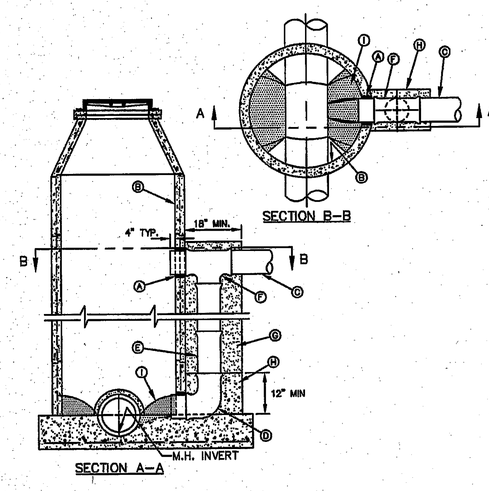
CONSTRUCTION KEY NOTES:
A. MANHOLE RING AND COVER (SEE DETAILS 377 & 378). SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
B. ALL JOINTS TO BE TONGUE, GROOVE AND SEALED WITH RAM-NEK OR APPROVED EQUAL.
C. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE AND SHALL HAVE FLEXIBLE PIPE TO MANHOLE CONNECTORS (COMPRESSION TYPE ASTM-923), "KOR-N-SEAL" OR APPROVED EQUAL.
D. GROUT AS REQUIRED.
E. CONCRETE BASE SHALL BE 8" FOR MH's UP TO 12' DEEP AND 12" FOR DEPTHS GREATER THAN 12'.

STANDARD DETAIL — DATE: 11/1992 — REV: 2/8/2013

MANHOLE TYPE "A"

N.T.S.

DETAIL No. 370-1




SECTION A-A

GENERAL NOTES:
1. DROP CONNECTION SHOWN MAY BE USED ON ALL MANHOLE TYPES (NOT RECOMMENDED IN GROUND WATER CONDITIONS).
2. DROP CONNECTION TO BE CONSTRUCTED WHEN INVERT ELEVATION OF INFLUENT PIPE IS 3 FEET (OR GREATER) ABOVE THE MANHOLE INVERT.

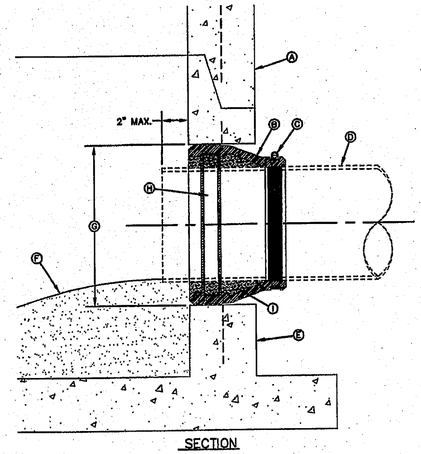
CONSTRUCTION KEY NOTES:
A. PIPE OPENINGS IN MANHOLE RISERS SHALL HAVE COMPRESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (A.S.T.M.- C923) "KOR-N-SEAL" OR APPROVED EQUAL.
B. MANHOLE WALL
C. INFLUENT SEWER PIPE.
D. 90° BEND (P.V.C.)
E. P.V.C. PIPE (SDR. 35)
F. P.V.C. TEE
G. CONCRETE FLOWABLE FILL
H. 2500 psi CONCRETE
I. USE GROUT TO FORM A SMOOTH CHANNEL TO MANHOLE INVERT

STANDARD DETAIL — DATE: 3/18/1998 — REV: 6/19/2009

DROP CONNECTION - EXTERNAL MANHOLE INSTALLATION

N.T.S.

DETAIL No. 375-1




SECTION

GENERAL NOTES:
1. MANHOLE CONNECTOR SHALL BE KOR-N-SEAL OR EQUAL MEETING THE REQUIREMENTS OF ASTM C-923. CONNECTOR SHALL BE FURNISHED BY CONTRACTOR.

CONSTRUCTION KEY NOTES:
A. PRECAST MANHOLE BARREL.
B. FLEXIBLE CONNECTOR.
C. PIPE CLAMP SS 316.
D. APPROVED PIPE.
E. PRECAST MANHOLE BASE.
F. GROUT AS REQUIRED TO FORM SMOOTH CHANNEL TO MANHOLE INVERT.
G. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE.
H. EXPANSION BAND SS 316.
I. FILL SPACE WITH GROUT.

STANDARD DETAIL — DATE: 11/1992 — REV: 8/13/2009

PIPE CONNECTION TO MANHOLE

N.T.S.

DETAIL No. 376

REFERENCES - BENCHMARK

BENCHMARK - CITY MONUMENT AT THE INTERSECT OF GEMAULT & MCA AVENUE
REFERENCE IN TYPED FILES ADDITIONAL
ELEVATION = 3829.845 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

FREESE NICHOLS
2228 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone: (940) 382-3340
Fax: (817) 336-2177
Web - www.freese.com

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
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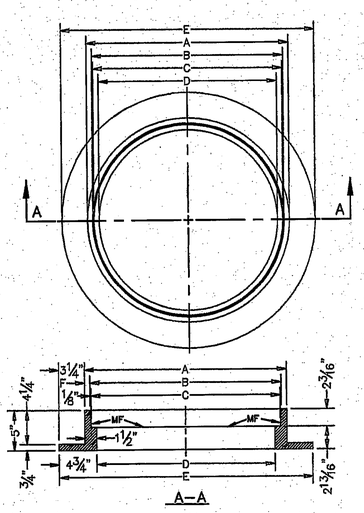



A-A

GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
4. AS-CAST DIMENSIONS MAY VARY ⅛"±/ PER FOOT (AASHTO M306-07).
5. WEIGHT MAY VARY 5%XXP (AASHTO M306-07).

| MANHOLE RING | MANHOLE - ALL TYPES | *MANHOLE TYPE A, A1, A2 & C |
|---|---|---|
| A | 33" | 25¼" |
| B | 31¾" | 24⅛" |
| C | 31½" | 23⅞" |
| D | 30" | 22½" |
| E | 39½" | 32" |
| F | ⅝" | 1¹⁄₁₆" |
| WEIGHT | 205 lbs. | 170 lbs. |

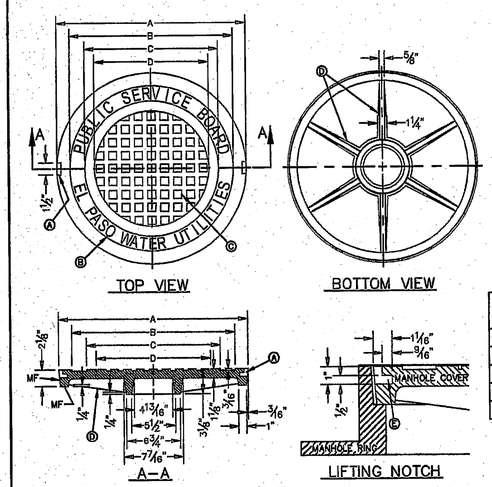
*OBSOLETE -DO NOT USE (FOR REFERENCE ONLY)

STANDARD DETAIL — DATE: 11/1992 — REV: 2/21/2011

SEWER MANHOLE RING

N.T.S.

DETAIL No. 377




TOP VIEW




BOTTOM VIEW




A-A




LIFTING NOTCH

GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
4. AS-CAST DIMENSIONS MAY VARY ⅛"±/ PER FOOT (AASHTO M306-07).
5. WEIGHT MAY VARY 5%XXP (AASHTO M306-07).

CONSTRUCTION KEY NOTES:
A. LIFTING NOTCH.
B. ¾" RAISED LETTERING.
C. 1" SQUARES (⅜" TALL) WITH ⅝" SPACE BETWEEN.
D. REINFORCING RIBS.
E. SLOT.

| MANHOLE COVER | MANHOLE - ALL TYPES | *MANHOLE TYPE A, A1, A2 & C |
|---|---|---|
| A | 31⅜" | 23⅞" |
| B | 28⅛" | 20⅝" |
| C | 24⅜" | 16⅞" |
| D | 21⅞" | 14⅜" |
| WEIGHT | 200 lbs. | 165 lbs. |

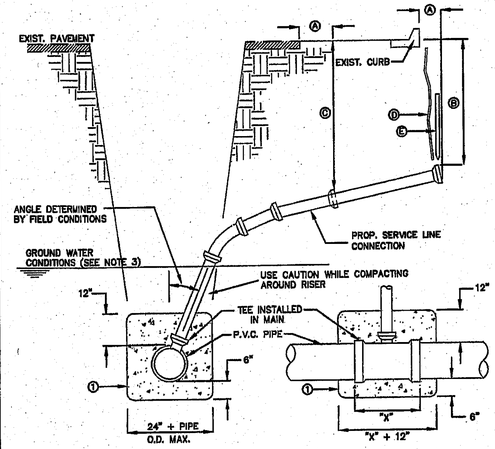
*OBSOLETE -DO NOT USE (FOR REFERENCE ONLY)

STANDARD DETAIL — DATE: 11/1992 — REV: 2/21/2011

SEWER MANHOLE COVER

N.T.S.

DETAIL No. 378




GENERAL NOTES:
1. IN GROUNDWATER CONDITIONS ONLY, P.V.C. SADDLES OR TEES ARE TO BE ENCASED WITH CLASS B CONCRETE.
2. UNDER CERTAIN CONDITIONS FIELD INVESTIGATIONS WILL BE REQUIRED TO DETERMINE THE ADEQUACY OF THE DEPTH ON THE LATERAL.
3. WHEN GROUND WATER IS ENCOUNTERED SERVICE RISER SHALL BE EXTENDED ABOVE ANTICIPATED WATER TABLE LEVEL.

CONSTRUCTION KEY NOTES:
A. CONTRACTOR TO INSTALL SEWER SERVICE LINE FROM THE MAIN TO A LOCATION 6" BEHIND THE CURB OR 18" BEYOND THE EDGE OF PAVMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
B. 18" FOR STANDARD SUBDIVISION, 3.5' FOR SUBDIVISIONS WITH ON-SITE PONDING OR FLAT TERRAIN.
C. RISERS OR LATERALS EXTENDING BEYOND EXISTING PAVING SHALL BE INSTALLED TO 3.5' MINIMUM TOP OF GROUND OR PAVEMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
D. PLASTIC METALLIC MARKING TAPE RISING TO WITHIN 6" OF GROUND SURFACE OR METALLIC DISK.
E. WOODEN STAKE (1"x2"x36") VERTICALLY PLACED AT PLUGGED END OF PROPOSED SERVICE LINE.

STANDARD DETAIL — DATE: 11/1992 — REV: 1/23/2009

SEWER SERVICE RISER AND SERVICE LINE CONNECTION

N.T.S.

DETAIL No. 391

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RGK
CHKD BY: RGK
APPVD:
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

UTILITY DETAILS SHEET 5

SHEET NO.

84 OF 117 SHEETS

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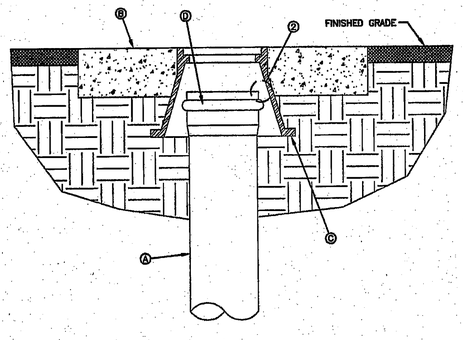
Date: Dec. 31, 2013 - 11:44:06 AM Project: Freese and Nichols, Inc.

Office: Denton QEC13102 Date: Dec. 31, 2014 - 11:44:06 AM User: rjs File: N:\UTIL\Drawings\cv-util-d05.dgn




BONNET BOX

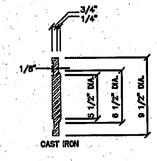
GENERAL NOTES:

1. FOR BONNET BOX DIMENSIONS SEE DET 268.
2. PIPE BELL END TO FIT SNUGLY AGAINST INTERIOR OF BONNET BOX.

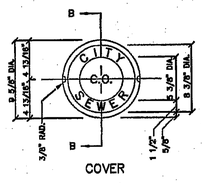
CONSTRUCTION KEY NOTES:

A. 8" P.V.C. SDR 35
B. 3'x3'x6" CONCRETE COLLAR
C. BONNET BOX
D. 8" BELL END

STANDARD DETAIL — DATE: 03-13-98, REV: 03-25-98 — BONNET BOX FOR CLEANOUT — N.T.S. — DETAIL No. 396




SECTION B–B



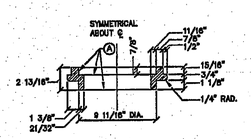

COVER

GENERAL NOTES:

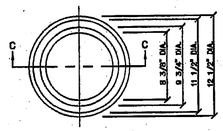
1. CASTINGS TO BE SMOOTH AND VOID OF AIR HOLES.
2. WEIGHT OF BONNET BOX EXTENSION IS 25 POUNDS.
3. WEIGHT OF COVER IS 10 POUNDS.

CONSTRUCTION KEY NOTES:

A. TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.

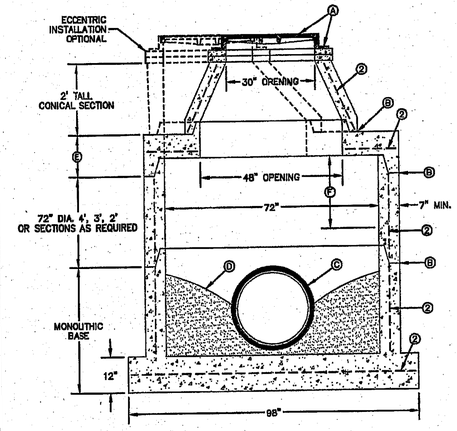



SECTION C–C




TOP VIEW

STANDARD DETAIL — DATE: MAR. 1998, REV: — BONNET BOX COVER AND EXTENSION FOR CLEANOUT N.T.S. — DETAIL No. 397




SECTION

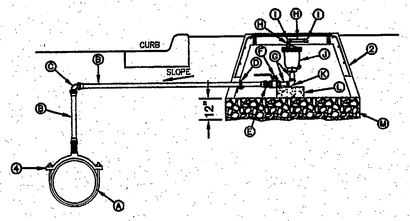
GENERAL NOTES:

1. MANHOLE TYPE "B" SHALL BE USED FOR LINES 24" AND LARGER OR WHEN SEWER MONITORING EQUIPMENT IS REQUIRED.
2. PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADING. PROVIDE REINFORCEMENT WITHIN 3" ● OPENINGS OR KNOCKOUTS, OPENINGS (UP TO 8") MADE IN FIELD SHALL BE CORE DRILLED.
3. CEMENT SHALL BE TYPE I–II, PER ASTM C-150, AND MUST CONTAIN A MINIMUM OF 4% FLY ASH OF THE TOTAL MANHOLE WEIGHT.
4. THE BASE & RISER SHALL BE INTEGRALLY CAST. CONCRETE SHALL BE MIN. 28 DAY COMPRESSIVE STRENGTH 4000psi.
5. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
6. THE SUBGRADE UNDER THE BASE SHALL BE COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM D-1557.
7. MANHOLES BELOW GROUNDWATER TO BE EXTERNALLY AND INTERNALLY COATED WITH BITUMINOUS COATING.
8. CONE SECTION REINFORCEMENT IN ACCORDANCE WITH ASTM C-478 (ECCENTRIC CONE APPLICATION SHOWN DASHED).
9. OTHER UTILITIES SHALL NOT BE INSTALLED ADJACENT TO THE CONE SECTION AND DIRECTLY ABOVE THE MANHOLE.

CONSTRUCTION KEY NOTES:

A. MANHOLE RING AND COVER (SEE DETAILS 377 & 378). SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
B. ALL JOINTS TO BE TONGUE, GROOVE AND SEALED WITH RAM-NEK OR APPROVED EQUAL.
C. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE AND SHALL HAVE FLEXIBLE PIPE TO MANHOLE CONNECTORS (COMPRESSION TYPE ASTM-923), "KOR-N-SEAL" OR APPROVED EQUAL.
D. GROUT AS REQUIRED.
E. ECCENTRIC/CONCENTRIC LID (CONCENTRIC SHOWN BOLD) WITH KEYED TOP, 8" THICK (SEE DETAIL 378-2).
F. MINIMUM 24" DISTANCE FROM BOTTOM OF LID TO TOP OF PIPE FOR DROP CONNECTION.

STANDARD DETAIL — DATE: 11/1992, REV: 9/1/2009 — MANHOLE TYPE "B" — N.T.S. — DETAIL No. 371-1




SECTION

GENERAL NOTES:

1. INSTALLATION SHALL GENERALLY BE FOR A MAIN-LINE 16" AND SMALLER (1" AIR RELEASE VALVE SHOWN). INSTALLATION OF OTHER SIZED VALVES IS SIMILAR.
2. VALVE VAULT SHALL BE TYPE "D". SEE DETAIL 294. SET TOP OF VAULT SLIGHTLY HIGHER THAN SURROUNDING GROUND OR AT CURB LEVEL.
3. VALVE AND PIPE SIZES AS SPECIFIED.
4. WHERE TOP OUTLET FITTING IS NOT PROVIDED BY MANUFACTURER, PROVIDE TAPPING SADDLE TO SIZE OF AIR VALVE.

CONSTRUCTION KEY NOTES:

A. MAINLINE, SIZE AS SPECIFIED.
B. 1" COPPER PIPE.
C. 1" FLARED BRONZE 90° ELBOW.
D. ANCHOR PIPING TO VALVE VAULT WITH 3"x3"x¼" ANGLE & ⅜"ø STRAP.
E. 1" FLARED BY MALE THREADED BRONZE COUPLING.
F. 1" FEMALE THREADED BRASS BALL VALVE.
G. 1" MALE THREADED BRASS NIPPLE.
H. 1" MALE THREADED BRASS NIPPLE.
I. 1" FEMALE THREADED BRONZE 90° ELBOW.
J. AIR RELEASE VALVE, SIZE AS SPECIFIED.
K. 1" FEMALE THREADED BRONZE 90° ELBOW.
L. VALVES INSTALLED WITH CONCRETE SUPPORTS AS REQUIRED.
M. GRAVEL FILL.

STANDARD DETAIL — DATE: 10/1994, REV: 10/17/2008 — COMBINATION AIR RELEASE VALVE FOR LINES 16" AND SMALLER BEHIND CURB INSTALLATION — N.T.S. — DETAIL No. 263-1

REFERENCES • BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECTION OF GUADALUPE & MESA AVENUE
CITY MONUMENT NO. 1
ELEVATION = 3876.94 CITY DATUM

| BY | REVISION | DATE |
|---|---|---|
| | | |

FREESE NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone: (940) 220-4340
Fax - (940) 387-4677
Web - www.freese.com
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144

12-30-14
RONALD G. KING
81073
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 06-2013
DESIGN BY: RJS
DRAWN BY: RJS
CHKD BY: RGK
APPVD: RGK
JOB NO. 1245

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENTS PLANS
EL PASO, TEXAS

SHEET TITLE

UTILITY DETAILS
SHEET 5

SHEET NO.

85 OF 117 SHEETS

THE CITY OF EL PASO TEXAS

Microstation V8 Users: Ja Officer: Denton
Microstation V8 Users: Ja Officer: Denton
Plotted: 31-DEC-2014 11:44:10 By: Officer: Denton
Plotted: 31-DEC-2014 11:44:10 By: Officer: Denton
Plotted By: Officer Denton Scale: 1:1 Drawing: N:\UTIL\Drawings\cv-util-dt06.dgn
Date Plotted: 31-DEC-2014 11:44:10 AM Project: Freese and Nichols, Inc.

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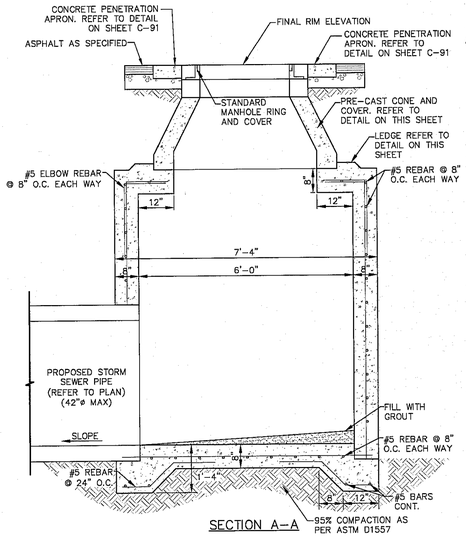
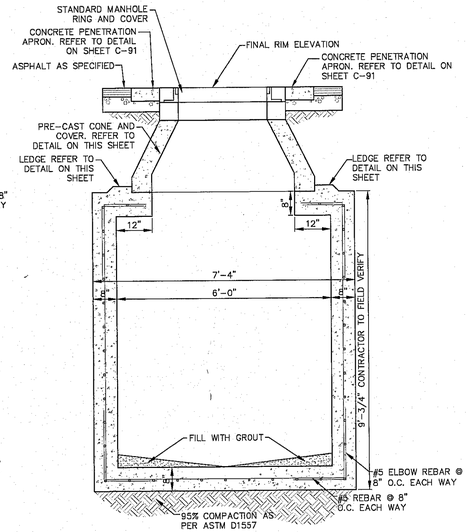


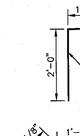

SECTION A–A



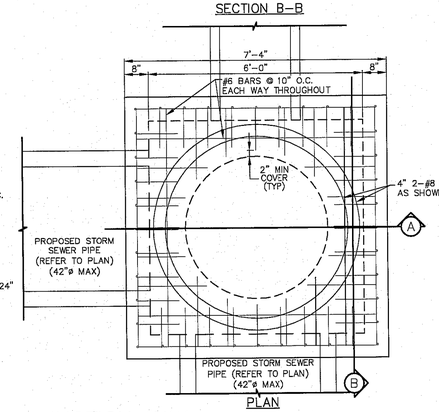

SECTION B–B

NOTES:

1. ALL JOINTS BETWEEN CAST-IN-PLACE AND PRECAST SECTIONS SHALL BE SEALED WITH MORTAR.
2. GROUT BOTTOM OF JUNCTION BOX A MINIMUM OF 6" ABOVE EXIT INVERT ELEVATION AS PER CITY STANDARDS.
3. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THEIR APPROVAL A MINIMUM OF THREE WEEKS PRIOR TO CONSTRUCTION.
4. ALL FORMS SHALL BE WELL BRACED AND STRAIGHT.
5. ALL STEEL SHALL BE FREE OF GREASE, SCALE, AND DIRT.
6. ALL CONCRETE SHALL CONFORM TO ASTM C94 AND SHALL REACH A MINIMUM OF 3000 PSI AT 28 DAY TEST. CONCRETE SHALL NOT BE PLACED IN EXCESS OF 4" SLUMP WITHOUT PRIOR APPROVAL OF THE ENGINEER.
7. ALL BATS SHALL BE TIED AT EVERY INTERSECTION. ALL STEEL SHALL BE SUPPORTED TO PROHIBIT LATERAL OR VERTICAL MOVEMENT.
8. CONCRETE POUR SHALL NOT BE STARED UNLESS THE SITE TEMPERATURE IS ABOVE 40 DEGREES FAHRENHEIT AND RISING FOR THE NEXT 12 HOURS



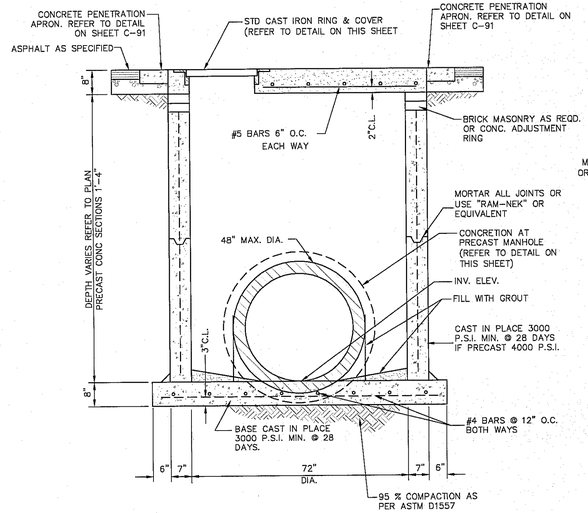

BENDING DETAIL




PLAN

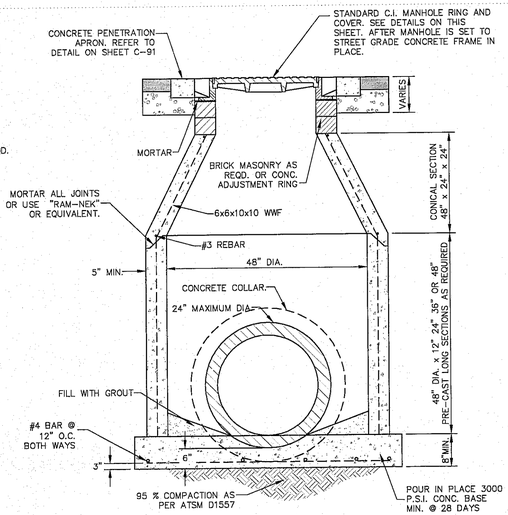
## 72" CAST–IN PLACE JUNCTION BOX

SCALE: 1"=2'



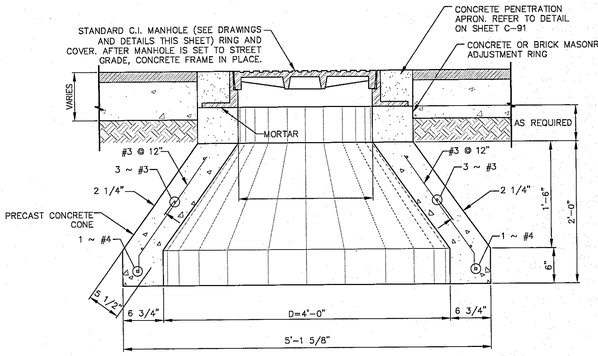

## 72" DIAMETER PRECAST MANHOLE SECTIONS

SCALE: N.T.S.



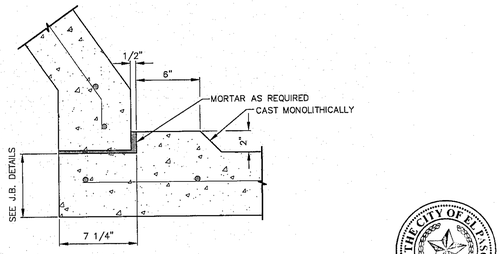

## 48" DIAMETER STANDARD MANHOLE

SCALE: N.T.S.



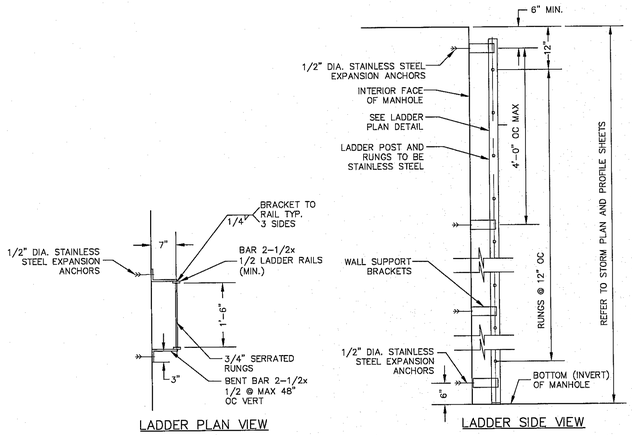

## PRECAST CONE AND COVER

SCALE: 1"=1'




## LEDGE DETAIL

SCALE: 1"=1'

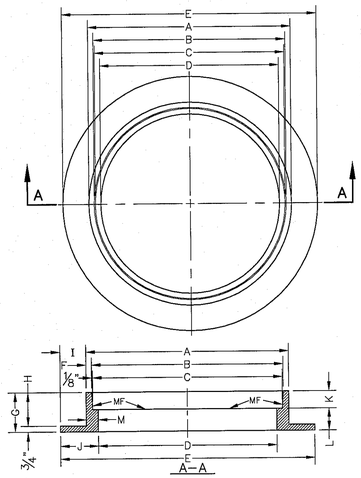



LADDER PLAN VIEW

LADDER SIDE VIEW

## MANHOLE LADDER DETAIL (FOR MANHOLES 14' OR DEEPER)

SCALE: N.T.S.



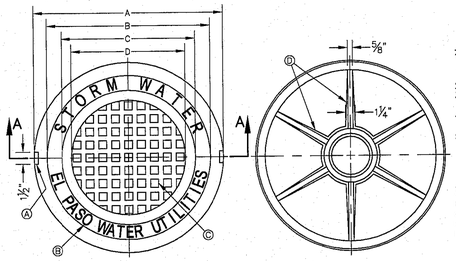

A–A

GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306–07.
4. AS–CAST DIMENSIONS MAY VARY 1/16"±/ PER FOOT (AASHTO M306–07).
5. WEIGHT MAY VARY 5%± (AASHTO M306–07).

| MANHOLE RING | MANHOLE – ALL TYPES |
|---|---|
| A | 33" |
| B | 31¾" |
| C | 31½" |
| D | 30" |
| E | 39½" |
| F | ⅝" |
| G | 5" |
| H | 4¼" |
| I | 3¼" |
| J | 4¾" |
| K | 2⅜16" |
| L | 2⅛16" |
| M | 1½" |
| WEIGHT | 220 lbs. |

## STORMWATER MANHOLE RING

SCALE: N.T.S.

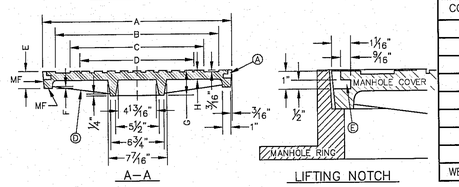



TOP VIEW

BOTTOM VIEW

GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306–07.
4. AS–CAST DIMENSIONS MAY VARY 1/16"±/ PER FOOT (AASHTO M306–07).
5. WEIGHT MAY VARY 5%± (AASHTO M306–07).

CONSTRUCTION KEY NOTES:
A. LIFTING NOTCH.
B. 3/16" RAISED LETTERING.
C. 1" SQUARES (3/8" TALL) WITH 5/8" SPACE BETWEEN.
D. REINFORCING RIBS.
E. SLOT.




A–A

LIFTING NOTCH

| MANHOLE COVER | MANHOLE – ALL TYPES |
|---|---|
| A | 31⅜" |
| B | 28⅛" |
| C | 24⅜" |
| D | 21⅞" |
| E | 2⅛" |
| F | ¼" |
| G | 3⅛" |
| H | 1⅛" |
| WEIGHT | 265 lbs. |

## MANHOLE COVER DETAIL

SCALE: N.T.S.

REFERENCES – BENCHMARK

BENCHMARK:– CITY MONUMENT AT THE INTERSECT OF GUNAULT & INCA AVENUE
REFERENCE IN THESE PLANS:
ELEVATION = 3978.84 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

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ROBERT A. GONZALES 69920 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

SCALE:
HORIZONTAL: AS SHOWN
VERTICAL: AS SHOWN
CONTOUR INTERVAL:

| DATE: | AUGUST 2015 |
|---|---|
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CADD |
| CHKD BY: | R.A.G. |
| APPVD BY: | R.A.G. |
| JOB NO. | 1326 |

THE CITY OF EL PASO TEXAS

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

DRAINAGE DETAILS (1 OF 4)

SHEET NO.

C-86

86 OF 123 SHEETS

Aug 03,2015 3:13pm troj
Q:\Active Drawings\1326 NSW Subdivision\Civil\5th Final COEP Comments\C-86-89 Drainage Details(1-4).dwg

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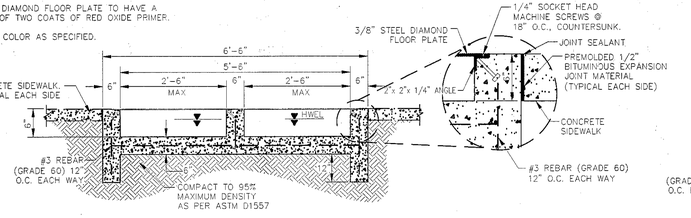
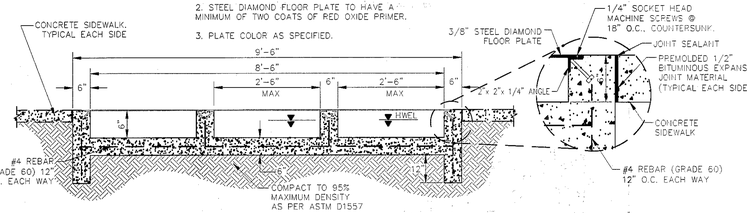
NOTES:
1. ALL CONCRETE SHALL BE 3000 PSI COMPRESSIVE STRENGTH @ 28 DAYS.
2. STEEL DIAMOND FLOOR PLATE TO HAVE A MINIMUM OF TWO COATS OF RED OXIDE PRIMER.
3. PLATE COLOR AS SPECIFIED.

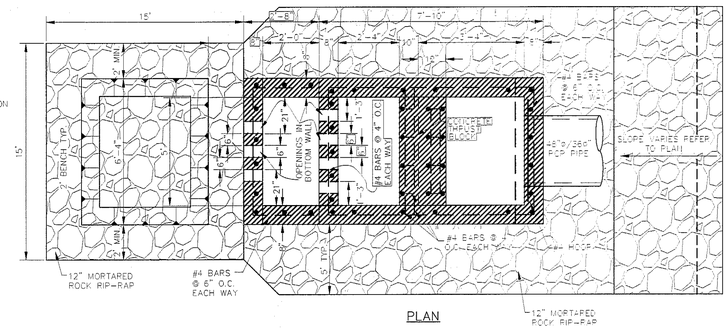



## DUAL CONCRETE FLUMES WITH STEEL PLATE COVER
SCALE: NTS

NOTES: 1. ALL CONCRETE SHALL BE 3000 PSI COMPRESSIVE STRENGTH @ 28 DAYS.
2. STEEL DIAMOND FLOOR PLATE TO HAVE A MINIMUM OF TWO COATS OF RED OXIDE PRIMER.
3. PLATE COLOR AS SPECIFIED.




## TRIPLE CONCRETE FLUMES WITH STEEL PLATE COVER
SCALE: NTS


15'
7'-10"
2'-8"
2'-0"
8"
2'-4"
10"
3'-4"
8"
#4 BARS @ 6" O.C. EACH WAY
#4 BARS @ 6" O.C. EACH WAY
#4 BARS @ 4" O.C. EACH WAY
#4 BARS @ 6" O.C. EACH WAY
CONCRETE FILLED BLOCKS
#4 BARS @ 4" O.C. EACH WAY
OPENINGS IN BOTTOM WALL
BENCH TYP.
15"
6"
6"
6

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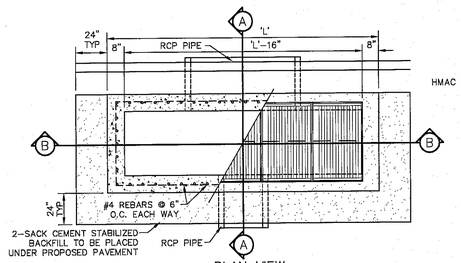
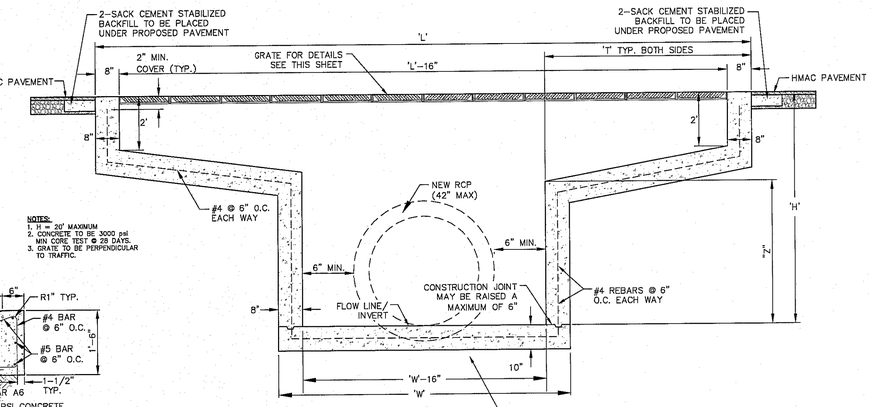
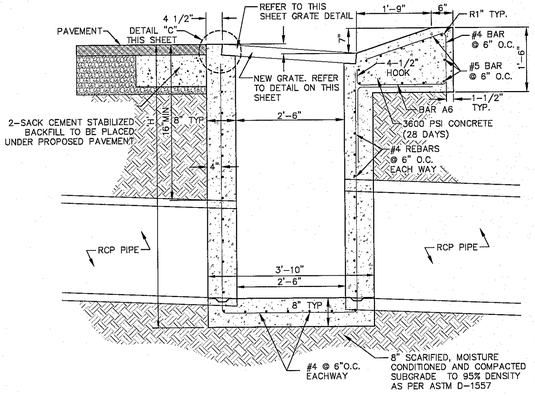



PLAN VIEW



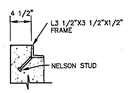

NOTES:
1. H = 20' MAXIMUM
2. CONCRETE TO BE 3000 psi MIN CORE TEST @ 28 DAYS.
3. GRATE TO BE PERPENDICULAR TO TRAFFIC.

SECTION B

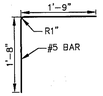



SECTION A

| INLET | NUMBER OF GRATES | (L) | (H) | (T) | (W) | (Z) |
|---|---|---|---|---|---|---|
| INLET M | 12 | 24'-11 3/4" | 13'-9 3/4" | 9'-5 7/8" | 6'-0" | 10'-9 5/8" |
| INLET P | 12 | 24'-11 3/4" | 10'-10" | 8'-7 1/2" | 7'-3" | 7'-10" |



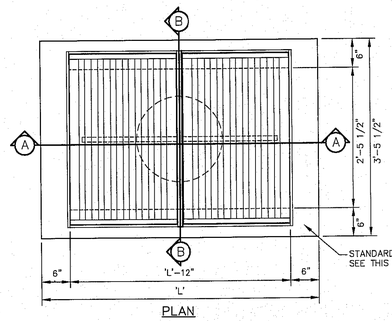

DETAIL "C"




BAR DETAIL

# MODIFIED DROP INLET (TYPE I)

SCALE: N.T.S.



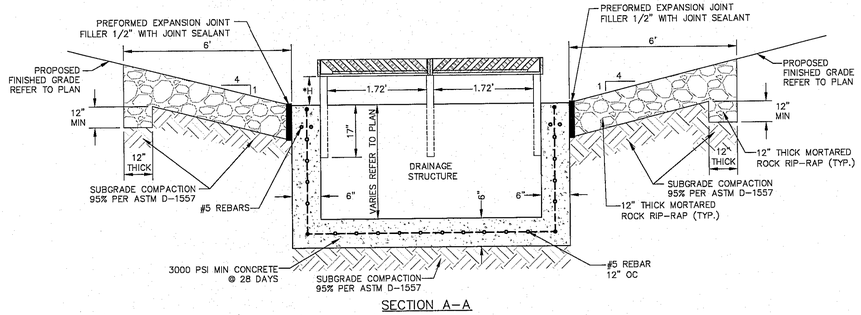

PLAN

| WEIR FORMULA $Q=3.087Lh^{3/2}$ | | | | |
|---|---|---|---|---|
| INLET ID | NUMBER OF GRATES | TOTAL LENGTH OF OPENING (FT) | DEPTH *H OF OPENING (FT) | CAPACITY (CFS) |
| A | 5 | 22'-6" | * 8" | 38.04 |
| B | 5 | 22'-6" | * 8" | 38.04 |

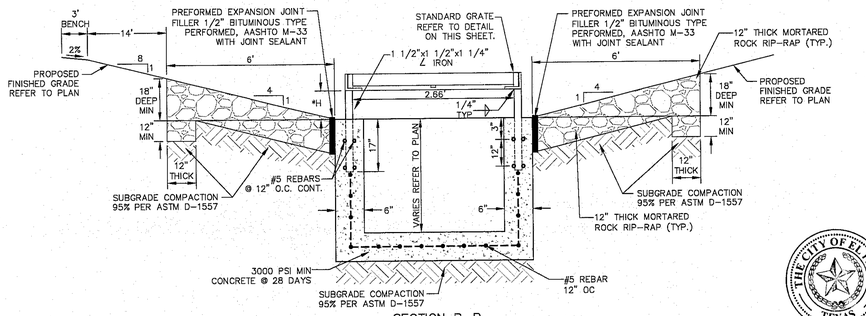
| NUMBER OF GRATES | 'L' |
|---|---|
| 5 | 10'-8" |

## NOTES

1. ROCK RIP-RAP SHALL BE A MINIMUM OF 12" MORTARED ROCK
2. STONE FOR ROCK RIP-RAP SHALL BE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. STONE SHALL BE QUARRIED; FRACTURED RIVER ROCK SHALL NOT BE PERMITTED.
3. MORTAR FOR ROCK WALL SHALL BE TYPE S. 1800 P.S.I. AS PER ASTM C270.
4. FOR SLOPES GREATER THAN 1:1 OR VERTICAL HEIGHT OF MORE THAN SIX (6) FEET THE RIP-RAP SHALL BE DESIGNED BY A PROFESSIONAL STRUCTURAL ENGINEER.




SECTION A-A




SECTION B-B

# MODIFIED OFF-STREET INLET

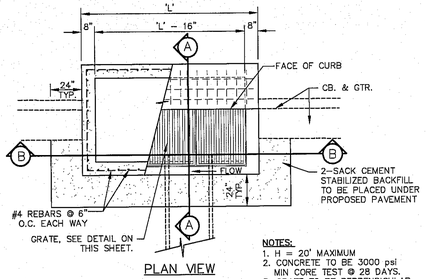
SCALE: N.T.S.

## GENERAL NOTE:

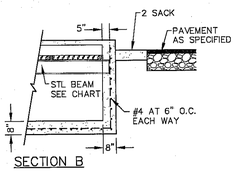
1. CEMENT STABILIZED BACKFILL: WHERE CEMENT STABILIZED BACKFILL IS SHOWN ON THE PROJECT DOCUMENTS, IT SHALL CONSIST OF A MIXTURE OF SOIL AND TWO SACKS OF TYPE I PORTLAND CEMENT PER CUBIC YARD. SOIL SHALL BE CLASSIFIED AS SW, SP, OR SM BY THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) OF ASTM D2487, FREE FROM LUMPS, CLODS OR ORGANIC MATERIAL. IF EXCAVATED MATERIAL IS NOT SUITABLE, PIT-RUN SAND SHALL BE USED. CEMENT STABILIZED BACKFILL SHALL BE MIXED IN A CONCRETE MIXER OR TRANSIT MIXER.
2. ALL ASPHALT CUTS MUST BE NEATLY SAW CUT.

## DROP INLET GENERAL NOTES:

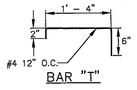
1. WELDED STEEL OR CAST GRATES AS DETAILED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
3. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.
4. GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
5. WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-161 OR M-222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRADES OF STEEL ON THE SAME GRATE WILL NOT BE PERMITTED.
6. GRATES MADE OF M-183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
7. ALL WELDS SHALL HAVE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE LAWS OF THE STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
8. CAST GRATES SHALL BE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-103, GRADE 65-35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-536, SPECIAL GRADE 60-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 35B OR ASTM A 48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
9. FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY NOR BRITTLE.
10. ALL CASTING SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
11. ALL CONCRETE TO BE 3000 PSI. CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS
12. MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
13. EXPANSION MATERIAL TO BE 1/2" BITUMINOUS FIBER AND PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURE.
14. STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH TXDOT. ITEM 446 "PAINT AND PAINTING"
15. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
16. GRATES WILL BE DEPRESSED 1" BELOW PROPOSED OR EXISTING GRADE.
17. ALL REINFORCING BARS TO BE #4 BARS AT 6" O.C. GRADE 60. BEND BARS AROUND PIPE OPENINGS.
18. INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
19. LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
20. TWO 1/2"x4" LONG CONCRETE ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE, USE NELSON STUDS OR EQUAL.
21. THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.
22. EXCAVATION WHICH WILL EXCEED FIVE (5) FEET IN DEPTH SHALL PROVIDE FOR TRENCH SAFETY AS PER OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) GUIDELINES.




PLAN VIEW

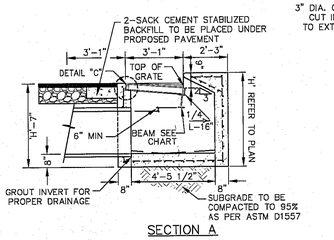



SECTION B

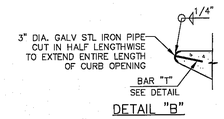



BAR "T"

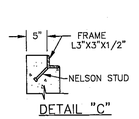
NOTES:
1. H = 20' MAXIMUM
2. CONCRETE TO BE 3000 psi MIN CORE TEST @ 28 DAYS.
3. GRATE TO BE PERPENDICULAR TO TRAFFIC.




SECTION A




DETAIL "B"

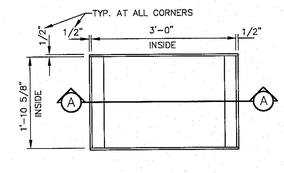



DETAIL "C"

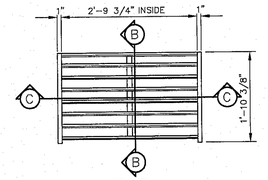
| NO. OF GRATES | 'L' | BEAM | |
|---|---|---|---|
| | | LENGTH | MINIMUM SIZES |
| 2 | 5'-1 1/8" | 4'-7 1/8" | W6X12, S6X12.5, MC6X15.1 |
| 3 | 7'-0 1/4" | 6'-5 1/8" | W8X15, S7X15.3, MC7X17.6 |
| 4 | 8'-9 7/8" | 8'-3 7/8" | W9X18, S8X18.4, MC10X21.9 |
| 5 | 10'-8" | 10'-2" | W12X16, S8X21, MC10X21.9 |
| 6 | 12'-6 5/8" | 12'-0 5/8" | W12X19, S8X23, MC10X25 |

# DROP INLET (TYPE I)

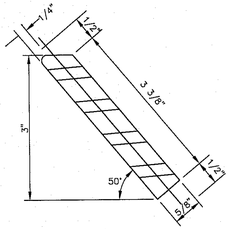
SCALE: N.T.S.



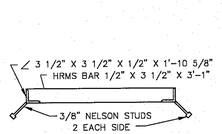

FRAME



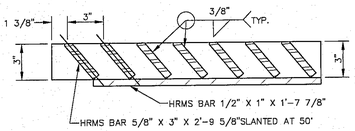

GRATE



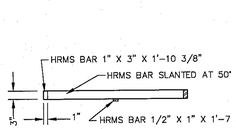

SLANTED BAR DETAIL




A FRAME SECTION




B GRATE SECTION




C GRATE SECTION

# GRATE AND FRAME DETAIL

SCALE: N.T.S.

THE CITY OF EL PASO TEXAS

REFERENCES – BENCHMARK

BENCHMARK:: CITY MONUMENT AT THE INTERSECT OF GUNNULT & INCA AVENUE
REFERENCE = 3976.84 (CITY DATUM)
ELEVATION = 3976.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
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| HORIZONTAL: | AS SHOWN |
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| CONTOUR INTERVAL: | |
| DATE: | AUGUST 2015 |
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CADD |
| CHKD BY: | R.A.G. |
| APPVD BY: | R.A.G. |
| JOB NO. | 1328 |

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

DRAINAGE DETAILS (3 OF 4)

SHEET NO.

C-88

88 OF 123 SHEETS

Aug 03,2015 3:13pm Israel
Q:\Active Drawings\1328 WDM Subdivision\Civil\5th Final COEP Comments\C-88-89 Drainage Details(1-4).dwg

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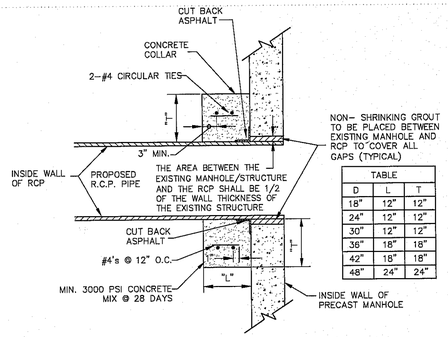
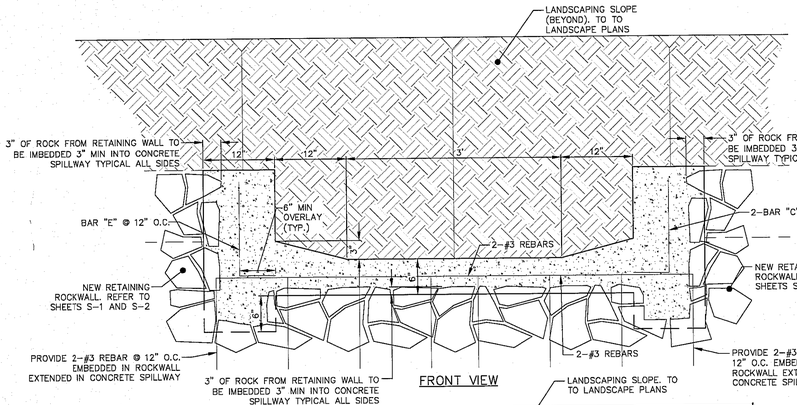


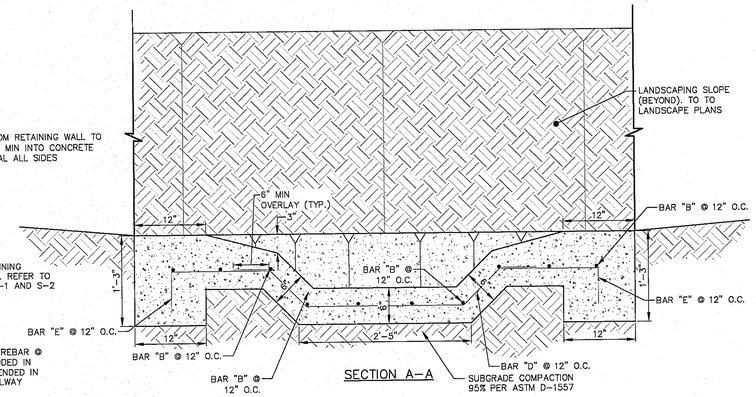

| TABLE | | |
|---|---|---|
| D | L | T |
| 18" | 12" | 12" |
| 24" | 12" | 12" |
| 30" | 12" | 12" |
| 36" | 18" | 18" |
| 42" | 18" | 24" |
| 48" | 24" | 24" |

## CONNECTION AT MANHOLE DETAIL

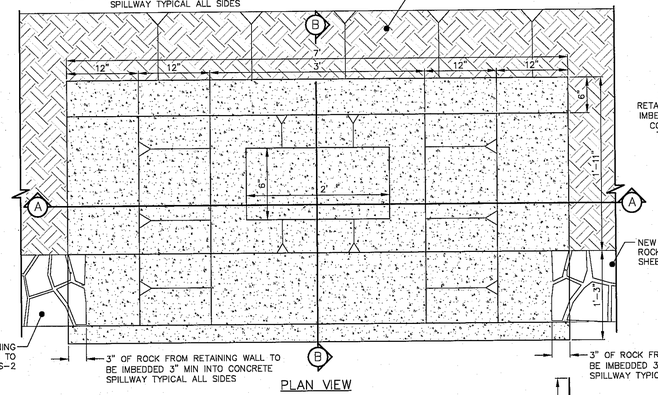
SCALE: N.T.S.



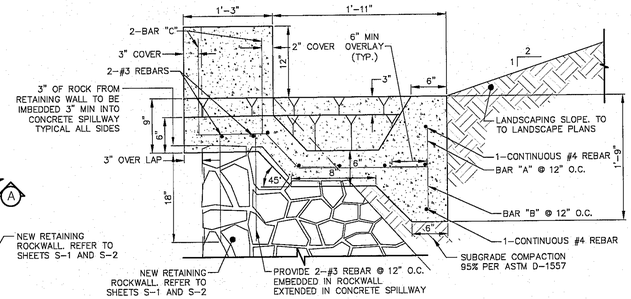

FRONT VIEW




SECTION A–A

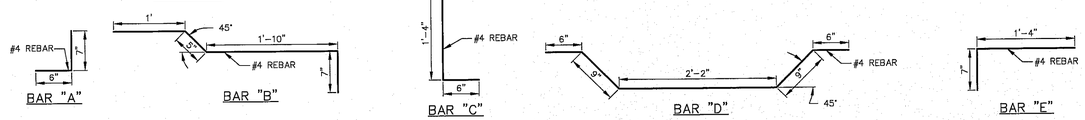



PLAN VIEW



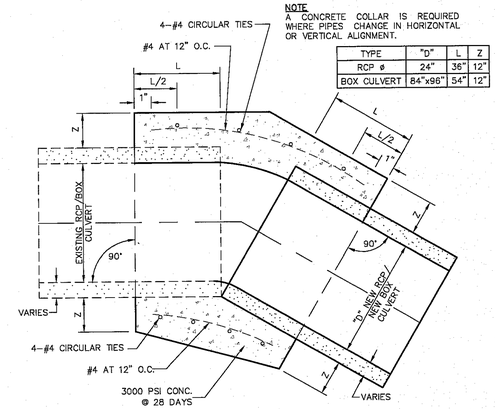

SECTION B–B

NOTES:
1. ALL REBAR TO HAVE A MINIMUM. OF 2" COVER.
2. ALL REBAR TO BE CLEAR OF ALL CONSTRUCTION DEBRIS PRIOR TO CONCRETE PLACEMENT.
3. ALL CONCRETE TO BE AT MINIMUM OF 3000 PSI AT 28 DAYS.
4. ALL REBAR TO BE #4 BAR UNLESS NOTED ELSEWHERE.




## CONCRETE SPILLWAY DETAIL

SCALE: N.T.S.

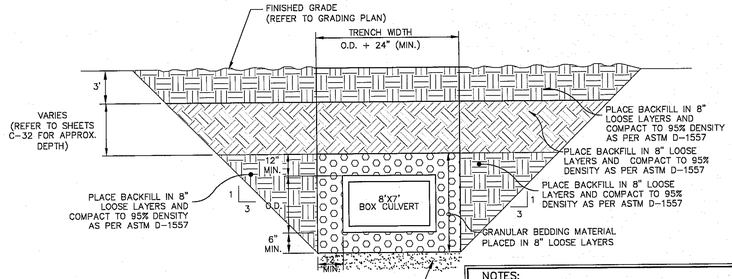



NOTE
A CONCRETE COLLAR IS REQUIRED WHERE PIPES CHANGE IN HORIZONTAL OR VERTICAL ALIGNMENT.

| TYPE | "D" | L | Z |
|---|---|---|---|
| RCP ø | 24" | 36" | 12" |
| BOX CULVERT | 84"x96" | 54" | 12" |

## CONCRETE PIPE COLLAR

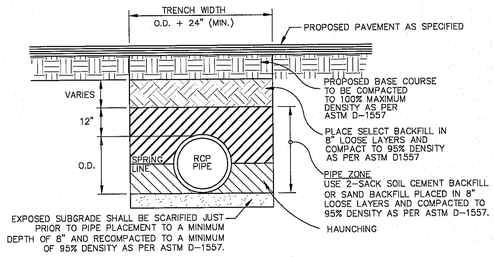
SCALE: NTS




NOTES:
1. BOX CULVERT INSTALLATION AND COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER AND GEOTECHNICAL REQUIREMENTS.
2. RAM–NEK JOINT SEALANT SHALL BE USED ON ALL REINFORCED CONCRETE CULVERTS.
3. CONTRACTOR SHALL FOLLOW THE BOX CULVERT MANUFACTURER'S INSTALLATION RECOMMENDATIONS FOR ADDITIONAL CULVERT BEDDING REQUIREMENTS.

## TYPICAL TRENCH BACKFILL DETAIL FOR 8' X 7' REINFORCED CONCRETE CULVERT INSTALLATION

SCALE: NTS

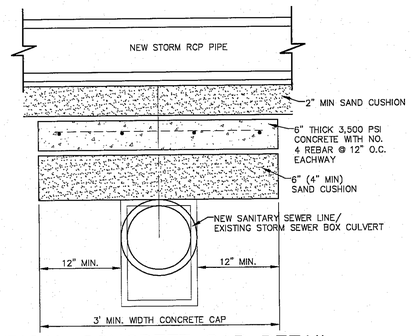



NOTES:
1. PIPE INSTALLATION AND COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH PIPE MANUFACTURER AND GEOTECHNICAL REQUIREMENTS.
2. RUBBER GASKET SHALL BE USED ON ALL REINFORCED CONCRETE PIPE
3. THE DETAIL SHOWN HEREIN IS STRICTLY FOR REINFORCED CONCRETE PIPE (RCP).

## TYPICAL TRENCH BACKFILL DETAIL FOR STORM SEWER (RCP) INSTALLATION

SCALE: NTS

NOTE:
A CONCRETE CAP, SHALL BE PLACED OVER NEW WASTE WATER MAINS SITUATED WITHIN 15" OF A PROPOSED STORM DRAINAGE SYSTEM.




## TYPICAL CONCRETE CAP DETAIL

SCALE: N.T.S

THE CITY OF EL PASO TEXAS

**REFERENCES – BENCHMARK**

BENCHMARK– CITY MONUMENT AT THE INTERSECT OF GUNAULT & INCA AVENUE
STATION ID = 3815
ELEVATION = 3815.84 (CITY DATUM)

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QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
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DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

**WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS**

EL PASO, TEXAS

SHEET TITLE

DRAINAGE DETAILS (4 OF 4)

SHEET NO.

**C-89**

89 OF 123 SHEETS

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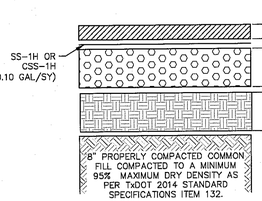
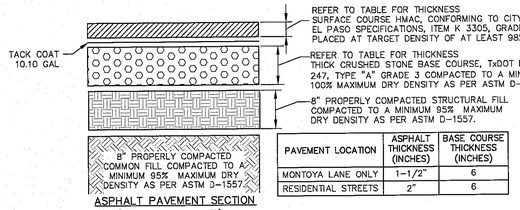
**NOTE:**
FINAL PAVEMENT DESIGN SUBJECT TO CHANGE BASED ON GEOTECHNICAL INVESTIGATION REPORT, C.B.R. TEST RESULTS AND APPROVAL BY CITY LAND DEVELOPMENT SERVICES.



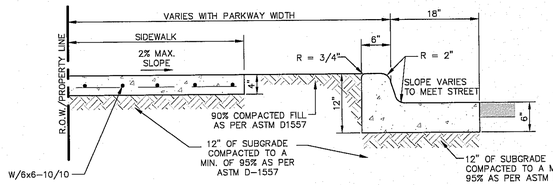

ASPHALT PAVEMENT SECTION
**(WITHIN TxDOT R.O.W.)**




| PAVEMENT LOCATION | ASPHALT THICKNESS (INCHES) | BASE COURSE THICKNESS (INCHES) |
|---|---|---|
| MONTOYA LANE ONLY | 1-1/2" | 6 |
| RESIDENTIAL STREETS | 2" | 6 |

ASPHALT PAVEMENT SECTION
**(WITHIN C.O.E.P. R.O.W.)**

## TYPICAL PAVEMENT SECTION
SCALE: N.T.S

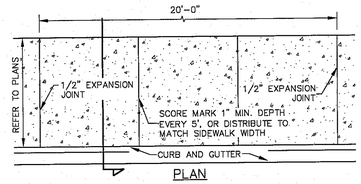



SIDEWALK NOTES:
1. CONCRETE SIDEWALK SHALL BE 3,000 P.S.I. @ 28 DAYS.
2. DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB & GUTTER AND 5' O.C. FOR SIDEWALK.
3. EXPANSION JOINTS SHALL BE AT 20' O.C. MAXIMUM, USE 1/2" PREMOLDED BITUMINOUS EXPANSION JOINTS (AASHTO M-33), EXPANSION MATERIAL REQUIRED AT CURB RETURNS, WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
4. EXPANSION JOINT FILLER SHALL BE PLACED WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS.
5. SUBGRADE TO BE COMPACTED TO 95% ASTM D1557.
6. 6"X6" #10 W.W.F. SHALL BE USED FOR CONCRETE SIDEWALK WITHIN TX-DOT RIGHT-OF-WAY.
7. CONCRETE CURB, GUTTER, AND RETURNS SHALL BE ASTM TYPE II, PORTLAND CEMENT.

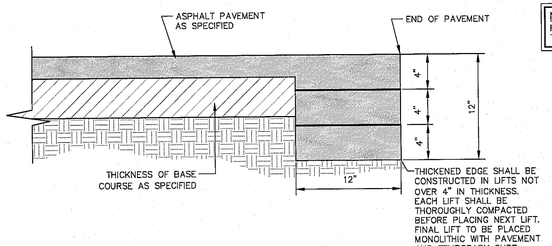
## CURB & GUTTER WITH SIDEWALK SECTION
(WITHIN C.O.E.P. R.O.W.) SCALE: N.T.S

SIDEWALK NOTES:
1. CONCRETE SIDEWALK SHALL BE CLASS "A", 3000 PSI @ 28 DAYS.
2. REINFORCING STEEL SHALL BE GRADE 60.
3. DUMMY JOINTS REQUIRED AT 5' O.C.
4. EXPANSION JOINTS SHALL BE AT 20' O.C. MAXIMUM, USE 1/2" PRE-MOLDED BITUMINOUS EXPANSION JOINTS (AASHTO M-33)
5. EXPANSION JOINT FILLER SHALL BE PLACED WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS.
6. SUBGRADE TO BE COMPACTED TO 95% TEX-113/114-E.

**SIDEWALK NOTE:**
CONTRACTOR SHALL INSURE THE FOLLOWING: ALL ACCESSIBLE ROUTES SHALL NOT EXCEED A RUNNING SLOPE GREATER THAN 1:20. NOWHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20. NEW WHEEL CHAIR RAMPS SHALL NOT EXCEED A SLOPE OF 1:12.

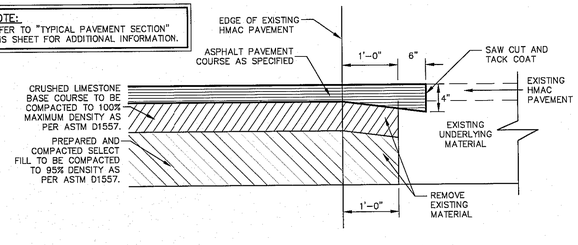



PLAN

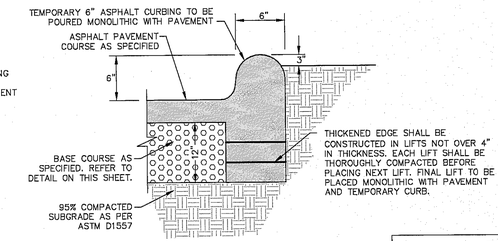



## TERMINUS OF STREET
SCALE: N.T.S

**NOTE:**
REFER TO "TYPICAL PAVEMENT SECTION" THIS SHEET FOR ADDITIONAL INFORMATION.

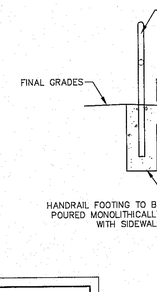



## JUNCTURE OF NEW HMAC PAVEMENT AND EXISTING HMAC PAVEMENT
SCALE: N.T.S.

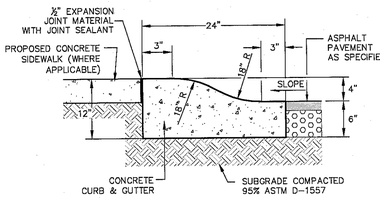



## 6" TEMPORARY ASPHALTIC CURB SECTION WITH TERMINUS
SCALE: N.T.S.

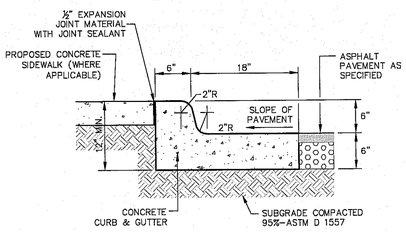
**NOTE:**
JOINT SEALING COMPOUND: WHERE JOINTS IN CONCRETE CONSTRUCTION ARE SHOWN TO BE SEALED, THE JOINT SEALING COMPOUND SHALL BE COLD-APPLIED TWO-COMPONENT POLY-SULFIDE SEALANT SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR USE IN SUBMERGED JOINTS. THE HANDLING PRIOR TO SEALING SHALL BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. JOINT SEALING COMPOUND SHALL BE SIKAFLEX -2C NS EZ MIX OR ENGINEER APPROVED EQUIVALENT. A TWO COMPOUND EPOXY PRIMER SUITABLE FOR THE USE IN SUBMERGED JOINTS AND COMPATIBLE WITH THE SEALER SHALL BE USED IN ALL JOINTS. COMPOUND TO BE SONNEBORN OR APPROVED EQUIVALENT.



