# HOMESTEAD AT STERLING RANCH FILING NO. 1

COUNTY OF EL PASO, STATE OF COLORADO

# STREET IMPROVEMENT PLANS

OCTOBER 2018

# **AGENCIES**

CIVIL ENGINEER:

COUNTY ENGINEERING:

OWNER/DEVELOPER:

20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903

JIM MORLEY (719) 471-1742

20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903

VIRGIL A. SANCHEZ P.E. (719) 955-5485 EL PASO COUNTY DEVELOPMENT SERVICES

2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910

M & S CIVIL CONSULTANTS, INC.

JEFF RICE, P.E. (719) 520-6300

EL PASO COUNTY PUBLIC SERVICES & TRANS. DEPT. TRAFFIC ENGINEERING: 3275 AKERS DRIVE

> COLORADO SPRINGS, CO 80922 JENNIFER IRVINE P.E. (719) 520-6460

WATER RESOURCES: STERLING RANCH METRO DISTRICT ENGINEERS

> JDS-HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300 COLORADO SPRINGS, CO 80903

JOHN MCGINN (719) 668-8769

FIRE DISTRICT: BLACK FOREST FIRE PROTECTION DISTRICT

11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495-4300

COLORADO SPRINGS UTILITIES GAS DEPARTMENT:

7710 DURANT DR. COLORADO SPRINGS, CO 80947

TIM WENDT (719) 668-3556

ELECTRIC DEPARTMENT: MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD

> FALCON, CO 80831 (719) 495-2283

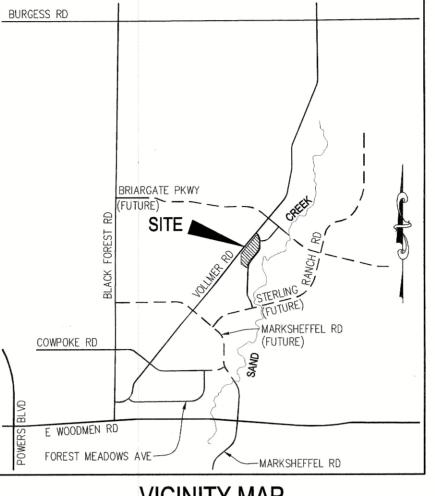
COMMUNICATIONS: QWEST COMMUNICATIONS

(U.N.C.C. LOCATORS) (800) 922-1987

# **BENCHMARKS**

ELEVATION = 7000.40

- 1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION NORTHING = 411416.273EASTING = 235167.071ELEVATION = 7023.42
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SITE MAP

# **APPROVALS:**

#### **ENGINEER'S STATEMENT:**

DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT: THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED DRAINAGE PLANS AND SPECIFICATIONS, AND SAID DETAILED PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH THE MASTER PLAN OF THE DRAINAGE BASIN. SAID DETAILED DRAINAGE PLANS AND SPECIFICATIONS MEET, THE PURPOSES FOR WHICH THE PARTICULAR DRAINAGE FACILITY(S) IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NECLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARATION OF THE DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS.

VIRGIL A SANCHEZ, COLORADO P.E. NO. 37160 FOR AND ON BEHALF OF MES CIVIL CONSULTANTS, INC.

FILING

STERLING

HOMESTEAD

# OWNER/DEVELOPER STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE DRAINAGE REPORT AND PLAN AND THIS SET OF CONSTRUCTION DOCUMENTS. THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, AND ENGINEERING CRITERIA

by Elizabeth Nijkamp
El Paso County Planning and Community Development
on behalf of Jennifer Irvine, County Engineer, ECM Administrator 11/21/2018 1:57:53 PM

JENNIFER IRVINE, P.E. COUNTY ENGINEER / ECM ADMINISTRATOR

### STERLING RANCH METROPOLITAN DISTRICT:

THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE STERLING RANCH METRO. DISTRICT



# SHEET INDEX

SHEET 2 NOTES & DETAILS SHEET 3 PLAN & PROFILE

- WHEATLAND DRIVE STA 0+00.00 TO 13+50.00 - WHEATLAND DRIVE STA 13+50.00 TO 17+81.93

SHEET 4 PLAN & PROFILE SHEET 5 PLAN & PROFILE

 SCOBY COURT RYEGATE WAY SHEET 6 PLAN & PROFILE

CUTBANK WAY

SHEET 7 SIGNAGE & STRIPING

**AS-BUILTS** 06/24/2022 SF-17-025



FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG

& MARKING ELECTRIC, WATER & TELEPHONE CALL 1-800-922-1987

#### **GENERAL CONSTRUCTION NOTES:**

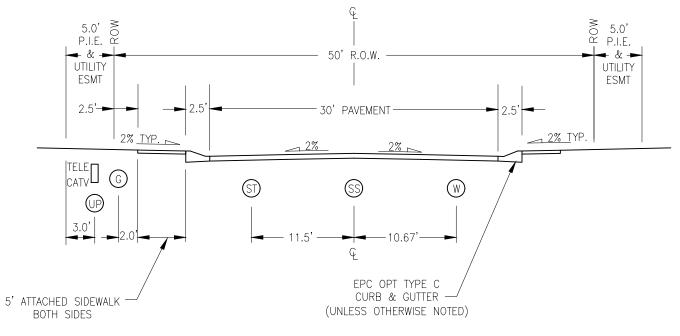
- 1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- 2. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- 3. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
- 4. ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS. AND APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DIVISION.
- 5. ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).
- 6. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K 1.2C.
- 7. ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES EXCEPT BRAIRGATE PARKWAY AND VOLLMER ROAD WHICH ARE ARTERIALS AND A 50 FOOT SIGHT VISIBILITY TRIANGLE IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" VERTICAL IN THIS AREA.
- 8. ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), REINFORCED CONCRETE PIPE (RCP). ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNER'S GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 - CULVERTS.
- 9. ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT THE TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DIVISION PRIOR TO CONSTRUCTION.

#### SIGNING AND STRIPING NOTES:

- 1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 2. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
- 3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DIVISION.
- 4. ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
- 5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
- 6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
- 7. ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"
- 8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
- 9. ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.

10. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.

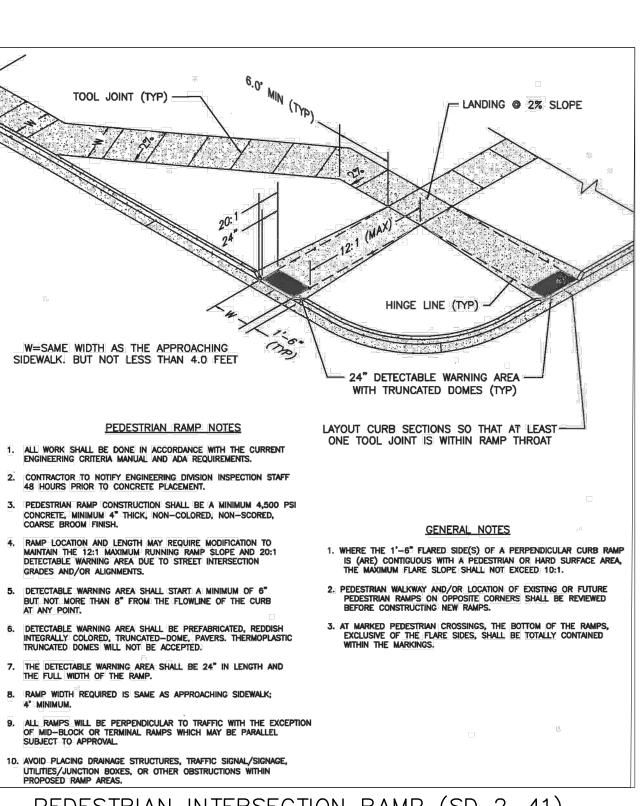
- 11. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
- 12. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
- 13. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
- 14. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO ANY WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY. INCLUDING SIGNAGE OR STRIPING.