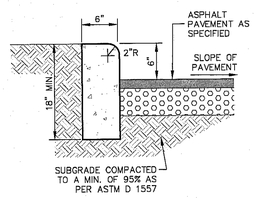

SECTION
**(WHERE APPLICABLE)**




## 4" ROLLED CURB DETAIL
SCALE: N.T.S.

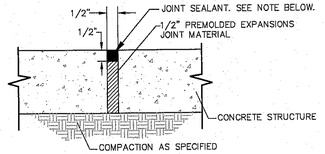



## 6" CURB & GUTTER DETAIL
SCALE: N.T.S.

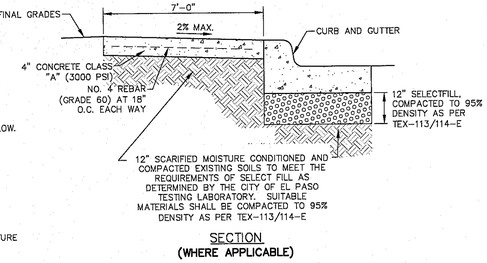



## STANDARD CONCRETE CURB DETAIL
SCALE: N.T.S.

NOTES:
1. CONCRETE TO BE 3000 PSI MIN. @ 28 DAYS.
2. CONCRETE CURB, GUTTER, AND RETURNS SHALL BE ASTM TYPE II, PORTLAND CEMENT.
3. DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB & GUTTER AND 5' O.C. FOR SIDEWALK.
4. EXPANSION MATERIAL REQUIRED AT CURB RETURNS, WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
5. SUBGRADE UNDER CURB MUST BE FORMED AND COMPACTED TO 95% ASTM D1557.
6. EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.
7. EXPANSION JOINTS REQUIRED FOR SIDEWALK AT 20' O.C.

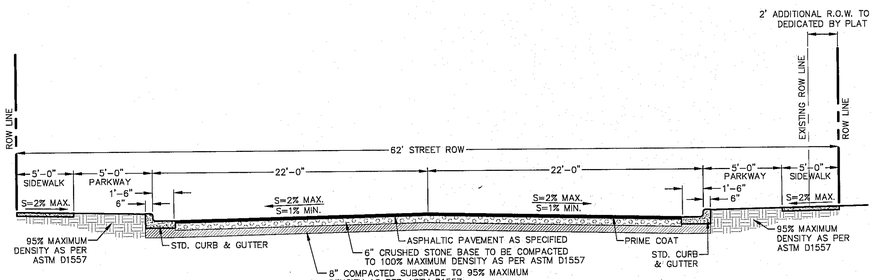



## JOINT SEALANT DETAIL
SCALE: N.T.S.



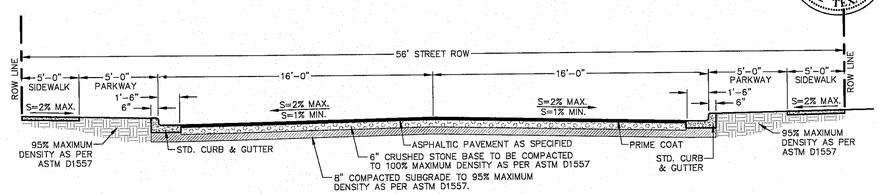

SECTION
**(WHERE APPLICABLE)**

## CONCRETE SIDEWALK DETAIL
(WITHIN TxDOT R.O.W.) SCALE: N.T.S.




## 52' RESIDENTIAL SUBCOLLECTOR STREET
SCALE: N.T.S.

NOTES:
1. CONCRETE CURB, GUTTER, AND RETURNS SHALL BE 3,000 P.S.I. MIN.
2. DUMMY JOINT REQUIRED AT 10' O.C.
3. 1/2" PREMOLDED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURB RETURNS. TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT CURB & GUTTER DIMENSION.
4. SUBGRADE UNDER CURB MUST BE FORMED AND COMPACTED TO 95% ASTM D1557.
5. EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.
6. STREETS TO BE MAINTAINED BY CITY.
7. PRIME COAT TO BE 0.25 GALLON PER SQUARE YARD. (MIN. COVERAGE)
8. FINAL PAVEMENT DESIGN TO BE APPROVED BY CITY ENGINEERING BASED ON C.B.R. TEST RESULTS.




## 56' RESIDENTIAL SUBCOLLECTOR STREET
SCALE: N.T.S.

**REFERENCES – BENCHMARK**
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF GIRAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3878.64 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

THE STATE OF TEXAS
ROBERT A. GONZALES
69870
REGISTERED
PROFESSIONAL
ENGINEER
SURVEYED

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY **ROBERT A. GONZALES, P.E. 69870**
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER AUTHORITY IS PROHIBITED
THE RESPONSIBLE ENGINEER FOR THIS PLAN IS **THE TEXAS ENGINEERING PRACTICE ACT**

SCALE:
HORIZONTAL: AS SHOWN
VERTICAL: AS SHOWN
CONTOUR INTERVAL: —
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHK'D BY: R.A.G.
APPV'D BY: R.A.G.
JOB NO. 1326

PROJECT TITLE
**WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS**
EL PASO, TEXAS

SHEET TITLE
STANDARD DETAILS (1 OF 3)

SHEET NO.
**C-90**
90 OF 123 SHEETS

Aug 03,2015 3:15pm bro]
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-90-92 Standard Details.dwg

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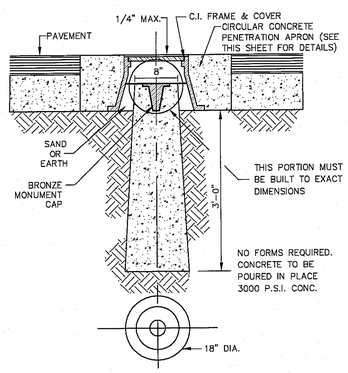
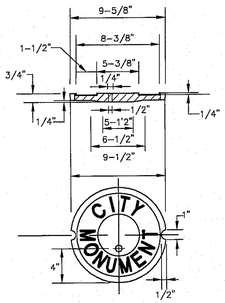
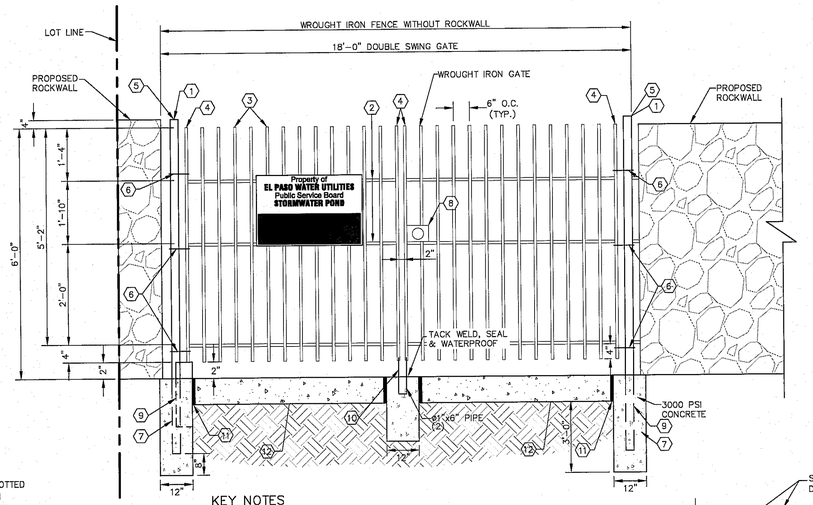



BOX COVER




## KEY NOTES

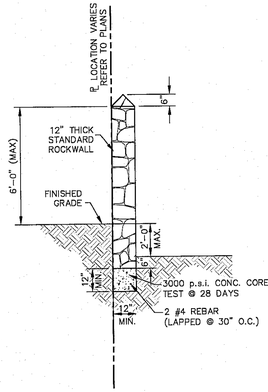
1. 3" x 3" x 3/16" SQUARE STEEL TUBING
2. 2" x 1" x 14 GA. RECTANGULAR STEEL TUBING
3. 1 1/2" x 1/2" x 16 GA. RECTANGULAR STEEL TUBING
4. 2" x 1" x 10 GA. RECTANGULAR STEEL TUBING
5. FLAT TOP POLYVINYL CAP
6. BOLT HOOK AND STRAP HINGE
7. 1 '× 3' DEEP 3000 PSI CONCRETE POST FOOTING
8. DOUBLE GATE HEAVY DUTY INDUSTRIAL LATCH W/PAD LOCK
9. 5" X 5" X 3/8" SQUARE STEEL SLEEVE W/7"x7"x3/8" STEEL BASE PLATE
10. CANE BOLT LATCH W/KEEPER 5-8" x 18" LONG (2 REQUIRED)
11. EXPANSION JOINT MATERIAL WITH ELASTOMETRIC JOINT SEALANT (TXDOT APPROVED)
12. PROPOSED CONCRETE PAVEMENT AS SPECIFIED

## WROUGHT IRON FENCE

SCALE: N.T.S.

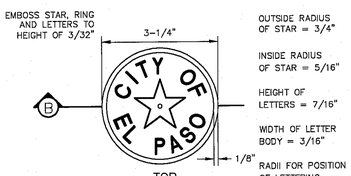
## ROCKWALL NOTES

1. STONE FOR ROCKWALL SHALL BE NATIVE ROCK, SOUND AND FREE FROM LOOSE OR FRIABLE INCLUSIONS THE STONE SHALL BE DENSE AND RESISTANT TO THE ACTION OF AIR AND WATER, AND SHALL BE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. MAXIMUM STONE SIZE SHALL NOT EXCEED 18-INCHES.
2. MORTAR FOR ROCKWALLS SHALL BE ASTM C270, TYPE "S" (1800 PSI MIN. @ 28 DAYS) AND PROPORTIONED BY VOLUME AS FOLLOWS:
   PORTLAND CEMENT: 1
   PART LIME: 1/4 PART
   SAND: 3-1/2 PARTS
3. CONCRETE FOR ROCKWALL FOOTINGS SHALL HAVE A COMPRESSIVE STRENGTH OF (F'c) 3000 PSI @ 28 DAYS (MIN.); REINFORCING STEEL SHALL BE GRADE 60 (Fy 60 KSI), ASTM A615.
4. ROCKWALL FOOTINGS SHALL BEAR ON PREPARED SUBGRADE OR STRUCTURAL FILL COMPACTED TO 95% MAXIMUM DENSITY AS PER ASTM D1557.
5. REBAR SHALL HAVE A MINIMUM OF 2 INCH COVER IN CONCRETE.
6. OVER-EXCAVATION FOR ROCKWALL FOOTINGS SHALL BE BACKFILLED WITH LEAN CONCRETE.
7. ROCK SHALL BE EMBEDDED A MINIMUM OF 4-INCHES INTO FOOTING WHILE CONCRETE IS IN A PLASTIC STATE.
8. PROVIDE 1 INCH EXPANSION JOINTS @ EVERY 100 LINEAR FEET.
9. ROCKWALL MORTAR JOINTS SHALL NOT EXCEED ONE (1) INCH.
10. ALL STONE SHALL BE THOROUGHLY SOAKED BEFORE BEING PLACED.
11. ALL STONE FOR ROCKWALL SHALL BE FRACTURED QUARRIED ROCK. NO RIVER ROCK SHALL BE ALLOWED FOR ROCKWALLS.
12. ANY CHANGES IN WALL DIRECTION, ADDITIONAL WALL HEIGHT, OR CHANGES IN FOOTING ELEVATION SHALL REQUIRE ADDITIONAL STRUCTURAL DESIGN BY A LICENSED STRUCTURAL ENGINEER.
13. BACKFILL MATERIAL SHALL CONSIST OF WELL-DRAINED, COARSE SOILS, OR FINE SILTY SANDS WITH NO CLAY CONTENT.
14. SURCHARGE LOADING CONDITIONS SHALL REQUIRE ADDITIONAL STRUCTURAL DESIGN BY A LICENSED STRUCTURAL ENGINEER. REVISED LOADING CONDITIONS AND DESIGNS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO CITY OF EL PASO BUILDING SERVICES DEPARTMENT AT THE TIME BUILDING CONSTRUCTION PLANS ARE SUBMITTED.

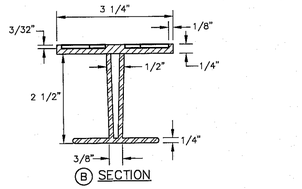



## STANDARD 6' ROCKWALL DETAIL

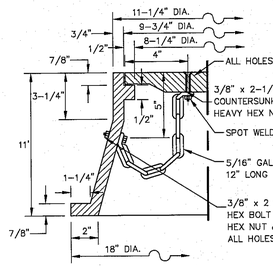
SCALE: N.T.S.



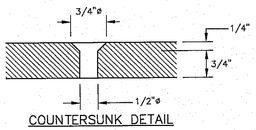

TOP




BRONZE MONUMENT CAP



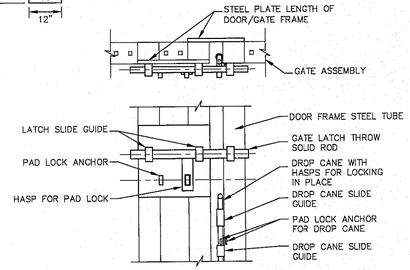

FRAME SECTION




COUNTERSUNK DETAIL

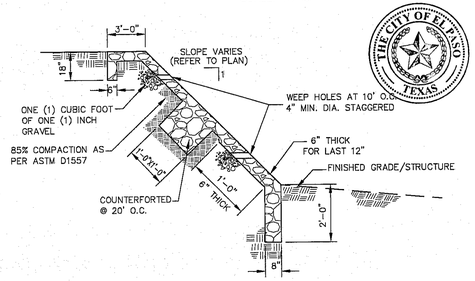
## CITY MONUMENT DETAIL

SCALE: N.T.S.




## GATE LATCH

SCALE N.T.S.




## NOTES:

1. ROCK RIP-RAP SHALL BE PLACED ON EMBANKMENTS OR SLOPES WHERE REQUIRED BY THE CITY ENGINEER FOR EROSION PROTECTION, EXCEPT FOR PONDING AREAS. (SEE SECTION 2)
2. ROCK RIP-RAP SHALL BE A MINIMUM OF 8" MORTARED ROCK.
3. STONE FOR ROCK RIP RAP SHALL BE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. STONE SHALL BE QUARRIED; FRACTURED RIVERROCK SHALL NOT BE PERMITTED.
4. MORTAR FOR ROCK RIP-RAP SHALL BE TYPE S, 1800 P.S.I. AS PER ASTM C270.
5. FOR SLOPES GREATER THAN 1:1 OR VERTICAL HEIGHT OF MORE THAN SIX (6) FEET, THE RIP RAP SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.
6. PROVIDE ONE (1) INCH EXPANSION JOINT AT EVERY FIFTY (50) FEET.
7. PROVIDE DUMMY JOINTS AT TEN (10) FEET O.C.
8. NON-MORTARED ROCK RIP RAP SHALL BE ALLOWED WHERE APPROVED BY THE CITY ENGINEER.

## MORTARED ROCK RIP-RAP DETAIL

SCALE: N.T.S.

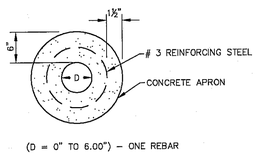
| CONCRETE APRON FOR CIRCULAR PENETRATIONS IN ASPHALT PAVEMENTS | | | | |
|---|---|---|---|---|
| "D" DIAMETER OF PENETRATION (INCHES) | "A" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES) | NUMBER OF NO. 3 REINFORCING STEEL BARS | "B" MINIMUM CLEARANCE FROM EDGE OF CONCRETE APRON TO CENTER OF NEAREST REBAR (INCHES) | "C" MINIMUM CLEARANCE FROM PENETRATION EDGE TO CENTER OF NEAREST REBAR (INCHES) |
| 0 TO 6.00 | 6 | 1 | 1½ | 1½ |
| 6.01 TO 18.00 | 8 | 2 | 1½ | 1½ |
| 18.01 AND OVER | 12 | 3 | 1½ | 1½ |

## CONSTRUCTION NOTES:

1. ANY DISTURBED SUBGRADE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 95% DENSITY ± 3% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
2. ANY DISTURBED COARSE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 100% DENSITY ± 2% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
3. PROVIDE A MINIMUM OF 1 1/2" OF CONCRETE COVER FOR ALL REINFORCEMENT STEEL.
4. REINFORCING SHALL MEET ASTM C-478 AND TRAFFIC LOADING (HS-20).
5. NO. 3 REINFORCING STEEL HOOPS SHALL BE SPACED EQUALLY.

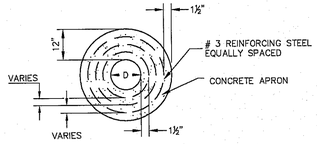
## GENERAL NOTES:

1. THE PENETRATION APRON SHOULD BE CAST IN-PLACE CONCRETE. (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED)
2. TOPS OF PENETRATION APRON SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.



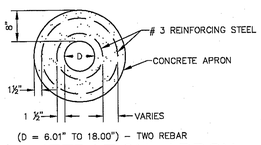

## PENETRATION APRON

PLAN VIEW – SCALE: N.T.S.



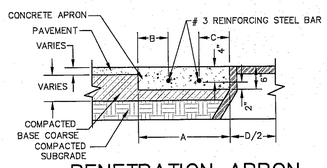

## PENETRATION APRON

PLAN VIEW – SCALE: N.T.S.




## PENETRATION APRON

PLAN VIEW – SCALE: N.T.S.




## PENETRATION APRON

SECTION VIEW – SCALE: N.T.S.

## SITE SIGN – NO TRESPASSING

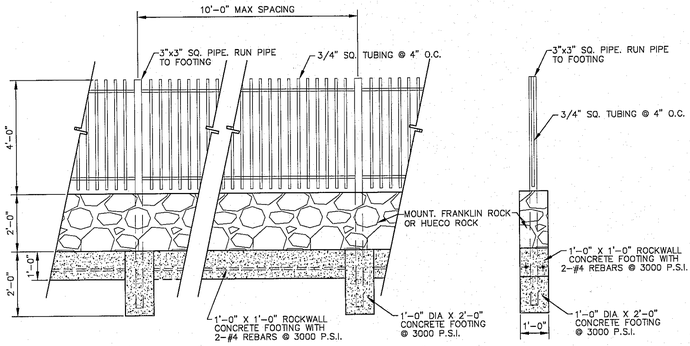
SCALE: N.T.S.

## WROUGHT IRON FENCE NOTES:

1. PROVIDE FULL WELDS AT ALL PICKETS, TOP AND BOTTOM RAILS, ALL POST AND RAIL CONNECTIONS AND WHERE TOP RAIL DESIGN ABUTTS PICKET OR RAIL.
2. FENCE COMPONENTS AND FIELD REPAIRS SHALL BE SHOP PRIMED (1) COAT AND PAINTED FINISH (2) COATS EXTERIOR OIL BASED. COLOR #308-3 ST. AUGUSTINE, AS MANUFACTURED BY PITTSBURGH PAINTS, OR APPROVED EQUAL.

## ROCKWALL NOTES:

1. STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE.THE STONE SHALL BE DENSE AND RESISTANT TO AIR AND WATER.
2. MORTAR SHALL BE TYPE "S" 1800 P.S.I. AS PER ASTM C270-73. MORTAR SHALL CONSIST BY VOLUME OF 1 PART PORTLAND CEMENT, 3 1/2 PARTS OF CLEAN, HARD, DURABLE SAND AND 1/4 PART (MORTAR) LIME THOROUGHLY MIXED WITH WATER.
3. ROCKWALL MORTAR JOINTS SHALL NOT EXCEED 3/4" TO 1 1/4".
4. STONE SHALL BE CLEANED, FREE OF DIRT PRIOR TO INSTALLATION.
5. NO RIVER ROCK SHALL BE ALLOWED FOR ROCKWALLS.




## ROCKWALL WITH WROUGHT IRON FENCE

SCALE: N.T.S.

REFERENCES – BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF GUNNULT & INCA AVENUE REFERENCE IN THREE (3) DIRECTIONS
ELEVATION = 3978.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

THE CITY OF EL PASO TEXAS

STATE OF TEXAS – ROBERT A. GONZALES – 69920 – REGISTERED PROFESSIONAL ENGINEER

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SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY:
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

STANDARD DETAILS (2 OF 3)

SHEET NO.

C-91

91 OF 123 SHEETS

Aug 03,2015 3:15pm jravi
Q:\Active Drawings\1326 NEM Subdivision\Civil\5th Final CEEP Comments\C-90-92 Standard Details.dwg

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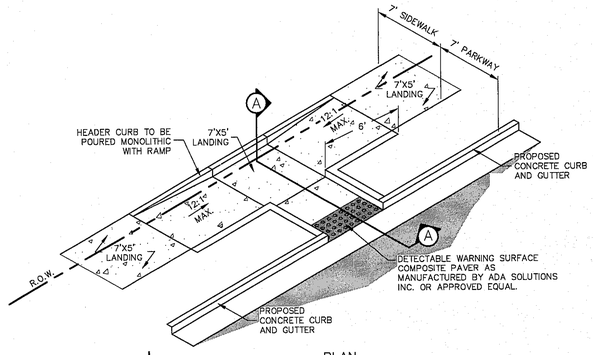
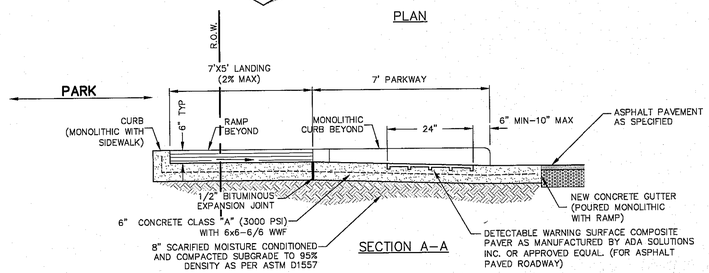


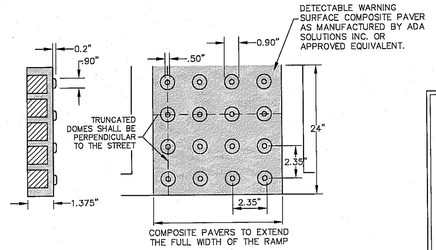

PLAN




SECTION A-A

## WHEELCHAIR RAMP DETAIL (TYPE B)

SCALE: N.T.S.

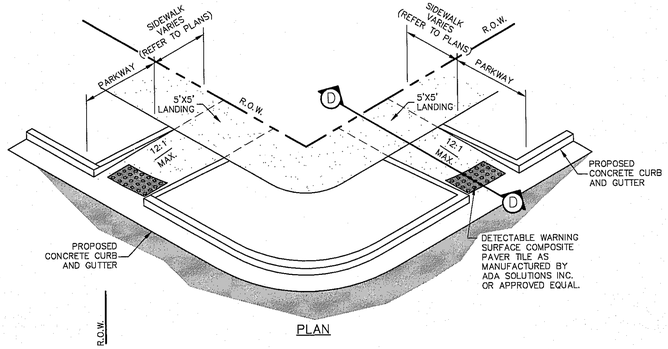



**NOTE:**
COMPOSITE PAVER SHALL BE EMBEDDED IN CONCRETE WHILE IN PLASTIC STATE. SURFACE APPLIED PAVER WILL NOT BE ACCEPTED.

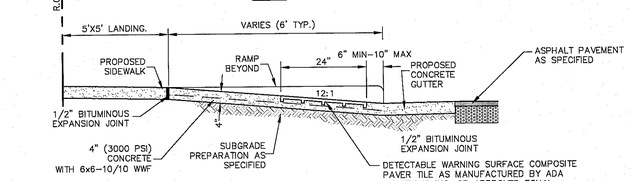
## PAVER DETAILS

SCALE: N.T.S.

NOTES:
1. RAMP SHALL HAVE CONTRASTING COLOR TO SIDEWALK. COLOR SHALL BE BRICK RED.
2. ALL NEW RAMPS SHALL COMPLY WITH T.A.S. AND A.D.A. REQUIREMENTS. ANY SECTIONS NOT CONFORMING WILL BE REMOVED AT THE CONTRACTORS EXPENSE.
3. CONTRACTOR SHALL USE COMPOSITE PAVER TILE THROUGHOUT THE DECTECTABLE WARNING SURFACE SHOWN ON PLANS AND AS SPECIFIED IN THIS DETAIL.
4. **DOME SIZE AND SPACING.** TRUNCATED DOMES SHALL HAVE A DIAMETER OF NOMINAL 0.9 INCHES AT THE BOTTOM, A DIAMETER OF 0.4 INCH AT THE TOP, A HEIGHT OF NOMINAL 0.2 INCHES, AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.
5. **DOME ALIGNMENT.** DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES. DETECTABLE WARNING SURFACES SHALL EXTEND 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION.
6. **CONTRAST.** THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE OWNER. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. CONTRAST SHALL BE PROVIDED BY PLACING AND MIXING TINT IN THE PLASTIC CONCRETE USED FOR THE DETECTABLE WARNING SURFACE. NO PAINTING OF SURFACE SHALL BE PERMITTED.



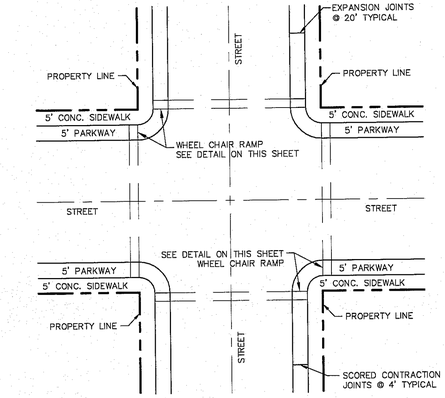

PLAN




SECTION D-D

## DIRECTIONAL WHEELCHAIR RAMP DETAILS (TYPE A)

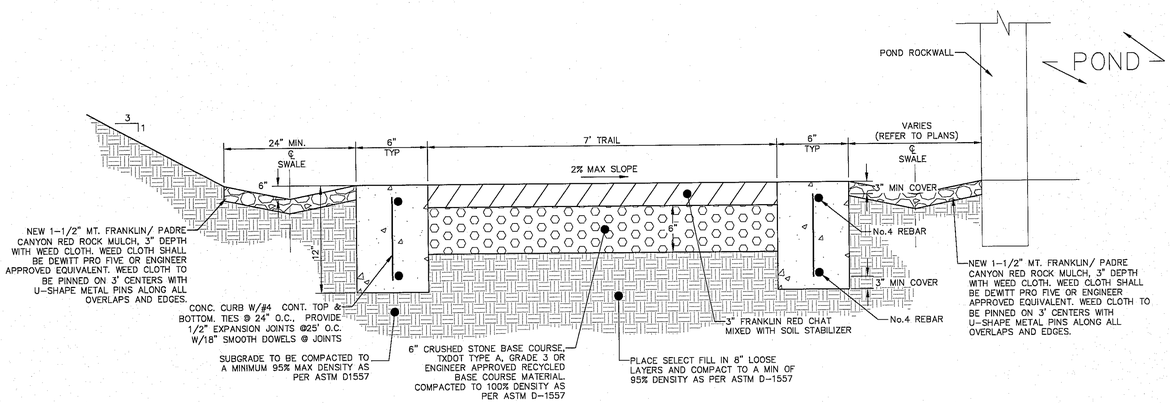
SCALE: N.T.S.




NOTES:
1. RAMPS MAY BE PLACED AS SUGGESTED, HOWEVER EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC., MAY AFFECT PLACEMENT.
2. THE CONCRETE SURFACE SHALL HAVE A ROUGH, NONSKID TYPE FINISH.
3. CONSTRUCTION METHODS SHALL CONFORM WITH THE CITY OF EL PASO SPECIFICATIONS.
4. ALL PARKING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH CURRENT CITY OF EL PASO STANDARDS.

## WHEELCHAIR RAMP STREET PLAN

SCALE: NTS




## WALKING TRAIL DETAIL

SCALE: N.T.S.

REFERENCES - BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECTION OF DONALLT & INCA AVENUE
DESCRIPTION: BRASS CAP
ELEVATION = 3978.84 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

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| SCALE: | |
|---|---|
| HORIZONTAL: | |
| VERTICAL: | |
| CONTOUR INTERVAL: | |
| DATE: | AUGUST 2015 |
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CADD |
| CHKD BY: | R.A.G. |
| APPVD BY: | R.A.G. |
| JOB NO. | 1326 |

PROJECT TITLE

**WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS**

EL PASO, TEXAS

SHEET TITLE

STANDARD DETAILS (3 OF 3)

SHEET NO.

**C-92**

92 OF 123 SHEETS

Aug 03,2015 3:16pm hro
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# CITY OF EL PASO
# SPECIFICATION FOR REFLECTORIZED STREET NAME SIGNS

1. COLOR OF SIGN: THE FINISHED SIGN MUST HAVE A REFLECTORIZED GREEN BACKGROUND. THE GREEN MUST CONFORM WITH THE BUREAU OF PUBLIC ROADS HIGHWAY GREEN. THE LEGEND MUST BE REFLECTORIZED SILVER WHITE (GREEN REVERSE SCREENED BACKGROUND WITH SILVER COPY).
2. LETTER DESIGN: THE LETTERING OF ALL LEGENDS MUST BE UPPER CASE LETTERS IN ACCORDANCE WITH "STANDARD ALPHABETS FOR HIGHWAY SIGN" PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
3. LETTER SPACING THE CONTROL FOR THE SPACING VALUES IN TRAFFIC LAYOUT IS THE DISTANCE RECOGNIZED AS AESTHETIC SPACING BETWEEN TWO STRAIGHT LETTERS (HN). A SPACING CONTROL OF TWO TIMES THE WIDTH OF THE STROKE OF THE LETTER SERIES TO BE USED MUST BE THE AESTHETIC CONTROL (100%). TWO AND ONE-HALF TIMES (2-1/2) THIS CONTROL MUST BE USED AS THE AESTHETIC WORD SPACE BETWEEN ELEMENTS IN THE PRIMARY LEGEND.
4. LAYOUT: THE MAXIMUM NUMBER OF LETTERS TO BE ACCOMMODATED ON A GIVEN LENGTH STREET NAME FACE MUST BE DETERMINED BY THE WIDEST LETTER SERIES POSSIBLE FOR THAT LEGEND AND THE SPACING CONTROL (100%) FOR THE SERIES USED MUST BE EXPANDED OR CONDENSED UP TO 25% IN 5% INCREMENTS.
5. THE SPACING CONTROL (100%) FOR THE SERIES USED MUST BE EXPANDED OR CONDENSED UP TO 25% IN 5% INCREMENTS FOR THE END MARGIN WITH MINIMUM OF 1".
6. THE WORD SPACE MUST BE EXPANDED UP TO 25% IN 5% INCREMENTS BUT NOT CONDENSED.
7. SPACE BETWEEN PRIMARY AND BLOCK NUMBER AREA MUST BE 1/2 THE AESTHETIC WORK SPACE USED IN THE PRIMARY LEGEND.
8. SIZE OF LEGEND: FOR 9" STREET NAME SIGNS, THE PRIMARY LEGEND, OR STREET NAME MUST HAVE CAPITAL LETTERS SIX INCHES (6") HIGH AND ALL SECONDARY LEGENDS, INCLUDING THE SUFFIX, BLOCK NUMBERS, MUST HAVE UPPER CASE LETTERS TWO AND ONE-HALF INCHES (2 1/2") HIGH.
9. SUFFIX LETTER SIZE FOR ALL LENGTH MUST BE 2 1/2" CAPITALS, C SERIES, EXCEPT THAT SERIES A OR B WHERE SUFFIX ABBREVIATION EXCEEDS TWO LETTERS, MAY BE USED.
10. POSITION OF LEGEND: EACH SIGN FACE WILL CONSIST OF THE STREET NAME, SUFFIX AND TWO ZEROS OF THE BLOCK NUMBER. THE ADDITIONAL NUMBERS OF THE BLOCK NUMBER WILL BE APPLIED BY THE CITY OF EL PASO. THE SUFFIX WILL BE LOCATED IN THE UPPER RIGHT CORNER AND THE BLOCK NUMBER IN THE LOWER RIGHT CORNER OF THE SIGN FACE AND THE STREET NAME CENTERED IN THE REMAINING SPACE.
11. SIGN FABRICATION: THE SIGN FACE MUST BE FABRICATED BY REVERSE SCREENING GREEN TRANSPARENT COLOR OVER SILVER REFLECTIVE SHEETING. TRANSPARENT PROCESS COLORS MUST BE AS RECOMMENDED BY THE SHEETING MANUFACTURER. CUT-OUT OR APPLIED LEGENDS ARE NOT PERMITTED. SIGN FACE MUST BE COMPRISED OR ONE PIECE OR PANEL OF REFLECTIVE SHEETING.
12. TYPE OF SHEETING: ENGINEER GRADE REFLECTIVE SHEETING MUST BE USED IN THE FABRICATION OF THE STREET NAME SIGN FACES.

## SPECIFICATIONS FOR ALUMINUM SIGN BLANKS

THESE SPECIFICATIONS DESCRIBE DETAILS AND MINIMUM REQUIREMENTS FOR ALUMINUM SIGN BLANKS, TO WHICH REFLECTIVE SHEETING WILL BE

1. ALL MATERIALS SHALL BE NEW AND UNWEATHERED AND SHALL BE OF DOMESTIC ORIGIN, MILLED, ROLLED AND FINISHED IN DOMESTIC MILLS.
2. SIGN BLANKS SHALL BE .080 GAUGE ALODIZED TREATED ALUMINUM, 5052-H38 ALLOY, FREE OF BURRS, CORROSION, WHITE RUST AND DIRT, SUITABLE FOR APPLICATION OF REFLECTIVE SHEETING APPLIED. WITHOUT FURTHER PREPARATION.
3. EDGES OF BLANKS SHALL BE CUT TRUE AND SQUARE, CORNER RADII, HOLE DIAMETERS AND HOLE LOCATIONS SHALL BE AS DESCRIBED IN THE ALUMINUM SIGN BLANK BID D.H.T. STANDARD.
4. ALL SIGN BLANKS WILL BE TREATED AS FELLOWS:

A. DEGREASING

(1) VAPOR DEGREASING – BY TOTAL IMMERSION OF SIGN BLANK IN A SATURATED VAPOR OF TRICHLORETHYLENE OR PERCHLOROETHYLENE. TRADEMARK PRINTING SHALL BE REMOVE WITH LACQUER THINNER BEFORE DEGREASING.

OR

(2) ALKALINE DEGREASING- BY TOTAL IMMERSION OF THE SIGN BLANK IN A TANK CONTAINING ALKALINE SOLUTIONS, CONTROLLED AND TRITURATED TO THE SOLUTION MANUFACTURER'S SPECIFICATION FOR TIME, TEMPERATURE AND CONCENTRATION. IMMERSION TIME SHALL DEPEND UPON THE AMOUNT OF SOIL PRESENT, GAUGE OF THE METAL AND SOLUTION STRENGTH, RINSE THOROUGHLY WITH RUNNING WATER.

B. ETCHING

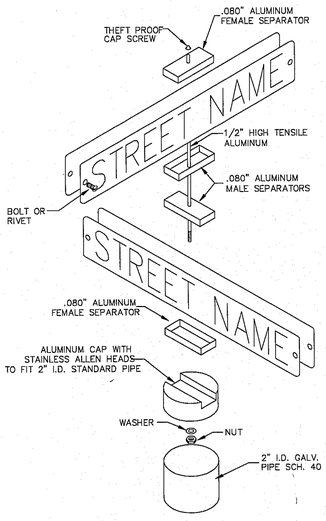
(1) ACID ETCH- ETCH WELL IN 6-8% PHOSPHORIC ACID SOLUTION AT 100 DEGREES F OF PROPRIETARY ACID ETCHING SOLUTION. RINSE THOROUGHLY WITH RUNNING WATER.

OR

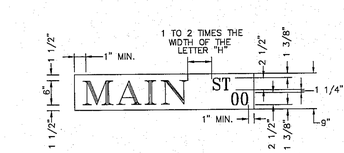
(2) ALKALINE ETCH- ETCH WELL THE PRE-CLEANED ALUMINUM SURFACE IN AN ALKALINE ETCHING MATERIAL THAT IS CONTROLLED BY TITRATION. USE TIME, TEMPERATURE, AND CONCENTRATION SPECIFIED BY THE SOLUTION MANUFACTURER. RINSE THOROUGHLY. REMOVE SMUT WITH AN ACIDIC CHROMIUM COMPOUND-TYPE SOLUTION AS SPECIFIED BY THE SOLUTION MANUFACTURER AND THEN RINSE THOROUGHLY.

C. CHROMATE CONVERSION COATING

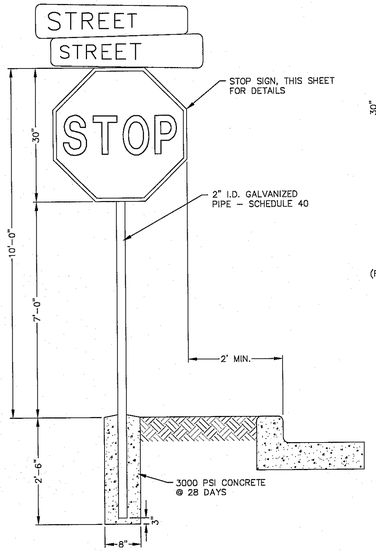
COAT THE ALUMINUM BLANKS ACCORDING TO THE CHROMATE CONVERSION COATING MANUFACTURER'S INSTRUCTIONS. THE COATING SHALL CONFORM TO ASTM-B448067, CLASS 2, AND SHALL RANGE IN COLOR FROM SILVERY IRIDESCENT TO PALE YELLOW. THE COATING WEIGHT SHALL BE 10 TO 35 MG PER SQ. FT. WITH A MEDIAN OF 25 MG PER SQ. FT. AS THE OPTIMUM COATING WEIGHT.



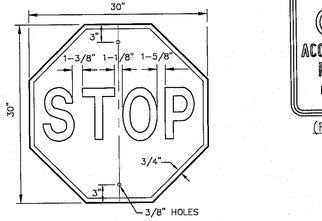

| SIGN CLASS | SIGN LENGTH | PRIMARY LETTERS SIZE & SERIES | SUFFIX & BLOCK NUMBER SIZE AND SERIES |
|---|---|---|---|
| 9" | 36" | 6" C,D, SERIES | 3" C SERIES |
| ARTERIAL | 42" | 6" C,D, SERIES | 3" C SERIES |
| STREETS | 48" | 6" A,B,C,D, SERIES | 3" C SERIES |




## LAYOUT FOR 9" STREET NAME SIGN
SCALE: N.T.S.



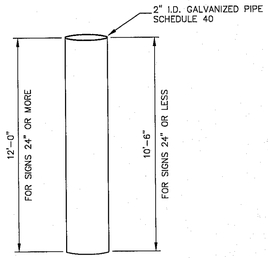

## SIGN POST INSTALLATION
SCALE: N.T.S.




LETTERS – WHITE REFLECTIVE
BORDER – WHITE REFLECTIVE
BACKGROUND – RED REFLECTIVE

(REFER TO STREET DEPARTMENT SIGN SPECIFICATIONS)

## STOP SIGN DETAIL
SCALE: 1" = 5'




NOTES:
1. WELD ALONG ITS LENGTH TO FORM VIRTUALLY SEAMLESS.
2. POST SHALL BE HOT-DIPPED ZINC GALVANIZED UNIFORMLY ON THE OUTSIDE WITH A NOMINAL ZINC WEIGHT OF 1.0 OUNCE PER SQUARE FOOT.
3. THE ZINC COATING IS TO BE OVER-COATED WITH A CHROMITE CONVERSION AND ACRYLIC COATING TO PROVIDE RESISTANCE TO RUSTING AND CORROSION.
4. THE INSIDE OF THE POST SHALL BE COATED WITH AN ORGANIC MATERIAL FOR PROTECTION AGAINST RUST.
5. BOTH ENDS ARE TO BE SQUARELY CUT WITHOUT FLARE.
6. POST SHALL BE FREE OF WARPS, CORROSION, OR OTHER DEFECTS.
7. RING WELDS OR SPLICES WILL NOT BE ACCEPTABLE.
8. BENDING STRENGTH AS SPECIFIED BY AASHTO FOR SCHEDULE 40 PIPE.
9. POST SHALL BE BUNDLE WITH METAL STRAPS AND SHALL NOT EXCEED 37 POST PER BUNDLE.

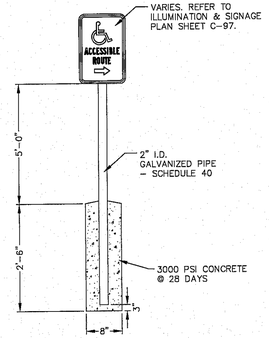
## SIGN POSTS SPECIFICATIONS
SCALE: N.T.S.

(RIGHT)

(AHEAD)

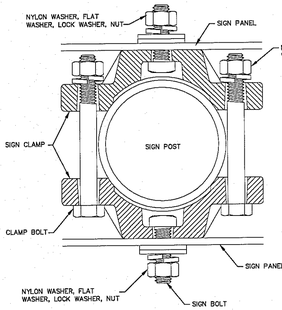
(LEFT)

(DOUBLE)




**NOTE:**
ADA ACCESSIBLE ROUTE GUIDE SIGN (Item# PAR-1008) AS MANUFACTURED BY WWW.ADASIGNDEPO.COM OR ENGINEER APPROVED EQUIVALENT.

## ADA ACCESSIBLE ROUTE GUIDE SIGNS
SCALE: NTS

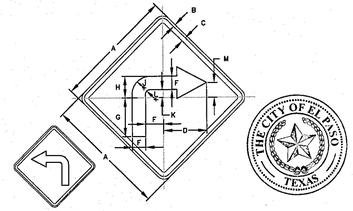



| PIPE DIAMETER | APPROXIMATE BOLT LENGTH | |
|---|---|---|
| | SPECIFIC CLAMP | UNIVERSAL CLAMP |
| 2" NOMINAL | 3" | 3 OR 3 1/2" |

CLAMP NOTES
1. USE A 5/16-18 UNC GALVANIZED HEX HEAD PER ASTM A307, WITH NUT AND HELICAL-SPRING LOCK WASHER WHEN TWO SIGN CLAMPS ARE USED TO MOUNT SIGNS BACK-TO-BACK. THE APPROXIMATE BOLT LENGTHS FOR VARIOUS POST SIZES AND SIGN CLAMP TYPES ARE GIVEN IN THE TABLE AT RIGHT. THE BOLT LENGTH MAY NEED TO BE ADJUSTED DEPENDING UPON FIELD CONDITIONS.
2. SIGN CLAMPS MAY BE EITHER THE SPECIFIC SIZE CLAMP OR THE UNIVERSAL CLAMP.

(BACK TO BACK SIGNS)

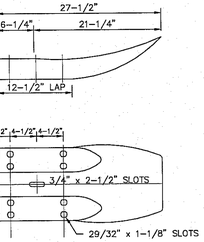
## TYPICAL SIGN ATTACHMENT DETAIL
SCALE: N.T.S.

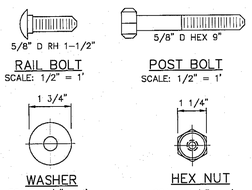


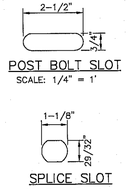

W1-1L W1-1R

| A | B | C | D | E | F | G | H | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | .375 | .625 | 9.625 | 3 | 3.5 | 7.75 | 5 | 2.5 | 1.5 | .813 | 3.25 | 1.5 |

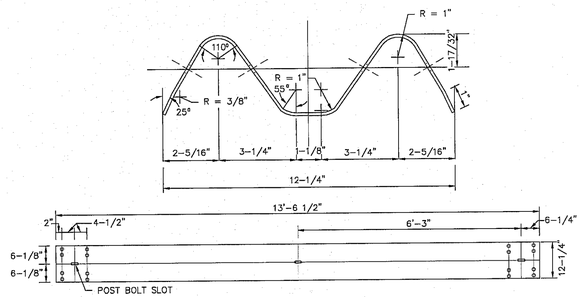
## TURN SIGN
SCALE: N.T.S.




## TERMINAL PLATE
SCALE: 1" = NTS

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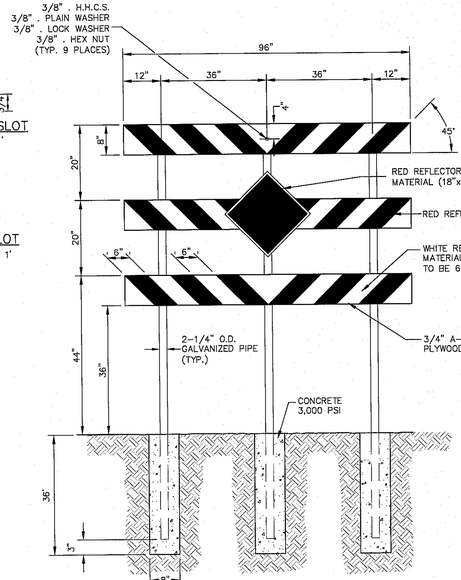
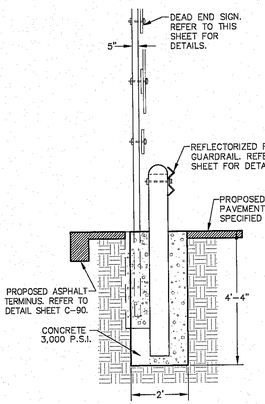
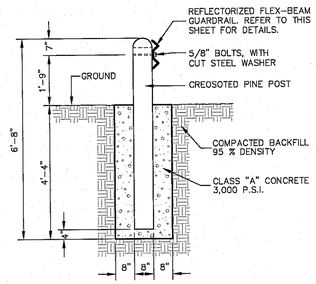


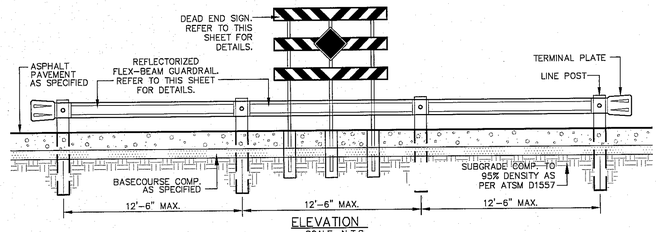

NOTE:
ALL STEEL FITTINGS SHALL BE GALVANIZED.




## SECTION
SCALE: N.T.S.




## POST DETAIL
SCALE: N.T.S.




## ELEVATION
SCALE: N.T.S.

## GUARDRAIL/ SIGN ASSEMBLY/ AT DEAD END STREET DETAIL
SCALE: N.T.S.

REFERENCES – BENCHMARK
BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3976.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

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| HORIZONTAL: | AS SHOWN | DRAWN BY: | CADD | WN |
| VERTICAL: | AS SHOWN | CHKD BY: | R.A.G. | 015 |
| CONTOUR INTERVAL: | | APPVD BY: | R.A.G. | A.G. |
| DATE: | AUGUST 2015 | JOB NO. | 1326 | 15D A.G. |

PROJECT TITLE
# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
TYPICAL SIGN DETAILS

SHEET NO.
# C-93
93 OF 123 SHEETS

Aug 03,2015 3:17pm brol
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Find COEP Comments\C-93 Typical Sign Details.dwg

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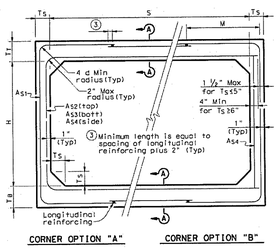
DATE:
FILE:

## BOX DATA

| SECTION DIMENSIONS | | | | | Fill Height | W (Min) | REINFORCING (in²/ft) ② | | | | | | | | Lift ① Weight (Tons) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S (ft) | H (ft) | $T_T$ (in) | $T_B$ (in) | $T_S$ (in) | (ft) | (in) | $A_{S1}$ | $A_{S2}$ | $A_{S3}$ | $A_{S4}$ | $A_{S5}$ | $A_{S6}$ | $A_{S7}$ | $A_{S8}$ | |
| 8 | 4 | 8 | 8 | 8 | <2 | - | 0.27 | 0.38 | 0.29 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 11.2 |
| 8 | 4 | 8 | 8 | 8 | 2<3 | 50 | 0.31 | 0.34 | 0.32 | 0.19 | - | - | - | - | 11.2 |
| 8 | 4 | 8 | 8 | 8 | 3-5 | 50 | 0.25 | 0.27 | 0.27 | 0.19 | - | - | - | - | 11.2 |
| 8 | 4 | 8 | 8 | 8 | 10 | 45 | 0.26 | 0.28 | 0.29 | 0.19 | - | - | - | - | 11.2 |
| 8 | 4 | 8 | 8 | 8 | 15 | 41 | 0.34 | 0.37 | 0.38 | 0.19 | - | - | - | - | 11.2 |
| 8 | 4 | 8 | 8 | 8 | 20 | 41 | 0.44 | 0.48 | 0.49 | 0.19 | - | - | - | - | 11.2 |
| | | | | | | | | | | | | | | | |
| 8 | 5 | 8 | 8 | 8 | <2 | - | 0.24 | 0.40 | 0.32 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 12.0 |
| 8 | 5 | 8 | 8 | 8 | 2<3 | 50 | 0.28 | 0.37 | 0.35 | 0.19 | - | - | - | - | 12.0 |
| 8 | 5 | 8 | 8 | 8 | 3-5 | 45 | 0.23 | 0.29 | 0.30 | 0.19 | - | - | - | - | 12.0 |
| 8 | 5 | 8 | 8 | 8 | 10 | 45 | 0.23 | 0.31 | 0.32 | 0.19 | - | - | - | - | 12.0 |
| 8 | 5 | 8 | 8 | 8 | 15 | 41 | 0.30 | 0.41 | 0.42 | 0.19 | - | - | - | - | 12.0 |
| 8 | 5 | 8 | 8 | 8 | 20 | 41 | 0.39 | 0.52 | 0.54 | 0.19 | - | - | - | - | 12.0 |
| | | | | | | | | | | | | | | | |
| 8 | 6 | 8 | 8 | 8 | <2 | - | 0.22 | 0.42 | 0.35 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 12.8 |
| 8 | 6 | 8 | 8 | 8 | 2<3 | 50 | 0.25 | 0.40 | 0.38 | 0.19 | - | - | - | - | 12.8 |
| 8 | 6 | 8 | 8 | 8 | 3-5 | 50 | 0.21 | 0.32 | 0.33 | 0.19 | - | - | - | - | 12.8 |
| 8 | 6 | 8 | 8 | 8 | 10 | 45 | 0.22 | 0.33 | 0.34 | 0.19 | - | - | - | - | 12.8 |
| 8 | 6 | 8 | 8 | 8 | 15 | 41 | 0.28 | 0.43 | 0.45 | 0.19 | - | - | - | - | 12.8 |
| 8 | 6 | 8 | 8 | 8 | 20 | 41 | 0.36 | 0.55 | 0.57 | 0.19 | - | - | - | - | 12.8 |
| | | | | | | | | | | | | | | | |
| 8 | 7 | 8 | 8 | 8 | <2 | - | 0.20 | 0.44 | 0.37 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 13.6 |
| 8 | 7 | 8 | 8 | 8 | 2<3 | 55 | 0.23 | 0.43 | 0.41 | 0.19 | - | - | - | - | 13.6 |
| 8 | 7 | 8 | 8 | 8 | 3-5 | 55 | 0.19 | 0.34 | 0.35 | 0.19 | - | - | - | - | 13.6 |
| 8 | 7 | 8 | 8 | 8 | 10 | 50 | 0.20 | 0.34 | 0.36 | 0.19 | - | - | - | - | 13.6 |
| 8 | 7 | 8 | 8 | 8 | 15 | 41 | 0.26 | 0.45 | 0.47 | 0.19 | - | - | - | - | 13.6 |
| 8 | 7 | 8 | 8 | 8 | 20 | 41 | 0.33 | 0.57 | 0.60 | 0.19 | - | - | - | - | 13.6 |
| | | | | | | | | | | | | | | | |
| 8 | 8 | 8 | 8 | 8 | <2 | - | 0.20 | 0.45 | 0.40 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 14.4 |
| 8 | 8 | 8 | 8 | 8 | 2<3 | 65 | 0.21 | 0.45 | 0.44 | 0.19 | - | - | - | - | 14.4 |
| 8 | 8 | 8 | 8 | 8 | 3-5 | 65 | 0.19 | 0.36 | 0.38 | 0.19 | - | - | - | - | 14.4 |
| 8 | 8 | 8 | 8 | 8 | 10 | 55 | 0.19 | 0.35 | 0.38 | 0.19 | - | - | - | - | 14.4 |
| 8 | 8 | 8 | 8 | 8 | 15 | 45 | 0.24 | 0.46 | 0.49 | 0.19 | - | - | - | - | 14.4 |
| 8 | 8 | 8 | 8 | 8 | 20 | 45 | 0.31 | 0.59 | 0.62 | 0.19 | - | - | - | - | 14.4 |

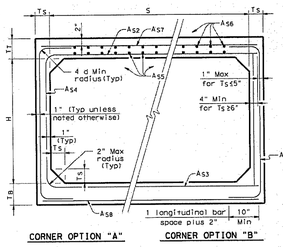
① For Box Length = 8'-0"

② $A_{S1}$ thru $A_{S6}$, $A_{S7}$ and $A_{S8}$ are minimum required areas of reinforcement per linear foot of box length. $A_{S6}$ and $A_{S8}$ are minimum required areas of reinforcement per linear foot of box width.



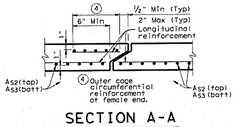

CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER




CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT




SECTION A-A

(TOP AND BOTTOM SLAB JOINT REINFORCEMENT)

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

All concrete shall be Class "H" Concrete with a minimum compressive strength of 5,000 psi.

See SCP-MD standard sheet for miscellaneous details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Shop plans for alternate designs shall be submitted in accordance with Item "Precast Concrete Structures".

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS
PRECAST
8'-0" SPAN

SCP-8

| FILE: | scp08a0.dgn | DN: GAF | CK: LRB | DW: BRYSTADT | CK: GAF |
|---|---|---|---|---|---|
| ©TxDOT | February 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | | | | | |
| | | DIST | COUNTY | | SHEET NO. |

Aug 03,2015 3:22pm bral
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-94 TxDOT Drainage Detail.dwg

REFERENCES – BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF DONAULT & INCA AVENUE REFERENCE IN THREE MILLS ADDITION.
ELEVATION = 3876.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

THE CITY OF EL PASO TEXAS

SCALE:
HORIZONTAL:-
VERTICAL:-
CONTOUR INTERVAL:-
DATE:- AUGUST 2015
DESIGN BY:- M.A.G.
DRAWN BY:- CADD
CHKD BY:- R.A.G.
APPVD BY:- R.A.G.
JOB NO. 1326

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

TxDOT DRAINAGE DETAIL

SHEET NO.

C-94

94 OF 123 SHEETS

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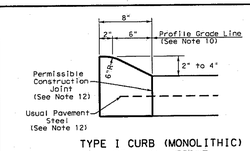
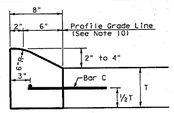
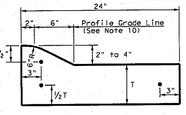
TYPE I CURB (MONOLITHIC)
2" - 4" HEIGHT



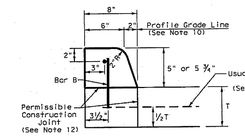

TYPE I CURB
2" - 4" HEIGHT



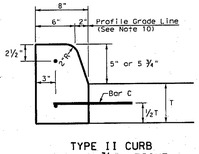

TYPE I CURB AND GUTTER
2" - 4" HEIGHT



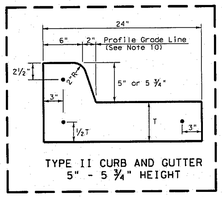

TYPE II CURB (MONOLITHIC)
5" - 5 ¾" HEIGHT



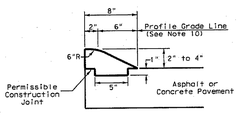

TYPE II CURB
5" - 5 ¾" HEIGHT



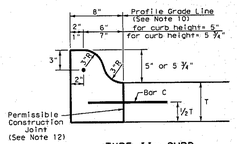

TYPE II CURB AND GUTTER
5" - 5 ¾" HEIGHT



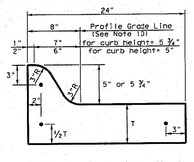

TYPE III CURB (KEYED)
2" - 4" HEIGHT



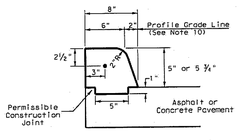

TYPE IIa CURB
5" - 5 ¾" HEIGHT



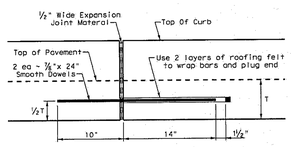

TYPE IIa CURB AND GUTTER
5" - 5 ¾" HEIGHT




TYPE IV CURB (KEYED)
5" - 5 ¾" HEIGHT

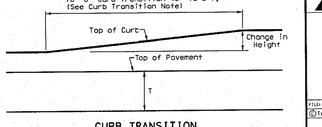



EXPANSION JOINT DETAIL



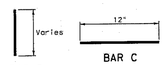

Curb Transition Note:
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.

CURB TRANSITION
Note: To be paid for as Highest Curb




## General Notes

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of synthetic fiber in lieu of steel reinforcing is acceptable, provided the fiber producer is on the Department Producer List (NPL), maintained by TxDOT, Construction Division.
4. Round exposed sharp edges with a rounding tool, to a minimum radius of ½inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is placed on existing concrete pavement, the pavement shall be drilled and the reinforcing bars grouted in place.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by the Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C-C.
9. Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When vertical permissible construction joints are used, resulting in a longitudinal construction joint in the pavement, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans for longitudinal construction joints. Reinforcing steel for curb section shall then conform to that required for concrete curb.



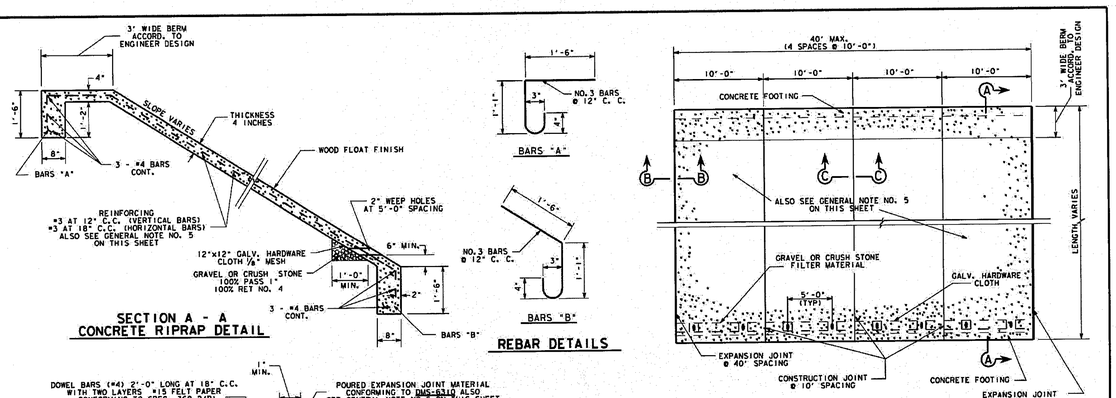

BAR B BAR C

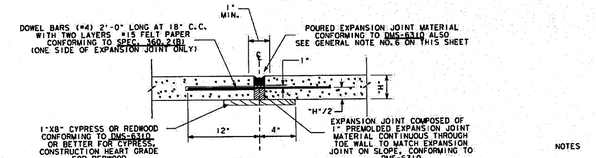
Texas Department of Transportation — Design Division Standard

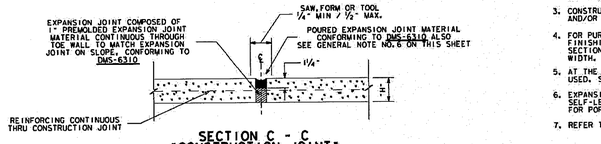
# CONCRETE CURB AND CURB GUTTER

# CCCG-12

| FILE: cccg12 | DN: TxDOT | CK: BB | DW: VP | CK: |
|---|---|---|---|---|
| ©TxDOT 1995 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | DIST | COUNTY | | SHEET NO. |




NOTES

1. GRAVEL OR CRUSHED STONE USED FOR WEEP HOLES SHALL BE PLACED CONTINUOUSLY ALONG BACK OF RIPRAP AND SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE SUBSIDIARY TO THE ITEM 432-"RIPRAP (CONC.)(CL. B')".
2. CONCRETE SHALL BE CLASS "B" UNLESS OTHERWISE NOTED ON PLANS.
3. CONSTRUCTION AND EXPANSION JOINTS SHALL BE AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.
4. FOR PURPOSE OF PROVIDING EASIER PLACEMENT AND BETTER FINISHING, CONCRETE SHALL BE PLACED IN ALTERNATE SECTIONS, NOT TO BE GREATER THAN TEN FEET (10') IN WIDTH.
5. AT THE OPTION OF THE CONTRACTOR #4 BARS AT 18" MAY BE USED. SEE STANDARD SPECIFICATION FOR GENERAL NOTES.
6. EXPANSION & CONSTRUCTION SEALANT, SHALL BE CLASS B SELF-LEVELING, LOW MODULUS SILICONE OR POLYURETHANE FOR PORTLAND CEMENT.
7. REFER TO AESTHETICS PLAN SHEETS FOR RIPRAP FINISH.

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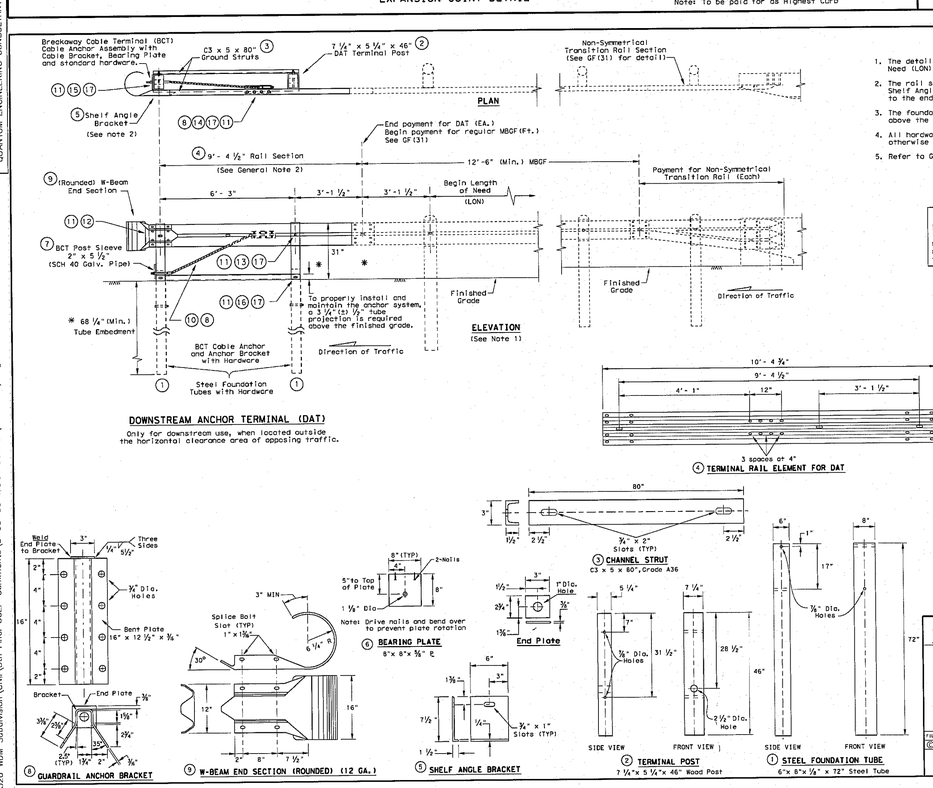
Texas Department of Transportation
DISTRICT STANDARD

# CONC. RIPRAP WITH BAR REINFORCEMENT DETAILS
## (WOOD FLOAT FINISH)

NOT TO SCALE

| DATE | REVISION | FED.RD. DIV.NO. | FEDERAL AID PROJECT NO. |
|---|---|---|---|
| | | 6 | |
| FEB. 1980 | REVISED TO 1972 SPECIFICATIONS | STATE | DIST. COUNTY |
| AUG. 1995 | REVISED TO 1993 SPECIFICATIONS | TEXAS | ELP EL PASO |
| JAN. 1998 | ED.TED DMS INTO COMPUTER FILE | CONT. | SECT. JOB HIGHWAY NO. |
| NOV. 2006 | REVISED TO 2004 SPECIFICATIONS | 2121 | 04 067 ETC IH-10,ETC |




## DOWNSTREAM ANCHOR TERMINAL (DAT)

Only for downstream use, when located outside the horizontal clearance area of opposing traffic.

## General Notes

1. The detail shown is the minimum Length of Need (LON) for a DAT connected to a concrete rail.
2. The rail section at the end post is supported by the Shelf Angle Bracket. The rail element is not attached to the end post.
3. The foundation tubes shall not project more than 3 ¾" above the finished grade.
4. All hardware for DAT shall be ASTM A307 unless otherwise shown.
5. Refer to GF(31) sheet for terminal connection details.

### MOW STRIP INSTALLATION

If a mow strip is required with the DAT installation the leave-out area around the steel foundation tubes, and the two channel struts may be omitted. This will require a full pour at the foundation tubes.

| # | (DAT) PARTS LIST | QTY |
|---|---|---|
| 1 | Steel Foundation Tube | 2 |
| 2 | DAT Terminal Post | 2 |
| 3 | Channel Strut | 2 |
| 4 | Terminal Rail Element | 1 |
| 5 | Shelf Angle Bracket | 1 |
| 6 | BCT Bearing Plate | 1 |
| 7 | BCT Post Sleeve | 1 |
| 8 | Guardrail Anchor Bracket | 1 |
| 9 | (Rounded)W-Beam End Section | 1 |
| 10 | BCT Cable Anchor | 1 |
| 11 | Recessed Nut, Guardrail | 20 |
| 12 | 1 ¼" Button Head Bolt | 4 |
| 13 | 10" Button Head Bolt | 2 |
| 14 | ⅜" x 2" Hex Head Bolt | 8 |
| 15 | ⅜" x 8" Hex Head Bolt | 4 |
| 16 | ⅜" x 10" Hex Head Bolt | 2 |
| 17 | ⅜" Flat Washer | 18 |

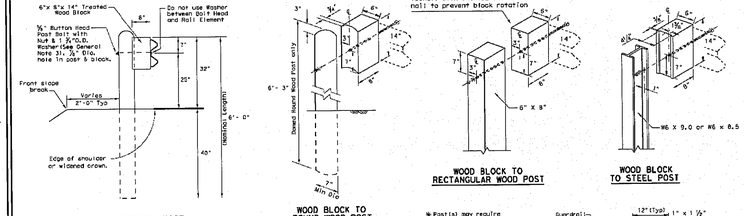



Texas Department of Transportation — Design Division Standard

# METAL BEAM GUARD FENCE
## (Downstream Anchor Terminal)

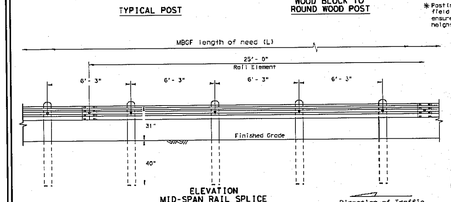
# GF(31)DAT-14

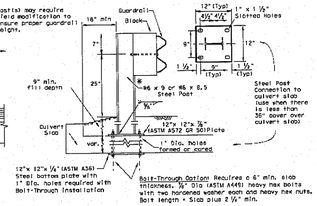
| FILE: gf31dat14.dgn | DN: TxDOT | CK: BM | DW: VP | CK: CCL |
|---|---|---|---|---|
| ©TxDOT December 2011 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | DIST | COUNTY | | SHEET NO. |

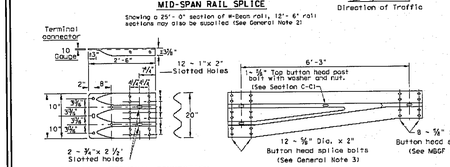


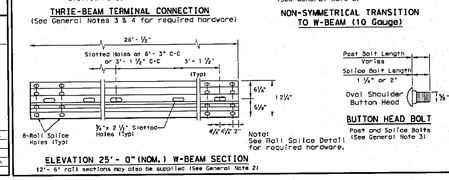

## General Notes

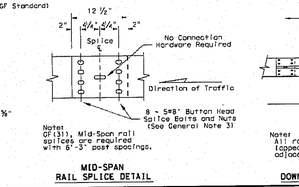
1. The type of post (round wood post, rectangular wood post, or steel post) will be as shown in the plans. The exact position of WBGF shall be shown in the plans or as directed by the Engineer. Steel posts to be galvanized in accordance with Item 445, "Galvanizing."
2. Rail element shall meet the requirements of Item 540,"Metal Beam Guard Fence" except as modified in the plans. The Contractor may furnish rail elements of 25'- 0", or 12'- 6" (nom.) lengths. Rail elements may have slotted holes at 3'-1½" C-C or 6'-3" C-C. A special length of rail may be manufactured to accommodate the downstream anchor terminal (DAT) and the transition sections of guardrail.
3. Button head "post" bolts (ASTM A307) shall be of sufficient length to extend through the full thickness of the nut (ASTM A563) and Type A (1 ¾" O.D.)washer and not more than 1" beyond it. Button head "splice" bolts (ASTM A307) are ⅝" x 1 ¼" for 2" long rail splices) with a ⅝" double recessed nut (ASTM A563). Thrie beam "connection" ⅞" dia. (ASTM A325) hex bolts shall be of sufficient length to extend through the full thickness of the rail, washers, and nuts.
4. Fittings (bolts, nuts, and washers) shall be galvanized in accordance with Item 445, "Galvanizing." Fittings shall be subsidiary to the bid item.
5. Crown shall be widened to accommodate the Metal Beam Guard Fence.
6. The lateral approach to the guard fence, shall have a maximum slope of 1V:10H.
7. If shown elsewhere in the plans or as directed by the Engineer, the guard fence may be flared at a rate of 2511 or flatter.
8. Unless otherwise shown in the plans, guard fence placed in the vicinity of curbs shall be positioned so that the face of curb is located directly below or behind the face of the rail. Rail placed over curbs shall be installed so that the post bolt is located approximately 25 inches above the gutter pan or edge of shoulder.
9. If solid rock is encountered within 0 to 18" of the finished grade, drill a 22" dia. hole, or drill two 12" dia. front to back overlapping holes, 24" into the rock. If solid rock is encountered below 18",drill a 12" dia. hole, 12" into the rock or to the standard embedment depth, whichever maybe less. Any excess post length, after meeting these depths, may be field cut to ensure proper guardrail mounting height. Backfill with a cohesionless material.
10. Posts shall not be set in concrete, of any depth.
11. Special fabrication will be required at installations having a curvature of less than 150 ft. radius.
12. Unless otherwise shown in the plans, a composite material post and/or block that meets the requirements of DMS-7210,"Composite Material Posts and Blocks for Metal Beam Guard Fence" may be substituted for posts and/or blocks of similar dimensions. The Construction Division, TxDOT maintains a Material Producer List (MPL) for producers of materials conforming to DMS-7210. Only producers on the MPL may furnish composite material posts and/or blocks.
13. For posts located partially or wholly between precast box culvert units, the use of a cast-in-place concrete closure between boxes is required. See Detail "A" on Bridge Standard SCP-MO.

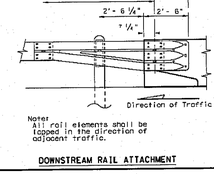



Texas Department of Transportation — Design Division Standard

# METAL BEAM GUARD FENCE

# GF(31)-14

| FILE: gf31-14.dgn | DN: TxDOT | CK: SZ | DW: VP | CK: CCL |
|---|---|---|---|---|
| ©TxDOT December 2011 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | DIST | COUNTY | | SHEET NO. |

REFERENCES - BENCHMARK
BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF DONNALT & INCA AVENUE
NORTHING = 13,847,515.5 EASTING = 1,375,915.5
ELEVATION = 3876.84 (CITY DATUM)

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

| DATE | REVISION | BY |
|---|---|---|
| | | |

SCALE:
HORIZONTAL:- AS SHOWN
VERTICAL:- AS SHOWN
CONTOUR INTERVAL:-
DATE:- AUGUST 2015
DESIGN BY:- M.A.G.
DRAWN BY:- CADD
CHKD BY:- R.A.G.
APPVD BY:- R.A.G.
JOB NO. 1328

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

TxDOT DETAILS (1 OF 2)

SHEET NO.

# C-95

95 OF 123 SHEETS

Aug 03,2015 3:23pm thal
Q:\Active Drawings\1328 WDM Subdivision\Civil\5th Final COEP Comments\C-95-96 TxDOT Details (1-2 of 2).dwg

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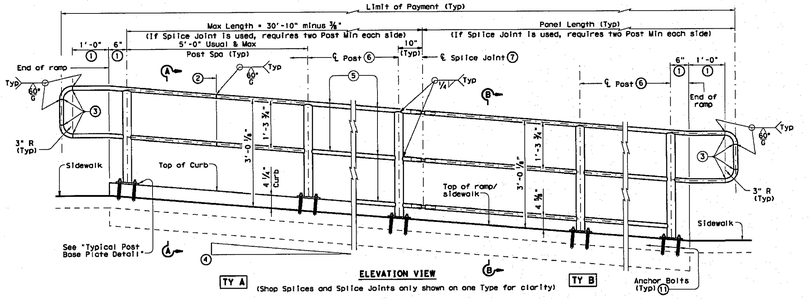
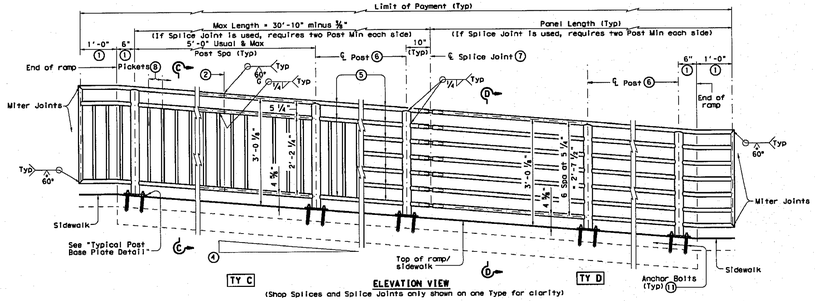
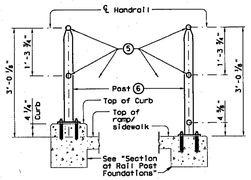
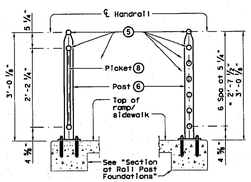
Aug 03,2015 3:23pm brad
Q:\Active Drawings\1326 NMA Subdivision\Civil\5th Final CDSP Comments\C-95-96 TxDOT Details (1-2 of 2).dwg




| RECOMMENDED USAGE (3)(4) | |
|---|---|
| Dropoff Height/ Condition | Recommended Rail Options |
| <30" dropoff | TY A, TY B, TY C, or TY D |
| ≥ 30" dropoff, or along Bike Path | TY E or TY F |




SHEET 1 OF 3

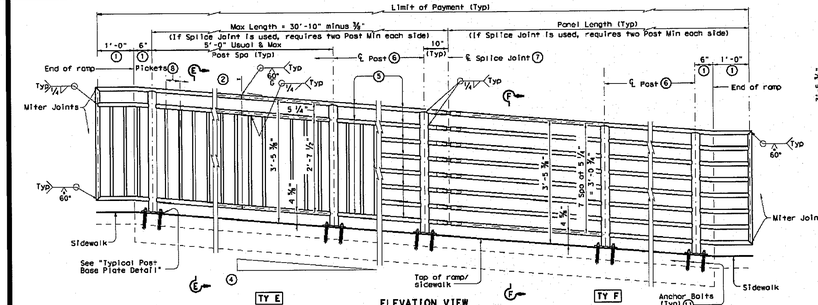
Texas Department of Transportation — Design Division Standard

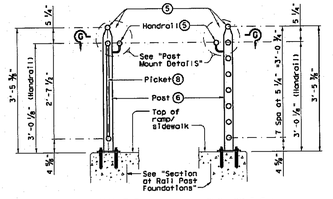
# PEDESTRIAN HANDRAIL DETAILS

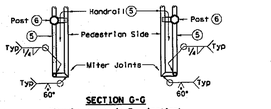
# PRD-13

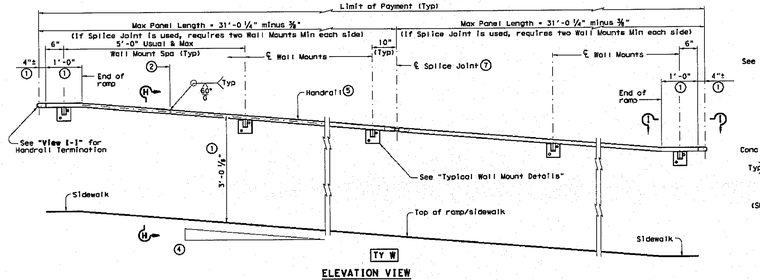
| FILE: | prd13.dgn | DN: TxDOT | CK: JM | DW: JTR | CK: CGL |
|---|---|---|---|---|---|
| ©TxDOT December 2006 | | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | | | | | |
| REVISED MAY, 2013 (VP) | | DIST | COUNTY | | SHEET NO. |

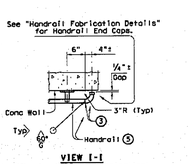
1. Parallel to ground.
2. One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
3. Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
4. See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.
5. 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp / sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.
6. 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.
7. See "Handrail Fabrication Details" for Splice Joints.
8. ℄ ⅜" Dia. Round Bar equal spacing at 4 ½" Max. Plumb all pickets.
9. When needed for accessibility (grade > 5 percent) or as needed for pedestrian safety.
10. Not to be used on bridges.
11. See "General Notes" for anchor bolt information.

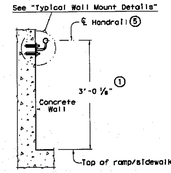



SHEET 2 OF 3

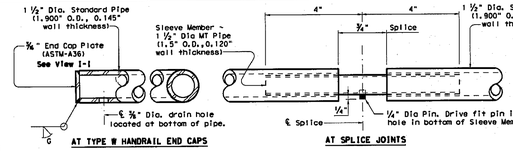
Texas Department of Transportation — Design Division Standard

# PEDESTRIAN HANDRAIL DETAILS

# PRD-13

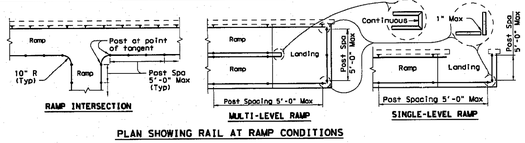
| FILE: | prd13.dgn | DN: TxDOT | CK: JM | DW: JTR | CK: CGL |
|---|---|---|---|---|---|
| ©TxDOT December 2006 | | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | | | | | |
| REVISED MAY, 2013 (VP) | | DIST | COUNTY | | SHEET NO. |

1. Parallel to ground.
2. One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
3. Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
4. See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.
5. 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp / sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.
6. 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.
7. See "Handrail Fabrication Details" for Splice Joints.
8. ℄ ⅜" Dia. Round Bar equal spacing at 4 ½" Max. Plumb all pickets.
11. See "General Notes" for anchor bolt information.



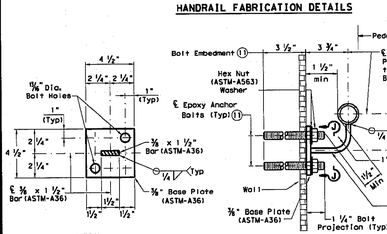


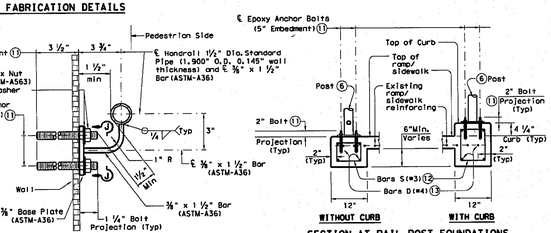





## PLAN SHOWING RAIL AT RAMP CONDITIONS

## HANDRAIL FABRICATION DETAILS



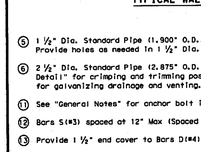







## TYPICAL WALL MOUNT DETAILS

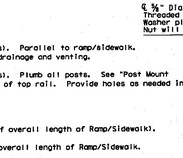
5. 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp/sidewalk.
6. 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). Plumb all posts. See "Post Mount Detail" for crimping and trimming post to fit the diamenter of top rail. Provide holes as needed in post for galvanizing drainage and venting.
11. See "General Notes" for anchor bolt information.
12. Bars S(#3) spaced at 12" Max (Spaced 3" from outside edge of overall length of Ramp/Sidewalk).
13. Provide 1 ½" end cover to Bars D(#4) from outside edge of overall length of Ramp/Sidewalk.

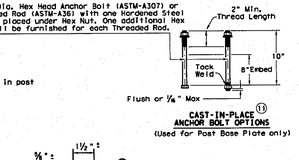






## TYPICAL POST BASE PLATE DETAIL




## POST MOUNT DETAILS

## GENERAL NOTES

Designed according to ADAAG, Texas Accessibility Standards, Uniform Building Code, and AASHTO LRFD Specifications.

Handrail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Pipe will conform to ASTM-A53 Grade B or A500 Grade B. Steel plates and steel bars will conform to ASTM-A36. Mechanical tubing (MT) will conform to ASTM A513 Grade 1015 or higher. Galvanize all steel components except reinforcing steel unless noted otherwise.

Concrete for foundations will be in accordance with Item 531 "Sidewalks". All reinforcing steel must be Grade 60. Bar tags, where required, will be as follows: Uncoated - #4 x 1'-5" Epoxy coated - #4 x 2'-1".

When the plans require painted steel, follow the requirements for painting galvanized steel in Item 446, "Cleaning and Painting Steel". Sleeve Members will receive galvanization and only get field painted after installation unless directed otherwise by Engineer.

Epoxy Anchor bolts for wall mount and post base plate will be ⅝" Dia. ASTM A36 threaded rods with one hex nut and one hardened steel washer at each bolt. ⅝" Dia. threaded rod embedment depth for wall mounts is 3 ½" and embedment depth for post base plate is 5".

Embed threaded rods into concrete with a Type II (Class C) epoxy meeting the requirements of DMS-6100, "Epoxies and Adhesives". Mix and dispense adhesive with the manufacturer's static mixing nozzle/dual cartridge system. Core drill holes (percussion drilling not permitted).

At the contractor's option the post base plate anchor bolts may be cast-in-place in the Sidewalk (See Cast-in-Place Anchor Bolt Options).

Optional cast-in-place anchor bolts will be ⅝" Dia ASTM A307 Grade A bolts for A36 threaded rods with one hex nut and one hardened steel washer at each bolt. ⅝" Dia. threaded rod embedment depth for wall mounts is 3 ½" and embedment depth for post base plate is 5". Cast-in-place anchor bolts will be 8" for post base plate.

Handrails and any wall or other surface adjacent to them will be free of any sharp or abrasive elements.

Submit shop drawings to the Engineer unless otherwise noted. For curved handrail applications, fabricate the handrail to the curve if radius is less than 600 ft. Shop drawings are required when rail is fabricated to the curve.

For all handrails, erection drawings will be submitted to the Engineer for approval to ensure proper installation.

Drawings will show handrail mount locations with bolts setting, spacing, ramp slope, and/or splice joint locations, and handrail lengths with identification showing where each handrail goes on the layout.

Payment for concrete sidewalks or curb ramps will be paid for in accordance with Item 531 "Sidewalks".

Payment for all items shown is to be included in unit price bid in accordance with Item 450 "Railing" of the type specified.

All exposed edges will be rounded or chamfered to approximately ⅛" by grinding.



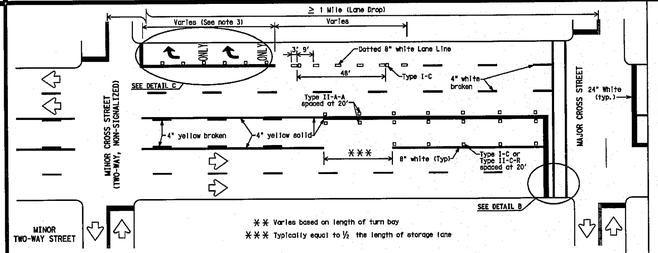

SHEET 3 OF 3

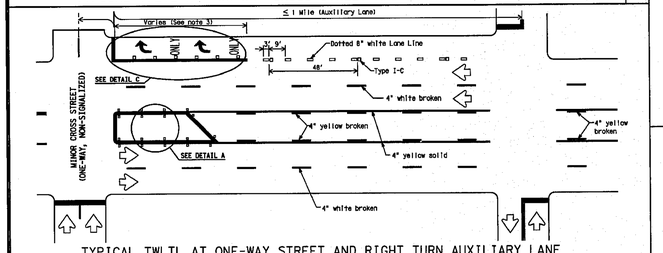
Texas Department of Transportation — Design Division Standard

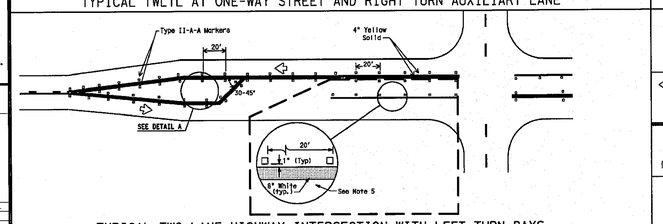
# PEDESTRIAN HANDRAIL DETAILS

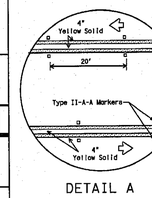
# PRD-13

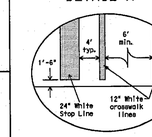
| FILE: | prd13.dgn | DN: TxDOT | CK: JM | DW: JTR | CK: CGL |
|---|---|---|---|---|---|
| ©TxDOT December 2006 | | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | | | | | |
| REVISED MAY, 2013 (VP) | | DIST | COUNTY | | SHEET NO. |



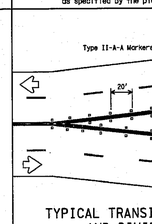



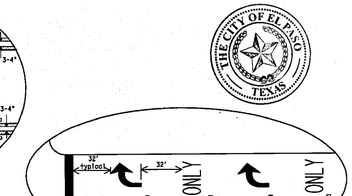




| MATERIAL SPECIFICATIONS | |
|---|---|
| PAVEMENT MARKERS (REFLECTORIZED) | DMS-4200 |
| EPOXY AND ADHESIVES | DMS-6100 |
| BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS | DMS-6130 |
| TRAFFIC PAINT | DMS-8200 |
| HOT APPLIED THERMOPLASTIC | DMS-8220 |
| PERMANENT PREFABRICATED PAVEMENT MARKINGS | DMS-8240 |

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.




## GENERAL NOTES

1. Refer elsewhere in plans for additional RPM placement and details.
2. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows as shown in the Standard Highway Sign Designs for Texas.
3. When lane use word and arrow markings are used, two pairs of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width lane.
4. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used.
5. Raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Raised pavement marker Type II-C-R with divided highways and raised medians.
6. A two-way left-turn (TWLTL) is an exclusive arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

Texas Department of Transportation — Traffic Operations Division

# PAVEMENT MARKINGS FOR TWO-WAY LEFT TURN LANES DIVIDED HIGHWAYS AND RURAL LEFT TURN BAYS

# PM(3)-12

| ©TxDOT April 1998 | | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|---|
| REVISIONS | | CONT | SECT | JOB | HIGHWAY |
| 5-00 2-12 | | | | | |
| 8-00 | | DIST | COUNTY | | SHEET NO. |
| 5-03 | | | | | |
| 2-10 | | | | | |

414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
QUANTUM Engineering Consultants Incorporated
Texas Registered Engineering Firm F-005146

| REFERENCES - BENCHMARK | | | |
|---|---|---|---|
| BENCHMARK= CITY MONUMENT AT THE INTERSECT OF GUINAULT & MCA AVENUE REFERENCE IN THREE HILLS ADDITION; ELEVATION = 3876.84 (CITY DATUM) | DATE | REVISION | BY |
| | | | |

SCALE: AS SHOWN
HORIZONTAL: AS SHOWN
VERTICAL: AS SHOWN
CONTOUR INTERVAL:
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

TxDOT DETAILS (2 OF 2)

SHEET NO.

# C-96

96 OF 123 SHEETS

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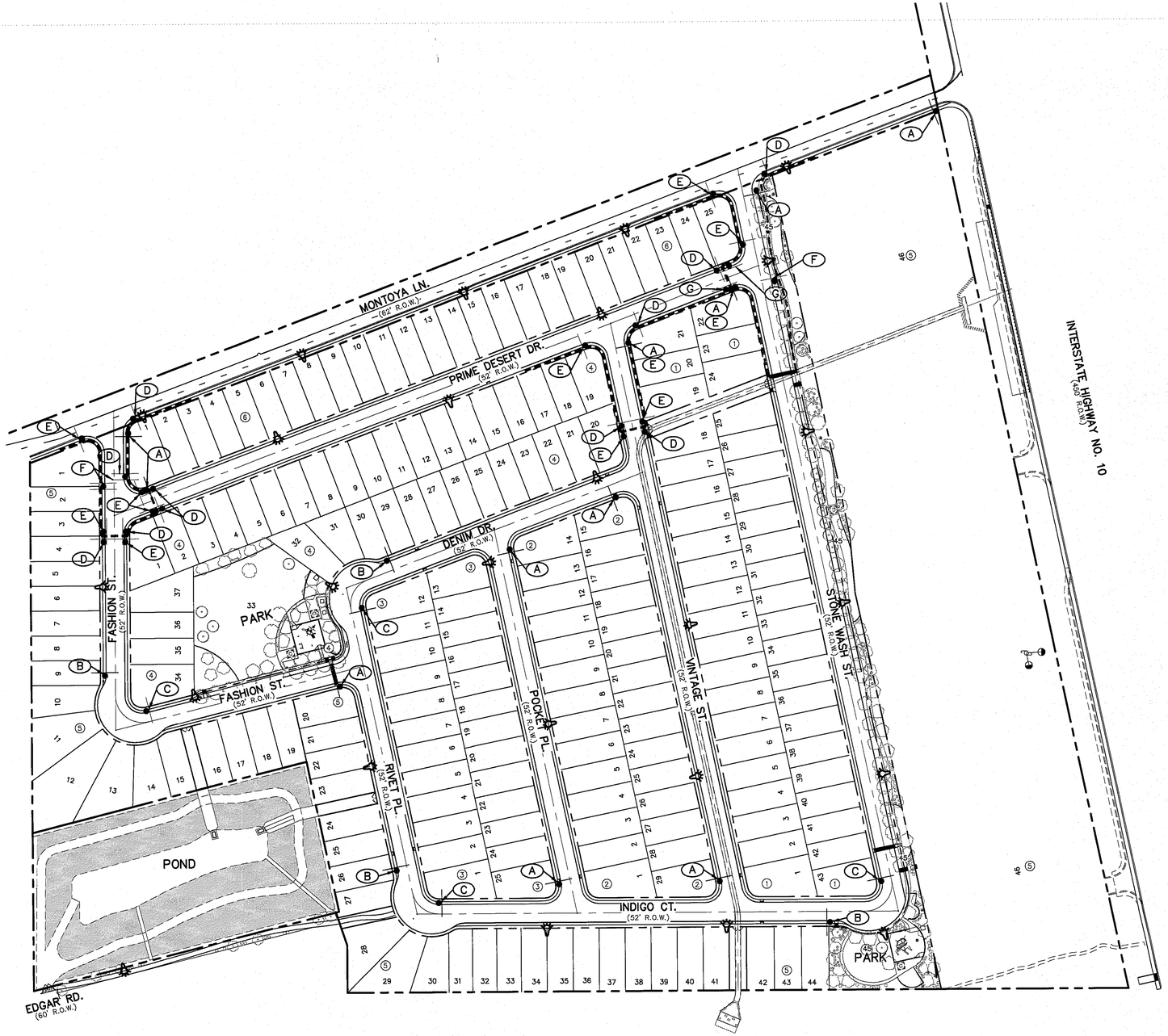
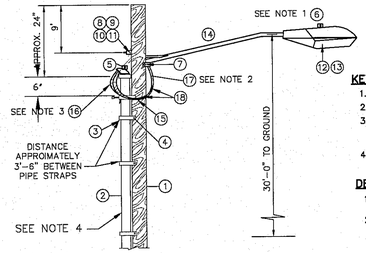



| ITEM NO. | DESCRIPTION | STOCK/ DSO NO. | QTY. PER LIGHT |
|---|---|---|---|
| 1 | POLE, 35 FT.–CLASS IV | 009–035 | 1 |
| 2 | SCHEDULE 80 1" PVC CONDUIT | 017–280 | 30' |
| 3 | PIPE STRAP FOR 1" CONDUIT, 2–HOLE | 017–283 | 9 |
| 4 | NAIL, STAINLESS STEEL SCREW 2.5" | 014–427 | 25 |
| 5 | SERVICE ENTRANCE CAP FOR 1" PVC CONDUIT. | 017–281 | 1 |
| 6 | PHOTOCELL, 240V–SEE NOTE 1 | 021–225 | 1 |
| 7 | LAG BOLT, 3/8' X 3" | 002–343 | 2 |
| 8 | MACHINE BOLT, 5/8" x 12" | 002–470 | 1 |
| 9 | SQUARE GALV. WASHER, 2 1/4" x 2 1/4" | 002–760 | 1 |
| 10 | COIL–SPRING WASHER, 5/8" | 002–786 | 1 |
| 11 | LOCK NUT, 5/8" | 002–705 | 1 |
| 12 | LUMINAIRE, 100W H.P.S. | 021–335 | 1 |
| 13 | HPS LAMP, 100W | 021–085 | 1 |
| 14 | MAST ARM, 6' x 1 1/4" | 021–200 | 1 |
| 15 | COPPER CABLE, #12, SOLID, 600V, BLUE | 013–702 | 60' |
| 16 | CABLE, #10, 2 CONDUCTOR, 600V, UF | 013–600 | 8' |
| 17 | SLEEVES, #12–10 | 005–140 | 2 |
| 18 | 1" PVC CONDUIT | 017–299 | AS REQUIRED |
| 19 | 1" PVC 90° ELBOW | 017–297 | 1 |
| 20 | 1" PVC 45° ELBOW | 017–298 | 1 |
| 21 | 1" PVC COUPLING | 017–296 | 1 |




**KEYED NOTES**

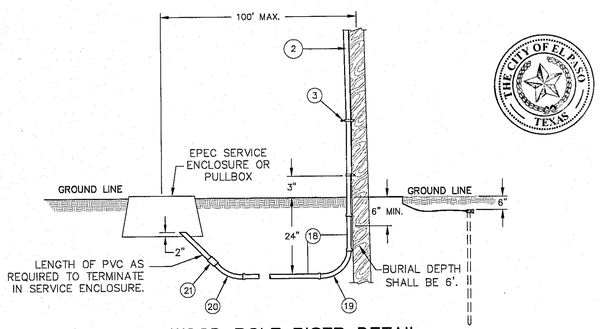
1. MOUNT SO THAT PHOTO CELL IS FACING NORTH.
2. ITEM 17 SHALL NOT BE SPLICED INSIDE ITEM 14.
3. THE WIRE LEADS FROM THE WEATHER HEAD TO THE MAST ARM SHALL HAVE A MINIMUM 4" DRIP LOOP BELOW THE WEATHER HEAD.
4. THE CONDUIT RISER SHALL BE INSTALLED ON THE BACK OF THE WOOD (AWAY FROM THE STREET)

**DESIGN NOTES**

1. INSTALLATION MUST COMPLY WITH ALL LOCAL CODE REQUIREMENTS.
2. FOR ANY CLARIFICATION, EXCEPTIONS OR QUESTIONS REGARDING THIS STANDARD, CALL THE EL PASO ELECTRIC COMPANY DISTRIBUTION DESIGN DEPARTMENT.

## STREET LIGHT WOOD POLE DETAIL

SCALE : N.T.S.




## WOOD POLE RISER DETAIL

SCALE: N.T.S.

**NOTES:**

1. CONSTRUCTION FOR ALL LIGHTING AND APPURTENANCES SHALL ADHERE TO CURRENT CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION AND/OR THE EL PASO ELECTRIC COMPANY DISTRIBUTION STANDARDS.
2. ALL NEW SIGNS SHALL COMPLY TO CURRENT CITY OF EL PASO SPECIFICATIONS AND REQUIREMENTS.
3. **ALL EXISTING SIGNAGE LOCATED WITHIN THE PROJECT LIMITS SHALL BE REMOVED TO ACCOMMODATE THE PROPOSED IMPROVEMENTS AND RELOCATED IN ITS APPROXIMATE ORIGINAL LOCATION, UNLESS OTHERWISE SHOWN ON PLANS. EXISTING SIGN POSTS TO BE UPGRADED, WHEN RELOCATED, TO TXDOT APPROVED SLIP BASE TYPE POSTS. CONTRACTOR SHALL COORDINATE WITH COEP DEPARTMENT OF TRANSPORTATION (915) 621–6750**
4. ALL EXISTING STREET NAME BLADE ASSEMBLIES (NOT CONFORMING TO CURRENT CITY OF EL PASO STANDARDS), SHALL BE UPGRADED TO CURRENT CITY OF EL PASO (COEP) STANDARDS. CONTRACTOR SHALL COORDINATE WITH COEP DEPARTMENT OF TRANSPORTATION (915) 621–6750
5. CONTRACTOR SHALL COORDINATE WITH EPDOT PRIOR TO RELOCATION OF SIGNS. EPDOT SHALL BE PROVIDED THE OPPORTUNITY TO INSPECT AND REPLACE ANY EXISTING DETERIORATING SIGN PRIOR TO INSTALLATION.
6. CONTRACTOR SHALL VERIFY NEW AND RELOCATED UTILITIES AND SIGNS TO BE INSTALLED IN A LOCATION TO PROVIDE A MINIMUM 3' WIDE ADA ACCESSIBLE PATH ALONG SIDEWALK ROUTES.
7. CONTRACTOR TO COORDINATE WITH OWNER ON THE PROPOSED LOCATIONS OF NEW STREET LIGHTS AND RELOCATION OF EXISTING STREET LIGHTS BEFORE PROPOSED SIDEWALKS ARE INSTALLED.

# ILLUMINATION & SIGNAGE PLAN

SCALE: 1" = 100'

**NOTES:**
ALL ROADWAYS INTERSECTING EXISTING PUBLIC ROADWAYS SHALL REMAIN COMPLETELY CLOSED FOR PUBLIC USE UNTIL ACCEPTED FOR MAINTENANCE BY THE CITY.

**LEGEND**

- EXISTING RESIDENTIAL STREET LIGHT
- PROPOSED RESIDENTIAL STREET LIGHT
- PROPOSED SIGN LOCATION
- PROPOSED HANDICAP ACCESSIBLE ROUTE

**NOTES:**

1. ALL STREET LIGHTS SHALL BE LOCATED WITHIN THE PARKWAY. CONTRACTOR SHALL COORDINATE WITH EPDOT PRIOR TO RELOCATION OF SIGNS. EPDOT SHALL BE PROVIDED THE OPPORTUNITY TO INSPECT AND REPLACE ANY EXISTING DETERIORATING SIGN PRIOR TO INSTALLATION.
2. DETAILS SHOWN ON THIS SHEET ARE FOR REFERENCE PURPOSES ONLY. CONSTRUCTION FOR ALL LIGHTING AND APPURTENANCES SHALL ADHERE TO CURRENT CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION.

**KEY NOTES**

- (A) NEW STOP SIGN/STREET NAME SIGNS. REFER TO DETAIL ON SHEET C–93.
- (B) NEW W1–1L SIGN/STREET NAME SIGNS. REFER TO DETAIL ON SHEET C–93.
- (C) NEW W1–1R SIGN/STREET NAME SIGNS. REFER TO DETAIL ON SHEET C–93.
- (D) ADA ACCESSIBLE ROUTE GUIDE SIGNS (LEFT). REFER TO DETAIL ON SHEET C–93.
- (E) ADA ACCESSIBLE ROUTE GUIDE SIGNS (RIGHT). REFER TO DETAIL ON SHEET C–93.
- (F) ADA ACCESSIBLE ROUTE GUIDE SIGNS (FORWARD). REFER TO DETAIL ON SHEET C–93.
- (G) ADA ACCESSIBLE ROUTE GUIDE SIGNS (DOUBLE). REFER TO DETAIL ON SHEET C–93.

## WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES:

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

**TEXAS GAS SERVICE**
4700 POLLARD STREET
EL PASO, TEXAS 79930
(915) 680–7329

**AT&T INCORPORATED**
11200 PELLICANO DRIVE
EL PASO, TEXAS 79935
(800) 344–8377
(800) 252–1133 (FIBER OPTIC)

**EL PASO ELECTRIC CO.**
501 WEST SAN ANTONIO STREET
EL PASO, TEXAS 79901
(915) 543–5970

**TIME WARNER COMMUNICATIONS**
600 CONCORD STREET
EL PASO, TEXAS 79906
(915) 775–7414

**EL PASO WATER UTILITIES PUBLIC SERVICE BOARD**
1154 HAWKINS BLVD.
EL PASO, TEXAS 79925
(915) 594–5528

**TEXAS EXCAVATION SAFETY SYSTEM**
ANYWHERE IN TEXAS
(800) 344–8377

**REFERENCES – BENCHMARK**

BENCHMARK:– CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
DESCRIPTION: BRASS DISK IN CONC.
ELEVATION = 3876.84 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

STATE OF TEXAS
ROBERT A. GONZALES
68920
LICENSED PROFESSIONAL ENGINEER

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**SCALE:**
HORIZONTAL: 1"=100'
VERTICAL: N/A
CONTOUR INTERVAL: ——
DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD. BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

**WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS**
EL PASO, TEXAS

SHEET TITLE

ILLUMINATION & SIGNAGE PLAN

SHEET NO.

**C-97**

97 OF 123 SHEETS

Aug 03,2015 3:24pm brojas
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-97 Illumination Plan.dwg

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## LEGEND

- PROPOSED TEMPORARY CONSTRUCTION FENCING. REFER TO DETAIL THIS SHEET.
- TEMPORARY INLET PROTECTION
- PROPOSED TEMPORARY SILT FENCING. REFER TO DETAIL THIS SHEET.
- PROPOSED FLOW ARROWS
- PROPOSED TEMPORARY STABILIZED CONSTRUCTION EXIT
- NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C-90.

**PROPOSED STAGING AREA**
STAGING AREA SHALL PROVIDE ADEQUATE SPACE FOR TRAILER, STORAGE YARD, FUEL TANKS, DUMPSTERS, PORTABLE RESTROOMS, EQUIPMENT STORAGE AND MAINTENANCE AREA. NOTICE-OF-INTENT SHALL BE CLEARLY POSTED

PROPOSED TEMPORARY PRIMARY CONSTRUCTION EXIT

TEMPORARY CONSTRUCTION FENCING

POSTING OF NOTICE-OF-INTENT

PROPOSED CONSTRUCTION FENCE WITH SILT FENCE

PROPOSED TEMPORARY SECONDARY CONSTRUCTION EXIT

PROPOSED CONSTRUCTION FENCE WITH SILT FENCE

TEMPORARY INLET PROTECTION

TEMPORARY SILT SOCK INLET PROTECTION

MONTOYA LANE (62' R.O.W.)

PRIME DESERT DR (52' R.O.W.)

DENIM DR (52' R.O.W.)

FASHION ST (52' R.O.W.)

RIVET PL (52' R.O.W.)

POCKET PL (52' R.O.W.)

VINTAGE ST (52' R.O.W.)

STONE WASH ST (52' R.O.W.)

INDIGO CT (52' R.O.W.)

EDGAR ROAD (60' R.O.W.)

INTERSTATE HIGHWAY NO. 10 (250' R.O.W.)

PARK

POND

BP=3784.00

PERMANENT RETENTION BASIN/DESILTING BASIN

25' P.S.B. EASEMENT

20' P.S.B. EASEMENT

30' DRAINAGE EASEMENT

20' DRAINAGE R.O.W.

ROCK WALL

WIRE FENCE

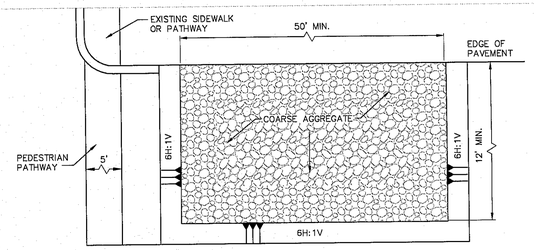
## STORM WATER POLLUTION PREVENTION PLAN

SCALE: 1" = 100'

NORTH

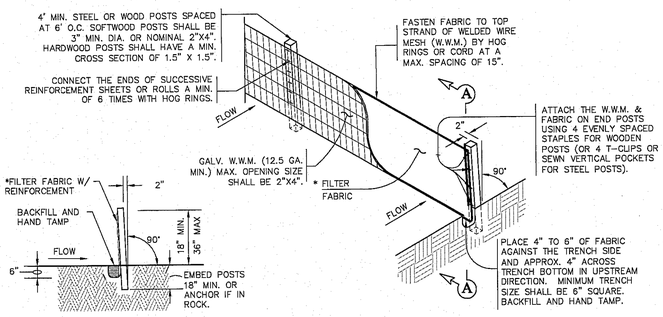
## CONSTRUCTION EXIT NOTES:

1. THE LENGTH OF THE TYPE I CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 3" TO 8". GRADATION MUST PERMIT INTERLOCKING OF AGGREGATE MATERIAL.
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. AT INTERSECTIONS THE CONSTRUCTION EXIT SHALL PROVIDE A 5' WIDE PEDESTRIAN STRIP.
7. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.




## CONSTRUCTION EXIT (TYPE I)

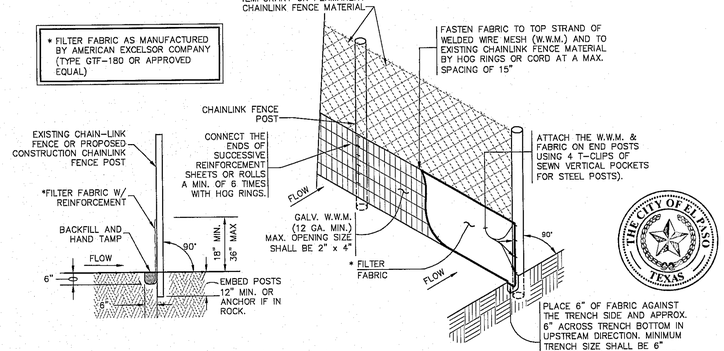
SCALE: NTS




## TEMPORARY SEDIMENT CONTROL FENCE

SCALE: NTS

* FILTER FABRIC AS MANUFACTURED BY AMERICAN EXCELSOR COMPANY (TYPE GTF-180 OR APPROVED EQUAL)



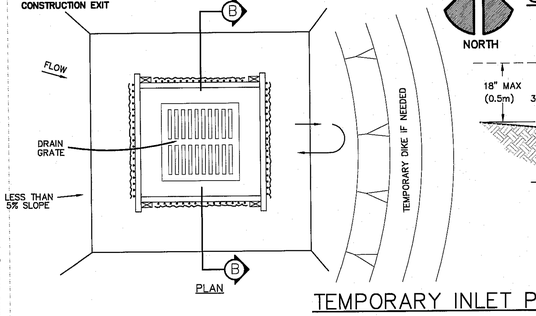

## CONSTRUCTION FENCE OPTION

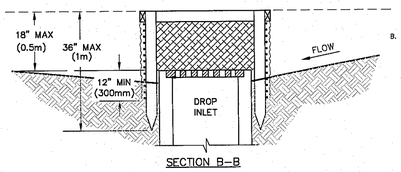
SCALE: NTS

**SEDIMENT CONTROL FENCE USAGE GUIDELINES**
A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAX. FLOW THROUGH RATE OF 0.22 CFS/FT. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES. SILT FENCING AT RIGHT-OF-WAY SHALL BE PLACED SO AS NOT TO BLOCK ANY EXISTING DRIVEWAYS.

**GENERAL NOTES:**
1. THE FENCE REQUIRES FREQUENT INSPECTION AND PROMPT MAINTENANCE TO MAINTAIN ITS EFFECTIVENESS.
2. INSPECT THE FENCE AFTER EACH RAINFALL.
3. CHECK FOR AREAS WHERE RUN-OFF HAS ERODED A CHANNEL BENEATH THE FENCE, OR WHERE THE FENCE WAS CAUSED TO SAG OR COLLAPSE.
4. ALL NEEDED REPAIRS SHALL BE PERFORMED IMMEDIATELY.
5. REMOVE AND PROPERLY DISPOSE OF SEDIMENT WHEN IT IS ONE-THIRD TO ONE-HALF THE HEIGHT OF THE FENCE OR AFTER EACH STORM.
6. 4' MIN. STEEL OR WOOD POSTS SPACED AT 6' O.C. SOFTWOOD POSTS SHALL HAVE A 3" MIN. DIAMETER OR NOMINAL 2"x4". HARDWOOD POSTS SHALL HAVE A MINIMUM CROSS SECTION OF 1.5"x1.5".

**SEDIMENT CONTROL FENCE NOTES:**
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 12".
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF THE FLOW. WHERE FENCE CAN NOT BE TRENCHED INTO THE SURFACE (e.g. PAVEMENT) THE FABRIC SHALL BE WEIGHTED DOWN WITH ROCK OR 1" X 4" LUMBER SECURELY FASTENED TO THE SURFACE, ON THE UPSTREAM SIDE TO PREVENT FLOW UNDER THE FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6" DEEP AND 6" WIDE TO ALLOW FOR THE NON-WOVEN FILTER FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. THE NON-WOVEN FILTER FABRIC SHALL BE SECURELY FASTENED TO THE WOVEN WIRE BACKING, WHICH IN TURN IS SECURELY FASTENED TO THE STEEL FENCE POST.
5. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6". THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTRATION.
6. INSPECTION SHALL BE MADE WEEKLY AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY, IF NEEDED.
7. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED.



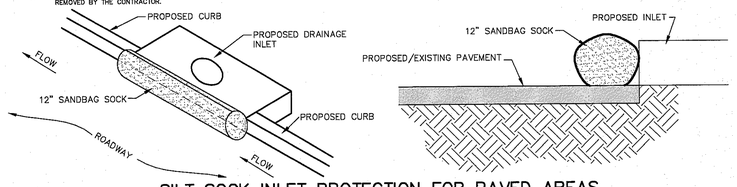




## TEMPORARY INLET PROTECTION

SCALE: N.T.S.

A. DESIGN CRITERIA AND MATERIALS FOR SAND FILLED SOCKS
1. SAND FILLED SOCKS OR "ENGINEER APPROVED EQUAL" WILL BE USED AS A FORM OF SEDIMENT, POLLUTANT AND DEBRIS REMOVAL.
2. SAND FILLED SOCKS OR "ENGINEER APPROVED EQUAL" WILL BE PLACED AT LOCATIONS INDICATED ON THE PROJECT DOCUMENTS OR AS DIRECTED BY THE PROJECT ENGINEER.
3. STANDARD SIZE OF SAND FILLED SOCKS OR "ENGINEER APPROVED EQUAL" FOR NORMAL PROTECTION SHOULD BE 12" DIAMETER. IN SEVERE FLOW SITUATIONS, THE PROJECT ENGINEER MAY RECOMMEND LARGER SOCKS OF 18" OR 24" DIAMETER. THE SOCKS CAN BE STACKED ONE ON TOP OF THE OTHER, IF ADDITIONAL HEIGHT IS REQUIRED.
4. THE SOCKS SHALL BE CONSTRUCTED OF A 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" (9.38 MM) KNITTED MESH NETTING MATERIAL AND FILLED WITH SAND MATERIAL APPROVED BY THE PROJECT ENGINEER.
5. THE SOCKS SHALL EITHER BE MADE ON-SITE OR DELIVERED TO THE JOBSITE.

B. MAINTENANCE
1. IF THE SOCKS BECOME CLOGGED WITH DEBRIS AND SEDIMENT, THEY SHALL BE MAINTAINED SO AS TO ASSURE PROPER DRAINAGE AND WATER FLOW INTO THE AREA INLET.
2. THE CONTRACTOR SHALL MAINTAIN SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
3. THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE SOCKS, OR AS DIRECTED BY THE PROJECT ENGINEER.
4. IF THE SOCKS REQUIRE REPAIR, DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED AS NECESSARY.
5. THE SOCKS MAY BE REMOVED OR DISPERSED ONCE THE STREET AND DRAINAGE IMPROVEMENTS ARE COMPLETE. THE NETTING MATERIAL WILL BE DISPOSED OF IN NORMAL TRASH CONTAINERS OR REMOVED BY THE CONTRACTOR.




## SILT SOCK INLET PROTECTION FOR PAVED AREAS

SCALE: N.T.S.

**REFERENCES - BENCHMARK**
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF DONALT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3878.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

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SCALE: HORIZONTAL: AS SHOWN; VERTICAL: AS SHOWN; CONTOUR INTERVAL: —

DATE: AUGUST 2015
DESIGN BY: M.A.G.
DRAWN BY: CADD
CHKD BY: R.A.G.
APPVD BY: R.A.G.
JOB NO. 1326

PROJECT TITLE

# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS

EL PASO, TEXAS

SHEET TITLE

STORMWATER POLLUTION PREVENTION PLAN & DETAILS

SHEET NO.

**C-98**

98 OF 123 SHEETS

Aug 03,2015 3:25pm brog
Q:\Active Drawings\1326 WDM Subdivision\Civil\5th Final CDSP Comments\C-98 SWPP Plan.dwg

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## SITE DESCRIPTION

**PROJECT NAME AND LOCATION:** WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PROJECT IS LOCATED TO THE SOUTHWEST OF INTERSTATE OF INTERSTATE HIGHWAY 10 (IH-10) AND ARTCRAFT ROAD INTERSECTION, LOCATED BETWEEN MONTOYA LANE AND EDGAR ROAD.

**PROJECT DESCRIPTION:** SEVERAL SITE IMPROVEMENT WILL BE BUILT INCLUDING PAVED ROADS WITH CONCRETE CURB & GUTTER CONCRETE SIDEWALK, ROCKWALLS, STORMWATER DRAINAGE SYSTEM, PONDING AREA, AND PREPARE FINISH GROUND PADS FOR FUTURE BUILDINGS.

**EXISTING CONDITIONS:** THE EXISTING CONDITIONS LOCATED WITHIN THE PROJECT AREA ARE EXISTING NATIVE VEGETATION AND SOILS.

**MAJOR SOIL DISTURBING ACTIVITIES:** SOIL DISTURBING ACTIVITIES WILL CONSIST OF EXCAVATION, FILLING, CLEARING AND GRUBBING, EROSION AND SEDIMENT CONTROL MEASURES.

**TOTAL PROJECT AREA:** 48.78± ACRES

**TOTAL AREA TO BE DISTURBED:** 52.54± ACRES

**WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION):** 0.78

**EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER:** THIS PROJECT SITE IS LOCATED NEAR FOOTSLOPES OF THE FRANKLIN MOUNTAINS, ACCORDING TO THE SOIL INVESTIGATION REPORT, THE SOILS IN THIS AREA ARE LIGHT BROWN, SILTY BONDS WITH VARYING AMOUNTS OF SANDY CLAYS, AND GRAVELLY THROUGHOUT.

**NAME OF RECEIVING WATERS:** THE STORMWATER RUNOFF FROM MONTOYA LANE AND THROUGHOUT THE PROJECT SITE WILL BE CONTROLLED AND DIRECTED VIA SUBSURFACE DRAINAGE SYSTEMS, TO A PONDING AREA LOCATED AT THE SOUTHWESTERN PORTION OF THE SITE. HISTORICAL RUNOFF FROM THE SITE IS ALLOWED TO BE DISCHARGED TO THE SOUTH TO THE COATES DAM. A PORTION OF THE HISTORICAL RUNOFF WILL BE DIRECTED TO THE PONDING AREA, WHILE THE REMAINING RUNOFF WILL BE DIRECTED TO THE SOUTHERN PORTION OF THE SITE AND RELEASED TO THE COATES DAM. THIS RUNOFF WILL BE CONVEYED BY DRAINAGE SWALES AND FUTURE CONNECTIONS TO AN EXISTING 8' X 7' BOX CULVERT.

## OWNER CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OWNER : SIGNED _____ DATE _____

OWNER : NAME _____ DATE _____

TITLE _____ DATE _____

## EROSION AND SEDIMENT CONTROL

**SOIL STABILIZATION PRACTICES**

_____ TEMPORARY SEEDING
_____ PERMANENT PLANTING, SODDING, OR SEEDING
_____ MULCHING
_____ SOIL RETENTION BLANKET
_____ BUFFER ZONES
_____ PRESERVATION OF NATURAL RESOURCES

OTHER: _____

**STRUCTURAL PRACTICES:** (T–TEMPORARY; P–PERMANENT)

T SILT FENCES
_____ SILT SOCKS
_____ HAY BALES
_____ ROCK BERMS
_____ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
_____ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
_____ DIVERSION DIKE AND SWALE COMBINATIONS
_____ PIPE SLOPE DRAINS
_____ CONCRETE FLUMES
T ROCK BEDDING AT CONSTRUCTION EXIT
_____ TIMBER MATTING AT CONSTRUCTION EXIT
_____ CHANNEL LINERS
_____ SEDIMENT TRAPS
_____ SEDIMENT BASINS
T STORM INLET SEDIMENT TRAP
_____ STONE OUTLET STRUCTURES
P CURBS AND GUTTERS
_____ STORM DRAINS
_____ VELOCITY CONTROL DEVICES
T VEGETATED SWALES & NATURAL DEPRESSIONS

OTHER: _____

**SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES AND APPROXIMATE DURATIONS:**

1. BEGIN CONSTRUCTION – MOBILIZATION (START DATE: JULY 2014)
2. INSTALL INITIAL STORMWATER POLLUTION PREVENTION (SWPPP) MEASURES AS INDICATED IN THE SWPPP PLAN. (5 DAYS)
3. CLEAR AND GRUB (15 DAYS)
4. SITE GRADING – CUTTING, FILLING AND COMPACTING (150 DAYS)
5. PERFORM PERIODIC INSPECTIONS OF THE SWPPP STRUCTURES. PERFORM MAINTENANCE OR REPLACEMENTS AS NEEDED. (DURATION OF CONSTRUCTION) (150 DAYS)
6. CONSTRUCTION OF SITE IMPROVEMENTS (180 DAYS CALENDAR DAYS)
7. END CONSTRUCTION – FINAL STABILIZATION, DEMOBILIZATION, REMOVAL OF SWPPP CONTROLS AND SUBMIT NOTICE OF TERMINATION. (COMPLETION DATE: DECEMBER 2014)

## GENERAL CONTRACTOR CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT THAT AUTHORIZES STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

SIGNED: _____ COMPANY: _____
NAME: _____ ADDRESS: _____
TITLE: _____ TELEPHONE: _____
DATE: _____

## SUB – CONTRACTOR CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I WILL COORDINATE, EITHER THROUGH THE GENERAL CONTRACTOR, OWNER, OR DIRECTLY, WITH THE CONTRACTOR(S) AND/OR SUBCONTRACTOR(S) IDENTIFIED IN THE POLLUTION PREVENTION PLAN HAVING RESPONSIBILITY FOR IMPLEMENTING STORM WATER CONTROL MEASURES TO MINIMIZE ANY IMPACT MY ACTIONS MAY HAVE ON THE EFFECTIVENESS OF THESE STORM WATER CONTROLS MEASURES.

SIGNED: _____ SIGNED: _____
NAME: _____ NAME: _____
TITLE: _____ TITLE: _____
COMPANY: _____ COMPANY: _____
ADDRESS: _____ ADDRESS: _____
TELEPHONE: _____ TELEPHONE: _____
DATE: _____ DATE: _____

## INSPECTION AND MAINTENANCE REPORT FORM

TO BE COMPLETED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR MORE

INSPECTOR: _____ DATE: _____

INSPECTOR'S QUALIFICATIONS:

DAYS SINCE LAST RAINFALL: _____

AMOUNT OF LAST RAINFALL: _____ INCHES

STABILIZATION MEASURES

| DRAINAGE AREA | DAY SINCE LAST DISTURBANCE | DAY SINCE NEXT DISTURBANCE | STABILIZED YES/NO | STABILIZED WITH | CONDITION |
|---|---|---|---|---|---|
| DA–1 | | | | | |
| DA–2 | | | | | |
| DA–3 | | | | | |
| DA–4 | | | | | |

STABILIZATION REQUIRED:

TO BE PERFORMED BY _____ ON OR BEFORE: _____

SEDIMENT BASIN:

| DEPTH OF SEDIMENT BASIN | CONDITIONS OF BASIN SIDE SLOPES | ANY EVIDENCE OF OVERTOPPING OF THE EMBANKMENT | CONDITION OF OUTFALL FROM SEDIMENT BASIN |
|---|---|---|---|
| | | | |

MAINTENANCE REQUIRED FOR SEDIMENT BASIN:

TO BE PERFORMED BY _____ ON OR BEFORE: _____

OTHER CONTROLS

STABILIZED CONSTRUCTION ENTRANCE:

| DOES MUCH SEDIMENT GET TRACKED ON TO ROAD | IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT | DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE | IS THE CULVERT BENEATH THE ENTRANCE WORKING |
|---|---|---|---|
| | | | |

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:

TO BE PERFORMED BY _____ ON OR BEFORE: _____

PERIMETER STRUCTURAL CONTROLS

DATE: _____

SILT FENCE AND STRAW BAILS

| DRAINAGE AREA PERIMETER | HAS SLIT REACHED 1/3 OF FENCE HEIGHT | IS FENCE PROPERTY SECURED? | IS THERE EVIDENCE OF WASHOUT OR OVERTOPPING |
|---|---|---|---|
| DA–1 | | | |
| DA–2 | | | |
| DA–3 | | | |
| DA–4 | | | |

MAINTENANCE REQUIRED FOR SLIT FENCE AND STRAW BAILS:

TO BE PERFORMED BY _____ ON OR BEFORE: _____

CHANGES REQUIRED TO THE POLLUTION PLAN:

REASONS FOR CHANGES

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICATION PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE: _____ DATE: _____

## BEST MANAGEMENT PRACTICES CONTROLS

**I WASTE MATERIALS:**
ALL WASTE MATERIALS, INCLUDING CONSTRUCTION DEBRIS, SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. NO CONSTRUCTION WASTE MATERIAL SHALL BE BURIED ON SITE. THE TRANSIT DUMPSTER SHALL COMPLY WITH ORDINANCE 18.52.010 (ENCLOSURE & REMOVAL OF WASTE MATERIALS DURING CONSTRUCTION). THE DUMPSTER SHALL BE EMPTIED AS NECESSARY OR AS REQUIRED BY ORDINANCE 9.04 (SOLID WASTE MANAGEMENT) AND THE TRASH SHALL BE HAULED TO A LICENSED LANDFILL.

**II HAZARDOUS WASTE:**
AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES SHALL BE CONSIDERED HAZARDOUS: PAINT, ACIDS FOR CLEANING MASONRY SURFACES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SPILL STABILIZATION, CURING COMPOUNDS AND ADDITIVES. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION AND CONTACT THE FIRE DEPT. AND TCEQ.

**III SANITARY WASTE:**
ALL SANITARY WASTE SHALL BE COLLECTED FROM THE CONSTRUCTION PORTABLE UNITS AS NECESSARY OR AS REQUIRED, CHAPTER 18.08 (BUILDING CODE), BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR. ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

**IV SPILL PREVENTION:**
THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURES OF MATERIALS TO STORM WATER RUNOFF.

**V GOOD HOUSEKEEPING:**
A. STORE ONLY ENOUGH PRODUCTS REQUIRED TO DO THE JOB
B. NEATLY STORE MATERIALS ON–SITE IN AN ORDERLY MANNER
C. KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER
D. DO NOT MIX SUBSTANCES WITH ONE ANOTHER, UNLESS OTHERWISE RECOMMENDED BY THE MANUFACTURER
E. USE ENTIRE CONTENTS OF A PRODUCT BEFORE DISPOSING THE CONTAINER
F. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL

**VI HAZARDOUS PRODUCTS:**
PRACTICES USED TO REDUCE RISKS:
A. KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER IF AT ALL POSSIBLE
B. RETAIN ORIGINAL LABELS, PRODUCT INFORMATION AND MATERIAL SAFETY DATA SHEETS (MSDS)
C. DISPOSE SURPLUS PRODUCT IN ACCORDANCE WITH MANUFACTURER'S OR LOCAL & STATE RECOMMENDED METHODS

**VII PETROLEUM PRODUCTS:**
ALL ON–SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ON–SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

**VIII SPILL CONTROL PRACTICES:**
A. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES:
B. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON–SITE:
C. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY
D. SPILL AREA SHALL BE WELL VENTILATED AND APPROPRIATE CLOTHING WILL BE WORN:
E. ANY SPILL SHALL BE REPORTED TO THE APPROPRIATE GOVERNMENTAL AGENCY
F. MEASURES SHALL BE TAKEN TO PREVENT A SPILL FROM REOCCURRING

**IX MAINTENANCE AND INSPECTION PROCEDURES:**
ALL POLLUTION PREVENTION MEASURES SHALL BE INSPECTED AT LEAST ONCE A MONTH OR WITHIN 24–HOURS PRIOR TO ANTICPATED STORM EVENT AND FOLLOWING A STORM EVENT OF 0.5 INCHES OR MORE. INSPECTION IN FINAL STABILIZED AREAS OR DURING ARID PERIODS WILL BE CONDUCTED MONTHLY. BEST MANAGEMENT PRACTICES AND POLLUTION CONTROL PROCEDURES SHALL BE INSPECTED FOR ADEQUACY. A REPORT SUMMARIZING THE SCOPE OF INSPECTION SHALL BE DONE & RETAINED ALONG WITH THE SDPCP.

**X REMARKS:**
DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATERBODY OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEANED AS SOON AS PRACTICABLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSEWORK, PILING DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT A PART OF THE FINISHED WORK.

**XI BATCH / ASPHALT PLANT:**
NO CONCRETE OR ASPHALT MATERIAL WILL BE BATCHED ON–SITE. THESE CONSTRUCTION MATERIALS SHALL BE OBTAINED FROM A SUPPLIER PRODUCING THESE MATERIALS OFF–SITE IN COMPLIANCE TO ALL FEDERAL REGULATIONS. ROCKWALL MORTAR BATCHED ON–SITE SHALL COMPLY TO THESE STORMWATER POLLUTION PREVENTION MEASURES AND ALL NPDES REQUIREMENTS.

**XII LISTED ENDANGERED OR THREATENED SPECIES AND CRITICAL HABITAT:**
THE PROJECT SITE IS LOCATED IN AN UNDEVELOPED TRACT OF LAND. THE EL PASO COUNTY LIST OF ENDANGERED OR THREATENED SPECIES WAS REVIEWED AND NO SPECIES HAVE BEEN IDENTIFIED AT THE PROPOSED SITE.