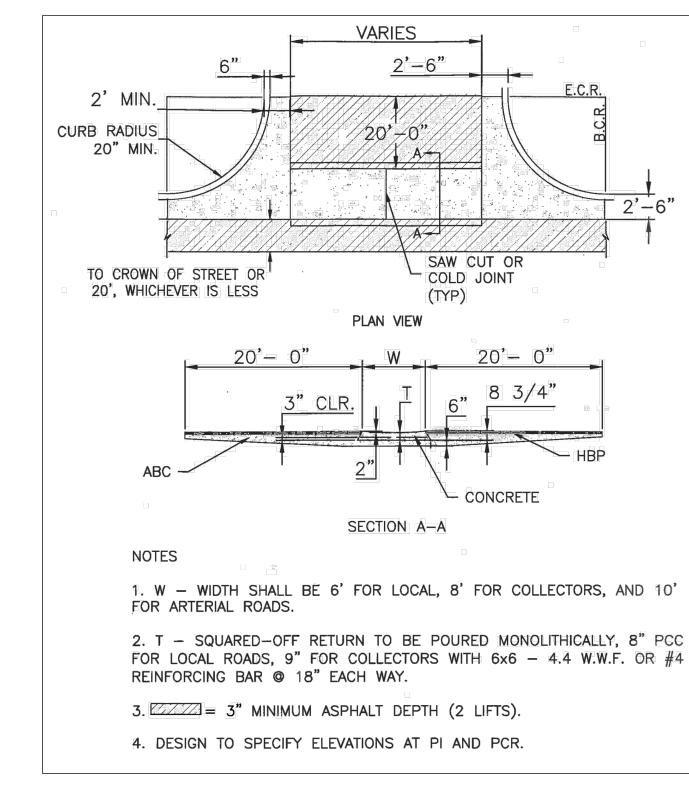
URBAN LOCAL CROSS SECTION SCALE: NTS

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

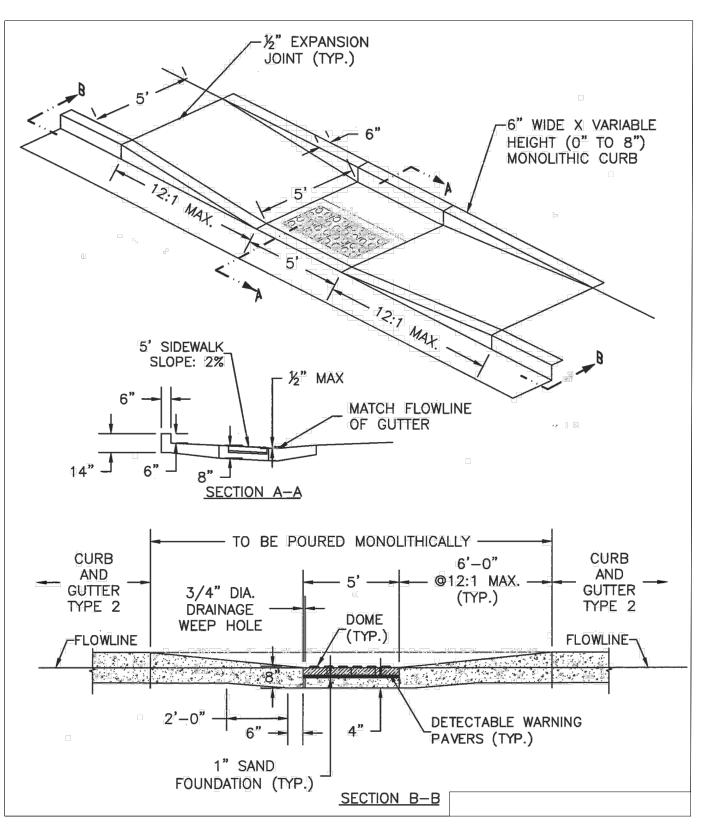
- 1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL,
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- 3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
- a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM) b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
- c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION d. CDOT M & S STANDARDS
- 4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- 5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- 6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT -INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- 7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- 8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DEPARTMENT OF PUBLIC WORKS. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- 9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.
- 10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- 11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- 12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES VERTICAL ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- 13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTCD CRITERIA.
- 14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT PUBLIC WORKS, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- 15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.



PEDESTRIAN INTERSECTION RAMP (SD 2-41)



TYPICAL CROSS PAN LAYOUT DETAIL (SD 2-26) SCALE: NTS



PARALLEL PEDESTRIAN RAMP DETAIL (SD 2-50)

& MARKING GAS, ELECTRIC, WATER & TELEPHONE FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

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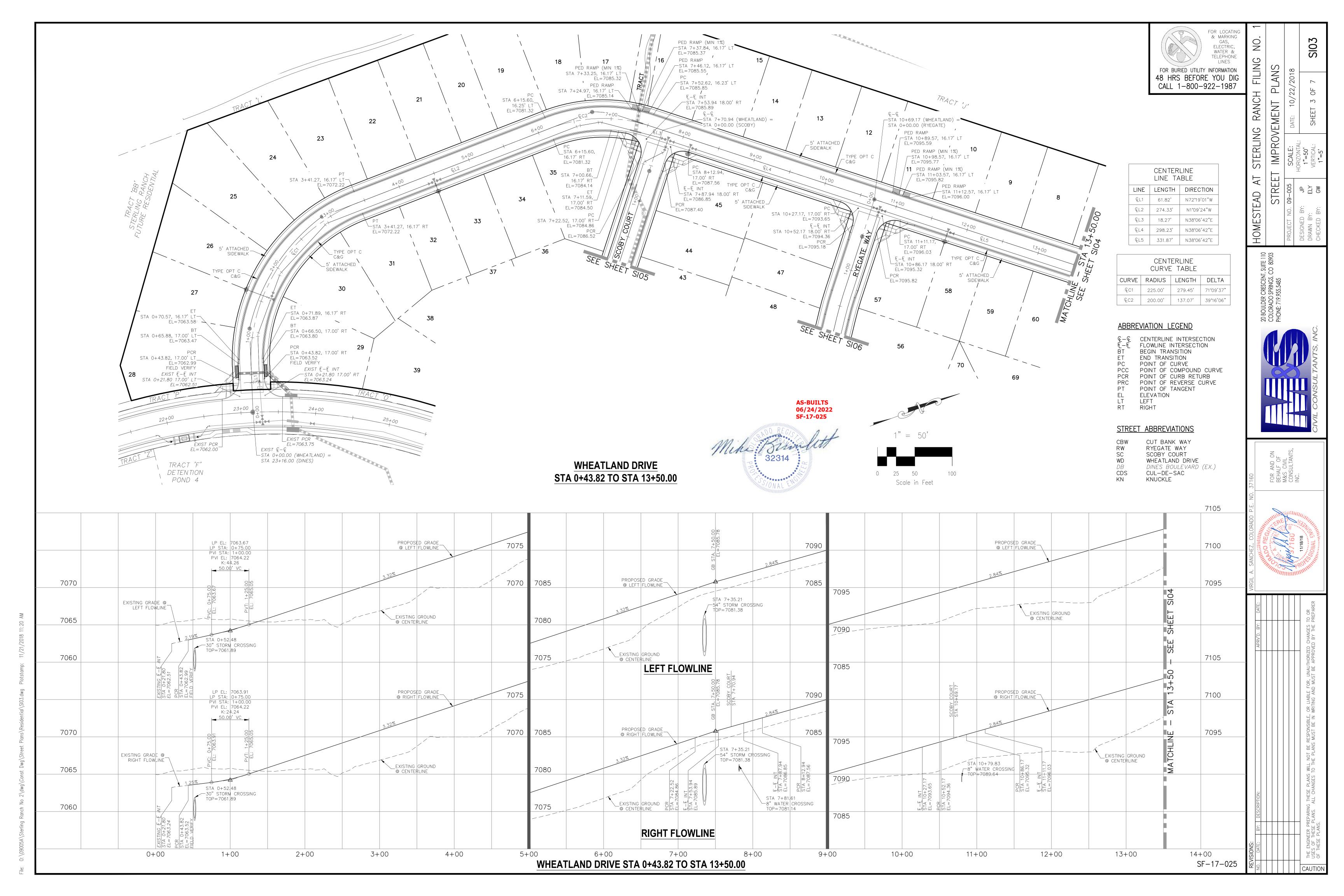
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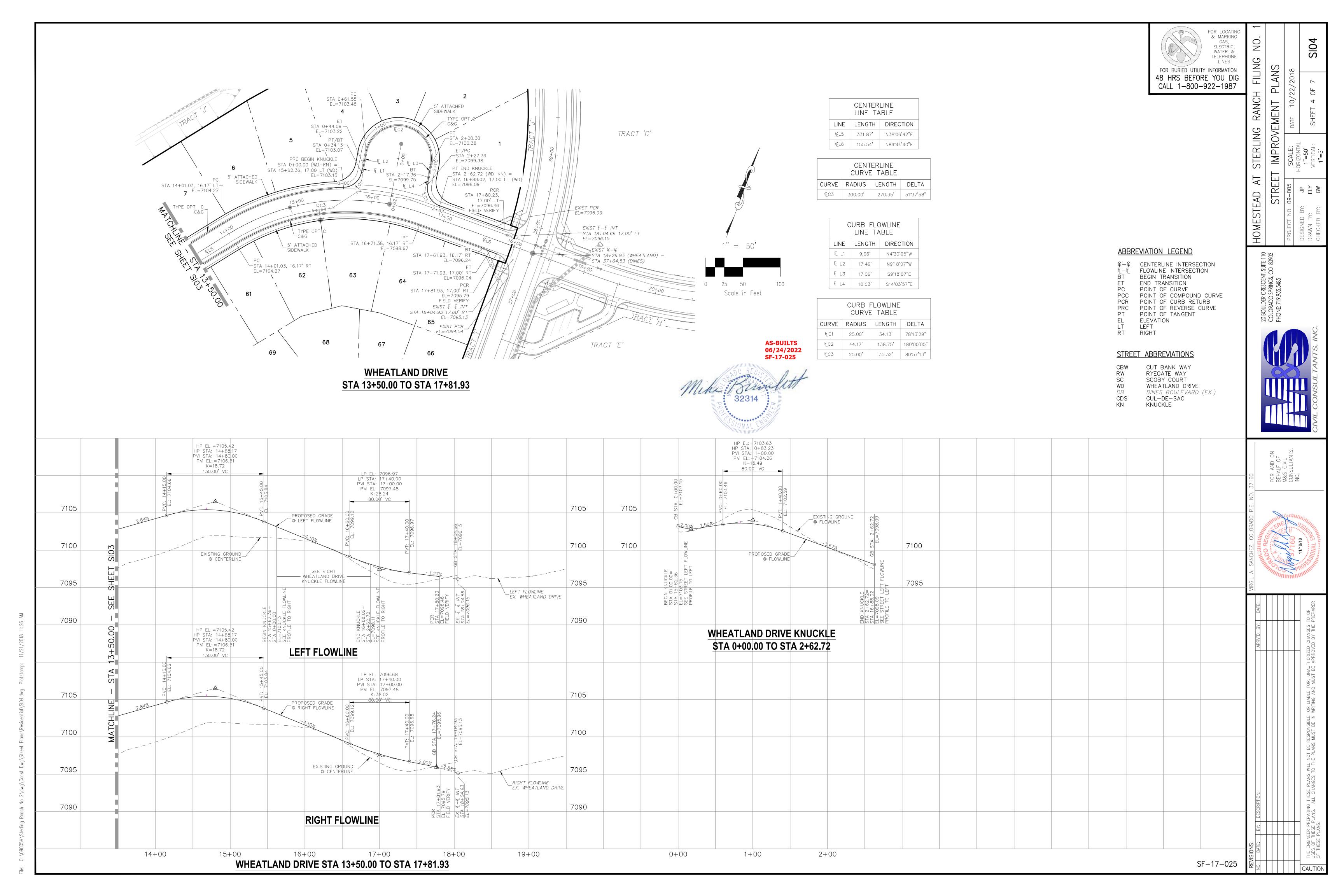
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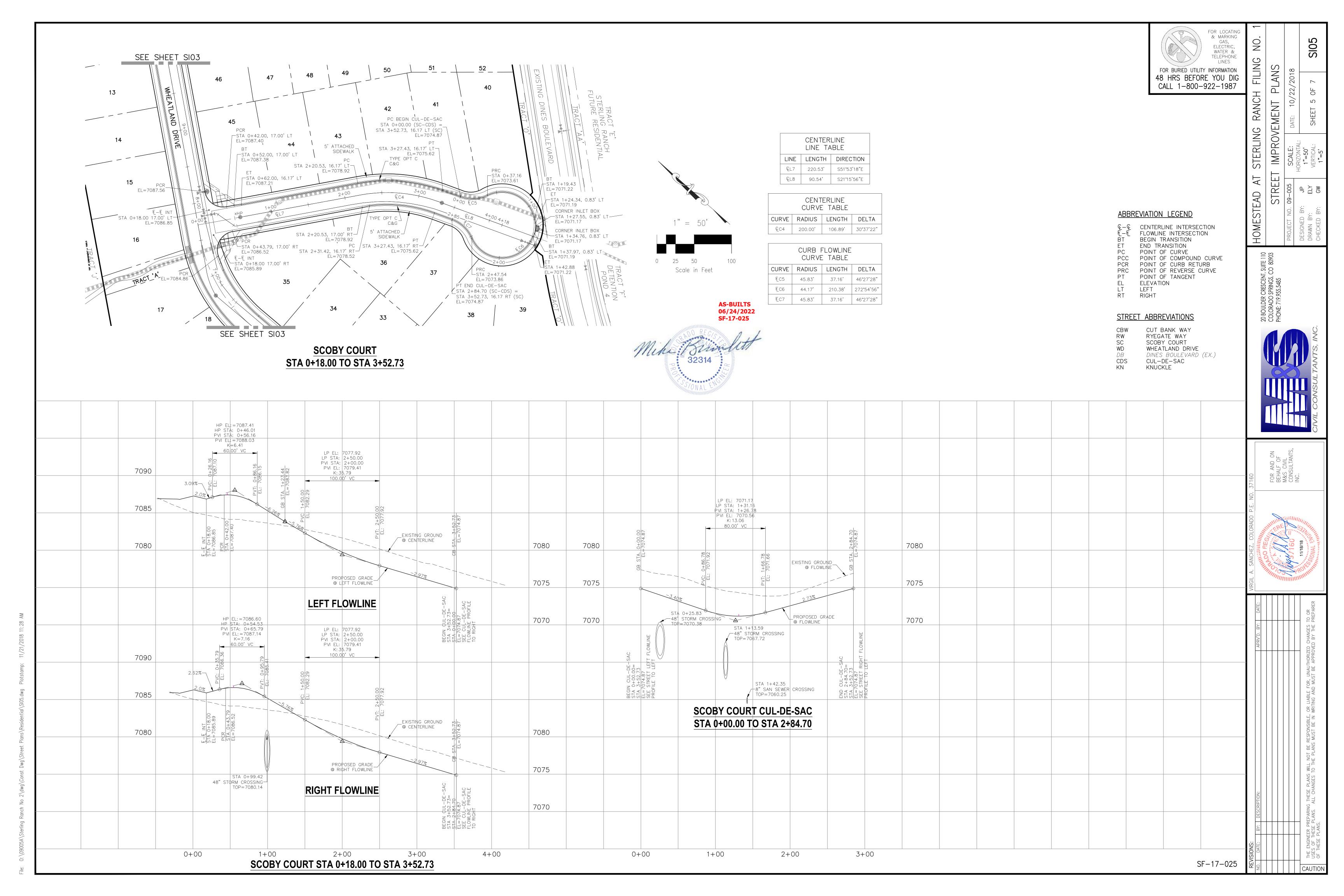
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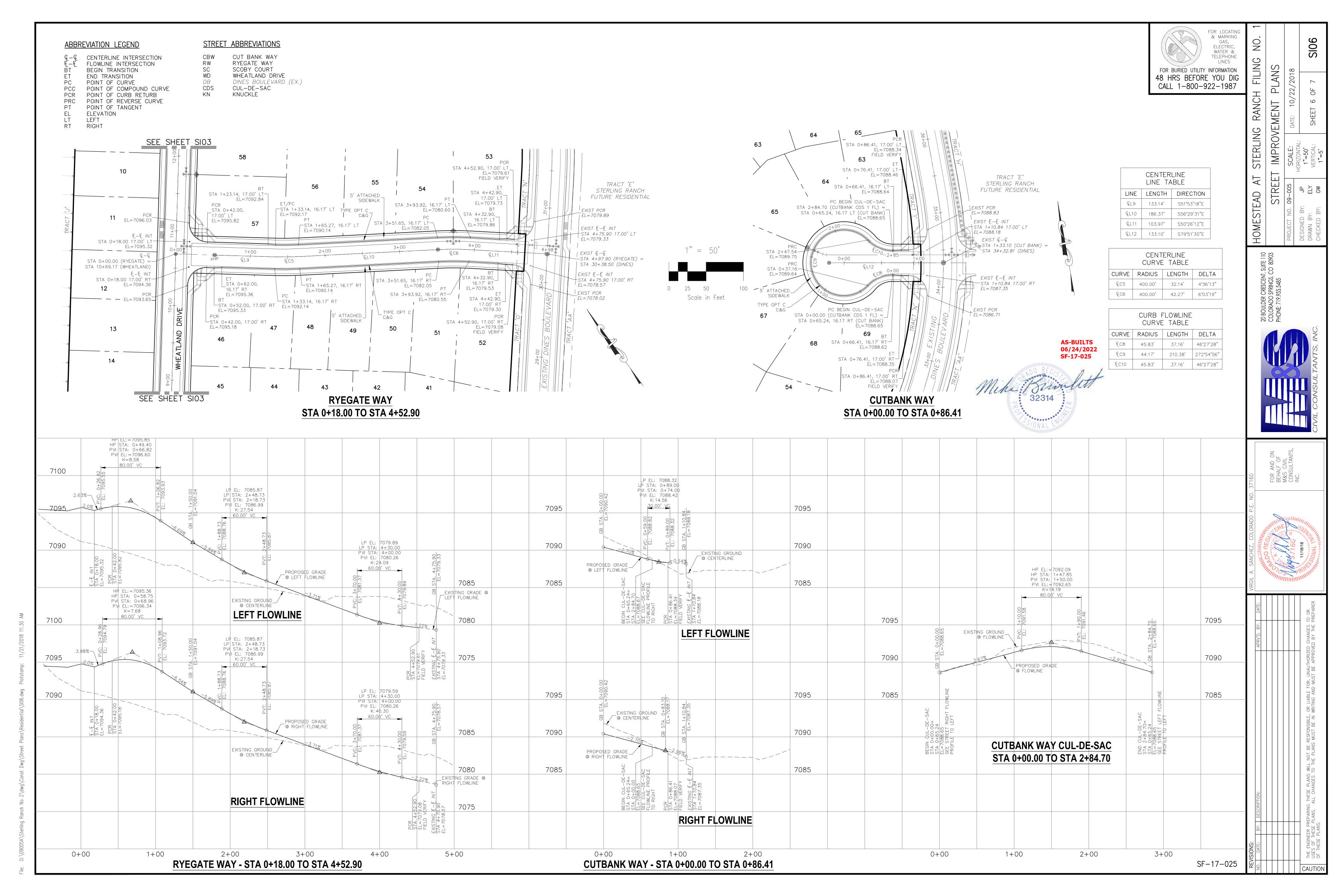
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# HOMESTEAD AT STERLING RANCH FILING NO. 1