**XIII HISTORIC IMPACT:**
A REVIEW OF AVAILABLE TEXAS HISTORICAL COMMISSION (THC) AND NATIONAL REGISTER OF HISTORIC PLACES (NRHP) INFORMATION INDICATED THAT THERE ARE NO KNOWN SITES ELIGIBLE FOR HISTORIC RECORD LISTING WITHIN THE AREA OF THE PROPOSED PROJECT.

**XIV SOURCES OF NON–STORM WATER DISCHARGES:**
THE FOLLOWING SUBSTANCES ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:

CONCRETE, FUEL TANKS, LUBRICANTS, DETERGENTS, FERTILIZERS, CLEANING SOLVENTS,PAINTS, CURING COMPOUNDS, ASPHALTIC PRODUCTS, DUMPSTERS AND PORTABLE TOILETS.

DESIGNATED AREAS FOR EQUIPMENT MAINTENANCE, REPAIR AND WASH DOWN (INCLUDING CONCRETE TRUCK WASH–DOWN) SHALL HAVE APPROPRIATE POLLUTANT CONTROLS INCLUDING, BUT NOT LIMITED TO, EARTHEN BERMS, ETC.

**XV ALLOWABLE DISCHARGES:**
NO PERSON SHALL INTRODUCE OR CAUSE TO BE INTRODUCED INTO THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) OR WATERS WITHIN THE JURISDICTION OF THE CITY ANY DISCHARGE THAT IS NOT COMPOSED ENTIRELY OF STORMWATER. IT IS AN AFFIRMATIVE DEFENSE TO ANY ENFORCEMENT ACTION FOR VIOLATION OF THE AFOREMENTIONED THAT THE DISCHARGE WAS COMPOSED ENTIRELY OF ONE OR MORE OF THE FOLLOWING CATEGORIES OF DISCHARGES:

1. A DISCHARGE RESULTING FROM FIREFIGHTING;
2. AGRICULTURAL STORMWATER RUNOFF;
3. A DISCHARGE FROM LAWN WATERING, LANDSCAPE IRRIGATION, OR OTHER IRRIGATION WATER;
4. A DISCHARGE FROM UNCONTAMINATED PUMPED GROUNDWATER OR RISING GROUNDWATER;
5. UNCONTAMINATED GROUNDWATER INFILTRATION
6. UNCONTAMINATED DISCHARGE FROM A FOUNDATION DRAIN, CRAWL SPACE PUMP, FOOTING DRAIN OR SUMP PUMP;
7. A DISCHARGE FROM WATER USED IN STREET WASHING; PROVIDED, THAT THE WATER IS NOT CONTAMINATED WITH ANY HARMFUL CLEANING SUBSTANCE;

**XVI OFFSITE VEHICLE TRACKING:**
IN ADDITION TO THE STABILIZED CONSTRUCTION ENTRANCES, THE FOLLOWING MEASURES SHALL BE OBSERVED DURING CONSTRUCTION:
X HAUL ROADS SHALL BE DAMPENED FOR DUST CONTROL
X LOADED HAUL TRUCKS SHALL BE COVERED WITH TARPAULIN
X EXCESS DIRT ON ROAD SHALL BE REMOVED DAILY
X STABILIZED CONSTRUCTION ENTRANCE
_____ OTHER: _____

**XVII ILLEGAL OR PROHIBITED DISCHARGES:**
NO PERSON SHALL INTRODUCE OR CAUSE TO BE INTRODUCED INTO THE MS4 ANY DISCHARGE THAT CAUSES OR CONTRIBUTES TO CAUSING THE CITY TO VIOLATE A WATER QUALITY STANDARD, THE CITY'S NPDES PERMIT, OR ANY STATE–ISSUED DISCHARGE PERMIT FOR DISCHARGES FROM ITS MS4. NO PERSON SHALL RELEASE OR CAUSE, ALLOW, OR PERMIT TO BE INTRODUCED ANY OF THE FOLLOWING SUBSTANCES INTO THE MS4 OR THE WATERS WITHIN THE JURISDICTION OF THE CITY SUCH THAT THE SUBSTANCE MAY ENTER THE AIR OR GROUNDWATER:

1. ANY USED MOTOR OIL, ANTIFREEZE, OR ANY OTHER MOTOR VEHICLE FLUID;
2. ANY INDUSTRIAL WASTE;
3. ANY HAZARDOUS WASTE, INCLUDING HAZARDOUS HOUSEHOLD WASTE;
4. ANY DOMESTIC SEWAGE OR SEPTIC TANK WASTE, GREASE TRAP WASTE, OR GRIT TRAP WASTE;
5. ANY WASTEWATER FROM A COMMERCIAL CARWASH FACILITY; FROM ANY COMMERCIAL VEHICLE WASHING, CLEANING, OR MAINTENANCE AT ANY NEW OR USED AUTOMOBILE OR OTHER VEHICLE DEALERSHIP, RENTAL AGENCY, BODY SHOP, REPAIR SHOP, OR MAINTENANCE FACILITY.
6. ANY WASTEWATER FROM A COMMERCIAL MOBILE POWER WASHER OR FROM THE WASHING OR OTHER CLEANING OF BUILDING EXTERIOR WHERE THE WASTEWATER CONTAINS ANY HARMFUL CLEANING SUBSTANCE;
7. ANY WASTEWATER FROM COMMERCIAL FLOOR, RUG, OR CARPET CLEANING;
8. ANY WASTEWATER FROM THE WASHDOWN OR OTHER CLEANING OF PAVEMENT THAT CONTAINS ANY HARMFUL QUANTITY OF ANY CLEANING SUBSTANCE; OR ANY WASTEWATER FROM THE WASHDOWN OR OTHER CLEANING OF ANY PAVEMENT WHERE ANY SPILL, LEAK, OR OTHER RELEASE OF OIL, MOTOR FUEL, OR OTHER PETROLEUM OR HAZARDOUS SUBSTANCE HAS OCCURRED, UNLESS ALL HARMFUL QUANTITIES OF SUCH RELEASED MATERIAL HAVE BEEN PREVIOUSLY REMOVED;
9. ANY EFFLUENT FROM A COOLING TOWER, CONDENSER, COMPRESSOR, EMISSIONS SCRUBBER, EMISSIONS FILTER, OR THE BLOWDOWN FROM A BOILER;
10. ANY READY–MIXED CONCRETE, MORTAR, CERAMIC, OR ASPHALT BASE MATERIAL OR HYDROMULCH MATERIAL, OR FROM THE CLEANING OF COMMERCIAL VEHICLES OR EQUIPMENT CONTAINING, OR USED IN TRANSPORTING OR APPLYING, SUCH MATERIAL;
11. ANY FILTER BACKWASH FROM A SWIMMING POOL, FOUNTAIN, OR SPA;
12. ANY SWIMMING POOL OR SPA WATER;
13. ANY DISCHARGE FROM WATER LINE DISINFECTION BY SUPERCHLORINATION OR OTHER MEANS IF IT CONTAINS ANY HARMFUL QUANTITY OF CHLORINE OR ANY OTHER CHEMICAL USED IN LINE DISINFECTION;
14. ANY WATER FROM A WATER CURTAIN IN A SPRAY ROOM USED FOR PAINTING VEHICLES OR EQUIPMENT;
15. ANY CONTAMINATED RUNOFF FROM A VEHICLE WRECKING YARD;
16. ANY SUBSTANCE OR MATERIAL THAT WILL DAMAGE, BLOCK, OR CLOG THE MS4;
17. ANY RELEASE FROM A PETROLEUM STORAGE TANK (PST), OR ANY LEACHATE OR RUNOFF FROM SOIL CONTAMINATED BY A LEAKING PST, OR ANY DISCHARGE OF PUMPED, CONFINED, OR TREATED WASTEWATER FROM THE REMEDIATION OF ANY SUCH PST RELEASE, UNLESS THE DISCHARGE COMPLIES WITH ALL STATE AND FEDERAL STANDARDS AND REQUIREMENTS.

NO PERSON SHALL INTRODUCE OR CAUSE TO BE INTRODUCED INTO THE MS4 OR WATERS WITHIN THE JURISDICTION OF THE CITY ANY HARMFUL QUANTITY OF SEDIMENT, SILT, EARTH, SOIL, OR OTHER MATERIAL ASSOCIATED WITH CLEARING, GRADING, EXCAVATION OR OTHER CONSTRUCTION ACTIVITIES, OR ASSOCIATED WITH LANDFILLING OR OTHER PLACEMENT OR DISPOSAL OF SOIL, ROCK, OR OTHER EARTH MATERIALS, IN EXCESS OF WHAT COULD BE RETAINED ON SITE OR CAPTURED BY EMPLOYING SEDIMENT AND EROSION CONTROL MEASURES TO THE MAXIMUM EXTENT PRACTICABLE UNDER PREVAILING CIRCUMSTANCES.

NO PERSON SHALL CONNECT A LINE CONVEYING SANITARY SEWAGE, DOMESTIC OR INDUSTRIAL, TO THE MS4, OR ALLOW SUCH A CONNECTION TO CONTINUE.

REGULATION OF PESTICIDES, HERBICIDES, AND FERTILIZERS:

1. ANY SALE, DISTRIBUTION, APPLICATION, LABELING, MANUFACTURE, TRANSPORTATION, STORAGE, OR DISPOSAL OF A PESTICIDE, HERBICIDE, OR FERTILIZER MUST COMPLY FULLY WITH ALL STATE AND FEDERAL STATUTES AND REGULATIONS INCLUDING, WITHOUT LIMITATION, THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA) AND ALL FEDERAL REGULATIONS PROMULGATED PURSUANT TO FIFRA; CHAPTERS 63, 75, AND 76 OF THE TEXAS AGRICULTURE CODE AND ALL STATE REGULATIONS PROMULGATED PURSUANT THERETO; AND ANY OTHER STATE OR FEDERAL REQUIREMENT.
2. NO PERSON SHALL USE OR CAUSE TO BE USED ANY PESTICIDE OR HERBICIDE CONTRARY TO ANY DIRECTIONS FOR USE ON ANY LABELING REQUIRED BY STATE OR FEDERAL STATUTE OR REGULATION.
3. NO PERSON SHALL DISPOSE OF, DISCARD, STORE, OR TRANSPORT A PESTICIDE, HERBICIDE, OR FERTILIZER, OR A PESTICIDE, HERBICIDE, OR FERTILIZER CONTAINER, IN A MANNER THAT THE PERSON KNOWS, OR REASONABLY SHOULD KNOW, IS LIKELY TO CAUSE, OR DOES CAUSE, A HARMFUL QUANTITY OF THE PESTICIDE, HERBICIDE, OR FERTILIZER TO ENTER THE MS4 OR WATERS OF THE UNITED STATES.

USED OIL REGULATION: NO PERSON SHALL:

1. DISCHARGE USED OIL INTO THE MS4 OR A SEWER, DRAINAGE SYSTEM, SEPTIC TANK, SURFACE WATER, GROUNDWATER, OR WATERCOURSE;
2. KNOWINGLY MIX OR COMMINGLE USED OIL WITH SOLID WASTE THAT IS TO BE DISPOSED OF IN A LANDFILL OR KNOWINGLY DIRECTLY DISPOSE OF USED OIL ON LAND OR IN ALL LANDFILL OR KNOWINGLY DISCHARGE USED OIL ONTO THE GROUND;
3. INTRODUCE USED OIL INTO THE ENVIRONMENT BY ANY METHOD, INCLUDING APPLICATION OF USED OIL TO A ROAD OR LAND FOR DUST SUPPRESSION, WEED ABATEMENT, OR OTHER SIMILAR USE.

A RETAIL DEALER WHO ANNUALLY SELLS DIRECTLY TO THE PUBLIC MORE THAN FIVE HUNDRED GALLONS OF OIL IN CONTAINERS FOR USE OFF–PREMISES SHALL POST IN A PROMINENT PLACE A SIGN PROVIDED BY THE STATE INFORMING THE PUBLIC THAT IMPROPER DISPOSAL OF USED OIL IS PROHIBITED BY LAW. THE SIGN SHALL PROMINENTLY DISPLAY THE TOLL–FREE TELEPHONE NUMBER OF THE STATE USED OIL INFORMATION CENTER. (ORD. 13477 § 1 (PART), 1998)

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3878.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

THE STATE OF TEXAS — ROBERT A. GONZALES — 69920 — LICENSED PROFESSIONAL ENGINEER — 8/15
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT A. GONZALES, P.E. 69920 ON AUGUST 2015. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER AUTHORIZATION BY THE RESPONSIBLE ENGINEER IS A VIOLATION OF LAW. THE TEXAS ENGINEERING FIRM NO. F-005146

THE CITY OF EL PASO — TEXAS

| | |
|---|---|
| HORIZONTAL: | N/A |
| VERTICAL: | N/A |
| CONTOUR INTERVAL: | |
| DATE: | AUGUST 2015 |
| DESIGN BY: | M.A.G. |
| DRAWN BY: | CDD |
| CHKD BY: | R.A.G. |
| APPVD BY: | R.A.G. |
| JOB NO. | 1326 |

PROJECT TITLE
# WEST DESERT MARKETPLACE SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
STORMWATER POLLUTION PREVENTION SPECIFICATIONS

SHEET NO.
C-99
99 OF 123 SHEETS

Aug 03,2015 3:26pm brej
O:\Active Drawings\1326 WDM Subdivision\Civil\5th Final COEP Comments\C-99 SWPP Specs.dwg

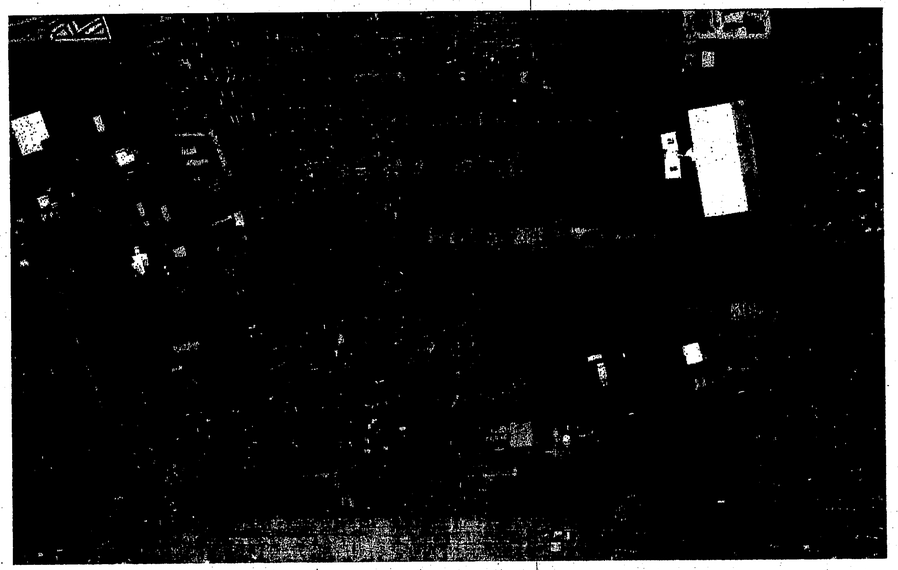
# SEGMENTAL BLOCK RETAINING WALL SYSTEMS FOR:

# WEST DESERT MARKETPLACE

SUBDIVISION IMPROVEMENT PLANS

## INTERSECTION OF I-10 & MONTOYA LANE

## EL PASO, TEXAS



N

## LEGEND

| | |
|---|---|
| [ ] | Exposed Block |
| [ ] | Embedded Block |
| TOP TOP | Approximate Final Grade |
| TOE TOE | Approximate Toe of Wall |
| SG350 SG350 SG350 SG350 | Stratagrid Geogrid SG350 |
| ● | 4" Diameter Drainage Zone Discharge Pipe |
| (5') | Geogrid Reinforcement Zone Length as Measured from Face of Wall |

## DRAWING INDEX


| No. | SHEET NAME |
|---|---|
| SBW-91 | INDEX AND GENERAL NOTES |
| SBW-92 | PLAN VIEW - SEGMENTAL BLOCK WALL LOCATIONS |
| SBW-93 | PROFILE - WALL 1A |
| SBW-94 | PROFILE- WALL 1A |
| SBW-95 | PROFILE- WALL 1B |
| SBW-96 | PROFILE- WALL 1C |
| SBW-97 | SPECIFICATIONS- SEGMENTAL BLOCK WALL |
| SBW-98 | DETAILS- SEGMENTAL BLOCK WALL |


## GENERAL NOTES

### MATERIALS

Retaining wall units shall be Rockwood Classic 6 standard units or equivalent. Concrete wall units shall meet the requirements of ASTM C1372 except compressive strength shall be a minimum 3000 psi and the maximum water absorption shall be limited to 8.0 percent. The concrete shall have adequate freeze thaw resistance in accordance with ASTM C1262.

The reinforced wall backfill material shall be suitable compacted fill. The backfill material shall consist of clay/gravel and/or clay/sand mixed materials with a maximum 2" particle size and a maximum of 20% passing the #200 sieve. Material shall be free of debris, roots and other extraneous materials, and shall have a maximum plasticity index (PI) of 15.

The geogrid material shall be Stratagrid SG350 geogrid as indicated on the plans and as manufactured by Strata Systems, Inc. or equivalent. Miragrid 5xT can be used in place of the SG350 geogrid material.

The drainage rock shall be a free draining gravel material with a gradation between 1/4" and 3/4". The gravel shall be clean with less than 10% passing a #200 sieve. Drainage rock shall be installed in unit cores and extending at least 12" behind wall units. The drainage pipe shall be 4" HDPE tubing or 4" PVC perforated pipe. Cap units shall be glued in place at the top of the wall as detailed in these plans.

### WALL FOUNDATION

Foundation soil shall be excavated as required for the leveling pad and the reinforced fill zone to the depths and locations shown on the plan sheet or as directed by the site engineer. The exposed foundation soil shall be observed by a qualified technician, engineer, or owner's representative prior to construction to verify that the base of the excavation is free of loose soil, shale, high plastic clays, uncompacted fill, water, or frozen material. Unsuitable materials shall be undercut. Undercut areas shall be filled with crushed limestone and compacted to at least 95% of the material maximum dry density based on a standard Proctor analysis.

### GEOGRID REINFORCING

The geogrid layers shall be cut to the minimum design lengths and placed between the blocks at the elevations shown on the plans. The geogrid's primary strength direction shall be directed perpendicular to the wall face. The geogrid shall be placed horizontally and lay flat on the reinforced fill soil with a minimum of 11" of grid extending between the block layers. Slack in the geogrid shall be removed prior to placing additional backfill. The geogrid shall be installed in one continuous piece with no joints in the strength direction. The geogrid shall be placed side-by-side along the wall alignment.

### WALL BACKFILL

Backfill shall be placed, spread, and compacted in such a manner that minimizes wrinkles and movement of the geogrid. Wall backfill material shall be placed in maximum 10" loose lifts and compacted to at least 95% of the material's maximum dry density as determined by the standard Proctor method (ASTM D698). Field density testing shall be conducted by a qualified soils technician to verify that at least the minimum degree of compaction is being obtained. The drainage rock shall be compacted with a minimum 2 passes of a vibratory compactor and field density testing will not be required for the drainage rock. During backfill placement, the 3 foot zone directly behind the wall shall be limited to the use of hand operated compaction equipment only. Construction equipment shall not be operated directly on the geogrid.

### FENCE

Any fence posts shall be grouted into Sonotubes or PVC pipe sleeves. The sleeves shall be installed into the backfill during wall construction. The backfill shall be compacted around the sleeves. The geogrid shall be cut around the sleeves as necessary. Protective fencing and/or guard rails shall be installed along the top of the wall at locations where the wall heights exceed 5' above final grades. The type of fence selected shall adhere to all applicable public safety standards and requirements.

### SCOPE OF THIS RETAINING WALL DESIGN

The retaining wall design includes a complete analysis of the internal stability of the retaining wall system and an external design analysis of the system's resistance to sliding and overturning in accordance with the NCMA and/or AASHTO Section 5 guidelines. The global stability of the entire site, as well as at the retaining wall location, is outside the scope of the retaining wall design.

The erosion protection of the soil at the face of the wall and at the top of the wall is beyond the scope of this design. Design of pipes, manholes, light standards, signs, guard rails, fences, curbs, and other materials around the retaining wall are beyond the scope of this design.

The contractor is strictly responsible for the construction means, methods, techniques, sequences or procedures, and the safety precautions and programs connected with the work. The wall contractor should have documented experience constructing reinforced segmental block wall systems similar to what is shown here. At the owners request, wall contractor shall submit documentation and references demonstrating such experience.

### PROTECTION OF WORK

The surface of the wall backfill shall be graded at the end of each day of work to provide positive surface drainage away from the wall. Grading shall include proper contouring of soils in adjacent areas to prevent the flow of surface water into the reinforced earth zone and to prevent the flow of surface water along the front face of the wall.

The design of the walls is based on conditions and loads imposed on the wall at completion of the project. Prior to project completion, the wall is vulnerable to damages caused by construction activity adjacent to the wall. Only equipment with a weight not exceeding one ton can be used in the 3 foot zone directly behind the back of the wall face. Prior to the wall construction exceeding 5' in height, the soil at the face of the wall shall be placed and compacted to the final grades. There shall be a minimum 2' wide flat area at the face of the wall graded to drain away from the wall.

No changes shall be made to these plans without the written approval of the Design Engineer (Brian Edwards, P.E. – (307) 587-6281)

### SPECIAL NOTES

*1) THIS PROJECT INVOLVES CONSTRUCTION OF REINFORCED SEGMENTAL BLOCK WALL SYSTEM(S) INVOLVING CONCRETE MASONRY UNITS (CMU). WHEN PROPERLY DESIGNED AND CONSTRUCTED THESE SYSTEMS ARE STRUCTURALLY STABLE WHEN CONSIDERING THE GIVEN LOADING CONDITIONS. IMPROPER MATERIAL SELECTION AND/OR CONSTRUCTION METHODS CAN HINDER THE PERFORMANCE OF THE WALL AND COULD POTENTIALLY COMPROMISE THE STRUCTURAL INTEGRITY OF THE WALL SYSTEM. THE PROJECT ENGINEER SHALL BE NOTIFIED REGARDING ANY CHANGES OR DEVIATIONS FROM THE PLANS/SPECIFICATIONS CONTAINED HEREIN.*

*2) THE WALL SYSTEM(S) SHOWN ON THE ENCLOSED PLANS HAVE BEEN DESIGNED USING ROCKWOOD MATERIALS AND PRODUCTS. SUBSTITUTIONS ARE NOT PERMITTED OR AUTHORIZED.*

*3) CONSTRUCTION OF THE RETAINING WALLS AND ASSOCIATED IMPROVEMENTS FOR THE REFERENCED PROJECT REQUIRES SPECIALIZED TRAINING, QUALIFICATIONS, AND EXPERTISE. SPECIFICALLY, THE WALL INSTALLER SHALL BE CERTIFIED BY THE NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA) OR SHALL HAVE DOCUMENTABLE EXPERIENCE CONSTRUCTING SEGMENTAL BLOCK WALL SYSTEMS SIMILAR TO THE PROJECT DESCRIBED HEREIN.*

*4) PLEASE CONTACT THE DESIGN ENGINEER AT THE FOLLOWING ADDRESS WITH ANY QUESTIONS, PROBLEMS, OR CONCERNS.*


*HOLM, BLOUGH AND COMPANY*
*ATTN: BRIAN EDWARDS, P.E. – PROJECT ENGINEER*
*1402 STAMPEDE AVENUE*
*CODY, WY 82414 (307) 587-6281*
*FAX: (307) 587-6282*
*bedwards@e-engr.com www.hbco.us*


THE CITY OF EL PASO TEXAS

THE CITY OF EL PASO TEXAS

Final Approval


HOLM, BLOUGH AND COMPANY
CONSULTING ENGINEERS AND LAND SURVEYORS
1402 Stampede Avenue
Cody, WY 82414
(307) 587-6281
Fax: (307) 587-6282
www.hbco.us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STATE OF TEXAS BRIAN L. EDWARDS 85858 LICENSED PROFESSIONAL ENGINEER

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| DRAWN BY: | SMM |
| DESIGNED BY: | BLEDWARDS |
| APPROV. BY: | BLEDWARDS |
| SCALE: | AS SHOWN |
| DATE: | 3/14/2013 |
| JOB NO. | 13014 |

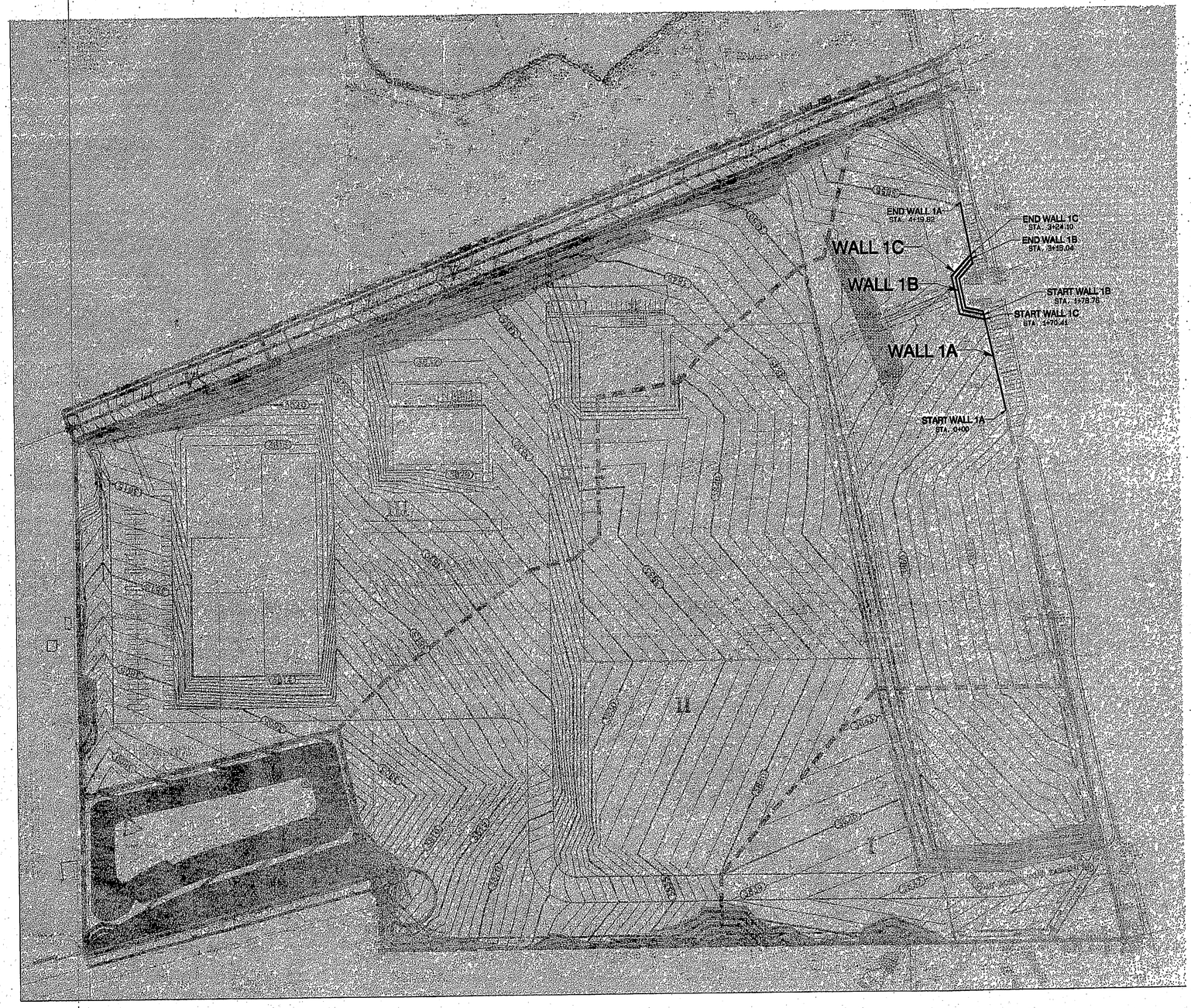
INDEX AND GENERAL NOTES

SEGMENTAL BLOCK WALL DESIGN
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO TEXAS

SHEET

INDEX

SBW-91

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CONSULTING ENGINEERS AND LAND SURVEYORS
1402 Stampede Avenue
Cody, WY 82414
(307) 587-6281
Fax: (307) 587-6282
www.hbco.us


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| DESIGNED BY: | B. EDWARDS |
| APPROV. BY: | B. EDWARDS |
| SCALE: | AS SHOWN |
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| JOB NO. | 13-014 |

STATE OF TEXAS
BRIAN C. EDWARDS
85868
LICENSED PROFESSIONAL ENGINEER

PLAN VIEW - SEGMENTAL BLOCK WALL LOCATIONS

**SEGMENTAL BLOCK WALL DESIGN**
**WEST DESERT MARKETPLACE**
SUBDIVISION IMPROVEMENT PLANS
EL PASO TEXAS

SHEET

*PLAN*

SBW-92

THE CITY OF EL PASO TEXAS

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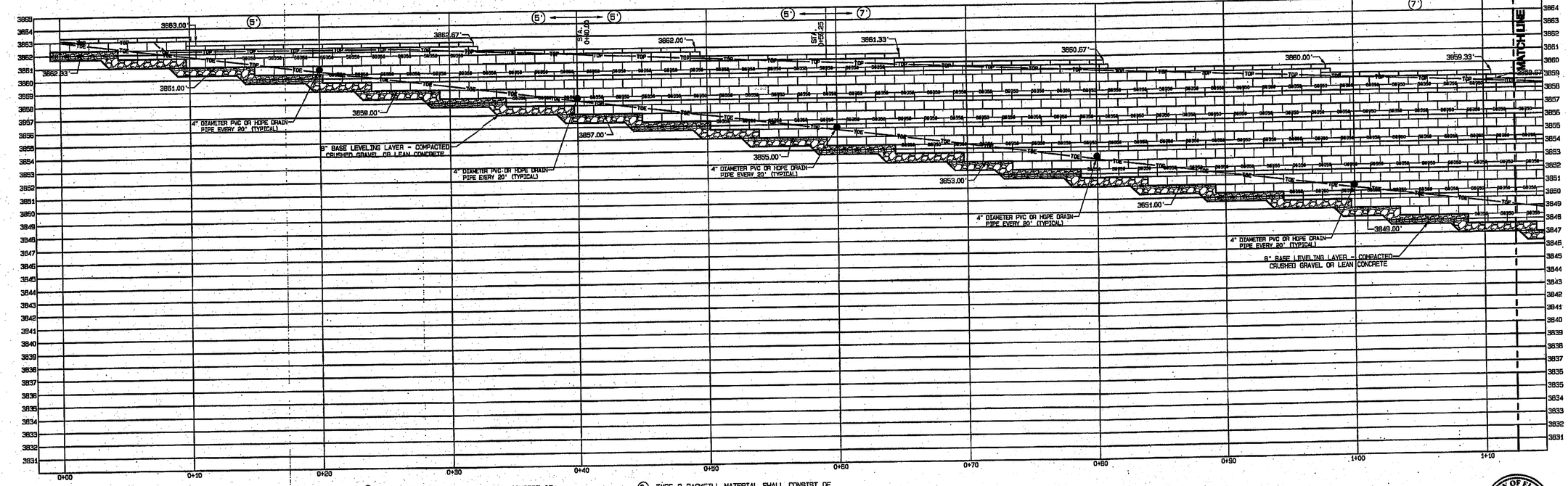



NOTES:

1. TYPE 1 BACKFILL MATERIAL SHALL CONSIST OF SUITABLE SOIL FROM ON-SITE OR AN APPROVED OFF-SITE BORROW SOURCE. SUITABLE TYPE 1 MATERIAL SHALL BE FREE OF DEBRIS, NON ORGANIC IN NATURE AND SHALL MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422.

| SIEVE SIZE | % PASSING |
|---|---|
| 2 INCH | 100% |
| 3/4 INCH | 75-100% |
| #200 | 0-35% |

TYPE 1 MATERIAL SHALL HAVE A MAXIMUM PLASTICITY INDEX (PI) OF 20.

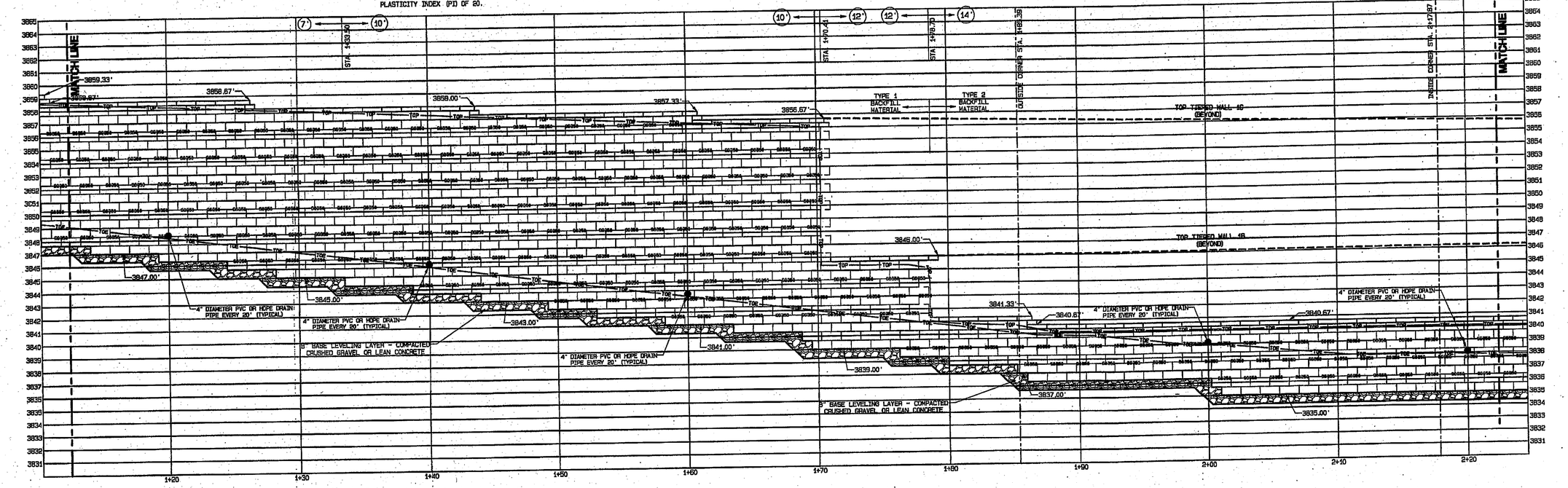
2. TYPE 2 BACKFILL MATERIAL SHALL CONSIST OF CLEAN, WASHED GRAVEL WITH A MAXIMUM SIZE OF 2 INCHES. THE PERCENTAGE PASSING THE #200 SIEVE SHALL BE LESS THAN 5%.

—50350—50350—50350—50350— STRATAGRID GEOGRID SG350

● 4" DIAMETER DRAINAGE ZONE DISCHARGE PIPE

(5') GEOGRID REINFORCEMENT ZONE LENGTH AS MEASURED FROM FACE OF WALL

Final Approval

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CONSULTING ENGINEERS AND LAND SURVEYORS
1402 Stampede Avenue
Cody, WY 82414
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Fax: (307) 587-6282
www.hbco.us

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STATE OF TEXAS
BRIAN D. EDWARDS
85858
LICENSED PROFESSIONAL ENGINEER
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PROFILE - WALL 1A

SEGMENTAL BLOCK WALL DESIGN
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO TEXAS

SHEET

PROFILE

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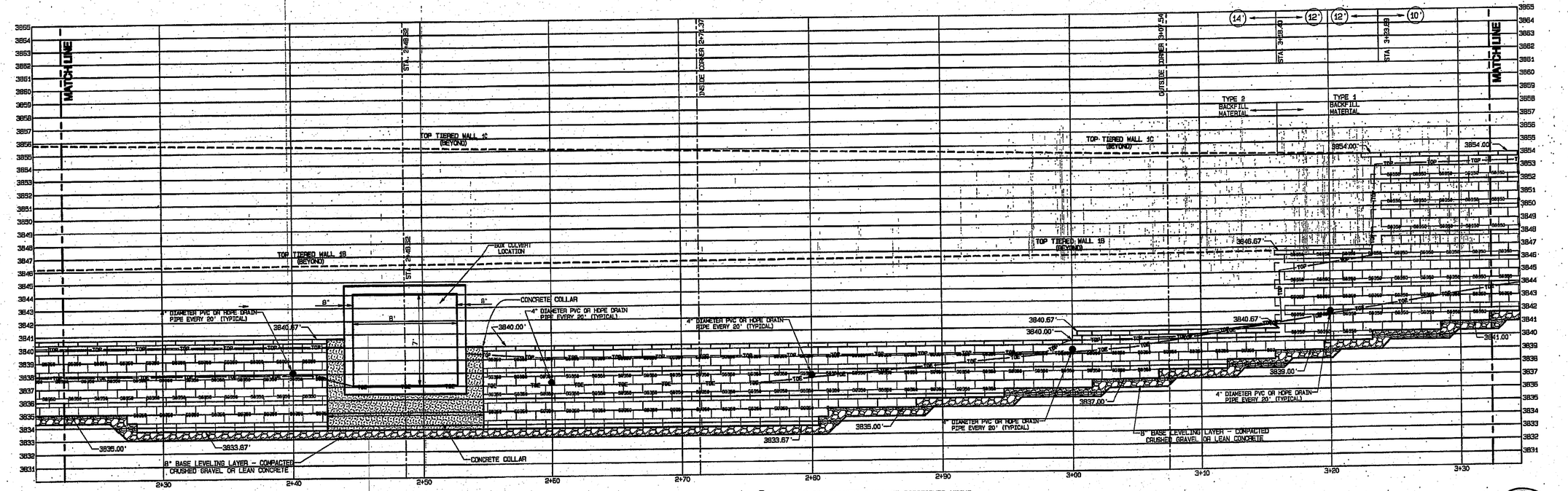


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CULVERT NOTES:

1. CONCRETE BOX CULVERT SHALL BE POSITIONED USING A REINFORCED CONCRETE COLLAR AS SHOWN.
2. SEGMENTAL BLOCK WALL SHALL ADJOIN CONCRETE COLLAR SO THAT ANY SETTLING OR PERPENDICULAR MOVEMENT OF THE CULVERT WILL NOT IMPACT THE STRUCTURAL INTEGRITY OF THE WALL.
3. BLOCKS MAY BE CUT AS NEEDED AT THE FACE OF THE EDGE OF THE COLLAR.

—SG350— —SG350— —SG350— —SG350— STRATAGRID GEOGRID SG350

● 4" DIAMETER DRAINAGE ZONE DISCHARGE PIPE

(5') GEOGRID REINFORCEMENT ZONE LENGTH AS MEASURED FROM FACE OF WALL

THE CITY OF EL PASO TEXAS
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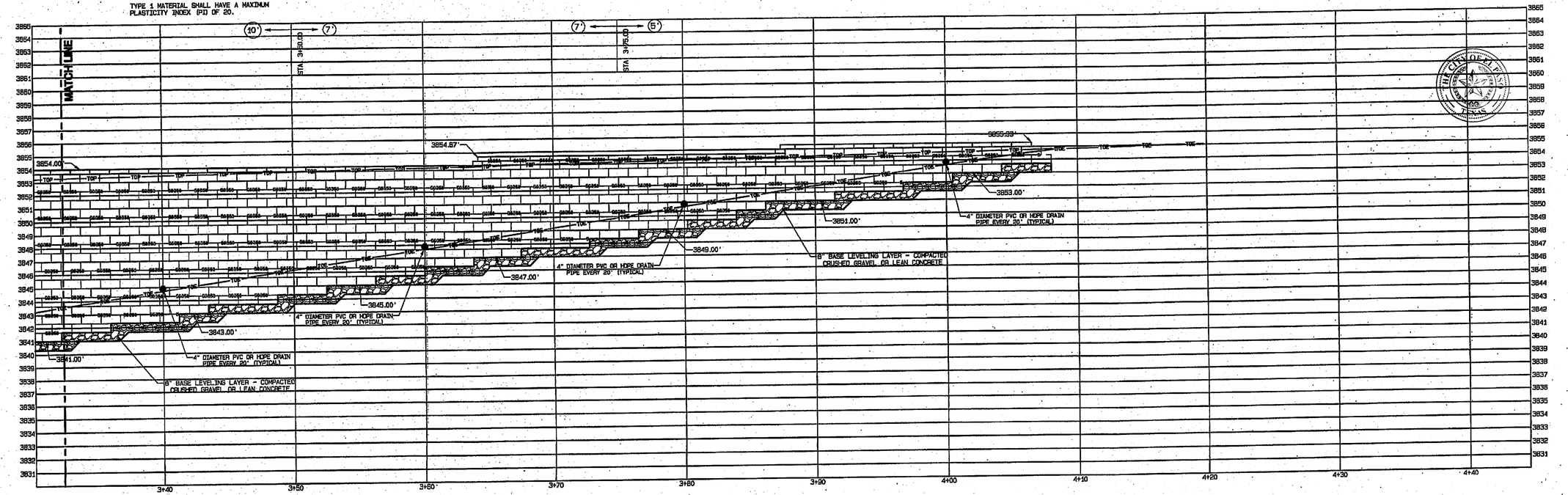


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CONSULTING ENGINEERS AND LAND SURVEYORS
1402 Stampede Avenue
Cody, WY 82414
(307) 587-6281
Fax: (307) 587-6282
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DESIGNED BY: B. EDWARDS
APPROVED BY: B. EDWARDS
SCALE: AS SHOWN
DATE: 3/14/2013
JOB NO. 13-014

PROFILE - WALL 1A

SEGMENTAL BLOCK WALL DESIGN
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO TEXAS

SHEET

PROFILE

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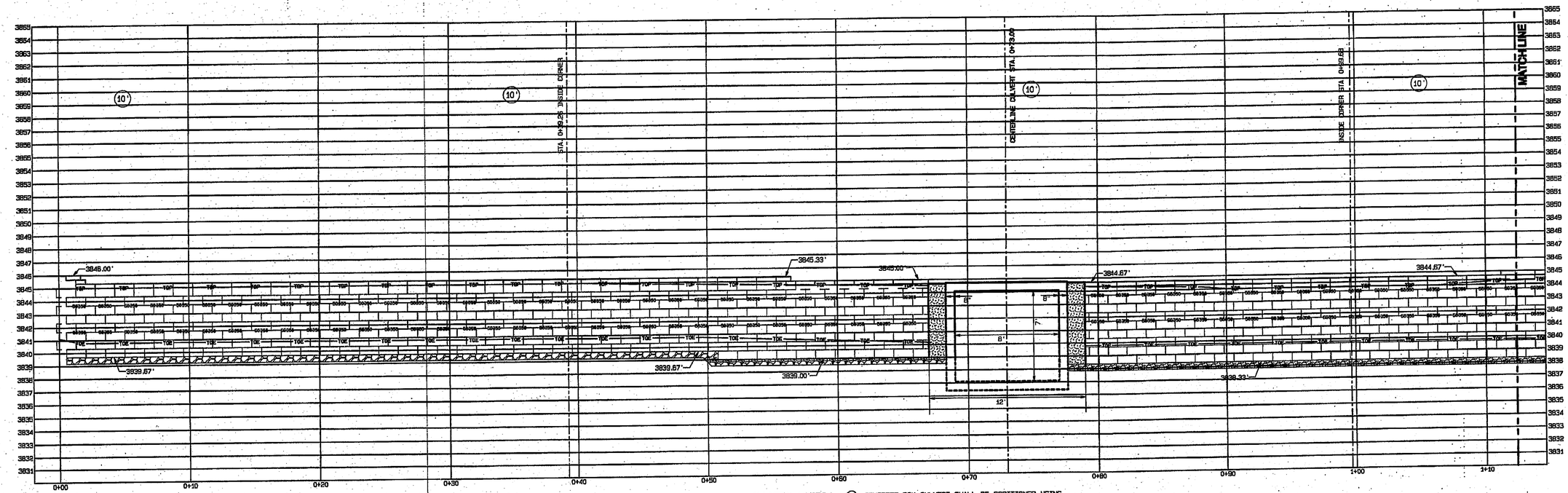


NOTES:

1. TYPE 1 BACKFILL MATERIAL SHALL CONSIST OF SUITABLE SOIL FROM ON-SITE OR AN APPROVED OFF-SITE BORROW SOURCE. SUITABLE TYPE 1 MATERIAL SHALL BE FREE OF DEBRIS, NON ORGANIC IN NATURE AND SHALL MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422.

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| 3/4 INCH | 75-100% |
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TYPE 1 MATERIAL SHALL HAVE A MAXIMUM PLASTICITY INDEX (PI) OF 20.

2. TYPE 2 BACKFILL MATERIAL SHALL CONSIST OF CLEAN, WASHED GRAVEL WITH A MAXIMUM SIZE OF 2 INCHES. THE PERCENTAGE PASSING THE #200 SIEVE SHALL BE LESS THAN 5%.
3. TYPE 2 BACKFILL MATERIAL SHALL BE USED FOR WALL 1B (MIDDLE TIER).
4. TYPE 1 BACKFILL MATERIAL SHALL BE USED FOR WALL 1C (TOP TIER).

CULVERT NOTES:

1. CONCRETE BOX CULVERT SHALL BE POSITIONED USING A REINFORCED CONCRETE COLLAR AS SHOWN.
2. SEGMENTAL BLOCK WALL SHALL ADJOIN CONCRETE COLLAR SO THAT ANY SETTLING OR PERPENDICULAR MOVEMENT OF THE CULVERT WILL NOT IMPACT THE STRUCTURAL INTEGRITY OF THE WALL.
3. BLOCKS MAY BE CUT AS NEEDED AT THE FACE OF THE EDGE OF THE COLLAR.

—SG350—SG350—SG350—SG350— STRATAGRID GEOGRID SG350

● 4" DIAMETER DRAINAGE ZONE DISCHARGE PIPE

(5') GEOGRID REINFORCEMENT ZONE LENGTH AS MEASURED FROM FACE OF WALL

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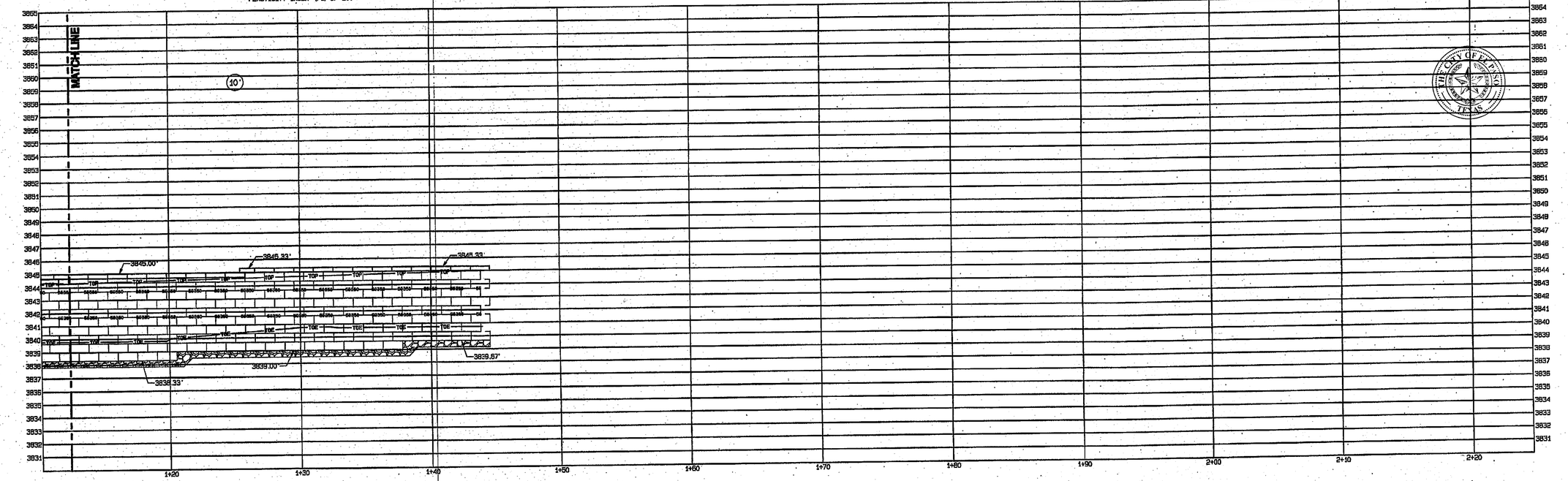



HOLM, BLOUGH AND COMPANY
CONSULTING ENGINEERS AND LAND SURVEYORS
1402 Stampede Avenue
Cody, WY 82414
(307) 587-6581
Fax: (307) 587-6582
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| APPROVED BY: | B. EDWARDS |
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PROFILE - 1B

SEGMENTAL BLOCK WALL DESIGN
WEST DESERT MARKETPLACE
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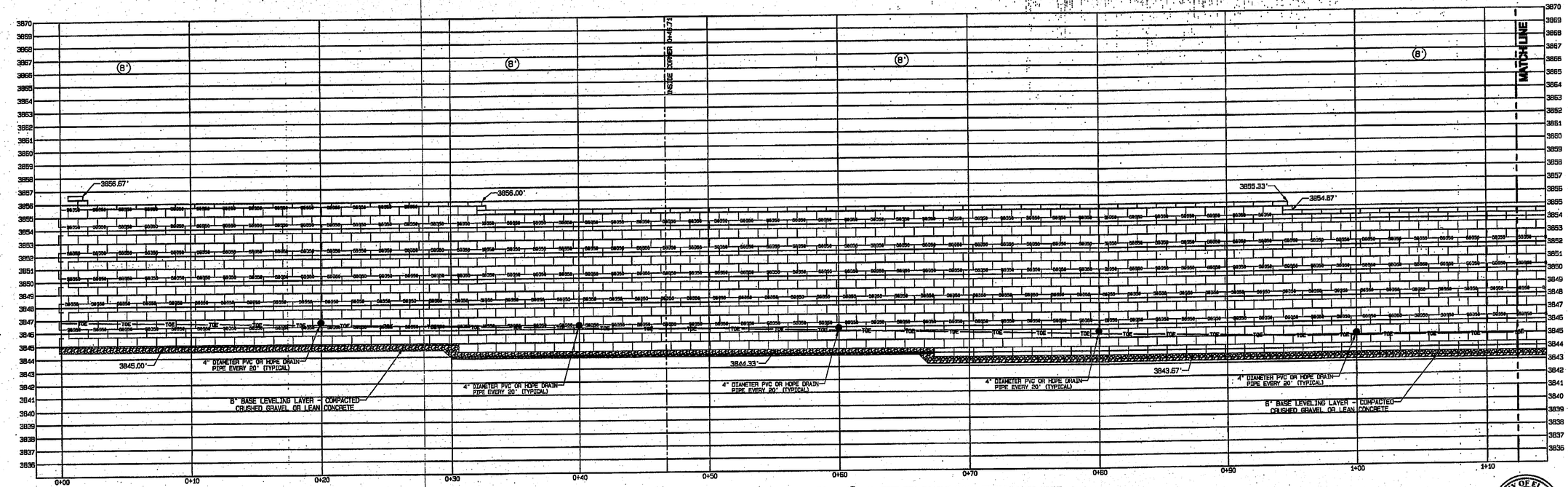


NOTES:

1. TYPE 1 BACKFILL: MATERIAL SHALL CONSIST OF SUITABLE SOIL FROM ON-SITE OR AN APPROVED OFF-SITE BORROW SOURCE. SUITABLE TYPE 1 MATERIAL SHALL BE FREE OF DEBRIS, NON ORGANIC IN NATURE AND SHALL MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422.

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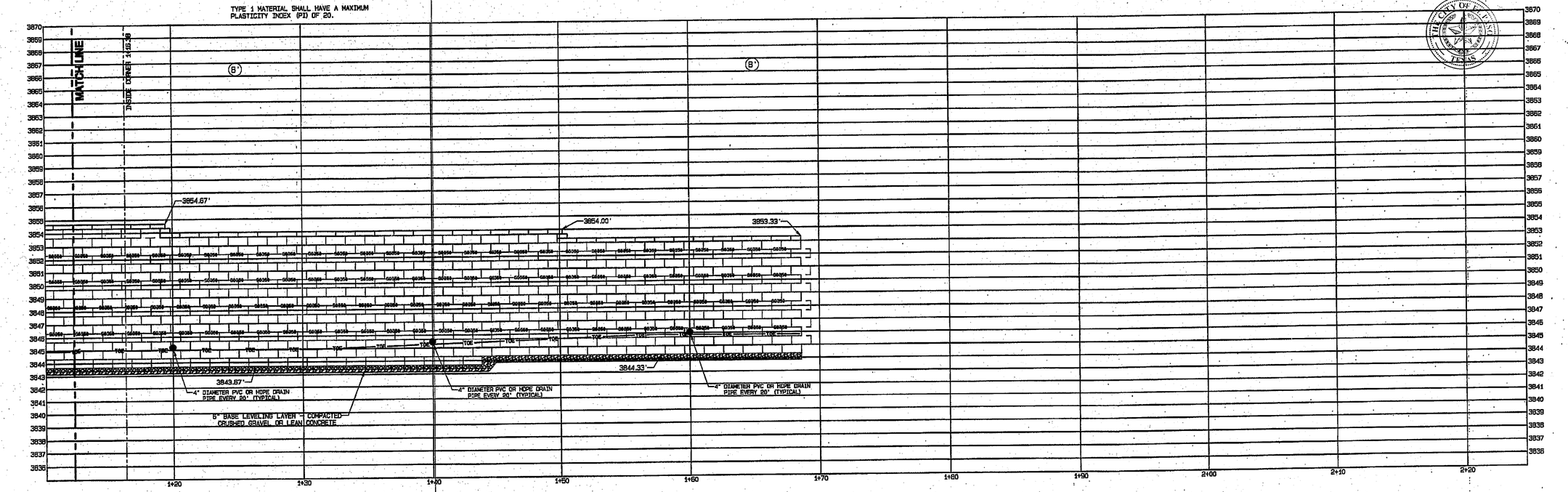
—SG350— STRATAGRID GEOGRID SG350

● 4" DIAMETER DRAINAGE ZONE DISCHARGE PIPE

(5') GEOGRID REINFORCEMENT ZONE LENGTH AS MEASURED FROM FACE OF WALL

THE CITY OF EL PASO TEXAS
Final Approval

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DESIGNED BY: EL EDWARDS
APPROVED BY: EL EDWARDS
SCALE: AS SHOWN
DATE: 3/14/2013
JOB NO.: 13-014

LICENSED PROFESSIONAL ENGINEER
GRANT EDWARDS
85858
STATE OF TEXAS

PROFILE - WALL 1C

SEGMENTAL BLOCK WALL DESIGN
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO TEXAS

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PROFILE

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**SECTION 02832**
**CONCRETE SEGMENTAL RETAINING WALL SYSTEM**

## PART 1.: GENERAL

### 1.01 Work Included

A. This work shall consist of furnishing and installing a Rockwood Segmental Retaining Wall System (or approved equivalent) in accordance with these specifications and in reasonably close conformity to the lines, grades, and dimensions shown on the plans. Wall installer shall also refer to the general site work construction drawings and technical specifications for related elements.

### 1.02 Related Sections

B. Control of Work - Section 01051
C. Control of Water - Section 01563
D. Earthwork - Section 02200.

### 1.03 REFERENCES

E. Concrete Units - American Society for Testing and Materials (ASTM)
1. ASTM C-1372 Specification for Segmental Retaining Wall Units
2. ASTM C 1262 Freeze-Thaw Durability of Concrete Masonry Units
3. ASTM D-422 Particle Size Analysis
4. ASTM D-698 Laboratory Compaction Characteristics of Soil -Standard Effort
5. ASTM D-4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils

F. Drainage Pipe
6. ASTM D-3034 Specifications for Polyvinyl Chloride Pipe (PVC)
7. ASTM D-1248 Specifications for Corrugated Plastic Pipe
8. ASTM 448-98 Standard Classification for Sizes of Aggregate for Road and Bridge Construction

G. Geogrid Reinforcements - Geosynthetic Research Institute (GRI)
9. GG1-87Test Method for Geogrid Rib Tensile Strength
10. GG2-87Test Method for Geogrid Junction Strength
11. GG3-91Test Method for Tension Creep of Geogrids
12. GG4-91Determination of Long Tern Design Strength of Geogrids
13. GG5-91Determination of Geogrid (soil) Pullout
14. ASTM D-4595 Tensile Properties of Geotextiles - Wide Width Strip
15. ASTM D-5262 Unconfined Tension Creep Behavior of Geosynthetics

H. Engineering Design - National Concrete Masonry Association (NCMA)
16. NCMA - Design Manual for Segmental Retaining Walls - Second Edition
17. NCMA SRWU-1 Test Method for Determining Connection Strength of SRW
18. NCMA SRWU-2 Test Method for Determining Shear Strength of SRW

I. Soils
19. ASTM D-698 Laboratory Compaction Characteristics of Soil -Standard Effort
20. ASTM D-4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils
21. ASTM D-422 Gradation of Soils
22. ASTM D-424 Atterberg Limits of Soils
23. ASTM D-G51 Soil pH

### 1.04 Submittals/Certification

J. Prior to the start of work, the Contractor shall submit a Manufacturer's certification, indicating that the retaining wall materials meet the requirements of this specification.

K. Before beginning construction, the Contractor shall submit the construction drawings for the retaining wall system prepared by a Professional Engineer registered in the state of the project. The engineering design will be per NCMA Design Guidelines For Segmental Retaining Walls, or the AASHTO Standard Specification (Latest Additions). These drawings satisfy this requirement.

L. The Contractor, Manufacturer or Installer shall furnish one (1) segmental unit in the color and face pattern specified for the project to the project manager when requested.

M. The Installer shall be certified by the NCMA or shall have documentable experience constructing reinforced segmental block wall systems. These credentials are important and necessary to insure that the wall systems are constructed properly so as to function in accordance with the intended design.

### 1.05 Delivery, Storage and Handling

N. The Contractor shall check all materials upon delivery to assure that they are the proper type, color, and that all certifications have been received.

O. The Contractor shall protect all stored materials from damage. Damaged materials will not be incorporated into the work and will be disposed of or removed from the job site as soon as possible.

P. The faces of the concrete wall units will be free of excessive chips and cracks and will not have stains that discolor the faces. The Contractor and /or Installer shall prevent excessive mud, adhesives, moisture, and etc. that could come in contact with the retaining wall materials and cause discoloration or damage.

## PART 2.:PRODUCTS

### 2.01 Definitions

Q. Modular Unit - a concrete retaining wall unit, as manufactured by a licensed Omega Retaining Wall producer (or equivalent manufacturer, machined from portland cement, water, and aggregates.

R. Geogrid - Polyester fiber, polyethylene expanded , or a polypropylene woven material used as a soil reinforcement component and is used in conjunction with the Modular Units. The Geogrid is a structural component formed by a network of connected elements capable of producing tested tensile strengths and must also contain apertures of sufficient size to allow interaction with the geology.

S. Unit Drainage / Unit Fill - aggregate which is placed within and immediately behind the modular concrete units. The aggregate will be crushed, free draining stone.

T. Backfill - the compacted soil that is placed within the reinforced soil zone of the retaining wall. The soil will be non-organic in composition and contain the moisture necessary for proper compaction to the densities required in the plans.

### 2.02 Modular Concrete Retaining Wall Units

U. The Modular concrete units will conform to the following aesthetic requirements:
24.color - color should be specified by the Owner.
25.face surface - fractured rock face with a non conforming, two angled split or flush split.
26.bond - running with bond is a term used to describe the alignment of the set courses of block. A wall conforming to true bond has successive vertical units staggered midpoint to endpoint evenly up the face of the wall.

V. Modular concrete retaining wall units shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
Portland Cement - ASTM C 150

W. Modular concrete retaining wall units shall conform to the structural and unit measurement tolerances in accordance with the Rockwood specifications (or approved equal).

X. Cap units will be attached using an adhesive meeting the manufacturers specifications.

### 2.03 Base Leveling Pad Material

A. The base pad material will consist of compacted crushed gravel at least 6" thick by at least 18 inches wide. Concrete may be used as an alternate base course with the same minimum dimensions Note that Wall 1A requires an 8" thick crushed gravel leveling layer. Walls 1B, and 1C can be constructed with a 6" thick compacted crushed gravel base..

### 2.04 Unit Drainage / Unit Fill

B. Unit drainage and unit fill shall consist of clean, well draining, 1" minus crushed stone or gravel. The sieve analysis will be in accordance with ASTM D-422. The tested gradation should be as follows:

| Sieve Size | Percent Passing |
|---|---|
| 1 inch | 100 |
| 3/4 inch | 75-100 |
| No. 4 | 0 - 10 |
| No. 50 | 0 |

C. The unit fill must be placed behind and completely fill the core areas within and around the retaining wall units. The unit drainage fill must be placed at a minimum of 6", total depth, directly behind the wall units during construction.

### 2.05 Backfill

D. The backfill, which will be compacted on top of and around the geogrid reinforcement shall be free of debris, non-organic in nature and shall consist of gravelly clay, clay gravel, or sandy clay compacted to at least 95% of the soil maximum dry density based on a standard proctor. The material used shall have a PI<20 and shall have no more than 35% fines (passing # 200 sieve).

### 2.06 Geogrid Soil Reinforcement

E. Geosynthetic reinforcement will be manufactured specifically for soil reinforcement applications and will be manufactured from high tenacity geogrid or geotextile.
F. The geosynthetic reinforcement used in the Modular Retaining Wall will have been tested in accordance with Part 1.03C and also have test data available for the design with segmental block retaining wall systems.

### 2.07 Drainage Pipe

G. The drainage collection pipe shall be perforated or slotted PVC or approved equal. The pipe and surrounding drainage aggregate may be wrapped with a geotextile fabric to aid in filtration.

## PART 3.:EXECUTION

### 3.01 Examination

H. The area and conditions where the retaining wall is to be constructed shall be examined and documented. The documentation needs to be forwarded to the design engineer for his/her review and records. If conditions exist that seem detrimental or hazardous to the construction, design or lifetime performance of the retaining wall before or after the initial documentation, the design engineer should be notified.

### 3.02 Excavation

I. The Installer shall excavate to the lines and grades shown on the approved construction drawings submitted by the design engineer. Any over excavation that is not approved by the wall engineer, owner or the owner's representative will not be paid for. Soils are not to be disturbed beyond the designed grade lines and the stability of adjacent properties and structures is the responsibility of the wall installer.

### 3.03 Base Leveling Pad

J. The Base Leveling pad material shall be placed to the lines and grades shown on the construction drawings. The leveling pad is to be constructed using a crushed gravel base or lean concrete footing that is at least 6 inches thick (8" for Wall 1B) and 18 inches wide.

K. The Base Leveling Pad shall be constructed on undisturbed or properly prepared, per ASTM D-698, foundation soils. The leveling pad shall be constructed in a manner that allows full contact of wall units with foundation, do not rock back and forth, and also must allow the wall units to remain in contact horizontally without gapping.

L. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

### 3.04 Modular Unit Installation

A. Wall units are placed directly on the leveling pad. Sand can be used for final leveling at a maximum depth of 1/16 of an inch. Block alignment and levels, parallel and perpendicular to the wall face, should be checked to ensure that all units are in full contact with the leveling pad and completely level. Wall units must also be inline horizontally, or side to side, with adjacent units.

B. As the wall is being constructed the drainage fill is placed within and behind wall units during each coarse placement. Place backfill soils behind drainage fill carefully and in a maximum of 8" lifts for proper compaction.

C. For curves and corner applications, please consult the manufactures specifications.

### 3.05 Geogrid Soil Reinforcement and Backfill

D. The geogrid reinforcement will be placed at elevations and depths shown on the construction drawing given by the design engineer. Care should be taken that the geogrid reinforcement is placed correctly, with the strength direction of the reinforcement is perpendicular to the retaining wall.

E. The geogrid reinforcement is installed horizontally on the compacted backfill and placed fully to the front of the retaining wall units. The next course of retaining wall blocks are put in place next, binding the geogrid reinforcement between the lower and just installed wall units. The geogrid reinforcement will then be pulled taunt, and staked at the end furthest away from the wall face prior to further backfill placement. Care needs to be taken that the stakes or the tension applied does not adversely affect the installed condition of the geogrid reinforcement.