COUNTY OF EL PASO, STATE OF COLORADO STORM SEWER PLANS

OCTOBER 2018

BURGESS RD

COWPOKE RD

**AGENCIES** 

WATER RESOURCES:

FIRE DISTRICT:

OWNER/DEVELOPER: SR LAND, LLC

20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903

JIM MORLEY (719) 471-1742

M & S CIVIL CONSULTANTS, INC. CIVIL ENGINEER: 20 BOULDER CRESCENT, SUITE 110

COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 955-5485

EL PASO COUNTY DEVELOPMENT SERVICES COUNTY ENGINEERING: 2880 INTERNATIONAL CIRCLE, SUITE 110

COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520-6300

EL PASO COUNTY PUBLIC SERVICES & TRANS. DEPT. TRAFFIC ENGINEERING:

> 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922

JENNIFER IRVINE P.E. (719) 520-6460

STERLING RANCH METRO DISTRICT ENGINEERS JDS-HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300

COLORADO SPRINGS, CO 80903

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BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD

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TIM WENDT (719) 668-3556

MOUNTAIN VIEW ELECTRIC ELECTRIC DEPARTMENT: 11140 E. WOODMEN ROAD

> FALCON, CO 80831 (719) 495-2283

**COMMUNICATIONS:** QWEST COMMUNICATIONS

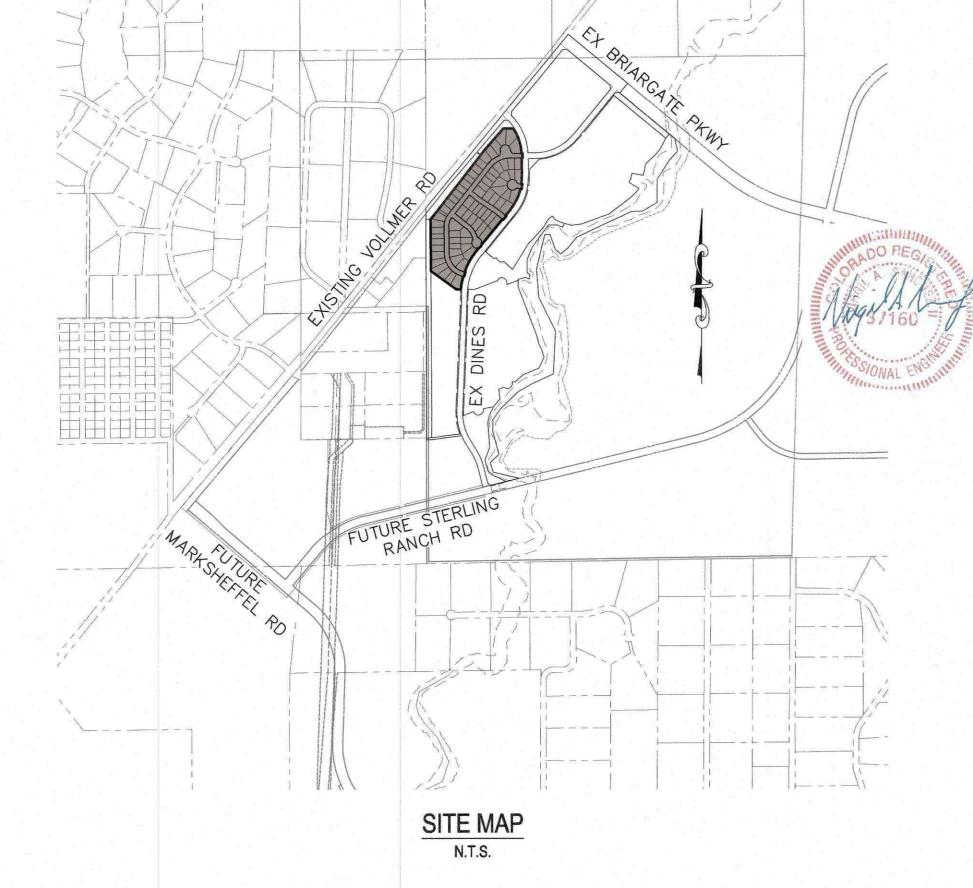
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# **BENCHMARKS**

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MARKSHEFFEL RD

**VICINITY MAP** 

N.T.S.

**APPROVALS:** 

**ENGINEER'S STATEMENT:** 

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VIRGIL A SANCHEZ, COLORADO P.E. NO. 37160 FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

OWNER/DEVELOPER STATEMENT:

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RANCH FILING

STERLING

AT

HOMESTEAD

CAUTION

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MANUAL AS AMENDED.

Approved

11/21/2018 2:07:27 PM

COUNTY ENGINEER / ECM ADMINISTRATOR

STERLING RANCH METROPOLITAN DISTRICT:

THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE STERLING RANCH METRO. DISTRICT

**AS-BUILTS** 

06/24/2022

SF-17-025

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SHEET 4 KEY MAP SHEET 5 PLAN & PROFILE - SCOBY COURT INLET & LATERAL TO EXISTING 18" STORM SEWER SHEET 6 PLAN & PROFILE - WHEATLAND DRIVE INLETS & LATERAL TO EXISTING 36" STORM SEWER

& MARKING ELECTRIC, WATER & TELEPHONE FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

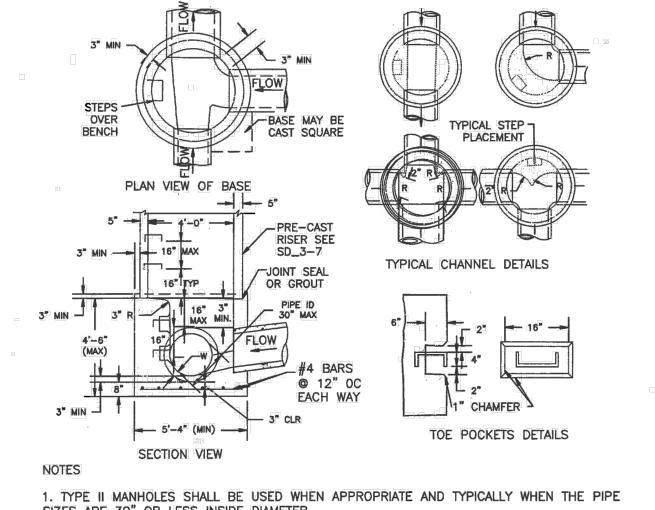
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- 3.1 EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM) 3.2 CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERA MANUAL VOLUMES 1 AND 2.
- 3.3 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION. 3.4 CDOT M&S STANDARDS.
- 4. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ACCURACY SHOW EXISTING CONDITION BOTH ONSITE AND OFFSITE ON THE CONSTRUCTION PLANS. ANY MODIFICATION NECESSARY DUE TO CONFLICT OMISSIONS OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPERS RESPONSIBILITY TO RECTIFY.
- 5. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORM WATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, US ARMY CORPS OF ENGINEER ISSUED 401 AND/OR 404 PERMITS AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- 6. ANY TEMPORARY SIGNAGE AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- 8. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFFSITE DISTURBANCE GRADING, OR CONSTRUCTION.

#### STORM SEWER GENERAL NOTES

- 1. ALL STATIONING IS ALONG STORM SEWER CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE INVERT UNLESS OTHERWISE INDICATED.
- 2. ALL STORM SEWER BENDS AND WYES SHOWN ON THE PLAN SHALL BE PREFABRICATED.
- 3. HORIZONTAL AND VERTICAL BENDS ARE INDICATED ON THE PLANS.
- 4. JOINTS SHALL BE IN ACCORDANCE WITH ASTM C443 "STANDARD SPECIFICATIONS FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKET." IN NO CASE SHALL THE MAXIMUM JOINT OPENING FOR STRAIGHT ALIGNMENT EXCEED 1 INCH OR ONE AND ONE—HALF INCH ON CURVED ALIGNMENT.
- 5. INLET DIMENSIONS SHOWN ON PLANS REFER TO DISTANCES FROM INSIDE FACES OF BOX BETWEEN THE WIDTHS AND LENGTHS.
- 6. MANHOLE WIDTHS AND LENGTHS SHOWN ON PLAN REFER TO THE EXTERIOR WALL DIMENSIONS.
- 7. ALL STORM SEWER SHALL BE A MINIMUM OF CLASS III REINFORCED CONCRETE PIPE. SPECIFIC SEGMENTS OF STORM SEWER SHALL BE REQUIRED TO BE CONSTRUCTED OF A MINIMUM OF 5000 PSI CONCRETE DUE TO EXCESSIVE VELOCITIES. REFER TO ADDITIONAL NOTES WITHIN CONSTRUCTION PLANS.
- 8. SINCE ALL PIPE ENTRIES INTO THE BASE ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK.
- 9. THE MH RING (FRAME) SHALL BE SET IN A BED OF GROUT. THE FRAME SHALL BE SURROUNDED WITH A GROUT IN UNPAVED AREA, OR A CONCRETE COLLAR IN PAVED AREA.
- 10. PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO ASTM C 478 (AASHTO M 199).
- 11. CAST IN PLACE MANHOLES SHALL BE CLASS B CONCRETE.
- 12. STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
- 13. ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI. VERTICAL STEEL SHALL BE PLACED AT 🖟 OF WALL. ALL BARS SHALL HAVE A 2" MINIMUM CLEARANCE.
- 14. FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
- 15. STUB-OUTS SHALL EXTEND 4 FT MINIMUM BEYOND OUTSIDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
- 16. CHECK WITH THE LOCAL GOVERNMENT AUTHORITY FOR ANY ADDITIONAL STORM SEWER SPECIFICATIONS, DETAILS, OR REGULATIONS.
- 17. THE SLOPE OF THE MANHOLE COVER SHALL MATCH THE ROADWAY PROFILE AND CROSS SLOPE.
- 18. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PREFABRICATED STRUCTURES TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION

# ADDITIONAL NOTES:

RIPRAP CHANNEL: THE SIZE OF RIPRAP AND BOULDERS SHALL BE AS INDICATED ON THE PLANS. BOULDERS FOR GROUTED BOULDER FOREBAY SHALL MEET THE SAME REQUIREMENTS FOR DURIBILITY AND SPECIFIC GRAVITY AS RIPRAP. BOULDERS USED IN GROUTED BOULDER FOREBAY SHALL BE CLEAN AND FREE OF SOIL TO PROVIDE A PROPER BOND WITH THE GROUT.



SIZES ARE 30" OR LESS INSIDE DIAMETER. 2. VIEW AND DETAILS ARE TYPICAL DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.

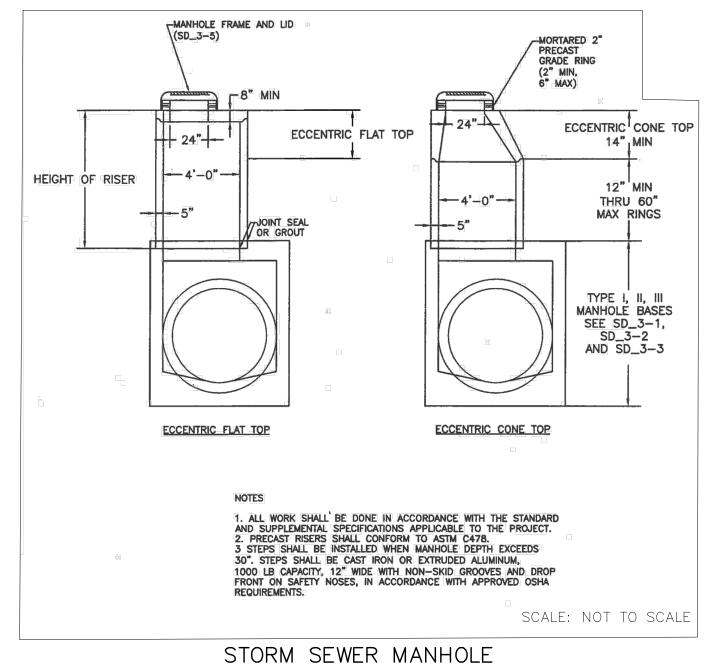
3. EITHER LADDER OF STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". STEPS IN BASE SHALL BE INSTALLED IN "TOE POCKETS" (SEE DETAIL THIS SHEET). LOWEST STEP SHALL BE A MAXIMUM OF 16" ABOVE THE FLOOR.

4. PIPES SHALL BE TRIMMED TO FINAL SHAPE AND SET BEFORE MANHOLE IS POURED. 5. BENCH SHALL BE SLOPED TOWARD CENTER OF MANHOLE BASE (4:1 MAX., 1/2" PER FOOT. MIN.).

6. FLOOR OF MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1., 1/2" PER FT. MIN.) . FLOOR SHALL BE SHAPED AND CHANNELED; SEE DETAILS THIS SHEET.

SCALE: NOT TO SCALE

STORM SEWER MANHOLE DETAIL TYPE II SD 3-2



RISER AND COVER DETAIL TYPE SD 3-7

# SOIL RIPRAP NOTES:

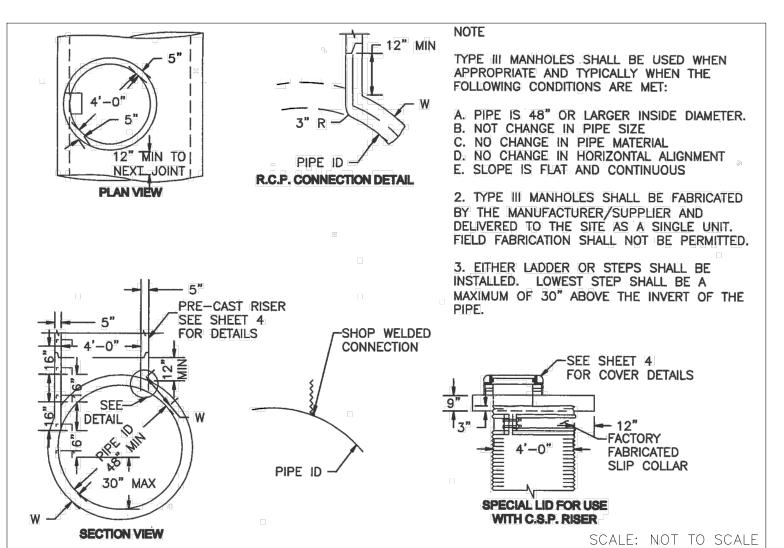
- 1. THE SOIL MATERIAL SHALL BE NATIVE OR TOPSOIL AND MIXED WITH SIXTY FIVE PERCENT (65%) RIPRAP AND THIRTY FIVE PERCENT (35%) SOIL BY VOLUME.
- 2. SOIL RIPRAP SHALL CONSIST OF A UNIFORM MIXTURE OF SOIL AND RIPRAP WITHOUT VOIDS.
- 3. CONTRACTOR SHALL COOPERATE WITH ENGINEER IN OBTAINING AND PROVIDED SAMPLES OF ALL SPECIFIED MATERIALS.
- 4. CONTRACTOR SHALL SUBMIT CERTIFIED LABORATORY TEST CERTIFICATES FOR ALL ITEMS REQUIRED FOR SOIL RIPRAP.
- 5. RIPRAP USED SHALL BE THE TYPE DESIGNATED ON THE DRAWINGS AND SHALL CONFORM TO TABLE SHOWN TO THE RIGHT.
- 6. THE RIPRAP DESIGNATION AND TOTAL THICKNESS OF RIPRAP SHALL BE AS SHOWN ON THE DRAWINGS. THE MAXIMUM STONE SIZE SHALL NOT LARGER THAN THE THICKNESS OF THE RIPRAP.
- 7. NEITHER WIDTH NOR THICKNESS OF A SINGLE STONE OF RIPRAP SHALL BE LESS THAN ONE-THIRD  $(\frac{1}{3})$  OF ITS LENGTH.
- 8. THE SPECIFIC GRAVITY OF THE RIPRAP SHALL BE TWO AND ONE-HALF (2.5) OR GREATER.
- 9. MINIMUM DENSITY FOR ACCEPTABLE RIPRAP SHALL BE ONE HUNDRED AND SIXTY FIVE (165) POUNDS PER CUBIC FOOT.
- 10. RIPRAP SPECIFIC GRAVITY SHALL BE ACCORDING TO THE BULK-SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T85.
- 11. BROKEN CONCRETE OR ASPHALT PAVEMENT SHALL NOT BE ACCEPTABLE FOR USE IN THE WORK.
- 12. ROUNDED RIPRAP (RIVER ROCK) IS NOT ACCEPTABLE, UNLESS SPECIFICALLY DESIGNATED ON THE DRAWINGS.