F. The geogrid reinforcement sheets will be continuous horizontally, side-by-side, to provide total coverage on each installed course. Each sheet of installed geogrid reinforcement will be continuous. Splicing shorter pieces to make longer ones during construction is not permitted.

G. The backfill soils will be placed, spread, and compacted in a manner that minimizes the development of slack and damage in the installed geogrid.

H. The backfill soils will be placed and compacted in 4" lifts when hand compaction is being used or 8" when mechanized compaction equipment is used. Only plate compactors or light wheeled compactors are allowed within the reinforcement zone of the retaining wall so to minimize the possibility of geogrid reinforcement damage. Care should also be taken that the compaction equipment should not come too close to the wall units themselves. Please consult the engineering installation package included with the construction drawings for limitations.

I. The backfill will be compacted to 95% proctor density per ASTM D698 if not already specified by the design engineer.

### 3.06 Cap Installation

J. Cap units shall be adhered to underlying units with all-weather adhesive recommended by the manufacturer. Caps may need to be cut for proper side-by-side alignment.

K. For a proper finish, the finished grade should come to the of the bottom of the cap units.

L. Cap adhesives shall be used with caution and in accordance with the manufacture's instructions.

### 3.07 Field Quality Control

M. The Owner or General Contractor should inspect or enlist the assistance of a qualified third party to provide quality assurance, testing services during construction and/or a final inspection for the retaining wall project. The presents of this third party does not alleviate the Installer from fault.

N. As a minimum, compaction testing should be done on the base leveling pad and spot testing on the reinforcement soils with construction quality verification to ensure the wall is being constructed within the design parameters given within the engineered drawings and Rockwood's specifications.

THE CITY OF EL PASO TEXAS

Final Approval

| REV. | DATE | BY | DESCRIPTION |
|---|---|---|---|
| | | | |

HOLM, BLOUGH AND COMPANY
CONSULTING ENGINEERS AND LAND SURVEYORS
1402 Stampede Avenue
Cody, WY 82414
(307) 587-6281
Fax: (307) 587-6282

STATE OF TEXAS
BRIAN O. EDWARDS
85858
LICENSED PROFESSIONAL ENGINEER

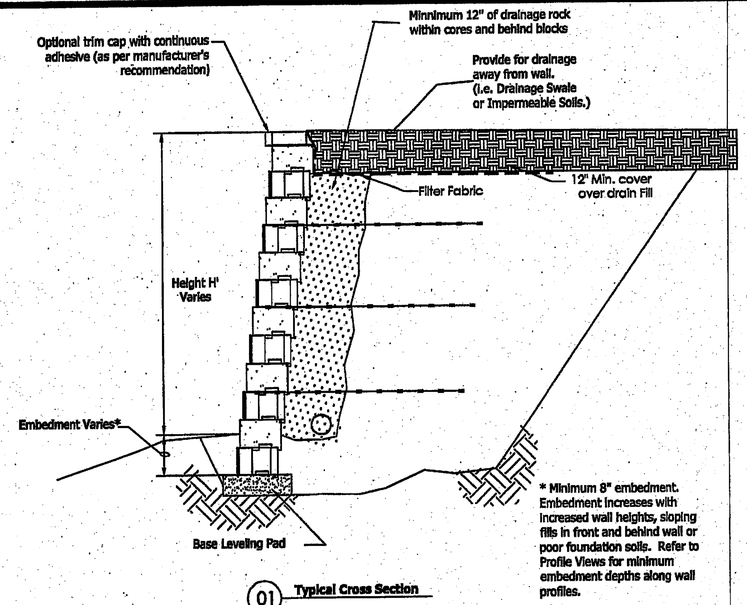
| | |
|---|---|
| DRAWN BY: | B. Edwards |
| DESIGNED BY: | Brian Edwards |
| APPVD. BY: | |
| SCALE: | N.T.S. |
| DATE: | 03/13/13 |
| JOB NO. | HBCD 10-548 TCEP-0002 13-01 |

SPECIFICATIONS - SEGMENTAL BLOCK WALL

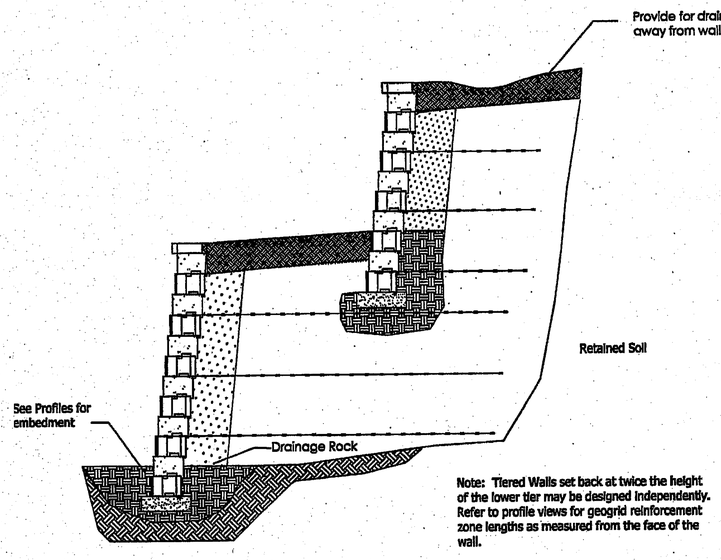
**SEGMENTAL BLOCK WALL DESIGN**
**WEST DESERT MARKETPLACE**
SUBDIVISION IMPROVEMENT PLANS
EL PASO TEXAS

SHEET

SBW-97

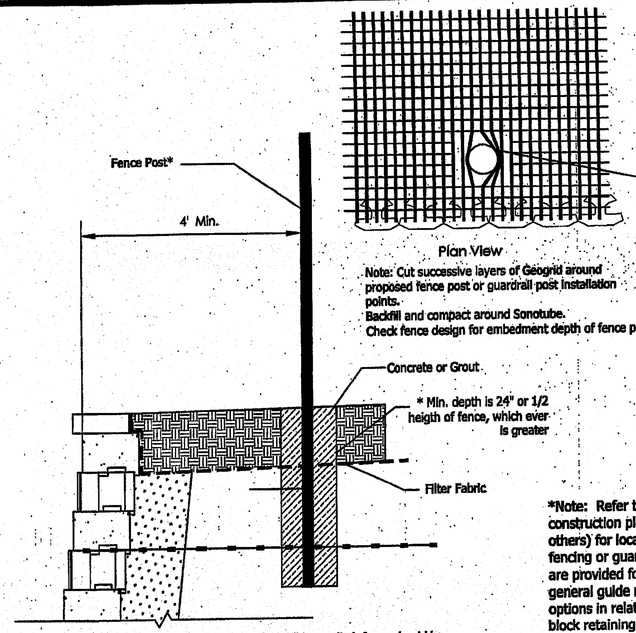



01 **Typical Cross Section**



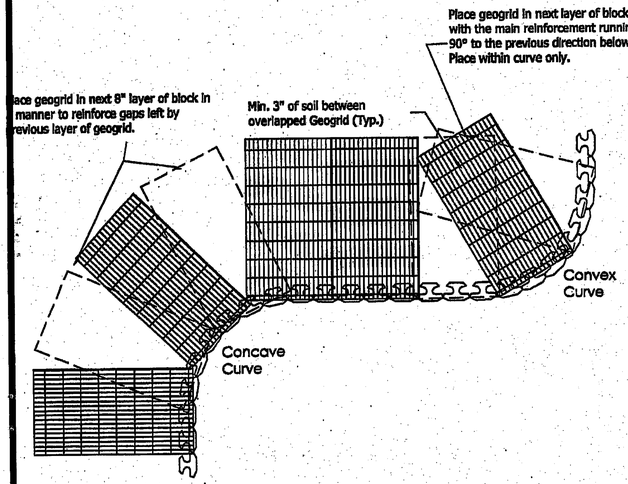

Note: Tiered Walls set back at twice the height of the lower tier may be designed independently. Refer to profile views for geogrid reinforcement zone lengths as measured from the face of the wall.

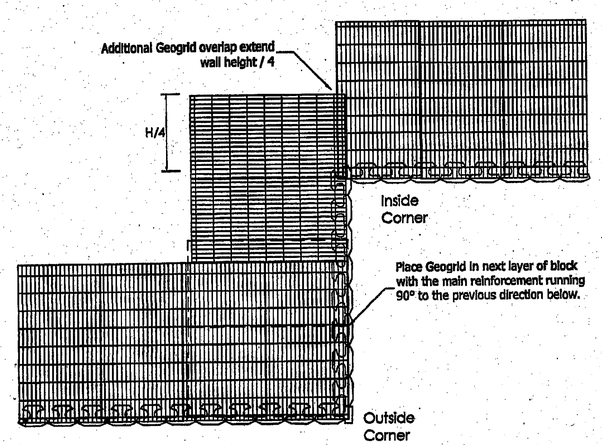
02 **Typical Tiered Wall Section**



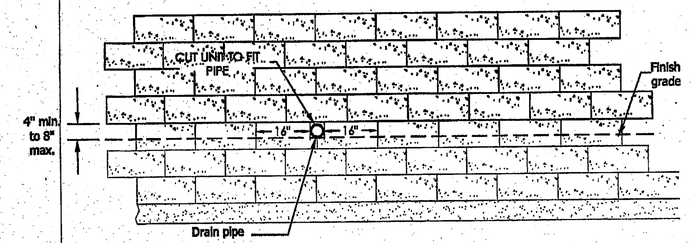

03 **Fence Near Wall**

***Note:** Refer to site work construction plans (prepared by others) for location and type of fencing or guard rail. These details are provided for reference as a general guide regarding fencing options in relation to the segmental block retaining wall system.



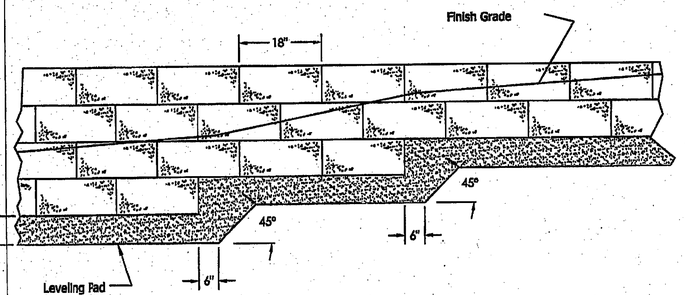




04 **Geogrid Details**

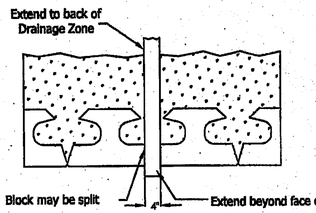


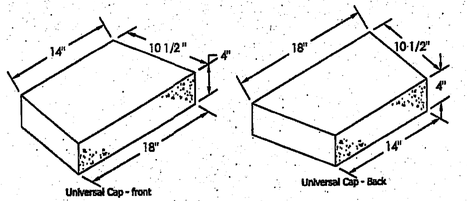

Note: Locate drain tile at lowest elevation above adjacent finish grade.

05 **Drain Tile Outlet Through Wall**

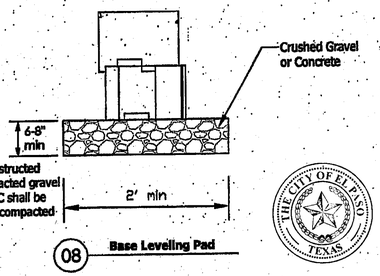



06 **Leveling Pad Step Detail**




07 **Block Dimensions**




08 **Base Leveling Pad**

General Information

Absorption...Meets or exceeds ASTM C90-75 standards

Compressive strength...3000 PSI Approximate minimum (unless otherwise specified)

Composition . . . High strength, high density, "0" slump concrete

Unit Information

Beveled Classic Unit:

8"H X 18"W X 12"D, 78 Lbs. Approx. . . . . 1.00 Sq. Ft. Face
6"H X 18"W X 12"D, 58 Lbs. Approx. . . . . 0.75 Sq. Ft. Face
4"H X 18"W X 12"D, 38 Lbs. Approx. . . . . 0.50 Sq. Ft. Face

Straight Classic Unit:

8"H X 18"W X 12"D, 78 Lbs. Approx. . . . . 1.00 Sq. Ft. Face
6"H X 18"W X 12"D, 58 Lbs. Approx. . . . . 0.75 Sq. Ft. Face
4"H X 18"W X 12"D, 38 Lbs. Approx. . . . . 0.50 Sq. Ft. Face

Universal Cap

4"H X 18"W Front and 4"H X 14"W Back, 54 Lbs. Approx.
0.50 Sq. Ft. Front, 0.39 Sq. Ft.Back
Average running length is 16" (see installation manual)

Face Options

Face Patterns . . . . Beveled Split Face
Straight Split Face
Rustic Split Face

Final Approval

THE CITY OF EL PASO TEXAS

HOLM, BLOUGH AND COMPANY
CONSULTING ENGINEERS AND LAND SURVEYORS
1402 Stampede Avenue
Cody, WY 82414
(307) 587-6281
Fax: (307) 587-6282

| REV. | DATE | BY | DESCRIPTION |
|---|---|---|---|
| | | | |

| | |
|---|---|
| DRAWN BY: | B. Edwards |
| DESIGNED BY: | Brian Edwards |
| APPVD. BY: | |
| SCALE: | N.T.S. |
| DATE: | 02/19/13 |
| JOB NO. | HBCO 10-048 TP-13-022 13-014 |

DETAILS - SEGMENTAL BLOCK WALL

**SEGMENTAL BLOCK WALL DESIGN**
**WEST DESERT MARKETPLACE**
SUBDIVISION IMPROVEMENT PLANS
EL PASO TEXAS

SHEET

**DETAILS**
**SBW-98**

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# PLANTING LEGEND (MESA VISTA)

| TREES | QTY | COMMON NAME / BOTANICAL NAME | SIZE | REMARKS |
|---|---|---|---|---|
| | 11 | TEXAS PISTACHE / Pistacia texensis | 24" BOX, 7'x3' | 7-1 GPH DRIP |
| | 14 | RED PUSH PISTACHE / Pistacia x `Red Push` | 2" CAL x 9' x 3' | 10-1 GPH DRIP |
| | 4 | BRADFORD PEAR / Pyrus calleryana `Bradford` | 2" CAL x 9' x 3' | 10-1 GPH DRIP |
| | 14 | ESCARPMENT LIVE OAK / Quercus fusiformis | 2" CAL x 9' x 3' | 10-1 GPH DRIP |

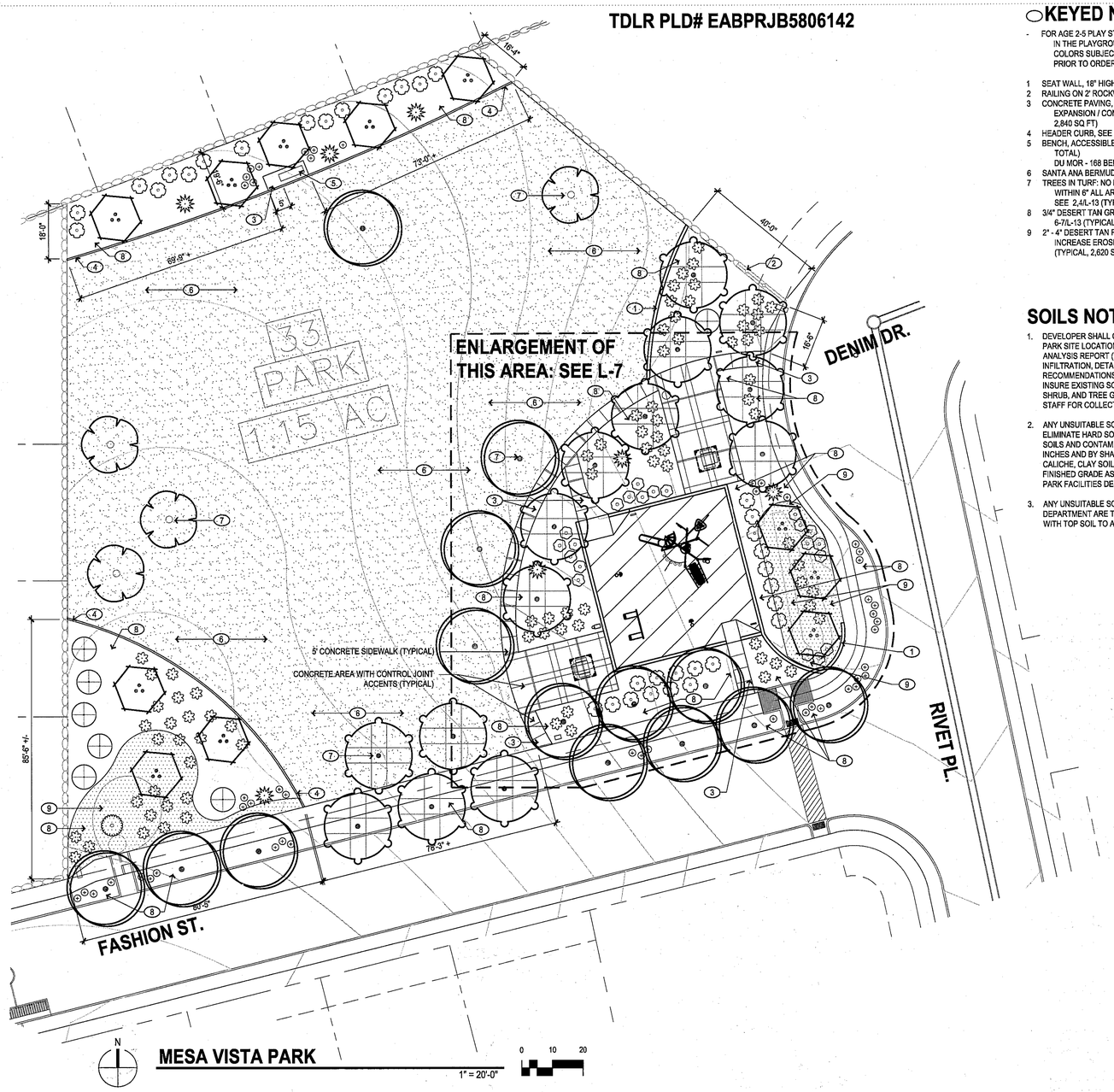
| SHRUBS | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 34 | CIMARRON SAGE / Leucophyllum zygophyllum `Cimarron` TM | 5 GAL, 18"x12" | 60" o.c. | 2-.5 GPH DRIP |
| | 7 | EVERGREEN SUMAC / Rhus virens | 5 GAL, 18"x12" | 96" o.c. | 2-.5 GPH DRIP |
| | 21 | CHAPARRAL SAGE / Salvia clevelandii | 5 GAL, 18"x12" | 48" o.c. | 2-1 GPH DRIP |

| ACCENTS | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 7 | BLUE SOTOL / Dasylirion wheeleri | 5 GAL, 18"x12" | 72" o.c. | 2-.5 GPH DRIP |

| GRASSES | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 83 | BULLGRASS / Muhlenbergia emersleyi `El Toro` | 5 GAL, 18"x12" | 48" o.c. | 2-1 GPH DRIP |
| | 1 | GIANT SACATON / Sporobolus wrightii | 5 GAL, 18"x12" | 84" o.c. | 2-1 GPH DRIP |

| GROUNDCOVERS | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 48 | TEXAS LANTANA / Lantana horrida | 1 GAL, 12"x6" | 27" o.c. | 1-1 GPH DRIP |

## TDLR PLD# EABPRJB5806142




N

**MESA VISTA PARK**

1" = 20'-0"

0 10 20

## KEYED NOTES (MESA VISTA PARK)

- FOR AGE 2-5 PLAY STRUCTURES AND SITE, LANDSCAPE AMENITIES IN THE PLAYGROUND AREA, SEE L-7. ALL FINAL FINISHES AND COLORS SUBJECT TO THE APPROVAL OF THE PARKS DEPT, PRIOR TO ORDERING (TYPICAL)

1 SEAT WALL, 18" HIGH x 12" DEPTH, SEE 1/L-9 (TYPICAL, 55 LIN FT)
2 RAILING ON 2' ROCKWALL SEE 3/L-9 (TYPICAL, 20 LIN FT)
3 CONCRETE PAVING, PLAIN GRAY COLOR, MEDIUM BROOM FINISH, EXPANSION / CONTROL JOINTS AS PER PLAN, SEE 4/L-9 (TYPICAL, 2,840 SQ FT)
4 HEADER CURB, SEE 5/L-9 (TYPICAL, 260 LIN FT)
5 BENCH, ACCESSIBLE ON 14'-6" X 5' CONCRETE PAD, SEE 2/L-10 (1 TOTAL)
DU MOR - 168 BENCH, 8', GRAY
6 SANTA ANA BERMUDAGRASS TURF, SODDED (TYPICAL, 30,925 SQ FT)
7 TREES IN TURF: NO MULCH AT TRUNK, TURF SHALL BE CUT CLOSELY WITHIN 6" ALL AROUND THE TRUNK, AND INSTALL A TREE GUARD, SEE 2,4/L-13 (TYPICAL EACH TREE)
8 3/4" DESERT TAN GRAVEL MULCH, 3" DEPTH, WEED FABRIC, SEE 6-7/L-13 (TYPICAL, 12,500 SQ FT)
9 2' - 4" DESERT TAN ROCK WHERE SLOPES AND DRAINAGE COULD INCREASE EROSION, 4" DEPTH, WEED FABRIC, SEE 7/L-13 (TYPICAL, 2,620 SF)

## SOILS NOTES

1. DEVELOPER SHALL OBTAIN SOIL SAMPLES (TAKEN FROM PROPOSED PARK SITE LOCATION FINISHED GROUND) & PROVIDE COMPLETE ANALYSIS REPORT (TEXTURAL, MINERAL AVAILABILITY, WATER INFILTRATION, DETAILED SALINITY, & PH CONDUCTIVITY TEST) WITH RECOMMENDATIONS FOR SOIL AMENDMENTS AND PREPARATION TO INSURE EXISTING SOIL CONDITIONS ARE SUITABLE FOR TURF, SHRUB, AND TREE GROWTH; COORDINATE SITE VISIT WITH PARKS STAFF FOR COLLECTION OF SOIL SAMPLES.
2. ANY UNSUITABLE SOIL CONDITIONS SHALL BE REMEDIED TO ELIMINATE HARD SOILS, STONY SOILS, HIGH CALICHE SOILS, CLAY SOILS AND CONTAMINATED SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BY SHATTERING, IN TWO DIRECTIONS, OF HARD PAN CALICHE, CLAY SOILS. ROCKS TO A DEPTH OF 36 INCHES BELOW FINISHED GRADE AS REQUIRED FOR PROPER PLANTING AS PER THE PARK FACILITIES DESIGN STANDARDS.
3. ANY UNSUITABLE SOIL MATERIALS NOT APPROVED BY PARKS DEPARTMENT ARE TO BE REMOVED, DISPOSED-OFF, AND REPLACED WITH TOP SOIL TO A MINIMUM DEPTH OF 12 INCHES.

## LANDSCAPE CALCULATIONS

**CODE:** CITY OF EL PASO 19.20 PARKS & OPEN SPACE, 18.46 LANDSCAPE, 18.47 IRRIGATION, DESIGN & CONST STDS FOR PARK FACILITIES, CITY OF EL PASO APPROVED PLANT & TREE LIST

| ITEM | CITY OF EL PASO REQUIRES, MIN. | DESIGN PROPOSES |
|---|---|---|
| **GENERAL INFORMATION - MESA VISTA PARK** | | |
| PARK FRONTAGE (ROW, LINEAR FEET) | - | 408 |
| PARK LOT AREA (ACRES) | - | 1.15 |
| **REQUIRED PLANTINGS** (MINIMUM QUANTITIES BELOW, OR 19.20 CODE-APPROVED SUBSTITUTES * BASED ON 18.46.090 A.1.e CODE SUBSTITUTION TABLE) | | |
| TREES, FRONTAGE (1/20 LIN FT) | 20 = 408 LF / 20 | 20 (SOME RELOCATED TO INSIDE SIDEWALK) |
| * SHADE TREES, 10 / .25 AC, IF PARK DOESN'T ABUT STREET ROW ON ALL SIDES | 46 = (1.15 AC / .25) x 10 | 55 = 23 TREES + 153-5# PLANTS (153/5 = 31 TREES) + 48-1# PLANTS (48/10 = 5-5# = 1 TREE) |
| PLAY STRUCTURE, LIGHT (1 / PARK, OR SUBSTITUTE IF EXISTING AT DEDICATED PARK <1/4 MILE) | 1 | 1 |
| PICNIC TABLES, ACCESSIBLE AND SHADED ON CONCRETE PAD (UP TO 2 / AC); BENCHES, ACCESSIBLE ON CONCRETE PAD (UP TO 4 / AC) | 1,3 | 2;1,>20 = 2 TABLES + 1 BENCHES + 52 LF SEAT WALLS, 215 LF PLAYGROUND WALLS |
| TRASH CAN, CONCRETE PAD (1 / AC) | 1 = 1.15 AC / 1 | 1 |

PARKS DEPARTMENT
REVIEWED BY _____ 07/20/2015

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
ENVIRONMENTAL DESIGN for the BEST CLIMATES IN THE WORLD

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUINAULT & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION
ELEVATION = 3878.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 6/2015 DAC
DESIGN BY:
DRAWN BY:
CHKD BY:
APPV'D BY:
JOB NO.

PROJECT TITLE
MESA VISTA PARK / LOT 33, BLK. 4 / 525 DENIM STREET
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
CONTAINING 50,278 SQ FT OR 1.154 ACRES
EL PASO, TEXAS

SHEET TITLE
SITE PLAN

SHEET NO.
L-1
__ OF ___SHEETS

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# PLANTING LEGEND (HIGH DESERT, SOUTH)

| TREES | QTY | COMMON NAME / BOTANICAL NAME | SIZE | REMARKS |
|---|---|---|---|---|
| | 14 | TEXAS PISTACHE / Pistacia texensis | 24" BOX, 7`x3` | 7-1 GPH DRIP |
| | 9 | RED PUSH PISTACHE / Pistacia x `Red Push` | 2" CAL x 9` x 3` | 10-1 GPH DRIP |
| | 4 | BRADFORD PEAR / Pyrus calleryana `Bradford` | 2" CAL x 9` x 3` | 10-1 GPH DRIP |
| | 16 | ESCARPMENT LIVE OAK / Quercus fusiformis | 2" CAL x 9` x 3` | 10-1 GPH DRIP |

| SHRUBS | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 31 | CIMARRON SAGE / Leucophyllum zygophyllum `Cimarron` TM | 5 GAL, 18"x12" | 60" o.c. | 2-.5 GPH DRIP |
| | 3 | EVERGREEN SUMAC / Rhus virens | 5 GAL, 18"x12" | 96" o.c. | 2-.5 GPH DRIP |
| | 32 | CHAPARRAL SAGE / Salvia clevelandii | 5 GAL, 18"x12" | 48" o.c. | 2-1 GPH DRIP |

| ACCENTS | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 4 | BLUE SOTOL / Dasylirion wheeleri | 5 GAL, 18"x12" | 72" o.c. | 2-.5 GPH DRIP |

| GRASSES | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 37 | BULLGRASS / Muhlenbergia emersleyi `El Toro` | 5 GAL, 18"x12" | 48" o.c. | 2-1 GPH DRIP |
| | 3 | GIANT SACATON / Sporobolus wrightii | 5 GAL, 18"x12" | 84" o.c. | 2-1 GPH DRIP |

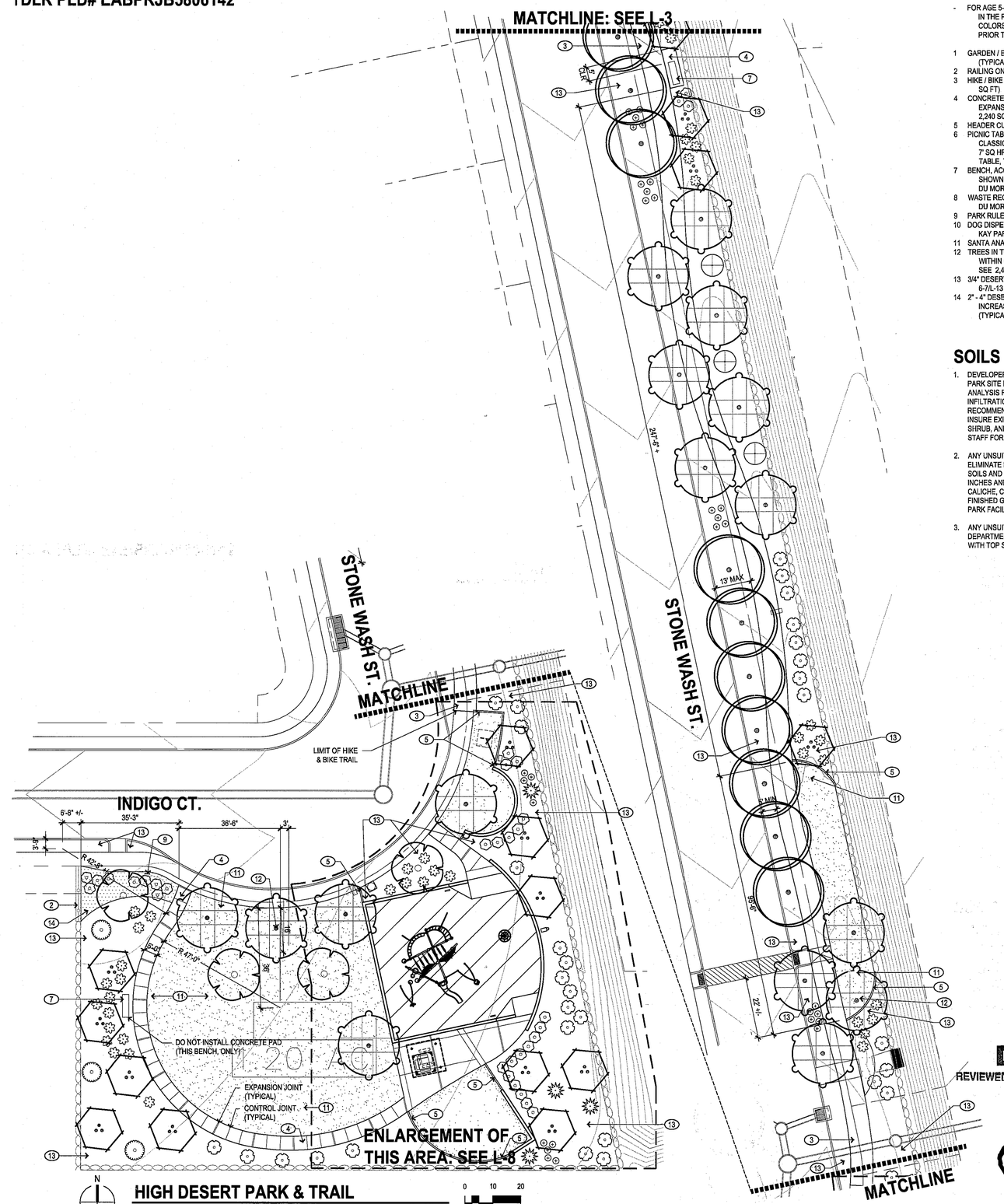
| GROUNDCOVERS | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| ⊙ | 30 | TEXAS LANTANA / Lantana horrida | 1 GAL, 12"x6" | 27" o.c. | 1-1 GPH DRIP |

# LANDSCAPE CALCULATIONS

**CODE:** CITY OF EL PASO 19.20 PARKS & OPEN SPACE, 18.46 LANDSCAPE, 18.47 IRRIGATION, DESIGN & CONST STDS FOR PARK FACILITIES, CITY OF EL PASO APPROVED PLANT & TREE LIST

| ITEM | CITY OF EL PASO REQUIRES, MIN. | DESIGN PROPOSES |
|---|---|---|
| **GENERAL INFORMATION - HIGH DESERT PARK AND TRAIL** | | |
| PARK FRONTAGE (ROW, LINEAR FEET) | - | 1,415 |
| PARK LOT AREA (ACRES) | - | 1.20 |
| **REQUIRED PLANTINGS** (MINIMUM QUANTITIES BELOW, OR 19.20 CODE-APPROVED SUBSTITUTES * BASED ON 18.46.090 A.1.e CODE SUBSTITUTION TABLE) | | |
| TREES, FRONTAGE (1/20 LIN FT) | 70 = 1415 LF / 20 | 70 (SOME RELOCATED TO INSIDE SIDEWALK) |
| * SHADE TREES, IF PARK DOESN'T ABUT STREET ROW ON ALL SIDES (10 / .25 AC) | 48 = (1.2 AC / .25) x 10 | 69 = 24 TREES + 214-5# PLANTS (214/5 = 43 TREES) + 115-1# PLANTS (115/10 = 10-5# = 2 TREES) |
| PLAY STRUCTURE, LIGHT (1 / PARK, OR SUBSTITUTE IF EXISTING AT DEDICATED PARK <1/4 MILE) | 1 | 1 |
| PICNIC TABLES, ACCESSIBLE AND SHADED ON CONCRETE PAD (UP TO 2 / AC); BENCHES, ACCESSIBLE ON CONCRETE PAD (UP TO 4 / AC) | 1,3 | 2;2,>20 = 2 TABLES + 3 BENCHES + 103 LF SEAT WALLS, 230 LF PLAYGROUND WALLS |
| TRASH CAN, CONCRETE PAD (1 / AC) | 1 = 1.2 AC / 1 | 2 |

**TDLR PLD# EABPRJB5806142**




# KEYED NOTES (HIGH DESERT PARK & TRAIL)

- FOR AGE 5-12 PLAY STRUCTURES AND SITE, LANDSCAPE AMENITIES IN THE PLAYGROUND AREA, SEE L-8. ALL FINAL FINISHES AND COLORS SUBJECT TO THE APPROVAL OF THE PARKS DEPT, PRIOR TO ORDERING (TYPICAL)

1 GARDEN / ENTRY / SEAT WALL, 24" HIGH x 12" DEPTH, SEE 1/L-9 (TYPICAL, 25 LIN FT)
2 RAILING ON 2' ROCKWALL, SEE 3/L-9 (TYPICAL, 40 LIN FT)
3 HIKE / BIKE TRAIL, CONCRETE, 8' WIDTH, SEE 4/L-9 (TYPICAL, 10,360 SQ FT)
4 CONCRETE PAVING, PLAIN GRAY COLOR, MEDIUM BROOM FINISH, EXPANSION / CONTROL JOINTS AS PER PLAN, SEE 4/L-9 (TYPICAL, 2,240 SQ FT)
5 HEADER CURB, SEE 5/L-9 (TYPICAL, 525 LIN FT)
6 PICNIC TABLE, SHADED, ACCESSIBLE, SEE 1/L-10 (2 TOTAL) CLASSIC RECREATION - HAWAII TABLE, ACCESSIBLE (3 SEATS) W/ 7' SQ HR-36 ROOF, 4:12 PITCH, DIRECT BURY, COLOR: GRAY TABLE, TERRA COTTA ROOF
7 BENCH, ACCESSIBLE ON 14'-6" X 5' CONCRETE PAD, UNLESS NOTED / SHOWN OTHERWISE ON PLAN, SEE 2/L-10 (3 TOTAL) DU MOR - 168 BENCH, 8', GRAY
8 WASTE RECEPTACLE, ON 3' X 3' CONC PAD, SEE 3/L-10 (2 TOTAL) DU MOR - 150 WASTE, GRAY
9 PARK RULES SIGN, SEE 6/L-10 (3 TOTAL)
10 DOG DISPENSER STATION (1 TOTAL) KAY PARK - MUTT MUTT, POST, MITTS, SIGN, COVER
11 SANTA ANA BERMUDAGRASS TURF, SODDED (TYPICAL, 16,450 SQ FT)
12 TREES IN TURF: NO MULCH AT TRUNK, TURF SHALL BE CUT CLOSELY WITHIN 6" ALL AROUND THE TRUNK, AND INSTALL A TREE GUARD, SEE 2,4/L-13 (TYPICAL EACH TREE)
13 3/4" DESERT TAN GRAVEL MULCH, 3" DEPTH, WEED FABRIC, SEE 6-7/L-13 (TYPICAL, 26,335 SQ FT)
14 2" - 4" DESERT TAN ROCK WHERE SLOPES AND DRAINAGE COULD INCREASE EROSION, 4" DEPTH, WEED FABRIC, SEE 7/L-13 (TYPICAL, 4,000 SF)

# SOILS NOTES

1. DEVELOPER SHALL OBTAIN SOIL SAMPLES (TAKEN FROM PROPOSED PARK SITE LOCATION FINISHED GROUND) & PROVIDE COMPLETE ANALYSIS REPORT (TEXTURAL, MINERAL AVAILABILITY, WATER INFILTRATION, DETAILED SALINITY, & PH CONDUCTIVITY TEST) WITH RECOMMENDATIONS FOR SOIL AMENDMENTS AND PREPARATION TO INSURE EXISTING SOIL CONDITIONS ARE SUITABLE FOR TURF, SHRUB, AND TREE GROWTH; COORDINATE SITE VISIT WITH PARKS STAFF FOR COLLECTION OF SOIL SAMPLES.

2. ANY UNSUITABLE SOIL CONDITIONS SHALL BE REMEDIED TO ELIMINATE HARD SOILS, STONY SOILS, HIGH CALICHE SOILS, CLAY SOILS AND CONTAMINATED SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BY SHATTERING, IN TWO DIRECTIONS, OF HARD PAN CALICHE, CLAY SOILS, ROCKS TO A DEPTH OF 36 INCHES BELOW FINISHED GRADE AS REQUIRED FOR PROPER PLANTING AS PER THE PARK FACILITIES DESIGN STANDARDS.

3. ANY UNSUITABLE SOIL MATERIALS NOT APPROVED BY PARKS DEPARTMENT ARE TO BE REMOVED, DISPOSED-OFF, AND REPLACED WITH TOP SOIL TO A MINIMUM DEPTH OF 12 INCHES.

PARKS DEPARTMENT
REVIEWED BY: 07/20/2015

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
ENVIRONMENTAL DESIGN for the BEST CLIMATES IN THE WORLD

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF BERNALET & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3878.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

LANDSCAPE ARCHITECT AGREEMENT — REGISTERED — DAVID CARLOS QUERCUS — 5476 — STATE OF TEXAS

SCALE:
HORIZONTAL: 1"=20'
VERTICAL: -
CONTOUR INTERVAL: -
DATE: 6/2015
DESIGN BY: DAC
DRAWN BY: -
CHKD BY: -
APPVD BY: -
JOB NO. -

THE CITY OF EL PASO TEXAS

PROJECT TITLE
HIGH DESERT PARK & TRAIL / LOT 45, BLK. 5 / 468 INDIGO COURT
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
CONTAINING 52,206 SQ FT OR 1.198 ACRES
EL PASO, TEXAS

SHEET TITLE
SITE PLAN

SHEET NO.
L-2
__ OF ___ SHEETS

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# PLANTING LEGEND (HIGH DESERT, NORTH)

| TREES | QTY | COMMON NAME / BOTANICAL NAME | SIZE | REMARKS |
|---|---|---|---|---|
| | 9 | TEXAS PISTACHE / Pistacia texensis | 24" BOX, 7'x3' | 7-1 GPH DRIP |
| | 18 | RED PUSH PISTACHE / Pistacia x 'Red Push' | 2" CAL x 9' x 3' | 10-1 GPH DRIP |
| | 12 | BRADFORD PEAR / Pyrus calleryana 'Bradford' | 2" CAL x 9' x 3' | 10-1 GPH DRIP |
| | 12 | ESCARPMENT LIVE OAK / Quercus fusiformis | 2" CAL x 9' x 3' | 10-1 GPH DRIP |

| SHRUBS | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 7 | EVERGREEN SUMAC / Rhus virens | 5 GAL, 18"x12" | 96" o.c. | 2-.5 GPH DRIP |
| | 44 | CHAPARRAL SAGE / Salvia clevelandii | 5 GAL, 18"x12" | 48" o.c. | 2-1 GPH DRIP |

| ACCENTS | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 3 | BLUE SOTOL / Dasylirion wheeleri | 5 GAL, 18"x12" | 72" o.c. | 2-.5 GPH DRIP |

| GRASSES | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 60 | BULLGRASS / Muhlenbergia emersleyi 'El Toro' | 5 GAL, 18"x12" | 48" o.c. | 2-1 GPH DRIP |

| GROUNDCOVERS | QTY | COMMON NAME / BOTANICAL NAME | SIZE | SPACING | REMARKS |
|---|---|---|---|---|---|
| | 85 | TEXAS LANTANA / Lantana horrida | 1 GAL, 12"x6" | 27" o.c. | 1-1 GPH DRIP |

# LANDSCAPE CALCULATIONS

**CODE:** CITY OF EL PASO 19.20 PARKS & OPEN SPACE, 18.46 LANDSCAPE, 18.47 IRRIGATION, DESIGN & CONST STDS FOR PARK FACILITIES, CITY OF EL PASO APPROVED PLANT & TREE LIST

| ITEM | CITY OF EL PASO REQUIRES, MIN. | DESIGN PROPOSES |
|---|---|---|
| **GENERAL INFORMATION - HIGH DESERT PARK AND TRAIL** | | |
| PARK FRONTAGE (ROW, LINEAR FEET) | - | 1,415 |
| PARK LOT AREA (ACRES) | - | 1.20 |
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| TREES, FRONTAGE (1/20 LIN FT) | 70 = 1415 LF / 20 | 70 (SOME RELOCATED TO INSIDE SIDEWALK) |
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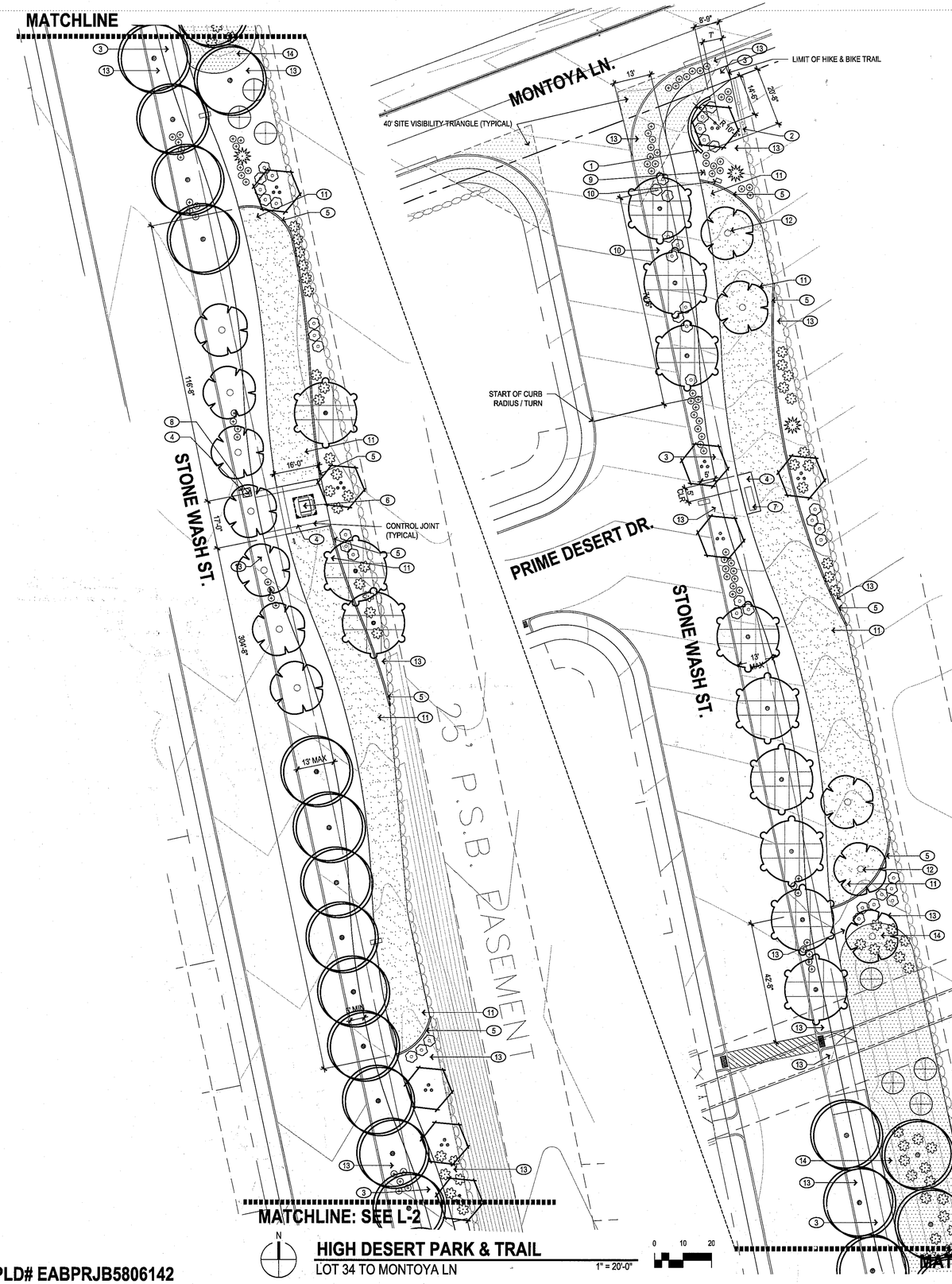
| PLAY STRUCTURE, LIGHT (1 / PARK, OR SUBSTITUTE IF EXISTING AT DEDICATED PARK <1/4 MILE) | 1 | 1 |
| PICNIC TABLES, ACCESSIBLE AND SHADED ON CONCRETE PAD (UP TO 2 / AC); BENCHES, ACCESSIBLE ON CONCRETE PAD (UP TO 4 / AC) | 1,3 | 2,2,>20 = 2 TABLES + 3 BENCHES + 103 LF SEAT WALLS, 230 LF PLAYGROUND WALLS |
| TRASH CAN, CONCRETE PAD (1 / AC) | 1 = 1.2 AC / 1 | 2 |

**TDLR PLD# EABPRJB5806142**

MATCHLINE




## HIGH DESERT PARK & TRAIL
LOT 34 TO MONTOYA LN

## KEYED NOTES (HIGH DESERT PARK & TRAIL)

- FOR AGE 5-12 PLAY STRUCTURES AND SITE, LANDSCAPE AMENITIES IN THE PLAYGROUND AREA, SEE L-8. ALL FINAL FINISHES AND COLORS SUBJECT TO THE APPROVAL OF THE PARKS DEPT, PRIOR TO ORDERING (TYPICAL)

1 GARDEN / ENTRY / SEAT WALL, 24" HIGH x 12" DEPTH, SEE 1/L-9 (TYPICAL, 25 LIN FT)
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3 HIKE / BIKE TRAIL, CONCRETE, 8' WIDTH, SEE 4/L-9 (TYPICAL, 10,360 SQ FT)
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7 BENCH, ACCESSIBLE ON 14'-6" X 5' CONCRETE PAD, UNLESS NOTED / SHOWN OTHERWISE ON PLAN, SEE 2/L-10 (3 TOTAL) DU MOR - 168 BENCH, 8', GRAY
8 WASTE RECEPTACLE, ON 3' X 3' CONC PAD, SEE 3/L-10 (2 TOTAL) DU MOR - 158 WASTE, GRAY
9 PARK RULES SIGN, SEE 8/L-10 (3 TOTAL)
10 DOG DISPENSER STATION (1 TOTAL) KAY PARK - MUTT MUTT, POST, MITTS, SIGN, COVER
11 SANTA ANA BERMUDAGRASS TURF, SODDED (TYPICAL, 16,450 SQ FT)
12 TREES IN TURF: NO MULCH AT TRUNK, TURF SHALL BE CUT CLOSELY WITHIN 6" ALL AROUND THE TRUNK, AND INSTALL A TREE GUARD, SEE 2.4/L-13 (TYPICAL EACH TREE)
13 3/4" DESERT TAN GRAVEL MULCH, 3" DEPTH, WEED FABRIC, SEE 6-7/L-13 (TYPICAL, 26,335 SQ FT)
14 2" - 4" DESERT TAN ROCK WHERE SLOPES AND DRAINAGE COULD INCREASE EROSION, 4" DEPTH, WEED FABRIC, SEE 7/L-13 (TYPICAL, 4,000 SF)

## SOILS NOTES

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PARKS DEPARTMENT
REVIEWED BY 07/20/2015

REFERENCES — BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF DONAULT & INCA AVENUE REFERENCE IN THREE HILLS ADDITION. ELEVATION = 3975.84 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
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LANDSCAPE ARCHITECT DAVID A. QUERCUS 5806 21-00 STATE OF TEXAS

SCALE:
HORIZONTAL:
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HIGH DESERT PARK & TRAIL / LOT 45, BLK. 5 / 468 INDIGO COURT
WEST DESERT MARKETPLACE
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THE CITY OF EL PASO TEXAS

SHEET TITLE
SITE PLAN

SHEET NO.
L-3
__ OF __ SHEETS

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
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# IRRIGATION LEGEND

| SYMBOL | DESCRIPTION COMPONENT DESCRIPTION | MANUFACTURER COMPONENT MFR(S) | MODEL COMPONENT MODEL(S) | SIZE / NOTES |
|---|---|---|---|---|
| E | ELECTRIC METER | - | - | BY ELECTRICAL CONTRACTOR, COORD. W/ IRRIGATION POWER REQUIREMENTS |
| M | IRRIGATION METER | - | - | SIZE / METER FLOW CAPACITY AS PER PLAN, TYPE K COPPER LINE TO BACKFLOW |
| | POINT OF CONNECTION | - | - | - |
| Z | RED. PRESSURE BACKFLOW ASSEMBLY<br>PRESSURE REGULATOR, ADJUSTABLE<br><br>WYE STRAINER / FILTER<br>BALL VALVE<br>INSULATED ENCLOSURE<br><br>POWER SUPPLY, GFCI OUTLET<br>HEATING ELEMENT | FEBCO<br>WILKINS<br><br>WILKINS<br>WATTS<br>STRONG BOX<br><br>-<br>- | 825Y SERIES<br>90/91 SERIES<br><br>100 SERIES YSBR<br>FBV<br>SBBC-ALI<br><br>-<br>- | 1-1/2" SIZE<br>LINE SIZE, INSTALL IF POC STATIC PRESSURE IS >20 PSI DESIGN PRESSURE, BEFORE RPBP<br>LINE SIZE<br>LINE SIZE<br>SIZE FOR RPBP, R-25 INSULATION, ASSE 1060 CLASS 1 CERTIFICATION / NOTED AS SUCH FOR HEATING ELEMENT<br>REQUIRED FOR ASSE 1060 CLASS I CERT. |
| | MAINLINE (IRRIGATION)<br>AUTOMATIC DRAIN VALVES<br>FITTINGS, W/ 45 & 22.5 DEG (NO 90 DEG ELLS) | -<br>-<br>- | SCH 40 PVC<br>-<br>- | SIZE PER PLAN; BURIAL: 18"-24" TO TOP OF PIPE<br>INSTALL AT LOW POINT OF EACH RUN, IN 1 CU FT CLEAN, ROUND GRAVEL; CONTRACTOR SHALL VERIFY LOCATIONS W/ PARKS DEPT IN FIELD |
| | LATERAL LINE<br><br>AUTOMATIC DRAIN VALVES<br>FITTINGS, W/ 45 & 22.5 DEG (NO 90 DEG ELLS) | -<br><br>-<br>- | CLASS 200 IPS<br><br>-<br>- | 1" SIZE, UNLESS OTHERWISE INDICATED ON PLAN; BURIAL: 12"-18" TO TOP OF PIPE<br>INSTALL AT LOW POINT OF EACH RUN, IN 1 CU FT CLEAN, ROUND GRAVEL; CONTRACTOR SHALL VERIFY LOCATIONS W/ PARKS DEPT IN FIELD |
| | SLEEVING, CLASS 200 PVC | - | CLASS 200 IPS | 2 TIMES DIAMETER OF PIPING; BURIAL: MATCH LATERALS, MAINS |
| | ROTOR ZONE VALVE<br>ISOLATION BALL VALVE<br>PRESSURE REGULATOR<br>14 GAUGE WIRING TO CONTROLLER<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | WEATHERMATIC<br>INCLUDE<br>WEATHERMATIC<br>-<br>CARSON | 8200CR<br>-<br>XPR<br>-<br>1419 | ALL BRASS, SIZE PER PLAN<br>-<br>LINE SIZE<br>5' MIN TO MAINLINES, 3' MIN TO LATERALS<br>TAN BODY / LID IN GRAVEL OR GREEN BODY / LID IN LAWN, 1 FOR VALVE ASSY / 1 FOR FILTER |
| | DRIP ZONE VALVE, ASSEMBLY<br>ISOLATION BALL VALVE<br>PRESSURE REGULATOR<br>BASKET FILTER<br>14 GAUGE WIRING TO CONTROLLER<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK<br>PRESSURE GAUGES | WEATHERMATIC<br>INCLUDE<br>WEATHERMATIC<br>INCLUDE<br>-<br>CARSON<br>- | 8200CR-10<br>-<br>XPR<br>-<br>-<br>1419<br>- | ALL BRASS, 1" VALVE ASSEMBLY<br>-<br>LINE SIZE<br>150 MESH<br>5' MIN TO MAINLINES, 3' MIN TO LATERALS<br>TAN BODY / LID IN GRAVEL OR GREEN BODY / LID IN LAWN, 1 FOR VALVE ASSY / 1 FOR FILTER |
| | QUICK COUPLER VALVE, LASCO SWING JOINT<br>ISOLATION BALL VALVE<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | BUCKNER<br>INCLUDE<br>CARSON | QB5NP10<br>-<br>1419 | 1", DOUBLE SLOT, PURPLE COVER, W/ LASCO SNAP-LOK, MALE BRASS STABILIZER ELBOW<br>PURPLE BODY / LID, 1 FOR QUICK COUPLER / 1 FOR BALL VALVE, W/ WEATHER PROOF TAG<br>"NON-POTABLE WATER, NOT SAFE FOR DRINKING" |
| | ISOLATION GATE VALVE<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | WATTS<br>CARSON | LFB6000 SERIES, BRASS<br>1419 | LINE SIZE<br>TAN BODY / LID IN GRAVEL OR GREEN BODY / LID IN LAWN |
| ① | ROTOR HEAD, 6" STAINLESS STEEL POP-UP | HUNTER I-25 HIGH SPEED | I-25-06-SS-4 / 4.3 GPM | #4 YELLOW HIGH SPEED - ADJUST 38' RADIUS (REDUCE NO MORE THAN 25%), ARC IN FIELD<br>#5 WHITE - ADJUST 44' RADIUS (REDUCE NO MORE THAN 25%), ARC IN FIELD |
| ② | | HUNTER I-25 | I-25-06-SS-5 / 4.8 GPM | |
| ⑥ | ROTOR HEAD, 6" STAINLESS STEEL POP-UP | HUNTER I-20 | I-20-06-SS-.50 BLK / .50 GPM | #.50 SR BLACK - ADJUST 18' RADIUS (REDUCE NO MORE THAN 25%), ARC IN FIELD |
| | MULTI-OUTLET DRIP EMITTER, THREADED<br>1.0 GPH OUTLETS, PRESSURE-COMPENSATING<br>.5 GPH OUTLETS PRESSURE-COMPENSATING<br>1/4" DISTRIBUTION TUBING<br>TIE-DOWN STAKES, GALVANIZED<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | RAINBIRD<br>RAINBIRD<br>RAINBIRD<br>RAINBIRD<br>CARSON | XBT-10-6<br>XBT-05-6<br>XT-700<br>TDS-050<br>910 | SEE PLANTING LEGEND FOR QUANTITIES AND SIZES CORRESPONDING TO VARIOUS PLANT SPECIES (6 OUTLETS / EMITTER HEAD)<br>PIN UNDERNEATH MULCH<br>-<br>TAN BODY / LID IN GRAVEL; GREEN BODY / LID IN LAWN |
| C | IRRIGATION CONTROLLER, ESP-SAT<br>STAINLESS STEEL CABINET, PEDESTAL MOUNT<br>14 GAUGE WIRING TO VALVES<br>RAIN SENSOR | RAINBIRD<br>STRONG BOX<br>-<br>RAINBIRD | ESP-12 SAT-2S<br>-<br>-<br>RSD-BEx | 12 STATION SATELLITE CONTROLLER FOR MAXICOM, 120 VOLT POWER SUPPLY REQUIRED<br>5' MIN TO MAINLINES, 3' MIN TO LATERALS<br>MOUNT 10' ABOVE FINISH GRADE ON 2.5" GALVANIZED SCH 40 STEEL PIPE, 7' MIN FROM OBSTRUCTIONS AND AWAY FROM TREES, COORDINATE LOCATION WITH PARKS DEPT. SET AT 1/8", ADJUST AS NEEDED. |

#xx-x (GPM) ← VALVE NUMBER | FLOW (GALLONS / MINUTE)
X-xx" ← VALVE SIZE
xx ← NUMBER OF HEADS

WATER SOURCE: POTABLE WATER, EL PASO WATER UTILITIES
EXISTING PRESSURE: 130 PSI STATIC
DESIGN PRESSURE: 69.82 PSI (MESA VISTA) [redacted]

NOTE: CONTRACTOR SHALL FIELD VERIFY STATIC PRESSURE AT POINTS OF CONNECTION, AND IS RESPONSIBLE FOR ACHIEVING OPTIMAL PRESSURE FOR PROPER FUNCTION OF IRRIGATION SYSTEM, INCLUDING PRESSURE REGULATION (SEE BACKFLOW PREVENTER AND VALVE NOTES)

# PRECIPITATION RATE TABLE (MESA VISTA PARK)

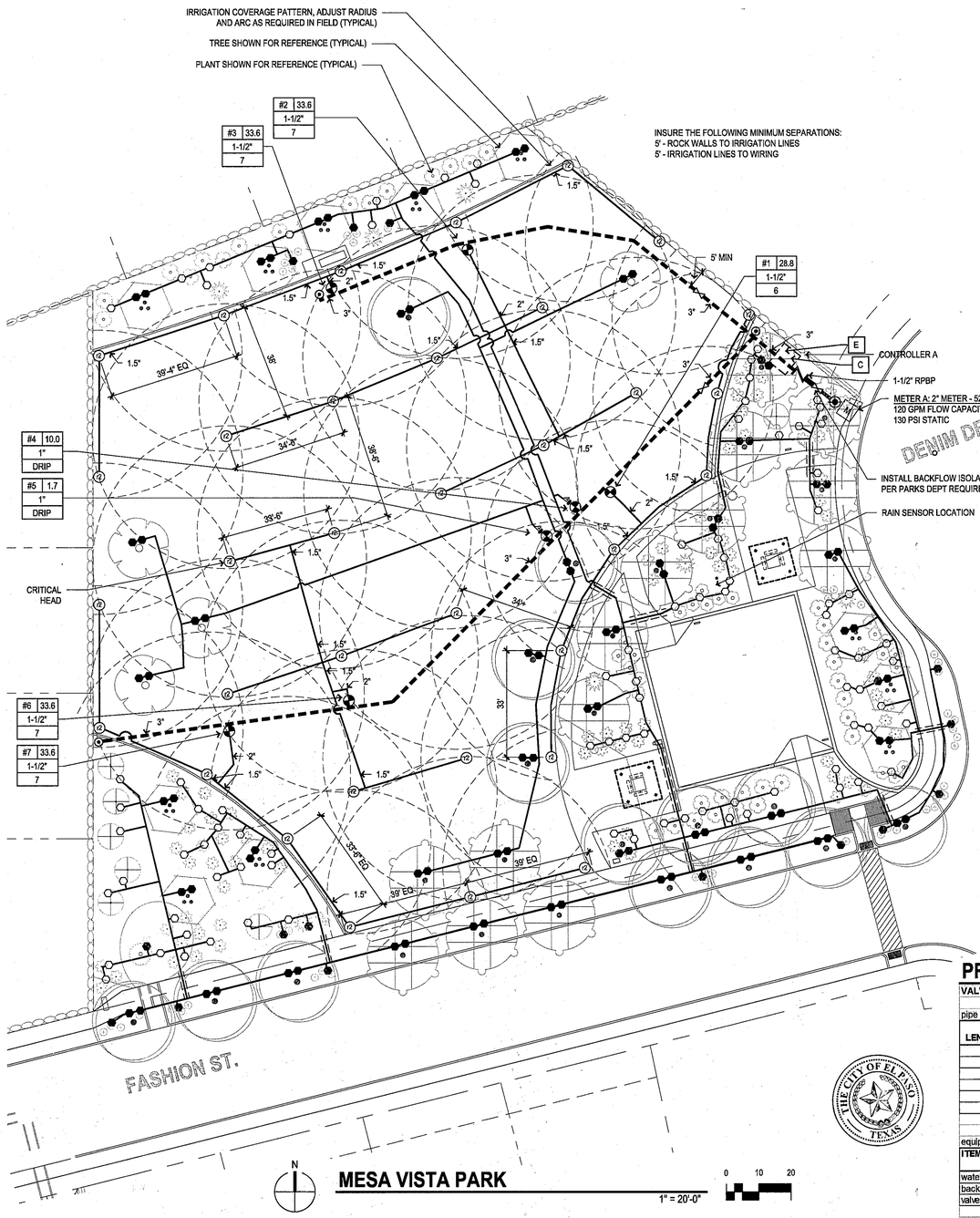
| STATION | VALVE SIZE | IRRIGATION TYPE | AREA IRRIGATED | TOTAL GPM'S | # OF HEADS / EMITTERS | PRECIPITATION RATES | WATER APPLICATION 1.2" RUN TIME* |
|---|---|---|---|---|---|---|---|
| CONTROLLER A | | | | | | | |
| 1 | 1-1/2" | ROTOR | TURF | 28.8 | 6 | .95" / hour | 76 minutes |
| 2 | 1-1/2" | | TURF | 33.6 | 7 | .41" / hour | 175 minutes |
| 3 | 1-1/2" | | TURF | 33.6 | 7 | .72" / hour | 100 minutes |
| 6 | 1-1/2" | | TURF | 33.6 | 7 | .41" / hour | 175 minutes |
| 7 | 1-1/2" | ↓ | TURF | 33.6 | 7 | .95" / hour | 76 minutes |
| 4 | 1" | DRIP | PLANTINGS | 10.0 | - | - | 60 minutes |
| 5 | 1" | ↓ | LAWN TREES | 1.7 | - | - | 40 minutes |
| TOTAL RUN TIME, NON-DRIP ONLY: 10 HOURS, 2 MINUTES | | | | | | | |

PRECIPITATION RATE - EQ. TRIANGULAR SPACING, 180 DEGREE OPERATION (1/2x RATE 360 DEG, 2x RATE 90 DEG)
RUN TIMES BASED ON APPLICATION RATE OF 1.2" / DAY, 3 DAYS / WEEK, HOTTEST SUMMER MONTH.
*RUN TIME CALCULATION FORMULA = 1.2" DIVIDED BY PRECIPITATION RATE.

# WATERING SCHEDULE (MESA VISTA PARK)

| STATION(S) | FLOW (GALLONS PER MINUTE) | RUN TIME (MINUTES) |
|---|---|---|
| CONTROLLER A: ROTOR | | |
| VALVE 1 + VALVE 7 | 28.8 + 33.6 = 62.4 GPM | 76 |
| VALVE 3 | 33.6 GPM | 100 |
| VALVE 2 + VALVE 6 | 33.6 + 33.6 = 67.2 GPM | 175 |
| CONTROLLER A: DRIP | | |
| VALVE 4 | 10.0 | 60 |
| VALVE 5 | 1.7 | 40 |
| SUMMARY: ROTOR AND DRIP | | |
| CONTROLLER A | ROTOR = 163.2 GPM | 5 HRS - 51 MIN |
| | ROTOR + DRIP = 174.9 GPM | 7 HRS - 31 MIN |
| | TOTAL FLOW | TOTAL RUN TIME |

# TDLR PLD# EABPRJB5806142

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**MESA VISTA PARK**
1" = 20'-0"
0 10 20

# PRECIPITATION RATE FORMULAS

| Valves | Triangular Spacing Method | | | | | | | 360° Rate | 180° Rate | 90° Rate |
|---|---|---|---|---|---|---|---|---|---|---|
| 1, 7 | GPM of Full Circle x 96.25 | 4.8 | x | 96.25 | = | 462 | = | | | |
| | (Head Spacing x Row Spacing) x .866 | 33 | 34 | 0.866 | = | 971.652 | | 0.48 in./hr. | 0.95 in./hr. | 1.90 in./hr. |
| 3 | GPM of Full Circle x 96.25 | 4.8 | x | 96.25 | = | 462 | = | | | |
| | (Head Spacing x Row Spacing) x .866 | 39 | 38 | 0.866 | = | 1283.41 | | 0.36 in./hr. | 0.72 in./hr. | 1.44 in./hr. |
| 2, 6 | GPM of Full Circle x 96.25 | 4.8 | x | 96.25 | = | 462 | = | | | |
| | (Head Spacing x Row Spacing) x .866 | 34 | 38 | 0.866 | = | 1118.87 | | 0.41 in./hr. | 0.83 in./hr. | 1.65 in./hr. |

# IRRIGATION GENERAL NOTES

1. IRRIGATION PLAN IS DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ACCOMPLISHING FULL COVERAGE IN ALL AREAS WITH SPECIFIED EQUIPMENT. ANY DISCREPANCIES IN THE PLAN SHOULD BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION DURING CONSTRUCTION.
2. ALL FITTINGS AND NECESSARY EQUIPMENT REQUIRED TO MAKE THIS IRRIGATION SYSTEM OPERATE PROPERLY AND TO COMPLY WITH LOCAL AND STATE CODES ARE INCIDENTAL TO THESE PLANS AND ARE THE CONTRACTOR'S RESPONSIBILITY.
3. CONTRACTOR WILL BE HELD LIABLE FOR GAINING ACCESS UNDER ALL PAVEMENTS.
4. SLEEVES SHOWN ON THE PLANS SHOULD BE VERIFIED FOR ACCESSIBILITY AND FEASIBILITY BEFORE BID IS MADE.
5. THE CONTRACTOR SHALL LOCATE AND VERIFY EACH WATER TAP TO WHICH THE IRRIGATION SYSTEM WILL CONNECT. ALL EQUIPMENT AND INSTALLATION METHODS SHALL COMPLY WITH THE STANDARDS OF THE CITY OF EL PASO AND THE SPECIFICATIONS.
6. CONTRACTOR IS RESPONSIBLE FOR ALL CONNECTIONS AND VALVES REQUIRED FOR THE FULL IMPLEMENTATION OF THE SYSTEM.
7. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO INITIATING WORK.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR INTERRUPTION IN SERVICE CAUSED BY HIS EXCAVATIONS AND/OR WORK.
9. EACH CONTROLLER WILL HAVE AN INDEPENDENT COMMON WIRE LOOPED TO THE VALVES CONNECTED TO IT.
10. REMOTE CONTROL VALVE WIRES ARE TO BE IN A SEPARATE TRENCH 5' FROM MAIN LINE ON NORTH OR WEST SIDE OF MAINLINE.
11. ALL REMOTE CONTROL VALVE WIRES NEED TO BE LABELED AT VALVE W/ WEATHER (WATER) PROOF LABELS AND AT CONTROLLER WITH CORRESPONDING LABEL. (LETTER AND/OR NUMBER TAGS IN SEQUENTIAL ORDER WILL BE PROVIDED).
12. SPLICING OF REMOTE CONTROL VALVE WIRES IS NOT ALLOWED BETWEEN CONTROLLER & VALVE BOX FOR WIRES MUST BE CONTINUOUS FROM CONTROLLER TO REMOTE CONTROL VALVE WITHOUT SPLICING.
13. ALL SPRINKLER HEADS SHALL BE ON STAINLESS STEEL RISERS WITH CHECK VALVE.
14. CONTRACTOR SHALL PROVIDE SLEEVES FOR NEW IRRIGATION LINES CROSSING UNDER CONCRETE SIDEWALKS SLEEVES SHALL BE 2 TIMES THE PIPE SIZE EXTENDED 24" BEYOND EDGE OF SURFACE, BE WRAPPED WITH MINIMUM 4 MIL PLASTIC AND TAPED WITH 3M BRAND HEAVY DUTY PLASTIC.
15. IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, PO BOX 13087, AUSTIN, TX, 78711-3087

# SOILS NOTES

1. DEVELOPER SHALL OBTAIN SOIL SAMPLES (TAKEN FROM PROPOSED PARK SITE LOCATION FINISHED GROUND) & PROVIDE COMPLETE ANALYSIS REPORT (TEXTURAL, MINERAL AVAILABILITY, WATER INFILTRATION, DETAILED SALINITY, & PH CONDUCTIVITY TEST) WITH RECOMMENDATIONS FOR SOIL AMENDMENTS AND PREPARATION TO INSURE EXISTING SOIL CONDITIONS ARE SUITABLE FOR TURF, SHRUB, AND TREE GROWTH; COORDINATE SITE VISIT WITH PARKS STAFF FOR COLLECTION OF SOIL SAMPLES.
2. ANY UNSUITABLE SOIL CONDITIONS SHALL BE REMEDIED TO ELIMINATE HARD SOILS, STONY SOILS, HIGH CALICHE SOILS, CLAY SOILS AND CONTAMINATED SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BY SHATTERING, IN TWO DIRECTIONS, OF HARD PAN CALICHE, CLAY SOILS, ROCKS TO A DEPTH OF 36 INCHES BELOW FINISHED GRADE AS REQUIRED FOR PROPER PLANTING AS PER THE PARK FACILITIES DESIGN STANDARDS.
3. ANY UNSUITABLE SOIL MATERIALS NOT APPROVED BY PARKS DEPARTMENT ARE TO BE REMOVED, DISPOSED-OFF, AND REPLACED WITH TOP SOIL TO A MINIMUM DEPTH OF 12 INCHES.

PARKS DEPARTMENT
REVIEWED BY [signature] DATE 07/28/2015

# PRESSURE LOSS CALCULATIONS

VALVE #6 (* PAIRED W/ VALVE #2) — Static Pressure: 130

pipe losses

| PIPE LENGTH (ft) | FLOW (gpm) | SIZE | PIPE MATERIAL | PRESSURE LOSS (PSI/100') | PRESSURE LOSS (PSI this section) | PRESSURE LOSS (PSI accumulated) |
|---|---|---|---|---|---|---|
| 21 | 67.2* | 2-1/2" | Type K copper | 1.65 | 0.35 | 0.35 |
| 18 | 67.2* | 3" | sch 40 PVC | 0.47 | 0.08 | 0.43 |
| 172 | 33.6 | 3" | sch 40 PVC | 0.13 | 0.22 | 0.65 |
| 10 | 33.6 | 2" | cl 200 PVC | 0.74 | 0.07 | 0.73 |
| 48 | 24 | 1.5" | cl 200 PVC | 1.09 | 0.52 | 1.25 |
| 19 | 4.8 | 1" | cl 200 PVC | 1.30 | 0.25 | 1.50 |
| | | | | | total pipe loss | 1.50 |

equipment losses

| ITEM | FLOW (gpm) | SIZE | PRESSURE LOSS (this item) | PRESSURE LOSS (accumulated) |
|---|---|---|---|---|
| water meter | 67.2* | 2" | 3.70 | 3.70 |
| backflow prev. | 67.2* | 1-1/2" | 12.00 | 15.70 |
| valve | 67.2* | 1-1/2"+1-1/2"* | 5.00 | 20.70 |
| | | total equipment loss | | 20.70 |
| | | Total Friction Loss (pipe + equipment losses) | | 22.20 |
| | | elevation change | | -5.5 |
| | | factor | | 0.433 |
| | | Total Elevation Pressure Loss | | (2.38) |
| | | TOTAL PRESSURE LOSS (FRICTION + ELEVATION LOSSES) | | 19.82 |
| | | MINIMUM HEAD PRESSURE | | 50.00 |
| | | DESIGN PRESSURE | | 69.82 |

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
ENVIRONMENTAL DESIGN for the BEST CLIMATES IN THE WORLD

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF BASSALT & RICA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3878.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

STATE OF TEXAS — CARLOS HOLGUIN — 115907 — LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL: -
VERTICAL: -
CONTOUR INTERVAL: -
DATE: 6/2015
DESIGN BY: DMC
DRAWN BY: -
CHKD BY: -
APPVD BY: -
JOB NO. -

PROJECT TITLE
MESA VISTA PARK / LOT 33, BLK. 4 / 525 DENIM STREET
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
CONTAINING 50,278 SQ FT OR 1.154 ACRES
EL PASO, TEXAS

SHEET TITLE
IRRIGATION DESIGN PLAN

SHEET NO.
L-4
__ OF __ SHEETS

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# IRRIGATION LEGEND

| SYMBOL | DESCRIPTION<br>COMPONENT DESCRIPTION | MANUFACTURER<br>COMPONENT MFR(S) | MODEL<br>COMPONENT MODEL(S) | SIZE / NOTES |
|---|---|---|---|---|
| E | ELECTRIC METER | - | - | BY ELECTRICAL CONTRACTOR, COORD. W/ IRRIGATION POWER REQUIREMENTS |
| M | IRRIGATION METER | - | - | SIZE / METER FLOW CAPACITY AS PER PLAN, TYPE K COPPER LINE TO BACKFLOW |
| | POINT OF CONNECTION | - | - | - |
| | RED. PRESSURE BACKFLOW ASSEMBLY<br>PRESSURE REGULATOR, ADJUSTABLE<br><br>WYE STRAINER / FILTER<br>BALL VALVE<br>INSULATED ENCLOSURE<br><br>POWER SUPPLY, GFCI OUTLET<br>HEATING ELEMENT | FEBCO<br>WILKINS<br><br>WILKINS<br>WATTS<br>STRONG BOX<br><br>-<br>- | 825Y SERIES<br>90/91 SERIES<br><br>100 SERIES YSBR<br>FBV<br>SBBC-ALI<br><br>-<br>- | 1-1/2" SIZE<br>LINE SIZE, INSTALL IF POC STATIC PRESSURE IS >20 PSI DESIGN PRESSURE, BEFORE RPBP<br>LINE SIZE<br>LINE SIZE<br>SIZE FOR RPBP, R-25 INSULATION, ASSE 1060 CLASS 1 CERTIFICATION / NOTED AS SUCH FOR HEATING ELEMENT<br>REQUIRED FOR ASSE 1060 CLASS I CERT. |
| | MAINLINE (IRRIGATION)<br>AUTOMATIC DRAIN VALVES<br>FITTINGS, W/ 45 & 22.5 DEG (NO 90 DEG ELLS) | -<br>-<br>- | SCH 40 PVC<br>-<br>- | SIZE PER PLAN; BURIAL: 18"-24" TO TOP OF PIPE<br>INSTALL AT LOW POINT OF EACH RUN, IN 1 CU FT CLEAN, ROUND GRAVEL; CONTRACTOR SHALL VERIFY LOCATIONS W/ PARKS DEPT IN FIELD |
| | LATERAL LINE<br><br>AUTOMATIC DRAIN VALVES<br>FITTINGS, W/ 45 & 22.5 DEG (NO 90 DEG ELLS) | -<br><br>-<br>- | CLASS 200 IPS<br><br>-<br>- | 1" SIZE, UNLESS OTHERWISE INDICATED ON PLAN; BURIAL: 12"-18" TO TOP OF PIPE<br>INSTALL AT LOW POINT OF EACH RUN, IN 1 CU FT CLEAN, ROUND GRAVEL; CONTRACTOR SHALL VERIFY LOCATIONS W/ PARKS DEPT IN FIELD |
| | SLEEVING, CLASS 200 PVC | - | CLASS 200 IPS | 2 TIMES DIAMETER OF PIPING; BURIAL: MATCH LATERALS, MAINS |
| | ROTOR ZONE VALVE<br>ISOLATION BALL VALVE<br>PRESSURE REGULATOR<br>14 GAUGE WIRING TO CONTROLLER<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | WEATHERMATIC<br>INCLUDE<br>WEATHERMATIC<br>-<br>CARSON | 8200CR<br>-<br>XPR<br>-<br>1419 | ALL BRASS, SIZE PER PLAN<br>-<br>LINE SIZE<br>5' MIN TO MAINLINES, 3' MIN TO LATERALS<br>TAN BODY / LID IN GRAVEL OR GREEN BODY / LID IN LAWN, 1 FOR VALVE ASS'Y / 1 FOR FILTER |
| | DRIP ZONE VALVE, ASSEMBLY<br>ISOLATION BALL VALVE<br>PRESSURE REGULATOR<br>BASKET FILTER<br>14 GAUGE WIRING TO CONTROLLER<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK<br>PRESSURE GAUGES | WEATHERMATIC<br>INCLUDE<br>WEATHERMATIC<br>INCLUDE<br>-<br>CARSON<br>- | 8200CR-10<br>-<br>XPR<br>-<br>-<br>1419<br>- | ALL BRASS, 1" VALVE ASSEMBLY<br>-<br>LINE SIZE<br>150 MESH<br>5' MIN TO MAINLINES, 3' MIN TO LATERALS<br>TAN BODY / LID IN GRAVEL OR GREEN BODY / LID IN LAWN, 1 FOR VALVE ASS'Y / 1 FOR FILTER |
| | QUICK COUPLER VALVE, LASCO SWING JOINT<br>ISOLATION BALL VALVE<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | BUCKNER<br>INCLUDE<br>CARSON | QB5NP10<br>-<br>1419 | 1", DOUBLE SLOT, PURPLE COVER, W/ LASCO SNAP-LOK, MALE BRASS STABILIZER ELBOW<br>PURPLE BODY / LID, 1 FOR QUICK COUPLER / 1 FOR BALL VALVE. W/ WEATHER PROOF TAG<br>NON-POTABLE WATER, NOT SAFE FOR DRINKING" |
| | ISOLATION GATE VALVE<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | WATTS<br>CARSON | LFB6000 SERIES, 3RASS<br>1419 | LINE SIZE<br>TAN BODY / LID IN GRAVEL OR GREEN BODY / LID IN LAWN |
| (1) (2) | ROTOR HEAD, 6" STAINLESS STEEL POP-UP | HUNTER I-25 HIGH SPEED<br><br>HUNTER I-25 | I-25-06-SS-4 / 4.3 GPM<br><br>I-25-06-SS-5 / 4.8 GPM | #4 YELLOW HIGH SPEED - ADJUST 38' RADIUS (REDUCE NO MORE THAN 25%), ARC IN FIELD<br>#5 WHITE - ADJUST 44' RADIUS (REDUCE NO MORE THAN 25%), ARC IN FIELD |
| (3) | ROTOR HEAD, 6" STAINLESS STEEL POP-UP | HUNTER I-20 | I-20-06-SS-.50 BLK / .50 GPM | #.50 SR BLACK - ADJUST 18' RADIUS (REDUCE NO MORE THAN 25%), ARC IN FIELD |
| | MULTI-OUTLET DRIP EMITTER, THREADED<br>1.0 GPH OUTLETS, PRESSURE-COMPENSATING<br>.5 GPH OUTLETS PRESSURE-COMPENSATING<br>1/4" DISTRIBUTION TUBING<br>TIE-DOWN STAKES, GALVANIZED<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | RAINBIRD<br>RAINBIRD<br>RAINBIRD<br>RAINBIRD<br>CARSON | XBT-10-6<br>XBT-05-6<br>XT-700<br>TDS-050<br>910 | SEE PLANTING LEGEND FOR QUANTITIES AND SIZES CORRESPONDING TO VARIOUS PLANT SPECIES (6 OUTLETS / EMITTER HEAD)<br>PIN UNDERNEATH MULCH<br>-<br>TAN BODY / LID IN GRAVEL; GREEN BODY / LID IN LAWN |
| C | IRRIGATION CONTROLLER, ESP-SAT<br>STAINLESS STEEL CABINET, PEDESTAL MOUNT<br>14 GAUGE WIRING TO VALVES<br>RAIN SENSOR | RAINBIRD<br>STRONG BOX<br>-<br>RAINBIRD | ESP-12 SAT-2S<br>-<br>-<br>RSD-BEx | 12 STATION SATELLITE CONTROLLER FOR MAXICOM, 120 VOLT POWER SUPPLY REQUIRED<br>5' MIN TO MAINLINES, 3' MIN TO LATERALS<br>MOUNT 10' ABOVE FINISH GRADE ON 2.5" GALVANIZED SCH 40 STEEL PIPE, 7' MIN FROM OBSTRUCTIONS AND AWAY FROM TREES, COORDINATE LOCATION WITH PARKS DEPT. SET AT 1/8", ADJUST AS NEEDED. |

#xx GPM ← VALVE NUMBER | FLOW (GALLONS / MINUTE)
X-x/x" ← VALVE SIZE
xx ← NUMBER OF HEADS

WATER SOURCE: POTABLE WATER, EL PASO WATER UTILITIES
EXISTING PRESSURE: 130 PSI STATIC
DESIGN PRESSURE: [redacted] 74.14 PSI (HIGH DESERT S) [redacted]

NOTE: CONTRACTOR SHALL FIELD VERIFY STATIC PRESSURE AT POINTS OF CONNECTION, AND IS RESPONSIBLE FOR ACHIEVING OPTIMAL PRESSURE FOR PROPER FUNCTION OF IRRIGATION SYSTEM, INCLUDING PRESSURE REGULATION (SEE BACKFLOW PREVENTER AND VALVE NOTES)

# PRESSURE LOSS CALCULATIONS

VALVE #1 (* PAIRED W/ VALVE #3) — Static Pressure: 130

| PIPE LENGTH (ft) | FLOW (gpm) | SIZE | PIPE MATERIAL | PRESSURE LOSS (PSI/100') | PRESSURE LOSS (PSI this section) | PRESSURE LOSS (PSI accumulated) |
|---|---|---|---|---|---|---|
| 16 | 38.7* | 2" | Type K copper | 1.69 | 0.27 | 0.27 |
| 6 | 38.7* | 3" | sch 40 PVC | 0.17 | 0.01 | 0.28 |
| 212 | 38.7* | 2" | sch 40 PVC | 0.95 | 2.01 | 2.29 |
| 9 | 21.5 | 2" | sch 40 PVC | 0.38 | 0.03 | 2.33 |
| 123 | 21.5 | 1.5" | cl 200 PVC | 0.93 | 1.14 | 3.47 |
| 33 | 4.3 | 1" | cl 200 PVC | 1.07 | 0.35 | 3.83 |
| | | | | | total pipe loss | 3.83 |

equipment losses

| ITEM | FLOW (gpm) | SIZE | PRESSURE LOSS (this item) | PRESSURE LOSS (accumulated) |
|---|---|---|---|---|
| water meter | 38.7* | 1-1/2" | 3.30 | 3.30 |
| backflow prev. | 38.7* | 1-1/2" | 12.00 | 15.30 |
| valve | 38.7* | 1-1/2"+1"* | 4.80 | 20.10 |
| | | | total equipment loss | 20.10 |

| | |
|---|---|
| Total Friction Loss (pipe + equipment losses) | 23.93 |
| elevation change | 0.5 |
| factor | 0.433 |
| Total Elevation Pressure Loss | 0.22 |
| **TOTAL PRESSURE LOSS (FRICTION + ELEVATION LOSSES)** | **24.14** |
| MINIMUM HEAD PRESSURE | 50.00 |
| DESIGN PRESSURE | 74.14 |

# PRECIPITATION RATE FORMULAS

| Valves | Triangular Spacing Method | | | | | | | 360° Rate | 180° Rate | 90° Rate |
|---|---|---|---|---|---|---|---|---|---|---|
| 1, 3 | GPM of Full Circle x 96.25 | 4.3 | x | 96.25 | = | 413.875 | = | | | |
| | (Head Spacing x Row Spacing) x .866 | 34 | 30 | 0.866 | = | 883.32 | | 0.47 in./hr. | 0.94 in./hr. | 1.87 in./hr. |
| 2 | GPM of Full Circle x 96.25 | 4.3 | x | 96.25 | = | 413.875 | = | | | |
| | (Head Spacing x Row Spacing) x .866 | 20 | 16 | 0.866 | = | 277.12 | | 1.49 in./hr. | 2.99 in./hr. | 5.97 in./hr. |
| 5 | GPM of Full Circle x 96.25 | 0.5 | x | 96.25 | = | 48.125 | = | | | |
| | (Head Spacing x Row Spacing) x .866 | 13 | 14 | 0.866 | = | 157.612 | | 0.31 in./hr. | 0.61 in./hr. | 1.22 in./hr. |

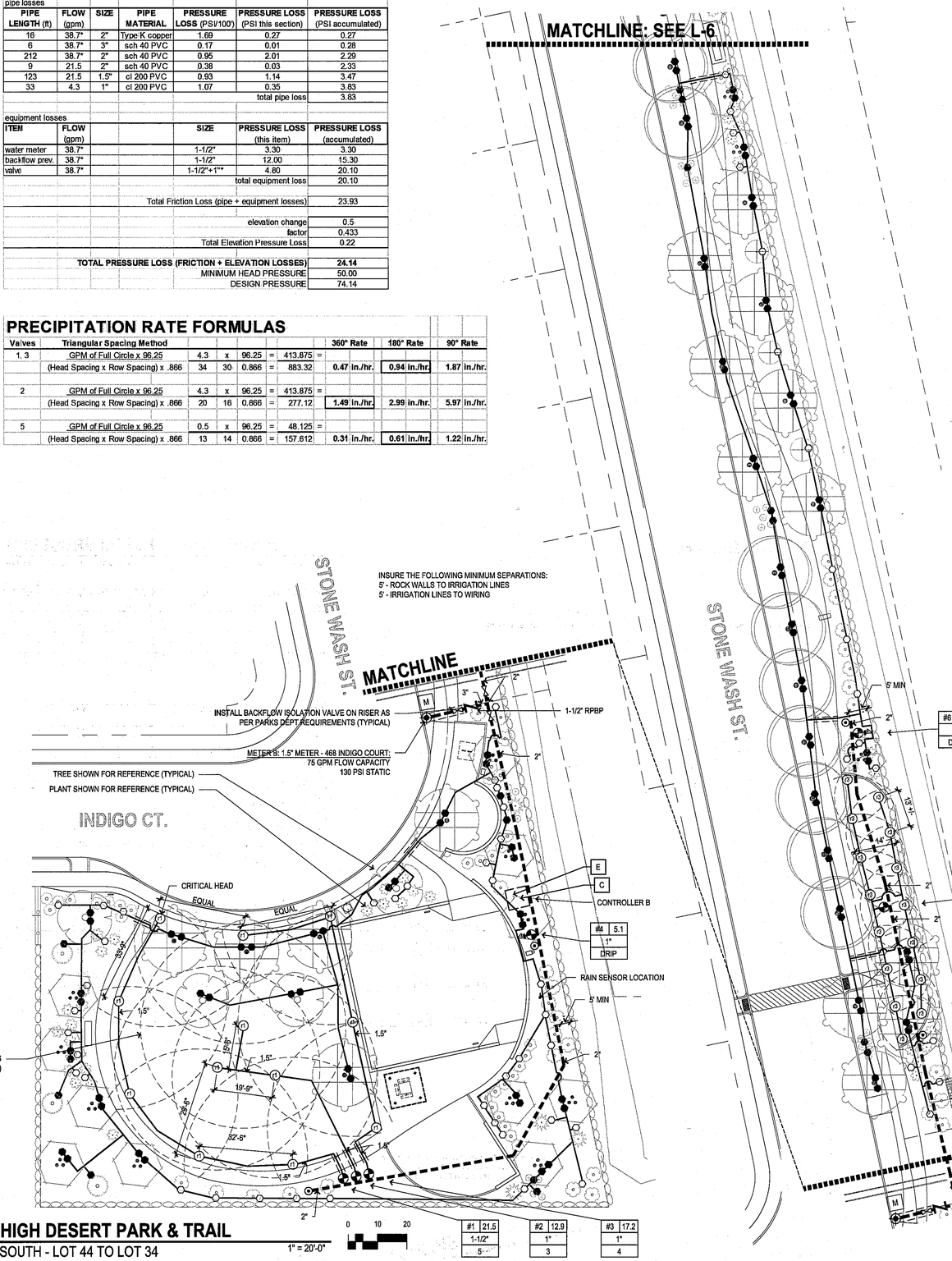
# PRECIPITATION RATE TABLE (HIGH DESERT PARK & TRAIL, SOUTH)

| STATION | VALVE SIZE | IRRIGATION TYPE | AREA IRRIGATED | TOTAL GPM'S | # OF HEADS / EMITTERS | PRECIPITATION RATES | WATER APPLICATION 1.2" RUN TIME* |
|---|---|---|---|---|---|---|---|
| CONTROLLER B / METER B | | | | | | | |
| 1 | 1-1/2" | ROTOR | TURF | 21.5 | 5 | .94" / hour | 77 minutes |
| 2 | 1" | " | TURF | 12.9 | 4 | 1.49" / hour | 49 minutes |
| 3 | 1" | " | TURF | 17.2 | 4 | .94" / hour | 77 minutes |
| 5 | 1" | ↓ | TURF | 7.5 | 15 | .61" / hour | 118 minutes |
| 4 | 1" | DRIP | PLANTINGS | 5.1 | - | - | 60 minutes |
| 6 | 1" | ↓ | PLANTINGS | 3.2 | - | - | 60 minutes |
| TOTAL RUN TIME (CONTROLLER B, NON-DRIP ONLY): 5 HOURS, 21 MINUTES | | | | | | | |

PRECIPITATION RATE - EQ. TRIANGULAR SPACING, 180 DEGREE OPERATION (1/2x RATE 360 DEG, 2x RATE 90 DEG)
RUN TIMES BASED ON APPLICATION RATE OF 1.2" / DAY, 3 DAYS / WEEK, HOTTEST SUMMER MONTH.
*RUN TIME CALCULATION FORMULA = 1.2" DIVIDED BY PRECIPITATION RATE.

# WATERING SCHEDULE (HIGH DESERT PARK & TRAIL, SOUTH)

| STATION(S) | FLOW (GALLONS PER MINUTE) | RUN TIME (MINUTES) |
|---|---|---|
| **CONTROLLER B / METER B: ROTOR** | | |
| VALVE 1 + VALVE 3 | 21.5 + 17.2 = 38.7 | 77 |
| VALVE 2 | 12.9 | 49 |
| VALVE 5 | 7.5 | 118 |
| **CONTROLLER B / METER B: DRIP** | | |
| VALVE 4 + VALVE 6 | 5.1 + 3.2 = 8.3 | 60 |
| **SUMMARY: ROTOR AND DRIP** | | |
| CONTROLLER B | ROTOR = 59.1 GPM | 4 HRS - 4 MIN |
| | ROTOR + DRIP = 67.4 GPM | 5 HRS - 4 MIN |
| | TOTAL FLOW | TOTAL RUN TIME |

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**HIGH DESERT PARK & TRAIL**
SOUTH - LOT 44 TO LOT 34
1" = 20'-0"
0 10 20

# IRRIGATION GENERAL NOTES

1. IRRIGATION PLAN IS DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ACCOMPLISHING FULL COVERAGE IN ALL AREAS WITH SPECIFIED EQUIPMENT. ANY DISCREPANCIES IN THE PLAN SHOULD BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION DURING CONSTRUCTION.
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5. THE CONTRACTOR SHALL LOCATE AND VERIFY EACH WATER TAP TO WHICH THE IRRIGATION SYSTEM WILL CONNECT. ALL EQUIPMENT AND INSTALLATION METHODS SHALL COMPLY WITH THE STANDARDS OF THE CITY OF EL PASO AND THE SPECIFICATIONS.
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7. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO INITIATING WORK.
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9. EACH CONTROLLER WILL HAVE AN INDEPENDENT COMMON WIRE LOOPED TO THE VALVES CONNECTED TO IT.
10. REMOTE CONTROL VALVE WIRES ARE TO BE IN A SEPARATE TRENCH 5' FROM MAIN LINE ON NORTH OR WEST SIDE OF MAINLINE.
11. ALL REMOTE CONTROL VALVE WIRES NEED TO BE LABELED AT VALVE W/ WEATHER (WATER) PROOF LABELS AND AT CONTROLLER WITH CORRESPONDING LABEL. (LETTER AND/OR NUMBER TAGS IN SEQUENTIAL ORDER WILL BE PROVIDED).
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13. ALL SPRINKLER HEADS SHALL BE ON STAINLESS STEEL RISERS WITH CHECK VALVE.
14. CONTRACTOR SHALL PROVIDE SLEEVES FOR NEW IRRIGATION LINES CROSSING UNDER CONCRETE SIDEWALKS. SLEEVES SHALL BE 2 TIMES THE PIPE SIZE EXTENDED 24" BEYOND EDGE OF SURFACE, BE WRAPPED WITH MINIMUM 4 MIL PLASTIC AND TAPED WITH 3M BRAND HEAVY DUTY PLASTIC.
15. IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, PO BOX 13087, AUSTIN, TX, 78711-3087

# SOILS NOTES

1. DEVELOPER SHALL OBTAIN SOIL SAMPLES (TAKEN FROM PROPOSED PARK SITE LOCATION FINISHED GROUND) & PROVIDE COMPLETE ANALYSIS REPORT (TEXTURAL, MINERAL AVAILABILITY, WATER INFILTRATION, DETAILED SALINITY, & PH CONDUCTIVITY TEST) WITH RECOMMENDATIONS FOR SOIL AMENDMENTS AND PREPARATION TO INSURE EXISTING SOIL CONDITIONS ARE SUITABLE FOR TURF, SHRUB, AND TREE GROWTH; COORDINATE SITE VISIT WITH PARKS STAFF FOR COLLECTION OF SOIL SAMPLES.
2. ANY UNSUITABLE SOIL CONDITIONS SHALL BE REMEDIED TO ELIMINATE HARD SOILS, STONY SOILS, HIGH CALICHE SOILS, CLAY SOILS AND CONTAMINATED SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BY SHATTERING, IN TWO DIRECTIONS, OF HARD PAN CALICHE, CLAY SOILS, ROCKS TO A DEPTH OF 36 INCHES BELOW FINISHED GRADE AS REQUIRED FOR PROPER PLANTING AS PER THE PARK FACILITIES DESIGN STANDARDS.
3. ANY UNSUITABLE SOIL MATERIALS NOT APPROVED BY PARKS DEPARTMENT ARE TO BE REMOVED, DISPOSED-OFF, AND REPLACED WITH TOP SOIL TO A MINIMUM DEPTH OF 12 INCHES.

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
ENVIRONMENTAL DESIGN for the BEST CLIMATES IN THE WORLD

REFERENCES — BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF BUNNALT & RICA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3878.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants, Incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

STATE OF TEXAS — CARLOS HOGUIN — 115907 — LICENSED IRRIGATOR

SCALE:
HORIZONTAL: -
VERTICAL: -
CONTOUR INTERVAL: -
DATE: 6/2015
DESIGN BY: DAC
DRAWN BY: -
CHKD BY: -
APPVD BY: -
JOB NO. -

PROJECT TITLE
HIGH DESERT PARK & TRAIL / LOT 45, BLK. 5 / 468 INDIGO COURT
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
CONTAINING 52,206 SQ FT OR 1.198 ACRES
EL PASO, TEXAS

SHEET TITLE
IRRIGATION DESIGN PLAN

SHEET NO.
L-5
__ OF ___ SHEETS

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# IRRIGATION LEGEND

| SYMBOL | DESCRIPTION<br>COMPONENT DESCRIPTION | MANUFACTURER<br>COMPONENT MFR(S) | MODEL<br>COMPONENT MODEL(S) | SIZE / NOTES |
|---|---|---|---|---|
| E | ELECTRIC METER | - | - | BY ELECTRICAL CONTRACTOR, COORD. W/ IRRIGATION POWER REQUIREMENTS |
| M | IRRIGATION METER | - | - | SIZE / METER FLOW CAPACITY AS PER PLAN, TYPE K COPPER LINE TO BACKFLOW |
| | POINT OF CONNECTION | - | - | - |
| | RED. PRESSURE BACKFLOW ASSEMBLY<br>PRESSURE REGULATOR, ADJUSTABLE<br><br>WYE STRAINER / FILTER<br>BALL VALVE<br>INSULATED ENCLOSURE<br><br>POWER SUPPLY, GFCI OUTLET<br>HEATING ELEMENT | FEBCO<br>WILKINS<br><br>WILKINS<br>WATTS<br>STRONG BOX<br><br>-<br>- | 825Y SERIES<br>90/91 SERIES<br><br>100 SERIES YSBR<br>FBV<br>SBBC-ALI<br><br>-<br>- | 1-1/2" SIZE<br>LINE SIZE, INSTALL IF POC STATIC PRESSURE IS >20 PSI DESIGN PRESSURE, BEFORE RPBP<br>LINE SIZE<br>LINE SIZE<br>SIZE FOR RPBP, R-25 INSULATION, ASSE 1060 CLASS 1 CERTIFICATION / NOTED AS SUCH FOR HEATING ELEMENT<br>REQUIRED FOR ASSE 1060 CLASS I CERT. |
| | MAINLINE (IRRIGATION)<br>AUTOMATIC DRAIN VALVES<br>FITTINGS, W/ 45 & 22.5 DEG (NO 90 DEG ELLS) | -<br>-<br>- | SCH 40 PVC<br>-<br>- | SIZE PER PLAN; BURIAL: 18"-24" TO TOP OF PIPE<br>INSTALL AT LOW POINT OF EACH RUN, IN 1 CU FT CLEAN, ROUND GRAVEL; CONTRACTOR SHALL VERIFY LOCATIONS W/ PARKS DEPT IN FIELD |
| | LATERAL LINE<br><br>AUTOMATIC DRAIN VALVES<br>FITTINGS, W/ 45 & 22.5 DEG (NO 90 DEG ELLS) | -<br><br>-<br>- | CLASS 200 IPS<br><br>-<br>- | 1" SIZE, UNLESS OTHERWISE INDICATED ON PLAN; BURIAL: 12"-18" TO TOP OF PIPE<br>INSTALL AT LOW POINT OF EACH RUN, IN 1 CU FT CLEAN, ROUND GRAVEL; CONTRACTOR SHALL VERIFY LOCATIONS W/ PARKS DEPT IN FIELD |
| | SLEEVING, CLASS 200 PVC | - | CLASS 200 IPS | 2 TIMES DIAMETER OF PIPING; BURIAL: MATCH LATERALS, MAINS |
| | ROTOR ZONE VALVE<br>ISOLATION BALL VALVE<br>PRESSURE REGULATOR<br>14 GAUGE WIRING TO CONTROLLER<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | WEATHERMATIC<br>INCLUDE<br>WEATHERMATIC<br>-<br>CARSON | 8200CR<br>-<br>XPR<br>-<br>1419 | ALL BRASS, SIZE PER PLAN<br>-<br>LINE SIZE<br>5' MIN TO MAINLINES, 3' MIN TO LATERALS<br>TAN BODY / LID IN GRAVEL OR GREEN BODY / LID IN LAWN, 1 FOR VALVE ASS'Y / 1 FOR FILTER |
| | DRIP ZONE VALVE, ASSEMBLY<br>ISOLATION BALL VALVE<br>PRESSURE REGULATOR<br>BASKET FILTER<br>14 GAUGE WIRING TO CONTROLLER<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK<br>PRESSURE GAUGES | WEATHERMATIC<br>INCLUDE<br>WEATHERMATIC<br>INCLUDE<br>-<br>CARSON<br>- | 8200CR-10<br>-<br>XPR<br>-<br>-<br>1419<br>- | ALL BRASS, 1" VALVE ASSEMBLY<br>-<br>LINE SIZE<br>150 MESH<br>5' MIN TO MAINLINES, 3' MIN TO LATERALS<br>TAN BODY / LID IN GRAVEL OR GREEN BODY / LID IN LAWN, 1 FOR VALVE ASS'Y / 1 FOR FILTER |
| | QUICK COUPLER VALVE, LASCO SWING JOINT<br>ISOLATION BALL VALVE<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | BUCKNER<br>INCLUDE<br>CARSON | QB5NP10<br>-<br>1419 | 1", DOUBLE SLOT, PURPLE COVER, W/ LASCO SNAP-LOK, MALE BRASS STABILIZER ELBOW<br>PURPLE BODY / LID, 1 FOR QUICK COUPLER / 1 FOR BALL VALVE, W/ WEATHER PROOF TAG NON-POTABLE WATER, NOT SAFE FOR DRINKING" |
| | ISOLATION GATE VALVE<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | WATTS<br>CARSON | LFB6000 SERIES, BRASS<br>1419 | LINE SIZE<br>TAN BODY / LID IN GRAVEL OR GREEN BODY / LID IN LAWN |
| | ROTOR HEAD, 6" STAINLESS STEEL POP-UP | HUNTER I-25 HIGH SPEED<br><br>HUNTER I-25 | I-25-06-SS-4 / 4.3 GPM<br><br>I-25-06-SS-5 / 4.8 GPM | #4 YELLOW HIGH SPEED - ADJUST 38' RADIUS (REDUCE NO MORE THAN 25%), ARC IN FIELD<br>#5 WHITE - ADJUST 44' RADIUS (REDUCE NO MORE THAN 25%), ARC IN FIELD |
| | ROTOR HEAD, 6" STAINLESS STEEL POP-UP | HUNTER I-20 | I-20-06-SS-.50 BLK / .50 GPM | #.50 SR BLACK - ADJUST 18' RADIUS (REDUCE NO MORE THAN 25%), ARC IN FIELD |
| | MULTI-OUTLET DRIP EMITTER, THREADED<br>1.0 GPH OUTLETS, PRESSURE-COMPENSATING<br>.5 GPH OUTLETS PRESSURE-COMPENSATING<br>1/4" DISTRIBUTION TUBING<br>TIE-DOWN STAKES, GALVANIZED<br>BOX W/ LID, EXTENSIONS, BOLT DOWN LOCK | RAINBIRD<br>RAINBIRD<br>RAINBIRD<br>RAINBIRD<br>CARSON | XBT-10-6<br>XBT-05-6<br>XT-700<br>TDS-050<br>910 | SEE PLANTING LEGEND FOR QUANTITIES AND SIZES CORRESPONDING TO VARIOUS PLANT SPECIES (6 OUTLETS / EMITTER HEAD)<br>PIN UNDERNEATH MULCH<br>-<br>TAN BODY / LID IN GRAVEL; GREEN BODY / LID IN LAWN |
| C | IRRIGATION CONTROLLER, ESP-SAT<br>STAINLESS STEEL CABINET, PEDESTAL MOUNT<br>14 GAUGE WIRING TO VALVES<br>RAIN SENSOR | RAINBIRD<br>STRONG BOX<br>-<br>RAINBIRD | ESP-12 SAT-2S<br>-<br>-<br>RSD-BEx | 12 STATION SATELLITE CONTROLLER FOR MAXICOM, 120 VOLT POWER SUPPLY REQUIRED<br>5' MIN TO MAINLINES, 3' MIN TO LATERALS<br>MOUNT 10' ABOVE FINISH GRADE ON 2.5" GALVANIZED SCH 40 STEEL PIPE, 7' MIN FROM OBSTRUCTIONS AND AWAY FROM TREES, COORDINATE LOCATION WITH PARKS DEPT. SET AT 1/8", ADJUST AS NEEDED. |

#x GPM ← VALVE NUMBER | FLOW (GALLONS / MINUTE)
X-x/x" ← VALVE SIZE
xx ← NUMBER OF HEADS

WATER SOURCE: POTABLE WATER, EL PASO WATER UTILITIES
EXISTING PRESSURE: 130 PSI STATIC
DESIGN PRESSURE: [redacted] 66.47 PSI (HIGH DESERT N)

NOTE: CONTRACTOR SHALL FIELD VERIFY STATIC PRESSURE AT POINTS OF CONNECTION, AND IS RESPONSIBLE FOR ACHIEVING OPTIMAL PRESSURE FOR PROPER FUNCTION OF IRRIGATION SYSTEM, INCLUDING PRESSURE REGULATION (SEE BACKFLOW PREVENTER AND VALVE NOTES)

# PRECIPITATION RATE TABLE (HIGH DESERT PARK & TRAIL, NORTH)

| STATION | VALVE SIZE | IRRIGATION TYPE | AREA IRRIGATED | TOTAL GPM'S | # OF HEADS / EMITTERS | PRECIPITATION RATES | WATER APPLICATION 1.2" RUN TIME* |
|---|---|---|---|---|---|---|---|
| CONTROLLER C / METER C | | | | | | | |
| 2 | 1" | ROTOR | TURF | 9.0 | 18 | .39" / hour | 185 minutes |
| 3 | 1" | ↓ | TURF | 10.0 | 20 | .39" / hour | 185 minutes |
| 5 | 1" | ↓ | TURF | 8.0 | 16 | .51" / hour | 141 minutes |
| 6 | 1" | ↓ | TURF | 15.0 | 30 | .51" / hour | 141 minutes |
| 1 | 1" | DRIP | PLANTINGS | 5.2 | - | - | 60 minutes |
| 4 | 1" | ↓ | PLANTINGS | 7.9 | - | - | 60 minutes |
| TOTAL RUN TIME (CONTROLLER C, NON-DRIP ONLY): 10 HOURS, 52 MINUTES | | | | | | | |

PRECIPITATION RATE - EQ. TRIANGULAR SPACING, 180 DEGREE OPERATION (1/2x RATE 360 DEG, 2x RATE 90 DEG)
RUN TIMES BASED ON APPLICATION RATE OF 1.2" / DAY, 3 DAYS / WEEK, HOTTEST SUMMER MONTH.
*RUN TIME CALCULATION FORMULA = 1.2" DIVIDED BY PRECIPITATION RATE.

# WATERING SCHEDULE (HIGH DESERT PARK & TRAIL, NORTH)

| STATION(S) | FLOW (GALLONS PER MINUTE) | RUN TIME (MINUTES) |
|---|---|---|
| CONTROLLER C / METER C: ROTOR | | |
| VALVE 2 + VALVE 3 | 9.0 + 10.0 = 19.0 | 185 |
| VALVE 5 + VALVE 6 | 8.0 + 15.0 = 23.0 | 141 |
| CONTROLLER C / METER C: DRIP | | |
| VALVE 1 + VALVE 4 | 5.2 + 7.9 = 13.1 | 60 |
| SUMMARY: ROTOR AND DRIP | | |
| CONTROLLER C | ROTOR = 42.0 GPM | 5 HRS - 26 MIN |
| | ROTOR + DRIP = 55.1 GPM | 6 HRS - 26 MIN |
| | TOTAL FLOW | TOTAL RUN TIME |

# PRESSURE LOSS CALCULATIONS

VALVE #6 (* PAIRED W/ VALVE #5) — Static Pressure: 130

pipe losses

| PIPE LENGTH (ft) | FLOW (gpm) | SIZE | PIPE MATERIAL | PRESSURE LOSS (PSI/100') | PRESSURE LOSS (PSI this section) | PRESSURE LOSS (PSI accumulated) |
|---|---|---|---|---|---|---|
| 28 | 23 | 1-1/2" | Type K copper | 1.83 | 0.51 | 0.51 |
| 498 | 23 | 2" | sch 40 PVC | 0.16 | 0.80 | 1.31 |
| 155 | 15 | 2" | sch 40 PVC | 0.16 | 0.25 | 1.56 |
| 6 | 15 | 1.5" | cl 200 PVC | 0.40 | 0.02 | 1.58 |
| 9 | 12 | 1.5" | cl 200 PVC | 0.40 | 0.04 | 1.62 |
| 11 | 7.5 | 1" | cl 200 PVC | 0.24 | 0.03 | 1.64 |
| 123 | 4.5 | 1" | cl 200 PVC | 0.24 | 0.30 | 1.94 |
| | | | | | total pipe loss | 1.94 |

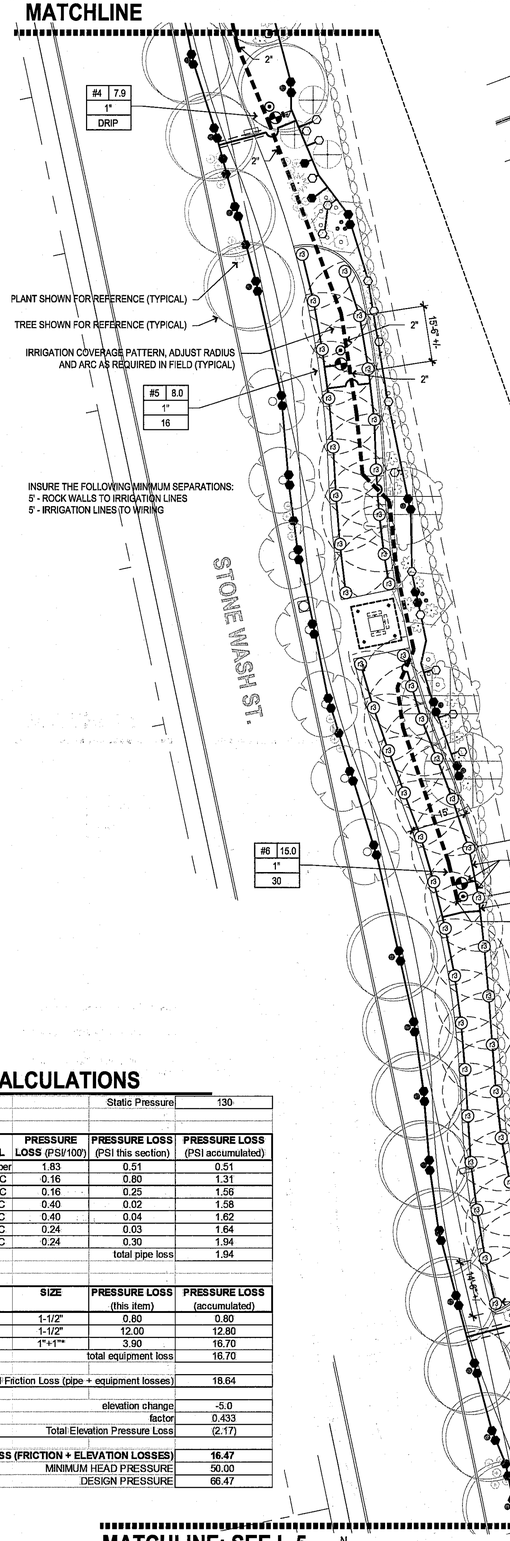
equipment losses

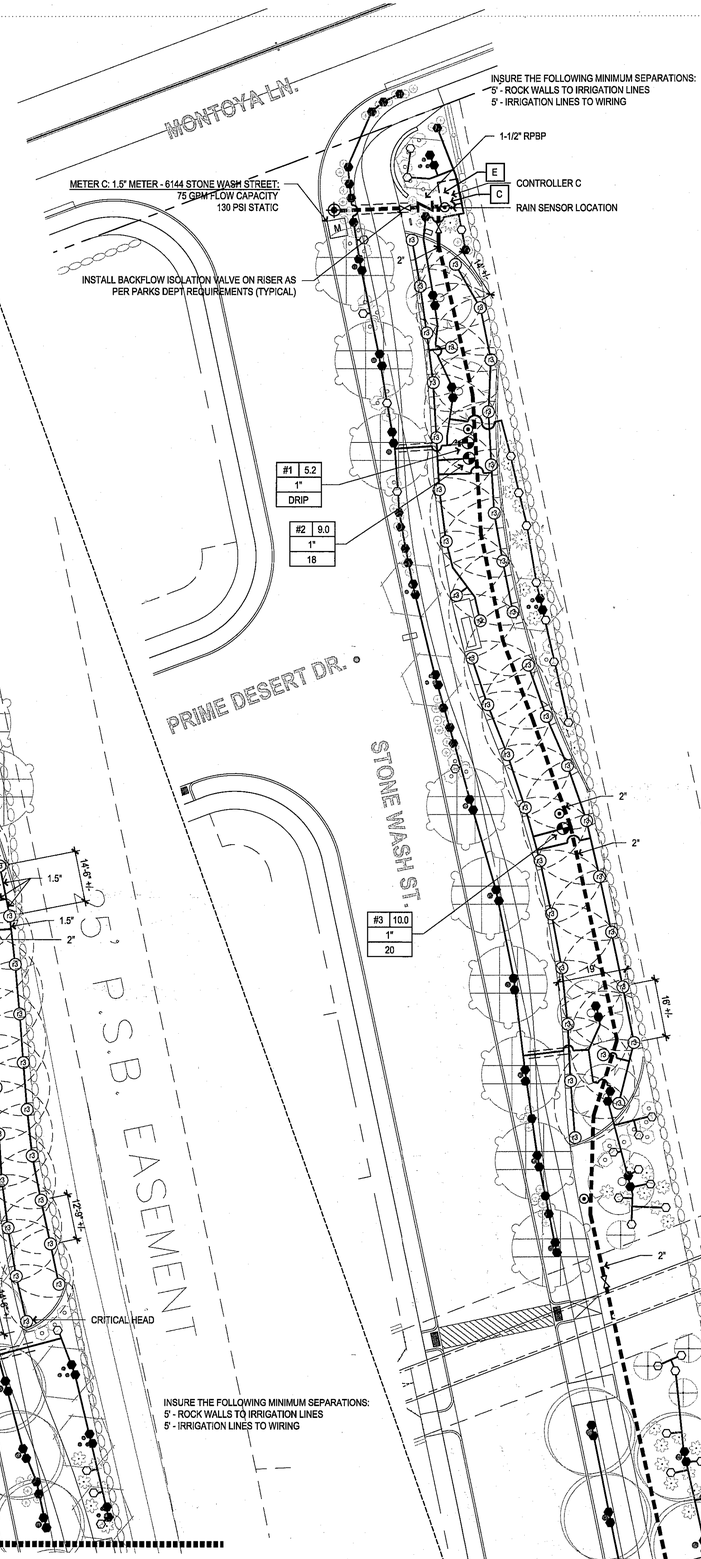
| ITEM | FLOW (gpm) | SIZE | PRESSURE LOSS (this item) | PRESSURE LOSS (accumulated) |
|---|---|---|---|---|
| water meter | 23 | 1-1/2" | 0.80 | 0.80 |
| backflow prev. | 23 | 1-1/2" | 12.00 | 12.80 |
| valve | 23 | 1"+1"* | 3.90 | 16.70 |
| | | | total equipment loss | 16.70 |
| | | Total Friction Loss (pipe + equipment losses) | | 18.64 |
| | | | elevation change | -5.0 |
| | | | factor | 0.433 |
| | | Total Elevation Pressure Loss | | (2.17) |
| | | TOTAL PRESSURE LOSS (FRICTION + ELEVATION LOSSES) | | 16.47 |
| | | MINIMUM HEAD PRESSURE | | 50.00 |
| | | DESIGN PRESSURE | | 66.47 |

# PRECIPITATION RATE FORMULAS

| Valves | Triangular Spacing Method | | | | | | | 360° Rate | 180° Rate | 90° Rate |
|---|---|---|---|---|---|---|---|---|---|---|
| 5, 6 | GPM of Full Circle x 96.25 | 0.5 | x | 96.25 | = | 48.125 | = | | | |
| | (Head Spacing x Row Spacing) x .866 | 14.5 | 15 | 0.866 | = | 188.355 | | 0.26 in./hr. | 0.51 in./hr. | 1.02 in./hr. |
| 2, 3 | GPM of Full Circle x 96.25 | 0.5 | x | 96.25 | = | 48.125 | = | | | |
| | (Head Spacing x Row Spacing) x .866 | 15 | 19 | 0.866 | = | 246.81 | | 0.19 in./hr. | 0.39 in./hr. | 0.78 in./hr. |

# MATCHLINE




# IRRIGATION GENERAL NOTES

1. IRRIGATION PLAN IS DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ACCOMPLISHING FULL COVERAGE IN ALL AREAS WITH SPECIFIED EQUIPMENT. ANY DISCREPANCIES IN THE PLAN SHOULD BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION DURING CONSTRUCTION.
2. ALL FITTINGS AND NECESSARY EQUIPMENT REQUIRED TO MAKE THIS IRRIGATION SYSTEM OPERATE PROPERLY AND TO COMPLY WITH LOCAL AND STATE CODES ARE INCIDENTAL TO THESE PLANS AND ARE THE CONTRACTOR'S RESPONSIBILITY.
3. CONTRACTOR WILL BE HELD LIABLE FOR GAINING ACCESS UNDER ALL PAVEMENTS.
4. SLEEVES SHOWN ON THE PLANS SHOULD BE VERIFIED FOR ACCESSIBILITY AND FEASIBILITY BEFORE BID IS MADE.
5. THE CONTRACTOR SHALL LOCATE AND VERIFY EACH WATER TAP TO WHICH THE IRRIGATION SYSTEM WILL CONNECT. ALL EQUIPMENT AND INSTALLATION METHODS SHALL COMPLY WITH THE STANDARDS OF THE CITY OF EL PASO AND THE SPECIFICATIONS.
6. CONTRACTOR IS RESPONSIBLE FOR ALL CONNECTIONS AND VALVES REQUIRED FOR THE FULL IMPLEMENTATION OF THE SYSTEM.
7. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO INITIATING WORK.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR INTERRUPTION IN SERVICE CAUSED BY HIS EXCAVATIONS AND/OR WORK.
9. EACH CONTROLLER WILL HAVE AN INDEPENDENT COMMON WIRE LOOPED TO THE VALVES CONNECTED TO IT.
10. REMOTE CONTROL VALVE WIRES ARE TO BE IN A SEPARATE TRENCH 5' FROM MAIN LINE ON NORTH OR WEST SIDE OF MAINLINE.
11. ALL REMOTE CONTROL VALVE WIRES NEED TO BE LABELED AT VALVE W/ WEATHER (WATER) PROOF LABELS AND AT CONTROLLER WITH CORRESPONDING LABEL. (LETTER AND/OR NUMBER TAGS IN SEQUENTIAL ORDER WILL BE PROVIDED).
12. SPLICING OF REMOTE CONTROL VALVE WIRES IS NOT ALLOWED BETWEEN CONTROLLER & VALVE BOX FOR WIRES MUST BE CONTINUOUS FROM CONTROLLER TO REMOTE CONTROL VALVE WITHOUT SPLICING.
13. ALL SPRINKLER HEADS SHALL BE ON STAINLESS STEEL RISERS WITH CHECK VALVE.
14. CONTRACTOR SHALL PROVIDE SLEEVES FOR NEW IRRIGATION LINES CROSSING UNDER CONCRETE SIDEWALKS SLEEVES SHALL BE 2 TIMES THE PIPE SIZE EXTENDED 24" BEYOND EDGE OF SURFACE, BE WRAPPED WITH MINIMUM 4 MIL PLASTIC AND TAPED WITH 3M BRAND HEAVY DUTY PLASTIC.
15. IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, PO BOX 13087, AUSTIN, TX, 78711-3087

# SOILS NOTES

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THE CITY OF EL PASO TEXAS

PARKS DEPARTMENT
REVIEWED BY _____ 07/28/2015

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
ENVIRONMENTAL DESIGN for the BEST CLIMATES IN THE WORLD

MATCHLINE: SEE L-5

N

HIGH DESERT PARK & TRAIL
NORTH - LOT 34 TO MONTOYA LN

1" = 20'-0"

0 10 20

TDLR PLD# EABPRJB5806142

REFERENCES — BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUAULT & INCA AVENUE REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3978.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

STATE OF TEXAS CARLOS HOLGUIN 105015 LICENSED PROFESSIONAL ENGINEER

SCALE:
HORIZONTAL: ___
VERTICAL: ___
CONTOUR INTERVAL: ___

| | |
|---|---|
| DATE: | 6/2015 |
| DESIGN BY: | DMC |
| DRAWN BY: | - |
| CHKD BY: | - |
| APPVD BY: | - |
| JOB NO. | - |

PROJECT TITLE
HIGH DESERT PARK & TRAIL / LOT 45, BLK. 5 / 468 INDIGO COURT
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
CONTAINING 52,206 SQ FT OR 1.198 ACRES
EL PASO, TEXAS

SHEET TITLE
IRRIGATION DESIGN PLAN

SHEET NO.
L-6

___ OF ___ SHEETS

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DENIM DR.
RIVET PL.
ENTIRE AREA: SEE L-1, L-4
EXPANSION JOINT (TYPICAL)
CONTROL JOINT (TYPICAL)
6' MINIMUM SAFETY ZONE (TYPICAL)
R 87'
57' +/-
50' +
28' +
20'-0"
12'-0"
14'-0"
19'-8" +/-
12'-6" +/-
10'-0"
7'-0"
6'-0"
5'-0"
8'-10"
11'-11"
7'-4"
2'-11"
12'-6"
4'-6"
1'-10"
(Reinvest® (2-5 years))
11'-0"
7'-6"
4'-3"
2'-3"
6'-8"
2'-5"
6'-0"
5'-5"
16'-8"
20'-0"
5'-0"
12'-3"
6'-0"
6'-0"
6'-0

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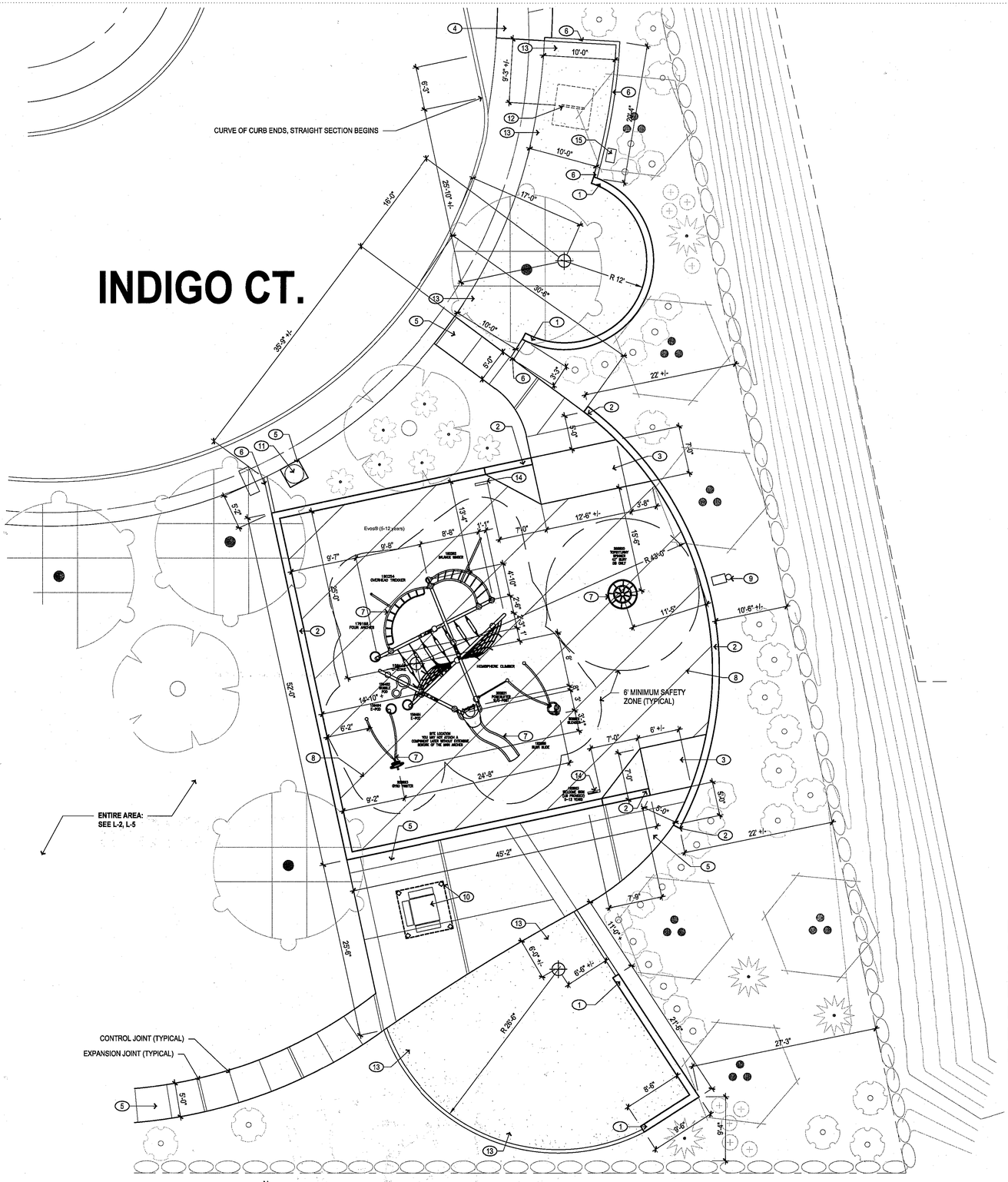


## PLAY AREA ENLARGEMENT
HIGH DESERT PARK

1/8" = 1'-0"

## KEYED NOTES (HIGH DESERT - ENLARGEMENT)

- FOR LANDSCAPE TREATMENTS THROUGHOUT THIS ENTIRE PARK, AND OTHER QUANTITIES / AREAS, SEE L-2, L-3 AND L-5, L-6. ALL FINAL FINISHES AND COLORS SUBJECT TO THE APPROVAL OF THE PARKS DEPT, PRIOR TO ORDERING (TYPICAL)

1 SEAT WALL, 18" HIGH x 12" DEPTH, SEE 1/L-9 (TYPICAL, 75 LIN FT)
2 PLAYGROUND ROCKWALL, 18" HIGH, SEE 1,2/L-9 (TYPICAL, 210 LIN FT)
3 PLAYGROUND RAMP, SEE 6/L-9 (2 TOTAL, 205 SQ FT)
4 HIKE / BIKE TRAIL, CONCRETE, 8' WIDTH, SEE 4/L-9 (TYPICAL)
5 CONCRETE PAVING, PLAIN GRAY COLOR, MEDIUM BROOM FINISH, EXPANSION JOINTS AT 15' O.C. / CONTROL JOINTS AT 5' O.C., OR AS PER PLAN, SEE 4/L-9 (TYPICAL, AREA INCLUDED IN L2-L3)
6 HEADER CURB, SEE 5/L-9 (TYPICAL)
7 AGE 5-12 PLAY STRUCTURES, SEE L-9 AND MANUFACTURER DETAILS AND SPECIFICATIONS (EVOS: LANDSCAPE STRUCTURES)
EVOS 3 ARCH - HEMISPHERE CLIMBER W/ 3 ARCHES
202821 - POWERLIFTER WITHOUT POST
202822 - BLENDER
182865 - RUSH SLIDE
202823 - GYROTWISTER
156454 - E-POD (2)
156452 - WOBBLE POD
156448 - O-ZONE
179185 - FOUR ARCHES
160254 - OVERHEAD TREKKER
160252 - BALANCE WINDER
205800 - TOPSYTURNY SPINNER
8 ENGINEERED WOOD FIBERS FOR PLAYGROUND, 12" COMPACTED DEPTH, SURFACE SHALL MEET ASTM F 1951, CONSISTENT AS AN ACCESSIBLE ROUTE TO ALL GROUND LEVEL PLAY COMPONENTS, SEE 7/L-9 (TYPICAL, 2,625 SQ FT)
9 AREA LIGHT FOR PLAYGROUND, 30' PRE-STRESSED CONCRETE POLE, SPUNCAST. COORDINATE WITH PARKS DEPARTMENT (1 TOTAL):
MEO09 POLE - TENON ASSEMBLY (AMERON POLE PRODUCTS)
FINISH - MIX DR31, DESERT ROSE, EXPOSED AGGREGATE, WITH AMERSHIELD ANTI-GRAFFITI COATING
LUMINAIRE - LED LIGHT HEAD WITH BAFFLE
* CONTRACTOR SHALL PROVIDE ELECTRICAL CONDUIT AND WIRING DESIGN TO THE PARKS DEPT & BUILDING PERMITS AND INSPECTIONS FOR REVIEW AND APPROVAL, PRIOR TO COMMENCEMENT OF WORK
10 PICNIC TABLE, SHADED, ACCESSIBLE, SEE 1/L-10 (1 TOTAL)
CLASSIC RECREATION - HAWAII TABLE, ACCESSIBLE (3 SEATS) W/ 7' SQ HR-36 ROOF, 4:12 PITCH, DIRECT BURY
COLOR: GRAY TABLE, TERRA COTTA ROOF
11 WASTE RECEPTACLE, ON 3' X 3' MINIMUM SIZE CONCRETE PAD, SEE 3/L-10 (1 TOTAL)
DU MOR - 158 WASTE, GRAY
12 BIKE RACK, SEE 4/L-10 (1 TOTAL)
DU MOR - 130-20-S1, GRAY, 3-5 BICYCLES
13 SITTING AREA - COMPACTED AND STABILIZED DESERT TAN SCREENINGS, SEE 5/L-10 (TYPICAL, 1,625 SQ FT)
14 PLAYGROUND SIGN, SEE 7/L-10 (2 TOTAL)
15 DOG DISPENSER STATION (1 TOTAL)
KAY PARK - MUTT MUTT, POST, MITTS, SIGN, COVER

## PLAYGROUND & SWING EQUIPMENT NOTES

1. EQUIPMENT AND COMPONENTS TO BE IPEMA CERTIFIED.
2. EQUIPMENT MANUFACTURER TO COMPLY WITH ISO 9001.
3. EQUIPMENT MANUFACTURER TO PROVIDE CLEAR INSTALLATION MANUAL AND PROJECT LAYOUT AT THE COMPLETION OF PROJECT HARD COPY.
4. EQUIPMENT AND FALL SURFACING MUST COMPLY WITH CURRENT STANDARDS AND GUIDELINES.
5. EQUIPMENT TO CALLED OUT WITH LENGTHS FOR OVERHEAD ACTIVITIES, SPACING BETWEEN RAILS FOR CURLEY CLIMBERS, TRACK RIDES, ETC.
6. EQUIPMENT TO HAVE SAFETY TOP RAIL WITH A MINIMUM OF 72 INCHES AT CLIMBING OR SLIDING ELEMENTS.
7. EQUIPMENT MANUFACTURER SALES REPRESENTATIVE TO BE NPSI CERTIFIED.
8. EQUIPMENT INSTALLATION TO BE INSPECTED AND CERTIFIED FOR PROPER ASSEMBLY BY MANUFACTURER REPRESENTATIVE NPSI CERTIFIED.
9. EQUIPMENT MUST BE SUPERSEDED BY SUBMITTAL PACKETS THAT HAVE THE FOLLOWING INFORMATION FOR REVIEW AND RELEASE BY PROJECT DESIGNER AND PARK AND RECREATION STAFF:
   a. PROJECT SITE PLAN REFLECTING CONSTRUCTION DRAWINGS OR ACTUAL FIELD CONDITIONS
   b. SITE PLAN WITH CONSTRUCTION POINTS
   c. SITE PLAN WITH DIMENSIONS FOR ALL USE ZONES AND BETWEEN INDEPENDENT PIECES OF EQUIPMENT
   d. LOCATION OF CONTAINMENT WALL OR CURB.
   e. LOCATION, LIMITS AND DIMENSIONS OF ACCESSIBLE PATH OF TRAVEL
   f. LOCATION OF ANY SHADE CANOPIES AS APPLICABLE
   g. EQUIPMENT COLOR SELECTION CHART
   h. EQUIPMENT INFORMATION INCLUDING INSTALLATION.
10. MANUFACTURER TO PROVIDE A SEALED MAINTENANCE KIT TO INCLUDE: TOOL BOX, SAND PAPER, OWNER'S MANUAL, HARDWARE (20 PIECES EACH MINIMUM) ASSORTED 10. MANUFACTURER TO PROVIDE A SEALED MAINTENANCE KIT TO INCLUDE: TOOL BOX, SAND PAPER, OWNER'S MANUAL, HARDWARE (20 PIECES EACH MINIMUM) ASSORTED SIZES OF VANDAL PROOF NUTS, BOLTS, WASHERS, FASTENING TOOLS (ONE EACH SIZE - WRENCH AND CHUCK KEYS), 4CANS OF PRIMER , 2 CANS OF EACH COLOR OF TOUCH-UP PAINT, PLASTIC REPAIR KIT, ANTI-GRAFFITI REMOVER.
11. EQUIPMENT INSTALLATION TO BE PERFORMED BY CONTRACTOR MEETING THE FOLLOWING REQUIREMENTS (a. AND b. ARE INSTALLATION EXPERIENCE REQUIREMENTS THAT MUST BE MET, c. AND d. ARE OPTIONAL REQUIREMENTS THAT MAY BE SUBSTITUTED FOR EITHER a. OR b.).
   a. MINIMUM 8 YEARS EXPERIENCE INSTALLING SAME EQUIPMENT.
   b. COMPLETE GOOD QUALITY INSTALLATION OF A MINIMUM OF 20 STRUCTURES OF SAME OR SIMILAR SIZE.
   c. TRAINING AND CERTIFICATION BY EQUIPMENT MANUFACTURER.
   d. NPSI CERTIFICATION.
12. EQUIPMENT AND FALL SURFACES TO BE AUDITED AND TESTED BY AN INDEPENDENT EQUIPMENT AUDITOR. ANY ITEMS FOUND DEFICIENT IN AUDIT MUST BE CORRECTED AND A RE-AUDIT OF CORRECTED ITEM TO INSURE THAT ALL DEFICIENT ITEMS ARE ADDRESSED.
13. PLAYGROUND AREA TO BE FENCED AND PROPERLY SECURED THROUGHOUT, COURSE OF CONSTRUCTION AND UP TO ACCEPTANCE PROJECT.
14. EQUIPMENT TO HAVE MINIMUM 72" SAFETY USE (FALL) ZONE ASTM1487-11.
15. CONSTRUCTION WORK ON PLAYGROUND AREA WILL NOT COMMENCE UNTIL ALL MATERIALS AND SUPPLIES ARE IN POSSESSION OF CONTRACTORS.
16. CONTRACTOR WILL INSURE THAT WORK PROGRESS WILL BE ONGOING AND JOB SITE WILL NOT BE LEFT ABANDONED FOR ANY TIME PERIOD GREATER THAN 48 HOURS.
17. CONTRACTOR WILL INSURE THAT JOB SITE IS KEPT CLEAN AND CLEAR OF ANY CONSTRUCTION DEBRIS ON A DAILY BASIS.
18. CUSTOM SIGN TO BE FURNISHED BY PLAYGROUND MANUFACTURER WITH INFORMATION ON AGE APPROPRIATE USE, ADULT SUPERVISION RECOMMENDED, MANUFACTURER'S NAME AND 1-800 PHONE NUMBER, CITY OF EL PASO MAINTENANCE PHONE NUMBER OF (915) 621-6791 AND "WARNING" INSTALLATION OVER HARD SURFACE NOTICE. THE SPECIFIC VERBIAGE CAN BE WORKED OUT DURING OVER HARD SURFACE NOTICE. THE SPECIFIC VERBIAGE CAN BE WORKED OUT DURING PROJECT CONSTRUCTION.