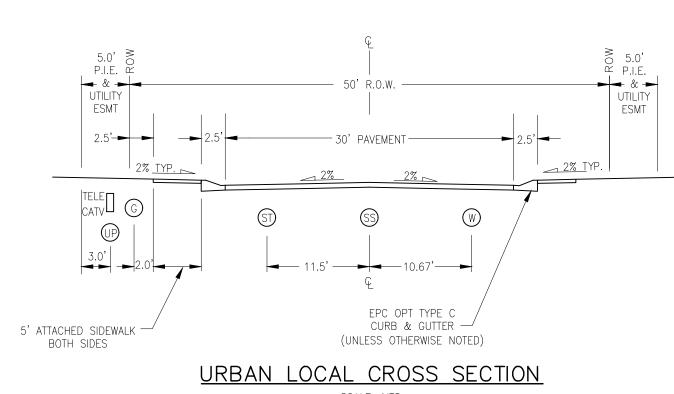
### STRUCTURAL CONCRETE NOTES:

- 1. ALL CONSTRUCTION INVOLVING THE PLACEMENT OF STRUCTURAL CONCRETE SHALL BE COMPLETED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, AND AS SUPPLEMENTED BY THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION.
- 2. STEEL REINFORCING SHALL BE GRADE 60 FOR ALL REINFORCING STEEL GREATER THAN #4. SPLICING, LAP SPLICING SHALL BE MINIMUM IN THE FOLLOWING TABLE UNLESS OTHERWISE SPECIFIED: BAR SIZE  $1^{''}-9$ "  $2^{''}-2$ "  $2^{''}-7$ "  $3^{''}-4$ "  $4^{''}-3$ "
- 3. CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (fc) OF 4,000 PSI AT 28 DAYS. ALL CONCRETE PLACED AGAINST SOIL SHALL BE TYPE II PORTLAND CEMENT. ALL EXPOSED CORNERS SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS OTHERWISE SPECIFIED.
- 4. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.
- 5. BACKFILL AGAINST STRUCTURES SHALL NOT COMMENCE UNTIL ALL SUPPORTING DIAPHRAGMS ARE IN PLACE AND CONCRETE HAS OBTAINED ITS FULL SEVEN DAY STRENGTH. BACKFILL SHALL BE PLACED EQUALLY ON EACH SIDE OF RETAINING WALL STRUCTURES AND CUTOFF WALLS UNTIL THE FINAL GRADE IS REACHED.
- 6. FOOTING EXCAVATIONS SHALL BE EXAMINED BY THE GEOTECHNICAL ENGINEER WITH A 24-HOUR MINIMUM NOTIFICATION FOR SOIL AND/OR CONCRETE TESTING. PLACEMENT OF CONCRETE IN THE ABSENCE OF TESTING SHALL BE COMPLETED AT THE SOLE RISK OF THE CONTRACTOR.
- 7. PRIOR TO THE PLACEMENT OF CONCRETE IN AREAS WHERE SOIL IS PRESENT, THE SOIL SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6-INCHES. THE MOISTURE CONTENT SHALL BE ADJUSTED TO WITHIN PLUS OR MINUS 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION (AASHTO-T-180).

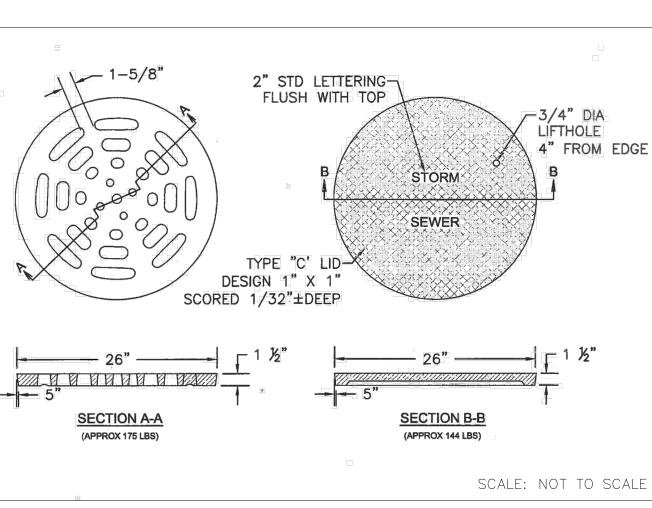
EC -- EPOXY COATED O.F. -- OUTSIDE FACE E.F. -- EACH FACE E.W. -- EACH WAY I.F. -- INSIDE FACE N.F. -- NEAR FACE T.O.C. -- TOP OF CONCRETE B.O.C. -- BOTTOM OF CONCRETE CONT. -- CONTINUOUS

ALL REINFORCING SHALL HAVE A 2-INCH MINIMUM COVER UNLESS OTHERWISE SPECIFIED. ALL REINFORCED STEEL TO BE EPOXY COATED.