**NOTE:**
**CONFIRM ALL PLAYGROUND SUPPORTS AND FOOTINGS LAYOUT / LOCATIONS WITH MANUFACTURER DETAILS AND SPECIFICATIONS, AND PARKS DEPT, PRIOR TO INSTALLATION (TYPICAL)**

THE CITY OF EL PASO TEXAS

**PARKS DEPARTMENT**
REVIEWED BY _____ DATE 6/25/15

**TDLR PLD# EABPRJB5806142**

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
ENVIRONMENTAL DESIGN for the BEST CLIMATES IN THE WORLD

REFERENCES – BENCHMARK
BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF DONIPHAN & MONTWOOD
REFERENCE IN "MESA HILLS ADDITION"
ELEVATION = 3578.84 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

RICHARD D. BRAUN 87174 LICENSED LANDSCAPE ARCHITECT STATE OF TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 6/2015
DESIGN BY: DMC
DRAWN BY: -
CHKD BY: -
APPV'D BY: -
JOB NO. -

PROJECT TITLE
HIGH DESERT PARK & TRAIL / LOT 45, BLK. 5 / 468 INDIGO COURT
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
PLAY AREA ENLARG., NOTES

SHEET NO.
L-8

__ OF ___ SHEETS

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# GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING HIS BID.
2. CONTRACTOR SHALL BE FAMILIAR WITH PLANS, DETAILS AND SPECIFICATIONS AS THEY PERTAIN TO THE SITE, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE IF ANY ITEMS CONTAINED WITHIN THE SCOPE OF WORK DEFINED HEREIN, ARE IN CONFLICT WITH THE PROPOSED CONTRACT.
3. EXISTING UTILITY LINES ARE TO BE BLUE STAKED PRIOR TO EXCAVATION, CHECK AND FIELD VERIFY ALL SITE CONDITIONS, UTILITIES AND SERVICES PRIOR TO EXCAVATION. CONSTRUCTION WORK IN CLOSE PROXIMITY TO UNDER-GROUND UTILITIES SHALL BE COORDINATED WITH APPROPRIATE AGENCY.
4. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH OWNER, ALL AFFECTED UTILITY COMPANIES, AND ALL OTHER ENTITIES HAVING JURISDICTION OVER THE PROJECT.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES PRIOR TO COMMENCING WITH THE WORK. ANY DISCREPANCY NOTED SHALL BE REPORTED IMMEDIATELY TO THE PROJECT MANAGER. FAILURE OF THE CONTRACTOR TO REPORT ANY FIELD AND PLAN DISCREPANCIES SHALL MAKE THE CONTRACTOR RESPONSIBLE FOR WORK THAT IS PERFORMED.
6. VIBRATORY ROLLERS SHALL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
7. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN STRICT CONFORMANCE WITH ALL CURRENT SAFETY CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO, OSHA REQUIREMENTS.
8. WARNING! BEFORE EXCAVATING, CONTRACTOR SHALL LOCATE AND PROTECT ALL UNDERGROUND UTILITIES LINES. CONTRACTOR SHALL REPLACE ANY UTILITIES DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
9. CONTRACTOR SHALL WATER CONSTRUCTION SITE AREA A MINIMUM OF TWICE A DAY TO DUST CONTROL, ONCE IN THE MORNING AND ONCE IN THE AFTERNOON. THIS SHALL ALSO BE DONE ON WEEKENDS AND HOLIDAYS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. ANY DAMAGE RESULTING FROM CONTRACTOR WORK SHALL BE RESTORED AT NO COST TO OWNER.
11. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATION DURING CONSTRUCTION ACTIVITY.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ENVIRONMENTAL FINES RESULTING FROM HIS/HER WORK AND HOLD THE OWNER HARMLESS IN SUCH CASES.
13. CONTRACTOR SHALL SECURE THE SITE DURING CONSTRUCTION TO PROTECT THE AREA FROM VANDALISM AND ILLEGAL TRESPASSING. CONTRACTOR SHALL SECURE THE SITE AT HIS/HER OWN COST. CONTRACTOR SHALL SITE PROTECTION MEASURES SHALL BE SUBMITTED TO THE PARKS AND RECREATION DEPT. FOR APPROVAL.
14. ALL EXISTING UTILITIES CURRENTLY IN SERVICE MUST REMAIN IN SERVICE THROUGHOUT CONSTRUCTION EXCEPT AS NOTED IN THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES (INCLUDING SERVICE CONNECTIONS) FROM DAMAGE AS A RESULT OF CONSTRUCTION ACTIVITIES.
15. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO VERIFY LOCATION OF EXISTING UTILITIES & CONTRACTOR SHALL CALL THE RESPECTIVE "1-CALL" NUMBER FOR SUCH UTILITIES.
16. CONTRACTOR SHALL INSURE THE FOLLOWING: ALL ACCESSIBLE ROUTES SHALL NOT EXCEED A RUNNING SLOPE GREATER THEN 1:20(5%). NO WHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50(2%). MAXIMUM SLOPE OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20(5%). MAXIMUM RUNNING SLOPE OF ANY CURB RAMP SHALL NOT EXCEED 1:12(8.33%) SLOPE. ALL ACCESSIBLE PATHS SHALL COMPLY WITH TAS AND ADAAG.
17. NO SIGNS, FIRE HYDRANTS, LIGHTS, NDCBU'S, ELECTRICAL/WATER BOXES, TELEPHONE PEDESTALS, AND OBSTRUCTIONS IN GENERAL, SHALL BE PLACED INTO PROPOSED PERIMETER SIDEWALK, NOR SHALL ANY UTILITY CONDUITS BE PLACED ALONG THE PARK SITE - ANY UTILITIES WITH-IN THE PARKWAY NEED TO BE UNDERNEATH THE PROPOSED SIDEWALK AND BURIED AT 5' MINIMUM COVER.
18. DEVELOPER SHALL OBTAIN SOIL SAMPLES (TAKEN FROM PROPOSED PARK SITE LOCATION FINISHED GROUND) & PROVIDE COMPLETE ANALYSIS REPORT (TEXTURAL, MINERAL AVAI\ABILITY, WATER INFILTRATION, DETAILED SALINITY, & PH CONDUCTIVITY TEST) WITH RECOMMENDATIONS FOR SOIL AMENDMENTS AND PREPARATION TO INSURE EXISTING SOIL CONDITIONS ARE SUITABLE FOR TURF, SHRUB, AND TREE GROWTH; COORDINATE SITE VISIT WITH PARKS STAFF FOR COLLECTION OF SOIL SAMPLES.
19. ANY UNSUITABLE SOIL CONDITIONS SHALL BE REMEDIED TO ELIMINATE HARD SOILS, STONY SOILS, HIGH CALICHE SOILS, CLAY SOILS AND CONTAMINATED SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BY SHATTERING, IN TWO DIRECTIONS, OF HARD PAN CALICHE, CLAY SOILS, ROCKS TO A DEPTH OF 36 INCHES BELOW FINISHED GRADE AS REQUIRED FOR PROPER PLANTING AS PER THE PARK FACILITIES DESIGN STANDARDS.
20. ANY UNSUITABLE SOIL MATERIALS NOT APPROVED BY PARKS DEPARTMENT ARE TO BE REMOVED, DISPOSED-OFF, AND REPLACED WITH TOP SOIL TO A MINIMUM DEPTH OF 12 INCHES.

# IRRIGATION GENERAL NOTES

1. IRRIGATION PLAN IS DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ACCOMPLISHING FULL COVERAGE IN ALL AREAS WITH SPECIFIED EQUIPMENT. ANY DISCREPANCIES IN THE PLAN SHOULD BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION DURING CONSTRUCTION.
2. ALL FITTINGS AND NECESSARY EQUIPMENT REQUIRED TO MAKE THIS IRRIGATION SYSTEM OPERATE PROPERLY AND TO COMPLY WITH LOCAL AND STATE CODES ARE INCIDENTAL TO THESE PLANS AND ARE THE CONTRACTOR'S RESPONSIBILITY.
3. CONTRACTOR WILL BE HELD LIABLE FOR GAINING ACCESS UNDER ALL PAVEMENTS.
4. SLEEVES SHOWN ON THE PLANS SHOULD BE VERIFIED FOR ACCESSIBILITY AND FEASIBILITY BEFORE BID IS MADE.
5. THE CONTRACTOR SHALL LOCATE AND VERIFY EACH WATER TAP TO WHICH THE IRRIGATION SYSTEM WILL CONNECT. ALL EQUIPMENT AND INSTALLATION METHODS SHALL COMPLY WITH THE STANDARDS OF THE CITY OF EL PASO AND THE SPECIFICATIONS.
6. CONTRACTOR IS RESPONSIBLE FOR ALL CONNECTIONS AND VALVES REQUIRED FOR THE FULL IMPLEMENTATION OF THE SYSTEM.
7. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO INITIATING WORK.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR INTERRUPTION IN SERVICE CAUSED BY HIS EXCAVATIONS AND/OR WORK.
9. EACH CONTROLLER WILL HAVE AN INDEPENDENT COMMON WIRE LOOPED TO THE VALVES CONNECTED TO IT.
10. REMOTE CONTROL VALVE WIRES ARE TO BE IN A SEPARATE TRENCH 5' FROM MAIN LINE ON NORTH OR WEST SIDE OF MAINLINE.
11. ALL REMOTE CONTROL VALVE WIRES NEED TO BE LABELED AT VALVE W/ WEATHER (WATER) PROOF LABELS AND AT CONTROLLER WITH CORRESPONDING LABEL. (LETTER AND/OR NUMBER TAGS IN SEQUENTIAL ORDER WILL BE PROVIDED).
12. SPLICING OF REMOTE CONTROL VALVE WIRES IS NOT ALLOWED BETWEEN CONTROLLER & VALVE BOX FOR WIRES MUST BE CONTINUOUS FROM CONTROLLER TO REMOTE CONTROL VALVE WITHOUT SPLICING.
13. ALL SPRINKLER HEADS SHALL BE ON STAINLESS STEEL RISERS WITH CHECK VALVE.
14. CONTRACTOR SHALL PROVIDE SLEEVES FOR NEW IRRIGATION LINES CROSSING UNDER CONCRETE SIDEWALKS SLEEVES SHALL BE 2 TIMES THE PIPE SIZE EXTENDED 24" BEYOND EDGE OF SURFACE, BE WRAPPED WITH MINIMUM 4 MIL PLASTIC AND TAPED WITH 3M BRAND HEAVY DUTY PLASTIC.
15. IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, PO BOX 13087, AUSTIN, TX, 78711-3087

# PLANTING GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PREVENT PLANTS FROM FALLING OR BEING BLOWN OVER AND TO STRAIGHTEN OR REPLANT ALL PLANTS WHICH ARE DAMAGED DUE TO WIND. PLANTS BLOWN OVER BY HIGH WINDS SHALL NOT BE A CAUSE FOR ADDITIONAL EXPENSE TO THE OWNER, BUT SHALL BE THE FINANCIAL RESPONSIBILITY OF CONTRACTOR.
2. TOPSOIL MATERIAL FOR PLANTING,SHALL BE FREE FROM HARD CLODS, STIFF CLAY, HARD PAN, STONES LARGER THAN 1" IN DIAMETER, NOXIOUS WEEDS AND PLANTS, SOD, PARTIALLY DISINTEGRATED DEBRIS, INSECTS OR ANY OTHER UNDESIRABLE MATERIAL. PLANTS OR SEEDS THAT WOULD BE TOXIC OR HARMFUL TO GROWTH.
3. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF PLANT MATERIAL QUANTITIES.
4. IN THE EVENT OF VARIATION BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND THE PLANS, THE PLANS SHALL CONTROL. IMPROPER PLANT COUNT MADE BY THE LANDSCAPE CONTRACTOR SHALL BE NO CAUSE FOR ADDITIONAL COSTS TO THE OWNER.
5. THE CONTRACTOR SHALL MEET BOTH THE CONTAINER SIZE AND CALIPER SIZE, AS WELL AS HEIGHT AND SPREAD SPECIFICATIONS SPECIFIED.
6. EXCAVATE TWO TIMES GREATER THAN THE ROOT BALL-DIAMETER OF THE SHRUB, TWO TIMES GREATER THAN THE ROOT BALL FOR TREES. SCARIFY BOTTOM OF PLANTING PIT BEFORE PLACING PLANT. PLACEMENT OF PLANT SHALL BE PERPENDICULAR TO GROUND.
7. CONTRACTOR WILL NOT PLANT MATERIAL SHOWN ON PLANS WHEN IT IS EVIDENT THAT FIELD CONDITIONS HAVE CHANGES SINCE PLANS WERE DRAWN. ANY CHANGES ARE TO BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE DESIGNER BEFORE ANY PLANTING IS DONE IN THE AREA.
8. PLANT SUBSTITUTIONS WILL BE PERMITTED, REQUEST SUBSTITUTION IN WRITING GIVING REASONS FOR SUCH SUBSTITUTIONS.
9. TURF QUANTITY TAKE-OFF ARE THE RESPONSIBILITY OF THE CONTRACTOR.
10. TREAT ALL PLANTING AREAS WITH AN APPLICATION OF SURF. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR APPLICATION.
11. REMOVE ALL WIRE, STRING, WIRE BASKETS, BURLAP, CONTAINERS, ETC., FROM THE ROOTBALL OF PLANTS BEFORE BACKFILLING THE PLANTING HOLE.
12. SEEDED AREAS SHOULD BE MAINTAINED UNTIL A FULL GROWTH OF WILD GRASS OR SEEDED MATERIAL IS ACHIEVED.
13. WARRANTY FOR THE PLANTING MATERIAL SHALL BE ONE YEAR FROM THE DATE OF ACCEPTANCE. (TREES, SHRUBS AND GROUNDCOVER).

# SODDING NOTES

SUBMIT THE FOLLOWING

1. SOD CERTIFICATION FOR GRASS SPECIES AND NAME AND LOCATION OF SOD SOURCE. SODDING SCHEDULE, INCLUDING DATES AND TYPE OF WORK TO BE PERFORMED. PRIOR TO ORDERING, NAME OF SUPPLIER OF SOIL AMENDMENTS MATERIALS.

QUALITY ASSURANCE

2. MINIMUM AGE 18 MONTHS, WITH ROOT DEVELOPMENT THAT WILL SUPPORT ITS OWN WEIGHT WITHOUT TEARING, WHEN SUSPENDED VERTICALLY BY HOLDING THE UPPER TWO CORNERS.

DELIVERY, STORAGE AND HANDLING

3. TIME DELIVERY SO SOD WILL BE PLACED WITHIN 24 HOURS OF DELIVERY. PROTECT AGAINST DRYING AND BREAKING OF ROLLS.
4. DELIVER PACKAGED MATERIALS IN CONTAINERS SHOWING WEIGHT, ANALYSIS AND MANUFACTURER. PROTECT MATERIALS FROM DETERIORATION DURING DELIVERY AND WHILE STORED ON SITE.

SITE CONDITIONS

5. PROCEED WITH AND COMPLETE LANDSCAPE WORK AS RAPIDLY AS PORTIONS OF SITE BECOME AVAILABLE, WORKING WITHIN SEASONAL LIMITATIONS FOR EACH KIND OF LANDSCAPE WORK.
6. WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS CONSULT THE LANDSCAPE ARCHITECT AND CITY OF EL PASO PARKS BEFORE PLANTING.
7. PLANT OR INSTALL MATERIALS DURING NORMAL PLANTING SEASONS FOR EACH TYPE OF LANDSCAPE WORK REQUIRED. CORRELATE PLANTING WITH SPECIFIED MAINTENANCE PERIODS TO PROVIDE MAINTENANCE FROM DATE OF FINAL ACCEPTANCE.

SOIL AMENDMENTS

8. PROVIDE SOIL ANALYSIS BEFORE ADDITION OF SOIL AMENDMENTS & ANALYSES OF SOIL AMENDMENTS. ORGANIC AMENDMENTS SHALL CONSIST OF WELL-AGED ORGANIC COMPOST OR APPROVED EQUAL.

FERTILIZER

9. SLOW-RELEASE STARTER FERTILIZER ANALYSIS AS RECOMMENDED BY LANDSCAPE ARCHITECT BY WEIGHT AT A RATE OF 1 LB OF ACTUAL NITROGEN PER 1,000 SQUARE FEET BY WEIGHT.

GRASS MATERIALS

10. PROVIDE STRONGLY ROOTED SOD, NOT LESS THAN 18 MONTHS OLD AND FREE OF WEEDS AND UNDESIRABLE NATIVE GRASSES AND MACHINE CUT TO PAD THICKNESS OF 3/4 INCH (PLUS OR MINUS 1/4 INCH), EXCLUDING TOP GROWTH AND THATCH. PROVIDE SOD CAPABLE OF GROWTH AND DEVELOPMENT WHEN PLANTED. CUT SOD PIECES A MINIMUM OF 18 INCHES WIDE.

PREPARATION

11. PRIOR TO START OF SOIL PREPARATION ALL FINISH GRADES SHALL BE ESTABLISHED AND APPROVED AS MEETING THE REQUIREMENTS OF THE GRADING PLAN. APPLY A UNIFORM ONE-INCH LAYER (3 C.Y./1000 SQUARE FEET) OF ORGANIC SOIL AMENDMENT, AFTER APPLICATION OF ORGANIC AMENDMENT AND STARTER FERTILIZER ALL AREAS TO BE SODDED SHALL BE THOROUGHLY ROTOTILLED TO A MINIMUM DEPTH OF 12 INCHES. AFTER ROTOTILLING IS COMPLETE AT CROSS DIRECTIONS, DRAG, AND LASER LEVEL TO AN EVEN GRADE, THEN ROLL FOR FIRMNESS. RAKE TILLED AREA AND REMOVE STONES OVER 1 INCH IN ANY DIMENSION, STICKS, ROOTS, RUBBISH AND OTHER EXTRANEOUS MATTER. ROLL ENTIRE AREA WITH WEIGHTED HAND ROLLER.

SODDING OPERATIONS

12. LAY SOD WITHIN 24 HOURS OF DELIVERY AT SITE. DO NOT PLANT DORMANT SOD OR ON FROZEN GROUND.
13. IF SOIL IS DRY, MOISTEN AREAS BEFORE SODDING. WATER THOROUGHLY AND ALLOW SURFACE MOISTURE TO DRY. DO NOT CREATE A MUDDY SOIL CONDITION.
14. REMOVE FIBER MESH USED BY SOD FARM TO TRANSPORT SOD ROLLS AS SOD IS BEING INSTALLED.
15. LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. NO JOINT SHALL BE MORE THAN 1/8". LAY SOD OVER MOISTENED SOIL, LIGHTLY RAKING THE SOIL AHEAD OF EACH SOD STRIP. BUTT ENDS AND SIDES OF SOD STRIPS; DO NOT OVERLAP. STAGGER STRIPS TO OFF-SET JOINTS IN ADJACENT COURSES. LAY SOD PARALLEL TO CONTOURS OF SLOPE. WORK FROM BOARDS TO AVOID DAMAGE TO SUBSOIL OR SOD. TAMP FIRMLY AND EVENLY BY HAND TO ENSURE CONTACT WITH SUBSOIL. WORK SIFTED TOPSOIL OR SAND INTO MINOR CRACKS BETWEEN PIECES OF SOD
16. WATER SOD THOROUGHLY WITH A FINE SPRAY IMMEDIATELY AFTER PLANTING.

MAINTENANCE

17. BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING.
18. MAINTAIN LAWNS FOR NOT LESS THAN A PERIOD OF AT LEAST 60 DAYS AFTER COMPLETION AND ACCEPTANCE OF SOD. INSPECTION TO DETERMINE ACCEPTANCE OF SODDED LAWNS WILL BE MADE BY PARKS STAFF AND LANDSCAPE ARCHITECT UPON CONTRACTOR'S REQUEST. PROVIDE NOTIFICATION AT LEAST 10 WORKING DAYS BEFORE REQUESTED INSPECTION DATE. AND LONGER AS REQUIRED TO ESTABLISH AN ACCEPTABLE LAWN.
19. SODDED LAWNS TO BE MAINTAINED NOT LESS THAN 60 DAYS AFTER COMPLETION AND ACCEPTANCE OF SODDING OPERATIONS.
20. MAINTENANCE TO INCLUDE: WATER SOD THOROUGH EVERY 2 TO 3 DAYS MIN. TO ESTABLISH PROPER ROOTING. REPAIR, REWORK AND RESOD AREAS THAT HAVE WASHED OUT OR ERODED. REPLACE DEAD OR UNDESIRABLE SOD SECTIONS WITH NEW SOD. MOW LAWN AREAS WHEN THE GRASS IS OVER 2 INCHES HIGH FOR FIRST CUTTING. FERTILIZE LAWN WITH TOP DRESSING FERTILIZER AT 1 LB. PER 1,000 SQ.FT. OF NITROGEN, WATER THOROUGHLY.
21. ADDITIONAL LAWN MAINTENANCE CONSISTS OF WEEDING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

CLEANUP AND PROTECTION

22. DURING THE WORK, KEEP PAVEMENTS CLEAN AND WORK AREA IN AN ORDERLY CONDITION.
23. PROTECT WORK AND MATERIALS FROM DAMAGE DUE TO SODDING OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR OR REPLACE DAMAGED WORK AS DIRECTED.

INSPECTION AND ACCEPTANCE

24. WHEN INSPECTED WORK DOES NOT COMPLY WITH REQUIREMENTS, REPLACE REJECTED WORK AND CONTINUE SPECIFIED MAINTENANCE UNTIL RE-INSPECTED BY THE LANDSCAPE ARCHITECT AND CITY OF EL PASO PARKS AND RECREATION AND FOUND TO BE ACCEPTABLE. REMOVE REJECTED SOD AND MATERIALS PROMPTLY FROM PROJECT SITE.

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
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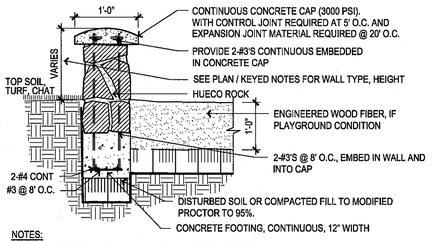
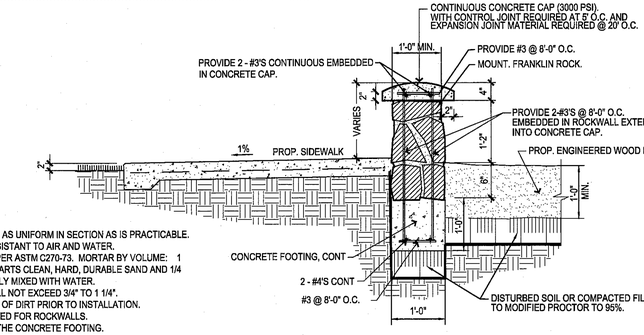


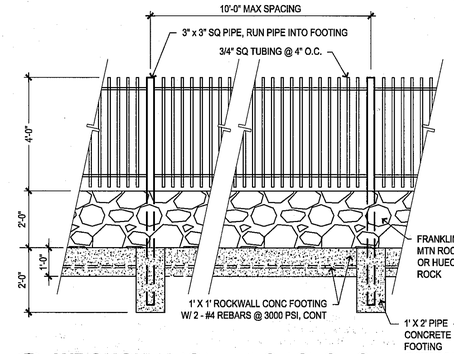

NOTES:
1. STONE FOR ROCKWALL SHALL BE AS UNIFORM IN SECTION AS IS PRACTICABLE. STONE SHALL BE DENSE AND RESISTANT TO AIR AND WATER.
2. MORTAR: TYPE "S" 1800 P.S.I. AS PER ASTM C270-73. MORTAR BY VOLUME: 1 PART PORTLAND CEMENT, 3-1/2 PARTS CLEAN, HARD, DURABLE SAND AND 1/4 PART (MORTAR) LIME THOROUGHLY MIXED WITH WATER.
3. ROCKWALL MORTAR JOINTS SHALL NOT EXCEED 3/4" TO 1 1/4".
4. STONE SHALL BE CLEANED, FREE OF DIRT PRIOR TO INSTALLATION.
5. NO RIVER ROCK SHALL BE ALLOWED FOR ROCKWALLS.

## 1 ROCKWALL
PLAYGROUND, SEAT, OR GARDEN — NTS




NOTES:
1. STONE FOR ROCKWALL SHALL BE AS UNIFORM IN SECTION AS IS PRACTICABLE. STONE SHALL BE DENSE AND RESISTANT TO AIR AND WATER.
2. MORTAR: TYPE "S" 1800 P.S.I. AS PER ASTM C270-73. MORTAR BY VOLUME: 1 PART PORTLAND CEMENT, 3-1/2 PARTS CLEAN, HARD, DURABLE SAND AND 1/4 PART (MORTAR) LIME THOROUGHLY MIXED WITH WATER.
3. ROCKWALL MORTAR JOINTS SHALL NOT EXCEED 3/4" TO 1 1/4".
4. STONE SHALL BE CLEANED, FREE OF DIRT PRIOR TO INSTALLATION.
5. NO RIVER ROCK SHALL BE ALLOWED FOR ROCKWALLS.
6. ROCKWALL TO BE EMBEDDED IN THE CONCRETE FOOTING.
7. JOINT BETWEEN ROCKWALL AND SIDEWALK TO BE SEALED.

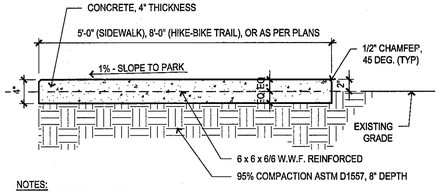
## 2 ROCKWALL WITH SIDEWALK
PLAYGROUND, SEAT, OR GARDEN — NTS




## 3 WROUGHT IRON FENCE SECTION
ON ROCKWALL — NTS

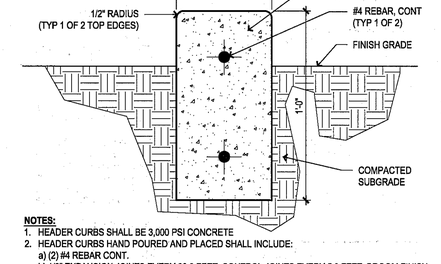
WROUGHT IRON FENCE NOTES:
1. PROVIDE FULL WELDS AT ALL PICKETS, TOP AND BOTTOM RAILS, ALL POST AND RAIL CONNECTIONS, AND WHERE TOP RAIL DESIGN ABUTS PICKET OR RAIL.
2. FENCE COMPONENTS AND FIELD REPAIRS SHALL BE SHOP PRIMED (1) COAT AND PAINTED FINISH (2) COATS EXTERIOR OIL BASED. COLOR #308-3 ST. AUGUSTINE, AS MANUFACTURED BY PITTSBURGH PAINTS, OR APPROVED EQUAL.

ROCKWALL NOTES:
1. STONE FOR ROCKWALL SHALL BE AS UNIFORM IN SECTION AS IS PRACTICABLE. STONE SHALL BE DENSE AND RESISTANT TO AIR AND WATER.
2. MORTAR: TYPE "S" 1800 P.S.I. AS PER ASTM C270-73. MORTAR BY VOLUME: 1 PART PORTLAND CEMENT, 3-1/2 PARTS CLEAN, HARD, DURABLE SAND AND 1/4 PART (MORTAR) LIME THOROUGHLY MIXED WITH WATER.
3. ROCKWALL MORTAR JOINTS SHALL NOT EXCEED 3/4" TO 1 1/4".
4. STONE SHALL BE CLEANED, FREE OF DIRT PRIOR TO INSTALLATION.
5. NO RIVER ROCK SHALL BE ALLOWED FOR ROCKWALLS.



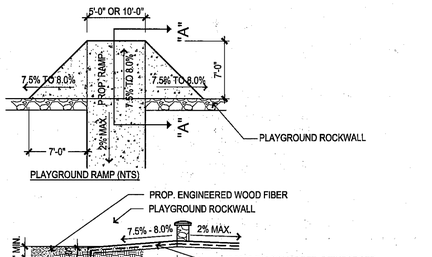

NOTES:
1. DENSITIES SHALL BE TAKEN TO A DEPTH OF 8"
2. CONCRETE SHALL BE 3000 PSI MINIMUM.
3. CONTROL JOINT REQUIRED AT 5' O.C. FOR 5' WIDE SIDEWALKS, AT 7' O.C. FOR 7' WIDE SIDEWALKS, OR AS SHOWN ON PLANS.
4. CONTROL JOINTS SHALL BE 1/4" THICK AND 1" DEEP.
5. EXPANSION JOINT MATERIAL REQUIRED @ 15' O.C. FOR 5' SIDEWALKS, 21' O.C. FOR 7' SIDEWALKS, OR AS SHOWN ON PLANS.
6. DO NOT CROSS REINFORCEMENT THRU EXPANSION MARTIAL.
7. PROVIDE EXPANSION JOINT MATERIAL WHERE SIDEWALKS MEET, EXISTING SIDEWALKS AND CURBS.

## 4 SIDEWALK OR HIKE-BIKE TRAIL
CONCRETE — NTS

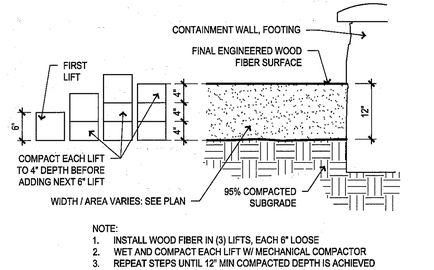



NOTES:
1. HEADER CURBS SHALL BE 3,000 PSI CONCRETE
2. HEADER CURBS HAND POURED AND PLACED SHALL INCLUDE:
   a) (2) #4 REBAR CONT.
   b) 1/2" EXPANSION JOINTS EVERY 20.0 FEET, CONTROL JOINTS EVERY 5.0 FEET, BROOM FINISH
3. HEADER CURBS MACHINE INSTALLED SHALL INCLUDE:
   a) 2.0 POUNDS OF LONG FIBERGLASS MESH CUBIC YARD
   b) 1/2" EXPANSION JOINTS EVERY 20.0 FEET, CONTROL JOINTS EVERY 5.0 FEET, BROOM FINISH

## 5 HEADER CURB
NTS




## 6 PLAYGROUND RAMP
NTS

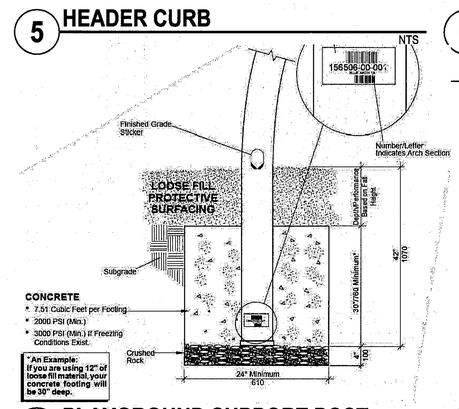



NOTE:
1. INSTALL WOOD FIBER IN (3) LIFTS, EACH 6" LOOSE
2. WET AND COMPACT EACH LIFT W/ MECHANICAL COMPACTOR
3. REPEAT STEPS UNTIL 12" MIN COMPACTED DEPTH IS ACHIEVED
4. TAMP AND WET UPON COMPLETION
5. INSTALLED SURFACE SHALL MEET ASTM F 1951 AND IS CONSISTENT AS AN ACCESSIBLE SURFACE TO ALL GROUND LEVEL COMPONENTS

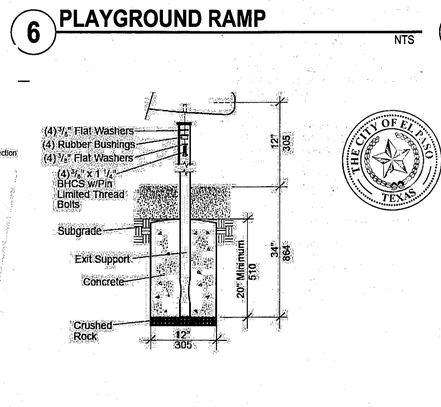
## 7 ENGINEERED WOOD FIBERS
PLAYGROUND SURFACE — NTS

PARKS DEPARTMENT
REVIEWED BY _____ 07/20/2015

**NOTE:**
**CONFIRM ALL PLAYGROUND SUPPORTS AND FOOTINGS LAYOUT / LOCATIONS WITH MANUFACTURER DETAILS AND SPECIFICATIONS, AND PARKS DEPT, PRIOR TO INSTALLATION (TYPICAL)**




## 8 PLAYGROUND SUPPORT POST
5" MAIN SUPPORTS — NTS




## 9 PLAYGROUND POST
ADDITIONAL SUPPORTS — NTS

TDLR PLD# EABPRJB5806142

414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

REFERENCES — BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF GUNNALT & INCA AVENUE
REFERENCE IN THREE MILLS ADDITION
ELEVATION = 3878.64 (CITY DATUM)

| BY | REVISION | DATE |
|---|---|---|
| | | |

SCALE:
HORIZONTAL: —
VERTICAL: —
CONTOUR INTERVAL: —
DATE: 6/2015
DESIGN BY: DAC
DRAWN BY: —
CHKD BY: —
APPV'D BY: —
JOB NO. —

PROJECT TITLE
MESA VISTA PARK AND HIGH DESERT PARK & TRAIL
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
LANDSCAPE DETAILS, NOTES

SHEET NO.
L-9

__ OF __ SHEETS

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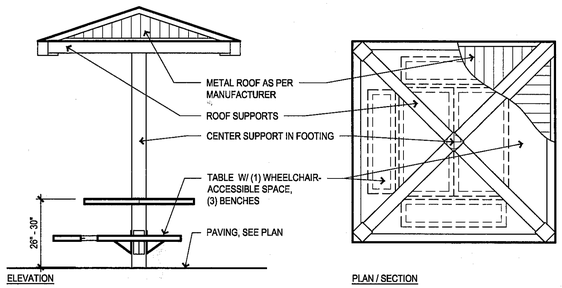
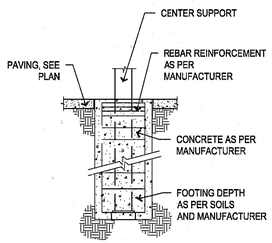



ELEVATION



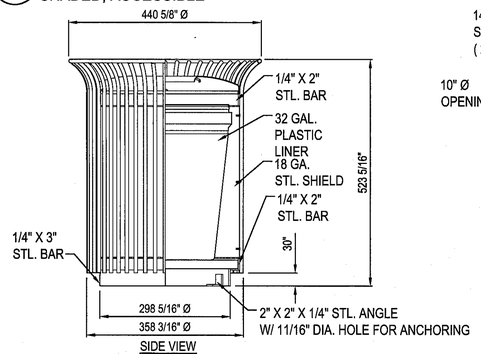
PLAN / SECTION



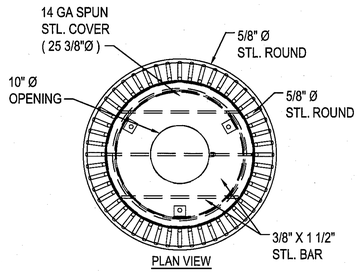

FOOTING

NOTE:
1. INSTALLATION AS PER MANUFACTURER IS SUBJECT TO APPROVAL AND COORDINATION WITH CITY OF EL PASO PARKS DEPARTMENT
2. TABLE HEIGHT SHALL BE 28"-30", KNEE CLEARANCE SHALL 9E 24" MINIMUM, TO BE DEEMED ACCESSIBLE

## 1 PICNIC TABLE
SHADED, ACCESSIBLE — NTS



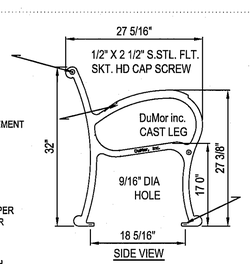

SIDE VIEW



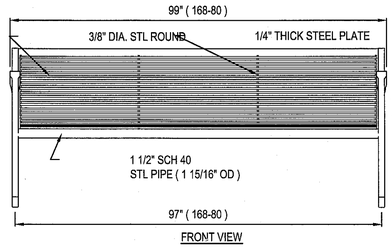

PLAN VIEW

NOTES:
1. INSTALLATION AS PER MANUFACTURER.
2. DO NOT SCALE DRAWINGS.
3. ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY, FINISH W/ POLYESTER POWDER COATING.
4. 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
5. ALL WELDS CONT. THEN GROUND SMOOTH.

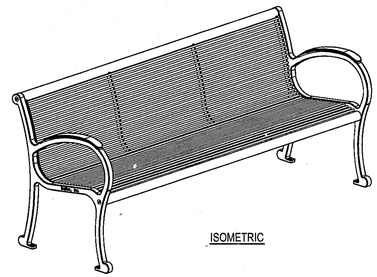
## 2 BENCH
NTS




SIDE VIEW



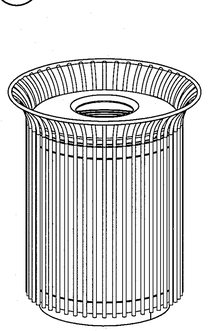

FRONT VIEW



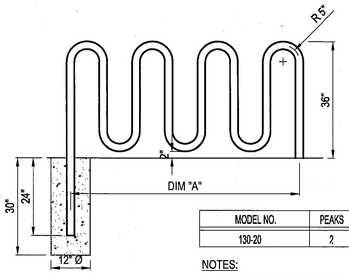
ISOMETRIC

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER COATING (SEE COLOR OPTIONS).
4. BENCH IS SHIPPED UNASSEMBLED.
5. 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.

## 3 WASTE RECEPTACLE
NTS

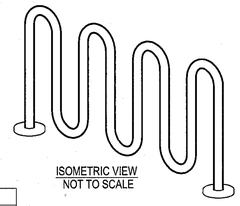


ISOMETRIC




S-1 EMBEDMENT
NOT TO SCALE

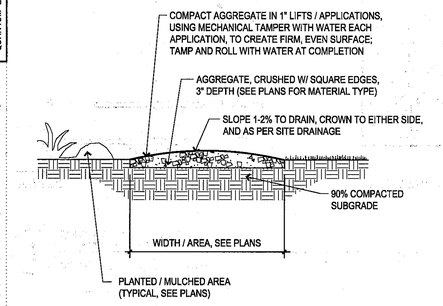
| MODEL NO. | PEAKS | DIM "A" |
|---|---|---|
| 130-20 | 2 | 30" LG. |



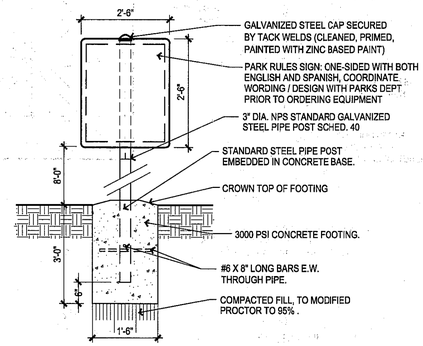
ISOMETRIC VIEW
NOT TO SCALE

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED FOR OPTION S-2.
4. CONTRACTOR'S NOTE: FOR PRODUCT AND PURCHASING INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 017-283.

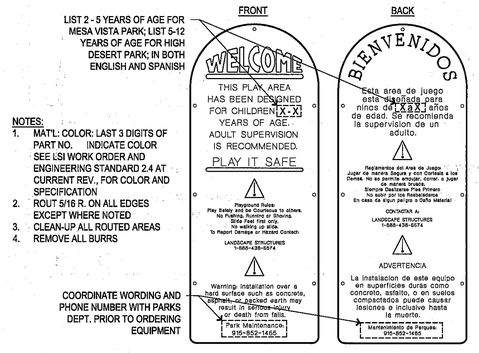
## 4 BIKE RACK
NTS




## 5 COMPACTED AGGREGATE
WALKING OR SITTING AREAS — NTS




## 6 PARK RULES SIGN
NTS

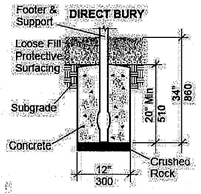



NOTES:
1. MAT'L: COLOR: LAST 3 DIGITS OF PART NO. INDICATE COLOR SEE LSI WORK ORDER AND ENGINEERING STANDARD 2.4 AT CURRENT REV., FOR COLOR AND SPECIFICATION
2. ROUT 5/16 R. ON ALL EDGES EXCEPT WHERE NOTED
3. CLEAN-UP ALL ROUTED AREAS
4. REMOVE ALL BURRS

COORDINATE WORDING AND PHONE NUMBER WITH PARKS DEPT. PRIOR TO ORDERING EQUIPMENT

## 7 PLAYGROUND SIGN
CITY OF EL PASO — NTS

FOOTING




**NOTE:**
**CONFIRM ALL PLAYGROUND SUPPORTS AND FOOTINGS LAYOUT / LOCATIONS WITH MANUFACTURER DETAILS AND SPECIFICATIONS, AND PARKS DEPT, PRIOR TO INSTALLATION (TYPICAL)**

PARKS DEPARTMENT
REVIEWED BY: Antonio Ruiz Jr. 07/20/2015

TDLR PLD# EABPRJB5806142

REFERENCES – BENCHMARK

BENCHMARK:- CITY MONUMENT AT THE INTERSECT OF GUADALUPE & INCA AVENUE
REFERENCE IN THREE HILLS ADDITION.
ELEVATION = 3870.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 6/2015
DESIGN BY: DMC
DRAWN BY:
CHKD BY:
APPVD BY:
JOB NO.:

PROJECT TITLE
MESA VISTA PARK AND HIGH DESERT PARK & TRAIL
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
LANDSCAPE DETAILS

SHEET NO.
L-10
___ OF ___ SHEETS

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
ENVIRONMENTAL DESIGN for the BEST CLIMATES IN THE WORLD

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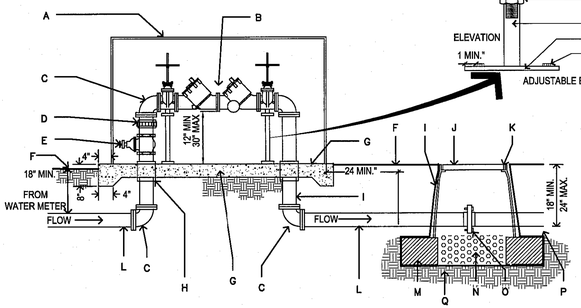
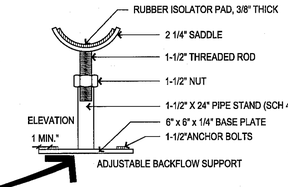
KEYED NOTES:
A. STAINLESS STEEL INSULATED HOT BOX ENCLOSURE R-VALVE R-25 (SEE IRRIGATION LEGEND) ASSE 1060-CLASS I
B. REDUCED PRESSURE ASSEMBLY BACKFLOW PREVENTER (SEE PARTS LIST).
C. COPPER FITTINGS.
D. COPPER UNION, 4" ABOVE GRADE, MIN.
E. BRASS BALL VALVE.
F. FINISH GRADE.
G. 4000 PSI CONCRETE PAD, 4" DEPTH, SLOPED 1% TO DRAIN.
H. PIPE SHALL BE SLEEVED THROUGH CONC. PAD WITH SCH 40 PVC SEAL PIPE.
I. PROVIDE PRO 5 WEED CLOTH ALONG SIDES AND BASE OF VALVE BOX, TAPE TO ALL INLET & OUTLET PIPE. WITH HEAVY DUTY PLASTIC TAPE MANUFACTURED BY 3M.
J. 1419 BOLT DOWN FLAT LID COVER (ABS).
K. CARSON PRODUCTS INC, 1419-18 BODY (ABS) VALVE BOX (OR APPROVED EQUAL), EXTENSION AS NEEDED.
L. TYPE K COPPER PIPING.
M. 8" X 8" X 16" SOLID CMU SOLID BLOCK.
N. 3/8" WASHED PEA GRAVEL, 4" DEPTH
O. FLANGE.
P. PVC MAIN LINE.
Q. UNDISTURBED OR COMPACTED SOILS.

INSTALL AN 8" X 8" X 16" SOLID CMU BLOCK AT EACH CORNER OF THE VALVE BOX.

INSULATE (R-25 MIN.) FROM FREEZING MUST COMPLY WITH ASSE 1060-CLASS I. PROVIDE 2" CLEARANCE BETWEEN VALVE BOXES AND PVC OR COPPER PIPING.

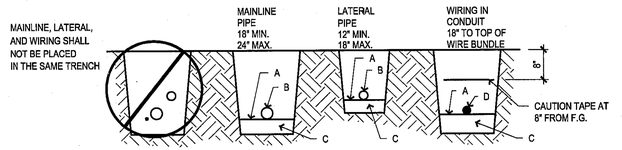
NOTE: ALL ASSEMBLIES SHALL BE ACCESSIBLE FOR PERIODIC TESTING AND MAINTENANCE AS ESTABLISHED BY LOCAL CODES. SUGGESTED 16" MINIMUM CLEARANCE FROM TESTCOCK SIDE OF ASSEMBLY AND 12" MINIMUM CLEARANCE FROM VALVE BODY.



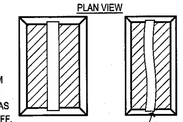

## 1 BACKFLOW PREVENTER
REDUCED BACKFLOW-TYPE
NTS

SECTION VIEW

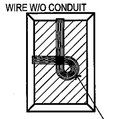



NOTES:
A. BOTTOM OF EXCAVATED TRENCH WHERE NO ROCKY SOILS ARE EXPOSED (ENCOUNTERED)
B. IRRIGATION SYSTEM PIPING.
C. MINIMUM 4" DEEP BEDDING SANDY SOILS MATERIAL WHERE ROCKY SOILS ARE EXPOSED.
D. IRRIGATION SYSTEM VALVE WIRING.
E. BACKFILL SOILS MATERIAL MAY BE NATIVE SOILS IF IT IS FREE OF CALICHE OR STONES LARGER THANK 1" IN SIZE AND ORGANIC MATTER OR WASTE DEBRIS. SOILS COMPACTION IN TURF AREAS TO BE 80% TO 85% DENSITY BY ASTM D-1557 STANDARD AND AT 95% DENSITY UNDER PAVED OR HARDSCAPE SURFACES.

PLAN VIEW



WIRE W/O CONDUIT



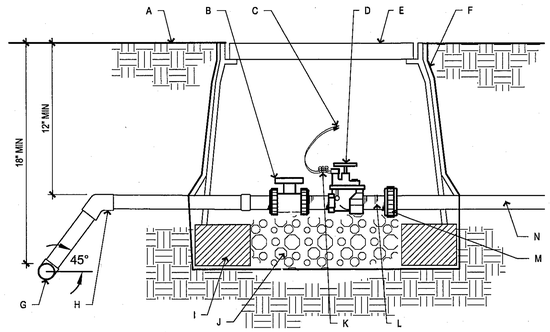
SET WIRE BUNDLE AT 5' FROM MAINLINE ALONG THE NORTH AND WEST SIDE OF MAIN OR AS AGREED TO WITH PARKS STAFF.

ALL SOLVENT WELD PLASTIC PIPING TO BE SNAKED IN TRENCH AS SHOWN FOR LATERAL LINES.

TIE A 24-INCH LOOP IN ALL WIRING AT CHANGES OF DIRECTION OF 30° OR GREATER AND EVERY 200 FEET.

## 2 PIPE / WIRE IN TRENCH
NTS

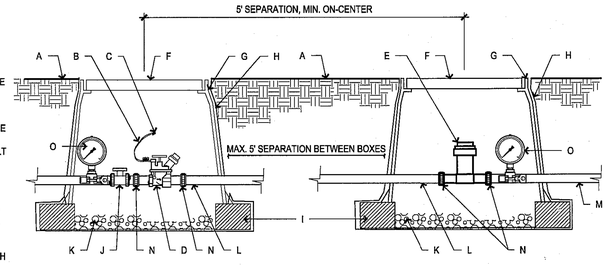
KEYED NOTES:
A. FINISH GRADE
B. BALL VALVE
C. DRY SPLICE CONNECTOR OR EQUAL
D. ELECTRIC VALVE -SEE IRRIGATION LEGEND
E. CARSON PRODUCTS INC, 1419-18(ABS) VALVE BOX WITH BOLT DOWN FLAT LID COVER TO MATCH COLOR OF FINISHED MATERIAL AND 8" EXTENSIONS AS NECESSARY
F. PROVIDE DEWITT PRO 5 WEED CLOTH ALONG SIDES AND BASF OF VALVE BOX INSTALLATION. TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY PLASTIC 3M TAPE
G. PVC MAINLINE-SEE IRRIGATION LEGEND
H. SCH 80 - 45 DEGREE FITTING
I. 8"X8"X16" SOLID CMU BLOCK @ EACH CORNER
J. 4" DEPTH, 3/8" DIAMETER WASHED PEA GRAVEL
K. 24" WIRE EXPANSION COIL, EXTEND WIRE 12" ABOVE VALVE BOX FOR SERVICE
L. SCHEDULE 80 PVC CLOSE NIPPLE
M. FLANGE (3" AND ABOVE) AND UNION (BELOW 3" PIPE SIZE)
N. LATERAL LINE



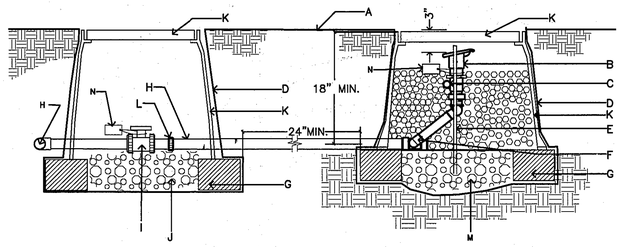

NOTE: PVC PIPE TO BE CLEAR OF VALVE BOX AND SOLID CMU BLOCK.

## 3 IRRIGATION CONTROL VALVE
NTS

NOTES:
A. FINISH GRADE
B. 24" WIRE LOOP
C. DRY SPLICE CONNECTOR OR EQUAL
D. AUTOMATIC VALVE INCLUDED IN CONTROL ZONE KIT. SEE IRRIGATION LEGEND
E. BASKET FILTER STRAINER INCLUDED IN CONTROL ZONE KIT SHALL BE INSTALLED FOR MAINTENANCE ACCESS AND REPLACEMENT (SEE IRRIGATION LEGEND)
F. LOCKING VALVE BOX COVER FLAT LID WITH BOLT
G. CARSON PRODUCTS INC. 1419-18 BODY (ABS) VALVE BOX W/BOLT DOWN COVER (COVER COLOR TO MATCH FINISH MATERIAL AND EXTENSION AS NECESSARY)
H. DEWITT PRO 5 WEED CLOTH ALONG SIDES AND BASE OF VALVE BOX AND BLOCKS TAPE TO ALL INLET & OUTLET PIPE WITH 3M HEAVY DUTY PLASTIC TAPE
I. 8"X8"X16" CMU SOLID CONCRETE BLOCK @ EACH CORNER (TYPICAL)
J. BALL VALVE, INCLUDED IN CONTROL ZONE KIT, SEE IRRIGATION LEGEND
K. 4" LAYER OF 3/8" WASHED PEA GRAVEL
L. PVC PIPE SIZED PER PLAN WITH WELD ON THREADED FITTINGS ON EACH END
M. LATERAL LINE
N. PROVIDE PVC UNION FOR PIPE SIZES LESS THAN THREE INCHES IN DIAMETER OR PROVIDE FLANGES FOR PIPE SIZES THREE INCHES IN DIAMETER OR LARGER.
O. HORIZONTAL HYGIENIC PRESSURE GAUGE
P. PROVIDE 1 PRESSURE GAUGE ON MAIN LINE UPSTREAM OF BALL VALVE AND ANOTHER DOWNSTREAM OF KIT'S PRESSURE REGULATOR. PROVIDE 5' SEPARATION BETWEEN BOXES. IF SPACE IS NOT AVAILABLE, PROVIDE A MIN. 5' SEPARATION AT CENTER LINES OF BOXES. SET GAGES HORIZONTAL TO BE READABLE.




## 4 DRIP VALVE / BASKET FILTER KIT
NTS



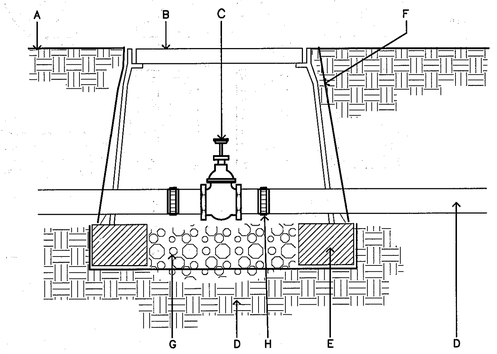

A. FINISH GRADE.
B. 1" BUCKNER QUICK COUPLER VALVE, DOUBLE SLOT, PURPLE TOP-MODEL QB5NPI0 WITH LASCO SNAP-LOK W/MALE BRASS STABILIZER ELBOW.
C. MIN. 12" SECTION 1" DIA. PVC, SECTION SHOULD EXTEND BEYOND BOTH REBAR SECTION, STABILIZE IN GRAVEL.
D. PROVIDE DEWITT PRO 5 WEED CLOTH ALONG SIDES AND BASE OF VALVE BOX. TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY 3M PLASTIC TAPE.
E. 1/2" OR 3/8" REBAR, MIN. 30" LENGTH, ONE ON EITHER SIDE OF QUICK COUPLER FOR STABILITY.
F. LASCO SWING JOINT (PRE-ASSEMBLED).
G. 8" X 8" X 16" SOLID CMU BLOCK
H. IRRIGATION MAINLINE
I. ISOLATION BALL VALVE, SEE IRRIGATION LEGEND.
J. 6" DEPTH OF 3/8" WASHED PEA GRAVEL
K. CARSON PRODUCTS INC. 1419-18 BODY (ABS) VALVE BOX AND EXTENSION(S) W/BOLT DOWN COVER (COVER COLOR TO BE PURPLE).
L. PROVIDE PVC UNION FOR PIPE SIZES LESS THAN THREE INCHES IN DIAMETER OR PROVIDE. FLANGES FOR PIPE SIZES THREE INCHES IN DIAMETER OR LARGER.
M. 3/8" WASHED PEA GRAVEL FILLED TO QUICK COUPLER FOR STABILITY.
N. WEATHER PROOF TAG THAT READS. "NON-PORTABLE WATER, NOT SAFE FOR DRINKING." FLANGES FOR PIPE SIZES THREE INCHES IN DIAMETER OR LARGER.

NOTE: INSTALL AN 8" X 8" X 16" SOLID CMU BLOCK AT EACH CORNER OF THE VALVE BOX. INSTALL 3/8" PEA GRAVEL BELOW THE 1419-18 VALVE BOX WITH BOLT DOWN COVER. EXTEND PEA GRAVEL UP TO COLLAR OF QUICK COUPLER VALVE. INSTALL A TEE, FLANGE & BALL VALVE OFF OF THE MAIN LINE IMMEDIATELY UPSTREAM OF THE QUICK COUPLER VALVE.

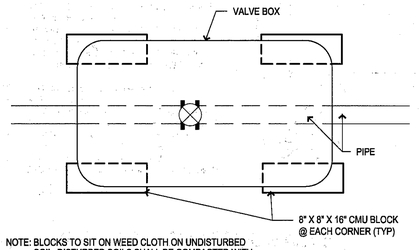
## 5 QUICK COUPLER VALVE
NTS

KEYED NOTES:
A. FINISH GRADE.
B. 24" WIRE LOOP
C. DRY SPLICE CONNECTOR OR EQUAL
D. ELECTRIC VALVE -SEE IRRIGATION LEGEND
E. CARSON PRODUCTS INC, 1419-18(ABS) VALVE BOX WITH BOLT DOWN FLAT LID COVER TO MATCH COLOR OF FINISH MATERIAL AND 8" EXTENSIONS AS NECESSARY.
F. PROVIDE DEWITT PRO 5 WEED CLOTH ALONG SIDES AND BASE OF VALVE BOX INSTALLATION. TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY PLASTIC 3M TAPE.
G. 4" DEPTH, 3/8" WASHED PEA GRAVEL.
H. FLANGE (3" AND ABOVE) AND UNION (BELOW 3" PIPE SIZE)

NOTE: PVC PIPE TO BE CLEAR OF VALVE BOX AND SOLID CMU BLOCK.




## 6 ISOLATION VALVE
NTS

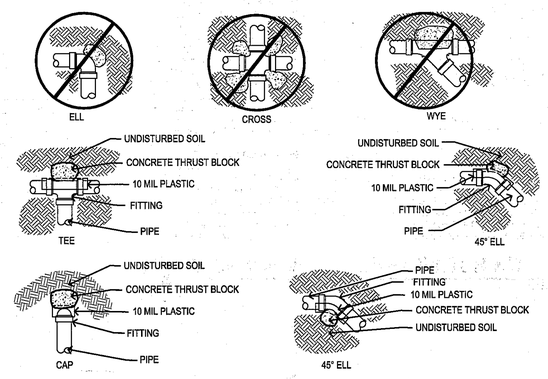



NOTE: BLOCKS TO SIT ON WEED CLOTH ON UNDISTURBED SOIL. DISTURBED SOILS SHALL BE COMPACTED WITH TAMPER PRIOR TO SETTING WEED CLOTH & BLOCKS. VALVE BOX AND EXTENSIONS TO SIT ON BLOCKS. VALVE BOX AND EXTENSIONS TO HAVE A MINIMUM 2" CLEARANCE TO THE TOP OF PVC PIPE.

## 7 BLOCK PLACEMENT
UNDER VALVE BOX
NTS

NOTES:
1. SUPPLY LINES 6 INCHES IN DIAMETER AND LARGER SHALL RECEIVE CONCRETE THRUST BLOCKS.
2. SEE CIVIL SPECIFICATIONS FOR AMOUNT OF CONCRETE TO BE USED FOR THRUST BLOCK.
3. ALL IRRIGATION MAINLINES SHALL UTILIZE SWEEP FITTINGS. NO 90-DEGREE MAINLINE BENDS WILL BE ALLOWED.
4. ANY CHANGES IN DIRECTION OF MAIN LINE TO BE DONE WITH DIRECTION FITTINGS.
5. THRUST BLOCK MUST BUILT UP TO UNDISTURBED GROUND.

| PIPE SIZE | MAIN LINE | |
|---|---|---|
| | TEE AND CAP | 45° BEND |
| 6" | 4 SQ. FEET | 3 SQ. FEET |
| 8" | 6 SQ. FEET | 3 SQ. FEET |




## 8 THRUST BLOCKING
NTS

PARKS DEPARTMENT
REVIEWED BY: 07/20/2015

TDLR PLD# EABPRJB5806142

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUINALT & INCA AVENUE
REFERENCE IN THREE MILE NORTHEAST
ELEVATION = 3978.84 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

THE STATE OF TEXAS — CARLOS HOLGUIN — 150077 — LICENSED PROFESSIONAL ENGINEER — 07-20-15

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 6/2015
DESIGN BY:
DRAWN BY: DAC
CHKD BY:
APPVD BY:
JOB NO.

PROJECT TITLE
MESA VISTA PARK AND HIGH DESERT PARK & TRAIL
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

THE CITY OF EL PASO — TEXAS

SHEET TITLE
LANDSCAPE DETAILS

SHEET NO.
L-11
__ OF __ SHEETS

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
ENVIRONMENTAL DESIGN for the BEST CLIMATES IN THE WORLD

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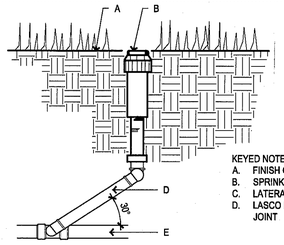
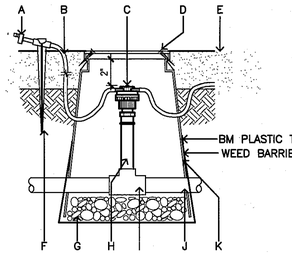



KEYED NOTES:
A. FINISH GRADE
B. SPRINKLER HEAD (SEE PLAN)
C. LATERAL LINE (SEE PLAN)
D. LASCO PRE-ASSEMBELED SWING JOINT

NOTE:
1. THIS DETAIL SHALL BE USED FOR POP-UP SHRUB SPRAY, POP-UP LAWN SPRAY, GEAR DRIVEN AND ROTARY SPRINKLER HEADS
2. TOP OF SPRINKLER HEAD SHALL BE SET FLUSH WITH FINISH GRADE
3. SWING JOINT INSTALLATION TO COMPLY WITH MANUFACTURER'S RECOMMENDATION

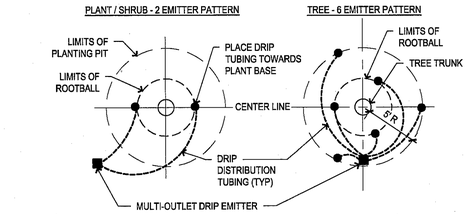
## 1 IRRIGATION SPRINKLER HEAD
NTS




KEYED NOTES:
A. SINGLE-OUTLET EMITTER: SEE IRRIGATION LEGEND (BARB ONLY).
B. 1/4-INCH TUBING: POLYETHYLENE DISTRIBUTION TUBING.
C. 8-OUTLET DISTRIBUTION MANIFOLD: SEE IRRIGATION LEGEND
D. INSTALL 2-#8, 2" LONG SELF TAPING BRASS SCREWS.
E. FINISH GRADE.
F. 1/4-INCH TUBING STAKE: RAIN BIRD TS-025
G. 3" MIN. DEPTH OF 3/8" WASHED PEA GRAVEL.
H. SCH. 80 THREADED NIPPLE, LENGTH AS NEEDED.
I. TEE OR ELL TO PVC OR POLYETHYLENE PIPE SEE PLAN.
J. PVC OR POLEYETHYLENE LATERAL PIPE, SEE PLAN.
K. CARSON 9" ROUND SUBTERRANEAN EMITTER BOX, COVER TO MATCH COLOR OF FINISHED MATERIAL (GREEN IN TURF AND TAN IN ROCK MULCH AREAS).

NOTES:
1. ENSURE SINGLE OUTLET EMITTER IS ON TOP OF THE PLANT'S ROOTBALL.
2. LOCATE SINGLE OUTLET EMITTERS AROUND TREES AS PER PLAN DIAGRAM ABOVE.
3. LOCATE SINGLE OUTLET EMITTERS FOR 1 GALLON & 5 GALLON ON OPPOSITE SIDES OF ROOTBALL.
4. WEED BARRIER TO BE INSTALLED UNDER WASHED PEA GRAVEL AND WRAPPED AROUND EMITTER BOX THEN TAPE WITH ALL PENETRATIONS SEALED. USE 3M BRAND HEAVY DUTY PLASTIC TAPE.

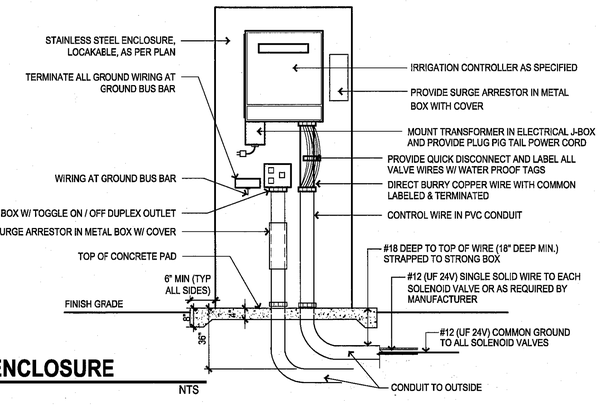
## 2 MULTI-OUTLET DRIP EMITTER
4 OR 6 OUTLET
NTS




NOTES:
1. PLACE PVC RISER, MULTI-OUTLET EMITTER AND BOX ON WEST SIDE OF PLANT UNLESS NOTED, 5' FROM TRUNK
2. EMITTER QUANTITY, SIZE FOR EACH TREE / PLANT AS PER PLANTING LEGEND; ADJUST QUANTITIES AND SPACING FOR EVEN WATERING
3. TREES - SPACE TUBING AND EMITTERS IN EQUAL 1/3 INCREMENTS IN CIRCULAR PATTERN AROUND ROOTBALL AND 5' FROM TRUNK
4. PLANTS / SHRUBS - SPACE TUBING AT 180 DEGREES AROUND ROOTBALL

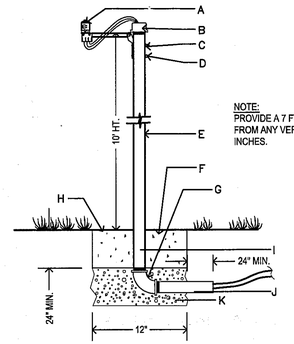
## 3 DRIP EMITTER PATTERN
FOR TREES AND PLANTS
NTS

NOTES:
1. GROUND CABINET WITH #10 GAUGE OR HEAVIER STRANDED COPPER WIRE TO GROUNDING ROD AS PER MANUFACTURER'S SPECIFICATIONS.
2. PEDESTAL ENCLOSURE TO BE SIZED TO HOUSE EQUIPMENT PROPERLY



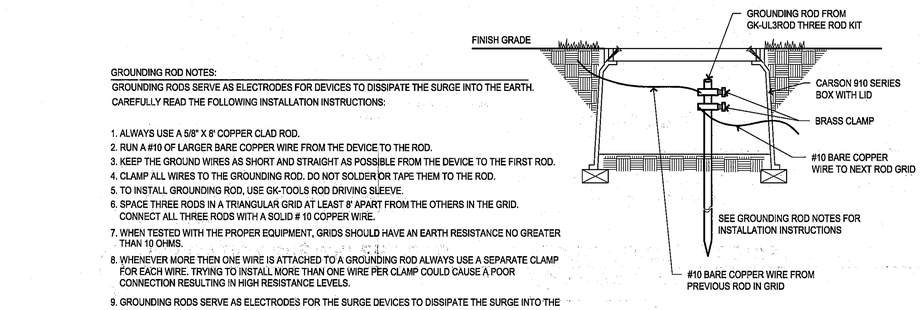

## 4 CONTROLLER ENCLOSURE
PEDESTAL MOUNT
NTS

KEYED NOTES:
A. RAIN BIRD RSD-BEx RAIN SENSOR. SET TO 1/8"
B. 2-1/2 " PIPE CAP WITH HOLE FOR WIRES AND SEAL WITH EXTERIOR GRADE SILICONE SEALANT.
C. DRILL TWO 3/16" HOLES IN PIPE FOR SENSOR BRACKET.
D. (2) NO. 8-32 MACHINE SCREWS WITH WASHER, LOCK WASHER AND NUT.
E. 2 1/2"" SCH 40 GALVANIZED PIPE-10 FT. HT. A.G.
F. 12"X12" CONCRETE BASE, MIN. 24" DEEP.
G. PIPE ELBOW.
H. FINISH GRADE
I. PIPE TO BE SEALED AFTER CABLE IS RUN, USE 4 MIL. PLASTIC AND TAPED NIPPLE AND THE CABLE WITH HIGH GRADE 3M WEATHER PROOF PLASTIC TAPE.
J. NIPPLE. GALVANIZED PIPE IN CONCRETE FOOTING TO BE WRAPPED WITH WEATHER PROOF TAPE TO PROTECT FROM CORROSION.
K. 6" THICK, 3/8" DIAMETER WASHED PEA GRAVEL.




NOTE:
PROVIDE A 7 FT. HORIZONTAL CLEARANCE FROM ANY VERTICAL STRUCTURES ABOVE 12 INCHES.

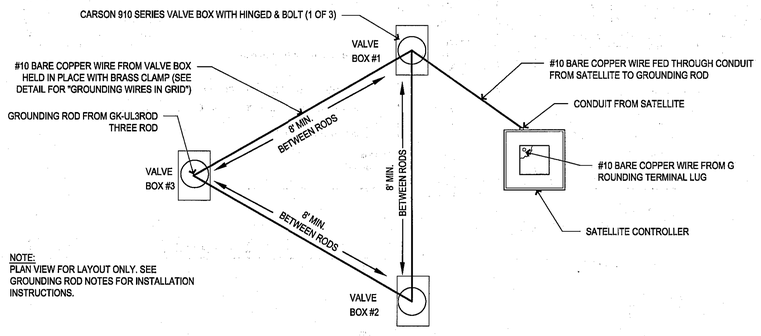
## 5 RAIN SENSOR
NTS




GROUNDING ROD NOTES:
GROUNDING RODS SERVE AS ELECTRODES FOR DEVICES TO DISSIPATE THE SURGE INTO THE EARTH.
CAREFULLY READ THE FOLLOWING INSTALLATION INSTRUCTIONS:

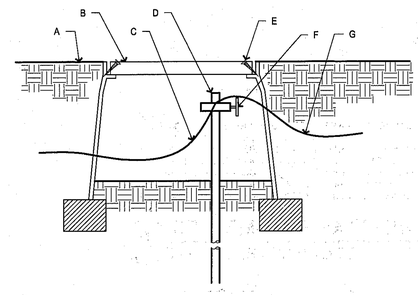
1. ALWAYS USE A 5/8" X 6' COPPER CLAD ROD.
2. RUN A #10 OF LARGER BARE COPPER WIRE FROM THE DEVICE TO THE ROD.
3. KEEP THE GROUND WIRES AS SHORT AND STRAIGHT AS POSSIBLE FROM THE DEVICE TO THE FIRST ROD.
4. CLAMP ALL WIRES TO THE GROUNDING ROD. DO NOT SOLDER OR TAPE THEM TO THE ROD.
5. TO INSTALL GROUNDING ROD, USE GK-TOOLS ROD DRIVING SLEEVE.
6. SPACE THREE RODS IN A TRIANGULAR GRID AT LEAST 8' APART FROM THE OTHERS IN THE GRID. CONNECT ALL THREE RODS WITH A SOLID # 10 COPPER WIRE.
7. WHEN TESTED WITH THE PROPER EQUIPMENT, GRIDS SHOULD HAVE AN EARTH RESISTANCE NO GREATER THAN 10 OHMS.
8. WHENEVER MORE THEN ONE WIRE IS ATTACHED TO A GROUNDING ROD ALWAYS USE A SEPARATE CLAMP FOR EACH WIRE. TRYING TO INSTALL MORE THAN ONE WIRE PER CLAMP COULD CAUSE A POOR CONNECTION RESULTING IN HIGH RESISTANCE LEVELS.
9. GROUNDING RODS SERVE AS ELECTRODES FOR THE SURGE DEVICES TO DISSIPATE THE SURGE INTO THE EARTH REMEMBER THESE TIPS WHEN INSTALLING THEM.

## 6 GROUNDING WIRES IN GRID
INITIAL TERMINAL
NTS




NOTE:
PLAN VIEW FOR LAYOUT ONLY. SEE GROUNDING ROD NOTES FOR INSTALLATION INSTRUCTIONS.

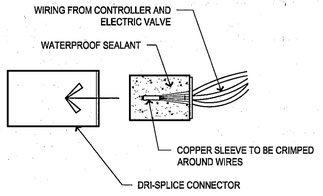
## 8 GROUNDING, TRIANGULAR
PLAN VIEW
NTS




KEYED NOTES:
A. FINISH GRADE.
B. CARSON 910 SERIES VALVE BOX WITH LID AND SCREWS, COLOR TO MATCH MULCH.
C. No. 10 BARE COPPER WIRE FROM PREVIOUS ROD IN GRID.
D. GROUNDING ROD FROM GK-UL3ROD THREE ROD KIT.
E. INSTALL SELF TAPING #8, 2" LONG BRASS SCREWS.
F. BRASS CLAMP.
G. No. 10 BARE COPPER WIRE CONTINUING TO NEXT ROD IN GRID.

NOTE: SEE GROUNDING ROD NOTES FOR INSTALLATION INSTRUCTIONS.

## 7 GROUNDING WIRES
INTERMEDIATE
NTS




NOTE:
THREE STEP OPERATION DRI-SPLICE CONNECTOR, ONLY. FILL WITH SEALANT, SUFFICIENT TO SEAP WHEN ASSEMBLED.

## 9 WIRE CONNECTORS
NTS

PARKS DEPARTMENT
REVIEWED BY: 07/20/2015

TDLR PLD# EABPRJB5806142

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
ENVIRONMENTAL DESIGN for the BEST CLIMATES IN THE WORLD

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF BERNALET & MOA AVENUE
REFERENCE IN "MESA HILLS ADDITION"
ELEVATION = 3878.84 (CITY DATUM)

| BY | REVISION | DATE |
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QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

SCALE:
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CONTOUR INTERVAL:
DATE: 6/2015 DAC
DESIGN BY:
DRAWN BY:
CHKD BY:
APP'D BY:
JOB NO.

PROJECT TITLE
MESA VISTA PARK AND HIGH DESERT PARK & TRAIL
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
LANDSCAPE DETAILS

SHEET NO.
L-12
__ OF ___ SHEETS

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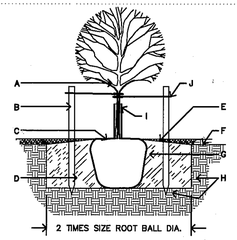
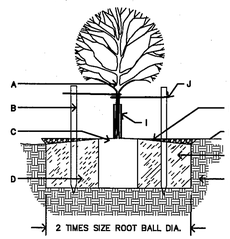



A. TREE
B. STAKING AS NEEDED
C. 4" SPACE BETWEEN MULCH AND TREE
D. PLANTING HOLE
E. DEPTH OF BARK MULCH-SEE PLAN
F. FINISH SOIL GRADE
G. BACKFILL WITH EXISTING NATIVE SOIL
H. UNDISTURBED SOIL
I. TREEGUARD
J. TIES TO STAKES TO HAVE RUBBER HOSE TO PROTECT TREE TRUNK FROM DAMAGE BY WIRE. WIRE TIES TO BE LOOSE (1" TO 2" PLAY ON PLAN) TO PROTECT TREE TRUNK FROM DAMAGE. WIRE TIES TO BE SET ON SAME TRUNK OR MAIN TRUNK.

GENERAL NOTES:
1. TREES PLANTED IN ROCKY, CALICHE AND CLAY SOILS TO HAVE PIT EXCAVATED 5 TIMES THE SIZE OF THE ROOTBALL.
2. TREES PLANTED IN ROCKY, CALICHE AND CLAY SOILS TO HAVE 1/3 TO 1/2 TOP SOIL BLENDED WITH CLAY SOIL AND USED AS BACKFILL.
3. TREES PLANTED IN ROCKY SOIL ARE TO HAVE ALL ROCKY MATERIAL LARGER THAN 1" IN SIZE REMOVED.

1. KEEP SOIL BELOW ROOT BALL UNDISTURBED TO PREVENT TREE FROM SETTLING.
2. REMOVE ANY EXCESS SOIL FROM TOP OF ROOTBALL TO EXPOSE ROOT FLARE (WHERE TOP MOST ROOT EMERGES FROM THE TRUNK). PLANT WITH ROOT FLARE THAN FINISH GRADE 1"-2" HIGHER.
3. PRIOR TO BACKFILLING, REMOVE BURLAP, ROPE, TWINE, AND WIRE FROM SIDES AND TOP OF ROOTBALL AND FROM PLANTING HOLE, CUT ANY ROOTS THAT ARE CIRCLING THE CONTAINER.
4. TAMP SOIL FIRMLY AROUND BASE OF ROOTBALL WITH FOOT PRESSURE.
5. AT TIME OF PLANTING, ONLY PRUNE CO-DOMINANT LEADERS (DOES NOT APPLY TO MULTI-TRUNK SPECIMENS), CROSSOVER LIMBS, AND DEAD OR BROKEN BRANCHES.
6. DO NOT ALLOW MULCH IN CONTACT WITH TREE TRUNK, KEEP AT LEAST 4" AWAY FROM TRUNK.
7. INSTALL TREE GUARD.
8. WHEN DONE, THOUROUGHLY WATER TO ELIMINATE AIR POCKETS.
9. STAKING IS NOT REQUIRED - STAKE TREES ONLY IF TREE CANNOT STAND ALONE AND WITH APPROVAL OF THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL NOT STAKE ALL TREES INDISCRIMINANTELY, APPROVAL MUST BE OBTAINED TO STAKE TREES.
10. WITH APPROVAL, PROVIDE MIN. 3 STAKES/ TREE (TYP.) IN A TRIANGULAR PATTERN, STAKED INTO UNDISTURBED SOIL WITH CLARK'S TREE STAKE KIT OR APPROVED EQUAL, REMOVE AFTER ONE GROWING SEASON.
11. TOP OF ROOT BALL SHALL BE LEVEL WITH TOP OF MULCH OR BARK. MULCH SHALL BE FEATHERED TO FULL DEPTH.

## 1 TREE PLANTING
BALLED & BURLAP — NTS

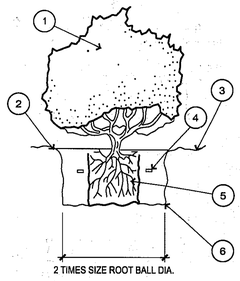



A. TREE
B. STAKING NEEDED
C. 4" SPACE BETWEEN MULCH AND TREE
D. SLOPE ON SIDES OF PLANTING HOLE
E. DEPTH OF BARK MULCH-SEE PLAN
F. FINISH SOIL GRADE
G. BACKFILL WITH EXISTING NATIVE SOIL
H. UNDISTURBED SOIL
I. TREEGUARD
J. TIES TO STAKES TO HAVE RUBBER HOSE TO PROTECT TREE TRUNK FROM DAMAGE BY WIRE. WIRE TIES TO BE LOOSE (1" TO 2" PLAY ON PLAN) TO PROTECT TREE TRUNK FROM DAMAGE. WIRE TIES TO BE SET ON SAME TRUNK OR MAIN TRUNK.

GENERAL NOTES:
1. TREES PLANTED IN ROCKY, CALICHE AND CLAY SOILS TO HAVE PIT EXCAVATED 5 TIMES THE SIZE OF THE ROOTBALL.
2. TREES PLANTED IN ROCKY, CALICHE AND CLAY SOILS TO HAVE 1/3 TO 1/2 TOP SOIL BLENDED WITH CLAY SOIL AND USED AS BACKFILL.
3. TREES PLANTED IN ROCKY SOIL ARE TO HAVE ALL ROCKY MATERIAL LARGER THAN 1" IN SIZE REMOVED.

1. KEEP SOIL BELOW ROOT BALL UNDISTURBED TO PREVENT TREE FROM SETTLING.
2. REMOVE ANY EXCESS SOIL FROM TOP OF ROOTBALL TO EXPOSE ROOT FLARE (WHERE TOP MOST ROOT EMERGES FROM THE TRUNK). PLANT WITH ROOT FLARE THAN FINISH GRADE 1"-2" HIGHER.
3. REMOVE CONTAINER AND CUT ANY ROOTS THAT ARE CIRCLING THE CONTAINER. PRIOR TO SETTING TREE IN PLANTING HOLE (PIT).
4. TAMP SOIL FIRMLY AROUND BASE OF ROOTBALL WITH FOOT PRESSURE.
5. AT TIME OF PLANTING, ONLY PRUNE CO-DOMINANT LEADERS (DOES NOT APPLY TO MULTI-TRUNK SPECIMENS), CROSSOVER LIMBS, AND DEAD OR BROKEN BRANCHES.
6. DO NOT ALLOW MULCH IN CONTACT WITH TREE TRUNK, KEEP AT LEAST 4" AWAY FROM TRUNK.
7. INSTALL TREE GUARD.
8. WHEN DONE, THOUROUGHLY WATER TO ELIMINATE AIR POCKETS.
9. STAKING IS NOT REQUIRED – STAKE TREES ONLY IF TREE CANNOT STAND ALONE AND WITH APPROVAL OF THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL NOT STAKE ALL TREES INDISCRIMINANTELY, APPROVAL MUST BE OBTAINED TO STAKE TREES.
10. WITH APPROVAL, PROVIDE MIN. 3 STAKES/ TREE (TYP.) IN A TRIANGULAR PATTERN, STAKED INTO UNDISTURBED SOIL WITH CLARK'S TREE STAKE KIT OR APPROVED EQUAL, REMOVE AFTER ONE GROWING SEASON.
11. TOP OF ROOT BALL SHALL BE LEVEL WITH TOP OF MULCH OR BARK. MULCH SHALL BE FEATHERED TO FULL DEPTH.

## 3 TREE PLANTING
CONTAINER — NTS

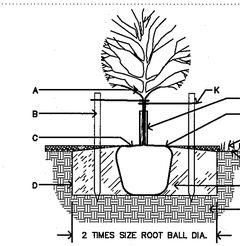



EXCAVATE AND REPLACE WITH SAME SOIL. REMOVE STONES 2" OR LARGER.

LEGEND
1. SHRUB OR VINE PER PLAN
2. EARTH WATERING BASIN (COVER WITH SPECIFIED MULCH ON PLAN).
3. FINISH GRADE
4. 7 GRAM PLANT TABLETS
   1 GAL = 3, 5 GAL = 6, 10-15 GAL = 9
5. ROOTBALL (SET CROWN FLUSH WITH FINISH GRADE) COVER 2" SPECIFIED MULCH.
6. UNDISTURBED NATIVE SOIL

GENERAL NOTES:
1. TREES PLANTED IN ROCKY, CALICHE AND CLAY SOILS TO HAVE PIT EXCAVATED 5 TIMES THE SIZE OF THE ROOTBALL.
2. TREES PLANTED IN ROCKY, CALICHE AND CLAY SOILS TO HAVE 1/3 TO 1/2 TOP SOIL BLENDED WITH CLAY SOIL AND USED AS BACKFILL.
3. TREES PLANTED IN ROCKY SOIL ARE TO HAVE ALL ROCKY MATERIAL LARGER THAN 1" IN SIZE REMOVED.

## 5 SHRUB PLANTING
NTS




A. TREE
B. STAKING AS NEEDED
C. 4" SPACE BETWEEN MULCH AND TREE
D. SIDES OF PLANTING HOLE
E. TREEGUARD, ARBORGUARD WWW.BENMEADOWS.COM
F. DEPTH OF BARK MULCH-SEE PLAN
G. GRASS
H. FINISH SOIL GRADE
I. BACKFILL WITH EXISTING NATIVE SOIL
J. UNDISTURBED SOIL
K. TIES TO STAKES TO HAVE RUBBER HOSE TO PROTECT TREE TRUNK FROM DAMAGE BY WIRE. WIRE TIES TO BE LOOSE (1" TO 2" PLAY ON PLAN) TO PROTECT TREE TRUNK FROM DAMAGE. WIRE TIES TO BE SET ON SAME TRUNK OR MAIN TRUNK.

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1. KEEP SOIL BELOW ROOT BALL UNDISTURBED TO PREVENT TREE FROM SETTLING.
2. REMOVE ANY EXCESS SOIL FROM TOP OF ROOTBALL TO EXPOSE ROOT FLARE (WHERE TOP MOST ROOT EMERGES FROM THE TRUNK). PLANT WITH ROOT FLARE THAN FINISH GRADE 1"-2" HIGHER.
3. PRIOR TO BACKFILLING, REMOVE BURLAP, ROPE, TWINE, AND WIRE FROM TOP AND SIDES OF ROOTBALL AND FROM PLANTING HOLE, CUT ANY ROOTS THAT ARE CIRCLING THE CONTAINER.
4. TAMP SOIL FIRMLY AROUND BASE OF ROOTBALL WITH FOOT PRESSURE.
5. AT TIME OF PLANTING, ONLY PRUNE CO-DOMINANT LEADERS (DOES NOT APPLY TO MULTI-TRUNK SPECIMENS), CROSSOVER LIMBS, AND DEAD OR BROKEN BRANCHES.
6. DO NOT ALLOW MULCH IN CONTACT WITH TREE TRUNK, KEEP AT LEAST 4" AWAY FROM TRUNK.
7. INSTALL TREE GUARD.
8. WHEN DONE, THOUROUGHLY WATER TO ELIMINATE AIR POCKETS.
9. STAKING IS NOT REQUIRED – STAKE TREES ONLY IF TREE CANNOT STAND ALONE AND WITH APPROVAL OF THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL NOT STAKE ALL TREES INDISCRIMINANTELY, APPROVAL MUST BE OBTAINED TO STAKE TREES.
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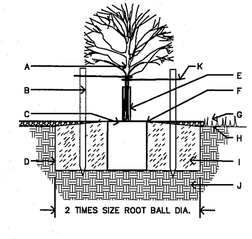
11. TOP OF ROOT BALL SHALL BE LEVEL WITH TOP OF MULCH OR BARK. MULCH SHALL BE FEATHERED TO FULL DEPTH.

## 2 TREE PLANTING
BALLED & BURLAP IN SOD AREA — NTS




A. TREE
B. STAKING AS NEEDED
C. 4" SPACE BETWEEN MULCH AND TREE
D. SLOPE ON SIDES OF PLANTING HOLE
E. TREEGUARD, ARBORGUARD WWW.BENMEADOWS.COM
F. DEPTH OF BARK MULCH-SEE PLAN
G. GRASS
H. FINISH SOIL GRADE
I. BACKFILL WITH EXISTING NATIVE SOIL
J. UNDISTURBED SOIL
K. TIES TO STAKES TO HAVE RUBBER HOSE TO PROTECT TREE TRUNK FROM DAMAGE BY WIRE. WIRE TIES TO BE LOOSE (1" TO 2" PLAY ON PLAN) TO PROTECT TREE TRUNK FROM DAMAGE. WIRE TIES TO BE SET ON SAME TRUNK OR MAIN TRUNK.

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3. REMOVE CONTAINER AND CUT ANY ROOTS THAT ARE CIRCLING THE CONTAINER. PRIOR TO SETTING TREE IN PLANTING HOLE (PIT).
4. TAMP SOIL FIRMLY AROUND BASE OF ROOTBALL WITH FOOT PRESSURE.
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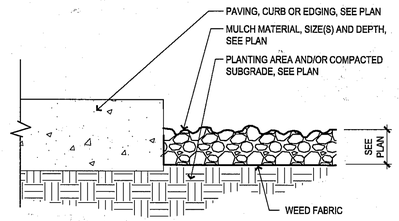
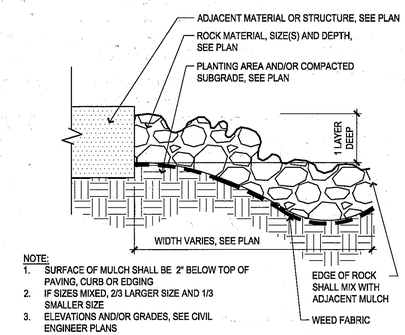
## 4 TREE PLANTING
CONTAINER IN SOD AREA — NTS




NOTE:
1. SURFACE OF MULCH SHALL BE 2" BELOW TOP OF PAVING, CURB OR CONCRETE HEADERS

## 6 MULCH
NTS




NOTE:
1. SURFACE OF MULCH SHALL BE 2" BELOW TOP OF PAVING, CURB OR EDGING
2. IF SIZES MIXED, 2/3 LARGER SIZE AND 1/3 SMALLER SIZE
3. ELEVATIONS AND/OR GRADES, SEE CIVIL ENGINEER PLANS

## 7 LARGE MULCH
DRAINAGE / EROSION AREAS — NTS

THE CITY OF EL PASO TEXAS

PARKS DEPARTMENT
REVIEWED BY Antonio Ortiz Jr. 7/30/2015

TDLR PLD# EABPRJB5806142

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF GOMALIA & MESA AVENUE
REFERENCE TO THREE HILLS ADDITION.
ELEVATION = 3879.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM ENGINEERING CONSULTANTS, Incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

QUERCUS
1006 Magoffin Av | El Paso, TX 79901
915.490.0065 voice
david.c@thequercusgroup.com e-mail
www.thequercusgroup.com web
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REGISTERED LANDSCAPE ARCHITECT DAVID A. CLARK 2140 STATE OF TEXAS

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: 6/2015 DAC
DESIGN BY: –
DRAWN BY: –
CHKD BY: –
APPVD BY: –
JOB NO. –

PROJECT TITLE
MESA VISTA PARK AND HIGH DESERT PARK & TRAIL
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
LANDSCAPE DETAILS

SHEET NO.
L-13
__ OF ___ SHEETS

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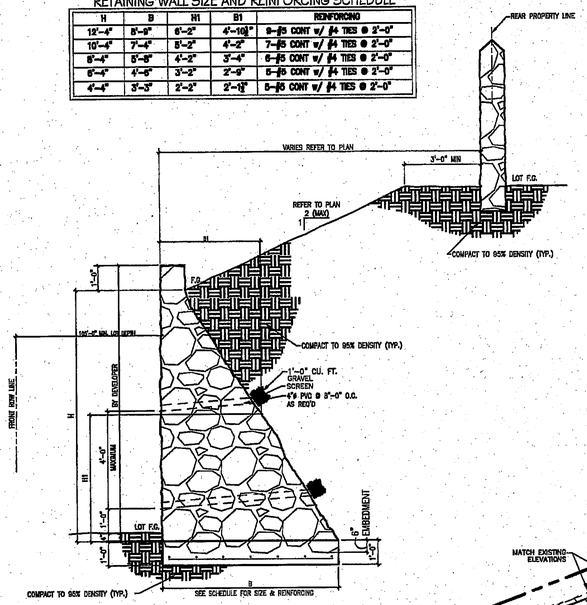
## RETAINING WALL SIZE AND REINFORCING SCHEDULE

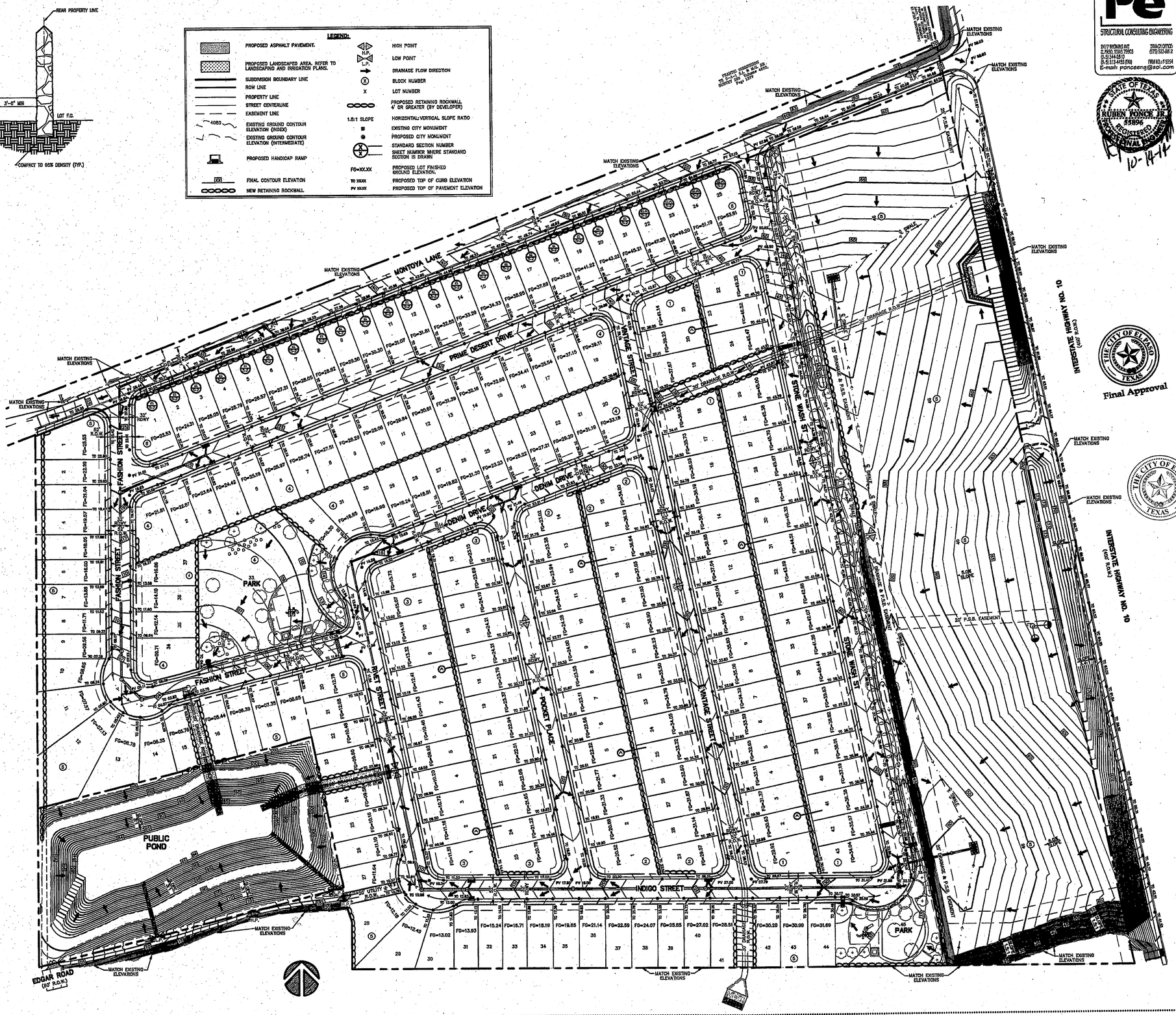
| H | B | H1 | B1 | REINFORCING |
|---|---|---|---|---|
| 12'-4" | 8'-0" | 6'-2" | 4'-10½" | 9-#8 CONT w/ #4 TIES @ 2'-0" |
| 10'-4" | 7'-4" | 5'-2" | 4'-2" | 7-#8 CONT w/ #4 TIES @ 2'-0" |
| 8'-4" | 5'-8" | 4'-2" | 3'-4" | 6-#8 CONT w/ #4 TIES @ 2'-0" |
| 6'-4" | 4'-8" | 3'-2" | 2'-9" | 5-#8 CONT w/ #4 TIES @ 2'-0" |
| 4'-4" | 3'-3" | 2'-2" | 2'-1½" | 5-#8 CONT w/ #4 TIES @ 2'-0" |




**A SECTION**
GENERAL DETAIL REFER TO SCHEDULE ON THIS SHEET
ALTERNATIVE OPTION IS FULL RETAINING WALL

**LEGEND:**

- PROPOSED ASPHALT PAVEMENT.
- PROPOSED LANDSCAPED AREA. REFER TO LANDSCAPING AND IRRIGATION PLANS.
- SUBDIVISION BOUNDARY LINE
- ROW LINE
- PROPERTY LINE
- STREET CENTERLINE
- EASEMENT LINE
- 4080 EXISTING GROUND CONTOUR ELEVATION (INDEX)
- EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
- PROPOSED HANDICAP RAMP
- FINAL CONTOUR ELEVATION
- NEW RETAINING ROCKWALL
- H.P. HIGH POINT
- L.P. LOW POINT
- DRAINAGE FLOW DIRECTION
- (X) BLOCK NUMBER
- X LOT NUMBER
- PROPOSED RETAINING ROCKWALL 4' OR GREATER (BY DEVELOPER)
- 1.5:1 SLOPE HORIZONTAL:VERTICAL SLOPE RATIO
- EXISTING CITY MONUMENT
- PROPOSED CITY MONUMENT
- STANDARD SECTION NUMBER
- SHEET NUMBER WHERE STANDARD SECTION IS DRAWN
- FG=XX.XX PROPOSED LOT FINISHED GROUND ELEVATION.
- TC XXXX PROPOSED TOP OF CURB ELEVATION
- PV XXXX PROPOSED TOP OF PAVEMENT ELEVATION




PONCE ENGINEERING, INC.
STRUCTURAL CONSULTING ENGINEERING
2417 WYOMING AVE. EL PASO, TEXAS 79903
(915) 544-5810
(915) 544-5813 (FAX)
E-mail: ponceeng@aol.com
TEXAS REGISTERED ENGINEERING FIRM NO. F-5354

STATE OF TEXAS
RUBEN PONCE JR.
55896
REGISTERED PROFESSIONAL ENGINEER
10-14-14

REFERENCES – BENCHMARK
BENCHMARK: CITY MONUMENT AT THE INTERSECT OF QUIMALT & RIDA AVENUE
REFERENCE IN THOSE HILLS ADDITION
ELEVATION = 3916.84 (CITY DATUM)

| BY | DATE | REVISION |
|---|---|---|
| | | |

THE CITY OF EL PASO TEXAS
Final Approval

QUANTUM engineering consultants incorporated
414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: OCTOBER 2014
DESIGN BY:
DRAWN BY:
CHKD. BY:
APPVD. BY:
JOB NO. 1328

PROJECT TITLE
WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

SHEET TITLE
RETAINING WALL LOCATION PLAN

SHEET NO.
S-1
115 OF 116 SHEETS

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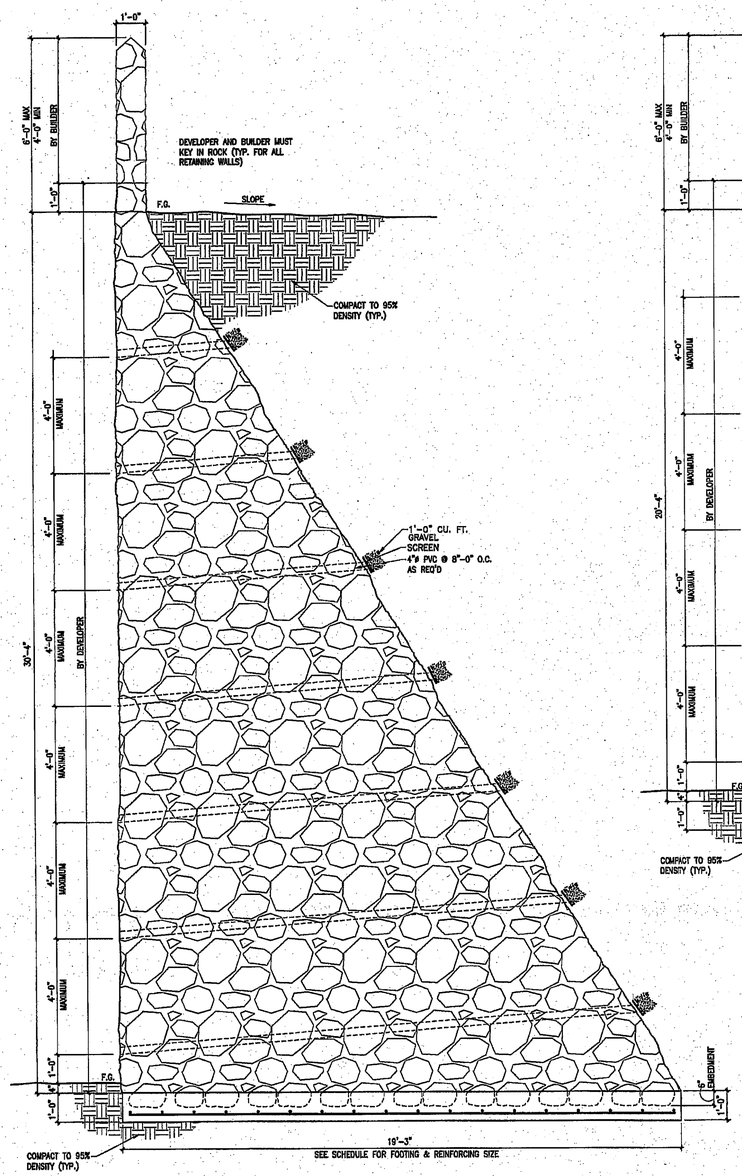
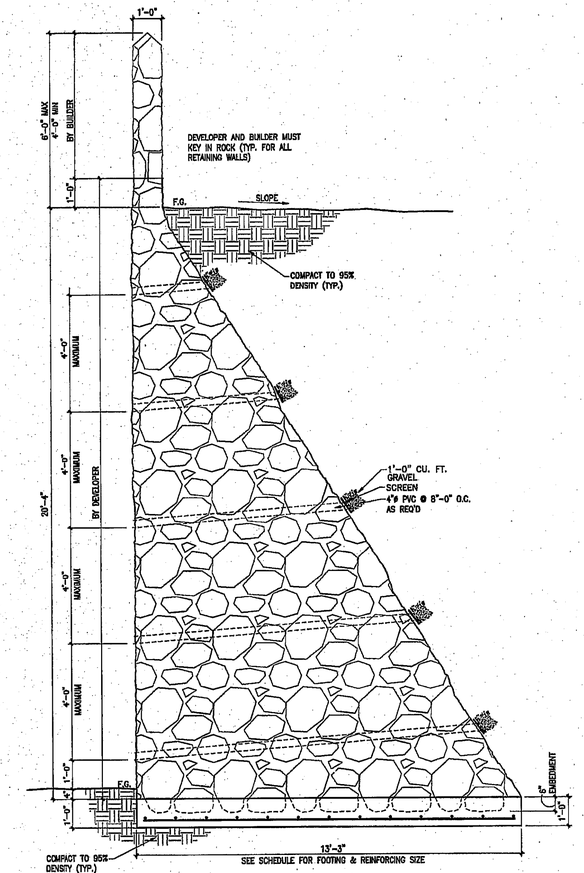
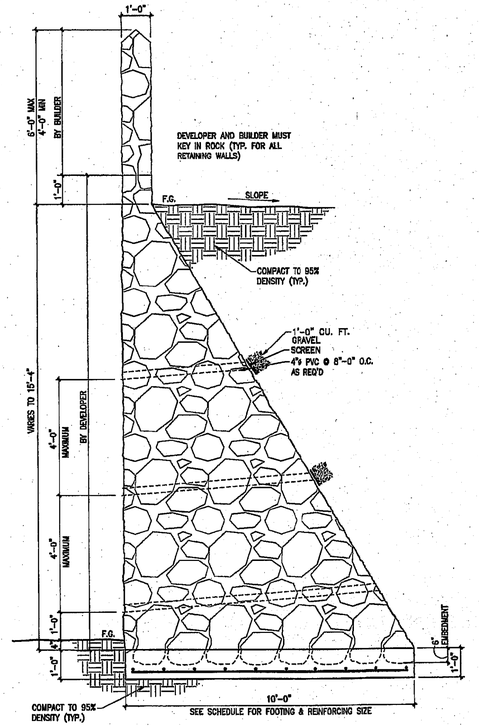


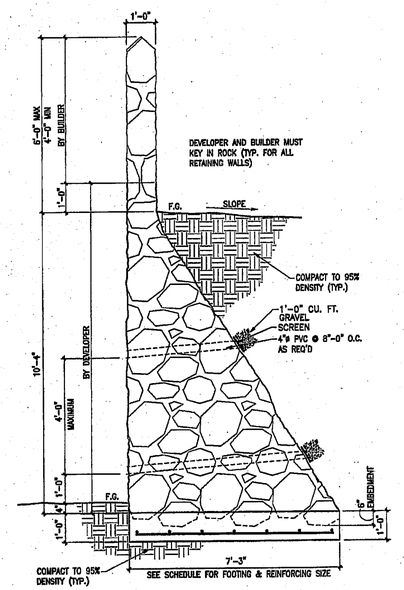

1 SECTION 5-2




2 SECTION 5-2




3 SECTION 5-2




4 SECTION 5-2

**CONSTRUCTION SPECIFICATIONS**

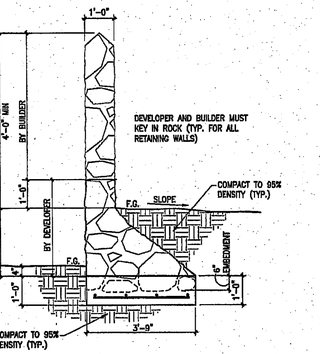
1. ALL EXCAVATIONS SHALL BE FREE OF ALL LOOSE AND FOREIGN MATERIAL BEFORE ANY CONCRETE IS PLACED AND ALL AREAS TO RECEIVE CONCRETE SHALL BE THOROUGHLY WETTED PRIOR TO PLACEMENT. EXPOSED SOIL SURFACE SHALL BE COMPACTED TO 95% DENSITY AND ALL BACKFILL SHALL BE COMPACTED IN 8" LIFTS TO 95% DENSITY.
2. ALL CONCRETE SHALL BE 3000 psi AT 28 DAYS.
3. ALL MORTAR SHALL CONFORM TO ASTM C-270, TYPE S.
4. ALL REINFORCING SHALL BE GRADE 60, ASTM A-615.
5. SOIL UNIT wt=120 pcf
6. SAFETY FACTOR AGAINST OVERTURNING GREATER THAN 2
7. EXPANSION JOINTS @ ≈100'-0" L.F.

RETAINING WALL SIZE AND REINFORCING SCHEDULE #1

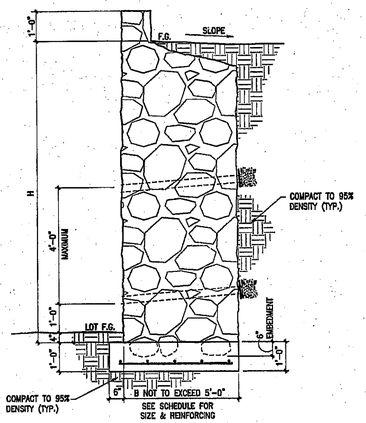
| H | B | REINFORCING |
|---|---|---|
| 10'-0" | 5'-0" | 5-#5 CONT w/ #4 TIES @ 2'-0" |
| 8'-0" | 5'-0" | 5-#5 CONT w/ #4 TIES @ 2'-0" |
| 6'-0" | 4'-0" | 4-#5 CONT w/ #4 TIES @ 2'-0" |
| 5'-4" | FOR THESE RETAINING WALLS REFER TO "RETAINING WALL SIZE AND REINFORCING SCHEDULE #2 | |
| 2'-4" | | |

RETAINING WALL SIZE AND REINFORCING SCHEDULE #2

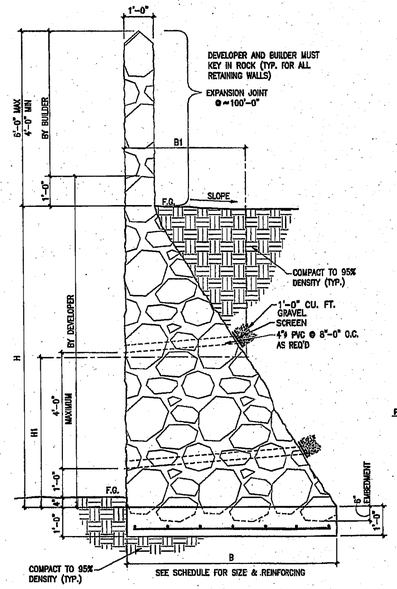
| H | B | H1 | B1 | REINFORCING |
|---|---|---|---|---|
| 30'-4" | 19'-3" | 15'-2" | 9'-7½" | 18-#5 CONT w/ #4 TIES @ 2'-0" |
| 25'-4" | 16'-6" | 12'-8" | 8'-3" | 16-#5 CONT w/ #4 TIES @ 2'-0" |
| 20'-4" | 13'-3" | 10'-2" | 6'-7½" | 13-#5 CONT w/ #4 TIES @ 2'-0" |
| 15'-4" | 10'-0" | 7'-8" | 5'-0" | 10-#5 CONT w/ #4 TIES @ 2'-0" |
| 10'-4" | 7'-3" | 5'-2" | 3'-7½" | 7-#5 CONT w/ #4 TIES @ 2'-0" |
| 5'-4" | 4'-6" | 2'-8" | 2'-3" | 5-#5 CONT w/ #4 TIES @ 2'-0" |
| 2'-4" | 3'-9" | 1'-2" | 1'-10½" | 4-#5 CONT w/ #4 TIES @ 2'-0" |



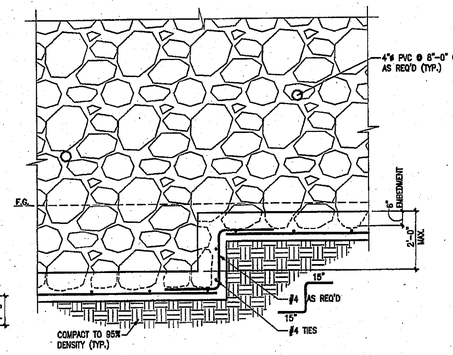

5 SECTION 5-2




6 SECTION 5-2 FOR MONTOYA LANE ONLY




6A SECTION 5-2 GENERAL DETAIL REFER TO SCHEDULE




7 SECTION 5-2 STEP DOWN OF FOOTING

THE CITY OF EL PASO TEXAS

Final Approval

STATE OF TEXAS RUBEN PONCE JR. 55896 REGISTERED PROFESSIONAL ENGINEER 10-14-14

PONCE ENGINEERING, INC.

STRUCTURAL CONSULTING ENGINEERING

2417 WYOMING AVE. EL PASO, TEXAS 79903 (915) 544-3810 (915) 315-4403 (FAX)

BRANCH OFFICES: (575) 525-6612

FIRM NO.: F-5554

E-mail: ponceeng@aol.com

REFERENCES – BENCHMARK

BENCHMARK: CITY MONUMENT AT THE INTERSECT. OF GUADALUPE & MCA AVENUE
DESCRIPTION: BRASS CAP
ELEVATION = 3870.84 (CITY DATUM)

| DATE | REVISION | BY |
|---|---|---|
| | | |

QUANTUM engineering consultants incorporated

414 Executive Center Blvd
Ste 200 El Paso TX 79902
P 915.532.7272
F 915.532.7373
Texas Registered Engineering Firm F-005146

SCALE:
HORIZONTAL:
VERTICAL:
CONTOUR INTERVAL:
DATE: OCTOBER, 2014
DESIGN BY:
DRAWN BY:
CHK'D BY:
APPV'D BY:
JOB NO. 1398

PROJECT TITLE

WEST DESERT MARKETPLACE
SUBDIVISION IMPROVEMENT PLANS
EL PASO, TEXAS

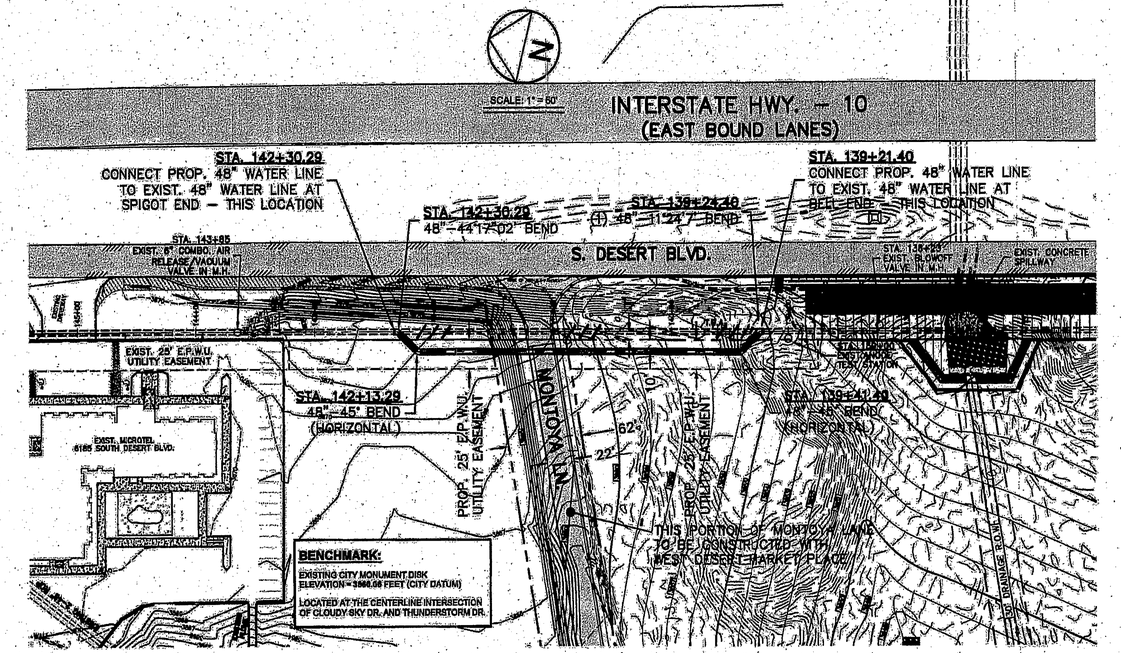
SHEET TITLE

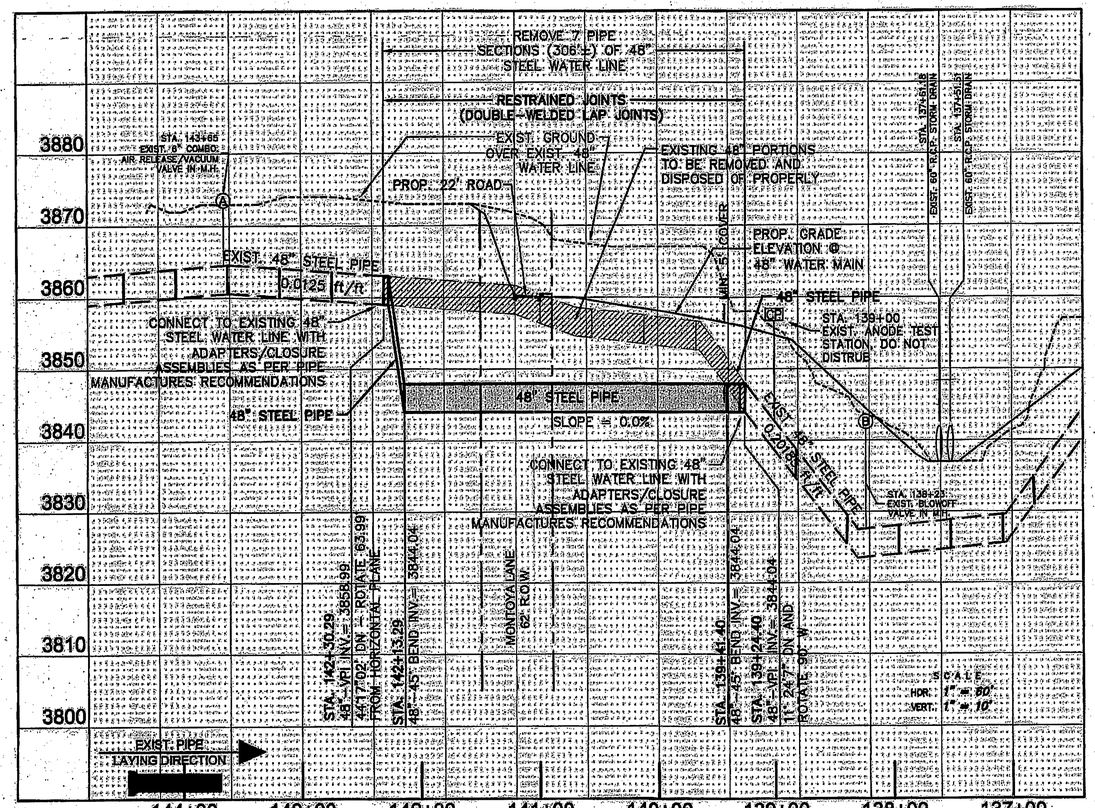
RETAINING WALL DETAILS & SCHEDULE

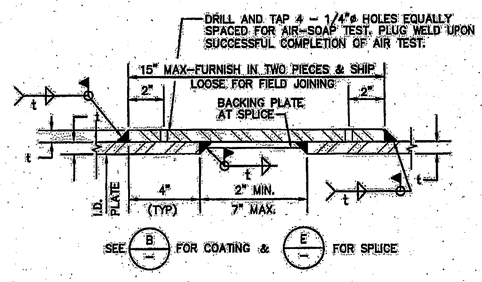
SHEET NO.

S-2

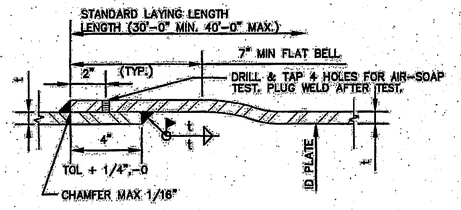
116 OF 116 SHEETS



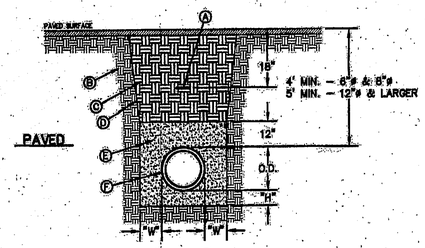




D — BUTT STRAP JOINT DETAILS
NTS




J — TYPICAL STEEL JOINT-DOUBLE-WELDED LAP JOINT
NTS

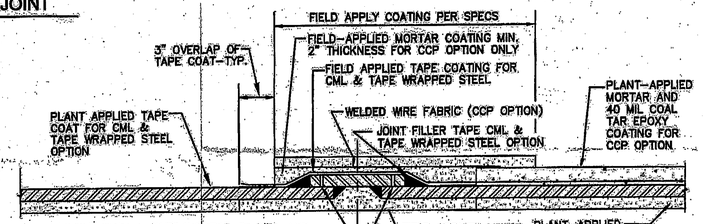



**GENERAL NOTES:**
1. BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
2. PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
3. IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT HIS EXPENSE, IMPORT SELECT MATERIAL TO BE MIXED WITH OR USED IN PLACE OF THE NATIVE MATERIAL. SELECT MATERIAL SHALL MEET THE REQUIREMENTS FOR CLASS A EMBEDMENT. SUBSTITUTE SOIL CEMENT SLURRY (2–SACK) IF REQUIRED IN SPECS.

**CONSTRUCTION KEY NOTES:**
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL. PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D–1557 MODIFIED PROCTOR. UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D–1557 MODIFIED PROCTOR. (*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS CANNOT BE MET.)
D. SLOPE TRENCH IN SANDY SOIL CONDITIONS.
E. USE CLASS II OR CLASS III SAND PER ASTM D–2487. NATIVE MATERIAL OR IMPORTED SELECT MATERIAL MEETING OR EXCEEDING THIS REQUIREMENT MAY BE USED. COMPACT TO 90% DENSITY PER ASTM D–1557 MODIFIED PROCTOR.
F. APPROVED PIPE.
G. TRENCH DIMENSIONS AS FOLLOWS:

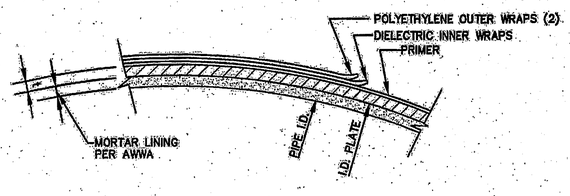
| PIPE DIAMETER | "H" |
|---|---|
| 8" – 30" | 4" |
| GREATER THAN 30" | 6" |
| PIPE DIAMETER | "W" |
| 8" – 30" | 8" |
| GREATER THAN 30" | 12" |

A — EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE - DRY CONDITIONS
NTS

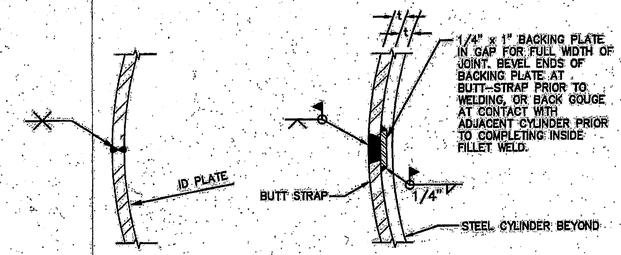



NOTES: 1. FIELD APPLIED TAPE COATING AT BELL AND SPIGOT JOINTS SIMILAR.
2. USE LAYERS OF 125 MIL SEALANT TAPE TO FILL TRANSITIONS BETWEEN O.D. OF BUTT STRAP OR BELL AND SPIGOT PRIOR TO APPLICATION OF PROTECTIVE WRAPS.

B — PIPE COATING AND LINING AT BUTT STRAP JOINTS
NTS




F — DIELECTRIC TAPE PIPE COATING
NTS




L — SHOP WELD
NTS

E — BUTT STRAP SPLICE
NTS

***CONSTRUCTION NOTES:***
1.) CONTRACTOR SHALL COORDINATE WITH EPWU ENGINEERING AND OPERATIONS DEPARTMENTS FOR CONNECTION AND/OR SHUTDOWN SCHEDULES AND TIMELINES. ALL PROCEDURES SHALL BE REVIEWED AND APPROVED IN ADVANCE. ALL TIE-INS SHALL BE SCHEDULED AS PER EPWU REQUIREMENTS.
2.) CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.
3.) TxDOT PERMIT REQUIRED BEFORE CONSTRUCTION.
4.) AN EASEMENT IS REQUIRED TO ACCOMMODATE PROPOSED WATER LINE. REFER TO STANDARD UTILITY DOCUMENTATION IN E.P.W.U.-P.S.B. DEVELOPER AGREEMENT FOR EASEMENT TERMS AND CONDITIONS.
5.) INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.
6.) REMOVAL AND DISPOSAL OF ANY VALVES AND OTHER PIPE MATERIAL SCHEDULED TO BE REMOVED WILL BE THE CONTRACTOR'S RESPONSIBILITY AND AT HIS EXPENSE.
7.) CONTRACTOR SHALL REMOVE ANY MATERIALS SCHEDULED TO BE SALVAGED OR DEEMED SALVAGEABLE BY THE ENGINEER AND DELIVERED TO THE OWNER.
8.) PROPOSED WATER LINE SHALL BE 48" STEEL INTERNAL DIAMETER, TAPE WRAPPED, MORTAR LINED PIPE WITH A STEEL WALL THICKNESS OF 0.229 INCHES.
9.) PIPE SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.

ENGINEER'S SEAL
STATE OF TEXAS
FELIPE LOPEZ JR.
86824
LICENSED PROFESSIONAL ENGINEER
11/15

| REVISIONS | DATE | REVISED BY |
|---|---|---|
| NEW GRADES | 05–22–13 | D.T. |
| STREET WIDTH AND NEW GRADES | 12–01–14 | D.T. |

FINAL 04/03/2013

EL PASO WATER UTILITIES
PUBLIC SERVICE BOARD

# WEST DESERT MARKET PLACE 48" WATER LINE RELOCATION

| SCALE | DRAWN BY | JOB NO. | DATE |
|---|---|---|---|
| HOR. 1" = 80' | A.Q./D.T. | 13–5031 | 04/02/2013 |
| VERT. 1" = 10' | CHECKED BY A.C./F.L. | DESIGNED BY F.L. | SHT. 1 OF 1 |

Dec 29, 2014 - 2:40pm dtanh
C:\Users\dtanh\Documents\D.T. Assignments\WEST DESERT MARKET PLACE\New folder\3RD DESIGN 13-5031_01_12-15-2014_CURRENT.dwg