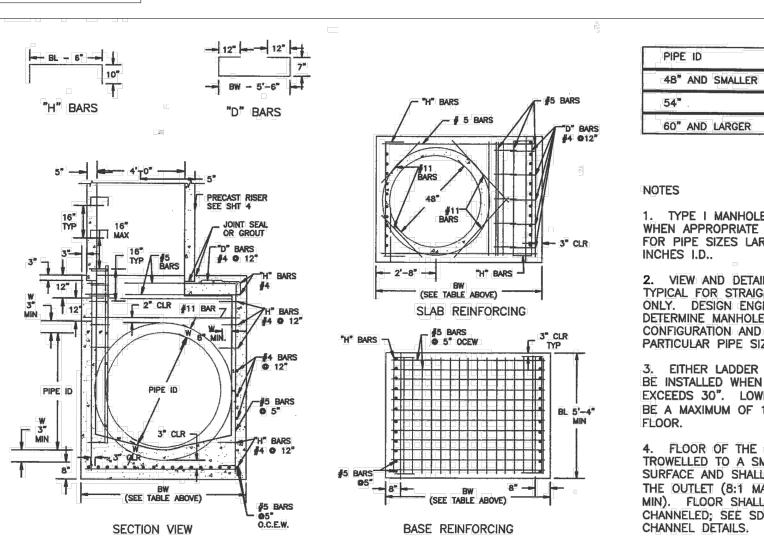


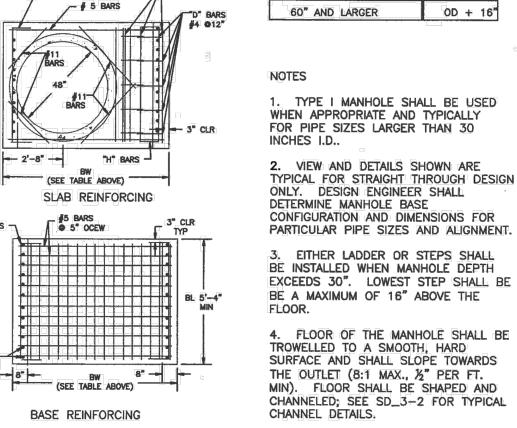


### STORM SEWER MANHOLE DETAIL TYPE III SD 3—3









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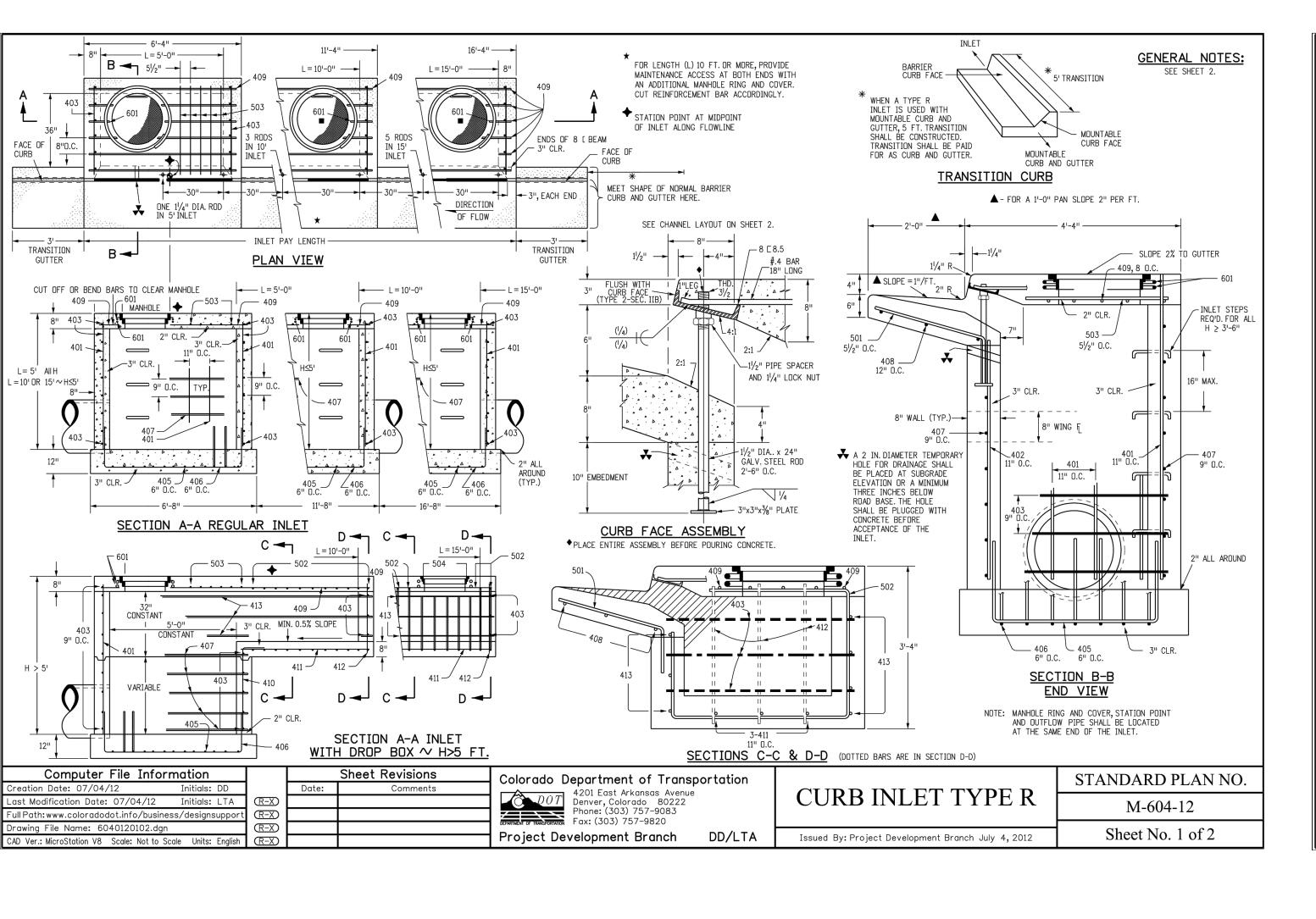
6'-4"

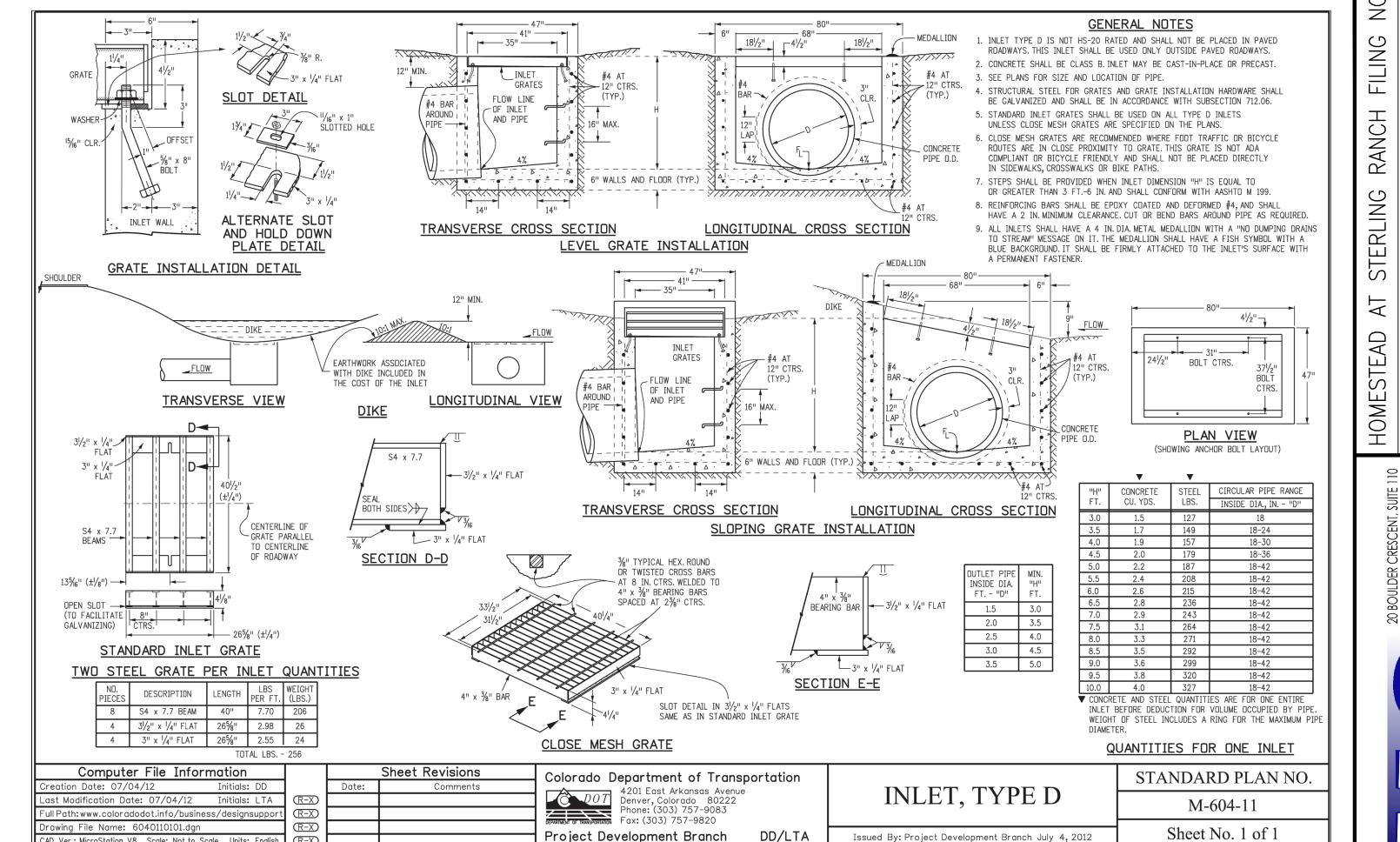
6"-10"

STORM SEWER MANHOLE DETAIL TYPE I SD 3—1

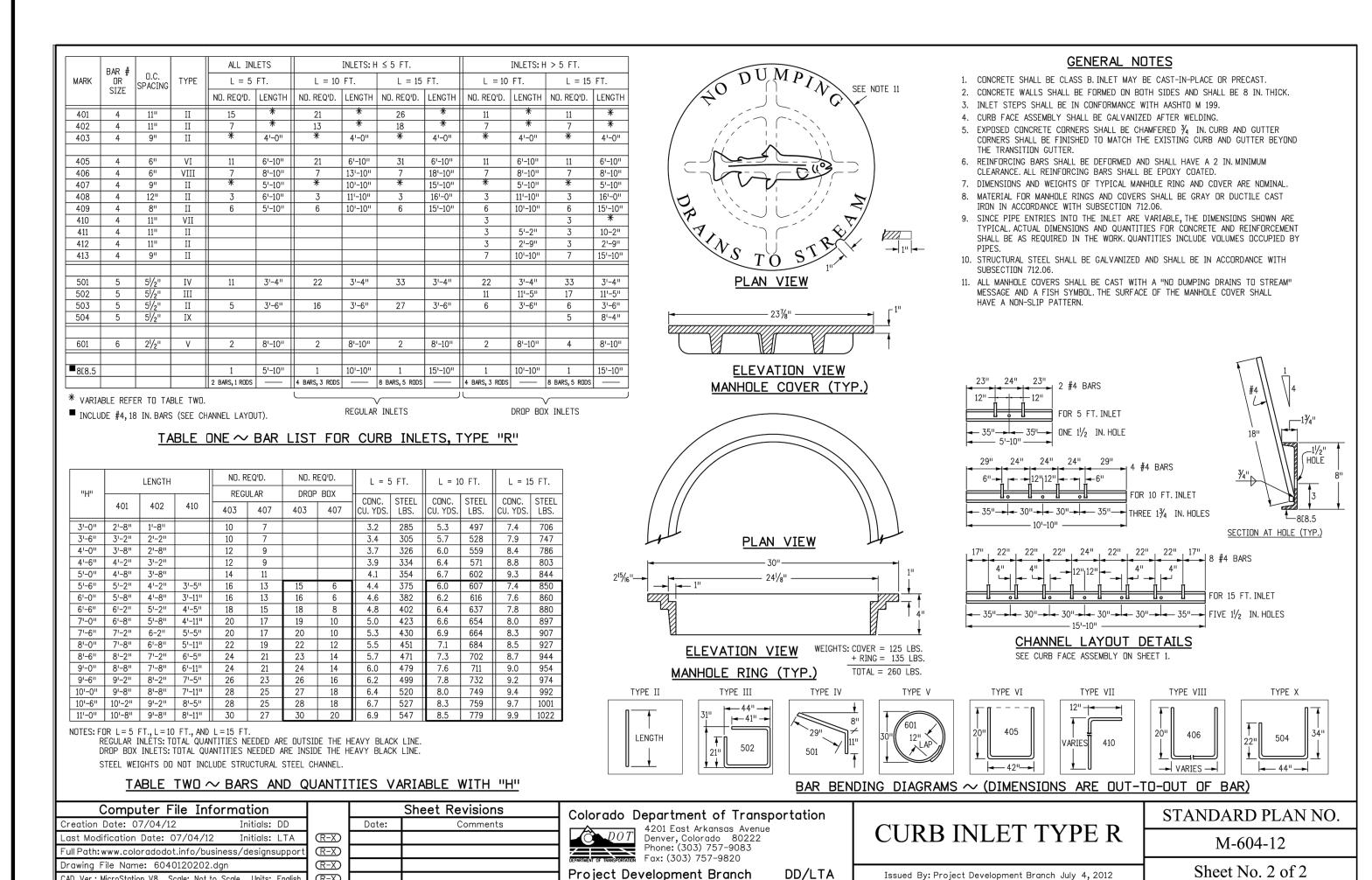
& MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES FILIN FOR BURIED UTILITY INFORMATION DET 48 HRS BEFORE YOU DIG CALL 1-800-922-1987 RANCH  $\approx$ ш NOT

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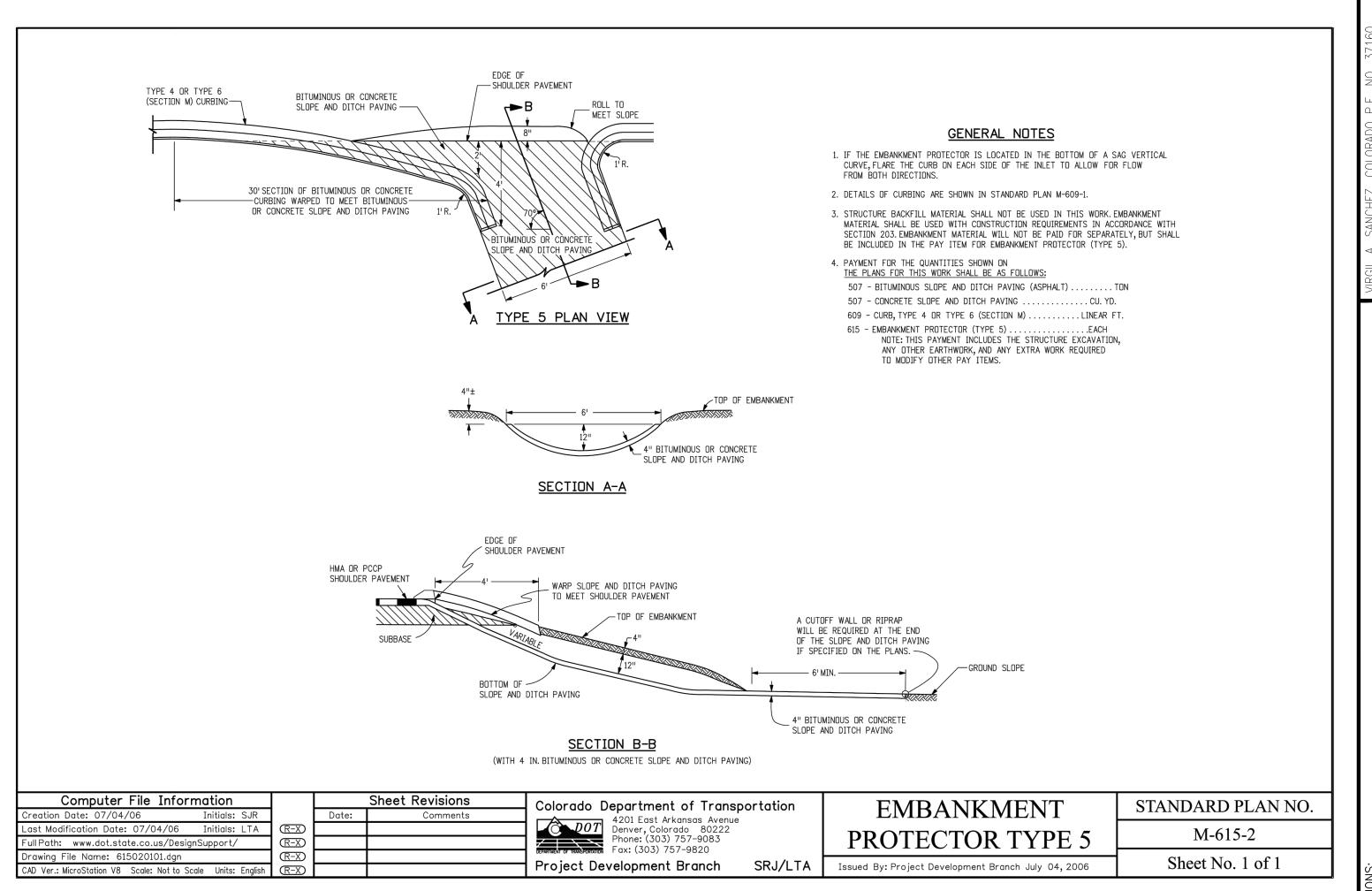


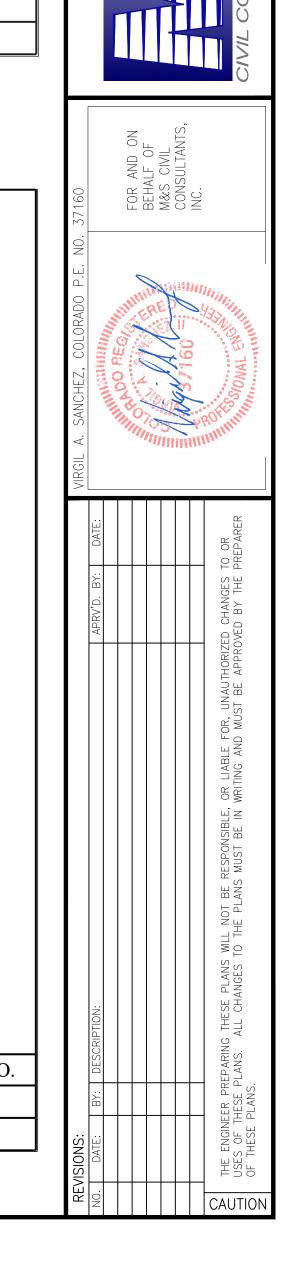


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